

III. Transportation Networks Developed for Conformity Assessment

SPC's process for this conformity determination for the 2040 Long Range Plan and 2011-2014 TIP called for use of seven TP+-based transportation networks. Each transportation network consists of separate highway and transit components covering SPC's entire ten county planning area which includes Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland counties.

This section provides an overview of the facilities included in each of the networks and how the networks were used in the conformity determination. An overview of the TP+ transportation modeling software and SPC's modeling process is presented in Section IV. Figure 1 presents a synopsis of the seven networks and the major new facilities each includes.

EPA's Transportation Conformity Rule cites a number of project types which may be excluded from the regional emissions analyses required to determine conformity of transportation plans and programs. These "exempt" project types generally include minor projects such as resurfacing, minor widening, channelization and lighting improvements. "Exempt" projects were excluded from the regional emissions analysis.

The seven networks developed specifically for use in this conformity process were: 1). the existing year network (2011); 2). the 2011-2014 TIP network (2014); 3). 2015 is an analysis year being used by Cambria County for conformity assessments for the Cambria County portion of the Johnstown PM_{2.5} nonattainment area; SPC also used this year for consistency with the Cambria County analysis years (2015); 4). the ozone "budget year" for the Greene County 8-hour ozone area and the Indiana County portion of the Clearfield – Indiana 8-hour ozone area (2018); 5). an interim year to satisfy the Transportation Conformity Rule requirement that analysis years be not more than ten years apart (2025); 6). a second interim year to satisfy the Transportation Conformity Rule requirement that analysis years be not more than ten years apart (2035); 7). the Long Range Plan horizon year (2040).

The adopted 2011-2014 TIP is a fiscally constrained program of projects for federal fiscal years 2011 through 2014 that reflect the region's transportation priorities. It was adopted by SPC on July 26, 2010. The SPC report *2011-2014 Transportation Improvement Program for Southwestern Pennsylvania* (SPC, July 2010) provides more information about the projects programmed in the TIP. For purposes of this conformity assessment it was presumed that all projects programmed on the 2011-2014 TIP for construction would be completed by 2014. Appendix B lists the projects currently programmed on the TIP, including all TIP amendments and changes through April 30, 2011.

The 2040 Long Range Plan (2040 Plan) is the region's its fiscally constrained long-range transportation plan. The SPC report *2040 Transportation and Development Plan for Southwestern Pennsylvania* (SPC, June 2011), identifies the specific projects included in the Plan for SPC's 10-county planning area. Appendix C lists the projects included on the 2040 Plan.

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“Non-exempt” projects and facilities listed in Figure 1 were coded into the TP+ -based transportation networks to define the transportation system for the 2011 network. The projects and facilities are those listed as completed from 1990 through 2011. The 2011 network was used to develop emissions estimates for the “existing” (2011) transportation system.

“Non-exempt” projects and facilities listed in Figure 1 for completion between 2011 and 2014 were added to the 2011 network to define the transportation system for the 2014 network. The 2014 (TIP Year) network is a TP+ -based representation of the region’s highway and transit system as it will appear upon completion of every project programmed for construction on the 2011-2014 TIP. This network was used in the conformity analysis to develop emissions estimates for the TIP horizon year (2014).

“Non-exempt” projects and facilities listed in Figure 1 for completion in 2015 were added to the 2014 network to define the transportation system for the 2015 network. The 2015 network was used in SPC’s analysis in order to be consistent with analysis years being used by Cambria County for conformity assessments for the Cambria County portion of the Johnstown PM_{2.5} nonattainment area.

“Non-exempt” projects and facilities listed in Figure 1 for completion between 2015 and 2018 were added to the 2015 network to define the transportation system for the 2018 network. The 2018 network was used in the conformity analysis to develop emissions estimates for the 2018 ozone “budget year”.

“Non-exempt” projects and facilities listed in Figure 1 for completion between 2018 and 2025 were added to the 2018 network to define the transportation system for the 2025 “interim year” network. The 2025 network was used in the conformity analysis to develop emissions estimates for the 2025 “interim year” analysis scenario.

“Non-exempt” projects and facilities listed in Figure 1 for completion between 2025 and 2035 were added to the 2025 network to define the transportation system for the 2035 “interim year” network. The 2035 network was used in the conformity analysis to develop emissions estimates for the 2035 “interim year” analysis scenario.

“Non-exempt” projects and facilities listed in Figure 1 for completion between 2035 and 2040 were added to the 2035 network to define the transportation system for the Long Range Plan network. The 2040 network was used in the conformity analysis to develop emissions estimates for the Long Range Plan analysis scenario.

