



Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

LVTS JOINT TECHNICAL & COORDINATING MEETING Wednesday, June 17, 2026, at 9:00 am Virtual Meeting Agenda

Roll Call

Courtesy of the Floor

Minutes

1. *ACTION ITEM:* Technical Committee approval of Minutes of May 20, 2026, Technical Committee Meeting (HM)
2. *ACTION ITEM:* Coordinating Committee approval of Minutes of May 20, 2026, Joint Technical and Coordinating Committee Meeting (HM)

Old Business

1. *ACTION ITEM:* 2027-2030 Transportation Improvement Program Adoption (SW, EG)
 - a) Adopt Air Quality Conformity Report
 - b) Adopt Air Quality Resolution
 - c) Review 2027-2030 TIP Development, Highlights & Public Comments
 - d) Review/Adopt the Regional TIP Memorandum Of Understanding
 - e) Adopt the 2027-2030 TIP
 - f) Adopt the Self-Certification Resolution
2. *INFORMATION ITEM:* 2025-2028 Transportation Improvement Program Administrative Actions (JR)
3. *ACTION ITEM:* 2025-2028 Transportation Improvement Program Amendment (JR)
4. *INFORMATION ITEM:* LANTA 2025-2028 Transportation Improvement Program Administrative Actions (BC)
5. *ACTION ITEM:* LANTA 2025-2028 Transportation Improvement Program Amendment (BC)
6. *ACTION ITEM:* Congestion Management Plan Revisions (SK, SW)
7. *PROGRESS REPORTS:*
 - a) *FutureLV: The Regional Plan* (Metropolitan Transportation Plan) Update (BB)
 - Transportation Needs Assessment Survey
 - Project Selection Process Refinement Update
 - Technical Committee Workshop
 - Coordinating Committee Meeting July LVTS
 - Open Call for Projects
 - Sub-Regional Meetings
 - b) US 22 Safety, Mobility and Congestion Management Plan Development (SW)
 - c) Lehigh Valley Passenger Rail Phase II (BB)

New Business

None

Status Reports

1. Highway Performance Monitoring System: Monthly Traffic Report
2. PennDOT District 5-0 Bridge Project Status Report

3. Public Engagement, Education and Grants Report

Adjournment

Next LVTS Meetings

LVTS Joint Technical & Coordinating Committee: Wednesday, July 15th at 9 AM

Meetings will be held virtually, unless otherwise noted. Meeting information can be found here:

<https://lvpc.org/lvts-committee-meetings>

The LVPC/LVTS website, www.lvpc.org, may be translated into multiple languages. Publications and other public documents can be made available in non-English languages and alternative formats, if requested.



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Lehigh Valley Transportation Study Minutes from Wednesday, May 20, 2026 Joint Technical & Coordinating Committee Meeting

Prior to the call to order, Ms. Milagio stated the agenda and materials for the meeting were posted on the LVPC website. She provided directions on how to participate in the virtual meeting and protocol for the meeting to flow smoothly. The meeting was advertised in the Lehigh Valley Press on January 7, 2026. To start, Mr. Owen O'Neil chaired the Coordinating Committee portion of the agenda. Mr. Ryan Meyer chaired the Technical Committee portion of the agenda.

Mr. O'Neil welcomed the members and the public participants and called the meeting to order.

Roll Call

Ms. Milagio took Roll Call.

Attendees:

Technical Committee

Ryan Meyer	LNAA
Nick Raio	PennDOT Central Office
Becky Bradley, AICP	LVPC
David Petrik (Alt.)	City of Allentown
Cathy Fletcher (Alt.)	City of Bethlehem
David Hopkins (Alt.)	City of Easton
Jen Ruth	PennDOT District 5-0
Brendan Cotter	LANTA

Members Absent:

Technical Committee

Matthew Tuerk	City of Allentown
J. William Reynolds	City of Bethlehem
Salvatore Panto	City of Easton

Attendees:

Coordinating Committee

Owen O'Neil	LANTA
Chris Kufro	PennDOT Central Office
Becky Bradley, AICP	LVPC
Andrew Elliott (Alt.)	Lehigh County
Tara Zrinski	Northampton County
Michael Emili (Alt.)	Northampton County
David Petrik (Alt.)	City of Allentown
Mike Alkhal (Alt.)	City of Bethlehem
David Hopkins (Alt.)	City of Easton
Mark Tobin	PennDOT Central Office

Members Absent:

Technical Committee

Matthew Tuerk	City of Allentown
J. William Reynolds	City of Bethlehem
Salvatore Panto	City of Easton

Members Absent:

Coordinating Committee

Josh Siegel	Lehigh County
Matthew Tuerk	City of Allentown
J. William Reynolds	City of Bethlehem
Salvatore Panto	City of Easton
Thomas Stoudt	LNAA

Staff Present: Becky Bradley, Steven Weber, Evan Gardi, Subham Kharel, Hannah Milagio, Matt Assad, Jacob Engbert

Public Present:

Brian Miller (Upper Milford Township), Evan Jones (The Morning Call), Amy Unger (WFMZ), Ralph Eberhardt (Michael Baker International), Gene Porochniak (FHWA), Scott Harney (The Pidcock Company), Kim Schaffer (Community Bike Works), Jeff Rai (PennDOT District 5), Brian Telles (GFT), Scott Vottero (PennDOT District 5), Brett Webber (All Aboard Lehigh Valley)

Courtesy of the Floor

Mr. O’Neil asked if there were comments for items not on the morning’s agenda. There were no comments.

Mr. O’Neil then welcomed Jacob Engbert, a new full-time member of the LVPC staff.

Minutes

Mr. Meyer stated that the Technical Committee last met on April 15, 2026. Ms. Milagio noted the actions voted on:

- Minutes of the March 18, 2026 Joint Technical and Coordinating Committee Meeting
- Lehigh Valley Trail Connection Strategy Revisions and Recommendations
- Adjournment

Mr. Meyer asked for a motion to approve the April 15, 2026 minutes as presented. Mr. Cotter made the motion, which was seconded by Mr. Raio. There were no questions or comments from members of the public. Ms. Bradley called for a vote and the motion was approved.

Mr. O’Neil stated that the Coordinating Committee last met on March 18, 2026. Ms. Milagio noted the actions voted on:

- Minutes of the February 18th Joint Technical and Coordinating Committee Meeting
- Lehigh Valley Trail Connection Strategy
- MPO Boundaries between DVRPC and LVPC
- Adjournment

Mr. O’Neil asked for a motion to approve the March 18, 2026 minutes as presented. Mr. Kufro made the motion, which was seconded by Mr. Petrik. There were no questions or comments from members of the public. Ms. Bradley called for a vote and the motion was approved.

Old Business

***ACTION ITEM:* Trail Connection Strategy Revisions and Recommendations**

Mr. Gardi explained that the Trail Connection Strategy was presented to LVTS, and also brought to the LVPC Environment and Transportation Committee's attention, where constructive feedback was received. The draft was shared with the LINK Trail Partnership as well. All comments from the meetings and LINK were addressed including:

- A few changes to the existing trail map

- More trails both open and conceptual were added to the Upper Macungie Township Trail network from the township's plans throughout the township
- In the City of Easton, the connection of the Karl Stirner Arts Trail to Scott Park along Bushkill Drive and 3rd Street was added
- In The City of Allentown, a conceptual connection from the end of the MLK Drive Trail north to where the Jordan Creek Greenway Trail ends on W. Turner Street was added.
- The map changes were carried throughout each of the maps in the remainder of the document.
- An overall critical trail gap map, before breaking them out into the inset maps, was added.
- In the update section from the 2013 trail plan, Trail Gap 5 D&L Trail: North Catasauqua, gap 5C description has been updated marking the section as complete with the finishing construction of the Lehigh St. Bridge entering Catasauqua Borough.
- There were also a few grammatical text changes throughout the document noted by partners.

Mr. O'Neil asked for a motion to approve the Lehigh Valley Trail Connection Strategy as forwarded by the Technical Committee. Mr. Hopkins made the motion, which was seconded by Mr. Petrik. There were no questions or comments from members of the public. Ms. Bradley called for a vote and the motion was approved.

DISCUSSION ITEM: Draft Congestion Management Plan

Mr. Kharel explained that the LVPC have been continuing work on developing the congestion management plan. He explained that the LVPC received comments and the comments received addressed several key areas, including consideration of non-SOV measures within the CMP, identification of implementation schedules, responsible agencies, and potential funding sources, establishment of a periodic update schedule tied to performance measures, clarification of remote work forecast trends, and several other minor corrections. A revised draft was included in the revised packet. Mr. Kharel noted that everyone should review the plan for adoption at the June LVTS meeting.

Mr. Kharel then explained that a set of congestion mitigation strategies have been identified in the plan that can be applied on a case-by-case basis using the congested locations identified in the CMP. FHWA encourages evaluating a broad range of approaches, organized into six categories.

- Demand management
- Traffic operations
- Public transportation improvements
- Intelligent Transportation Systems
- Additional system capacity
- Freight strategies

Mr. Kharel noted that across all categories, the CMP also identifies implementation steps, responsible agencies, funding sources, and ongoing performance monitoring to ensure strategies remain effective over time. Importantly, all proposed transportation projects must be consistent with the CMP and are evaluated through its review framework to ensure alignment with established congestion management goals, strategies, and performance objectives. This includes roadway and intersection improvements, transit and active transportation investments, operational and ITS upgrades, as well as any projects that involve changes to roadway capacity. Projects that are not consistent with the CMP are redirected toward alternative strategies such as demand management, operational improvements, transit investments, ITS, or freight solutions. Stakeholders then work together to identify feasible options and implementation steps, with support from LVTS staff as needed. This process ensures that all projects align with CMP goals, meet air quality requirements, and are supported by ongoing performance monitoring.

Ms. Bradley commented that all comments that were received have been addressed in the revised edition, and those revisions added 6 pages to the CMP.

INFORMATION ITEM: 2025-2028 Transportation Improvement Program Administrative Actions

Ms. Ruth stated that there were **6** administrative actions and **1** statewide administrative action from March 7, 2026 to April 3, 2026:

- Admin Action #1: Box Culvert Bundle, Round 2, Lehigh County
- Admin Action #2: Hollenbachs Bridge, Lehigh County
- Admin Action #3: Lower Saucon Road over East Branch of Saucon Creek, Northampton County
- Admin Action #4: Route 512 Bangor Borough Study, Northampton County
- Admin Action #5: Route 309 Resurface, Lehigh County
- Admin Action #6: Williams Township Canal Wall Replacement, Northampton County
- Statewide Admin Action #1: Route 309 Center Valley Interchange, Lehigh County

There were no comments from the LVTS members or the public on the administrative actions.

ACTION ITEM: 2025-2028 Transportation Improvement Program Amendments

Ms. Ruth stated that there were 2 amendments from March 7, 2026 to April 3, 2026:

- TIP Amendment #1: Hill to Hill Bridge Rehabilitation, Lehigh County
- TIP Amendment #2: Route 33 Bushkill Creek Bridges, Northampton County

Mr. Meyer asked for a motion to approve TIP Amendment #1 as presented. Mr. Cotter made the motion, which was seconded by Mr. Meyer.

Mr. Cotter asked when the project is expected to go out to bid. Ms. Ruth explained that the anticipated let is August 2026.

Ms. Bradley called for a vote and the motion was approved and forwarded to Coordinating Committee.

Mr. O'Neil asked for a motion to approve TIP Amendment #1 as forwarded by the Technical Committee. Mr. Kufro made the motion, which was seconded by Mr. Alkhal. There were no additional comments. Ms. Bradley called for a vote and the motion was approved.

Mr. Meyer asked for a motion to approve TIP Amendment #2 as presented. Mr. Raio made the motion, which was seconded by Mr. Petrik. Ms. Bradley called for a vote and the motion was approved and forwarded to Coordinating Committee.

Mr. O'Neil asked for a motion to approve TIP Amendment #2 as forwarded by the Technical Committee. Mr. Kufro made the motion, which was seconded by Mr. Tobin. There were no additional comments. Ms. Bradley called for a vote and the motion was approved.

DISCUSSION ITEM: Draft 2027-2030 Transportation Improvement Program

Mr. Gardi explained that LVTS received 26 total comments during the public comment period for the TIP.

- Many comments call for widening major corridors (I-78, Route 22, Route 33), fixing bottlenecks, modernizing intersections, extending ramps, and addressing unsafe merge/weaving conditions especially around the Hill-to-Hill Bridge and other high-volume segments.
- People question how projects are selected, how costs are estimated, why some corridors advance faster than others, and whether funding allocations (e.g., bridge preservation) are adequate. Several ask how to get projects added or updated.
- Comments emphasize the need for wider sidewalks, pedestrian safety features, multimodal elements in major projects, Complete Streets approaches, and concerns about reduced transit funding.
- Numerous comments highlight local needs: bridge repairs, resurfacing requests, slip ramps to I-476, signal modernization, and concerns about warehouse-related truck impacts.

- A subset of comments argues that roadway expansion alone is insufficient and calls for transformative solutions especially an East-West light passenger rail corridor as a long-term strategy for regional mobility.

Mr. Gardi continued, noting that the public comment period closed on May 16. The TIP Adoption packet, which will include all the public comments and their responses, will be distributed before the June 17 meeting where the LVTS will consider adoption of the TIP. Once the TIP is adopted, staff will submit the LVTS TIP to PennDOT's Center for Program Development and Management by the end of June. PennDOT will incorporate the Lehigh Valley TIP into the Statewide TIP and send it for review by the Federal Highway and Federal Transit Administrations. It is anticipated that the TIP will be approved by federal partners in September, with the 2027-2030 TIP officially starting on October first of 2026.

PROGRESS REPORT: Metropolitan Transportation Plan (MTP) Update

Ms. Bradley explained where the LVPC is in the plan process, the project is at the mid-point of the planning process. One of the next steps is engaging LVPC and LVTS members through a series of workshops and engagements. These engagements serve as a platform to discuss plan progress, key data and topics, and guide the development of draft policies.

Ms. Bradley continued detailing that staff are developing regional change mapping and supporting data to help illustrate how the Lehigh Valley has evolved since the last plan update. LVPC launched a communitywide transportation needs survey on April 16, which remained open through May 5. The survey was shared widely through the LVPC website, social media channels, and direct outreach to LVTS members to encourage broad participation across the region. The input gathered will directly inform updates to the transportation components of *FutureLV: The Regional Plan*, helping guide future investments, projects, and policy decisions. LVPC staff are currently compiling, synthesizing, and analyzing the comments and responses, and will share key findings with LVTS at the June meeting. These insights will also help inform upcoming discussions with municipalities and serve as a foundation for engagement during subregional meetings later in the summer.

PROGRESS REPORT: US 22 Safety, Mobility and Congestion Management Plan Development

Mr. Weber explained that the consultant is developing alternatives that look at specific locations as well as corridor-wide strategies. We are planning meetings with the affected municipalities to get their input.

Mr. Slingerland asked what the project limits are and if the project includes the interchanges and off ramps that connect with local roads. Mr. Weber explained that yes the project includes interchanges on local roads and is considering the needs of pedestrians and cyclists. Ms. Bradley added that the project limits are from the New Jersey line to the I-78 merge.

PROGRESS REPORT: Lehigh Valley Passenger Rail Phase II

Ms. Bradley explained that LVPC is still waiting on finalized grant agreement, drafting project scope for Phase II which includes:

- Corridor ID
- Preferred Operator
- Land Use + Economic Analyses
- Feasibility Analysis
- Regulatory + Political Partner Coordination
- Start Alternatives Analysis

Mr. Webber congratulated the LVTS on the progress and stated that All Aboard LV is excited to support the effort.

New Business

INFORMATION ITEM: Hill to Hill Project Update

Mr. Teles gave an overview of the project status and design for the Hill-to-Hill Bridge Project in the City of Bethlehem. Mr. O'Neil asked about preemption at lights. Mr. Teles explained that both lights will have advanced pre-emption, southbound on Rt. 378 because of St. Lukes for ambulances. Mr. O'Neil asked if there would be potential to include prioritization on the northbound intersections for transit vehicles to go through the intersections. Mr. Teles stated that he would look into it.

INFORMATION ITEM: Transportation Alternatives Set-Aside (TASA) State Awards 2026

Mr. Gardi explained that PennDOT announced its statewide TASA awards and Lehigh Valley was fortunate to received six awards, three each in Lehigh and Northampton Counties. Mr. Gardi noted that all three Lehigh County awards and two of the three awards in Northampton County are for projects identified in the Trail Connections Strategy. The following projects were awarded:

- City of Allentown — **\$823,698** to construct 1.1 miles of shared use path/bicycle and pedestrian facilities from the Allentown City Line to the current ending point of the D&L Trail on North Bradford Street.
- Hanover Township — **\$902,575** to construct 1 mile of shared use path along the former D&L canal towpath
- South Whitehall Township — **\$1,500,000** to construct Segments of the Jordan Creek Greenway Trail to connect the Township's Covered Bridge Park to Parkland High School
- City of Easton — **\$765,000** to acquire 5 parcels of unused rail, allowing for the construction of a 1.5-mile trail (tentatively called "The Highline")
- Northampton County — **\$1,500,000** to remove, repair and reinstall walls, install new guardrails, signage and hazard clearance markers
- Palmer Township, The William Penn Highway School, and Trail Crossing Improvement — **\$399,754** to create a safe route to school and improved trail crossing along State Route 2020 at the Palmer Bikeway/Two Rivers Trailway

Ms. Bradley stated that this is a great expression of the power of the work of the LVTS. In the last 12 months, a ton of implementation projects have been picked off. Smarter planning and prioritizing. Mr. Slingerland echoed Ms. Bradley's congratulations, stating that all the little projects add up and benefit everyone.

Status Reports

Mr. O'Neil said the status reports on the Monthly Traffic Report and the Public Engagement, Grants and Education memo were included in the meeting packet.

Mr. Weber highlighted the ARLE funding opportunity for municipalities.

Adjournment

Mr. O'Neil stated that the next LVTS meeting will be a Joint Technical & Coordinating Committee Meeting on Wednesday, June 17 at 9am. Mr. Kufro made a motion to adjourn, and the meeting was adjourned.

Air Quality Conformity Analysis Report

Lehigh Valley MPO 2027-2030 Transportation Improvement Program (TIP) and 2050 Long Range Transportation Plan (LRTP)

National Ambient Air Quality Standards (NAAQS) Addressed:

- 2008 8-Hour Ozone (Nonattainment)
- 2006 24-Hour PM_{2.5} (Maintenance)

Prepared by:

The Lehigh Valley Planning Commission and
Pennsylvania Department of Transportation
for the
Lehigh Valley Transportation Study

Report Date: April 2026

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Summary of Attachments

- Attachment A:** Project List
- Attachment B:** Detailed Emission Results
- Attachment C:** Sample MOVES Input Files

Overview

This report provides an analysis of the air quality implications of the Lehigh Valley Transportation Study (LVTS) MPO 2027-2030 Transportation Improvement Program (TIP) and 2050 Long Range Transportation Plan (LRTP). The analysis demonstrates transportation conformity under the 2008 8-hour ozone National Ambient Air Quality Standards (NAAQS) and the 2006 24-hour PM_{2.5} NAAQS. The air quality conformity analysis reflects an assessment of the regionally significant non-exempt transportation projects included in both the TIP and LRTP.

This document replaces the previously approved conformity demonstration of the TIP and LRTP and ensures that the findings meet all current criteria established by the U.S. Environmental Protection Agency (EPA) for the applicable NAAQS. A conformity determination has been completed to provide a regional forecast of emissions based on planned air quality significant projects in the updated TIP and the latest available planning assumptions. All air quality significant projects for the LRTP remain the same as previous conformity determinations. The TIP and LRTP projects are listed in **Attachment A**.

Background on Transportation Conformity

Transportation conformity is a way to ensure that federal funding and approval are awarded to transportation activities that are consistent with air quality goals. Under the Clean Air Act (CAA), transportation and air quality modeling procedures must be coordinated to ensure that the TIP and the LRTP are consistent with the area's applicable State Implementation Plan (SIP). The SIP is a federally approved and enforceable plan by which each area identifies how it will attain and/or maintain the health-related primary and welfare-related secondary NAAQS.

In order to receive transportation funding and approvals from the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA), state and local transportation agencies must demonstrate that the plans, programs, or projects meet the transportation conformity requirements of the CAA as set forth in the transportation conformity rule. Under the transportation conformity rule, transportation plans are expected to conform to the applicable SIP in nonattainment or maintenance areas. The integration of transportation and air quality planning is intended to ensure that transportation plans, programs, and projects will not:

- Cause or contribute to any new violation of any applicable NAAQS.
- Increase the frequency or severity of any existing violation of any applicable NAAQS.
- Delay timely attainment of any applicable NAAQS, any required interim emissions reductions, or other NAAQS milestones.

The transportation conformity determination includes an assessment of future highway emissions for defined analysis years, including the end year of the LRTP. Emissions are estimated using the latest available planning assumptions and available analytical tools, including EPA's latest approved on-highway mobile sources emissions model, the Motor Vehicle Emission Simulator (MOVES). The conformity determination provides a tabulation of the analysis results for

applicable precursor pollutants, showing that the required conformity test was met for each analysis year.

Report Contents

This document includes a summary of the methodology and data assumptions used for the conformity analysis. As shown in **Exhibit 1**, attachments containing additional detail have been provided with the document. In addition, modeling input and output files have been reviewed by the Environmental Protection Agency (EPA) Region III and the Pennsylvania Department of Environmental Protection (DEP).

EXHIBIT 1: SUMMARY OF ATTACHMENTS

Attachment	Title	Description
A	Project List	Provides a list of regionally significant highway projects for the TIP and LRTP.
B	Detailed Emission Results	Provides a detailed summary of emissions by roadway type.
C	MOVES Sample Run Specification	Provides example MOVES5 data importer (XML) and run specification (MRS) files.

National Ambient Air Quality Standard Designations

The CAA requires the EPA to set NAAQS for pollutants considered harmful to public health and the environment. A nonattainment area is any area that does not meet the primary or secondary NAAQS. Once a nonattainment area meets the standards and additional redesignation requirements in the CAA [Section 107(d)(3)(E)], EPA will designate the area as a maintenance area.

The Lehigh Valley MPO area (includes Lehigh and Northampton counties) is currently designated as a marginal nonattainment area under the 2008 8-hour ozone NAAQS and a maintenance area under the 2006 24-hour PM_{2.5} NAAQS. The region is attaining the current 2012 annual PM_{2.5} NAAQS. Transportation conformity requires nonattainment and maintenance areas to demonstrate that all future transportation projects will not prevent an area from reaching its air quality attainment goals.

Fine Particulate Matter

Fine particulate matter (PM_{2.5}) can be emitted directly into the atmosphere (sources include exhaust and dust from brake and tire wear) or formed in the atmosphere by combinations of precursor pollutants (secondary formation). Sulfates and nitrates are two types of pollutants that contribute to secondary formation. Sulfate emissions are a result of power plant and industry emissions, while nitrate emissions result from automobiles, power plants, and other combustion sources. Scientific studies have shown a significant correlation between exposure to fine particulates and severe health issues such as heart disease, lung disease, and premature death.

The pollutants that could be analyzed in the conformity analysis are: [1] direct PM_{2.5} emissions (tail pipe emissions, brake and tire wear), [2] re-entrained road dust, and [3] precursors nitrogen oxides (NOX), volatile organic compounds (VOC), sulfur oxides (SOX) and ammonia (NH₃). The EPA has ruled that until the EPA or DEP find that other precursor pollutants are significant contributors, and a SIP revision is approved stating such findings, direct PM_{2.5} emissions and NOX are the only pollutants that must be analyzed for transportation conformity (40 CFR 93.119(f)(8)–(10)).

1997 Annual PM_{2.5} and 2006 24-hour PM_{2.5} Standards

The EPA published the 1997 annual PM_{2.5} NAAQS on July 18, 1997, (62 FR 38652), with an effective date of September 16, 1997. An area is in nonattainment of this standard if the 3-year average of the annual mean PM_{2.5} concentrations (for designated monitoring sites within an area) exceeds 15.0 micrograms per cubic meter (µg/m³). Lehigh and Northampton counties were designated as a nonattainment area under the 1997 annual PM_{2.5} NAAQS, effective April 5, 2005 (70 FR 944).

The EPA published the 2006 24-hour PM_{2.5} NAAQS on October 17, 2006, (71 FR 61144), with an effective date of December 18, 2006. The rulemaking strengthened the 1997 24-hour standard of 65 µg/m³ (62 FR 38652) to 35 µg/m³ and retained the 1997 annual PM_{2.5} NAAQS of 15 µg/m³. An area is in nonattainment of the 2006 24-hour PM_{2.5} NAAQS if the 98th percentile of the annual 24-hour concentrations, averaged over three years, is greater than 35 µg/m³. Lehigh and Northampton counties were designated as attainment under the 2006 24-hour PM_{2.5} NAAQS, effective December 14, 2009 (74 FR 58688).

A redesignation request and maintenance plan applicable to the 1997 annual PM_{2.5} NAAQS was approved by EPA effective December 22, 2014 (79 FR 76251). The maintenance plan includes 2017 and 2025 PM_{2.5} and NOX mobile vehicle emission budgets (MVEBs) for transportation conformity purposes.

EPA took final action on the “Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements” rule on August 24, 2016 (81 FR 58010 effective on October 24, 2016). In that rulemaking, EPA finalized the option that revokes the 1997 primary annual $PM_{2.5}$ NAAQS in areas that have always been designated as attainment and in maintenance of that NAAQS. After revocation, areas no longer have to expend resources on CAA air quality planning and conformity determination requirements associated with the 1997 annual $PM_{2.5}$ NAAQS.

