

**Congestion Mitigation
and
Air Quality Improvement Program**

**2018-2021 CMAQ Performance Plan
2021 Full Performance Period Report**

and

**2021 Baseline Report
2022-2025 CMAQ Performance Plan**



**Final Report
October 2022**

Southwestern Pennsylvania Commission

2022

Officers

Chairman: Leslie A. Osche
Vice Chairman: Pat Fabian
Secretary-Treasurer: Vincent Vicites

Executive Director: Vincent Valdes

Allegheny County

Jennifer Beer
Rich Fitzgerald
Lynn Heckman
Clifford Levine
Robert J. Macey

Armstrong County

Darin Alviano
Pat Fabian
Donald K. Myers
Jason L. Renshaw
Kelli Wingard

Beaver County

Tony Amadio
Daniel Camp
Kelly Gray
Charles Jones
Jack Manning

Butler County

Kevin Boozel
Kim Geyer
Mark Gordon
Richard Hadley
Leslie A. Osche

Fayette County

Scott Dunn
Joe Grata
Fred Junko
Dave Lohr
Vincent A. Vicites

Greene County

Mike Belding
Rich Cleveland
Jeff Marshall
Betsy McClure
Blair Zimmerman

Indiana County

Robin Gorman
Sherene Hess
Mark Hilliard
Mike Keith
Byron G. Stauffer, Jr.

Lawrence County

Brad Berlin
Morgan Boyd
Amy McKinney
Loretta Spielvogel
Daniel J. Vogler

Washington County

Robert Griffith
Larry Maggi
Nick Sherman
John Timney
Diana Irey Vaughan

Westmoreland County

Tom Ceraso
Douglas Chew
Sean Kertes
Robert Regola
Gina Cerilli Thrasher

City of Pittsburgh

Scott Bricker
Rev. Ricky Burgess
Ed Gainey
Mavis Rainey
Aurora Sharrard

Pennsylvania Department of Transportation (2 Votes)

Brian Allen
William Kovach
Kevin McCullough
Cheryl Moon-Sirianni
Larry Shifflet

Governor's Office

Ali Doyle

Pennsylvania Department of Community & Economic Development

Johnna Pro

Port Authority of Allegheny County (1 Vote)

Katharine Kelleman
Ed Typanski

Transit Operators Committee

Sheila Gombita

Federal Highway Administration*

Alicia Nolan

Federal Transit Administration*

Theresa Garcia-Crews

U.S. Environmental Protection Agency*

Laura Mohollen

Federal Aviation Administration*

U. S. Economic Development Administration*

*Nonvoting Members

The preparation of this publication was financed in part through grants from the United States Department of Transportation's Federal Highway Administration and Federal Transit Administration; the U.S. Department of Commerce; the Appalachian Regional Commission; the Commonwealth of Pennsylvania; the Department of Transportation of the Commonwealth of Pennsylvania; and, the counties of Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, Westmoreland, and the City of Pittsburgh. The views and opinions of the authors or agency expressed herein do not necessarily state or reflect those of these agencies.

**Congestion Mitigation
and
Air Quality Improvement Program**

**2018-2021 CMAQ Performance Plan
2021 Full Performance Period Report**

and

**2021 Baseline Report
2022-2025 CMAQ Performance Plan**

**Final Report
October 2022**



Southwestern Pennsylvania Commission

Two Chatham Center, Suite 500
112 Washington Place
Pittsburgh, Pennsylvania 15219-3451
Voice: 412-391-5590
Fax: 412-391-9160
E-mail: comments@spcregion.org
www.spcregion.org

This document is available in alternate formats upon request. SPC will provide translation and interpretation services upon request at no charge. Please call SPC at (412) 391-5590 for more information.

Italiano

Questo documento è disponibile in formati alternativi su richiesta. SPC fornirà servizi di traduzione e interpretazione su richiesta senza alcun costo. Per piacere, chiami SPC al numero (412) 391-5590 per maggiori informazioni.

Espanol

El presente documento está disponible en formatos alternativos bajo solicitud. SPC ofrece servicios de traducción e interpretación gratis bajo solicitud. Comuníquese con SPC al (412) 391-5590 para obtener más información.

中文

本文件可根據要求以其他格式提供。

SPC將根據要求提供免費筆譯和口譯服務。詳情請致電 (412) 391-5590與SPC聯系。

Nepali:

यो फाराम अनुरोध गरिएमा बैकल्पिक ढाँचाहरूमा उपलब्ध छन्। अनुरोध गरेमा बिना शुल्क SPC ले अनुवादन र दोभाषे सेवा उपलब्ध गराउँछ।

थप जानकारीको लागि SPC (412) 391-5590 मा फोन गर्नुहोस्।

Gujarati:

આ દસ્તાવેજ વિનંતી પર વૈકલ્પિક ફોર્મટ્સમાં ઉપલબ્ધ હોય છે. SPC કોઈપણ શુલ્ક લીધા વિના વિનંતી પર અનુવાદ અને અર્થઘટન સેવાઓ પૂરી પાડશે. વધુ માહિતી માટે કૃપા કરી (412) 391-5590 પર SPCને કોલ કરો.

Oriya:

ଏହି ଡକ୍ୟୁମେଣ୍ଟର ଅନୁରୋଧରେ ବୈକଳ୍ପିକ ଫର୍ମାଟରେ ଉପଲବ୍ଧ। କୌଣସି ଚାର୍ଜ ଛଡ଼ା ଏସପିସି ଅନୁବାଦ ଏବଂ ବ୍ୟାଖ୍ୟା ସେବା ପ୍ରଦାନ କରିବ। ଦୟାକରି ଅଧିକ ସୂଚନା ପାଇଁ ଏସପିସି (412) 391-5590 ରେ କଲ୍ କରନ୍ତୁ।

Punjabi:

ਇਹ ਦਸਤਾਵੇਜ਼ ਬੇਨਤੀ ਕਰਨ 'ਤੇ ਵਿਕਲਪਕ ਰੂਪਾਂ ਵਿੱਚ ਉਪਲਬਧ

ਹੈ। SPC ਬਿਨਾਂ ਕਿਸੇ ਖਰਚ 'ਤੇ ਬੇਨਤੀ 'ਤੇ ਅਨੁਵਾਦ ਅਤੇ

ਦੁਭਾਸ਼ੀਆ ਸੇਵਾਵਾਂ ਪ੍ਰਦਾਨ ਕਰੇਗਾ।

ਵਧੇਰੇ ਜਾਣਕਾਰੀ ਲਈ ਕਿਰਪਾ ਕਰਕੇ SPC ਨੂੰ (412) 391-5590 'ਤੇ ਕਾਲ ਕਰੋ।

Sinhalese:

ඉල්ලීම මත මෙම ලේඛනය විකල්ප ආකෘතිවලින් ලබාගත හැකිය.

SPC විසින් කිසිදු ගාස්තුවක් අය කිරීමකින් තොරව භාෂා පරිවර්තන හා භාෂණ පරිවර්තන සේවාවන් සපයනු ඇත. කාරුණාකර වැඩි දුර විස්තර සඳහා (412) 391-5590 ඔස්සේ SPC අමතන්න.

Marathi:

हा दस्तऐवज विनंतीनुसार पर्यायी स्वरूपांमध्ये उपलब्ध आहे.

विनंतीनुसार SPC भाषांतर आणि अर्थविवरण सेवा विनामूल्य

प्रदान करेल. अधिक माहितीसाठी कृपया SPC ला (412) 391-5590 येथे कॉल करा.

Bengali:

অনুরোধ জানালে এই ডকুমেন্টটি অন্যান্য ফরম্যাটেও পাওয়া যায়।

অনুরোধ জানালে SPC কোনও চার্জ ছাড়াই অনুবাদ এবং ব্যাখ্যা করার পরিষেবা প্রদান করবে।

আরও তথ্যের জন্য অনুগ্রহ করে (412) 391-5590 নম্বরে SPC কে ফোন করুন।

Hindi:

यह दस्तावेज़ अनुरोध पर वैकल्पिक फॉर्मेट में उपलब्ध है।

एस पी सी (SPC) अनुवाद और व्याख्या सेवाएं अनुरोध पर बिना शुल्क उपलब्ध कराएगी।

कृपया अधिक जानकारी के लिए (412) 391-5590 पर एस पी सी (SPC) को कॉल करें।

Sindhi:

درخواست جي صورت ۾ هي دستاويز ٻيا ادلڻا لڳوئي ۾ دستياب آهي. درخواست جي صورت ۾ SPC ترجمي ۽ ترجمي جي خدمت ختم ٿيڻ کان پوءِ فراهم ڪندي. م هيلڻي ڪري وٺي ڪم مڙهون مٽ لاءِ (412) 391-5590 تي SPC کي ڪال ڪريو.

:Urdu

يہ دستاويز درخواست جي صورت ۾ ٻين ٻين ادلڻا لڳوئي ۾ دستياب آهن۔ SPC درخواست جي صورت ۾ ترجمي ۽ ترجمي جي خدمت ختم ٿيڻ کان پوءِ فراهم ڪندڙ ٿيندا.

مڙهون مٽ لاءِ (412) 391-5590 تي SPC کي ڪال ڪريو۔

The Southwestern Pennsylvania Commission (SPC) hereby gives public notice that it is the policy of the Commission to assure full compliance 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 statutes and regulations in all programs and activities. Title VI and other related statutes require that no person in the United States of America shall, on the grounds of race, color, sex, national origin, age, or disability, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which SPC receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice by SPC under Title VI has a right to file a formal complaint with the Commission. Any such complaint must be in writing and filed with SPC's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, please see our website at: www.spcregion.org or call 412-391-5590.

Table of Contents

	<u>Page</u>
1. Introduction	1
2. Assessment of 4-Year Performance and Progress.....	11
3. Baseline and Performance Targets – 2022-2025.....	15
4. Description of Projects	21

List of Maps

1. Urbanized Area Boundaries Within the SPC Planning Area	4
2. Southwestern Pennsylvania – 8-Hour Ozone Designations.....	6
3. Southwestern Pennsylvania – PM _{2.5} Air Quality Designations.....	7
4. Southwestern Pennsylvania – PM ₁₀ Air Quality Designations	8
5. Southwestern Pennsylvania – CO Air Quality Designations	9

List of Figures

1. Performance Periods for CMAQ Measures and Reporting Timeline	3
2. Components of the CMAQ Performance Plan and Biennial Updates	10
3. Historical Trend – 2017-2021 – Annual Hours of Peak Hour Excessive Delay (PHED) per Capita	16
4. Historical Trend – 2009-2020 – Percent of Non-SOV Travel	17
5. Historical Trend – 2009-2020 – Components of Non-SOV Travel	18

List of Tables

1. Condition and Progress – 2018-2021 – Annual Hours of Peak Hour Excessive Delay (PHED) per Capita.....	12
2. Condition and Progress – 2018-2021 – Percent of Non-SOV Travel.....	12
3. Condition and Progress – 2018-2021 – On-Road Emissions Reduction from CMAQ Projects.....	14
4. Baseline and Targets – 2022-2025 – Annual Hours of Peak Hour Excessive Delay (PHED) per Capita.....	16
5. Baseline and Targets – 2022-2025 – Percent of Non-SOV Travel.....	18
6. Baseline and Targets – 2022-2025 – On-Road Emissions Reduction from CMAQ Projects.....	19

Appendices

A. Pennsylvania – PM ₃ Performance Measures – Condition and Progress	
B. CMAQ-Funded Projects (2018-2021) – SPC Region	
C. CMAQ Programmed Projects (2022-2025) – SPC Region	
D. Definitions	
E. Acronyms	
F. SPC Resolution 13-22	

1. Introduction

The Southwestern Pennsylvania Commission (SPC) is the designated Metropolitan Planning Organization (MPO) for a 10-county region within Southwestern Pennsylvania. MPOs in large Urbanized Areas are responsible for developing performance plans for the Congestion Mitigation and Air Quality (CMAQ) federal transportation funding program. In September 2018 SPC prepared the 2014-2017 Baseline Performance Period Report. That report documented the CMAQ Performance Plan developed by SPC for the 10-county planning area for the 2- and 4-year performance periods 2018-2019 and 2018-2021, respectively. In September 2020 SPC prepared the Mid-Performance Period Report that documented the 2-year progress toward the 2021 performance targets, and adjusted several targets to reflect clarified federal guidance.

This report serves two purposes. First it is the 4-year 2018-2021 Full Performance Period Report which documents the 4-year progress toward the 2021 performance targets. Second it establishes the 2021 baseline metrics and develops the 2023 and 2025 targets for the next 2- and 4-year performance periods 2022-2023 and 2022-2025.

The transportation planning and programming process under recent federal legislation has integrated performance measures into many federal surface transportation programs and required the United States Department of Transportation (USDOT) to establish a set of national measures on which State DOTs must report performance or condition. The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law on July 6, 2012 transformed the policy and programmatic framework for making investments that guide the growth and development of the nation's surface transportation program and created a performance-based surface transportation program. The Fixing America's Surface Transportation Act (FAST Act), enacted on December 4, 2015 and the Infrastructure, Investment and Jobs Act (IIJA), enacted on November 15, 2021 continue and refine these efforts.