Of all the highway and transit projects programmed on the 2011-2014 TIP and 2040 Plan, only those identified in Figure 1 were included in the conformity analysis as “non-exempt” projects subject to regional emissions analysis. A number of additional “non-exempt” projects are programmed for construction in that time period. Due to their nature (small isolated park-n-ride lots, roadway relocation with no capacity increase, traffic signal coordination, etc.), they could not be coded on the travel model networks. These projects are addressed in Section VII.

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Appendix B contains a one-line summary of every highway and transit project identified on the 2011-2014 TIP within SPC's 10-county region. Appendix C contains a one-line summary of every highway and transit project identified on the 2040 Long Range Transportation Plan within SPC's 10-county region. The project summaries in Appendices B and C identify whether the projects have been categorized as "exempt". The "non-exempt" projects which could be coded on highway networks are also listed in Figure 1. The effect of highway and transit projects which cannot be reflected on coded transportation networks is discussed in Section VII.

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Figure 1. Facilities Included on Highway and Transit Networks

1. Base Year (2002) Transportation System

- 1990 Transportation System plus:

Facilities completed between 1990 and 2002

Allegheny County:

1. West Busway (Downtown Pittsburgh to Carnegie)
2. First Avenue Station – (New Light Rail Transit Station) – [Downtown Pittsburgh]
3. Ohio River Boulevard Extension / West End Bridge Interchange
4. Airport Southern Expressway
5. I-279 Southbound Widening to 3 lanes (McKnight Road to North Avenue)
6. Coraopolis Bridge – (Replace 2-lane bridge with 3-lane bridge on new alignment)
7. Smithfield St. Bridge Widening (Convert trolley right-of-way to third traffic lane)
8. North Fayette/Robinson Interchange (Parkway West)
9. West Main Street Widening to 4 lanes – [Carnegie Borough]
10. West End Bypass Widening to 5 lanes – [City of Pittsburgh]
11. West End Bridge ramp to Route 65 – (Widen to 2 lanes) – [City of Pittsburgh]
12. Hookstown Grade/Ewing Road @ Business Route 60 (Construct interchange)
13. Banksville Road/Parkway West Interchange Improvements
14. Liberty Tunnel South Portal Grade Separation (Route 51 @ West Liberty Avenue)
15. Hot Metal Bridge Reconstruction (East Carson St. to Second Ave.) – [City of Pittsburgh]

Armstrong County:

16. Kittanning Bypass (Route 66 to Route 28)

Beaver County:

17. Beaver Valley Expressway

Butler County:

18. Route 228 Bridge over I-79 (New structure with additional lanes)
19. I-79/Route 228 Interchange (Construct missing ramps)

Fayette County:

20. Uniontown Bypass (Hopwood to Route 119 South)
21. Mon-Fayette Expressway (Uniontown to Fairchance)
22. TR 51 Star Junction Intersection
23. Route 982 / 31 Intersection and Approaches (Laurelville)
24. Mon-Fayette Expressway (Fairchance to West Virginia)

Indiana County:

25. Route 422 Indiana Bypass (SR 119 to SR 286)
26. Route 422 Indiana Bypass (SR 286 to Business 422)

Lawrence County:

27. New Castle Area Transit Authority (NCATA) – Bus Replacements / Fleet Expansion (16 Transit Vehicles)
28. NCATA – Service Expansion (New Route between New Castle and Pittsburgh)
29. NCATA – Construction of New Maintenance Facility / Administration Building (New Castle)
30. Beaver Valley Expressway (Toll 60) – Beaver County Line to Route 422 Bypass
31. Route 422 / 388 Intersection – Traffic Signal Upgrade

Washington County:

32. I-79 Interchange - Western Center (Southpointe)
33. Donora Industrial Access Road - Phase 1 (Route 837 to Industrial Park)

Figure 1. Facilities Included On Highway and Transit Networks (cont.)

Westmoreland County:

34. Greensburg Bypass – (New Stanton to Delmont)
35. Route 22 Reconstruction/widening to 4 lanes (Delmont to Route 819)
36. Route 22 Reconstruction/widening to 4 lanes (Route 819 to Shieldsburg)

2. PM_{2.5} Conformity Base Year (2008) Transportation System

- 2002 Transportation System plus:

Facilities completed between 2002 and 2008

Allegheny County:

1. East Busway Extension - (Wilkinsburg to Rankin)
2. Wilkinsburg Park-N-Ride Facility
3. South Hills Light Rail Transit - (Stage II – Overbrook Line)
4. Wabash Tunnel HOV Facility - (Woodruff Street to East Carson Street)
5. I-279 / I-376 Connector – (Direct ramp from Fort Duquesne Bridge to Parkway East)
6. Mon Fayette Expressway (I-70 to Route 51)
7. Duncan Avenue Extension (East) – [McCandless Twp.]
8. Cargo Road @ Business Route 60 (New interchange) – [Moon Twp.]
9. Frazer (Pgh) Mills Interchange (Rt.28 @ Tawney Run Rd. /Galleria Blvd.) – [Frazer Twp.]
10. Settlers Cabin Interchange (Rt. 22/30 Parkway West @ Ridge Rd.) – [Robinson Twp.]
11. Industry Drive Extension (Phase 1) – [Findlay Twp.]
12. Moon-Clinton Interchange completion - (Add missing ramps north of SR 3089)
13. Southern Beltway (Findlay Connector) – 4 lanes (Airport Southern Expressway to Route 22)
14. Rt. 8 Widening to 4 lanes (Kittanning St. to Saxonburg Blvd.) – [Etna]
15. Route 28 Widening to 3 lanes northbound (Harmar to Creighton)
16. Rt.28 Southbound to I-279 Southbound Connector (Construct new ramp) – [City of Pittsburgh]
17. Cherrington Parkway Extension – (2 Lane Access Road) – [Moon Twp.]

Butler County:

18. I-79/Route 19/Turnpike Exit 28 Interchange (Cranberry Connector)

Fayette County:

19. Route 119 / Walnut Hill Interchange – (Construct two missing ramps to complete interchange)
20. Wayland Smith Drive – New 2-lane Connector (Route 40 to Matthew Dr. Extension)
21. Matthew Drive Extension (Route 40 to New Salem Road [SR 4006])

Greene County:

22. Kiwi Road Extension (Near Greene County Airport [Route 21 to Rolling Meadows Road])

Indiana County:

23. Route 22 @ Route 119 Interchange Completion
24. Route 22 Gas Center – Widen to 4 lanes (Armagh Bypass to Cambria County Line)
25. Route 22 Penn View Summit – Widen to 4 lanes (Route 119 Interchange to Mount Taber Church)
26. Route 119 South – Widen to 4 lanes (SR 22 to SR 56 [Homer City])

Washington County:

27. Donora Industrial Access Road - Phase 2 (Industrial Park to 14th Street)

Westmoreland County:

28. Route 22 Reconstruction/widening to 4 lanes (Shieldsburg to New Alexandria)
29. Route 22 Reconstruction/widening to 4 lanes (Murrysville to Export)
30. Rt. 366 Widening to 4 lanes (Tarentum Bridge to Leechburg Road)
31. I-76 PA.Turnpike Mainline Widened to 3 lanes (Eastbound only) – New Stanton Int. to Somerset Co.
32. Center Avenue - Relocation (near New Stanton)
33. Route 119 @ Sony Corp. – Construct new interchange (near New Stanton)
34. Route 22 Reconstruction/widening to 4 lanes (Export to Delmont)
35. Route 31 - Widen to 4 lanes (3 Mile Hill - Laurelville to Laurel Summit)

Figure 1. Facilities Included On Highway and Transit Networks (cont.)

3. Existing (2011) Transportation System (Also Ozone Budget Year)
- 2008 Transportation System plus:
Facilities completed between 2008 and 2011
- Allegheny County:**
1. I-79 @ I-279 (Parkway West) Interchange - (Construct missing ramps and widen US 22/30 (Parkway West) to 6 lanes – I-79 @ I-279 Interchange to Campbell’s Run Road Interchange
 2. West End Circle Reconstruct/Realign – (Southern approach to bridge) – [City of Pittsburgh]
 3. East Carson Street - widened to 4 lanes (25th St. to 33rd St.) – [City of Pittsburgh]
 4. Etna Interchange Bridges Phase 4 – (SR 28 NB mainline widened to 2 lanes)
 5. I-76 PA.Turnpike Mainline (Construct New Bridge over Allegheny River) 6 lanes
- Beaver County:**
6. I-76 PA. Turnpike Mainline Widened to 6 lanes (Ohio State Line to SR 60 Interchange)
- Fayette County:**
7. Matthew Drive - Widen to 4 lanes (Uniontown)
 8. Mon-Fayette Expressway (Uniontown to Brownsville) – Phase 1
 9. SR 4049 Northgate Highway – New 4 lane Connector (Rt.40 to Rt.51) – Part of MFE Plan Phase 1
- Indiana County:**
10. Route 22 Clyde – Widen to 4 lanes (Mount Taber Church to Armagh Bypass)
- Washington County:**
11. Union Twp. Park-N-Ride (MMVTA to construct new 100-space lot)
- Westmoreland County:**
12. Route 22 Reconstruction/widening to 4 lanes (New Alexandria to Route 982)
 13. Route 22 Reconstruction/widening to 4 lanes (Route 982 to Westinghouse)
 14. Route 22 Reconstruction/widening to 4 lanes (Westinghouse to Indiana Co.)
 15. Route 30 Widening (St. Vincent’s College to Mt. Laurel Shopping Ctr.)
 16. Route 981 Widening (North and south approaches to Route 30 intersection)
 17. Parnassus Triangle Phase 2 - SR 366 widening to 4 lanes – (Bridge St. to 7th St.)
4. TIP Year (2014) Transportation System
- 2011 Transportation System plus:
Facilities on 2011-2014 TIP for Construction
- Allegheny County:**
1. North Shore Connector Project (LRT) Gateway Line – [City of Pittsburgh]
 2. Route 28 Widening (I-579 to Millvale) – [City of Pittsburgh]
 3. Industry Drive Extension (Phase 2) – [Findlay Township]
 4. I-76 PA.Turnpike Mainline Widened to 6 lanes (Pine Twp. to Route 8 Interchange)
- Butler County:**
5. I-79 Exit 27 Interchange Completion (SR 3025 at Seneca Valley High School)
 6. SR 228 Mars Railroad Bridge - Replace existing 2 lane bridge with 4 lane bridge (SR 228 over CSX RR and Breakneck Creek) – [Adams Twp.]
- Fayette County:**
7. Mon-Fayette Expressway (Uniontown to Brownsville) – Phase 2
 8. Mon-Fayette Expressway (Fairchance to I-68 – West Virginia)
 9. Masontown Bridge - Replace existing 2 lane bridge with 4 lane bridge (Rt.21 over Mon. River)
- Washington County:**
10. I-79 Meadowslands Interchange - (Construct missing ramps)
- Westmoreland County:**
11. I-76 PA. Turnpike Mainline Widened to 6 lanes (Irwin Int. to New Stanton Int.)