2012 Annual $PM_{2.5}$ Standard

The EPA published the 2012 annual $PM_{2.5}$ NAAQS on January 15, 2013, (78 FR 3086), with an effective date of March 18, 2013. The EPA revised the annual $PM_{2.5}$ NAAQS by strengthening the standard from 15 $\mu\text{g}/\text{m}^3$ to 12 $\mu\text{g}/\text{m}^3$. An area is in nonattainment of this standard if the 3-year average of the annual mean $PM_{2.5}$ concentrations for designated monitoring sites in an area is greater than 12.0 $\mu\text{g}/\text{m}^3$. On December 18, 2014, EPA issued final designations for the standard that were revised on April 7, 2015 (80 FR 18535). Lehigh and Northampton counties are designated in attainment of the standard.

2024 Annual $PM_{2.5}$ Standard

On February 7, 2024, EPA strengthened the annual $PM_{2.5}$ standard at 9.0 $\mu\text{g}/\text{m}^3$ to provide increased public health protection, consistent with the available health science. The nonattainment areas have not been designated yet for this new standard.

Ozone

Ozone is formed by chemical reactions occurring under specific atmospheric conditions. Precursor pollutants that contribute to the formation of ozone include VOC and NO_x , both of which are components of vehicle exhaust. VOCs may also be produced through the evaporation of vehicle fuel, as well as by displacement of vapors in the gas tank during refueling. By controlling VOC and NO_x emissions, ozone formation can be mitigated.

2008 8-hour Ozone NAAQS

The EPA published the 2008 8-hour ozone NAAQS on March 27, 2008, (73 FR 16436), with an effective date of May 27, 2008. EPA revised the ozone NAAQS by strengthening the standard to 0.075 ppm. Thus, an area is in nonattainment of the 2008 8-hour ozone NAAQS if the 3-year average of the individual fourth highest air quality monitor readings, averaged over 8 hours throughout the day, exceeds the NAAQS of 0.075 ppm. The Lehigh Valley MPO area was designated as a nonattainment area under the 2008 8-hour ozone NAAQS, effective July 20, 2012 (77 FR 30088). The nonattainment area also includes Carbon County, which demonstrates conformity separately. Effective June 3, 2016, EPA determined that the Lehigh Valley MPO area has attained the 2008 ozone NAAQS by the applicable attainment date. This determination of attainment does not constitute a redesignation to attainment. Redesignations require states to meet a number of additional statutory criteria, including the EPA approval of a state plan demonstrating maintenance of the air quality standard for 10 years after redesignation.

2015 8-hour Ozone NAAQS

In 2015, based on its review of the air quality criteria for ozone and related photochemical oxidants, the EPA revised the primary and secondary NAAQS for ozone to provide requisite protection of public health and welfare, respectively (80 FR 65292). The EPA revised the levels of both standards to 0.070 ppm, and retained their indicators, forms (fourth-highest daily maximum, averaged across three consecutive years) and averaging times (eight hours). On October 16, 2018 (83 FR 52163), EPA established designations to include Lehigh and Northampton Counties as attainment for the 2015 8-hour ozone NAAQS. However, a conformity determination is required as long as 2008 8-hour ozone standard is not revoked by EPA.

Interagency Consultation

As required by the federal transportation conformity rule, the conformity process includes a significant level of cooperative interaction among federal, state, and local agencies. For this air quality conformity analysis, interagency consultation was conducted as required by the Pennsylvania Conformity SIP. This included conference call(s) or meeting(s) of the Pennsylvania Transportation-Air Quality Work Group (including the Pennsylvania Department of Transportation (PennDOT), DEP, EPA, FHWA, FTA and representatives from larger MPOs within the state). A meeting was conducted on January 29, 2026, to review all planning assumptions and to discuss the template and content for transportation conformity analyses.

Analysis Methodology and Data

This transportation conformity analysis was conducted using EPA's MOVES model, which is the official model for estimating emissions from highway vehicles for SIP emission inventories and transportation conformity (75 FR 9411). MOVES5 was released in November 2024 and has been used for this conformity determination; it is one of the latest approved model versions for SIP and transportation conformity purposes (89 FR 99862). MOVES5 has been integrated with local traffic, vehicle fleet, environmental, fuel, and control strategy data to estimate emissions.

Planning assumptions are updated following EPA and FHWA joint guidance (EPA420-B-08-901) that clarifies the implementation of the latest planning assumption requirements in 40 CFR 93.110. This analysis utilizes the best available latest traffic, vehicle fleet and environmental data to estimate regional highway emissions.

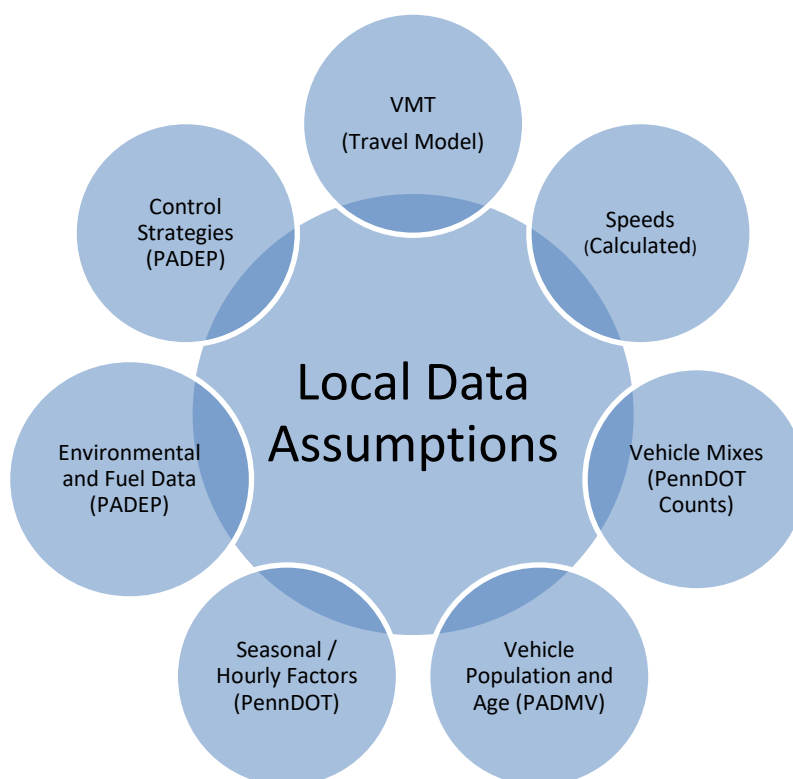
PennDOT updates many of its key planning assumptions on a triennial basis to support EPA's National Emissions Inventory (NEI) and FHWA's latest planning assumption requirements for transportation conformity. For this conformity analysis, the data draws from the latest MPO regional travel demand model and PennDOT's latest 2023 triennial data update. The PennDOT triennial data update also is used to inform the planning assumptions for the future analysis years used for transportation conformity.

The analysis methodology and data inputs for this analysis were developed through interagency consultation and used available EPA guidance documents that included:

- MOVES5 Policy Guidance: Use of MOVES for State Implementation Plan Development, Transportation Conformity, General Conformity, and Other Purposes, US EPA Office of Transportation and Air Quality, EPA-420-B-24-038, November 2024.
- MOVES5 Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity, US EPA Office of Transportation and Air Quality, EPA-420-B-24-043, November 2024.

A mix of local and national default (internal to MOVES) data are used in the analysis. As illustrated in **Exhibit 2**, local data has been used for data items that have a significant impact on emissions, including: vehicle miles of travel (VMT), vehicle population, congested speeds, and vehicle type mix, as well as environmental and fuel assumptions. Local data inputs to the analysis process reflect the latest available planning assumptions using information obtained from PennDOT, DEP and other local/national sources.

EXHIBIT 2: LOCAL DATA INPUTS USED FOR CONFORMITY RUNS



The methodology used for this analysis is consistent with the methodology used to develop SIP inventories. This includes the use of custom post-processing software (PPSUITE) to calculate hourly speeds and prepare key traffic input files to the MOVES emission model.

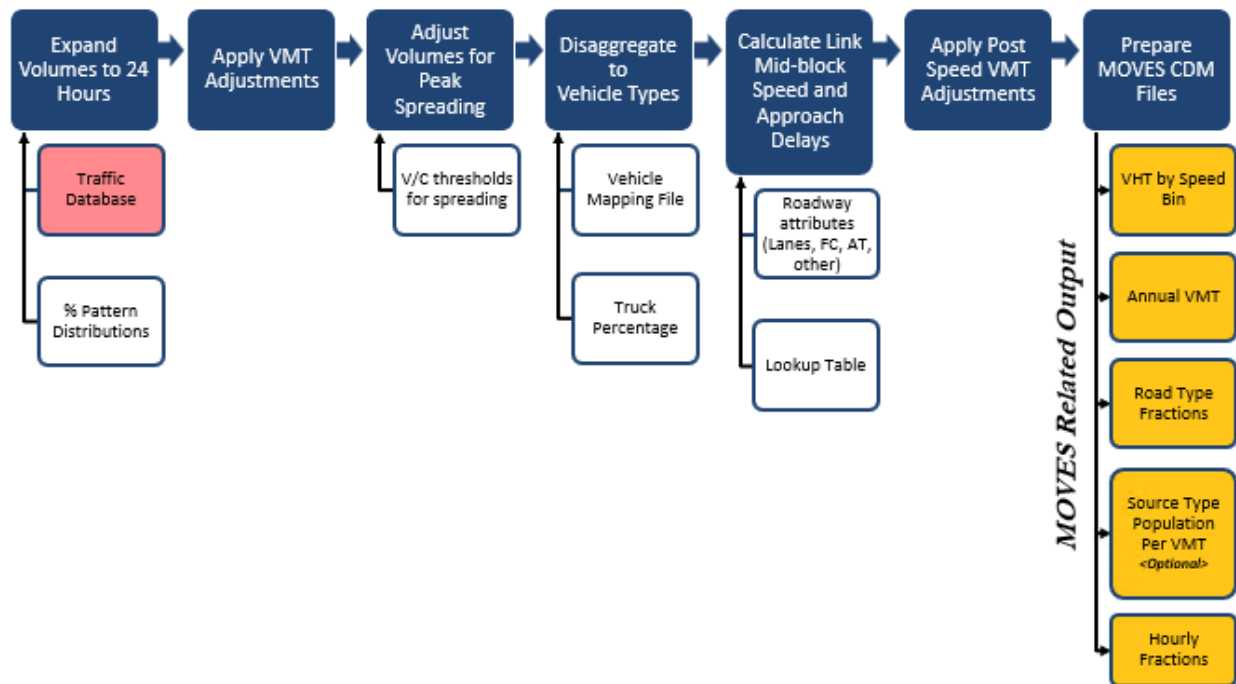
PPSUITE consists of a set of programs that perform the following functions:

- Analyzes highway operating conditions.
- Calculates highway speeds.
- Compiles VMT and vehicle type mix data.
- Prepares MOVES runs and processes MOVES outputs.

PPSUITE is a widely used and accepted tool for estimating speeds and processing emissions rates. The PPSUITE tool has been used for developing on-highway mobile source inventories in SIP revisions, control strategy analyses, and conformity analyses in other states. The software was developed to utilize accepted transportation engineering methodologies. The PPSUITE process is integral to producing traffic-related input files to the MOVES emission model. **Exhibit 3** summarizes the key functions of PPSUITE within the emission calculation process. Other MOVES input files are prepared externally to the PPSUITE software, including vehicle population, vehicle age, environmental and fuel input files.

The CENTRAL software is also used in this analysis. CENTRAL is a menu-driven software platform that executes the PPSUITE and MOVES processes in batch mode. The CENTRAL software allows users to execute runs for a variety of input options and integrates custom SQL steps into the process. CENTRAL provides important quality control and assurance steps, including file naming and storage automation.

EXHIBIT 3: EMISSION CALCULATION PROCESS



Key MOVES Input Data

A large number of inputs to MOVES are needed to fully account for the numerous vehicle and environmental parameters that affect emissions. These inputs include traffic flow characteristics, vehicle descriptions, fuel parameters, I/M program parameters and environmental variables. MOVES includes a default national database of meteorology, vehicle fleet, vehicle activity, fuel and emission control program data for every county; EPA, however, cannot certify that the default data is the most current or best available information for any specific area. As a result, local data, where available, is recommended for use when conducting a regional conformity analysis. A mix of local and default data is used for this analysis. These data items are discussed in the following sections.

Travel Demand Model

The roadway data input to emissions calculations for this conformity analysis is based on information from the region's travel demand forecasting model. The travel demand model estimates roadway volumes based on input demographic forecasts and expected changes to the transportation roadway network.

The regional travel demand model follows the basic "four-step" travel demand forecasting process and utilizes the Cube Voyager (TP+) software platform. The model consists of 510 Traffic Analysis Zones (TAZs), approximately 9,000 links, and approximately 5,200 nodes. The network contains attributes such as distance, number of lanes, area type, facility type, free flow speed, capacity of the lane, and location of traffic signals.

The model was updated in December 2023. This update included preparation of a new socioeconomic dataset developed using the Census 2020 data, updates to the external share model and through trip table, updates to trip generation rates, and revisions to model parameters and coefficients to reflect 2022 traffic patterns and conditions. Using the projected traffic volume data from the model, conditions were evaluated for all applicable future analysis years. All significant air quality projects from the TIP and LRTP were coded into the travel demand model.

Transit data was also generated as part of the travel demand model. Existing fixed transit routes and their associated attributes (i.e., stops, headways, fares, speeds) are included within a transit subroutine. Transit ridership was validated using reported ridership available from the transit agency. Ridership estimates generated by this subroutine are fed back into the model stream as part of the overall network processing.

Traffic forecasts were projected based on the socioeconomic and land use data projections developed and adopted by the Lehigh Valley Planning Commission. This data includes total population, households, and employment. **Exhibit 4** summarizes the socioeconomic data for the base year and horizon years of the LRTP. Socioeconomic data for other analysis years were forecasted using interpolation.

EXHIBIT 4: SOCIOECONOMIC GROWTH ASSUMPTIONS TO THE TRAVEL MODEL

County	Year	Population	Household	Total Employment
Lehigh Valley	2023	694,596	274,076	397,106
	2030	719,110	283,778	413,155
	2040	753,086	297,292	434,952
	2050	786,755	310,527	457,453

The travel model network and assigned traffic volumes are processed by PPSUITE to prepare the traffic inputs needed to run the MOVES emission model. The following information is extracted from the model for emission calculations:

- Lanes
- Roadway capacity
- Distance
- Daily traffic volume
- Type of area abutting the roadway (e.g., urban, suburban, rural, etc.)
- Type of roadway facility (e.g., interstate, arterial, collector, local, etc.)

Other Supporting Traffic Data

Other traffic data is used to adjust and disaggregate traffic volumes. Key sources used in these processes include the following:

- *Highway Performance Monitoring System (HPMS VMT)*: According to EPA guidance, baseline inventory VMT computed from the regional travel model must be adjusted to be consistent with HPMS VMT totals. The VMT contained in the HPMS reports are considered to represent average annual daily traffic (AADT), an average of all days in the year, including weekends and holidays. Adjustment factors are calculated and used to adjust locally modeled roadway data VMT to be consistent with the reported HPMS totals and are applied to all county and facility group combinations within the region. These adjustments are important to account for local roadway VMT not represented within the regional travel demand model.
- *Seasonal Factors*: The traffic volumes estimated from the regional travel demand model are adjusted to summer or average monthly conditions (as needed for annual processing), using seasonal adjustment factors prepared by PennDOT's BPR in their annual traffic data report published on the [BPR website](#). The seasonal factors are also used to develop MOVES daily and monthly VMT fraction files, allowing MOVES to determine the portion of annual VMT that occurs in each month of the year.
- *Hourly Patterns*: Speeds and emissions vary considerably depending on the time of day. In order to produce accurate emission estimates, it is important to estimate the pattern by which

roadway volume varies, by breaking the data down into hourly increments. Pattern data is in the form of a percentage of the daily volumes for each hour. Distributions are provided for all the counties within the region and by each facility type grouping. The hourly pattern data has been developed from 24-hour vehicle count data compiled by PennDOT’s BPR, using the process identified in PennDOT’s annual traffic data report. The same factors are also used to develop the MOVES hourly fraction file.

Vehicle Class

MOVES produces emission rates for thirteen MOVES vehicle source input types. VMT is input into MOVES for six HPMS vehicle groups, with passenger cars and light trucks combined into a single class. **Exhibit 5** summarizes the distinction between each classification scheme.

EXHIBIT 5: MOVES SOURCE TYPES AND HPMS VEHICLE GROUPS

<u>SOURCE TYPES</u>		<u>HPMS Class Groups</u>	
11	Motorcycle	10	Motorcycle
21	Passenger Car	25	Passenger Car
31	Passenger Truck	25	Passenger/Light Truck
32	Light Commercial Truck	40	Buses
41	Other Buses	50	Single Unit Trucks
42	Transit Bus	60	Combination Trucks
43	School bus		
51	Refuse Truck		
52	Single Unit Short-haul Truck		
53	Single Unit Long-haul Truck		
54	Motor Home		
61	Combination Short-haul Truck		
62	Combination Long-haul Truck		

The emissions estimation process includes a method to disaggregate the traffic volumes to the thirteen source types and then to recombine the estimates to the five HPMS vehicle classes. Vehicle type pattern data is used by PPSUITE to distribute the hourly roadway segment volumes among the thirteen MOVES source types. Similar to the 24-hour pattern data, this data contains percentage splits to each source type for every hour of the day. The vehicle type pattern data is developed from several sources of information:

- PennDOT truck percentages from the RMS database.
- Hourly distributions for trucks and total traffic compiled by PennDOT’s BPR.
- School bus registration data from PennDOT’s Bureau of Motor Vehicles Registration Database.

Vehicle type percentages are also input into the capacity analysis section of PPSUITE to adjust the speeds in response to truck volume. Larger trucks take up more roadway space compared to an equal number of cars and light trucks, which is accounted for in the speed estimation process

by adjusting capacity using information from the Transportation Research Board's fifth edition of the *Highway Capacity Manual* (<http://hcm.trb.org/>).

Vehicle Ages

Vehicle age distributions are required to be input by thirteen source types. The distributions reflect the percentage of vehicles in the fleet up to 40 years old (for MOVES5 modeling). The vehicle age distributions used in this analysis were prepared from the most recently available 2023 registration download from PennDOT's Bureau of Motor Vehicles Registration Database. Due to data limitations, only data for light-duty vehicles and motor home (including source types 11, 21, 31, 32 and 54) was used as local inputs; and, heavy-duty vehicles (including source types 41, 42, 43, 51, 52, 53, 61 and 62) used the MOVES national default age distribution.

Vehicle Population

The vehicle population information, including the number and age of vehicles, impacts forecasted start and evaporative emissions within MOVES. In addition to vehicle age distribution, MOVES requires total vehicle populations for each of the thirteen source type categories. 2023 county vehicle registration data was used to estimate vehicle population for light-duty vehicles, transit buses, and school buses. Other heavy-duty vehicle population values were based on VMT for each source type using the vehicle mix and pattern data discussed previously. PPSUITE automatically applies MOVES default ratios of VMT and source type population (e.g., the number of miles per vehicle by source type) to the local VMT estimates to produce vehicle population.

For the preparation of source type population for other required conformity analysis years, base values were adjusted using forecast population and household data for the area. Growth rates were limited so as to not exceed the Lehigh Valley VMT growth assumptions.

Meteorology Data

Average monthly minimum temperatures, maximum temperatures, and humidity values are consistent with the regional State Implementation Plan (SIP) modeling conducted by DEP. The data was obtained from AccuWeather, Inc. (www.accuweather.com). The 10-year (2010-2020) average minimum and maximum monthly temperature and relative humidity values were obtained for each of the 10 airport locations in Pennsylvania.

Fuel Parameters

The MOVES5 default data assumptions have been reviewed and determined adequate to be used as inputs to the MOVES emissions modeling. Key assumptions include:

- 9.617 RVP used for summer months (based on MOVES5 defaults).
- 100% market share of 10% ethanol throughout the year for analysis years 2030, 2040 and 2050 (based on MOVES5 defaults).

AVFT Input

The AVFT (Alternate Vehicle Fuel and Technologies) input table is used to specify the fraction of fuel types capable of being used by model year and source type. Pennsylvania 2023 vehicle registration data was used to develop the AVFT input for light duty vehicles (source types 21, 31 and 32), school bus, transit bus and motor homes. Forecasts for electric vehicles (EV) were based on PennDOT's EV Roadmap for light duty vehicles (source types 21, 31 and 32). For all other source types and heavy-duty vehicles, EV assumptions from MOVES5 default AVFT inputs and forecasts were utilized.

I/M Program Parameters

The inspection maintenance (I/M) program inputs to the MOVES model are based on current programs within each county (all PA I/M programs are based on county boundaries). All analysis years include Pennsylvania's statewide I/M program. The default I/M program parameters included in MOVES were examined for each county and necessary changes were made to the default parameters to match the 2021 I/M program performance.

In order to ensure that emission controls are working properly, vehicle inspection and maintenance (I/M) programs have been adopted in some nonattainment areas. These programs have the added benefit of improving vehicle fuel efficiency. The Pennsylvania inspection and maintenance (I/M) program was upgraded and expanded throughout the state with a phase-in period starting in September 2003 and fully implemented by June 2004.

The I/M program requirements vary by region (five regions) and include on-board diagnostics (OBD) technology that uses the vehicle's computer for model years 1996 and newer to identify potential engine and exhaust system problems that could affect emissions. The program, named PAOBDII, is implemented by region as follows:

- Philadelphia Region - Bucks, Chester, Delaware, Montgomery and Philadelphia Counties
- [Includes tailpipe exhaust testing using ASM2015 or equipment for pre-1996 vehicles up to 25 years old]
- Pittsburgh Region - Allegheny, Beaver, Washington and Westmoreland Counties.
- [Includes tailpipe exhaust testing using PA 97 equipment for pre-1996 vehicles up to 25 years old]
- South Central and Lehigh Valley Region - Berks, Cumberland, Dauphin, Lancaster, Lebanon, Lehigh, Northampton and York Counties.
- [Includes gas cap and visual inspection only for 1975 through 1995 model years]
- North Region - Blair, Cambria, Centre, Erie, Lackawanna, Luzerne, Lycoming, and Mercer Counties.
- [Gas cap and visual inspection only – No OBD]
- Other 42 Counties – Includes the remaining 42 counties not included above.
- [Visual inspection only – No OBD]

Other Vehicle Technology and Control Strategy Data

Federal Programs

Current federal vehicle emissions control and fuel programs are incorporated into the MOVES5 software. The MOVES5 model includes the following new federal emission standard rules that were not in previous versions of MOVES:

- Multi-Pollutant Rule for Model Year 2027 and Later Light-Duty and Medium-Duty Vehicles (LMDV), March 2024 (Model Years 2027-2032): This rule incorporates higher projected electric vehicle (EV) fractions and more stringent standards for CO₂, particulate matter (PM), non-methane organic gases (NMOG), and NO_x.
- Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles – Phase 3 (HDP3), March 2024 (Model Years 2027-2032): This rule includes higher projected EV fractions and updated energy consumption for heavy-duty EVs.

MOVES5 also includes the following recent on-road control programs that have already been incorporated in MOVES4 or earlier versions:

- Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, January 2023 (Model Year 2027 and Later).
- Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards, December 2021 (Model Years 2023-2026).
- Safer Affordable Fuel Efficient (SAFE) Vehicles Rule, March 2020 (Model Years 2021-2026).
- Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles—Phase 2, October 2016 (Model Years 2019-2027).
- Tier-3 Vehicle Emissions and Fuel Standards Program, March 2014 (Model Years 2017-2025).
- 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, October 2012 (Model Years 2017-2025).
- Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium-and Heavy-Duty Engines and Vehicles, September 2011 (Model Years 2014-2018).
- Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard Program (RFS2), December 2010.

Earlier foundational federal programs such as the Tier 2 Vehicle Emissions Standards and the 2007 Heavy-Duty Engine Rule are also inherently reflected in MOVES5 default emission rates. Modifications of default emission rates are required to reflect the early implementation of the National Low Emission Vehicle (NLEV) program in Pennsylvania. To reflect these impacts, EPA has released instructions and input files that can be used to model these impacts. The NLEV input database was created for Pennsylvania per EPA's instructions and was used for this inventory.

State Programs

The Pennsylvania Clean Vehicles (PCV) Program, adopted in 1998, incorporated the California Low Emission Vehicle Regulations (CA LEV) by reference. The PCV Program allowed automakers to comply with the NLEV program as an alternative to this Pennsylvania program until MY 2006. Beginning with MY2008, all “new” passenger cars and light-duty trucks with a gross vehicle weight rating (GVWR) of 8,500 pounds or less sold/leased and titled in Pennsylvania must be certified by the California Air Resources Board (CARB) or be certified for sale in all 50 states. For this program, a “new” vehicle is a qualified vehicle with an odometer reading less than 7,500 miles. DEP and PennDOT both work with the public, including manufacturers, vehicle dealers and consumers, to ensure that vehicles sold and purchased in Pennsylvania or vehicles purchased from other states by Pennsylvania residents comply with the requirements of the PCV Program, in order to be titled in Pennsylvania. Additionally, PennDOT ensures that paperwork for title and registration includes proof of CARB- or 50-state emission certification or that the vehicle owner qualifies for an exemption to the requirements, as listed on PennDOT’s MV-9 form and in the PCV Program regulation. When necessary, information from PennDOT’s title and registration process may be used to audit vehicle title transactions to determine program compliance.