For the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, MAP-21 required USDOT to establish measures for State DOTs to use to assess traffic congestion and on-road mobile source emissions. To meet this requirement, FHWA published regulations (23 CFR Part 490) in the Federal Register for two traffic congestion measures and one on-road mobile source emission reduction measure in the *National Performance Management Measures - Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program* (82 FR 5970, January 18, 2017, Final Rule); also known as the PM3 regulation. Two Subparts of 23 CFR 490, promulgated through the PM3 regulation, establish the performance measures for the CMAQ Program required by MAP-21: Subpart G (Measures to Assess the CMAQ Program – Traffic Congestion) and Subpart H (Measure to Assess the CMAQ Program – On-road Mobile Source Emissions).

The two traffic congestion performance measures established in 23 CFR 490 Subpart G are the [1] PHED measure and [2] Percent of Non-SOV Travel measure. The PHED measure is the annual hours of peak hour excessive delay per capita that occurs within an applicable urbanized

Congestion Mitigation and Air Quality Program

*2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022*

area. The Percent of Non-SOV Travel measure is the percentage of Non-SOV travel within an applicable urbanized area. The traffic congestion measures only applied to urbanized areas that included National Highway System (NHS) mileage and had a population over 1 million for the first performance period (2017-2021). For the second (2022-2025) and all subsequent performance periods, these measures apply to urbanized areas with a population over 200,000 with NHS mileage.

The on-road mobile source emissions performance measure established in 23 CFR 490 Subpart H is the Total Emissions Reduction measure. The Total Emission Reduction Measure is the 2-year and 4-year cumulative estimated emissions reduction from all CMAQ funded projects in an MPO planning area for the criteria pollutants for which the area is designated nonattainment or maintenance. The criteria pollutants include ozone (O₃), carbon monoxide (CO), and particulate matter (PM_{2.5} and PM₁₀) and the precursor pollutants; volatile organic compounds (VOC) and oxides of nitrogen NO_x).

Establishment of the 2019 and 2021 targets for these measures is described in the 2018 CMAQ Performance Plan report (*2014-2017 Baseline Performance Period Report and 2018-2021 CMAQ Performance Plan*, SPC, September 2018). The 2-year progress toward their achievement and updated 4-year targets are described in the 2020 CMAQ Performance Plan report (*2018-2021 CMAQ Performance Plan; 2019 Mid Performance Period Report*, SPC, September 2020). Progress toward achieving the 4-year targets is summarized in Tables 1, 2, and 3.

In addition to the reporting required by the PM₃ regulation, 23 United States Code (USC) Section 149(l) requires each MPO serving a transportation management area (TMA) with a population over 1,000,000 that includes an air quality nonattainment or maintenance area to develop a CMAQ Performance Plan to support the implementation of the CMAQ measures. Figure 1 (page 3) displays the performance periods for the measures, and the reporting timeline for the State Biennial Performance Report and the MPO CMAQ Performance Plans. In the CMAQ Performance Plan and its biennial updates, MPOs must report 2- and 4-year targets, describe how they plan to meet their targets, and detail their progress toward achieving the targets over the course of the performance period.

The Pittsburgh Urbanized Area (UZA), with a population of 1,712,856 (US Census, 2016-2020 ACS), is wholly within the SPC planning area. Two other Urbanized Areas lie totally within the SPC region. These are the Monessen-California UZA, with a population of 61,646, and the Uniontown-Connellsville UZA, with a population of 49,202. In addition, small portions of both the Youngstown UZA, with a population of 369,075 and the Weirton-Steubenville UZA, with a population of 66,183 are inside the SPC region.

This CMAQ Performance Plan applies to the Pittsburgh Urbanized Area. It is the only UZA wholly or partially within the SPC planning area with a population exceeding the 1,000,000 threshold. Map 1 (page 4) shows the SPC planning area and the boundaries within the SPC region of the 5 UZAs discussed above.

Congestion Mitigation and Air Quality Program
 2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
 2022-2025 CMAQ Performance Plan – 2021 Baseline Report
 Southwestern Pennsylvania Commission – Final Report, October 2022

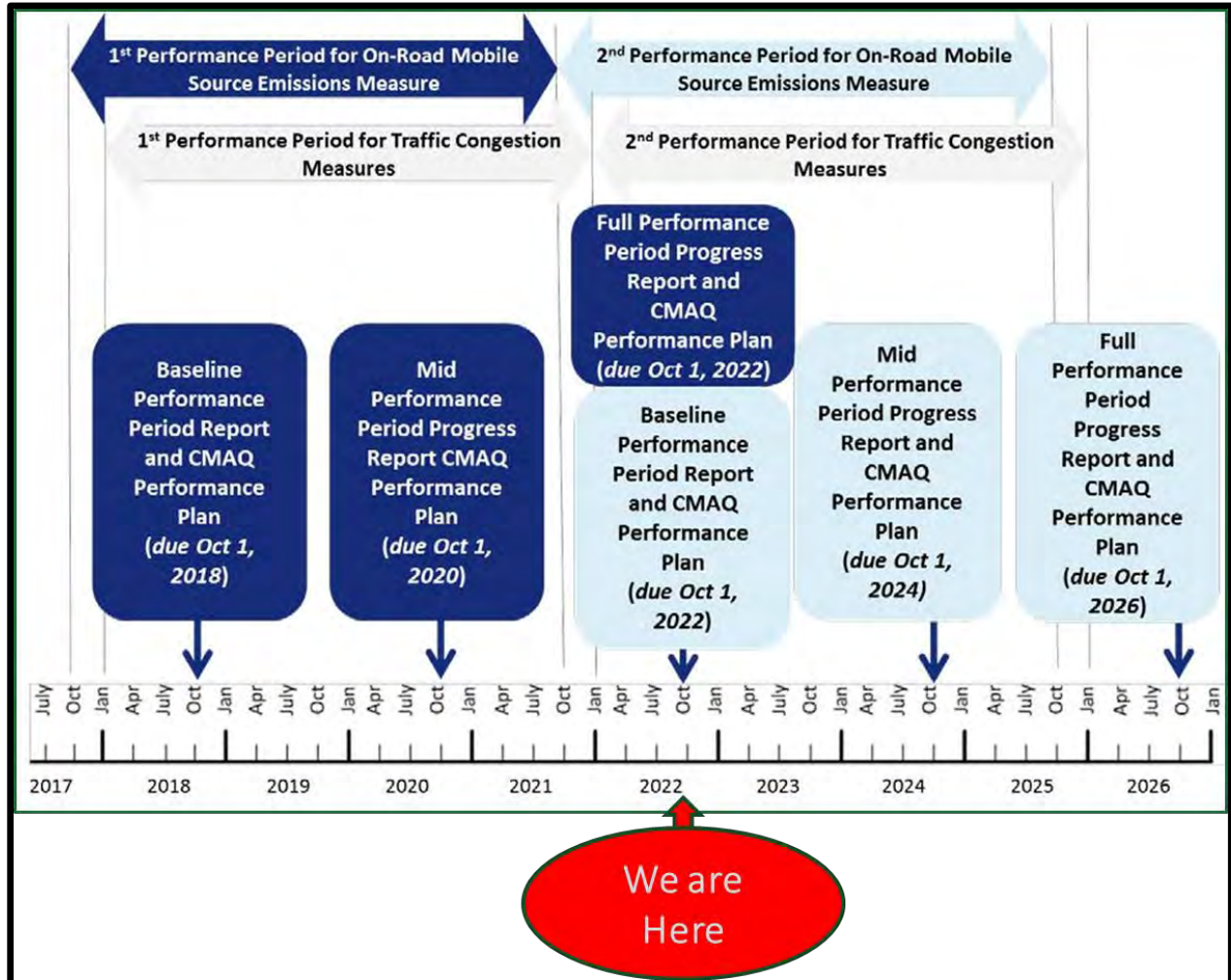
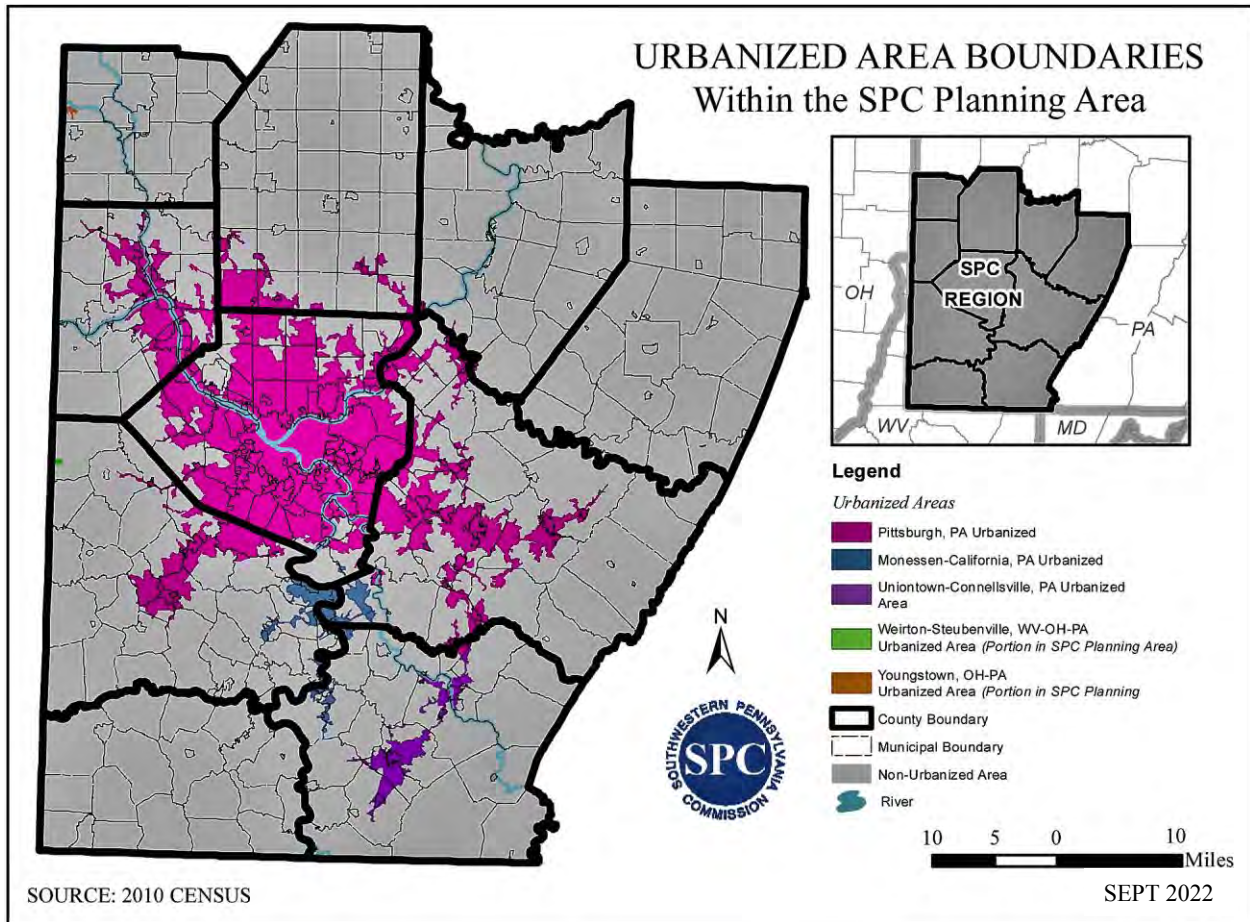


Figure 1: Performance Periods for CMAQ Measures and Reporting Timeline

This performance report covers the following thirteen nonattainment and maintenance areas within the SPC planning area. The boundaries of each area are briefly described below and are shown on Maps 2 through 5.

The 1997 8-hour ozone NAAQS:

- Pittsburgh - Beaver Valley. The nonattainment area includes seven counties within SPC’s planning area (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland) (Map 2).
- Greene County. The maintenance area includes all of Greene County which is within SPC’s planning area (Map 2).
- Clearfield and Indiana counties. The maintenance area includes all of Indiana County, which is within SPC’s planning area, and all of Clearfield County which is outside of SPC’s planning area (Map 2).



Map 1: Urbanized Area Boundaries Within the SPC Planning Area

The 2008 8-hour ozone NAAQS:

- Pittsburgh - Beaver Valley. The nonattainment area includes seven counties within SPC's planning area (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland) (Map 2).

The 1997 Annual PM_{2.5} NAAQS:

- Johnstown. The maintenance area includes all of Cambria County (which is outside of the SPC planning area), plus five municipalities within Indiana County (West Wheatfield, Center, and East Wheatfield townships, and Armagh and Homer City boroughs) (Map3).
- Liberty-Clairton. The nonattainment area includes five municipalities within Allegheny County (City of Clairton and the Boroughs of Glassport, Liberty, Lincoln, and Port Vue) (Map 3).
- Pittsburgh - Beaver Valley. The maintenance area includes all or part of eight counties within SPC's planning area as follows: Allegheny County (remainder not included in the Liberty-Clairton area); Armstrong County (Plumcreek and Washington townships, and Elderton Borough); Beaver County (entire county); Butler County (entire county); Greene County (Monongahela Township); Lawrence County (portions of Taylor

Congestion Mitigation and Air Quality Program

*2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022*

Township south of New Castle City); Washington County (entire county); and Westmoreland County (entire county) (Map 3).