Figure 1. Facilities Included On Highway and Transit Networks (cont.)

5. Johnstown Analysis Year (2015) Transportation System
 - Same as 2014 Transportation System

6. Ozone Budget Year (2018) Transportation System
 - 2014 Transportation System plus:
Facilities on 2040 Long Range Plan for Construction – 2015 to 2018
Allegheny County:
 1. Robinson Town Centre Intermodal Transportation Center / Access Roads / Montour Church Road
 2. Campbell's Run Road Improvements - Widen to 4 lanes - [Robinson Twp.]
 3. Brighton Road Extension – New 2 lane Connector (General Robinson to N. Shore Dr.) – [City of PGH]
 4. Penn Circle Improvement – Convert from multi-lane, single directional traffic flow to bi-directional traffic flow – [City of Pittsburgh]
 5. Route 286 Improvements – Phase 2 – Widening to 4 lanes (Sagamore Hill Dr. to Sandune Dr.)
 6. Hulton Bridge Replacement (New 4 lane bridge over Allegheny River) – [Oakmont to Harmar]**Beaver County:**
 7. Freedom Road Upgrade (Crows Run) -Route 65 to Route 989**Fayette County:**
 8. Route 21 (Sec. J10) - Widen to 4 lanes (Thompson Crossroads to Rt.119)**Greene County:**
 9. Route 19/21– Widen to 4 lanes (Morrisville Corridor – Waynesburg [High St. to SR 2026])**Washington County:**
 10. I-70 Widening to 6 lanes (SR 136 Interchange [Beau St.] to I-79 South Junction)
 11. I-70 Widening to 6 lanes (I-79 North Junction to SR 136 Interchange [Beau St.]

7. Interim Year #1 (2025) Transportation System
 - 2018 Transportation System plus:
Facilities on 2040 Long Range Plan for Construction – 2018 to 2025
Allegheny County:
 1. Painter's Run Road - Widening to 4 lanes (Bower Hill Road to Rob Hollow Road)
 2. I-76 PA. Turnpike Mainline Widened to 6 lanes (SR 8 Int. to Allegheny Valley Int.)**Beaver County:**
 3. I-76 PA. Turnpike Mainline (Construct New Bridge over Beaver River) 6 lanes**Butler County:**
 4. Moraine State Park North Shore Access - Interchange Completion (SR 422 @ West Park Road)**Indiana County:**
 5. SR 3043 Rose Street Extension – New 2 lane Connector (SR 286 to SR 4032)**Washington County:**
 6. I-79 Meadowlands Auxiliary Lanes (between Meadowlands and Racetrack Road Interchanges)

8. Interim Year #2 (2035) Transportation System
 - 2025 Transportation System Plus:
Facilities on 2040 Long Range Plan for Construction – 2025 to 2035
Butler County:
 1. SR 228 Mars RR Bridge West - Widening to 4 lanes (SR 3015 Mars-Valencia Road to SR 3021 (Franklin Road)

9. Long Range Plan Horizon Year (2040) Transportation System
 - Same as 2035 Transportation System

All "non-exempt" projects on TIP or Long Range Plan and not listed above could not be coded. Their effect on emissions and conformity determination is qualitatively described in Section VII.

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