The impacts of this program are modeled for all analysis years beyond 2008 using the same instructions and tools as downloaded for the early NLEV analysis. EPA provided input database to reflect the LEV I, LEV II, and LEV III California standards. Modifications to those databases were made to reflect a 2008 start date for Pennsylvania.

Analysis Process Details

The previous sections have summarized the input data used for computing speeds and emission rates for this conformity analysis. This section explains how PPSUITE and MOVES use that input data to produce emission estimates. **Exhibit 6** provides a more detailed overview of the PPSUITE analysis procedure using the available traffic data information described in the previous sections.

VMT Preparation

Producing an emissions inventory with PPSUITE requires a process of disaggregation and aggregation. Data is available and used on a very detailed scale – individual roadway segments for each of the 24 hours of the day. This data needs to be processed individually to determine the distribution of vehicle hours of travel (VHT) by speed and then aggregated by vehicle class to determine the input VMT to the MOVES emission model. Key steps in the preparation of VMT include:

- *Assemble VMT* - The regional travel demand model contains the roadway segments, distances and travel volumes needed to estimate VMT. PPSUITE processes each segment by simply multiplying the assigned travel volume by the distance to obtain VMT.
- *Apply Seasonal Adjustments* – PPSUITE adjusts the traffic volumes to the appropriate analysis season. These traffic volumes are assembled by PPSUITE and extrapolated over the course of a year to produce the annual VMT file input to MOVES.
- *Disaggregate to Hours* - After seasonal adjustments are applied, the traffic volumes are distributed to each hour of the day. This allows for more accurate speed calculations (effects of congested hours) and allows PPSUITE to prepare the hourly VMT and speeds for input to MOVES.
- *Perform Peak Spreading* - After distributing the daily volumes to each hour of the day, PPSUITE identifies hours that are unreasonably congested. For those hours, PPSUITE then spreads a portion of the volume to other hours within the same peak period, thereby approximating the “peak spreading” that normally occurs in such over-capacity conditions. This process also helps prevent hours with unreasonably congested speeds from disproportionately impacting emission calculations.
- *Disaggregate Vehicle Types* - EPA requires VMT estimates to be prepared by the six HPMS vehicle groups, reflecting specific local characteristics. As described in the previous section, the hourly volumes are disaggregated into thirteen MOVES source types based on data from PennDOT, in combination with MOVES defaults. The thirteen MOVES source types are then recombined into five HPMS vehicle classes.
- *Apply HPMS VMT Adjustments* - Volumes must also be adjusted to account for differences with the HPMS VMT totals, as described in previous sections. VMT adjustment factors are provided as inputs to PPSUITE and are applied to each of the roadway segment volumes. VMT adjustment factors are also applied to runs for future years.

Speed Estimation

Emissions for many pollutants (including VOC and NO_x) vary significantly with travel speed. VOC emissions generally decrease as speed increases, while NO_x emissions decrease at low speeds and increase at higher speeds, as illustrated in **Exhibit 7**. Because emissions are so sensitive to speed changes, EPA recommends special attention be given to developing reasonable and consistent speed estimates. EPA also recommends that VMT be disaggregated into subsets that have roughly equal speeds, with separate emission factors for each subset. At a minimum, speeds should be estimated separately by road type.

The computational framework used for this analysis meets and exceeds the recommendation above relating to speed estimates. Speeds are individually calculated for each roadway segment and hour. Rather than accumulating the roadway segments into a particular road type and calculating an average speed, each individual link hourly speed is represented in the MOVES vehicle hours of travel (VHT) by a speed bin file. This MOVES input file allows the specification of a distribution of hourly speeds. For example, if 5% of a county's arterial VHT operates at 5 mph during the AM peak hour and the remaining 95% operates at 65 mph, this can be represented in the MOVES speed input file. For the roadway vehicle emissions calculations, speed distributions are input to MOVES by road type and source type for each hour of the day.

To calculate speeds, PPSUITE first obtains initial capacities (i.e., how much volume the roadway can serve before heavy congestion) and free-flow speeds (speeds assuming no congestion) from a speed/capacity lookup table. As described previously, this data contains default roadway information indexed by the area and facility type codes. For areas with known characteristics, values can be directly coded to the database and the speed/capacity default values can be overridden. For most areas where known information is unavailable, the speed/capacity lookup tables provide valuable default information regarding speeds, capacities, signal characteristics, and other capacity adjustment information used for calculating congested delays and speeds. The result of this process is an estimated average travel time for each hour of the day for each highway segment. The average travel time multiplied by traffic volume produces vehicle hours of travel (VHT).

EXHIBIT 6: PPSUITE SPEED/EMISSION ESTIMATION PROCEDURE

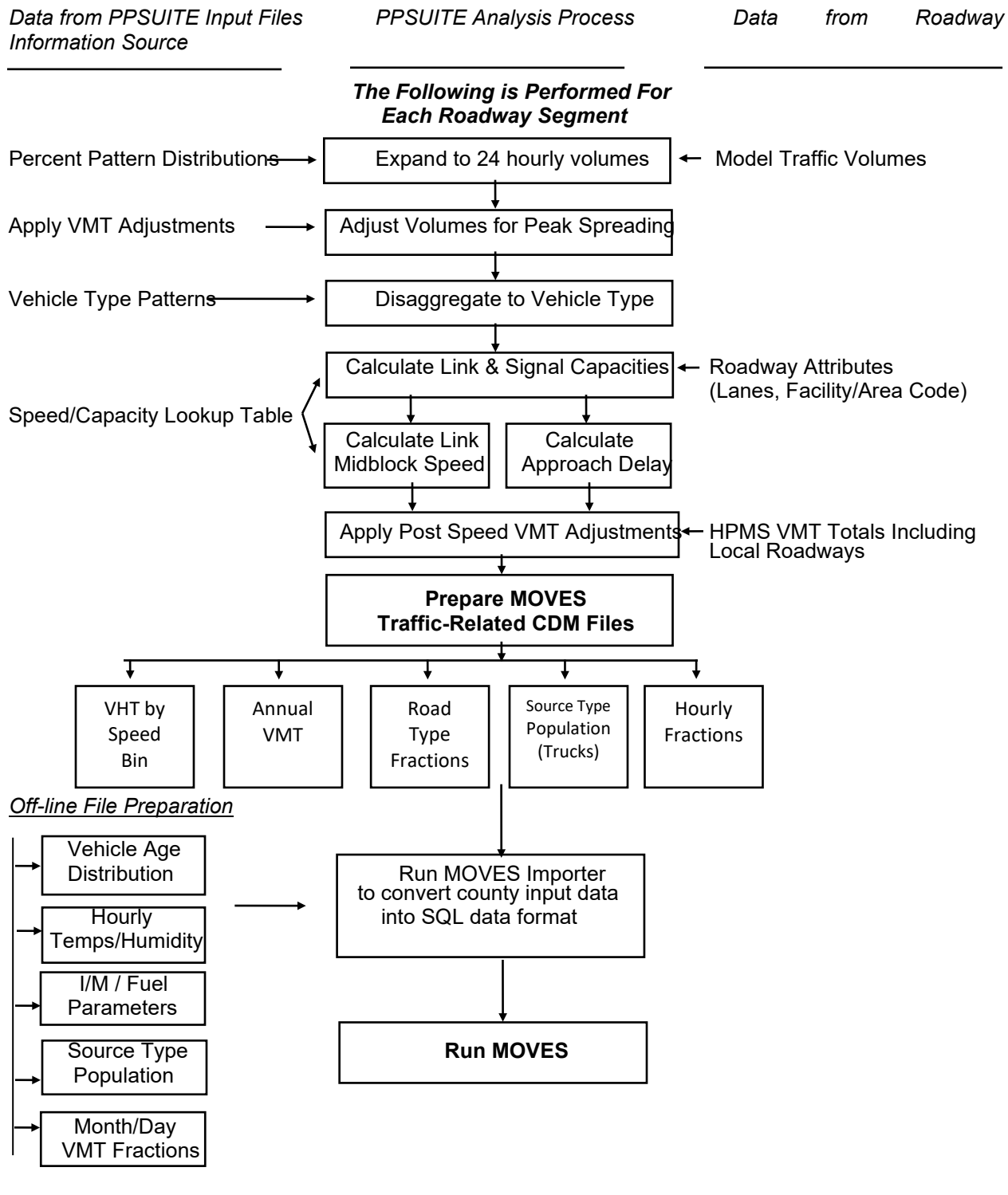
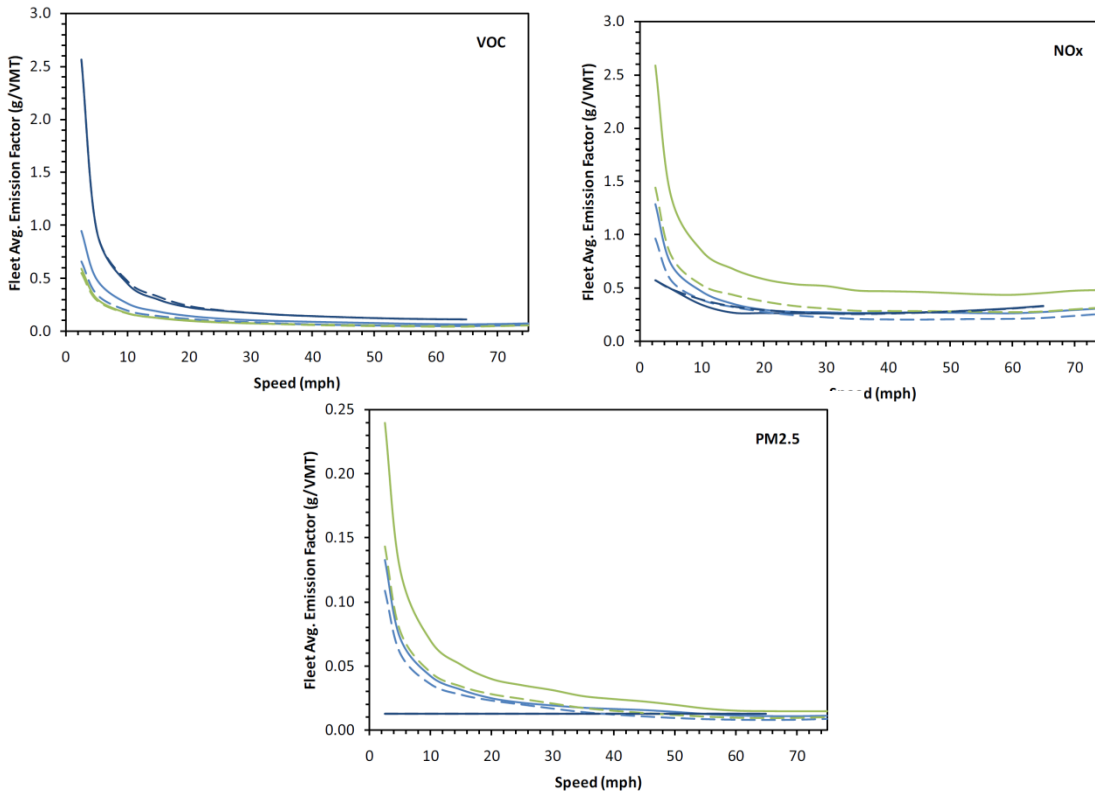


EXHIBIT 7: EMISSION FACTOR VS. SPEED VARIANCES (VOC, NO_x, AND PM_{2.5})

- MOVES Urban Restricted — MOVES Rural Restricted — MOBILE Freeway
- - MOVES Urban Unrestricted - - MOVES Rural Unrestricted - - MOBILE Arterial



Source: Figure 3 from *Implications of the MOVES2010 Model on Mobile Source Emission Estimates*, Air & Waste Management Association, July 2010.

Developing the MOVES Traffic Input Files

The PPSUITE software is responsible for producing the following MOVES input files for every analysis run:

- VMT by HPMS vehicle class.
- VHT by speed bin.
- Road type distributions.
- Hourly VMT fractions.

These files are text formatted files with a *.csv extension. The files are provided as inputs within the MOVES County Data Manager (CDM) and are described below:

- *VMT Input File*: VMT is the primary traffic input affecting emission results. The roadway segment distances, and traffic volumes are used to prepare estimates of VMT. PPSUITE performs these calculations and outputs the MOVES annual VMT input file to the County Data Manager (CDM). The annual VMT is computed by multiplying travel model roadway adjusted VMT by 365 days (366 days in a leap year).
- *VHT by Speed Bin File*: As described in the previous section, the PPSUITE software prepares the MOVES VHT by speed bin file, which summarizes the distribution of speeds across all links into each of the 16 MOVES speed bins for each hour of the day by road type. This robust process is consistent with the methods and recommendations provided in EPA's [technical guidance](#) and ensures that MOVES emission rates are used to the fullest extent.
- *Road Type Distributions*: Within MOVES, typical drive cycles and associated operating conditions vary by roadway type. MOVES defines five different roadway types as follows:
 - 1 Off-Network.
 - 2 Rural Restricted Access.
 - 3 Rural Unrestricted Access.
 - 4 Urban Restricted Access.
 - 5 Urban Unrestricted Access.

For this analysis, the MOVES road type distribution file is automatically generated by PPSUITE using defined equivalencies. The off-network road type includes emissions from vehicle starts, extended idling, and evaporative emissions. Off-network activity in MOVES is primarily determined by the Source Type Population input.

MOVES Runs

After computing speeds and aggregating VMT and VHT, PPSUITE prepares traffic-related inputs needed to run EPA’s MOVES software. Additional required MOVES inputs are prepared externally from the processing software and include temperatures, I/M program parameters, fuel characteristics, vehicle fleet age distributions, and source type population. The MOVES’ county data importer is run in batch mode. This program converts all data files into the MYSQL format used by the MOVES model. At that point, a MOVES run specification file (*.mrs) is created which specifies options and key data locations for the run. The MOVES run is then executed in batch mode. A summary of key MOVES run specification settings is shown in **Exhibit 8**. MOVES can be executed using either an inventory or rate-based approach. For this analysis, MOVES is applied using the *inventory-based* approach. Using this approach, actual VMT and population are provided as inputs to the model; MOVES is responsible for producing the total emissions for the region.

EXHIBIT 8: MOVES RUN SPECIFICATION FILE PARAMETER SETTINGS

Parameter	Setting
MOVES Version	MOVES5.0
MOVES Default Database Version	movesdb20241112
Scale	COUNTY
Analysis Mode	Inventory
Time Span	Annual Runs: Single MOVES run with 12-month inputs including all days and hours July Weekday Runs: July month, Weekday, 24 hours
Time Aggregation	Hour
Geographic Selection	County [FIPS]
Vehicle Selection	All source types Gasoline, Diesel, CNG, E85, Electricity
Road Type	All road types including off-network
Pollutants and Processes	All PM _{2.5} categories, NO _x , VOC
Database selection	Early NLEV database PA-Specific CAL LEV program database
General Output	Units: Emission = grams; Distance = miles; Time = hours; Energy = Million BTU
Output Emissions	Time = Hour or Month, Emissions by Process ID, Source Type and Road Type

Conformity Analysis Results

Transportation conformity analyses of the current TIP and LRTP have been completed for the Lehigh Valley MPO area. The analyses were performed according to the requirements of the Federal transportation conformity rule at 40 CFR Part 93, Subpart A. The analyses utilize the methodologies, assumptions and data as presented in previous sections. Interagency consultation has been used to determine applicable emission models, analysis years and emission tests.

Emission Tests

There are currently no approved SIP MVEBs for the Lehigh Valley MPO area under 2008 8-hour ozone NAAQS. However, the Lehigh Valley MPO area has MVEBs approved by EPA under the 1997 8-hour ozone NAAQS using MOVES (79 FR 28435). The approved MVEBs are used in this analysis for the ozone conformity test. The ozone conformity analysis has been conducted to compare emissions to the applicable ozone MVEBs summarized in **Exhibit 9**.

EXHIBIT 9: 8-HOUR OZONE MOTOR VEHICLE EMISSION BUDGETS

Pollutant	2009 Budget (tons/day)	2018 Budget (tons/day)
VOC	20.65	12.43
NO_x	39.18	20.41

On April 13, 2015, EPA approved the Commonwealth of Pennsylvania’s request to redesignate the Lehigh Valley MPO area to attainment for the 2006 24-hour PM_{2.5} NAAQS. The MVEBs provided in the maintenance plans for the county are summarized in **Exhibit 10**. The MVEBs are specified as annual values in tons/year; and as a result, the conformity analyses are conducted for annual conditions.

EXHIBIT 10: ANNUAL PM_{2.5} MOTOR VEHICLE EMISSION BUDGETS

Pollutant	2017 Budget (tons/year)	2025 Budget (tons/year)
PM_{2.5}	297	234
NO_x	8,081	5,303

Analysis Years

Section 93.119(g) of the Federal Transportation Conformity Regulations requires that emissions analyses be conducted for specific analysis years as follows:

- A near-term year, one to five years in the future.
- The last year of the LRTP’s forecast period, horizon year 2050.
- All established MVEB years.
- Attainment year of the standard if within timeframe of TIP and LRTP.
- An intermediate year or years such that if there are two years in which analysis is performed, the two analysis years are no more than ten years apart.

All analysis years were determined through the interagency consultation process. **Exhibit 11** provides the analysis years used for this conformity analysis.

EXHIBIT 11: TRANSPORTATION CONFORMITY ANALYSIS YEARS

Analysis Year	Description
2030	Interim Year
2040	Interim Year
2050	Horizon Year of LRTP

Components of the PM_{2.5} Regional Emissions Analysis

PM_{2.5} can be the result of either direct or indirect emissions. Direct transportation emissions can be the result of brake or tire-wear, particulates in exhaust emissions, or dust raised by on-road vehicles or construction equipment. Possible indirect transportation related emissions of PM_{2.5} include: NH₃, NO_x, SO_x, and VOC. The EPA has ruled that regional analysis of direct PM_{2.5} emissions must include both exhaust and brake/tire-wear emissions. EPA’s current regulations specify that road dust should be included in the regional analysis of direct PM_{2.5} emissions only if the EPA or the state air agency have found it to be a significant contributor to the region’s nonattainment. Neither the EPA nor the state air agency has determined road dust to be a significant contributor in the nonattainment area for this conformity determination.

Until a SIP revision is approved affirming that NO_x is insignificant, EPA’s current regulations state that indirect PM_{2.5} emissions must be analyzed for NO_x. Conversely, VOC, SO_x and NH₃ must be analyzed only if the state(s) or the EPA determines one or more of these pollutants significant. Therefore, NO_x is the only indirect PM_{2.5} component analyzed for the nonattainment area in this conformity determination.

Regionally Significant Highway Projects

For the purposes of the conformity analysis, model highway networks are created for each analysis year. For the horizon years, regionally significant projects from the TIP and LRTP were coded onto the networks. Detailed assessments were only performed for those new projects which may have a significant effect on emissions in accordance with 40 CFR Parts 51 and 93. Only those projects which would increase capacity or significantly impact vehicular speeds were considered. Projects such as bridge replacements and roadway restoration projects, which constitute the majority of the TIP and LRTP list, have been excluded from consideration since they are considered exempt under 40 CFR 93.126-127. A list of highway projects is shown in **Attachment A**.

Analysis Results

An emissions analysis has been completed for 2008 8-hour ozone and 2006 24-hour PM_{2.5} NAAQS. The results of the analysis are summarized in the tables below. Forecast years have been estimated using the procedures and assumptions provided in this conformity report. A detailed emission summary is also provided in **Attachment B**. Example MOVES importer (XML) and run specification (MRS) files are provided in **Attachment C**.

2008 Ozone NAAQS

Exhibit 12 summarizes the Lehigh Valley MPO area ozone emission results for a summer weekday in each analysis year. The analysis year emission results are compared to the emission budgets in **Exhibit 9**. All years are lower than the applicable conformity budgets established in the regional maintenance plan for the 1997 ozone NAAQS.

EXHIBIT 12: OZONE EMISSION ANALYSIS RESULTS AND CONFORMITY TEST
(Summer Weekday)

Pollutant	2018 BUDGET (tons/day)	2030 (tons/day)	2040 (tons/day)	2050 (tons/day)
VOC	12.43	3.02	2.22	2.07
NO _x	20.41	4.10	2.24	2.08
Conformity Result		Pass	Pass	Pass

2006 24-hour NAAQS

Exhibit 13 summarizes the 24-hour PM_{2.5} and NO_x emissions for annual conditions. The emissions are compared against the available 2017 and 2025 SIP MVEBs listed in **Exhibit 10**. The results illustrate that projected emissions are below the applicable MVEBs.

Exhibit 13: PM_{2.5} EMISSION ANALYSIS RESULTS AND CONFORMITY TEST
(Annual Analysis Runs)

Pollutant	2030 (tons/year)	2040 (tons/year)	2050 (tons/year)
PM _{2.5}	78	63	60
NO _x	1,324	776	734
MVEB - PM _{2.5}	234	234	234
MVEB - NO _x	5,303	5,303	5,303
Conformity Result	Pass	Pass	Pass

Conformity Determination

Financial Constraint

The planning regulations, Sections 450.324(f)(11) and 450.326(j), require the transportation plan and TIP to be financially constrained while the existing transportation system is being adequately operated and maintained. Only projects for which construction and operating funds are reasonably expected to be available are included. The Lehigh Valley MPO, in conjunction with PennDOT, FHWA and FTA, has developed an estimate of the cost to maintain and operate existing roads, bridges and transit systems in the Lehigh Valley MPO area and have compared the cost with the estimated revenues and maintenance needs of the new roads over the same period. The TIP and LRTP have been determined to be financially constrained.

Public Participation

The TIP and LRTP have undergone the public participation requirements as well as the comment and response requirements according to the procedures established in compliance with 23 CFR part 450, LVTS Public Participation Plan and Pennsylvania's Conformity SIP. The draft document was made available for a 30-day public review and comment period starting April 15, 2026, and included a public meeting.

Conformity Statement

The conformity rule requires that the TIP and LRTP conform to the applicable SIP(s) and be adopted by the MPO/RPO before any federal agency may approve, accept, or fund projects. Conformity is determined by applying criteria outlined in the transportation conformity regulations to the analysis.

The TIP and LRTP for the Lehigh Valley MPO are found to conform to the applicable air quality SIP(s) or EPA conformity requirements. This finding of conformity positively reflects on the efforts of the Lehigh Valley MPO and its partners in meeting the regional air quality goals, while maintaining and building an effective transportation system.

Resources

MOVES Model

The Modeling Page on the EPA's Office of Mobile Sources Website (<https://www.epa.gov/moves>) contains the latest version of the MOVES model download, MOVES users guide and other information.

MOVES5 Policy Guidance: Use of MOVES for State Implementation Plan Development, Transportation Conformity, General Conformity, and Other Purposes, US EPA Office of Transportation and Air Quality, EPA-420-B-24-038, November 2024.

MOVES5 Technical Guidance: Using MOVES to Prepare Emission Inventories for State Implementation Plans and Transportation Conformity, US EPA Office of Transportation and Air Quality, EPA-420-B-24-043, November 2024.

Traffic Engineering

Highway Capacity Manual, sixth edition (HCM2016), Transportation Research Board, presents current knowledge and techniques for analyzing the transportation system.

Traffic Data Collection and Factor Development Report, 2023 Data, Pennsylvania Department of Transportation, Bureau of Planning and Research.

Highway Vehicle Emissions Analysis Glossary

AADT: Average Annual Daily Traffic, average of ALL days.

CAA: Clean Air Act as amended.

CARB: California Air Resources Board.

CFR: Code of Federal Regulations.

County Data Manager (CDM): User interface developed to simplify importing specific local data for a single county or a user-defined custom domain without requiring direct interaction with the underlying MySQL/MariaDB database in the MOVES emission model.

DEP: Pennsylvania Department of Environmental Protection

Emission rate or factor: Expresses the amount of pollution emitted per unit of activity. For highway vehicles, this is usually expressed in grams of pollutant emitted per mile driven.

EPA: Environmental Protection Agency

FC: Functional code. Applied to road segments to identify their type (freeway, local, etc.).

FHWA: Federal Highway Administration.

FR: Federal Register.

FTA: Federal Transit Administration.

Growth factor: Factor used to convert volumes to future years.

HPMS: Highway Performance Monitoring System.

I/M: Vehicle emissions inspection/maintenance programs are required in certain areas of the country. The programs ensure that vehicle emission controls are in good working order throughout the life of the vehicle. The programs require vehicles to be tested for emissions. Most vehicles that do not pass must be repaired.

LRTP: Long Range Transportation Plan

MOVES: Motor Vehicle Emission Simulator. The latest model EPA has been developed to estimate emissions from highway vehicles.

MVEB: motor vehicle emissions budget.

NAAQS: National Ambient Air Quality Standard

NTD: National Transit Database

Pattern data: Extrapolations of traffic patterns (such as how traffic volume on road segment types varies by time of day, or what kinds of vehicles tend to use a road segment type) from segments with observed data to similar segments.

PPSUITE: Post-Processor for Air Quality. A set of programs that estimate speeds and prepares MOVES inputs and processes MOVES outputs.

Road Type: Functional code, applied in data management to road segments to identify their type (rural/urban highways, rural/urban arterials, etc.).

RMS: Roadway Management System.

Source Type: One of thirteen vehicle types used in MOVES modeling.

SIP: State Implementation Plan

TAZ: Traffic Analysis Zone System

TIP: Transportation Improvement Program

VHT: Vehicle hours traveled.