The 2006 24-hour PM_{2.5} NAAQS:

- Johnstown. The maintenance area includes all of Cambria County (which is outside of the SPC planning area), plus five municipalities within Indiana County (West Wheatfield, Center, and East Wheatfield townships, and Armagh and Homer City boroughs) (Map3).
- Liberty-Clairton. The nonattainment area includes five municipalities within Allegheny County (City of Clairton and the Boroughs of Glassport, Liberty, Lincoln, and Port Vue) (Map 3).
- Pittsburgh - Beaver Valley. The maintenance area includes all or part of eight counties within SPC's planning area as follows: Allegheny County (remainder not included in the Liberty-Clairton area); Armstrong County (Plumcreek and Washington townships, and Elderton Borough); Beaver County (entire county); Butler County (entire county); Greene County (Monongahela Township); Lawrence County (portions of Taylor Township south of New Castle City); Washington County (entire county); and Westmoreland County (entire county) (Map 3).

The 2012 Annual PM_{2.5} NAAQS:

- Allegheny County. The nonattainment area includes all of Allegheny County (Map 3).

The 1987 PM₁₀ NAAQS:

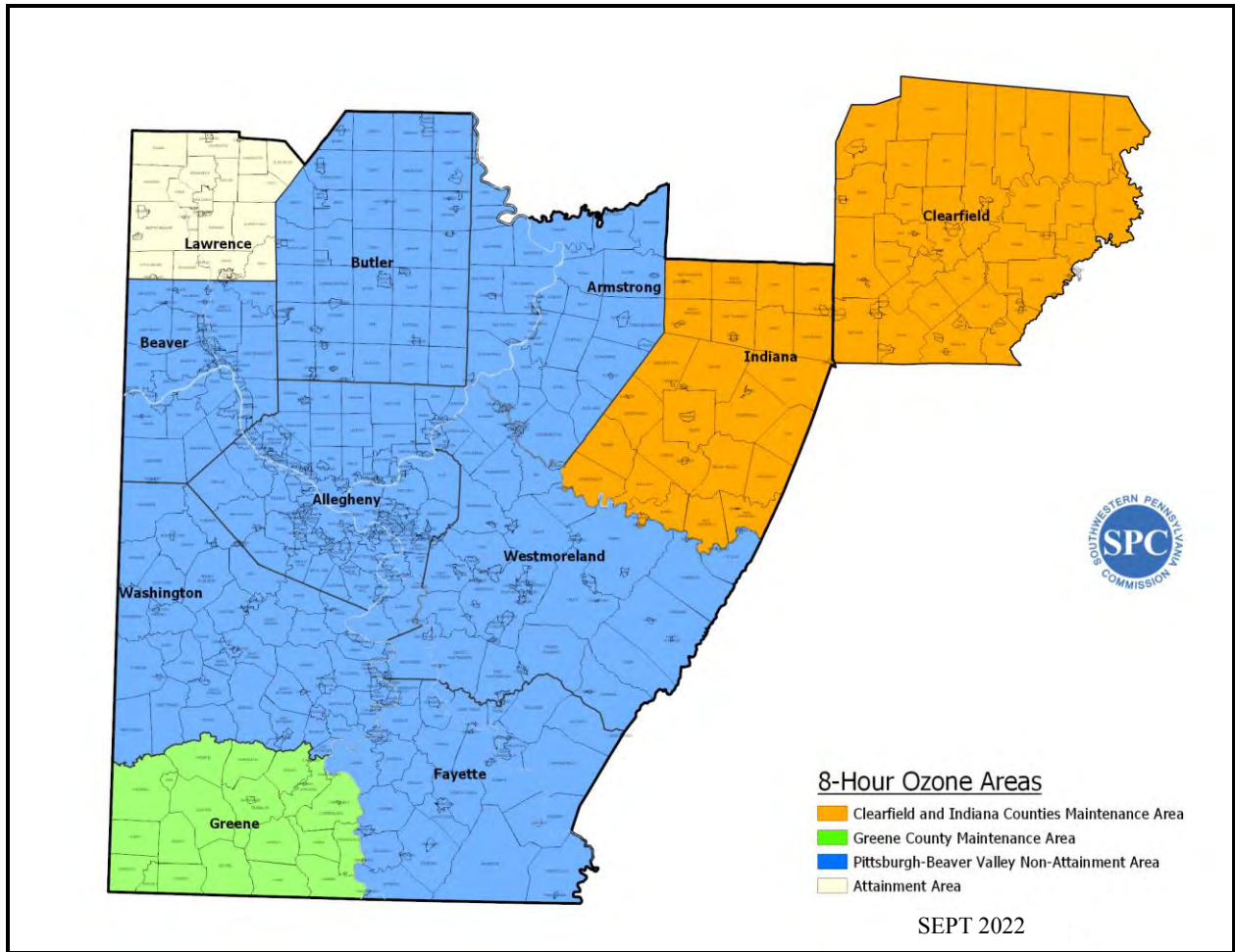
- Liberty-Clairton. The maintenance area includes five municipalities within Allegheny County (City of Clairton and the Boroughs of Glassport, Liberty, Lincoln, and Port Vue) (Map 4).

The 1971 CO NAAQS:

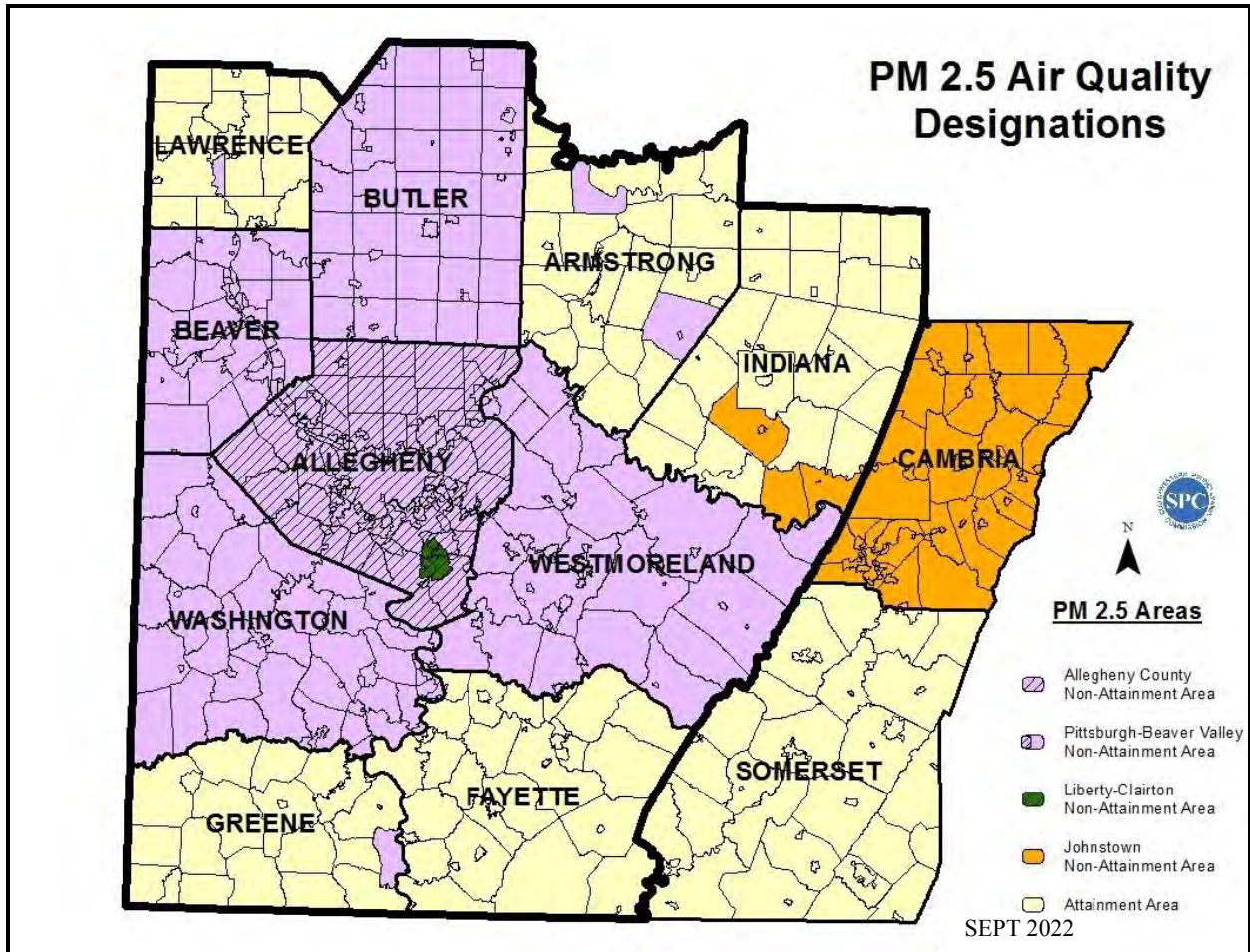
- Pittsburgh. The maintenance area includes the high traffic-density areas within the City's Central Business District and other high traffic-density areas in and near the City's Oakland neighborhood. (Map5).

This report includes several elements. These are [1] a four-year assessment (2018-2021) of the condition and performance for the PM₃ measures, [2] a summary of the four-year progress in achieving the established 2021 targets; [3] the 2022 baseline metrics for the next 4-year performance period 2022-2025; [4] the Performance Plan and development of the targets for the two-year (2022-2023) and 4-year (2022-2025) performance periods; [4] a description of the CMAQ projects funded in 2018 through 2021 in the region and how they contributed toward achievement of the 2021 targets; and, [5] a description of the CMAQ projects programmed for 2022 through 2025 in the region and how they will contribute toward achieving the 2023 and 2025 targets. The following sections of this report address each of these components. Figure 2 summarizes the specific requirements for Baseline Reports and Performance Period Progress Reports. In preparing these Performance Plans, State DOTs must coordinate with Metropolitan Planning Organizations (MPOs) to ensure consistency to the maximum extent practicable. Appendix A documents the PennDOT/MPO coordination.

Congestion Mitigation and Air Quality Program
*2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022*