VMT: Vehicle miles traveled. In modeling terms, it is the simulated traffic volumes multiplied by link length.

ATTACHMENT A

Project List

The following air quality significant projects were included in the conformity emissions analyses. The projects are listed in PennDOT's 12-year Program (TYP) and the Lehigh Valley MPO's 2050 Long Range Transportation Plan (LRTP). The PennDOT TYP includes the 2027-2030 TIP. Project descriptions have been included with the associated TIP and LRTP documentation.

AIR QUALITY SIGNIFICANT PROJECTS BY ANALYSIS YEAR

MPMS #	AQ Significant Project Name
2027-2038 Highway-Bridge TYP Projects	
92780 (Interstate)	I-78 Reconstruction – Berks County Line to SR 100
109318 (Interstate)	I-78 WB - Easton Rd to SR 33 Truck Climbing Lane
110072 (interstate)	I-78 Adams Road Interchange
96384	US 22 Widening: US 22 from 15th Street to Airport Road
119690	SR 22 Widening - Lehigh River Bridge to Airport Rd
96432	SR 309 & Tilghman Interchange Reconfiguration
99697	7 th Street Multimodal Corridor
120952	SR 248/Airport Road Intersection Improvements
120976	Linden Street Two-Way Conversion
110173	SR 309 Coopersburg Adaptive Signal Upgrade
110174	Mauch Chunk Road Signal Upgrade
102160	State Route 309/Center Valley Parkway Interchange
110076	Jordan Creek Bridge Replacement
110183	SR 29 Shimersville Hill Safety Improvements
117606	SR 22/ SR 191 Interchange Improvements
117509	Freemansburg Ave (SR 2018) Safety Improvements
116936	SR 191 Lower Nazareth Intersection Improvements
118070	Riverside Drive Raise Grant
94873	Fifth Street Bridge Replacement (State Route 1029)
2027-2030 Transit TIP Projects	
106530	LANTA Enhanced Bus / BRT

2050 LRTP Projects (in addition to PennDOT TYP) No Changes from Past Conformity Determination
AQ Significant Project Name
Emmaus Avenue Adaptive Signal Upgrades
Hanover Avenue Adaptive Signal Upgrades at 7 Intersections - North Albert to North Wahneta Streets
State Route 512/Mill Street Intersection Improvements
Union Boulevard/Tilghman Street Adaptive Signal Upgrades at 27 Intersections
American Parkway intersections improvement at Hamilton, Linden & Gordon Streets
State Route 145/South Pike Avenue Betterment Project
Fullerton Avenue (State Route 1015) Betterment Project
State Route 145/7th Street Betterment Project
State Route 33 Betterment Project
State Route 378 Betterment Project
State Route 248 Betterment Project
State Route 145 (MacArthur Road) Betterment Project, from Newburg Road to 7th Street
State Route 145 (MacArthur Road) Betterment Project, from Center Street to Clearview Road
US Route 22 Betterment Project
State Route 33 North/South Betterment Project
State Route 611 Betterment Project
State Route 248 Betterment Project
State Route 100 Betterment Project
State Route 412 Hellertown Corridor Improvements
State Route 145 (South 4th Street/Pike Avenue) Corridor Improvements
Adaptive Signal Updates
State Route 2002 (Emmaus Avenue) Signal Improvements
State Route 1009 (Schoenersville Road) Corridor Improvements
Lehigh Street and Union Street Intersection and Corridor Improvements
Hamilton Street/Hanover Avenue Corridor Study and Construction
State Route 512 Adaptive Signal Upgrade
State Route 222 (Jaindl Highway) at Krocks Road Intersection Improvements
State Route 29 (Cedar Crest Boulevard) Intersection Improvements.
Weaversville Road Curve Improvements
State Route 1002 (Tilghman Street) Improvements
Nestle Way/Grim Road Corridor and State Route 3012 (Schantz Road) Intersection Improvements
Old Route 22 & State Route 863 Intersection Widening
State Route 222 (Jaindl Highway/Hamilton Boulevard/Hamilton Street) Signal Improvements
State Route 222 (Jaindl Highway), Grim Road and Cetronia Road Intersection Improvements

State Route 100 and Industrial Boulevard Intersection Improvements
Bath Adaptive Traffic Signals
Advanced Signal Coordination System along State Route 512
Road Auxiliary Turn Lanes at Intersection of Vera Cruz Road and Pike Avenue
Downtown Easton Signal Improvements
State Route 1002 (Tilghman Street) Signal Improvements
Uhler Road/Sullivan Trail Intersection Improvement
Center Street One Way to Two Way Conversion
State Route 2020 (William Penn Highway) and State Route 33 Interchange
US Route 22 Widening from Mauch Chunk Road & Route 145
Jefferson Street Road Diet/Roundabout
State Route 309 Northbound Realignment
State Route 222 (Hamilton Boulevard) Breinigsville Road/Newtown Road Roundabout
State Route 2004 (Susquehanna Street/Seidersville Road), State Route 2002 (Emmaus Avenue/Broadway) Roundabout
Mauch Chunk Road/Elizabeth Avenue Roundabout
College Heights Boulevard Traffic Calming and Roundabout
State Route 248 (Lehigh Drive) and State Route 946 (Mountain View Drive) Intersection
State Routes 946 and 248 Intersection Improvements
State Route 512 (Market Street) Improvements, Bangor Borough
Male Road Bridge
Coffeetown Road Bridge Replacement
Water Street Culvert
Canal Park Bridge
Airport Road Corridor Phase 1 Infrastructure Implementation Line Item
Broad Street Traffic Signal Upgrades
State Route 378 (Wyandotte Street) Corridor Improvements
State Route 512 Slate Belt Corridor Improvements Study and Improvements
State Route 33 and Interstate 78 Interchange Reconstruction
State Route 1006 (Walbert Avenue) Betterment Project
17th Street Corridor Traffic Signal Modernization
Americans with Disabilities Act Traffic Signalization in Bath Borough

ATTACHMENT B

Detailed Emission Results

Ozone Analysis

Lehigh Valley Ozone Daily Emission Summary
2030 FFY27 TIP and 2050 LRTP Conformity

County	Summer Daily VMT Speed (mph)		Emissions (Tons/Day)	
			VOC	NOx
Lehigh	10,720,041	30.2	1.7	2.41
Northampton	7,957,569	34.2	1.4	1.69
Off-Model Project Emission Benefits			0.00	0.00
Region Total	18,677,611		3.02	4.10
		(Kg/Day)	2,743	3,720

Lehigh Valley Ozone Daily Emission Summary
2030 FFY27 TIP and 2050 LRTP Conformity (By Road Type)

County	Road Type	Summer Daily VMT	Speed (mph)	Emissions (Tons/Day)	
				VOC	NOx
Lehigh	Off-Network	N/A	N/A	1.1	0.44
	Rural Restricted	907,963	51.5	0.0	0.16
	Rural UnRestricted	1,614,144	30.9	0.1	0.29
	Urban Restricted	3,437,215	40.5	0.1	0.62
	Urban UnRestricted	4,760,719	23.7	0.3	0.91
	<i>Subtotal</i>	<i>10,720,041</i>			<i>1.65</i>
Northampton	Off-Network	N/A	N/A	1.0	0.36
	Rural Restricted	0	N/A	0.0	0.00
	Rural UnRestricted	1,521,143	39.3	0.1	0.23
	Urban Restricted	3,412,565	45.9	0.1	0.56
	Urban UnRestricted	3,023,861	25.3	0.2	0.54
	<i>Subtotal</i>	<i>7,957,569</i>			<i>1.37</i>
Off-Model Project Emission Benefits				0.00	0.00
Region Total		18,677,611		3.02	4.10
		(Kg/Day)		2,743	3,720

Lehigh Valley Ozone Daily Emission Summary
2030 FFY27 TIP and 2050 L RTP Conformity (By Source Type)

County	Source Type	Summer Daily VMT	Emissions (Tons/Day)	
			VOC	NOx
Lehigh	Motorcycle	63,641	0.2	0.04
	Passenger Car	8,598,963	1.1	0.30
	Passenger Truck	1,073,274	0.2	0.19
	Light Commercial Truck	101,673	0.0	0.03
	Intercity Bus	4,126	0.0	0.02
	Transit Bus	17,063	0.0	0.03
	School Bus	6,074	0.0	0.01
	Refuse Truck	5,844	0.0	0.02
	Single Unit Short-haul Truck	263,176	0.1	0.22
	Single Unit Long-haul Truck	34,301	0.0	0.03
	Motor Home	14,887	0.0	0.01
	Combination Short-haul Truck	226,594	0.0	0.62
	Combination Long-haul Truck	310,426	0.0	0.92
	<i>Subtotal</i>	<i>10,720,041</i>	<i>1.65</i>	<i>2.41</i>
Northampton	Motorcycle	47,352	0.1	0.03
	Passenger Car	6,280,973	0.9	0.23
	Passenger Truck	910,442	0.2	0.16
	Light Commercial Truck	86,282	0.0	0.02
	Intercity Bus	2,107	0.0	0.01
	Transit Bus	7,046	0.0	0.01
	School Bus	4,837	0.0	0.01
	Refuse Truck	4,200	0.0	0.01
	Single Unit Short-haul Truck	190,348	0.0	0.15
	Single Unit Long-haul Truck	24,820	0.0	0.02
	Motor Home	10,771	0.0	0.01
	Combination Short-haul Truck	163,895	0.0	0.41
	Combination Long-haul Truck	224,497	0.0	0.62
	<i>Subtotal</i>	<i>7,957,569</i>	<i>1.37</i>	<i>1.69</i>
Off-Model Project Emission Benefits		0.00	0.00	
Region Total	18,677,611 (Kg/Day)	3.02 2,743	4.10 3,720	

Lehigh Valley Ozone Daily Emission Summary
2040 FFY27 TIP and 2050 L RTP Conformity

County	Summer Daily VMT Speed (mph)		Emissions (Tons/Day)	
			VOC	NOx
Lehigh	11,595,534	29.4	1.2	1.31
Northampton	8,540,719	33.3	1.0	0.92
Off-Model Project Emission Benefits			0.00	0.00
Region Total	20,136,253 (Kg/Day)		2.22 2,017	2.24 2,030

Lehigh Valley Ozone Daily Emission Summary
2040 FFY27 TIP and 2050 LRTP Conformity (By Road Type)

County	Road Type	Summer Daily VMT	Speed (mph)	Emissions (Tons/Day)	
				VOC	NOx
Lehigh	Off-Network	N/A	N/A	0.8	0.33
	Rural Restricted	942,612	50.1	0.0	0.08
	Rural UnRestricted	1,744,181	29.5	0.1	0.15
	Urban Restricted	3,829,750	41.1	0.1	0.31
	Urban UnRestricted	5,078,992	22.7	0.2	0.45
	<i>Subtotal</i>	<i>11,595,534</i>		<i>1.21</i>	<i>1.31</i>
Northampton	Off-Network	N/A	N/A	0.7	0.27
	Rural Restricted	0	N/A	0.0	0.00
	Rural UnRestricted	1,606,059	39.0	0.0	0.11
	Urban Restricted	3,653,761	43.3	0.1	0.28
	Urban UnRestricted	3,280,899	25.0	0.1	0.26
	<i>Subtotal</i>	<i>8,540,719</i>		<i>1.01</i>	<i>0.92</i>
Off-Model Project Emission Benefits				0.00	0.00
Region Total		20,136,253		2.22	2.24
			(Kg/Day)	2,017	2,030

Lehigh Valley Ozone Daily Emission Summary
2040 FFY27 TIP and 2050 LRTP Conformity (By Source Type)

County	Source Type	Summer Daily VMT	Emissions (Tons/Day)	
			VOC	NOx
Lehigh	Motorcycle	68,759	0.2	0.04
	Passenger Car	9,291,552	0.8	0.13
	Passenger Truck	1,159,713	0.2	0.07
	Light Commercial Truck	109,869	0.0	0.01
	Intercity Bus	5,065	0.0	0.01
	Transit Bus	18,126	0.0	0.02
	School Bus	6,668	0.0	0.01
	Refuse Truck	6,407	0.0	0.01
	Single Unit Short-haul Truck	288,209	0.0	0.15
	Single Unit Long-haul Truck	37,575	0.0	0.01
	Motor Home	15,987	0.0	0.00
	Combination Short-haul Truck	247,881	0.0	0.35
	Combination Long-haul Truck	339,723	0.0	0.50
	<i>Subtotal</i>	<i>11,595,534</i>	<i>1.21</i>	<i>1.31</i>
	Northampton	Motorcycle	50,750	0.1
Passenger Car		6,733,223	0.6	0.11
Passenger Truck		976,000	0.1	0.06
Light Commercial Truck		92,477	0.0	0.01
Intercity Bus		2,529	0.0	0.00
Transit Bus		7,421	0.0	0.01
School Bus		5,277	0.0	0.01
Refuse Truck		4,577	0.0	0.01
Single Unit Short-haul Truck		207,294	0.0	0.10
Single Unit Long-haul Truck		27,048	0.0	0.01
Motor Home		11,502	0.0	0.00
Combination Short-haul Truck		178,303	0.0	0.23
Combination Long-haul Truck		244,317	0.0	0.34
<i>Subtotal</i>		<i>8,540,719</i>	<i>1.01</i>	<i>0.92</i>
Off-Model Project Emission Benefits				0.00
Region Total		20,136,253	2.22	2.24
		(Kg/Day)	2,017	2,030

Lehigh Valley Ozone Daily Emission Summary
2050 FFY27 TIP and 2050 LRTP Conformity

County	Summer Daily VMT Speed (mph)		Emissions (Tons/Day)	
			VOC	NOx
Lehigh	12,454,750	28.0	1.1	1.21
Northampton	9,152,236	31.6	0.9	0.85
Off-Model Project Emission Benefits			0.00	0.00
Region Total	21,606,986	(Kg/Day)	2.07	2.06
			1,880	1,864

Lehigh Valley Ozone Daily Emission Summary
2050 FFY27 TIP and 2050 LRTP Conformity (By Road Type)

County	Road Type	Summer Daily VMT	Speed (mph)	Emissions (Tons/Day)	
				VOC	NOx
Lehigh	Off-Network	N/A	N/A	0.7	0.32
	Rural Restricted	1,086,343	48.0	0.0	0.08
	Rural UnRestricted	1,731,587	27.3	0.1	0.12
	Urban Restricted	4,006,221	39.6	0.1	0.28
	Urban UnRestricted	5,630,599	21.8	0.2	0.41
	<i>Subtotal</i>	<i>12,454,750</i>			<i>1.13</i>
Northampton	Off-Network	N/A	N/A	0.6	0.26
	Rural Restricted	0	N/A	0.0	0.00
	Rural UnRestricted	1,716,150	38.0	0.0	0.10
	Urban Restricted	3,864,392	41.4	0.1	0.25
	Urban UnRestricted	3,571,694	23.6	0.1	0.24
	<i>Subtotal</i>	<i>9,152,236</i>			<i>0.94</i>
Off-Model Project Emission Benefits				0.00	0.00
Region Total		21,606,986	(Kg/Day)	2.07	2.06
				1,880	1,864

Lehigh Valley Ozone Daily Emission Summary
2050 FFY27 TIP and 2050 LRTP Conformity (By Source Type)

County	Source Type	Summer Daily VMT	Emissions (Tons/Day)	
			VOC	NOx
Lehigh	Motorcycle	73,754	0.2	0.04
	Passenger Car	9,968,201	0.7	0.10
	Passenger Truck	1,244,181	0.1	0.05
	Light Commercial Truck	117,886	0.0	0.01
	Intercity Bus	5,814	0.0	0.01
	Transit Bus	19,434	0.0	0.02
	School Bus	7,244	0.0	0.01
	Refuse Truck	6,957	0.0	0.01
	Single Unit Short-haul Truck	313,536	0.0	0.15
	Single Unit Long-haul Truck	40,908	0.0	0.01
	Motor Home	17,456	0.0	0.00
	Combination Short-haul Truck	269,697	0.0	0.34
	Combination Long-haul Truck	369,681	0.0	0.46
	<i>Subtotal</i>	<i>12,454,750</i>	<i>1.13</i>	<i>1.21</i>
Northampton	Motorcycle	54,326	0.2	0.03
	Passenger Car	7,208,576	0.6	0.09
	Passenger Truck	1,044,887	0.1	0.04
	Light Commercial Truck	99,019	0.0	0.01
	Intercity Bus	2,863	0.0	0.00
	Transit Bus	7,925	0.0	0.01
	School Bus	5,709	0.0	0.01
	Refuse Truck	4,984	0.0	0.01
	Single Unit Short-haul Truck	224,479	0.0	0.10
	Single Unit Long-haul Truck	29,263	0.0	0.01
	Motor Home	12,491	0.0	0.00
	Combination Short-haul Truck	193,066	0.0	0.23
	Combination Long-haul Truck	264,650	0.0	0.31
	<i>Subtotal</i>	<i>9,152,236</i>	<i>0.94</i>	<i>0.85</i>
Off-Model Project Emission Benefits		0.00	0.00	
Region Total		21,606,986 (Kg/Day)	2.07 1,880	2.06 1,864

Annual PM_{2.5} Analysis

Lehigh Valley PM2.5 Annual Emission Summary
2030 FFY27 TIP and 2050 LRTP Conformity

County	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	3,264,471,336	35.7	769.49	45.10
Northampton	2,411,413,995	37.5	554.60	32.71
Off-Model Project Emission Benefits			0.00	0.00
Region Total	5,675,885,331	(Kg/Year)	1,324.09	77.81
			1,201,195	70,588

Lehigh Valley PM2.5 Annual Emission Summary
2030 FFY27 TIP and 2050 LRTP Conformity (By Road Type)

County	Road Type	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
				NOx	PM _{2.5}
Lehigh	Off-Network	N/A	N/A	165.25	7.55
	Rural Restricted	262,726,192	57.7	50.95	1.92
	Rural UnRestricted	508,115,332	35.7	92.68	6.18
	Urban Restricted	994,686,996	50.5	175.78	8.01
	Urban UnRestricted	1,498,942,816	28.2	284.83	21.44
	<i>Subtotal</i>	<i>3,264,471,336</i>		<i>769.49</i>	<i>45.10</i>
Northampton	Off-Network	N/A	N/A	134.11	6.54
	Rural Restricted	0	N/A	0.00	0.00
	Rural UnRestricted	477,402,980	40.5	79.85	5.24
	Urban Restricted	984,897,421	53.8	162.40	7.47
	Urban UnRestricted	949,113,593	27.7	178.25	13.46
	<i>Subtotal</i>	<i>2,411,413,995</i>		<i>554.60</i>	<i>32.71</i>
Off-Model Project Emission Benefits			0.00	0.00	
Region Total		5,675,885,331	(Kg/Year)	1,324.09	77.81
				1,201,195	70,588

Lehigh Valley PM2.5 Annual Emission Summary
2030 FFY27 TIP and 2050 LRTP Conformity (By Source Type)

County	Source Type	Annual VMT	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	Motorcycle	19,398,693	14.64	0.43
	Passenger Car	2,621,301,100	122.85	19.78
	Passenger Truck	327,176,270	60.40	4.11
	Light Commercial Truck	30,993,809	8.01	0.47
	Intercity Bus	932,986	3.61	0.14
	Transit Bus	5,248,250	9.03	0.19
	School Bus	1,868,164	3.30	0.13
	Refuse Truck	1,765,203	5.24	0.16
	Single Unit Short-haul Truck	79,238,706	62.92	2.40
	Single Unit Long-haul Truck	10,343,037	7.90	0.37
	Motor Home	4,481,093	3.48	0.17
	Combination Short-haul Truck	68,202,793	186.51	6.25
	Combination Long-haul Truck	93,521,232	281.61	10.51
	<i>Subtotal</i>	<i>3,264,471,336</i>	<i>769.49</i>	<i>45.10</i>
Northampton	Motorcycle	14,362,254	11.04	0.32
	Passenger Car	1,905,056,896	97.76	14.59
	Passenger Truck	276,142,570	52.92	3.52
	Light Commercial Truck	26,169,969	7.04	0.40
	Intercity Bus	474,745	1.81	0.07
	Transit Bus	2,190,451	3.85	0.09
	School Bus	1,503,696	2.76	0.10
	Refuse Truck	1,267,980	3.60	0.11
	Single Unit Short-haul Truck	57,090,783	43.83	1.66
	Single Unit Long-haul Truck	7,437,195	5.48	0.26
	Motor Home	3,228,639	2.48	0.12
	Combination Short-haul Truck	49,155,843	127.92	4.27
	Combination Long-haul Truck	67,332,973	194.11	7.20
	<i>Subtotal</i>	<i>2,411,413,995</i>	<i>554.60</i>	<i>32.71</i>
Off-Model Project Emission Benefits		0.00	0.00	
Region Total	5,675,885,331 (Kg/Year)	1,324.09 1,201,195	77.81 70,588	

Lehigh Valley PM2.5 Annual Emission Summary
2040 FFY27 TIP and 2050 LRTP Conformity

County	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	3,538,225,299	34.8	450.95	37.14
Northampton	2,594,887,052	37.0	325.01	26.32
Off-Model Project Emission Benefits			0.00	0.00
Region Total	6,133,112,351 (Kg/Year)		775.96 703,937	63.47 57,576

Lehigh Valley PM2.5 Annual Emission Summary
2040 FFY27 TIP and 2050 LRTP Conformity (By Road Type)

County	Road Type	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
				NOx	PM _{2.5}
Lehigh	Off-Network	N/A	N/A	134.18	4.01
	Rural Restricted	273,449,528	57.5	25.92	1.37
	Rural UnRestricted	550,456,626	34.3	49.16	5.64
	Urban Restricted	1,111,043,312	49.6	94.93	6.55
	Urban UnRestricted	1,603,275,833	27.4	146.75	19.57
	<i>Subtotal</i>	<i>3,538,225,299</i>		<i>450.95</i>	<i>37.14</i>
Northampton	Off-Network	N/A	N/A	109.24	3.52
	Rural Restricted	0	N/A	0.00	0.00
	Rural UnRestricted	505,347,322	40.0	40.40	4.54
	Urban Restricted	1,057,167,259	53.5	83.70	5.83
	Urban UnRestricted	1,032,372,472	27.4	91.67	12.43
	<i>Subtotal</i>	<i>2,594,887,052</i>		<i>325.01</i>	<i>26.32</i>
Off-Model Project Emission Benefits			0.00	0.00	
Region Total		6,133,112,351 (Kg/Year)		775.96 703,937	63.47 57,576

Lehigh Valley PM2.5 Annual Emission Summary
2040 FFY27 TIP and 2050 LRTP Conformity (By Source Type)

County	Source Type	Annual VMT	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	Motorcycle	21,000,049	15.75	0.47
	Passenger Car	2,838,061,904	68.20	16.10
	Passenger Truck	354,228,910	23.07	2.97
	Light Commercial Truck	33,559,063	3.53	0.32
	Intercity Bus	1,146,409	2.19	0.10
	Transit Bus	5,624,591	6.05	0.18
	School Bus	2,069,067	2.02	0.09
	Refuse Truck	1,925,620	3.49	0.13
	Single Unit Short-haul Truck	87,024,744	41.32	1.55
	Single Unit Long-haul Truck	11,343,933	4.61	0.22
	Motor Home	4,829,280	1.18	0.11
	Combination Short-haul Truck	74,849,560	114.67	5.97
	Combination Long-haul Truck	102,562,168	164.85	8.92
	<i>Subtotal</i>	<i>3,538,225,299</i>	<i>450.95</i>	<i>37.14</i>
Northampton	Motorcycle	15,433,063	11.73	0.34
	Passenger Car	2,047,495,904	56.90	11.56
	Passenger Truck	296,790,470	21.23	2.50
	Light Commercial Truck	28,121,298	3.23	0.27
	Intercity Bus	571,872	1.08	0.05
	Transit Bus	2,326,393	2.67	0.09
	School Bus	1,654,112	1.75	0.08
	Refuse Truck	1,388,668	2.41	0.09
	Single Unit Short-haul Truck	62,362,887	28.59	1.06
	Single Unit Long-haul Truck	8,129,680	3.17	0.15
	Motor Home	3,461,341	0.83	0.08
	Combination Short-haul Truck	53,655,616	78.57	4.04
	Combination Long-haul Truck	73,495,748	112.84	6.02
	<i>Subtotal</i>	<i>2,594,887,052</i>	<i>325.01</i>	<i>26.32</i>
Off-Model Project Emission Benefits			0.00	0.00
Region Total		6,133,112,351 (Kg/Year)	775.96 703,937	63.47 57,576

Lehigh Valley PM2.5 Annual Emission Summary
2050 FFY27 TIP and 2050 L RTP Conformity

County	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	3,791,978,837	34.0	429.42	35.89
Northampton	2,775,588,892	35.8	304.73	24.51
Off-Model Project Emission Benefits			0.00	0.00
Region Total	6,567,567,729	(Kg/Year)	734.15 666,013	60.40 54,798

Lehigh Valley PM2.5 Annual Emission Summary
2050 FFY27 TIP and 2050 L RTP Conformity (By Road Type)