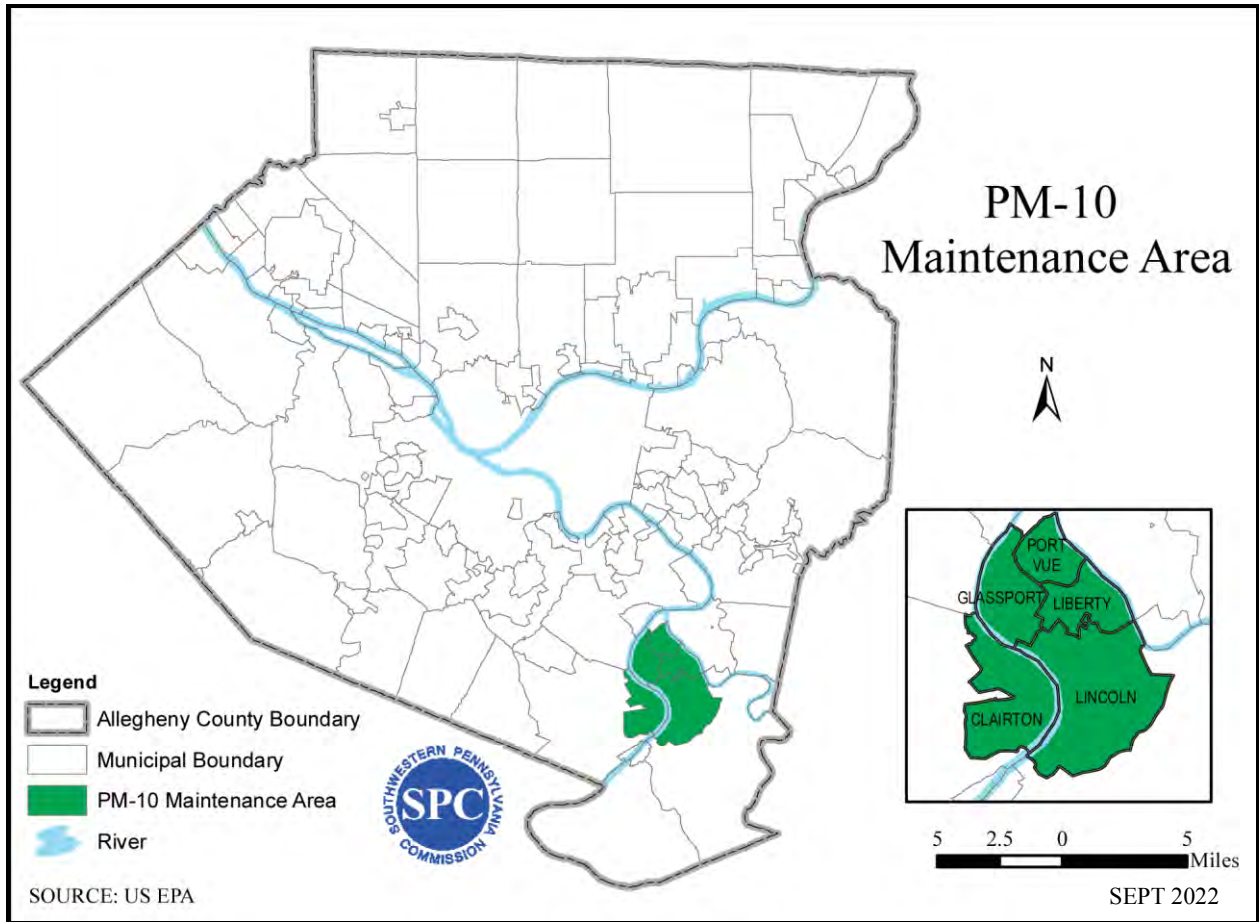


Map 2: Southwestern Pennsylvania – 8-Hour Ozone Designations

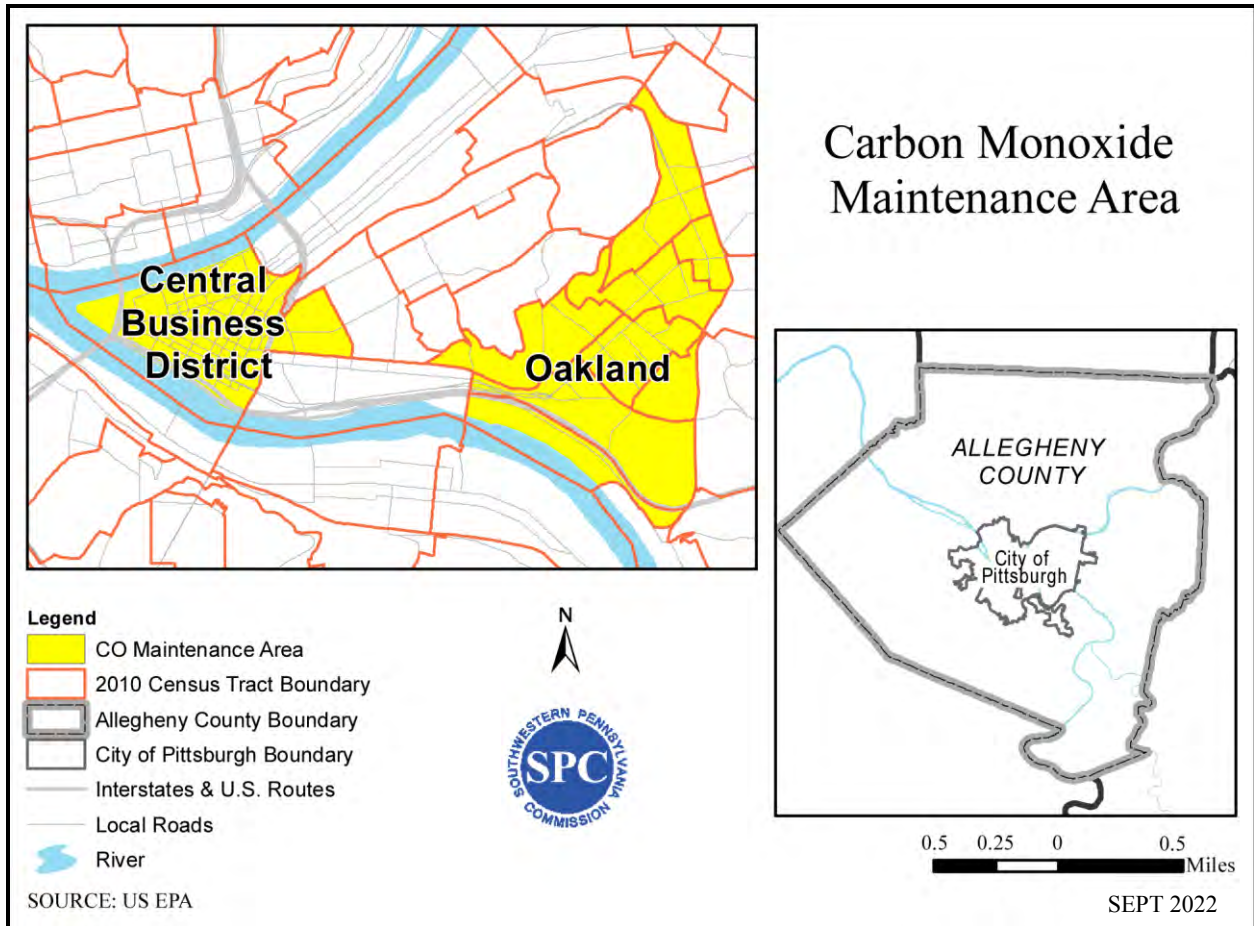


Map 3: Southwestern Pennsylvania – PM_{2.5} Air Quality Designations

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022



Map 4: Southwestern Pennsylvania – PM₁₀ Air Quality Designations



Map 5: Southwestern Pennsylvania – CO Air Quality Designations

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

Key Component	Baseline Performance Period Report	Mid-Performance Period Progress Report	Full Performance Period Progress Report
Condition/performance	Baseline condition/performance	2-year condition/performance	4-year condition/performance
Targets	Applicable 2-year and 4-year targets	Adjusted 4-year targets (optional)	n/a
Description of projects	Description of projects	Updated descriptions of projects	n/a
Assessment of progress	n/a	Assessment of projects' contribution to achieving 2-year targets	Assessment of projects' contribution to achieving 4-year targets
Due Dates	October 1, 2018 And every 4 years thereafter (10/1/22; 10/1/26; etc)	October 1, 2020 And every 4 years thereafter (10/1/24; 10/1/28; etc)	October 1, 2022 And every 4 years thereafter (10/1/26; 10/1/30; etc)

Figure 2: Components of the CMAQ Performance Plan and Biennial Updates

2. Assessment of 4-Year Performance and Progress

This section summarizes the 4-year progress toward achieving the 2018-2021 targets for the three PM₃ performance measures; Peak Hour Excessive Delay per capita (PHED), Percent Non-SOV Travel (Percent Non-SOV), and the emissions benefits from CMAQ-funded projects (Total Emissions Reduction).

The PHED and Percent Non-SOV measures are reported for the Urbanized Area. The Total Emissions Reduction measure is reported for the MPO planning area. The baseline value for the PHED measure was derived from calendar year 2017 data in the National Performance Management Research Data Set (NPMRDS). Only the highway facilities on the National Highway System (NHS) within the Urbanized Area are included in the NPMRDS data. The baseline value for the Percent Non-SOV measure was from the 2012-2016 American Community Survey 5-year data release from the US Census Bureau. The Total Emissions Reduction baseline value was derived from information in FHWA's CMAQ Public Access Database for projects funded through the CMAQ program in the MPO planning area in federal fiscal years 2014-2017.

The 4-year assessment of the condition and performance for the PM₃ measures was developed cooperatively by SPC and PennDOT. The coordination process is summarized in PennDOT's Full-Performance Period progress report. SPC's report will be included with PennDOT's submittal to FHWA. Appendix A contains a copy of PennDOT's report.

Peak-Hour Excessive Delay

The baseline value for the PHED measure was calculated from the 2017 NPMRDS data files using the University of Maryland CATT Lab RITIS software platform. For the Pittsburgh UZA the PHED baseline value was 11.1 annual hours of excess delay per capita. With limited historic trend data available, a conservative target was established. VMT trends, vehicle registration trends, and SPC travel model forecasts all suggested that there would be more travel in the SPC region at the end of the 4-year performance period, leading to more congestion and delay. SPC and PennDOT agreed to use a 1.5% annual increase in the PHED measure to establish the 4-year target value of 11.8 annual hours of delay per capita. A 2-year target was not required.

The PHED baseline and target values for the Pittsburgh UZA are shown in Table 1. Also shown is the 2021 value of 10.1 annual hours of delay per capita which was derived from the 2021 NPMRDS data files. The PHED target is met if the 2021 value is less than the 2021 target. Comparing the 2021 value to the 2021 target indicates that the region has achieved the 2021 target for the PHED measure.

Congestion Mitigation and Air Quality Program
 2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
 2022-2025 CMAQ Performance Plan – 2021 Baseline Report
 Southwestern Pennsylvania Commission – Final Report, October 2022

PM3 Congestion Measure	Annual Hours of Peak Hour Delay per Capita					
	2017 Baseline	2019 2-Year Target	2019 Actual	2021 4-Year Target	Updated 2021 4-Yr Target	2021 Actual
PHED	11.1	N/A	10.1	11.8	11.8	9.3

Table 1: Progress in Achieving 2021 Target – Annual Hrs of Peak Hr Excessive Delay / Capita

Percent Non-SOV Travel

Data from the Census 2012-2016 American Community Survey (ACS) dataset was used to establish the 2017 baseline value for Percent Non-SOV Travel. The ACS reports the means of travel to work within Urbanized Areas for both drive-alone (SOV) and non-SOV travel modes. The Percent Non-SOV Travel for the Pittsburgh UZA from the 2012-2016 ACS data was 24.8 percent, which was used as the baseline value for Percent Non-SOV Travel. Comparing the 2012-2016 ACS data to data from prior years showed a decreasing trend in Non-SOV travel in the Pittsburgh UZA. A 0.1 percent per year decrease in Non-SOV travel from the 24.8% baseline value was used by PennDOT and SPC to establish the 2- and 4-year targets for the Pittsburgh UZA.

The Percent Non-SOV Travel baseline and target values for the Pittsburgh UZA are shown in Table 2. Also shown is the 2019 value of 25.5 percent Non-SOV Travel (2014-2018 ACS), and the 2021 value of 27.6 percent (2016-2020 ACS). The Percent Non-SOV Travel target is met if the 2021 value is greater than the 2021 target. Comparing the 2021 value to the 2019 and 2021 targets indicates that the region has met the 2- and 4-year targets for the Percent of Non-SOV Travel.

PM3 Congestion Measure	Percent Non-Single Occupant Vehicle (Non-SOV) Travel					
	2017 Baseline	2019 2-Year Target	2019 Actual	2021 4-Year Target	Updated 2021 4-Yr Target	2021 Actual
Percent Non-SOV Travel	24.8	24.6	25.5	24.4	24.4	27.6

Table 2: Progress in Achieving 2021 Target – Percent Non-SOV Travel

Total Emissions Reduction

SPC receives an annual allocation of CMAQ funds for projects that reduce mobile source emissions and help mitigate congestion in the region's air quality nonattainment and maintenance areas. Each year, each state submits a data report to FHWA that identifies that year's funded CMAQ projects and their estimated emissions reduction. Data from these annual reports is entered into FHWA's Public Access CMAQ Database, which is accessible through FHWA's website (https://fhwaapps.fhwa.dot.gov/cmaq_pub/). PennDOT has submitted the required CMAQ annual reports since the inception of FHWA's database in 1992.

States and MPOs in areas subject to reporting baseline and target values for the Total Emissions Reduction measure were directed by the PM₃ regulations to use data from the 4-year period 2014-2017 to develop the baseline value for the Total Emissions Reduction measure.

Project information was extracted from FHWA's database for all of the CMAQ-funded projects in the SPC region for the years 2014 through 2017. The raw emissions reduction values reported in the database for each relevant pollutant were summarized for the region as a whole, not by each nonattainment and maintenance area. A number of projects appear in the database more than once since project information is entered into the database every year that funding is obligated for various project phases. This resulted in emission benefits being double- or triple-counted for some projects. Working in coordination with PennDOT, the raw emissions reduction numbers were adjusted to count each project's emissions benefit only once. The adjusted values were used as the 2017 Baseline values.

Regional targets for 2019 and 2021 were developed by first calculating an average annual emissions benefit for the 2014-2017 four-year historical period. The annual average was then adjusted in anticipation of significantly lower emissions rates in the future, primarily resulting from a cleaner vehicle fleet. The adjusted annual average values were used as the 2- and 4-year emissions reduction targets for the SPC region.

The baseline value and the 2- and 4-year targets are shown in Table 3. Also shown are the actual emission reduction values in the SPC region from the CMAQ projects funded in federal fiscal years 2018 and 2019 and the adjusted 4-year emission reduction targets for the period 2018-2021.

The baseline and the initially established targets accounted for CMAQ emission benefits to the region regardless of the location of the CMAQ project within the region, based on interpretation of federal guidance in 2018. The federal guidance was clarified to indicate that reductions for each emission type should only be counted if the project is located within a nonattainment or maintenance area for that emission category. To reflect the clarified federal guidance, the 4-year targets were updated in the 2020 Mid-Performance Period report.

The 2019 actual values were produced using the clarified federal guidance. In most cases, the actual value represents a subset of the CMAQ projects funded in 2018 and 2019. A detailed

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

rationale for each of the updated 2021 emission targets is provided in the 2020 Mid-Performance Period report.

The baseline, initial target values, and updated 2021 targets for emissions reductions from funded CMAQ projects in the region are shown in Table 3. Also shown is the 2021 emissions reduction value for each of the measures, which was derived from the emission reduction data entered in FHWA’s Public Access CMAQ Database for the CMAQ projects funded from 2018 through 2021. The individual emission reduction targets are met if the 2021 value is greater than the 2021 target. Comparing the 2021 values to the 2021 targets indicates that the region has achieved the 2021 target for all of the emission reduction measures except for VOC.

PM3 Emission Reduction Measure (kg/day)	On-Road Mobile-Source Emission Reduction (kg/day)					
	2017 Baseline	2019 2-Year Emission Reduction Target	2019 Actual Emission Reduction	2021 4-Year Emission Reduction Target	Updated 2021 4-Yr Emission Reduction Target	2021 Actual Emission Reduction
VOC Emissions	150.26	58.06	66.76	107.00	107.00	95.63
NOx Emissions	724.26	256.11	152.55	464.77	250.00	276.13
PM _{2.5} Emissions	16.64	7.01	6.210	13.35	10.00	13.23
PM ₁₀ Emissions	24.78	9.54	0.000	17.47	0.00	0.00
CO Emissions	569.93	284.97	133.37	569.93	250.00	378.68

Table 3: Condition and Progress – On-Road Emissions Reduction from CMAQ Projects

3. Baseline and Performance Targets – 2022-2025

The initial 4-year Performance Period (2018-2021) has concluded. The next 4-year Performance Period (2022-2025) is beginning. New baseline values and 2- and 4-year target values are required for the new Performance Period. This section summarizes the 2021 baseline condition and development of the 2023 and 2025 PM₃ performance measure targets for the 2022-2025 Performance Period.

Each measure’s 2022 baseline and the 2- and 4-year target values for the SPC region were developed cooperatively by SPC and PennDOT. That coordination and target setting process is summarized in PennDOT’s Full-Performance Period progress report. SPC’s report will be included with PennDOT’s submittal to FHWA. Appendix A contains a copy of PennDOT’s report.

Peak-Hour Excessive Delay

To develop the new baseline and target values, the Pittsburgh Urbanized area’s PHED measure was calculated for the years 2017 through 2021 from the NPMRDS data files using the University of Maryland CATT Lab RITIS software platform. Those values are graphed in Figure 3, and the 2021 value of 9.3 hours of delay was established as the baseline PHED value for the 2022-2025 performance period. There was significantly less peak period travel during the Covid-19 pandemic due to work at home directives. This is reflected in the 2020 and 2021 PHED values, which show much less peak hour delay than the pre-Covid values. It is expected that peak period travel will increase in the post-Covid period, which will lead to more congestion and delay than experienced in 2021, but not to the pre-Covid level. Due to the uncertainty of future travel trends, the 2023 and 2025 PHED targets were set to 10.5 annual hours of delay per capita. This is the value that is roughly halfway between the 2021 actual value and the 2021 target from the 2018-2021 performance period. The 2021 PHED baseline value, and the 2023 and 2025 PHED target values for the Pittsburgh UZA are shown in Table 4. SPC and PennDOT will track the PHED measure and revisit the 4-year target in the 2024 Mid-Performance Period report.

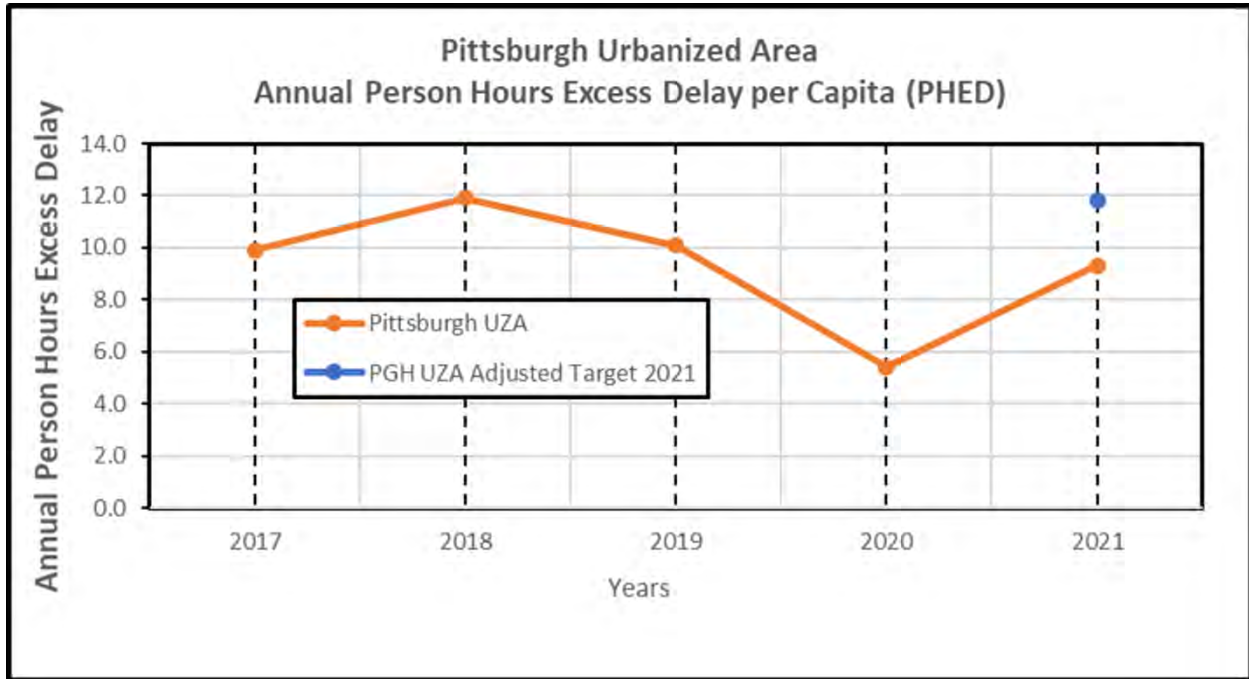


Figure 3: Historical Trend – 2017-2021 – Annual Hours of Peak Hour Excessive Delay (PHED) per Capita

PM3 Congestion Measure	Annual Hours of Peak Hour Delay per Capita					
	2021 Target	2021 Actual (Baseline)	2023 2-Yr Target	2023 Actual	2025 4-Yr Target	2025 Actual
PHED	11.8	9.3	10.5		10.5	

Table 4: Baseline and Targets – 2022-2025 – Annual Hours of Peak Hour Excessive Delay (PHED) per Capita

Percent of Non-SOV Travel

Data from the 2016-2020 Census American Community Survey dataset was used to establish the baseline value for Percent Non-SOV Travel. The ACS data table B08006 reports means of travel to work within Urbanized Areas for both drive alone (SOV) and non-SOV travel modes. The Percent Non-SOV Travel for the Pittsburgh UZA from the 2016-2020 ACS Table B08006 is 27.6 percent, which was used as the 2021 baseline value for Percent Non-SOV Travel for the 2022-2025 performance period. Figure 4 shows the trend for percent of SOV and non-SOV travel in the Pittsburgh UZA from 2009 through 2020. The trend is relatively flat for the period except for a noticeable increase in non-SOV travel in 2020. Figure 5 shows the 2009-2020 trend for percent of non-SOV travel to work for the primary non-SOV modes; transit, walk, bicycle, and work from home. The increase in non-SOV travel to work shown in Figure 5 was primarily driven by the increase in the percent of workers who worked from home during the Covid-19 pandemic. It is expected that the work from home share of work travel will decline in the post-Covid period, with corresponding increases in SOV travel and the other non-SOV modes. Due to the uncertainty of future commuting trends, the 2023 and 2025 Percent of Non-SOV targets were set to 27.0 percent. This value is higher than the 2021 target of 24.8 percent from the 2018-2021 performance period but, anticipating a decline in work from home share, less than the 2021 actual value of 27.6 percent. The 2021 Percent Non-SOV Travel baseline value and the target values for 2023 and 2025 are shown in Table 5. SPC and PennDOT will continue to monitor the Percent Non-SOV Travel measure in future ACS data releases and revisit the targets in the 2024 Mid-Performance Period report.

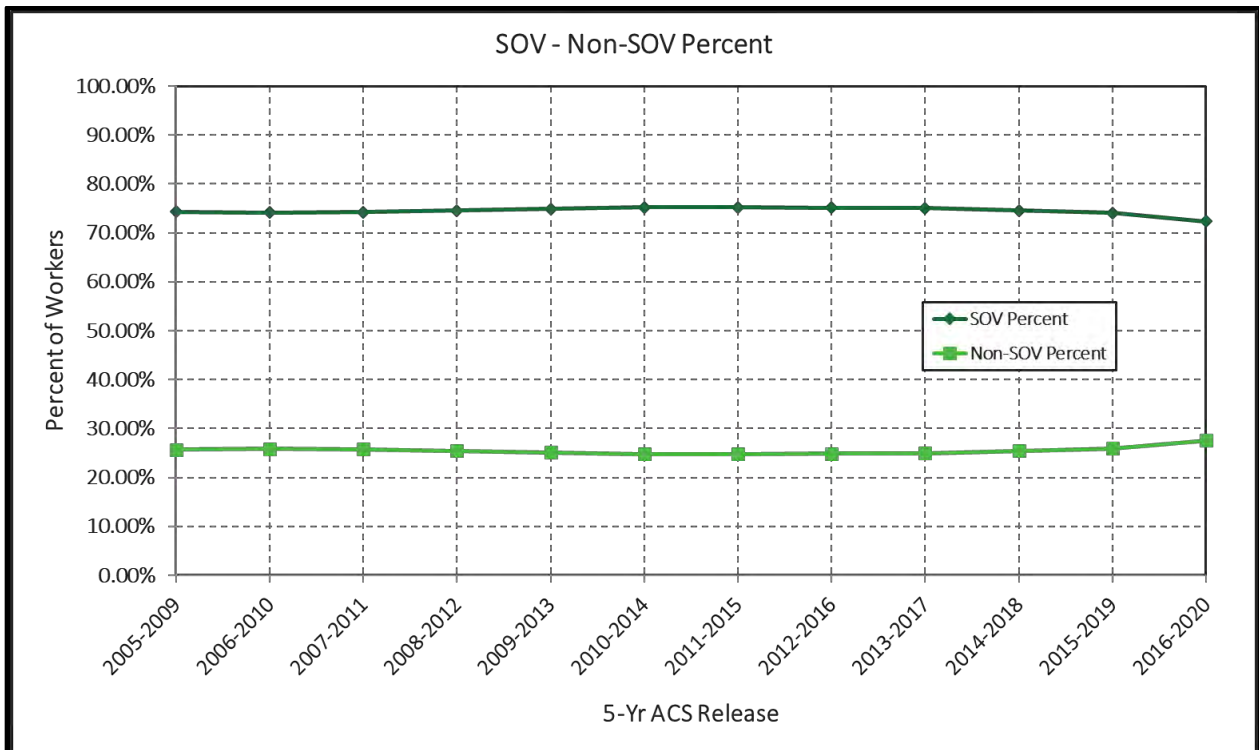


Figure 4: Historical Trend – 2009-2020 – Percent of Non-SOV Travel

Congestion Mitigation and Air Quality Program
 2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
 2022-2025 CMAQ Performance Plan – 2021 Baseline Report
 Southwestern Pennsylvania Commission – Final Report, October 2022

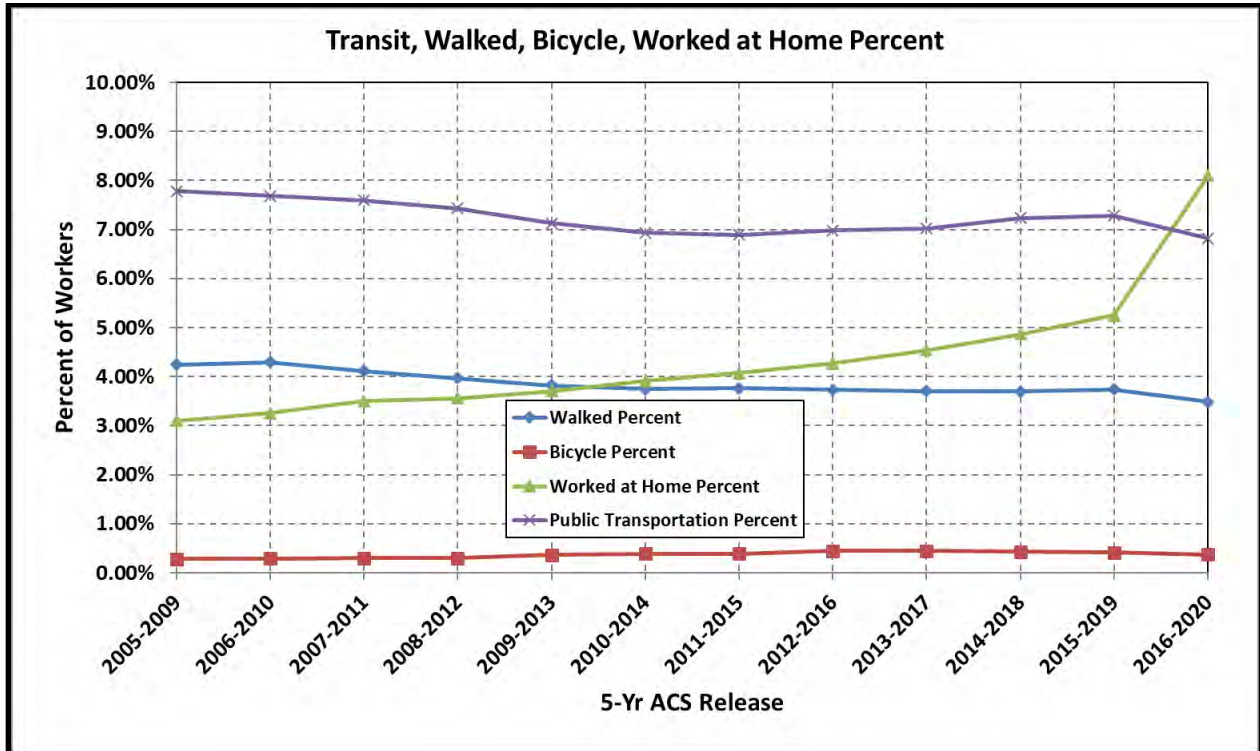


Figure 5: Historical Trend – 2009-2020 – Components of Non-SOV Travel

PM3 Congestion Measure	Percent Non-Single Occupant Vehicle (Non-SOV) Travel					
	2021 Target	2021 Actual (Baseline)	2023 2-Yr Target	2023 Actual	2025 4-Yr Target	2025 Actual
Percent Non-SOV Travel	24.4	27.6	27.0		27.0	

Table 5: Baseline and Targets – 2022-2025 – Percent of Non-SOV Travel

Total Emissions Reduction

As discussed in Section 2, project information was extracted from FHWA's database for CMAQ-funded projects in the SPC region for the years 2018 through 2021. The 4-year emission reduction values reported in the database for each relevant pollutant and nonattainment area were summarized. The resulting values were compared to the 2018-2021 targets to determine progress toward achieving those targets. The 2018-2021 values were also used as the baseline values for the new 2022-2025 performance period. Those values are shown in Table 6.