County	Road Type	Annual VMT	Speed (mph)	Emissions (Tons/Year)	
				NOx	PM _{2.5}
Lehigh	Off-Network	N/A	N/A	135.39	1.24
	Rural Restricted	298,461,184	58.0	24.20	1.32
	Rural UnRestricted	542,584,197	32.6	41.95	5.42
	Urban Restricted	1,179,240,909	48.7	86.91	6.43
	Urban UnRestricted	1,771,692,546	27.0	140.97	21.48
	<i>Subtotal</i>	<i>3,791,978,837</i>		<i>429.42</i>	<i>35.89</i>
Northampton	Off-Network	N/A	N/A	108.43	1.07
	Rural Restricted	0	N/A	0.00	0.00
	Rural UnRestricted	538,554,411	39.3	36.61	4.66
	Urban Restricted	1,115,820,391	53.5	75.67	5.57
	Urban UnRestricted	1,121,214,090	26.1	84.03	13.21
	<i>Subtotal</i>	<i>2,775,588,892</i>		<i>304.73</i>	<i>24.51</i>
Off-Model Project Emission Benefits			0.00	0.00	
Region Total		6,567,567,729	(Kg/Year)	734.15 666,013	60.40 54,798

Lehigh Valley PM2.5 Annual Emission Summary
2050 FFY27 TIP and 2050 LRTP Conformity (By Source Type)

County	Source Type	Annual VMT	Emissions (Tons/Year)	
			NOx	PM _{2.5}
Lehigh	Motorcycle	22,450,031	16.71	0.51
	Passenger Car	3,034,492,888	59.73	13.83
	Passenger Truck	378,750,330	16.80	2.42
	Light Commercial Truck	35,886,522	2.89	0.26
	Intercity Bus	1,346,509	2.02	0.10
	Transit Bus	6,043,503	5.10	0.19
	School Bus	2,252,708	1.75	0.09
	Refuse Truck	2,116,066	3.45	0.14
	Single Unit Short-haul Truck	95,697,864	40.70	1.41
	Single Unit Long-haul Truck	12,484,249	3.94	0.18
	Motor Home	5,325,658	0.56	0.10
	Combination Short-haul Truck	82,306,618	116.08	6.64
	Combination Long-haul Truck	112,825,890	159.68	10.03
	<i>Subtotal</i>	<i>3,791,978,837</i>	<i>429.42</i>	<i>35.89</i>
Northampton	Motorcycle	16,490,899	12.46	0.37
	Passenger Car	2,188,151,988	50.73	9.60
	Passenger Truck	317,174,000	15.95	1.98
	Light Commercial Truck	30,057,133	2.70	0.21
	Intercity Bus	649,378	0.97	0.04
	Transit Bus	2,483,029	2.31	0.10
	School Bus	1,788,730	1.54	0.08
	Refuse Truck	1,500,801	2.34	0.09
	Single Unit Short-haul Truck	67,379,008	27.56	0.94
	Single Unit Long-haul Truck	8,777,684	2.64	0.12
	Motor Home	3,749,834	0.38	0.07
	Combination Short-haul Truck	57,980,809	77.94	4.35
	Combination Long-haul Truck	79,405,600	107.21	6.56
	<i>Subtotal</i>	<i>2,775,588,892</i>	<i>304.73</i>	<i>24.51</i>
Off-Model Project Emission Benefits		0.00	0.00	
Region Total		6,567,567,729 (Kg/Year)	734.15 666,013	60.40 54,798

ATTACHMENT C

**Sample MOVES5 Data Importer (XML) Input Files
and
Run Specification (MRS) Input Files**

(Sample for 2030 July Weekday and Annual Runs)

MOVES County Data Manager Importer File – July Weekday Run (MOVESIMPORTER.XML)

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MOVES Run Specification File – July Weekday Run (MOVESRUN.MRS)

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MOVES County Data Manager Importer File – Annual Run (MOVESIMPORTER.XML)

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MOVES Run Specification File – 2030 Annual Run (MOVESRUN.MRS)

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Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

RESOLUTION 6-17-2026-A

2027 – 2030 Transportation Improvement Program AIR QUALITY Resolution

RESOLUTION of the Lehigh Valley Transportation Study Metropolitan Planning Organization (LVTS MPO) to certify conformity of the 2027 – 2030 Transportation Improvement Program (TIP) in accordance with the Clean Air Act Amendments of 1990.

WHEREAS, the Congress of the United States enacted the Clean Air Act Amendments of 1990 which was signed into law and became effective on November 15, 1990, hereafter referred to as “the CAAA”; and

WHEREAS, the United States Environmental Protection Agency (EPA), under the authority of the CAAA, has defined the geographic boundaries for areas that have been found to be in non attainment with the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide and particulate matter; and

WHEREAS, the EPA issued the Final Rule on Transportation Conformity on November 24, 1993 for transportation plans and programs and projects: and

WHEREAS, the EPA amended the Final conformity Rule various times between 1996 and the present; and

WHEREAS, effective July 20, 2012, the LVTS MPO area has been designated as an ozone nonattainment area under EPA’s 2008 eight-hour ozone standard; and

WHEREAS, effective December 14, 2009, the LVTS MPO area has been designated by EPA as a nonattainment area under the 2006 PM2.5 24-hour NAAQS; and

WHEREAS, effective April 13, 2015, the LVTS MPO area has be redesignated as an attainment area under the 2006 PM2.5 24-hour NAAQS with and approved Maintenance State Implementation Plan that includes motor vehicle emission budgets; and

WHEREAS, the transportation plans and programs are required to conform to the purposes of the State Implementation Plan and Sections 174 and 176 (c and d) of the CAAA (42 U.S.C. 7504, 7506 (c and d)); and

WHEREAS, the LVTS MPO is responsible for the development of transportation plans and programs in the two-county MPO region including Lehigh and Northampton counties in accordance with Section 134 of Title 23, which requires coordination and public participation with the State DOT; and

WHEREAS, the final conformity rule (and subsequent amendments) requires the LVTS MPO Policy Board determines that the transportation plans and programs conform within the CAAA requirements by meeting the criteria described in the final guidelines.

NOW, THEREFORE BE IT RESOLVED THAT the Lehigh Valley MPO Technical Committee has found that the 2027– 2030 TIP contributes to the achievement and maintenance of the NAAQS and is consistent with the final conformity rule issued on November 24, 1993, and subsequent amendments.

NOW, THEREFORE BE IT RESOLVED THAT the Lehigh Valley MPO Coordinating Committee has found that the 2027 – 2030 TIP contributes to the achievement and maintenance of the NAAQS and is consistent with the final conformity rule issued on November 24, 1993, and subsequent amendments.

I hereby certify that this Resolution was adopted by the Lehigh Valley Transportation Study Technical and Coordinating Committees at its joint meeting on June 17, 2026.

Ryan Meyer, Chair

LVTS Technical Committee

Owen O'Neil, Chair

LVTS Coordinating Committee

Becky A. Bradley, AICP, Secretary

LVTS Technical and Coordinating Committees



2027-2030 Lehigh Valley Transportation Improvement Program
Public Comments and Responses
April 15th through May 17, 2026

Comment #	Date	First	Last	Organization	Comment	Response
1	15-Apr	Dave	Hopkins	City of Easton	How can the scope of a project get updated, particularly in the context of a completed Safe Streets and Roads for All study?	Project scope and timeline changes are not uncommon. If the project is already on the TIP, PennDOT District 5 will coordinate with the municipality on the changes. If the project has not yet made it onto the TIP, then the municipality should submit those changes as part of the open call for projects for the Metropolitan Transportation Plan.
2	15-Apr	Craig	Beavers	Palmer Township	On behalf of Palmer Township, thank you for including the Tatamy Road over Schoeneck Creek bridge. This project is a major priority for the township not only for vehicle traffic, but also as a priority trail gap in the township.	Thank you for your comment.
3	15-Apr	Toni	Mitman		I don't think PennDOT should have voting membership on the Lehigh Valley Transportation Study(LVTS) because PennDOT is a major beneficiary of the funding obligated by the LVTS. This could be perceived as a conflict of interest.	United States Code requires that Metropolitan Planning Organization boards include local elected officials, public transportation officials, and appropriate state officials. The LVTS bylaws require that both the Technical and Coordinating Committees include a representative from PennDOT District 5 and PennDOT Central Office.
4	15-Apr	Lee	Rackus	Whitehall Township	It doesn't really seem appropriate that 4 out of the 6 places to view the document are in Allentown. There are other public libraries that could also make it available.	The LVTS' Public Participation Plan requires that public comment materials be physically available at the three city libraries and the offices of LANTA, PennDOT District 5, and the LVPC. Materials are also available to be reviewed online at www.lvpc.org . If you would like a copy emailed to you, this can also be arranged. This comment will be considered as the LVTS updates its Public Participation Plan.
5	16-Apr	Stephen	Reider	Bangor Borough	Under Bridge Replacement and Rehabilitation, Bridge Preservation #7 there is \$50,000 allocated for Federal Fiscal Year(FFY) 2027 and nothing for FFY 2028-2030 with 8 projects listed including Map# 26e in Bangor Borough. I believe there should be more money allocated to these projects as I do not believe that \$50,000 is adequate to sufficiently rehabilitate all of these bridges.	Funding is capped each federal fiscal year. Some projects start and then wait for funding in future years. This is often the case for bundled projects, where final cost per bridge is estimated by PennDOT upfront, and then final costs determined as each bridge goes through the investment process. Additional funds are typically moved to these bundled projects. This bridge bundle is expected to begin in this TIP cycle.
6	16-Apr	Stephen	Reider	Bangor Borough	Two projects that should be considered as part of Road Construction Modernization, Automation project grouping should be the realignment of PA Route 512 in Bangor Borough which I believe is in the Long Range Transportation Plan, and the modernization of the signalized intersection at the intersection of State Routes 191 and 512 in Bangor Borough. The current signals at the intersection are from the 1960's and are obsolete. Upgrades are needed for both pedestrian safety and traffic calming because of the traffic volume that is experienced on these major thoroughfares.	These projects are in the Long-Range Transportation element of <i>FutureLV: The Regional Plan</i> . As other projects are completed, these projects may move up the list.
7	15-Apr	Kim	Schaffer	Community Bike Works	Is there anything proactive that Community Bike Works or the Coalition for Appropriate Transportation need to do at this point to be included in the next round of the TIP? Please let me know if there's anything you need from us.	There's nothing specifically that you need to do or anything we need from you currently. You should have received an email from the LVPC detailing the public comment process for the TIP and the upcoming meetings. As always, reach out if you have any additional questions.

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Comment #	Date	First	Last	Organization	Comment	Response
8	20-Apr	Nicholas	Csorba		<p>I am not an engineer but when it comes to this area and the high traffic volume we now have and is likely to increase; I would suggest an out of the box brainstorming for this area. My vision sees the current Hill to Hill Bridge in place for local traffic on the south side - to the right for hospital access improved and local fountain hill traffic - to the left for south Bethlehem traffic. The out of the box comes in with the high volume (currently unsafe practice of accessing the 378 hill south of the bridge /meaning cutters and high volume with trucks). Need to consider quite the modernistic approach for the near future outlook. We see a straight away access to the hill from 378 on the northern side by a high tech build...no stop roadway. The current Hill to Hill is for local access while a high tech build is for the southern 378 corridor. The high tech build can be over the local access bridge or the entire bridge reshaped to provide for this enhancement and 'elimination' of a big headache/sore spot in Bethlehem travelling. You see the NY bridges done in this fashion - the duplex style. Really, consider the current unsafe traffic situation (cutters) to Wyandotte hill after exiting the Hill to Hill on the south side and the (cutters) on the bridge itself to access the Wyandotte stretch on the bridge itself. This has to be entirely reinvented and redesigned in a thoroughly encompassed modern engineering feat....good for 100 years.</p>	<p>In order for a project to be included on the TIP, it must first be included in the Metropolitan Transportation Plan (previously called the Long Range Transportation Plan). LVPC is currently updating its MTP as part of the update of Future LV: The Regional Plan. LVPC will be conducting an Open Call for Projects later this year. This comment has been forwarded to the MTP project team. The commenter is welcome to introduce this proposal when the Open Call for Projects is conducted.</p>
9	20-Apr	Ken	Abruzzese		<p>Here is my opinion on what needs to be done to make traffic in the Lehigh Valley run smoother. 1- (top priority) make I-78 three lanes from the NJ border to PA Route 100! This was planned to be three lanes when it was originally finished! What happened? 2- (top priority) make PA Route 33 three lanes from PA Route 248 to I-78. The bottleneck at US Route 22 and PA Route 33 is enough reason. 3- Install solar powered flashing caution arrows on US Route 22 around cemetery curve in Easton to warn drivers to slow down! 4- Longer on and off ramps on all US Route 22 and PA Route 309 exits. 5- Use Artificial Intelligence to synchronize the stop lights along all the exits from I-78, US Route 22, PA Route 33 and PA Route 309 for smoother traffic flow. 6- Fix the bridge and restore the road on Bushkill St. (by The Widow's Tavern in Stockertown) to alleviate traffic on Uhler Rd and Sullivan Trail. Longer term (but still needed badly) 7- Add exit and entrance from I-78 directly onto PA Route 378 in south Bethlehem. 8- Add exit and entrance ramps from I-78 onto 25th street in Easton via the Glendon Bridge. Why does the Lehigh Valley constantly get kicked to the bottom of the list when it comes to road projects in this state? US Route 22 has been scheduled to be widened to three lanes in both directions since the 70's, but every budget it gets extended or tabled to later years. 50 years this project has been delayed?!!! We need stronger political representation in Harrisburg to make these projects happen.</p>	<p>In order for a project to be included on the TIP, it must first be included in the Metropolitan Transportation Plan (previously called the Long Range Transportation Plan). LVPC is currently updating its MTP as part of the update of <i>Future LV: The Regional Plan</i>. LVPC will be conducting an Open Call for Projects later this year. This comment has been forwarded to the MTP project team. The commenter is welcome to introduce this proposal when the Open Call for Projects is conducted.</p>

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Comment #	Date	First	Last	Organization	Comment	Response
10	20-Apr	Ken	Abruzzese		Great example is the reconstruction on I-78 right now. Heaviest traffic on the entire stretch of highway is NJ state line to PA Route 33. But every other section of this road in PA was fixed first, except the heaviest traveled part, the Lehigh Valley! Do we not have anyone looking out for the Lehigh Valley's needs in Harrisburg? How does the Lehigh Valley end up on the short end of road funding every year for over 50 years???? I travel extensively in the state and the entire northeast and we consistently have the worst traffic. Even when fixed, the funding and engineering is short-sighted and just barely covers what needs to be done! Please get the funds we need approved and used on the road projects stated above instead of going into someone's pockets!	Please see comment #9 above.
11	20-Apr	Justin	Zuberka		I have read though most of the transportation and improvement program draft. I do support many of these programs and projects I just wanted to voice my further opinion and concerns on the topic. Much of our infrastructure in the valley is in a state of disrepair to put it kindly and disregard to speak truthfully. This budget will not come close to being what is needed to even fix many of these bridges roads and issues. The only sustainable solution to begin the process of solving our infrastructure nightmare is light passenger rail(LPR). I have witnessed many months-long projects to repair road surfaces causing frustration, delays, and accidents only for that same surface to have the exact same potholes with a matter of weeks after completion. We can redo every highway every road in the county ever single year and waste hundreds of millions just on basic upkeep of infrastructure that is already outdated and over loaded. The definition of insanity is repeating the same thing over and over again, expecting a different result. I am urging the committee to immediately take action and prepare and implement a comprehensive plan for an East-West light passenger rail corridor connecting Easton, Bethlehem, and Allentown. The only way to accomplish the goals of this committee and the needs of the public is rail. Decisive action is needed. The public already holds city planners in low regard due to previous generations' lack of leadership and failure in vision.	The LANTA operated transit service from Allentown-Bethlehem-Easton and has begun the first phases of the Enhanced Bus/Bus Rapid Transit Corridor between these cities, north into Whitehall and west into the Macungie area. This enhanced bus service is essentially a light rail service with buses. Additional improvements, including station stops, dedicated rights-of-way where possible, queue-jumps for transit at traffic lights and many other enhancements are in the planning stages. This project is partially funded and additional details are available on page 43 of the TIP Made Easy document.

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Comment #	Date	First	Last	Organization	Comment	Response
12	20-Apr	Justin	Zuberka		<p>Please do not make the same mistake. It would be better to shut US Route 22 down and build passenger rail in its place (though this is not my proposal) versus continuing down the path of insanity. Every year brings more drivers, more buses, more commuters, more commercial trucks and freight. There is only one way to fix the infrastructure problems that the valley is experiencing. The Lehigh Valley is the second largest metro area in the state and one of the fastest growing areas in the entire US. Property values are soaring. We all live in one of the most desirable places to live in the world. It is far past the time where our infrastructure should support our community. The only long term path forward is LPR. All road expansion projects should be immediately halted until there is an operational LPR east-west network. Every dollar spent on road repairs and renewals until that point is a dollar stolen from the public and five dollars stolen from our children and grandchildren. The cost of a LPR system would be very significant, but the returns would more than offset the initial investment. Let us not repeat the mistakes of previous failed generations. We need to care for the future of the valley as well as the present. I ask this committee in the strongest way possible to please consider this comment for future consideration. When it is a hot summer day and you are in need of shade the best time to plant a tree was 25 years ago; the second best time is today. I would be willing to assist in any way I could to help in regards to planning advocacy or discussing this further in a more complete and detailed way.</p>	<p>Please see comment # 11 above. In addition, the LVPC is working with PennDOT, communities along Route 22, both counties, LANTA and the Lehigh and Northampton Airport Authority to develop a practical and forward thinking strategy for Route 22. This planning project is underway now and you are welcome to learn more by attending any or all the LVTS meetings where the plan progress and recommendations will be discussed.</p>
13	20-Apr	Lawrence	Dusold		<p>Thank you for a well presented plan. As someone who uses the Center Valley interchange at PA Route 309 at least 4 days per week, the congestion in this area is overdue for improvement. Although I may not be working when it is completed (I'll be 70 years old), it will be a great benefit to those in the area.</p>	<p>Thank you for your comment.</p>
14	21-Apr	Donald	Brandt		<p>Please replace Church Rd from William Penn Highway to Country Club Road in Bethlehem Township . It was been torn up multiple times by utilities and construction crews. It's a bumpy nightmare.</p>	<p>This project would be considered a resurfacing/repaving project. Church Road is a local road maintained and operated by Bethlehem Township. This comment will be forwarded to the township for further consideration. In order for a project to be included on the TIP, it must first be included in the Metropolitan Transportation Plan (previously called the Long Range Transportation Plan). LVPC is currently updating its MTP as part of the update of Future LV: The Regional Plan. LVPC will be conducting an Open Call for Projects later this year. Bethlehem Township has the ability to submit this project during that time if they feel it is considerable as a repaving project.</p>

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Comment #	Date	First	Last	Organization	Comment	Response
15	22-Apr	Matthew	Epstein		I reside in Bethlehem and frequently cross the Hill-to-Hill bridge to get to South Side. The pedestrian walkway is extremely uncomfortable to walk on because it is 1) too close to traffic, and 2) too noisy. The noise issue is by far the biggest issue, but the two are related because it's the sound of traffic right next to you that is making the noise. Because this area in general is very pedestrian friendly and is frequented by a fair number of pedestrian traffic, runners, and bikers, I think adding some type of acoustic barrier would be really transformative and make walking between historic Bethlehem and South side much more comfortable and encourage more pedestrian traffic. I think maybe the simplest way to do this would be to install a hybrid opaque and transparent acoustic panel, with the bottom 4 feet being concrete as there is already a small concrete raised barrier here, and then 4 feet extending above this either transparent laminated glass or coated polycarbonate. I'm not an engineer so don't know the perfect solution, but thought it might be helpful to float an initial idea. Since the Hill-to-Hill bridge is already going to be updated during this plan, I think this is the perfect time to do it!	PennDOT has hosted several project meetings with their design for this bridge rehabilitation project. At these meetings comments similar to yours were discussed and PennDOT is planning enhanced pedestrian, ADA and bicycle accessibility and mobility. However, this comment is being forwarded to the PennDOT project team. Thank you.
16	23-Apr	Julie	Wright		Is there any plans to address I-476(PA Turnpike) in the Lehigh Valley? We could really use slip ramps in Emmaus. To go south on I-476 from Emmaus, you have to either go 15 minutes north to get on in Allentown, which adds 20-25 minutes to the commute. Or you have to take dark, windy, steep back roads for 25 minutes to Quakertown. At rush hour, these back roads have so many cars on these winding back roads all trying to get to the Lehigh Valley, which can be unsafe, especially at night, in rain, and in snow. As someone who commutes to the Philadelphia area for work, there has to be a better way to get there. Happy to discuss more.	I-476 is managed by the Pennsylvania Turnpike Commission who analyzes expansion projects or new interchanges. This comment is being forwarded to the Turnpike Commission. Thank you.
17	23-Apr	Craig	Beavers		Great job developing the TIP. I think the TIP and the FutureLV update should consider a complete streets resurfacing plan. Similar to the projects in the DVRPC region, this would be a great opportunity to evaluate the feasibility of implementing a complete streets resurfacing program. Here is a link with more information: https://www.dvrpc.org/completestreetsresurfacing/	Thank you for your comment. The Delaware Valley Regional Planning Commission (DVRPC) utilizes Congestion Mitigation Air Quality and Transportation Alternatives Set Aside funds primarily for their complete streets resurfacing program. We admire DVRPC's program as well, and will consider it as part of the update of <i>FutureLV: The Regional Plan</i> .
18	23-Apr	Armando	Moritz-Chapelliquen		Is the TIP funding by category pretty standard, as far as the breakdown between project types?	The funding per category varies based on the regulations on the funding source. PennDOT prepares financial guidance with USDOT, which we are required to follow, and that sets how much funding is available for each category. These rules limit what each type of funding can be utilized to do.

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Comment #	Date	First	Last	Organization	Comment	Response
19	23-Apr	Kevin	Schmidt		How is the proposed cost of a project developed? Especially for something large like the Hill to Hill Bridge	Cost estimates are developed in several stages. In the first stage, before any engineering or examination of right of way issues, an order of magnitude estimate is developed based on the cost of comparable projects in other parts of the state. These costs are refined during the environmental review phase, which develops more detail on the project elements. Once a project moves into preliminary engineering and then final design, the cost estimates get more precise. The project is then competitively bid and the contract goes to the lowest bid, which establishes the construction cost, which is final, unless there are change orders. This can happen when an unforeseen condition complicates the project. Any adjustments made to a TIP project where the change is under \$2 million can be made by PennDOT; adjustments of \$2 million or more must be voted on by the LVTS.
20	28-Apr	Larry	Green		With the evolution of the numerous warehouses, the roadways are inadequate for the loads that these trucks are putting on and also the restriction of traffic flow as most of our roads are single lane roads	The LVTS in partnership with Lackawanna/Luzerne Transportation Study (LLTS), Lebanon County Metropolitan Planning Organization (LEBCO), , Northeastern Pennsylvania Alliance (NEPA), and Reading Area Transportation Study (RATS) formed the Eastern Pennsylvania Freight Alliance and created a joint freight infrastructure plan. This region has joined to address the unique opportunities and challenges associated with freight industry growth, focused on impacts to mobility, safety, land uses, and overall state of good repair of the transportation infrastructure. The 10-County EPFA region (Berks, Carbon, Lackawanna, Lebanon, Lehigh, Luzerne, Monroe, Northampton, Pike, and Schuylkill Counties) is among the largest and fastest-growing freight handling regions in the country, with rapid development and redevelopment for warehouse and distribution functions. The plan is available here: https://epennfa.org/ .
21	5-May	Jason	Mauger	Clubhouse LV	A lot of people don't know how to learn more about this stuff, is there a way our organization could contact you so we could learn more?	Yes, please contact the LVPC, we'd be happy to engage with the community members and groups to get more information on planning and transportation.
22	5-May	Scott	Slingerland	Coalition for Appropriate Transportation	Public transit funding was cut in the budget last year; LANTA service will be reduced by 7%. Is there any way to advocate for additional transit funding on the TIP? Does the TIP cover capital funding or operations?	The Transit TIP is currently set at \$193,152,767 per FTA guidance. That includes funding that is flexed from the Congestion Mitigation Air Quality program (CMAQ). Project descriptions on the Transit TIP include the type of project (capital, operational etc.). You may also choose to advocate for transportation finance to the Lehigh Valley's state and federal delegations, who jointly provide transit and overall transportation funding.
23	5-May	Scott	Slingerland	Coalition for Appropriate Transportation	There are a lot of projects that don't specifically focus on pedestrians or bicyclists. It would be great if all of those projects would take those folks into consideration, 8-10 foot sidewalks. Are there any restrictions on funding that can't cover the funding needed for these elements?	Projects are funded through different programs, which each have their own requirements. When the Metropolitan Transportation Plan and TIP are drafted the LVPC and LVTS look to incorporate multi-modal elements, check if proposals are listed as local and regional multimodal priorities and generally attempt to coordinate all possible modes as part of the projects selection process. When funded projects begin design, those managed by PennDOT, go through the Connects process which invites stakeholders to collaborate on needs across various modes.