PM3 Emission Reduction Measure (kg/day)	On-Road Mobile-Source Emission Reduction (kg/day)					
	2021 Actual Emission Reduction (Baseline)	2023 2-Year Emission Reduction Target	2023 Actual Emission Reduction	2025 4-Year Emission Reduction Target	Adjusted 2025 4-Yr Emission Reduction Target	2025 Actual Emission Reduction
VOC Emissions	95.63	35.58		71.16		
NOx Emissions	276.13	92.64		185.27		
PM _{2.5} Emissions	13.23	4.88		9.76		
PM ₁₀ Emissions	0.00	0.000		0.00		
CO Emissions	376.68	0.00		0.00		

Table 6: Baseline and Targets – 2022-2025 – On-Road Emissions Reduction from CMAQ Projects

The 2023 and 2025 emission reduction targets were developed by first calculating an average annual emission benefit for the CMAQ projects funded in the region from 2018 through 2021. The annual average was then adjusted in anticipation of lower emissions rates in the future, primarily resulting from a cleaner vehicle fleet. In addition, the targets for CO and PM₁₀ emissions were set to zero since the emission benefits for the CMAQ projects programmed in those nonattainment areas for the 2022-2025 period will not accrue primarily to those areas. The 2-year 2023 emission reduction target was set as twice the adjusted 2018-2021 annual average, and the 4-year 2025 emission reduction target was set as four times the adjusted 2018-2021 annual average for the SPC region. The established 2023 and 2025 targets are shown in Table 6. SPC and PennDOT will revisit the emissions reduction targets in the 2024 Mid-Performance Period report.

Congestion Mitigation and Air Quality Program

2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and

2022-2025 CMAQ Performance Plan – 2021 Baseline Report

Southwestern Pennsylvania Commission – Final Report, October 2022

4. Description of Projects

FHWA Guidance for preparing MPO CMAQ Performance Plans and their Mid and Full Performance Period Reports directs MPOs to present a description of projects and programs identified for CMAQ funding during the 2- and 4-year performance periods. The project descriptions should include discussion of how the projects help the MPO meet their 2- and 4-year targets for traffic congestion and on-road mobile source emissions.

Lists of CMAQ-funded projects in the SPC region are included in Appendix B and Appendix C. Project information includes the PennDOT-assigned project identification number (MPMS Number), project name, project location (county), TIP Year project was programmed for funding, TIP Year funds were obligated, brief project description, CMAQ project type, pollutants affected, qualitative emission benefit, PHED benefit, and Non-SOV benefit.

Appendix B is the list of the CMAQ projects in the SPC region that were funded in 2018 through 2021 and are contained in FHWA’s CMAQ Public Access Database. A 2018-2021 project list was included in the 2020 Mid-Performance period report. That list included the projects from FHWA’s database that were funded in 2018 and 2019, and the CMAQ projects programmed on the TIP for funding in 2020 and 2021. The list in Appendix B differs from the list in the 2020 report. Several projects were added to, and deleted from, the TIP during 2020 and 2021 to accommodate changes to project schedules and funding availability.

Appendix C is the list of CMAQ projects in the SPC region that are currently programmed on the region’s TIP for funding from 2022 through 2025. The status of each of the projects is summarized. Estimated emission benefits from these projects were used in the target-setting process for the 2022-2025 Performance Period Appendix C will be updated as needed for the 2-year Mid Performance Period Progress Report in 2024 to reflect programming adjustments that will be made in 2022 and 2023. The project list in Appendix C also serves as SPC’s 2022-2025 Performance Plan for the established 2- and 4-year targets for PHED (Table 4), percent of non-SOV travel (Table 5), and on-road mobile source emission reduction (Table 6).

Congestion Mitigation and Air Quality Program

2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and

2022-2025 CMAQ Performance Plan – 2021 Baseline Report

Southwestern Pennsylvania Commission – Final Report, October 2022

APPENDIX A

Pennsylvania – PM3 Performance Measures – Condition and Progress

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

Report to be provided by PennDOT

Congestion Mitigation and Air Quality Program

2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and

2022-2025 CMAQ Performance Plan – 2021 Baseline Report

Southwestern Pennsylvania Commission – Final Report, October 2022

APPENDIX B

CMAQ-Funded Projects (2018-2021) – SPC Region

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
28000	PA 88/51 bridge /safety improvement	Traffic Flow Improvements	Allegheny	Traffic Flow Project - Traffic Engineering - Other	2011-14	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
47203	Forbes Avenue Enhancement	Bicycle and Pedestrian Facilities and Programs	Allegheny	Facilities, Maintenance Facilities, Description, signalization and pedestrian/bike safety enhancements	2015-18	Ozone, PM	Enhancements to active transportation infrastructure reduces emissions by encouraging non-SOV travel	Encouraging non-SOV travel through safety improvements and other enhancements to active transportation facilities will reduce congestion	Enhancements to active transportation infrastructure will encourage non-SOV travel	2018	X	X		X
83446	SR 1009 Signal Upgrades	Traffic Flow Improvements	Washington	Intelligent Transportation Systems, Signalization Upgrades, Description, Project includes traffic signal replacements at 2 adjacent intersections	2007-10	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
88829	PA 18 Signal Upgrades	Traffic Flow Improvements	Washington	Replace / upgrade existing traffic signals in the City of Washington	2015-18	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
88990	Butler County Transit Authority - New commuter service	Transit Improvements / Programs	Butler	Operating assistance for new commuter bus service between the City of Butler and Downtown Pittsburgh	2011-14	Ozone, PM	Implementing new transit service reduces emissions by reducing SOV travel and congestion	New transit service reduces congestion and SOV travel	New transit service reduces congestion and SOV travel	2018	X	X		
102171	US 19/Rochester Rd. Int.	Traffic Flow Improvements	Butler	Safety improvements, intersection upgrades at the intersection of US 19 (Perry Highway) and SR 3022 (Rochester Road) in Cranberry Township	2015-18	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
105109	D10 3c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Butler	Safety improvement, including improvement of various signal locations, traffic synchronization, vehicle preemption, back plates, and other miscellaneous construction in various locations in Adams, Butler, and Cranberry Townships and Seven Fields and Slippery Rock Boroughs.	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
105175	D12 3c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Washington & Westmoreland	Safety Improvement; Minor traffic signal upgrades and retiming of signalized intersections in Washington and Westmoreland County	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
106501	PA 8 - William Flynn Hwy - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along PA Route 8 - William Flinn Highway from Wildwood Road in Hampton Township to Grandview Drive in Richland Township	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
106509	PA 60 - Steubenville Pike - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along PA Route 60 - Steubenville Pike from Lorish/Haddock Road to the Interstate 79 Off-Ramp in Robinson Township	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
106516	US 30 - Ardmore Blvd - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along PA Route 8/US Route 30 - Ardmore Boulevard from Penn Avenue to Avenue B / Yost Boulevard in Forest Hills Borough	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
110371	PA 88 - Library Road - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along PA Route 88 (Library Road) from PA Route 51 to the 5-Points intersection (Baptist Road/South Park Road/Corrigan Drive) in Bethel Park Boro	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2018	X	X		
28180	CBD Signal Phase 3 Construction	Traffic Flow Improvements	Allegheny	CBD Signal improvement at Central Business District, City of Pittsburgh, Allegheny County	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		X
94879	D11 3c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Allegheny	Intelligent Transportation Systems, Signalization Upgrades, Description, optimize and coordinate signal operations.	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		X

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
94953	PA 21 Signals/FACO Signals -1	Traffic Flow Improvements	Fayette	Traffic signal enhancements and miscellaneous roadway work at various intersections along PA Route 21 in Fayette County	2013-16	Ozone	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		
95744	Pgh Traffic Signal Update	Traffic Flow Improvements	Allegheny	Sponsor = City of Pittsburgh; Obtain signal software vendor to upgrade or replace existing signal software for Public Works, City of Pittsburgh, Allegheny County	2011-14	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		X
106505	McKnight Rd Adaptive Traffic Signal System	Traffic Flow Improvements	Allegheny	Safety improvement (Design and Construction of an Adaptive Traffic Signal System) on 19 (McKnight Road) from Duncan Avenue to Pine Creek Road in McCandless Township, Allegheny County.	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		
109737	SINC - City of Pittsburgh	Traffic Flow Improvements	Allegheny	Regional Traffic Signal Program-Cycle 3 project in the City of Pittsburgh, Allegheny County	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		X
110373	SR 1001/PA 910 - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along SR 1001 (Freeport Road) from the Hulton Bridge to Alpha Drive East; and along PA Route 910 from Freeport Road to the Route 28 Ramps in Harmar Township	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		
110462	PA 356 Moraine Pointe to Campus Lane	Traffic Flow Improvements	Butler	Signal upgrades along PA 356/68 from Campus Lane to Moraine Pointe Plaza in Butler Township	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		
110464	PA 8 Main St Signal Improvements	Traffic Flow Improvements	Butler	Signal replacement/rehabilitation along Route 8 (Main Street) from Penn Street to Pittsburgh Street in the City of Butler	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2019	X	X		

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
94893	WECO signal upgrades	Traffic Flow Improvements	Westmoreland	Intelligent Transportation Systems, Signalization Upgrades, Description, Signal Upgrade/Congestion Management	2013-16	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2020	X	X		
105603	Pittsburgh - South Side Signals	Traffic Flow Improvements	Allegheny	Replace 5 existing traffic signals and install 1 new signal in the City of Pittsburgh Southside neighborhood along S. 18th Street	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2020	X	X		X
106568	PA68 Corridor Improvements	Traffic Flow Improvements	Butler	Signal replacement and corridor improvements to enhance safety and reduce congestion on PA Route 68 - Eagle Mill Road to Duffy Road in Connoquenessing and Butler townships	2019-22	Ozone, PM	Improved intersection geometry and optimized traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2020	X	X		
106594	Carnegie PnR Expansion	Transportation Demand Management	Allegheny	Expand the existing park and ride lot serving the West Busway in Carnegie Borough	2017-20	Ozone, PM	Expanded park-n-ride capacity reduces emissions by encouraging non-SOV travel	Encouraging non-SOV travel by expanding park-n-ride capacity will reduce congestion	Expanded park-n-ride capacity will encourage non-SOV travel	2020	X	X		
110378	TDM Coordinator and Outreach Program	Transportation Demand Management	Allegheny	Planning activities in numerous City of Pittsburgh neighborhoods including Downtown, Oakland, Lawrenceville, East Liberty and Hazelwood	2019-22	Ozone, PM, CO	Promoting alternative commute options and non-SOV travel helps to reduce emissions	Supporting and promoting TDM measures reduces congestion and SOV travel	Supporting and promoting TDM measures reduces congestion and SOV travel	2020	X	X		X
110399	PA 88 NB (McKean Ave.) - Charleroi	Traffic Flow Improvements	Washington	Replace / upgrade existing traffic signals with minor roadway work along PA 88 northbound (McKean Avenue) in Charleroi Borough	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2020	X	X		
110401	PA 88 SB (Fallowfield Ave.) - Charleroi	Traffic Flow Improvements	Washington	Replace / upgrade existing traffic signals with minor roadway work along PA 88 southbound (Fallowfield Avenue) in Charleroi Borough	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2020	X	X		

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
26454	US 19 - Washington Road - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along US Route 19 (Washington Road) in Upper St. Clair Township	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		
100316	Port Authority of Allegheny County - Transit Traffic Signals - BRT	Traffic Flow Improvements	Allegheny	Equip buses with Transit Signal Priority activation devices and upgrade traffic signals and associated software at 20 intersections in the Downtown-to-Oakland segment of the BRT Corridor	2015-18	Ozone, PM, CO	Improved transit service reduces emissions by reducing SOV travel and congestion	Improved transit service reduces congestion and SOV travel	Improved transit service reduces congestion and SOV travel	2021	X	X		X
100382	D11 4c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Allegheny	Intelligent Transportation Systems, Signalization Upgrades, Description, optimize and coordinate signal operations.	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		X
106507	Lebanon Church Road - Adaptive Traffic Signals	Traffic Flow Improvements	Allegheny	Design and construct an Adaptive Traffic Signal System along PA Route 2040 (Lebanon Church Road) from Bombardier Drive to Buttermilk Hollow Road in Pleasant Hills and West Mifflin Boroughs	2017-20	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		
110381	Expansion of RideACTA Last Mile Service	Transit Improvements / Programs	Allegheny	Expansion of RideACTA Last Mile Service in in the Airport Corridor (Moon, Findlay, Robinson and North Fayette townships)	2019-22	Ozone, PM	Implementing new transit service reduces emissions by reducing SOV travel and congestion	New transit service reduces congestion and SOV travel	New transit service reduces congestion and SOV travel	2021	X	X		
110402	US 119 Connellsville - Corridor 117	Traffic Flow Improvements	Fayette	Replace or remove four traffic signals and implement miscellaneous roadway improvements along US Route 119 (Memorial Boulevard) in the City of Connellsville	2019-22	Ozone	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		
112713	D10 4c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Butler	Intelligent Transportation Systems, Signalization Upgrades, Description, optimize and coordinate signal operations.	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		

SPC Region - CMAQ Funded Projects 2018-2021

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
113508	PA Route 28 Freeway Service Patrols	Traffic Flow Improvements	Allegheny	Traffic system management on SR 28 from the Junction of PA 28/I-579/I-279 near the Heinz Plant to the PA 910 Harmar Exit in City of Pittsburgh, Millvale, Shaler, Etna, Sharpsburg, Aspinwall, O'Hara, Blawnox and Harmar Township for removal of disabled or accident vehicles.	2021-24	Ozone, PM	Reducing response time for clearing incidents will reduce emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		
114210	D12 4c SINC-UP Project	Congestion Reduction and Traffic Flow Improvements	Washington & Westmoreland	Safety Improvement; Minor traffic signal upgrades and retiming of signalized intersections in Washington and Westmoreland County	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2021	X	X		
116127	SR 356 Park-N-Ride	Transportation Demand Management	Butler	Relocation and expansion of the existing park-and-ride facility at the intersection of PA 356 (South Pike Road) and SR 2017 (Silverville Road) in Buffalo Township, Butler Co.	2021-24	Ozone, PM	Expanded park-n-ride capacity reduces emissions by encouraging non-SOV travel	Encouraging non-SOV travel by expanding park-n-ride capacity will reduce congestion	Expanded park-n-ride capacity will encourage non-SOV travel	2021	X	X		
77273	Port Authority of Allegheny County - Bus Procurement	Transit Improvements / Programs	Allegheny	Annual program to replace buses that have reached the end of their useful life. The type of bus to be purchased each year is based upon fleet replacement schedule	2017-20	Ozone, PM, CO	New transit vehicles will reduce PM, CO, and Ozone precursor emissions	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	2018 - 2021	X	X		X
69837 111436	TMA Annual Funding	Transportation Demand Management	Allegheny	Annual funding for Transportation Management Associations (TMA) - commuter marketing and outreach	2015-18	Ozone, PM, CO	Promoting alternative commute options and non-SOV travel helps to reduce emissions	Supporting and promoting TDM measures reduces congestion and SOV travel	Supporting and promoting TDM measures reduces congestion and SOV travel	2018 - 2021	X	X		X

APPENDIX C

CMAQ-Programmed Projects (2022-2025) – SPC Region

SPC Region - CMAQ Funded Projects 2022-2025

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year to be Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
110369	PA 51- Clairton Boulevard - ATS	Traffic Flow Improvements	Allegheny	Design and Construction of an Adaptive Traffic Signal System along PA Route 51 - Clairton Boulevard, from Peters Creek Road to Provost Road in Jefferson Hills, Allegheny County	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2022	X	X		
110374	SR 3069 - Washington Road/West Liberty Avenue - ATS	Traffic Flow Improvements	Allegheny	Design and Construction of a Traffic Adaptive Signal System along SR 3069 - Washington Road/West Liberty Avenue from Cochran Road to the Liberty Tunnel in Dormont, Mt. Lebanon and City of Pittsburgh, Allegheny County.	2019-22	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2022	X	X		
114294	City of PGH Bus Shelters/Mobility Hubs	Transit Improvements / Programs	Allegheny	Install Bus shelters/mobility hubs from within the City of Pittsburgh, Allegheny County	2021-24	Ozone, PM, CO	Enhanced access to transit facilities encourages additional non-SOV travel and reduces congestion and delay	Reduced delay from improved access to transit will reduce congestion	Enhanced access to transit facilities will encourage additional non-SOV travel	2023	X	X		X
94651	I-376 Parkway East Active Traffic Management	Traffic Flow Improvements	Allegheny	Active Traffic Management consisting of Managed Lanes, Additional Variable Message signs , Variable Speed Limits and Ramp Management for incidents and emergencies. All along I-376 from Monroeville to Downtown Pittsburgh.	2021-24	Ozone, PM	Improved traffic operations reduces emissions and delay	Reduced delay from improved traffic operations will reduce congestion	n/a	2023	X	X		
114630	Bus Replacement-(11) 35' Transit Buses (Diesel to CNG Conv.)	Transit Improvements / Programs	Washington	Replacement of (11) diesel-fueled buses in the fleet of the Mid-Mon Valley Transit Authority with (11) CNG-fueled ones; fleet is based out of Charleroi, PA.	2021-24	Ozone, PM	New transit vehicles will reduce PM, CO, and Ozone precursor emissions	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	2023	X	X		
114561	PA 18 - Main St. to Third St.	Congestion Reduction and Traffic Flow Improvements	Washington	Signal replacement/upgrades to five signal locations on PA 18, US 40, and PA 136 in the City of Washington, Washington County.	2021-24	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2023	X	X		
114560	119 SW Greensburg	Congestion Reduction and Traffic Flow Improvements	Westmoreland	Replacement of 1 traffic signal and minor improvements to 7 traffic signals located on Congestion Management Corridor 88 in order to implement an efficient traffic signal system and coordination timings in various locations in various municipalities in Westmoreland County.	2021-24	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2023	X	X		
106593	SPC - Traffic Signal 5	Congestion Reduction and Traffic Flow Improvements	Regional	(Sponsor = SPC) Signal improvement at various locations in Allegheny, Beaver and Lawrence Counties.	2021-24	Ozone, PM, CO	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2024	X	X		X

SPC Region - CMAQ Funded Projects 2022-2025

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year to be Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
114563	30 Hempfield on Corridor 95	Traffic Flow Improvements	Westmoreland	Upgrading and replacement of traffic signals at various locations listed below in Hempfield and Unity Townships, Westmoreland County.	2021-24	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2024	X	X		
114290	Allegheny River Green Blvd.	Commuter Bicycle and Pedestrian Improvements	Allegheny	Establishment of a walkable rail-with-trail green boulevard along existing public right of way and Allegheny Valley Railroad and/or CSX rail corridor. The project includes enhanced transportation infrastructure, stormwater management and riverfront habitat restoration.	2021-24	Ozone, PM	Enhancements and additions to active transportation infrastructure reduces emissions by encouraging non-SOV travel	Encouraging non-SOV travel through safety improvements and other enhancements to active transportation facilities will reduce congestion	Enhancements to active transportation infrastructure will encourage non-SOV travel	2024	X	X		
114288	Penn Avenue Signal Improvements	Congestion Reduction and Traffic Flow Improvements	Allegheny	New and upgraded traffic signals; new fiber communication; new pavement markings; ADA upgrades including audible countdown pedestrian signals and cane-detectable signal control boxes; lighting upgrades.	2021-24	Ozone, PM, CO	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2024	X	X		X
117269	PAAC Wilkesburg Transit Center	Transit Improvements / Programs	Allegheny	Reconfiguration of transit center either at new site or at its existing location, the new facility would be much more visible and accessible to Wilkesburg residents walking to the station.	2023-26	Ozone, PM	Enhanced access to transit facilities encourages additional non-SOV travel and reduces congestion and delay	Reduced delay from improved access to transit will reduce congestion	Enhanced access to transit facilities will encourage additional non-SOV travel	2025	X	X		
117271	SR 50 Signal Upgrades	Congestion Reduction and Traffic Flow Improvements	Allegheny	Signal upgrades to SR 0050 in Bridgeville, Heidelberg and Carnegie Boroughs and Collier Township, Allegheny County.	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2025	X	X		
117272	Frankstown Ave. Signal Upgrades	Congestion Reduction and Traffic Flow Improvements	Allegheny	Signal improvements along Frankstown Avenue in the City of Pittsburgh, Allegheny County.	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2025	X	X		

SPC Region - CMAQ Funded Projects 2022-2025

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year to be Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
117264	Jefferson & Cunningham Streets Signal Improvements	Traffic Flow Improvements	Butler	Safety improvements to include signal upgrades that will improve coordination, control, signal phasing, timing, and add vehicle detection to reduce congestion and lower at various locations along the SR 68/SR 356 Corridor in Butler City, Butler County.	2023-26	Ozone	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		
117270	PPC-Marine & Landside Equipment Repower	Advanced Diesel Engine Technologies	Regional	Diesel emissions reductions and alternative fuel technologies throughout multiple municipalities in the Southwestern Pennsylvania Commission region.	2023-26	Ozone, PM	Conversion of existing diesel engines in marine terminal land-side equipment to cleaner fuel technologies will reduce emissions	n/a	n/a	2026	X	X		
117273	SR 8 Signal Upgrades	Congestion Reduction and Traffic Flow Improvements	Allegheny	Signal upgrades to SR 8 in Hampton Township, Allegheny County	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		
117274	SR 286 Signal Upgrades	Congestion Reduction and Traffic Flow Improvements	Allegheny	Signal upgrades along SR 0286 in Plum Borough, Allegheny County	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		
117275	PAAC Transit Access Improvements	Transit Improvements / Programs	Allegheny	Transit access improvements throughout multiple municipalities in Allegheny County	2023-26	Ozone, PM, CO	Enhanced access to transit facilities encourages additional non-SOV travel and reduces congestion and delay	Reduced delay from improved access to transit will reduce congestion	Enhanced access to transit facilities will encourage additional non-SOV travel	2026	X	X		X
117332	SR 2004 (Freedom Crider Rd.) @ SR 2006 (Lovi Rd.)	Congestion Reduction and Traffic Flow Improvements	Beaver	Highway reconstruction and add left turn lane on SR 2004 Freedom Crider Road at SR 2006 Lovi Road in New Sewickley Township, Beaver County	2023-26	Ozone, PM	Improved intersection geometry and optimized traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		
117949	MMVTA Bus Replacement - 8 35' CNG Transit Buses	Transit Improvements / Programs	Washington	Acquisition of (8) 35' CNG Transit Buses for the Mid Mon Valley Transit Authority	2023-26	Ozone, PM	New transit vehicles will reduce PM, CO, and Ozone precursor emissions	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	2026	X	X		
117943	SR 19 N/S Strabane Twp./Peters Twp. - Supplement to 19/SE2	Congestion Reduction and Traffic Flow Improvements	Washington	Project is a supplement to the US 19 Corridor Adaptive Signal project (MPMS# 107432) for additional work to be completed on the US 19 corridor in North Strabane Township, Washington County.	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		

SPC Region - CMAQ Funded Projects 2022-2025

MPMS Number	Project Name	Project Type	County	Project Description	TIP Period Cand Programmed	Relevant Pollutant	Emission Benefit	PHED Benefit	Non-SOV Benefit	Year to be Funded	Nonattainment Area			
											Ozone	PM2.5	PM10	CO
117945	SR 30 A10 - Adaptive Signals Corridor	Traffic Flow Improvements	Westmoreland	Adaptive signal improvements to the western section of the US 30 Corridor Safety Improvement Study Area from the intersection of US 30/PA 48 to Malts Lane in Allegheny and Westmoreland Counties.	2023-26	Ozone, PM	Optimizing traffic signal coordination, timing, and progression reduces emissions and travel delays	Reduced delay from improved traffic operations will reduce congestion	n/a	2026	X	X		
77273	Port Authority of Allegheny County - Bus Procurement	Transit Improvements / Programs	Allegheny	Annual program to replace buses that have reached the end of their useful life. The type of bus to be purchased each year is based upon fleet replacement schedule	2021-24	Ozone, PM, CO	New transit vehicles will reduce PM, CO, and Ozone precursor emissions	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	Maintaining transit vehicles and supporting transit operations reduces congestion and SOV travel	2022 - 2025	X	X		X
69837 111436	TMA Annual Funding	Transportation Demand Management	Allegheny	Annual funding for Transportation Management Associations (TMA) - commuter marketing and outreach	2021-24	Ozone, PM, CO	Promoting alternative commute options and non-SOV travel helps to reduce emissions	Supporting and promoting TDM measures reduces congestion and SOV travel	Supporting and promoting TDM measures reduces congestion and SOV travel	2022 - 2025	X	X		X

APPENDIX D

Definitions

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

The definitions listed below are from 23 CFR Part 490. They apply to the CMAQ Performance Plan and to the performance measures for traffic congestion and on-road mobile source emissions. Some definitions are incorporated by reference from other parts of 23 USC.