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Comment #	Date	First	Last	Organization	Comment	Response
24	5-May	Scott	Slingerland	Coalition for Appropriate Transportation	Mega projects, especially those \$80 million, they should include high functional multimodal facilities.	See answer to question #23 above.
25	5-May	Jason	Mauger	Clubhouse LV	What's the status on the Hill to Hill Bridge construction? Does this one have to be restored with specific requirements?	The Hill-to-Hill Bridge Rehabilitation project (Route 378) involves the comprehensive rehabilitation of the bridge spanning the Lehigh River, Norfolk Southern Railroad, and several city streets in Bethlehem, Lehigh County. Construction is scheduled to begin in Fall 2026, and the project spans approximately 1.35 miles. The work focuses on extending the bridge's service life and ensuring structural safety. Rehabilitation efforts will include structural repairs and updates to meet current safety and design standards. The project will support safe and reliable transportation along Route 378 while maintaining connectivity for vehicles, bicycles, and pedestrians in the region. The project is funded through a combination of federal and state programs, including National Highway Performance Program (NHPP), Bridge Replacement and Improvement Program (BRIP), Surface Transportation Program – Urban (STU), State Bonding/Bridge Fund (BOF), and State Infrastructure Funding Program (Act 581) funds, reflecting a coordinated investment in maintaining this critical infrastructure.
26	14-May	Michael	Levitsky		I recently attended a meeting on May 6 for the I-78 widening project from Berks County line to just beyond PA Route 100. I was very disappointed as I thought it would be more of a discussion than a show and tell, especially when some of the presenters had no clue when you tried to have a discussion with them. Others were quite helpful. My concerns are: Why is this section on the fast track on being done when other corridors in the Lehigh Valley are in much more need? This section is proposed to be widened to 6 lanes, yet the traffic count is only 41,000 compared to US Route 22 which has a range of 66,000 to 97,000 from I-78 to PA Route 33. The I-78 corridor traffic count from the PA Route 309 split at PA Route 145 to the New Jersey line ranges from 57,000 to 74,000. These two corridors are in much more need of attention and of widening to 6 lanes before what is proposed in Upper Macungie Township. Another concern is the proposed interchange with Adams Road. If this interchange is put in, it will create more traffic and congestion from opening it up to more development much like the US Route 22 bypass is creating now. It has not diminished traffic on Hamilton through Wescosville, which it was promised to do. The proposal of the Adams Road interchange is faulty as well. Since the developers are the ones who want and are pushing for this interchange, then they should pay for it, like the precedent set by the Tatamy interchange with PA Route 33, which the developers paid for.	The I-78 project is part of PennDOT's Interstate program, which is a statewide effort separate from the LVTS TIP; though the LVTS must report on them. This comment has been shared with the project's management team.
27	14-May	Michael	Levitsky		Also, design wise, the relocation of Adams Road should go in between the Olympus building at 871 Nestle Way and the DSC building at 861 Nestle Way/ This will keep everything away from Iron Run Creek, which has some protected species in it, as well as keep truck traffic off the currently residential Adams Road.	See answer to question #26 above.



Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

Memorandum of Understanding Procedures for 2027-2030 Transportation Improvement Program (TIP) Revisions

Background

This Memorandum of Understanding (MOU) between the Lehigh Valley Transportation Study (LVTS), the Lehigh and Northampton Transit Authority (LANTA), and the Pennsylvania Department of Transportation (PennDOT) establishes procedures to be used for processing revisions to the 2027-2030 Transportation Improvement Program (TIP).

For more information on the development of the TIP, see Pennsylvania's 2027 Transportation Program General and Procedural Guidance and Pennsylvania's 2027 Transportation Program Financial Guidance. These documents were both released in fall 2025 and can be found on the Statewide Transportation Improvement Program (STIP) page on the State Transportation Commission (STC) website under 2027 Guidance Documents.

Definitions

- **Administrative Modification** - a minor revision to the Transportation Improvement Program (TIP) that does not require LVTS action.
- **Amendment** - a major revision to a TIP that involves approval by the LVTS.
- **Betterment** - surface treatments/corrections to existing roadway [preferably within the Pennsylvania Department of Transportation's (PennDOT's) right-of-way] to maintain and bring the infrastructure to current design standards for that classification of a highway. This may involve full depth base repair, shoulder widening, increased lane widths, correction of super-elevation, as well as drainage improvements and guide rail updates.
- **Change in Scope** - a substantial alteration to the original intent or function of a programmed project.
- **Cooperating Parties** - PennDOT, LVTS, LANTA, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA).
- **Fiscal Constraint Chart (FCC)** – a spreadsheet or a chart generated by the Multimodal Project Management System (MPMS) that depicts the transfer of funds
- **Interstate Management (IM) Program** - PennDOT's four-year listing of statewide interstate maintenance (non-capacity adding) projects.
- **New Project** - a project that has not been programmed in the current TIP and does not have previous obligations from a prior TIP.
- **Planning Partner** - one of the following: MPOs, or RPOs, or the independent County of Wayne.
- **Public Participation Plan (PPP)** - a documented broad-based public involvement process that describes how the LVTS will involve and engage the public in the transportation planning process to ensure that the concerns of stakeholders are identified and addressed in the development of transportation plans and programs.

- **Rapid Bridge Replacement (RBR)** - initiative (developed via a Public Private Partnership – P3) that follows the **Statewide Managed Program** guidance in the administration of the program. For example, the RBR Initiative project rollouts, independent of time intervals, will be considered an amendment on the STIP. Placement of RBR projects and or line items on LVTS's TIP will be considered as an administrative action.
- **Reserve Line Item** - holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add a new project or a project phase(s).
- **Revision** - either an Amendment or an Administrative Modification to a TIP.
- **Statewide Managed Program (Statewide Program)** - includes those transportation improvements or projects that are managed on the STIP, including project selection, at the PennDOT Central office level, with possible regional Planning Partner input and solicitation. Examples include but are not limited to Highway Safety Improvement Program (HSIP), Railroad Crossing Program (RRX), and State Transportation Alternatives Program (TAP) projects. The Interstate Management Program (IM) will remain its own individual program.

TIP Administration

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) will only authorize projects and approve grants for projects that are programmed in the current approved STIP. If LVTS, LANTA, or PennDOT wishes to proceed with a federally funded project not programmed on the TIP, a revision must be made.

The federal statewide and metropolitan planning regulations contained in 23 CFR §450 govern the provisions for revisions of the STIP and individual MPO TIPs. The intent of this federal regulation is to acknowledge the relative significance, importance, and/or complexity of individual programming actions. If necessary, 23 CFR §450.328 permits the use of alternative procedures by the cooperating parties to effectively manage actions encountered during a given TIP cycle. Cooperating parties include PennDOT, LVTS, LANTA, FHWA, and FTA. Any alternative procedures must be agreed upon and documented in the TIP.

TIP revisions must be consistent with Pennsylvania's Transportation Performance Management (TPM) requirements, Pennsylvania's Long Range Transportation Plan (LRTP), and *FutureLV: The Regional Plan*, adopted in October 2019 and updated in October 2023. In addition, TIP revisions must support Pennsylvania's Transportation Performance Measures, the Transportation Asset Management Plan (TAMP), the Transit Asset Management Plan (TAM), the Strategic Highway Safety Plan (SHSP) and Congestion Management Plan (CMP), as well as PennDOT's Connects policy. Over the years, Pennsylvania has utilized a comprehensive planning and programming process that focuses on collaboration between PennDOT, FHWA, FTA, and MPOs/RPOs at the county and regional levels. This approach will be applied to begin implementation of TPM and Performance Based Planning and Programming (PBPP). PBPP is PennDOT's ongoing assessment, target setting, reporting and evaluation of performance data associated with the TIP investment decisions. This approach ensures that each dollar invested is being directed to meet strategic decisions and enhances the overall performance of the Commonwealth's transportation system.

TIP revisions must correspond to the adopted provisions of the 2024 LVTS Public Participation Plans (PPP). A PPP is a documented broad-based public involvement process that describes how LVTS will involve and engage the public in the transportation planning process to ensure that comments, concerns, or issues of the public and interested parties are identified and addressed in the development of transportation plans and programs. A reasonable opportunity to public review and comment shall be provided for significant revisions to the TIP.

All projects within a non-attainment or maintenance area will be screened for Air Quality significance. LVTS will coordinate with regional PennDOT to screen Statewide Program projects for Air Quality significance. If a revision adds a project, deletes a project, or impacts the schedule or scope of work of an air quality significant project in a nonattainment or maintenance area, a new air quality conformity determination will be required if deemed appropriate by the PennDOT Air Quality Interagency Consultation Group (ICG). If a new conformity determination is deemed necessary, an amendment to the STIP and region's TIP shall also be developed and approved by LVTS. The modified conformity determination would then be based on the amended TIP conformity analysis and public involvement procedures consistent with LVTS region's PPP are required.

The federal planning regulations, 23 CFR §450.324(c), define update cycles for the LVTS LRTP. If the LVTS LRTP expires because the LRTP has not been updated in accordance with the planning cycle defined in the federal planning regulations, then the provisions of this MOU will not be utilized for LVTS. During a LRTP expiration, all STIP/TIP revisions that involve projects with federal funds within that MPO/RPO, where the LRTP expiration occurred, will be treated as an amendment and require federal approval. There will be no administrative modifications to projects with any federal funds until the MPO's/RPO's LRTP is in compliance with the federal planning regulations.

TIP Revisions

In accordance with the federal transportation planning regulations 23 CFR §450 revisions to the STIP/TIP will be handled as an **Amendment** or an **Administrative Modification** based on agreed upon procedures detailed below.

An **Amendment** is a revision that adds a new project, deletes an existing project, or involves a major change to an existing project included in a STIP/TIP that:

- **Affects air quality conformity regardless of the cost of the project or the funding source;**
- Adds a new federally funded project, or federalizes a project that previously was 100% state and/or locally funded. A new project is a project that is not programmed in the current STIP/TIP and does not have previous Federal obligations.
- Deletes a project that utilizes federal funds, except for projects that were fully obligated in the previous STIP/TIP and no longer require funding. In this case, removal of the project will be considered an administrative modification.
- Adds a new phase(s), deletes a phase(s) or increases/decreases a phase(s) of an existing project that utilizes federal funds where the total revision of federal funds exceeds the following thresholds within the four years of the TIP:
 - \$3 million for the Lehigh Valley Transportation Study.
 - \$1 million for other federally funded Statewide Programs.
- Involves a change in the scope of work to a project(s) that would:
 - Result in an air quality conformity reevaluation;
 - Result in a revised total project estimate that exceeds the thresholds established between PennDOT and LVTS (not to exceed any federally-funded threshold contained in this MOU);

- Results in a change in the scope of work on any federally-funded project that is significant enough to essentially constitute a new project.

Approval by LVTS is required for **Amendments**. LVTS must then initiate PennDOT Central Office approval using the e-STIP process. An e-STIP submission must include a Fiscal Constraint Chart (FCC) that clearly summarizes the before, requested adjustments, after changes, and detailed comments explaining the reason for the adjustment(s), and provides any supporting information that may have been prepared. The FCC documentation should include any administrative modification actions that occurred along with or were presented with this action at LVTS meeting. The supporting documentation should include PennDOT Program Management Committee (PMC) materials, if available.

All revisions associated with an amendment, including any supporting administrative modifications, should be shown on the same FCC, demonstrating both project and program fiscal constraint. The identified grouping of projects (the entire action) will require review and/or approval by the cooperating parties. In the case that a project phase is pushed out of the TIP period, the LVTS and PennDOT will demonstrate, through a FCC, fiscal balance of the subject project phase in the second or third four years of the TYP and/or the respective regional LRTP.

The initial submission and approval process of the federally-funded Statewide Program or increases/decreases exceeding the thresholds defined in the STIP MOU will be considered an amendment to the STIP (subsequent placement of these individual projects or line items on respective MPO TIP will be considered an administrative modification). In the case of Statewide Programs, including the Interstate Management Program and other federally-funded statewide programs, approval by PMC and FHWA is required. Statewide managed transit projects funded by FTA programs and delivered via Governor's apportionment are selected by PennDOT pursuant to the Pennsylvania State Management Plan approved by FTA. These projects will be coordinated between FTA, PennDOT, the transit agency and LVTS and should be programmed within the TIP of the urbanized area where the project is located. These projects and the initial drawdown will be considered an amendment to the Statewide Program.

An **Administrative Modification** is a minor revision to a LVTS TIP that:

- Adds a new phase(s), deletes a phase(s) or increase/decreases a phase(s) of an existing project that utilizes federal funds and does not exceed the thresholds established above;
- Adds a project from a funding initiative or line item that utilizes 100 percent state or non-federal funding; or LVTS TIP placement of the federally-funded Statewide Program;
- Adds a project for emergency relief (ER) program, except those involving substantial functional, location, or capacity changes;
- Adds a project, with any federal funding source, for immediate emergency repairs to a highway, bridge or transit project where in consultation with the relevant federal funding agencies, the parties agree that any delay would put the health, safety, or security of the public at risk due to damaged infrastructure;
- Draws down or returns funding from an existing TIP reserve line item and does not exceed the thresholds established above. (A reserve line item holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add an additional project phase(s) to an existing project);
- Adds federal or state capital funds from low-bid savings, de-obligations, release of encumbrances, or savings on programmed phases to another programmed project phase or line item but does not exceed the above thresholds;
- Splits a project into two or more separate projects or combines two or more projects into one project to facilitate project delivery without a change of scope or type of funding;
- Involves a cashflow action that does not change the project's overall total cost in excess of the thresholds described above. This includes movement of funding between the TIP

and TYP years if a project is already partially funded on the TIP. Projects moving into/out of the TIP from/to the TYP in their entirety will be considered an Amendment.

- Adds a project back on to the TIP only for the following purposes:
 - Advance construct conversion.
 - To process a right-of-way or damage claim.
 - To capture project close-out costs.
- Adds federal or state capital funds from low-bid savings, de-obligations, release of encumbrances, or savings on programmed phases to another programmed project phase or line item and does not exceed the above thresholds;
- Adds a project to the program that was added to the previous TIP via TIP amendment process within the current calendar year;
- Adds, advances, or adjusts federal funding for a project based on FHWA August Redistribution.

Administrative Modifications do not affect air quality conformity, nor do they involve a significant change in the scope of work to a project(s) that would trigger an air quality conformity re-evaluation; does not add a new federally-funded project or delete a federally-funded project; does not exceed the threshold established in the MOU between PennDOT and LVTS (as detailed in the aforementioned Amendment Section); and do not result in a change in scope, on any federally-funded project that is significant enough to essentially constitute a new project. (A change in scope is a substantial alteration to the original intent or function of a programmed project.)

Administrative Modifications do not require federal approval. PennDOT and LVTS will work cooperatively to address and respond to any FHWA and/or FTA comment(s). FHWA and FTA reserve the right to question any administrative action that is not consistent with federal regulations or with this MOU, where federal funds are being utilized.

Transit

Statewide managed transit projects funded by FTA programs and delivered via Governor's apportionment are selected by PennDOT pursuant to the Pennsylvania State Management Plan approved by the FTA. These projects should be programmed within the TIP of the urbanized area where the project is located.

Fiscal Constraint

Demonstration that STIP/TIP fiscal constraint is maintained takes place through an FCC. Real time versions of the STIP/TIP are available to FHWA and FTA through PennDOT's Multimodal Project Management System (MPMS). All revisions must maintain year-to-year fiscal constraint 23 CFR §450.218(l) and 23 CFR §450.326(g)(j)&(k) for each of the four years of the STIP/TIP. All revisions shall account for year of expenditure (YOE) and maintain the estimated total cost of the project or project phase within the time-period [i.e., fiscal year(s)] contemplated for completion of the project, which may extend beyond the four years of the STIP/TIP. The arbitrary reduction of the overall cost of a project, or project phase(s), shall not be utilized for the advancement of another project.

TIP Financial Reporting

PennDOT will provide reports to each MPO/RPO and FHWA no later than 30 days after the end of each quarter and each Federal Fiscal Year (FFY). At a minimum, this report will include the actual federal obligations and state encumbrances for highway/bridge projects by MPO/RPO and Statewide. In addition, PennDOT will provide the Transit Federal Capital Projects report at the end of each FFY to all of the parties listed above and FTA. The reports can be used by the MPOs/RPOs as the basis for compiling information to meet the federal annual listing of obligated projects requirement 23 CFR §450.334. Additional content and any proposed changes to the report will be agreed upon by PennDOT, FHWA and FTA.

STIP/TIP Transportation Performance Management

In accordance with 23 CFR §450.326(c), PennDOT and the MPOs/RPOs will ensure STIP/TIP revisions promote progress toward achievement of performance targets.

MPO/RPO TIP Revision Procedures

As each MPO's/RPO's TIP is adopted, their respective MOU with PennDOT will be included with the TIP documentation. The MOU will clarify how the MPO/RPO will address all TIP revisions. In all cases, individual MPO/RPO revision procedures will be developed under the guidance umbrella of the Statewide TIP MOU. If a MPO/RPO elects to set more stringent procedures, then FHWA and FTA will adhere to those more restrictive procedures, but the MPO/RPO established provisions cannot be less stringent than the statewide MOU.

The Statewide TIP MOU will serve as the basis for PennDOT when addressing federally funded Statewide Program TIP revisions.

This Memorandum of Understanding will begin October 1, 2026, and remain in effect until September 30, 2029, unless revised or terminated. Furthermore, it is agreed that this MOU will be reaffirmed every two years.

We, the undersigned hereby agree to the above procedures and principles:

Ms. Kristin Mulkerin,
Deputy Secretary for Planning
Pennsylvania Department of Transportation

Date

Mr. Owen O'Neil,
Coordinating Committee Chair
Lehigh Valley Transportation Study

Date

Mr. Ryan Meyer,
Technical Committee Chair
Lehigh Valley Transportation Study

Date

Ms. Becky A. Bradley, AICP,
Secretary
Lehigh Valley Transportation Study

Date

Mr. Owen O'Neil,
Executive Director
Lehigh and Northampton Transportation Authority

Date



Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

Memorandum of Understanding Procedures for 2027-2030 Transportation Improvement Program (TIP) Revisions

Background

This Memorandum of Understanding (MOU) between the Lehigh Valley Transportation Study (LVTS), the Lehigh and Northampton Transit Authority (LANTA), and the Pennsylvania Department of Transportation (PennDOT) establishes procedures to be used for processing revisions to the 2027-2030 Transportation Improvement Program (TIP).

For more information on the development of the TIP, see Pennsylvania's 2027 Transportation Program General and Procedural Guidance and Pennsylvania's 2027 Transportation Program Financial Guidance. These documents were both released in fall 2025 and can be found on the Statewide Transportation Improvement Program (STIP) page on the State Transportation Commission (STC) website under 2027 Guidance Documents.

Definitions

- **Administrative Modification** - a minor revision to the Transportation Improvement Program (TIP) that does not require LVTS action.
- **Amendment** - a major revision to a TIP that involves approval by the LVTS.
- **Betterment** - surface treatments/corrections to existing roadway [preferably within the Pennsylvania Department of Transportation's (PennDOT's) right-of-way] to maintain and bring the infrastructure to current design standards for that classification of a highway. This may involve full depth base repair, shoulder widening, increased lane widths, correction of super-elevation, as well as drainage improvements and guide rail updates.
- **Change in Scope** - a substantial alteration to the original intent or function of a programmed project.
- **Cooperating Parties** - PennDOT, LVTS, LANTA, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA).
- **Fiscal Constraint Chart (FCC)** – a spreadsheet or a chart generated by the Multimodal Project Management System (MPMS) that depicts the transfer of funds
- **Interstate Management (IM) Program** - PennDOT's four-year listing of statewide interstate maintenance (non-capacity adding) projects.
- **New Project** - a project that has not been programmed in the current TIP and does not have previous obligations from a prior TIP.
- **Planning Partner** - one of the following: MPOs, or RPOs, or the independent County of Wayne.
- **Public Participation Plan (PPP)** - a documented broad-based public involvement process that describes how the LVTS will involve and engage the public in the transportation planning process to ensure that the concerns of stakeholders are identified and addressed in the development of transportation plans and programs.

- **Rapid Bridge Replacement (RBR)** - initiative (developed via a Public Private Partnership – P3) that follows the **Statewide Managed Program** guidance in the administration of the program. For example, the RBR Initiative project rollouts, independent of time intervals, will be considered an amendment on the STIP. Placement of RBR projects and or line items on LVTS's TIP will be considered as an administrative action.
- **Reserve Line Item** - holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add a new project or a project phase(s).
- **Revision** - either an Amendment or an Administrative Modification to a TIP.
- **Statewide Managed Program (Statewide Program)** - includes those transportation improvements or projects that are managed on the STIP, including project selection, at the PennDOT Central office level, with possible regional Planning Partner input and solicitation. Examples include but are not limited to Highway Safety Improvement Program (HSIP), Railroad Crossing Program (RRX), and State Transportation Alternatives Program (TAP) projects. The Interstate Management Program (IM) will remain its own individual program.

TIP Administration

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) will only authorize projects and approve grants for projects that are programmed in the current approved STIP. If LVTS, LANTA, or PennDOT wishes to proceed with a federally funded project not programmed on the TIP, a revision must be made.

The federal statewide and metropolitan planning regulations contained in 23 CFR §450 govern the provisions for revisions of the STIP and individual MPO TIPs. The intent of this federal regulation is to acknowledge the relative significance, importance, and/or complexity of individual programming actions. If necessary, 23 CFR §450.328 permits the use of alternative procedures by the cooperating parties to effectively manage actions encountered during a given TIP cycle. Cooperating parties include PennDOT, LVTS, LANTA, FHWA, and FTA. Any alternative procedures must be agreed upon and documented in the TIP.

TIP revisions must be consistent with Pennsylvania's Transportation Performance Management (TPM) requirements, Pennsylvania's Long Range Transportation Plan (LRTP), and *FutureLV: The Regional Plan*, adopted in October 2019 and updated in October 2023. In addition, TIP revisions must support Pennsylvania's Transportation Performance Measures, the Transportation Asset Management Plan (TAMP), the Transit Asset Management Plan (TAM), the Strategic Highway Safety Plan (SHSP) and Congestion Management Plan (CMP), as well as PennDOT's Connects policy. Over the years, Pennsylvania has utilized a comprehensive planning and programming process that focuses on collaboration between PennDOT, FHWA, FTA, and MPOs/RPOs at the county and regional levels. This approach will be applied to begin implementation of TPM and Performance Based Planning and Programming (PBPP). PBPP is PennDOT's ongoing assessment, target setting, reporting and evaluation of performance data associated with the TIP investment decisions. This approach ensures that each dollar invested is being directed to meet strategic decisions and enhances the overall performance of the Commonwealth's transportation system.

TIP revisions must correspond to the adopted provisions of the 2024 LVTS Public Participation Plans (PPP). A PPP is a documented broad-based public involvement process that describes how LVTS will involve and engage the public in the transportation planning process to ensure that comments, concerns, or issues of the public and interested parties are identified and addressed in the development of transportation plans and programs. A reasonable opportunity to public review and comment shall be provided for significant revisions to the TIP.

All projects within a non-attainment or maintenance area will be screened for Air Quality significance. LVTS will coordinate with regional PennDOT to screen Statewide Program projects for Air Quality significance. If a revision adds a project, deletes a project, or impacts the schedule or scope of work of an air quality significant project in a nonattainment or maintenance area, a new air quality conformity determination will be required if deemed appropriate by the PennDOT Air Quality Interagency Consultation Group (ICG). If a new conformity determination is deemed necessary, an amendment to the STIP and region's TIP shall also be developed and approved by LVTS. The modified conformity determination would then be based on the amended TIP conformity analysis and public involvement procedures consistent with LVTS region's PPP are required.

The federal planning regulations, 23 CFR §450.324(c), define update cycles for the LVTS LRTP. If the LVTS LRTP expires because the LRTP has not been updated in accordance with the planning cycle defined in the federal planning regulations, then the provisions of this MOU will not be utilized for LVTS. During a LRTP expiration, all STIP/TIP revisions that involve projects with federal funds within that MPO/RPO, where the LRTP expiration occurred, will be treated as an amendment and require federal approval. There will be no administrative modifications to projects with any federal funds until the MPO's/RPO's LRTP is in compliance with the federal planning regulations.

TIP Revisions

In accordance with the federal transportation planning regulations 23 CFR §450 revisions to the STIP/TIP will be handled as an **Amendment** or an **Administrative Modification** based on agreed upon procedures detailed below.

An **Amendment** is a revision that adds a new project, deletes an existing project, or involves a major change to an existing project included in a STIP/TIP that:

- **Affects air quality conformity regardless of the cost of the project or the funding source;**
- Adds a new federally funded project, or federalizes a project that previously was 100% state and/or locally funded. A new project is a project that is not programmed in the current STIP/TIP and does not have previous Federal obligations.
- Deletes a project that utilizes federal funds, except for projects that were fully obligated in the previous STIP/TIP and no longer require funding. In this case, removal of the project will be considered an administrative modification.
- Adds a new phase(s), deletes a phase(s) or increases/decreases a phase(s) of an existing project that utilizes federal funds where the total revision of federal funds exceeds the following thresholds within the four years of the TIP:
 - **\$3 million for the Lehigh Valley Transportation Study.**
 - \$1 million for other federally funded Statewide Programs.
- Involves a change in the scope of work to a project(s) that would:
 - Result in an air quality conformity reevaluation;
 - Result in a revised total project estimate that exceeds the thresholds established between PennDOT and LVTS (not to exceed any federally-funded threshold contained in this MOU);

- Results in a change in the scope of work on any federally-funded project that is significant enough to essentially constitute a new project.

Approval by LVTS is required for **Amendments**. LVTS must then initiate PennDOT Central Office approval using the e-STIP process. An e-STIP submission must include a Fiscal Constraint Chart (FCC) that clearly summarizes the before, requested adjustments, after changes, and detailed comments explaining the reason for the adjustment(s), and provides any supporting information that may have been prepared. The FCC documentation should include any administrative modification actions that occurred along with or were presented with this action at LVTS meeting. The supporting documentation should include PennDOT Program Management Committee (PMC) materials, if available.