Term	Definition
American Community Survey	A national level ongoing survey from the U.S. Census Bureau that includes data on jobs, occupations, educational attainment, transportation patterns, and other topics of the Nation’s population.
Attainment Area	As defined in 23 CFR 450.104, any geographic area in which levels of a given criteria air pollutant (e.g., ozone, carbon monoxide, PM10, PM2.5, and nitrogen dioxide) meet the health-based National Ambient Air Quality Standards (NAAQS) for that pollutant. An area may be an attainment area for one pollutant and a nonattainment area for others. A “maintenance area” [see definition in 23 CFR 450.104] is not considered an attainment area for transportation planning purposes.
Criteria Pollutant	Any pollutant for which there is established a NAAQS at 40 CFR part 50. The transportation-related criteria pollutants per 40 CFR 93.102(b)(1) are carbon monoxide, nitrogen dioxide, ozone, and particulate matter (PM10 and PM2.5).
Peak Period Excessive Delay (PHED)	The extra amount of time spent in congested conditions defined by speed thresholds that are lower than a normal delay threshold. For the purposes of the performance rule, the speed threshold is 20 miles per hour (mph) or 60 percent of the posted speed limit, whichever is greater. Peak Period is defined as weekdays from 6 a.m. to 10 a.m. and either 3 p.m. to 7 p.m. or 4 p.m. to 8 p.m. (PennDOT and Pennsylvania’s MPOs chose to use 3 p.m. to 7 p.m. for evening peak period).
Highway Performance Monitoring System (HPMS)	National-level highway information system that includes data on the extent, condition, performance, use, and operating characteristics of the Nation’s highways.
Mainline Highway	The through travel lanes of any highway, specifically excluding ramps, shoulders, turn lanes, crossovers, rest areas, and other pavement surfaces that are not part of the roadway normally traveled by through traffic.
Maintenance Area	As defined in 23 CFR 450.104, any geographic region of the United States that the Environmental Protection Agency (EPA) previously designated as a nonattainment area for one or more pollutants pursuant to the Clean Air Act Amendments of 1990, and subsequently redesignated as an attainment area subject to the requirement to develop a maintenance plan under the Clean Air Act. For the purposes of 23 CFR Part 490, areas that have reached the end of their 20-year maintenance period are excluded.
Measure	An expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets.
Metric	A quantifiable indicator of performance or condition.
MPO	As defined in 23 CFR 450.104, the policy board of an organization created and designated to carry out the metropolitan transportation planning process.
NAAQS	As defined in 23 CFR 450.104, those standards established pursuant to section 109 of the Clean Air Act (see 40 CFR Part 50).

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

Term	Definition
National Performance Management Research Data Set (NPMRDS)	A data set derived from vehicle/passenger probe data (sourced from Global Positioning Station (GPS), navigation units, cell phones) that includes average travel times representative of all traffic on each mainline highway segment of the NHS, and additional travel times representative of freight trucks for those segments that are on the Interstate System. The data set includes records that contain average travel times for every 15 minutes of every day (24 hours) of the year recorded and calculated for every travel time segment where probe data are available. The NPMRDS does not include any imputed travel time data.
Nonattainment Area	As defined in 23 CFR 450.104, any geographic region of the United States that EPA designates as a nonattainment area under section 107 of the Clean Air Act for any pollutants for which an NAAQS exists.
Non-SOV Travel	Any travel mode other than driving alone in a motorized vehicle (i.e. single occupancy vehicle or SOV travel) including travel avoided by telecommuting
Non-urbanized Area	A single geographic area that comprises all of the areas in the State that are not “urbanized areas” under 23 USC 101(a)(37).
On-Road Mobile Source	For purposes of 23 CFR Part 490, Subpart H, emissions created by all projects and sources financed with funds from the 23 USC 149 CMAQ program.
Peak Period	Weekdays from 6:00 a.m. to 10:00 a.m. and either 3:00 p.m. to 7:00 p.m. or 4:00 p.m. to 8:00 p.m. State DOTs and MPOs may choose whether to use 3:00 p.m. to 7:00 p.m. or 4:00 p.m. to 8:00 p.m.
Performance Period	For purposes of assessing performance of the CMAQ measures, a four-year period during which condition/performance is measured and evaluated to: (1) assess condition/performance with respect to baseline condition/performance; and (2) track progress toward the achievement of the targets that represents that intended condition/performance level at the midpoint and at the end of that time period.
Reporting Segment	The length of roadway that the State DOT and MPOs define for metric calculation and reporting and is comprised of one or more travel time segments.
Target	A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the FHWA.
Transportation Management Area (TMA)	As used in 23 CFR Part 490 and as defined in 23 CFR 450.104, an urbanized area with a population over 200,000, as defined by the Bureau of the Census and designated by the Secretary of Transportation, or any additional area where TMA designation is requested by the Governor and the MPO and designated by the Secretary of Transportation.
Travel Time Data Set	Either the National Performance Management Research Data Set (NPMRDS) or an equivalent data set used by State DOTs and MPOs as approved by FHWA, to carry out the requirements in subparts E, F, and G of 23 CFR Part 490
Travel Time Segment	A contiguous stretch of the NHS for which average travel time data are summarized in the Travel Time Data Set.
Urbanized Area	An area with a population of 50,000 or more designated by the Bureau of the Census (23 USC 101(a)(37)).

APPENDIX E

Acronyms

Congestion Mitigation and Air Quality Program
2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and
2022-2025 CMAQ Performance Plan – 2021 Baseline Report
Southwestern Pennsylvania Commission – Final Report, October 2022

<u>Acronym</u>	<u>Full Name / Description</u>
AADT	Average Annual Daily Traffic
CBD	Central Business District
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality Improvement
CO	carbon monoxide
DEP	Pennsylvania Department of Environmental Protection (also PaDEP)
DOT	Departments of Transportation
EPA	Environmental Protection Agency
FAST-Act	Fixing America’s Surface Transportation Act (federal transportation law – enacted 2015)
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GIS	Geographic Information System
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
IIJA	Infrastructure Investment and Jobs Act (federal transportation law – enacted 2021)
I/M	Inspection/Maintenance
ITS	Intelligent Transportation Systems
Kg/day	Kilograms per day
LRP	Long-Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century (federal transportation law – enacted 2012)
MOVES	Motor Vehicle Emissions Simulator – EPA on-road emissions model
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MPMS	Multi-Modal Project Management System (Pennsylvania)
NAAQS	National Ambient Air Quality Standards
NHS	National Highway System
NO _x	Oxides of Nitrogen
NPMRDS	National Performance Management Research Data Set
O ₃	Ozone
PaDEP	Pennsylvania Department of Environmental Protection (also DEP)
PennDOT	Pennsylvania Department of Transportation
PHED	Annual Hours of Peak Hour Excessive Delay Per Capita
PM	Particulate Matter
PM _{2.5} and PM ₁₀	Particulate Matter with diameter less than 2.5 microns (PM _{2.5}); less than 10 microns (PM ₁₀)
PM3	National Performance Management Measures - Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program Final Rule (82 FR 5970, January 18, 2017)
SOV	Single Occupancy Vehicle
SPC	Southwestern Pennsylvania Commission
STIP	Statewide Transportation Improvement Program
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TPM	Transportation Performance Management
USC	United States Code
µG/M ³	Micrograms per Cubic Meter
USDOT	United States Department of Transportation
UZA	Urbanized Area
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

Congestion Mitigation and Air Quality Program

2018-2021 CMAQ Performance Plan – 2021 Full Performance Period Report, and

2022-2025 CMAQ Performance Plan – 2021 Baseline Report

Southwestern Pennsylvania Commission – Final Report, October 2022

APPENDIX F

SPC Resolution 13-22

SOUTHWESTERN PENNSYLVANIA COMMISSION

RESOLUTION NO. 13-22

A RESOLUTION OF THE SOUTHWESTERN PENNSYLVANIA COMMISSION (SPC), to endorse the region's 2018-2021 CMAQ Performance Period Report and the 2022-2025 CMAQ Performance Plan Baseline Report.

WHEREAS, The Moving Ahead for Progress in the 21st Century Act (MAP-21) established, and the Fixing America's Surface Transportation (FAST) Act and the Infrastructure Investment and Jobs Act (IIJA) reinforced, a system of national goals and performance measures designed to ensure the effective use of Federal transportation funds;

WHEREAS, federal regulations at 23 CFR 490.707 and 490.807 establish three performance measures for the CMAQ Program:

- Annual Hours of Peak-Hour Excessive Delay (PHED) Per Capita;
- Percentage of Non-Single Occupancy Vehicle (Non-SOV) Travel;
- On-Road Mobile Source Emissions Reduction for CMAQ Funded Projects.

WHEREAS, Metropolitan Planning Organizations are required to establish targets for each of these performance measures that represent the anticipated performance outcome in carrying out the Congestion Mitigation and Air Quality (CMAQ) Improvement Program;

WHEREAS, as required by 23 U.S.C. 149(1), each metropolitan planning organization serving an Urbanized Area with a population over 200,000 people representing an air quality nonattainment or maintenance area shall develop on a four-year cycle a CMAQ Performance Plan that:

- A. Includes an area baseline level for each of the performance measures;
- B. Establishes 2- and 4-year performance targets for the measures;
- C. Describes 2- and 4-year progress made in achieving the performance targets; and,
- D. Includes a description of projects identified for funding under the CMAQ Program and how those projects will contribute to achieving the CMAQ emission and traffic congestion reduction targets.

WHEREAS, SPC staff has prepared the required 2018-2021 CMAQ Performance Period Report and the 2022-2025 CMAQ Performance Plan Baseline Report that satisfies the federal requirements;

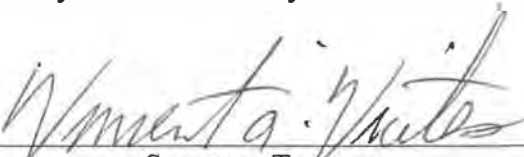
WHEREAS, at their October 13, 2022 meeting, the SPC Transportation Technical Committee recommended that SPC endorse the 2018-2021 CMAQ Performance Period Report and the 2022-2025 CMAQ Performance Plan Baseline Report.

NOW, THEREFORE, BE IT RESOLVED, in accord with federal regulations at 23 CFR 490.105(f), that the Southwestern Pennsylvania Commission endorses the regional 2018-2021 CMAQ Performance Period Report and the 2022-2025 CMAQ Performance Plan Baseline Report and authorizes staff to transmit it to PennDOT for inclusion in the state's biennial report to FHWA.

I, Vincent Vicites, HEREBY CERTIFY that I am Secretary-Treasurer of the SOUTHWESTERN PENNSYLVANIA COMMISSION; that the foregoing resolution was adopted, in accordance with the

By-Laws, by the Commissioners of said Commission at a meeting duly called and held on the 24th day of October 2022, a quorum being present; and that said resolution is now in full force and effect.

IN TESTIMONY WHEREOF I hereto subscribe my name as Secretary-Treasurer.


Secretary-Treasurer

2018-2021 CMAQ Performance Period Report

Congestion Measure	Annual Hours of Peak Hour Delay per Capita and Percent Non-SOV Travel					
	2017 Baseline	2019 2-Year Target	2019 Actual	2021 4-Year Target	Updated 2021 4-Yr Target	2021 Actual
PHED	11.1	N/A	10.1	11.8	11.8	9.3
Percent Non-SOV Travel	24.8	24.6	25.5	24.4	24.4	27.6

Emission Reduction Measure (kg/day)	On-Road Mobile-Source Emission Reduction (kg/day)					
	2017 Baseline	2019 2-Year Emission Reduction Target	2019 Actual Emission Reduction	2021 4-Year Emission Reduction Target	Updated 2021 4-Yr Emission Reduction Target	2021 Actual Emission Reduction
VOC Emissions	150.26	58.06	66.76	107.00	107.00	95.63
NOx Emissions	724.26	256.11	152.55	464.77	250.00	276.13
PM_{2.5} Emissions	16.64	7.01	6.210	13.35	10.00	13.23
PM₁₀ Emissions	24.78	9.54	0.000	17.47	0.00	0.00
CO Emissions	569.93	284.97	133.37	569.93	250.00	378.68

2022-2025 CMAQ Performance Plan Baseline

Congestion Measure	Annual Hours of Peak Hour Delay per Capita and Percent Non-SOV Travel					
	2021 Actual (Baseline)	2023 2-Yr Target	2023 Actual	2025 4-Yr Target	Updated 2025 4-Yr Target	2025 Actual
PHED	9.3	10.5		10.5		
Percent Non-SOV Travel	27.6	27.0		27.0		

Emission Reduction Measure (kg/day)	On-Road Mobile-Source Emission Reduction (kg/day)					
	2021 Actual Emission Reduction (Baseline)	2023 2-Year Emission Reduction Target	2023 Actual Emission Reduction	2025 4-Year Emission Reduction Target	Adjusted 2025 4-Yr Emission Reduction Target	2025 Actual Emission Reduction
VOC Emissions	95.63	35.58		71.16		
NOx Emissions	276.13	92.64		185.27		
PM_{2.5} Emissions	13.23	4.88		9.76		
PM₁₀ Emissions	0.00	0.000		0.00		
CO Emissions	376.68	0.00		0.00		