All revisions associated with an amendment, including any supporting administrative modifications, should be shown on the same FCC, demonstrating both project and program fiscal constraint. The identified grouping of projects (the entire action) will require review and/or approval by the cooperating parties. In the case that a project phase is pushed out of the TIP period, the LVTS and PennDOT will demonstrate, through a FCC, fiscal balance of the subject project phase in the second or third four years of the TYP and/or the respective regional LRTP.

The initial submission and approval process of the federally-funded Statewide Program or increases/decreases exceeding the thresholds defined in the STIP MOU will be considered an amendment to the STIP (subsequent placement of these individual projects or line items on respective MPO TIP will be considered an administrative modification). In the case of Statewide Programs, including the Interstate Management Program and other federally-funded statewide programs, approval by PMC and FHWA is required. Statewide managed transit projects funded by FTA programs and delivered via Governor's apportionment are selected by PennDOT pursuant to the Pennsylvania State Management Plan approved by FTA. These projects will be coordinated between FTA, PennDOT, the transit agency and LVTS and should be programmed within the TIP of the urbanized area where the project is located. These projects and the initial drawdown will be considered an amendment to the Statewide Program.

An **Administrative Modification** is a minor revision to a LVTS TIP that:

- Adds a new phase(s), deletes a phase(s) or increase/decreases a phase(s) of an existing project that utilizes federal funds and does not exceed the thresholds established above;
- Adds a project from a funding initiative or line item that utilizes 100 percent state or non-federal funding; or LVTS TIP placement of the federally-funded Statewide Program;
- Adds a project for emergency relief (ER) program, except those involving substantial functional, location, or capacity changes;
- Adds a project, with any federal funding source, for immediate emergency repairs to a highway, bridge or transit project where in consultation with the relevant federal funding agencies, the parties agree that any delay would put the health, safety, or security of the public at risk due to damaged infrastructure;
- Draws down or returns funding from an existing TIP reserve line item and does not exceed the thresholds established above. (A reserve line item holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add an additional project phase(s) to an existing project);
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- Splits a project into two or more separate projects or combines two or more projects into one project to facilitate project delivery without a change of scope or type of funding;
- **Involves a cashflow action that does not change the project's overall total cost in excess of the thresholds described above. This includes movement of funding**

between the TIP and TYP years if a project is already partially funded on the TIP. Projects moving into/out of the TIP from/to the TYP in their entirety will be considered an Amendment.

- Adds a project back on to the TIP only for the following purposes:
 - Advance construct conversion.
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- Adds federal or state capital funds from low-bid savings, de-obligations, release of encumbrances, or savings on programmed phases to another programmed project phase or line item and does not exceed the above thresholds;
- Adds a project to the program that was added to the previous TIP via TIP amendment process within the current calendar year;
- Adds, advances, or adjusts federal funding for a project based on FHWA August Redistribution.

Administrative Modifications do not affect air quality conformity, nor do they involve a significant change in the scope of work to a project(s) that would trigger an air quality conformity re-evaluation; does not add a new federally-funded project or delete a federally-funded project; does not exceed the threshold established in the MOU between PennDOT and LVTS (as detailed in the aforementioned Amendment Section); and do not result in a change in scope, on any federally-funded project that is significant enough to essentially constitute a new project. (A change in scope is a substantial alteration to the original intent or function of a programmed project.)

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TIP Financial Reporting

PennDOT will provide reports to each MPO/RPO and FHWA no later than 30 days after the end of each quarter and each Federal Fiscal Year (FFY). At a minimum, this report will include the actual federal obligations and state encumbrances for highway/bridge projects by MPO/RPO and Statewide. In addition, PennDOT will provide the Transit Federal Capital Projects report at the end of each FFY to all of the parties listed above and FTA. The reports can be used by the MPOs/RPOs as the basis for compiling information to meet the federal annual listing of obligated projects requirement 23 CFR §450.334. Additional content and any proposed

changes to the report will be agreed upon by PennDOT, FHWA and FTA.

STIP/TIP Transportation Performance Management

In accordance with 23 CFR §450.326(c), PennDOT and the MPOs/RPOs will ensure STIP/TIP revisions promote progress toward achievement of performance targets.

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The Statewide TIP MOU will serve as the basis for PennDOT when addressing federally funded Statewide Program TIP revisions.

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Secretary
Lehigh Valley Transportation Study

Date

Mr. Owen O'Neil,
Executive Director
Lehigh and Northampton Transportation Authority

Date

2027-2030

TRANSPORTATION IMPROVEMENT PROGRAM

DRAFT



Transportation Improvement

The Program is the product of a collective effort by the LVTS, The Pennsylvania Department of Transportation, The Federal Highway Administration, The Federal Transit Administration, community leaders, the public and community partners from all 62 municipalities to create a connected transportation network that gives access to opportunities for everyone. More elements of that effort can be found in *FutureLV: The Regional Plan*, *Walk/RollLV: Active Transportation Plan*, *Pathways to a Resilient Greater Lehigh Valley* and Lehigh and Northampton Transit Authority policies, among others. Regulatory materials in addition to a downloadable copy of this TIP Made Easy program summary and other referenced resources can be found at www.lvpc.org

Draft Published April 15, 2026



TECHNICAL COMMITTEE

Ryan Meyer, **Chair**
Lehigh-Northampton Airport Authority

Nick Raio, **Vice Chair**
PennDOT Central

Becky Bradley, AICP, **Secretary**
LVPC

Matthew Tuerk, City of Allentown
David Petrik (Alt.), City of Allentown
J. Williams Reynolds, City of Bethlehem
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David Hopkins (Alt.), City of Easton
Brendan Cotter, Lehigh and
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Jennifer Ruth, PennDOT District 5-0
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Dave Hopkins (Alt.), City of Easton

Thomas Stoudt, Lehigh-Northampton
Airport Authority
Mark Tobin, PennDOT Central
Nick Raio (Alt.), PennDOT Central

Thank you to departing 2025 LVTS Members: Phillips Armstrong, Lamont G. McClure, Jr., Richard Molchany, Basel Yandem and Jim Mosca



The preparation of this report has been financed in part through grants from the U.S. Department of Transportation (USDOT) and the Pennsylvania Department of Transportation (PennDOT). The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official policies of either the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA) or the Commonwealth of Pennsylvania at the time of publication. This report does not constitute a standard, specification or regulation.

The LEHIGH VALLEY PLANNING COMMISSION (LVPC) and the LEHIGH VALLEY TRANSPORTATION STUDY (LVTS) (MPO) is committed to compliance with nondiscrimination requirements of civil rights statutes, executive orders, regulations and policies applicable to the programs and activities it administers. Accordingly, LVTS is dedicated to ensuring that program beneficiaries receive public participation opportunities without regard to race, color, national origin, religious creed, sex, age, disability or economic status. LVPC's website, www.lvpc.org, may be translated into multiple languages. Publications and other public documents can be made available in non-English languages and alternative formats, if requested. Meeting facilities are accessible to persons with disabilities and the location is reachable by public transit. The MPO will provide auxiliary services for individuals with language, speech, sight or hearing impediments provided the request for assistance is made four days prior to the meeting. The MPO will attempt to satisfy other requests, as it is able.

Please make your request for auxiliary services to Hannah Milagio, Regional Planner for Community Engagement at planning@lvpc.org 610-264-4544. If you believe you have been denied participation opportunities or otherwise discriminated against in relation to the programs or activities administered by the MPO, you may file a complaint using the procedures provided in our complaint process document at www.lvpc.org or by contacting planning@lvpc.org or 610-264-4544.



TRANSLATION SERVICES

English

ATTENTION: If you speak another language other than English, language assistance services can be made available to you.
Call 1 (610) 264-4544.

Spanish

ATENCIÓN: Si habla otro idioma que no sea inglés, habrá servicios de asistencia en otros idiomas disponibles. Llame al 1 (610) 264-4544.

Simplified Chinese

注意:如果您 英 以外的其他 言, 我 可以 您提供 言 助服。致 1 (610) 264-4544。

Traditional Chinese

注意:如果您說英語以外的其他語言, 我們可為您提供語言協助服務。致電 1 (610) 264-4544。

Arabic

تنبيه: إذا كنت تتحدث لغة أخرى غير اللغة الإنجليزية، يمكننا توفير خدمات المساعدة اللغوية لك. اتصل بلرقم 1 (610) 264-4544

Vietnamese

CHÚ Ý: Nếu bạn nói một ngôn ngữ khác ngoài tiếng Anh, dịch vụ hỗ trợ ngôn ngữ có thể được cung cấp cho bạn. Gọi 1 (717) 787-5851.

Korean

주의: 영어 외에 다른 언어를 사용하시는 경우, 언어 지원 서비스를 제공받을 수 있습니다. 전화번호 1 (717) 787-5851로 전화하세요.

French

Si vous parlez une autre langue que l'anglais, des services d'assistance linguistique peuvent être mis à votre disposition. Appelez le 1 (717) 787-5851.

Somali

FIIRO GAAR AH: Haddii aad ku hadasho luqad kale aanan ahayn Ingiriisiga, adeegyada gargaarka luqadda ayaa lagu diyaarin karaa. Wac 1 (717) 787-5851.

Burmese

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Russian

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ध्यान दें: यदि आप अंग्रेजी के अलावा कोई अन्य भाषा बोलते हैं, तो आपको भाषा सहायता सेवाएं उपलब्ध कराई जा सकती हैं। 1 (717) 787-5851 पर कॉल करें।

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Urdu

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Greek

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The Transportation Improvement Project (TIP) is researched, analyzed, drafted, refined and published by the professional staff of the Lehigh Valley Planning Commission, Lehigh and Northampton Transit Authority and the Pennsylvania Department of Transportation. The following team members were integral in the development of this TIP.



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INTRODUCTION

The Transportation Improvement Program (TIP) is the Lehigh Valley's four-year plan to maintain and enhance the transportation system in Lehigh and Northampton counties. It is updated every two years, and this update is just one part of an overall plan to create a seamless network where roads, bridges, trails, sidewalks, technology and transit connect everyone to every place. The TIP is critical to the economic and social future of the region, targeting infrastructure investments that support a vibrant, inclusive, resilient and growing Lehigh Valley.

The TIP and the overall plan are administered by the Lehigh Valley Transportation Study (LVTS), the federally designated Metropolitan Planning Organization (MPO) for Lehigh and Northampton counties. As the Metropolitan Planning Organization, the LVTS completes and implements two major foundational planning products, along with additional plans, studies and reports.

All of this work is done with the input of local officials, transportation agencies and the public. This is achieved through collaboration and meetings of the LVTS Technical and Coordinating Committees.



The planning products are:

The Metropolitan Transportation Plan (MTP)

FutureLV: The Regional Plan

FutureLV sets the vision and direction to carry the Lehigh Valley to 2050 and beyond. It provides a blueprint for managing future growth, making the most of our assets and creating a Lehigh Valley where everyone has access to health, opportunity and a livable neighborhood. A key component of *FutureLV* maps out a 25-year plan to maintain and enhance the transportation network. This 25-year plan is the result of the Transportation Needs Assessment community engagement campaign, which included 30 public meetings around the region and more than 1,000 responses to a survey on transportation policy priorities.

The Transportation Improvement Program (TIP)

The TIP covers the most current four-year period of the Long-Range Transportation Plan and is the means by which funds are allocated to agency partners including PennDOT, Lehigh and Northampton Transportation Authority, Lehigh Northampton Airport Authority, counties and municipalities, responsible for completing regional transportation projects. As part of implementing these plans, the LVTS is responsible for developing and updating the TIP to meet federal planning requirements and address local needs.

“The TIP is the fiscally constrained, high priority list for a four-year program of Highway, Bridge, Transit and Multimodal projects, all proposed to be implemented with federal dollars.”

Fiscal Constraint

The Transportation Improvement Program for the Lehigh Valley is funded with federal, state and local money, and the amount is based on financial guidance provided by the Pennsylvania Department of Transportation. For the 2027-2030 TIP, that guidance allocated \$525,532,045 to the region. In addition to that regional allocation, the Lehigh Valley also receives state and federal money that includes grant funding. For this TIP, that amounts to another \$19,076,908, for a total TIP value of \$544,608,953.

Roughly 80% of TIP funding comes through the U.S. Department of Transportation (USDOT) with the remaining 20% coming from local sources. The amount the Lehigh Valley gets is primarily set by PennDOT and USDOT based on population, vehicle miles traveled and need among other federally designated factors such as Performance Based Planning and Transportation Performance Management (TPM).

Through these methods and the use of measures, MPOs monitor the achievement of goals for safety, infrastructure condition, congestion reduction, system reliability, freight movement, economic vitality, environmental justice and sustainability. Once the amount is set, the LVTS works to develop a program designed to serve the region's needs, while following the policies of *FutureLV* and federal regulatory requirements.

The need is always greater than the money available and the TIP, by federal law, can only budget money that is reasonably expected to come to the region. The TIP is regulated under the United States Code 49 U.S.C. 5303(j) and authorized under the Infrastructure Investment and Jobs Act (IIJA).

In addition to the budget provided by the 2027 Pennsylvania Financial Guidance for the Lehigh Valley, additional financial resources have been received within the 2027-2030 TIP. The source of these additional funds can be from reallocation of resources across the Commonwealth to adjust projects that are progressing faster, slower, paused or have come in under initial programmed budgets for the phases of work. Additional funding can also be achieved for projects come through various competitive grants and discretionary funding for projects that have been awarded or designated to a specific project.

These additional funds require regulatory reporting which can be achieved through TIP monitoring and reporting. There are also certain projects and programs managed at the state level such as the Interstate Highway Program for projects that are funded by the state that are also monitored and reported on by the Lehigh Valley Transportation Study.

**2027-2030 LEHIGH VALLEY
FORMULA FUNDING**

\$525,532,045

**ADDITIONAL STATE, FEDERAL
AND GRANT FUNDING**

\$19,076,908

**TOTAL LEHIGH VALLEY
TIP VALUE**

\$544,608,953

How is the Budget Created?

Through congressional adaption of the Infrastructure Investment and Jobs Act and any subsequent laws, dollars are allocated to states and regions.

The budget starts when the U.S. Department of Transportation (USDOT) determines how much transportation money each state and region will receive, and each state is required to provide a roughly 20% match. Based on that, representatives from Pennsylvania MPOs and Rural Planning Organizations (RPOs), join representatives from the Federal Highway Administration (FHWA) and PennDOT to form the Financial Guidance Work Group.

The Work Group meets for nearly a year to agree on the funding formulas that dictate what money goes to each MPO and RPO. Based on federal guidelines, the money is allocated to a long list of project types -- such as roads, bridges, carbon reduction, transit, multimodal -- and the money must be spent in its assigned type. Bridge money, for example, cannot be spent on roads.

Funds in each category will be spent in a cooperative, long-term, statewide, and needs-based manner that is responsive to identified issues and priorities and coordinated with other agencies and initiatives. When developing the 2027 Program Update, the Financial Guidance Work Group agreed upon the following:

- Updates to data, including the Vehicle Miles Traveled (VMT), Lane Miles, Truck VMT, National Highway System Bridge and Pavement Asset Management Factor (AMF), Bridge Deck Area and Vehicle Registration.
- Existing formulas with updated data are retained from the 2025 Financial Guidance.
- The PROTECT program will continue to be administered as a statewide program.
- State Highway and Bridge Funds reflect estimated revenues to the Motor License Fund.
- State Transit funding is based on estimated revenues to the Public Transportation Trust Fund.
- The Statewide Program will continue to cover 50% of the costs of the Rapid Bridge Replacement (RBR) program with the remaining 50% coming from each region's percent share of RBR associated deck area. The source of the regional share is split evenly between state bridge funding and state highway (capital) funding. These funds are deducted from each region's distribution and are reserved in a separate item for the Statewide Program.
- Anticipated available federal highway, bridge and transit funds will reflect 2026 Infrastructure Investment and Jobs Act (IIJA) authorized amounts for each year of the 12-Year Program.

The distribution of federal funds is determined through formulas and policy decisions established during meetings of the Pennsylvania Department of Transportation's Financial Guidance Work Group. In addition to funding allocated based on decisions of the Work Group, the following programs are also distributed.

The National Highway Performance Program (NHPP)

- The Interstate Management Program will continue to be managed on a statewide basis with the programming of funds occurring centrally by the Department of Transportation in accordance with the Transportation Asset 2 Management Plan (TAMP) and Performance Based Planning and Programming. Approximately \$150 million statewide of available NHPP funds were set-aside for the Interstate Management Program in the first year of the 2021 Program. An additional \$50 million statewide is provided for Interstates in each subsequent year until a total of \$1 billion is realized in 2028.
- Twenty percent of the balance of NHPP funds remaining after these additional funds for the Interstate System are set-aside will be held in a statewide reserve to advance projects on the National Highway System (NHS) in accordance with the TAMP and performance management principles.
- An average of \$8.6 million per year statewide will be reserved for state and Local Bridge Inspection.

Remaining funds will be distributed among planning regions for bridges and highways on the NHS.

Surface Transportation Block Grant Program-Urban (STU)

Funding is allocated to each MPO with a population greater than 200,000, based on the 2020 Census.

Surface Transportation Block Grant Program-Urban (STU)

Funding is allocated to each MPO with a population greater than 200,000, based on the 2020 Census.

Off System Bridges (BOF)

Funding for minor collector and local functional class bridges off the National Highway System and over 20 feet in length. State and locally owned bridges are eligible.

Bridge Formula Investment Program (BRIP)

Funding for the replacement, rehabilitation, preservation, protection or construction of bridges over 20' in length. Funds are distributed to MPOs, RPOs and the Interstate Program based upon deck area of non-NHS Bridges, deck area of NHS bridges, and bridge Asset Management Factor.

Highway Safety Improvement Program (HSIP)

- Funding for projects designed to improve safety. A \$500,000 base amount of funding is distributed to all MPOs and RPOs to address systemic safety projects.
- \$50 million in funding for this program will be reserved statewide for priority safety initiatives.
- The remaining funding is allocated to MPOs and RPOs based on a 39:1 crash severity weighting for all reportable crashes.

Congestion Mitigation and Air Quality (CMAQ)

- In accordance with agreements reached in conjunction with Pennsylvania Act 3 of 1997, \$25 million is reserved each year in federal funds to flex to transit statewide. CMAQ funding will comprise more than \$23 million of this reservation. Remaining funds will be from the STP category.
- Remaining funding is distributed to air quality non-attainment and maintenance areas according to factors which consider each county's air quality classification and 2020 census data. Previous "insufficient

Example Projects

South Bethlehem Greenway Trail to Saucon Rail Trail

A 0.9-mile gap separates the South Bethlehem Greenway from the Saucon Rail Trail, which has prevented an active transportation connection between Bethlehem and Hellertown. The gap also separates the Lehigh Valley's regional trail network, the LINK, from the Circuit Trails, greater Philadelphia's trail network.

Due to the gap's local and regional significance, Pennsylvania Department of Conservation and Natural Resources (PA DCNR) identified it as a top 10 trail gap in the Commonwealth. The connected South Bethlehem Greenway and Saucon Rail Trail will provide 13.7 miles of safe and accessible trail for all users, to link together parks and open space, residential areas and commercial and cultural hubs. This project utilizes Transportation Alternatives Set Aside funding



Pictured left to right: Becky Bradley, LVPC, Michael Alkhal, City of Bethlehem, J. William Reynolds, City of Bethlehem, Phillips Armstrong, Lehigh County/LVPC, LaMont McClure, Northampton County/LVPC, Ryan Meyer, LNAA



The Hill-to-Hill Bridge Rehabilitation project (Route 378)

involves the comprehensive rehabilitation of the bridge spanning the Lehigh River, Norfolk Southern Railroad, and several city streets in Bethlehem, Lehigh County. Construction is scheduled to begin in Fall 2026, and the project spans approximately 1.35 miles. The work focuses on extending the bridge's service life and ensuring structural safety.

Rehabilitation efforts will include structural repairs and updates to meet current safety and design standards. The project will support safe and reliable transportation along Route 378 while maintaining connectivity for vehicles, bicycles, and pedestrians in the region. The project is funded through a combination of federal and state programs, including National Highway Performance Program (NHPP), Bridge Replacement and Improvement Program (BRIP), Surface Transportation Program – Urban (STU), State Bonding/Bridge Fund (BOF), and State Infrastructure Funding Program (Act 581) funds, reflecting a coordinated investment in maintaining this critical infrastructure.

Surface Transportation Block Grant Program Set-Aside (former Transportation Alternatives Program) (TAP):

The IIJA requires that 59% of the funds are sub-allocated by population and 41% are available to any area of the state. Part of the 59% sub-allocated by population is assigned, by federal formula utilizing the 2020 Census, to regions with populations greater than 200,000.

The remaining TAP funds are held in statewide reserve as mandated by regulations that restrict the regional distribution of funds and require a statewide competitive process for selection of projects.

Railway-Highway Crossings, Section 130 (RRX)

Funding for railroad crossings and managed on a state-wide basis. Centralized management of this program allows for a formalized project selection process and the ability to initiate higher-cost projects.

Carbon Reduction Program Funds (CRP, CRPU)

Funding for projects designed to reduce carbon emissions. \$10 million is set aside for statewide Transportation Systems Management and Operations initiatives. Funding is allocated to each MPO with a population over 200,000 based upon the federal formula that utilizes the 2020 Census.

Example Project

LANTA Enhanced Bus Service

The LANTA Enhanced Bus Service (EBS) is transit that provides fast, frequent and comfortable service along a dedicated transit line or corridor, providing most of the features of a light rail line without the expensive costs of rail. The LANTA EBS increases transportation opportunities for communities through the core urban areas of Allentown, Bethlehem and Easton, to shopping and employment opportunities in Whitehall Township and emerging jobs centers in Trexlertown. EBS also strengthens the local economy by reducing the burden of travel time and cost for transit riders, and having transit service nearby can increase property values. EBS is supported by the Carbon Reduction Program funding through the TIP.



Resilient Operations for Transformative, Efficient and Cost-saving Transportation (PROTECT) formula program

- Funding for this program will continue to be managed on a statewide basis with the programming of funds occurring centrally by PennDOT.
- Centralized management of this program allows for a formalized project selection process and the selection of higher cost projects.
- Target investment ranges have been developed for each District based upon Federal Emergency Management Agency flood maps and historic flooding and slide closure data. Additional information on target investment ranges is included in General and Procedural Guidance.

State Bridge Funding (185/183)

State funding for bridges allocated to MPOs and RPOs based upon their regional share of the total bridge deck area for state-owned bridges over eight feet in length and locally owned bridges over 20 feet in length.

Highway (Capital) Funding (581)

- State funding that requires 15% to be held in a reserve for use at the discretion of the secretary of transportation.
- \$25 million per year statewide in State Highway (Capital) funds for transportation improvements associated with economic development opportunities are reserved for the Transportation Infrastructure Investment Fund (TIIF) at the discretion of the secretary of the Department of Transportation in consultation with the Department of Community and Economic Development and governor.
- \$25 million per year statewide is reserved for transportation projects with economic development opportunities at the discretion of the secretary of the Department of Transportation in consultation with the Department of Community and Economic Development and governor.
- An average of \$45.3 million per year statewide will be reserved for state and local bridge inspection, environmental resource agencies, and other related statewide line items.
- Remaining state highway funds will be distributed based upon the regional share of Vehicle Miles Traveled (VMT), Truck VMT, and lane miles.



Other TIP funding can come from Discretionary Federal Funds, and those can include competitive grants. These funds are awarded and allocated through the Federal Discretionary Programs. Previously, the LVPC was awarded \$21.2 million for a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant for the Riverside Drive project in the City of Allentown and Whitehall Township. These large awards help bring millions of dollars of investment into the Lehigh Valley that were not already allocated by state or federal funding sources.

An additional source of funds can be from reallocation of resources across the Commonwealth to adjust projects that are progressing faster, slower, paused or have come in under initial programmed budgets for the phases of work. There are also certain projects and programs managed at the state level such as the Interstate Highway Program for projects that are funded from the state that are also monitored and reported on by, but not controlled by the LVTS.

Finally, when money is saved on federally funded projects, those savings can be redistributed to other projects where it's needed, in some cases in other regions. Once the budget is known, LVTS begins the detailed project section process.

Funds in each category will be spent in a cooperative, long-term, state-wide, and needs-based manner that is responsive to identified issues and priorities and coordinated with other agencies and initiatives.

When developing the 2027 program update, the Financial Guidance Work Group agreed upon the following:

1 Transportation Needs Assessment

Data and predictive modeling, from accident and serious injury locations to congested corridors and areas of increasing development to evolving commuter and freight movements, are some of the over 100 measures that are utilized to understand current and changing needs in the transportation system. In addition to these quantitative measures, an open call for LRTP projects went out to the public and municipalities requesting federally eligible projects between February 27, 2023 and March 27, 2023. The transportation needs assessment also utilized 30+ public meetings with municipalities as well as more than 1,000 responses to a region-wide survey on transportation policy priorities.

2 Project Selection

The LVTS evaluated, using more than 120 data sets, ranked and selected qualified projects that were consistent with federal, state and regional requirements and priorities and added qualified projects that could not be funded to the unmet needs lists of projects to be considered for future funding.

3 Adoption

The 2024-2050 list of Long-Range Transportation Plan projects was adopted by LVTS on October 18, 2023 and forwarded to PennDOT and USDOT for conformance.

4 Tip Management

The four-year TIP is a constantly evolving program that changes as project costs and schedules adjust. By federal statute, the program is what's known as "fiscally constrained", which means that the total cost of the projects on the TIP cannot exceed the money expected to be received by the LVTS. When costs increase for one project, the money often must come from another, just as savings on a particular project can be moved into one that needs more money. Managing the flow of money is equally as important as managing the project schedule. This funding strategy addresses high-priority transportation needs and is designed to promote a modern, efficient transportation network.

Defining Megaprojects

With more and more larger projects being submitted to *FutureLV: The Long-Range Transportation Plan* and TIP, there is a new type of project being seen. These projects are called “Mega-projects”. These “Mega-projects” are very large, high cost and carry over multiple TIP cycles.

Managing the flow of money and project schedule to keep all projects, regardless of size, moving is a goal of every TIP. This funding strategy addresses high-priority transportation needs and is designed to promote a modern, efficient, resilient and equitable transportation network.

On the draft 2027-2030 Highway and Bridge TIP, we have two “Mega Projects,” defined as those with \$50 million or more programmed over the four-year program between 2027-2030. We also have four projects with \$10 million or more programmed on the TIP.

Projects with over \$50 million programmed are:

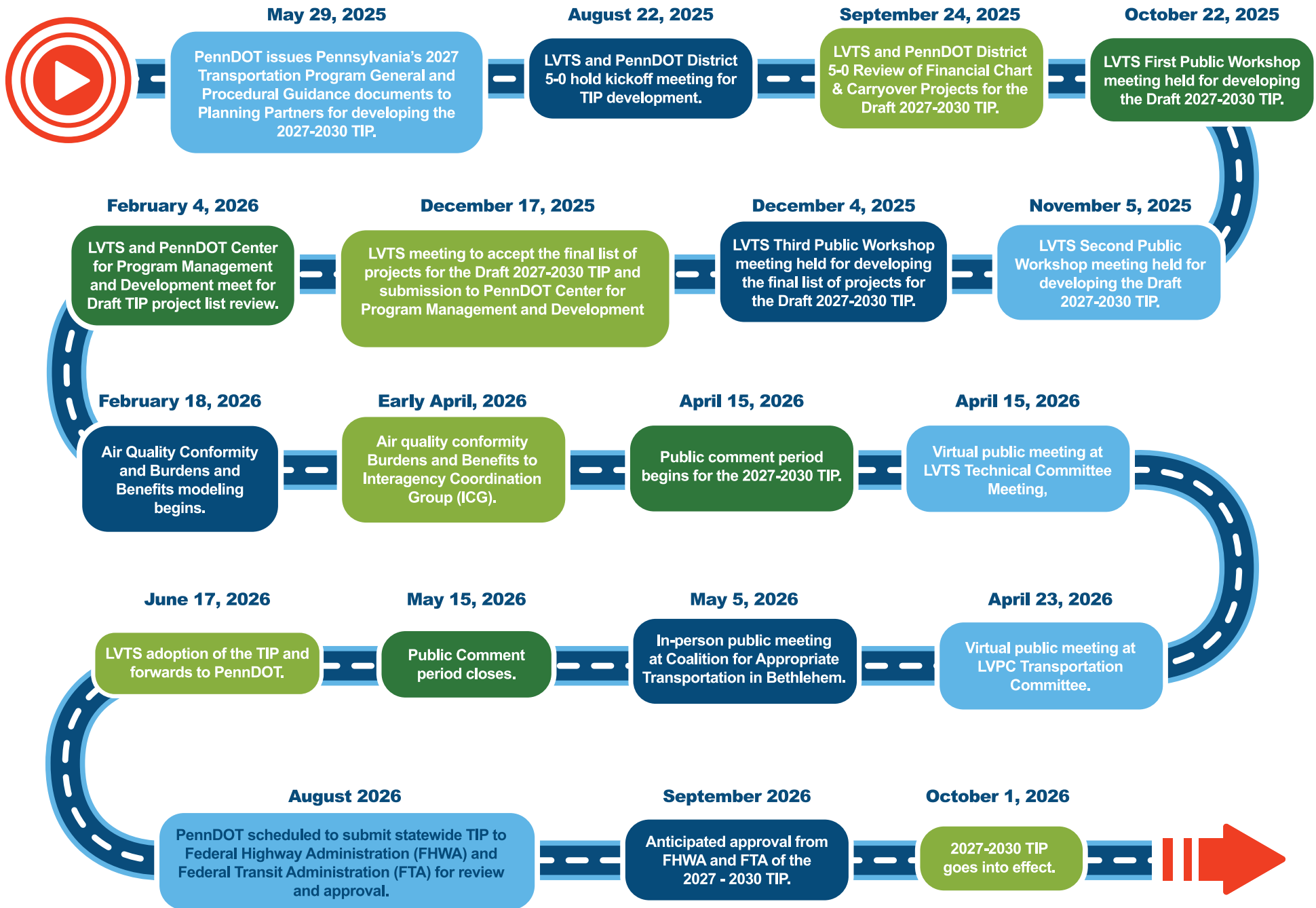
- New Route 309 and Center Valley Interchange: **\$76M**
- Extension of Route 378, Hill-to-Hill Bridge over the Lehigh River: **\$72M**

Other projects with over \$10 million programmed:

- Riverside Drive RAISE Grant: **\$18.6 Million**
- US 22/Route 191 Interchange: **\$18 Million**
- Route 22 & Fullerton Interchange: **\$14 Million**
- Lehigh Street Betterment : **\$12 Million**

It’s important to keep in mind that this list of mega projects only calculates funds programmed from 2027-2030 and excludes projects on the LANTA and Interstate TIPs. The total cost of the above projects will likely be more than the value listed above, because the project timeline is often longer than the four-year TIP period.

TIP Development Timeline



Meeting Community Needs How Projects are Selected

Project selection for the 2027-2030 Transportation Improvement Program (TIP) adheres to state and federal guidelines, aligning with the goals of traffic safety, air quality, and *FutureLV: The Regional Plan* and its Metropolitan Transportation Plan. This meticulous process aims to create an efficient and sustainable, transportation network.

Projects included in *FutureLV* were requested through the Transportation Needs Assessment. Public meetings with municipalities, PennDOT, LANTA, LNAA, non-profit partners and the general community were held to provide information on the update to the MTP and also served as listening sessions to gather information on potential projects for inclusion in the plan.

Staff met with partners to ensure accurate data gathering on the specifics of each project proposed or renewed from the 2019 list, as some municipalities and other partners do not have the capacity to hire staff or consultants to complete lengthy applications for project inclusion in the MTP.

Central to project selection is the alignment with *FutureLV's* Centers and Corridors concept, which focuses on redevelopment, reuse, and new construction within 57 economic and housing activity centers across the Lehigh Valley. Projects must be identified in the current *FutureLV: Long-Range Transportation Plan* for TIP eligibility, selected based on their potential to enhance safety, reduce congestion, improve asset conditions, and extend infrastructure lifecycles.

The LRTP, or MTP, is updated every four years, with the TIP refreshed biennially, allowing for the integration of new projects. This dynamic planning framework ensures the Lehigh Valley's transportation network meets evolving needs through rigorous planning and federal compliance, advancing a system that is safer, more efficient and resilient.



Performance Measures

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) require states and Metropolitan Planning Organizations to establish performance measures that set benchmarks for safety, infrastructure integrity, congestion reduction, economic growth, and emission reductions through the Congestion Mitigation and Air Quality Improvement (CMAQ) Program.

MPO's set regional performance targets, while PennDOT sets statewide targets, guiding projects to contribute meaningfully to these objectives.

The 2027-2030 TIP is based on three federally required performance measures which set goals and targets for the Performance Based Planning and Programming approach used by the Lehigh Valley Transportation Study (LVTS) and its planning partners. The performance measures are designed to reduce injuries, save lives and better manage maintenance of the region's transportation network.

Safety Performance Measures (PM1)

Five safety performance targets have been established and are updated annually. The measures are based on crashes that result in fatal and/or serious injuries. The targets assist the LVTS and PennDOT in addressing areas of concern for fatalities and serious injury.

Safety Performance Measures:

- Number of fatalities
- Rate of fatalities per 100 million vehicle miles traveled
- Number of serious injuries
- Rate of serious injuries per 100 million vehicle miles traveled
- Number of non-motorized fatalities and serious injuries

Pavement/Bridge Performance Measures (PM2)

The Pavement/Bridge Performance Measures (PM2) apply to both pavement and bridge condition and are only applicable to the National Highway System (NHS). Conditions are rated as either Good or Poor and provide targets that are consistent with PennDOT's asset management objectives of maintaining the system in the state of good repair, managing to lowest life cycle costs, and achieving national and state transportation goals.

System Performance Measures (PM3)

The System Performance Measures (PM3) are six measures which assess performance of the National Highway System, Freight Movement on the Interstate System, and the Congestion Mitigation and Air Quality Improvement Program. The LVTS and PennDOT continue their efforts to ensure the TIP and MTP are developed and managed to support progress toward the achievement of the statewide system performance targets.

System Performance Measures:

- Interstate Reliability
- Non-Interstate National Highway System Reliability
- Truck Reliability Index
- Annual Peak Hours Excessive Delay Hours Per Capita
- Percentage Non-Single Occupied Vehicle Travel
- Vehicle Emission Targets

The goal of the Performance Measures is to collect data and target transportation investments to improve the system with the end result of a project selection process rooted in data and analysis to enhance transportation system performance.

Air Quality

Every project on the TIP must meet federal air quality conformity standards through travel demand modeling with the overall goal of reducing vehicle emissions to improve air quality.

Clean air is a fundamental right provided by the Pennsylvania Constitution, Section 27: “The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment.” At the national and state level, the importance of air quality issues can be seen in the addition of new programs in the Infrastructure Investment and Jobs Act (IIJA), such as the Carbon Reduction Program and the National Electric Vehicle Infrastructure Program. These programs seek to provide additional funds to states to invest in projects that help to reduce transportation related emissions.

On a regional scale, *FutureLV: The Regional Plan*, along with several other plans by the LVPC and LVTS, addresses air quality through climate change policies and actions as documented in *A Regional Climate Action Assessment*.

As part of the Transportation Improvement Program process, the LVPC is required to perform travel forecasting to determine transportation network demand and its impact on air quality. The evaluation is designed to ensure that federal funding goes to projects that are consistent with air quality standards, specifically the National Ambient Air Quality Standards (NAAQS) for Eight-Hour Ozone (2008) and the 24-hour Particulate Matter 2.5 (2006). As required by the Clean Air Act, the Environmental Protection Agency sets standards for pollutants considered harmful to public health and the environment. An area that does not meet the primary or secondary NAAQS is designated as a nonattainment area.

Once a nonattainment area meets the standards and additional redesignation requirements in the Clean Air Act, the Environmental Protection Agency (EPA) will designate the area as a maintenance area. Transportation conformity requires nonattainment and maintenance areas to demonstrate that all future transportation projects will not prevent an area from reaching its air quality attainment goals. The Lehigh Valley is currently a non-attainment area for ozone and a maintenance area for Particulate Matter 2.5.

Alongside the previous 2025–2028 TIP, the LVPC adopted a *Priority Climate Action Plan for Transportation Decarbonization (PCAP)* in accordance with the EPA’s Carbon Reduction Program (CRP). The PCAP focuses on transportation decarbonization and reducing emissions from cars and trucks, one of the largest sources of emissions in the Lehigh Valley.

In the time between the previous TIP and the update of the 2027-2030 TIP, the LVPC has adopted a *Greenhouse Gas Inventory and Pathway to a Resilient Greater Lehigh Valley*, serving as a comprehensive climate action plan for the four-county greater region. These plans support and expand upon the efforts in the PCAP and can help with leveraging funds through the TIP to advance regional projects focusing on improving air quality and supporting sustainability.



Example Project

Example of a TIP project utilizing these funds
Riverside Drive

One key project that exemplifies these Air Quality goals is the Riverside Drive project. The project will decrease greenhouse gas emissions and the volume of passenger vehicles by providing better options for alternative modes of transportation through connecting roadways, transit, sidewalks and trails into a more equitable and sustainable system.

This project is supported by a competitive USDOT RAISE grant that was added through the TIP.



Public Participation

Public participation is a key element of transportation planning, and it is essential to TIP development. Founded in both a federal requirement for compliance with Title VI of the Civil Rights Act and a local commitment to equitable access to the planning process, the LVTS' adopted Public Participation Plan specifically outlines the requirements for public participation efforts for the TIP and other major plans and processes. The draft 2027-2030 TIP will be available for a 30-day public review and comment period starting April 15, 2026, and closing on May 15, 2026.

LVTS will distribute hard copies of the Draft TIP at these locations:

- Pennsylvania Department of Transportation, District 5-0, 1002 Hamilton Street, Allentown, PA 18102
- Lehigh and Northampton Transportation Authority (LANTA), 1060 Lehigh Street, Allentown, PA 18102
- Allentown Public Library, 1210 Hamilton Street, Allentown, PA 18102
- Bethlehem Public Library, 11 West Church Street, Bethlehem, PA 18018
- Easton Public Library, 515 Church Street, Easton, PA 18045
- Lehigh Valley Planning Commission, 615 Waterfront Drive, Suite 201, Allentown, PA 18102

A digital copy will be available at www.lvpc.org

The LVPC website will be regularly updated. All locations where physical copies of the Draft 2027-2030 TIP are available are accessible by vehicle, transit, bicycle and pedestrian modes of transportation. All locations are compliant with the Americans with Disabilities Act.

Comments on the TIP can also be made during these public meetings:

- April 15, 2026 - Virtual public meeting at LVTS Technical Committee Meeting, 9 AM
- April 23, 2026 - Virtual public meeting at LVPC Transportation Committee, 5:30 PM
- May 5, 2026 - In-person public meeting at The Coalition for Appropriate Transportation storefront in Bethlehem.

Comments may be sent to the Lehigh Valley Planning Commission, 615 Waterfront Drive, Suite 201, Allentown, PA 18102 or submitted online at www.lvpc.org, by phone at 610-264-4544 or by email at planning@lvpc.org.

LVTS is committed to compliance with the nondiscrimination requirements of applicable civil rights statutes, executive orders, regulations and policies. The meeting locations are accessible to persons with disabilities. With at least four days advanced notification, accommodations may be provided for those with special needs related to language, sight or hearing. If you have a request for a special need, wish to file a complaint or desire additional information, please contact Hannah Milagio at (610) 264-4544 or planning@lvpc.org.



Overall TIP Funding

2027-2030 LEHIGH VALLEY
TIP FUNDING

\$525,532,045

ADDITIONAL STATE, FEDERAL
AND GRANT FUNDING

\$19,076,908

TOTAL LEHIGH VALLEY
TIP VALUE

\$544,608,953

TIP Funding by Category



Rail

\$3,070,000



Planning and Research

\$5,600,000



Multimodal

\$20,040,954



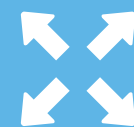
Road

\$23,993,740



Road Reconstruction/Modernization/Automation

\$29,356,879



Roadway Expansion

\$35,280,520



Transit

\$193,152,767



Bridge

\$234,114,093

Transportation Investment

Transportation is a crucial link to ensuring opportunity for all, by connecting us to daily needs such as jobs, schools, housing and health care. Transportation investment and policy choices, what we build and repair, where we put it, who builds it, how we operate it and what energy powers it, have an enormous impact on our economy and our health. These decisions should be designed to strengthen a region where all people can participate and prosper.

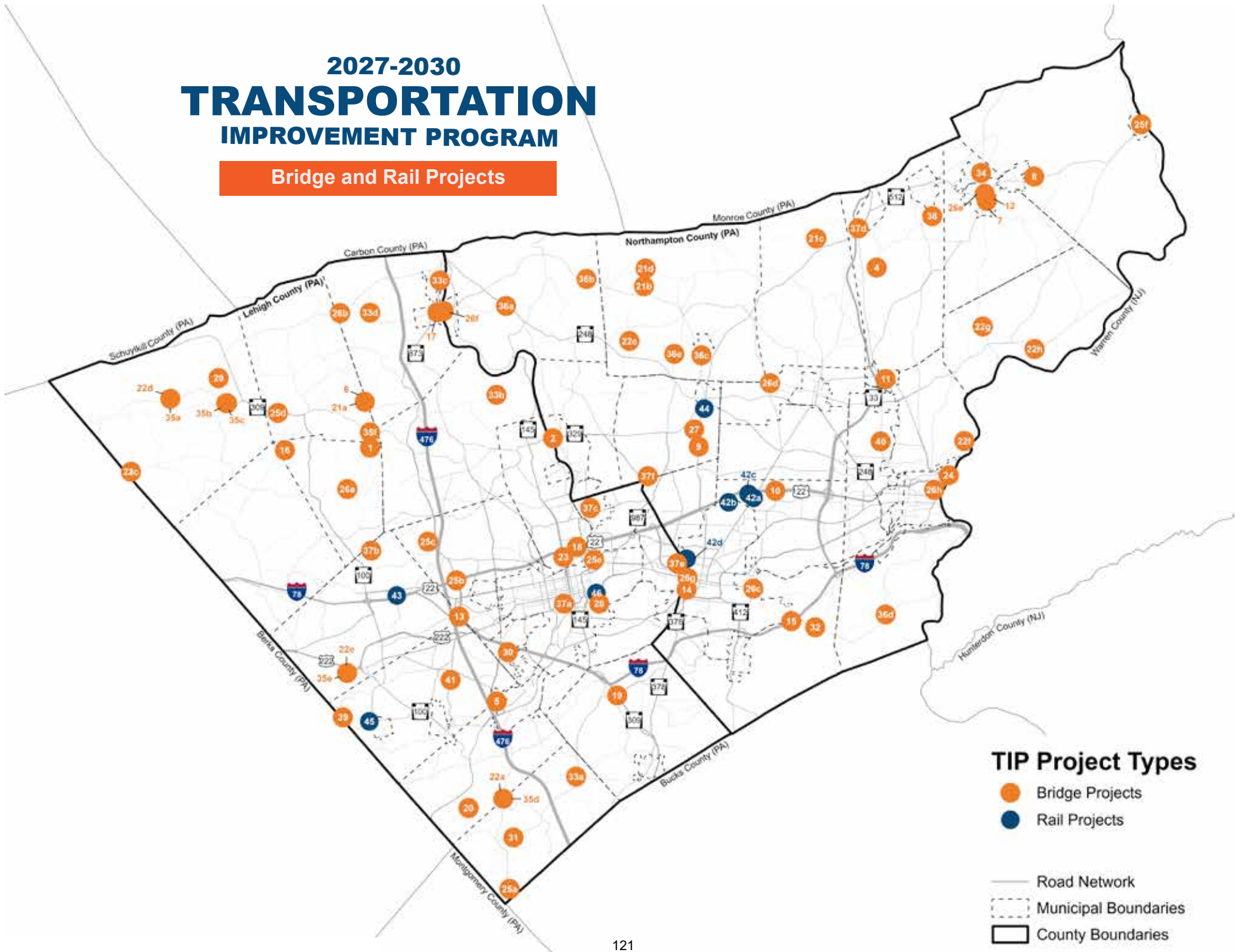
Projects included in the 2027-2030 TIP are selected from the projects within the Long-Range Transportation Plan of *FutureLV: The Regional Plan* and underwent a rigorous selection process. *FutureLV* recognizes that infrastructure investments can facilitate prosperity and enhance quality of life. For example, improved road conditions can avoid damage to cars and trucks and thus reduce the expense of repairs. High-quality bus service like LANTA's Enhanced Bus Service can enhance the value of adjacent properties, improve access to commercial areas and employment centers, and reduce traffic on our most congested corridors. Bridges in a state of good condition are critical for connecting communities with job opportunities and for providing access to all parts of the Lehigh Valley.



Pictured left to right: Beth Halpern, LANTA, Jared Mast, LANTA, Becky Bradley, LVPC/LANTA, Jason Polster-Abel, LANTA, Governor Josh Shapiro, Pennsylvania, Olga Negron, Pennsylvania, Owen O'Neil, LANTA/LTVS, Jason Muller, Transdev, Joesph Rivera Rodriguez, Transdev

2027-2030 TRANSPORTATION IMPROVEMENT PROGRAM

Bridge and Rail Projects



TIP Project Types

- Bridge Projects
- Rail Projects
- Road Network
- - - Municipal Boundaries
- ▭ County Boundaries

BRIDGE REPLACEMENT, REHABILITATION

2027-2030 Investment
\$234,114,093

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
1	Hollenbachs Bridge Replacement of Hollenbachs Bridge (Route 4009) over Mill Creek & Newside Road.	11390	N	Low Hill Township Lehigh County	Preliminary Engineering						154
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$899,980			\$899,980		
					Total	\$899,980			\$899,980		
2	Cementon Bridge Replacement of the Cementon Bridge carrying Route 329 over the Lehigh River.	11413	N	Whitehall Township Lehigh County Northampton Borough Northampton County	Preliminary Engineering						154
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction		\$312,500		\$312,500		
					Total		\$312,500		\$312,500		
3	Donats Peak Road Bridge over Kistler Creek Replacement of Donats Peak Road Bridge over Kistler Creek in Lynn Township, Lehigh County.	11588	N	Lynn Township Lehigh County	Preliminary Engineering						154
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000			\$50,000		
					Total	\$50,000			\$50,000		
5	Indian Creek Road over Leibert Creek Replacement/rehabilitation of the Indian Creek Road (Route 2018) bridge over Leibert Creek.	79127	N	Upper Milford Township Lehigh County	Preliminary Engineering						154
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$100,000			\$100,000		
					Total	\$100,000			\$100,000		
6	Church Road Newside over Tributary to Mill Creek Replacement of Church Road-Newside (Route) over Tributary of Mill Creek.	85689	N	Heidelberg Township Lehigh County	Preliminary Engineering						156
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000			\$50,000		
					Total	\$50,000			\$50,000		

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The Multimodal Project Management System (MPMS) number acts as an inventory identifier for all TIP projects across the Commonwealth.

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
13	Schantz Road/tributary Cedar Creek Replacement/rehabilitation of the Schantz Road (Route 2015) Bridge over a tributary of Cedar Creek.	92049	N	Upper Macungie Township Lehigh County	Preliminary Engineering				\$400,000	\$400,000	160
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total				\$400,000	\$400,000	
14	Hill-to-Hill Bridge Rehabilitation Rehabilitation of the Hill-to-Hill Bridge (Route 378) over the Lehigh River, Norfolk Southern railroad and several city streets in the City of Bethlehem.	93630	N	City of Bethlehem Lehigh County Northampton County	Preliminary Engineering						155
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$250,000	\$250,000			\$500,000	
					Construction	\$17,875,000	\$25,125,000	\$22,750,000	\$6,147,000	\$71,897,000	
					Total	\$18,125,000	\$25,375,000	\$22,750,000	\$6,147,000	\$72,397,000	
16	Werleys Corner Road over Switzer Creek Bridge replacement/rehabilitation of Werleys Corner Road (Route 4019) over Switzer Creek.	94329	N	Lowhill Township Lehigh County	Preliminary Engineering	\$414,905				\$414,905	164
					Final Design		\$250,000	\$227,405		\$477,405	
					Right-of-Way Acquisition		\$26,525	\$27,320		\$53,845	
					Utility Relocation						
					Construction				\$1,000,000	\$1,000,000	
					Total	\$414,905	\$276,525	\$254,725	\$1,000,000	\$1,946,155	
17	South Walnut Street Bridge Replacement of the bridge that carries South Walnut Street over Trout Creek.	94680	N	Slatington Borough Lehigh County	Preliminary Engineering						155
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$300,000				\$300,000	
					Total	\$300,000				\$300,000	
18	Fifth Street Bridge Replacement of the bridge that carried Fifth Street (Route 1029) over Route 22.	94873	Y	Whitehall Township Lehigh County	Preliminary Engineering						155
					Final Design	\$500,000				\$500,000	
					Right-of-Way Acquisition						
					Utility Relocation			\$546,350		\$546,350	
					Construction				\$3,000,000	\$3,000,000	
					Total	\$500,000		\$546,350	\$3,000,000	\$4,046,350	

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
19	309 Center Valley Interchange Geometric improvements to the Route 309 Center Valley Interchange to reduce congestion and flooding.	102160	Y	Upper Saucon Township Lehigh County	Preliminary Engineering						199
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$27,687,750	\$22,406,250	\$15,021,000	\$14,125,000	\$79,240,000	
					Total	\$27,687,750	\$22,406,250	\$15,021,000	\$14,125,000	\$79,240,000	
20	Powder Valley Road over Indian Creek Replacement/rehabilitation of the Powder Valley Road (Route 2025) bridge over Indian Creek.	109237	N	Upper Milford Township Lehigh County	Preliminary Engineering						156
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$15,450				\$15,450	
					Construction	\$600,000	\$430,000			\$1,030,000	
					Total	\$615,450	\$430,000			\$1,045,450	
21	Box Culvert Bundle-Round 2 Box culvert replacements at various locations along Route 143 in Lehigh County and Routes 1015, 2038 and 4014 in Northampton County.	110066	N	Lehigh County Northampton County	Preliminary Engineering						156
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$1,500,000	\$1,286,230			\$2,786,230	
					Total	\$1,500,000	\$1,286,230			\$2,786,230	
21a	Church Road over Tributary to Mill Creek										
21b	Glase Rd. over Tributary to Hockendauqua Creek										
21c	Mountain Rd. over Horn Creek										
21d	W. Scenic Dr. over branch of Hokendauqua Creek										
23	Jordan Creek Bridge Replacement Rehabilitation/replacement and widening of the Jordan Creek Bridge (Route 145) and the widening of Route 145 to three lanes in each direction from Fairmount Avenue to Jordan Parkway.	110076	Y	Whitehall Township City of Allentown Lehigh County	Preliminary Engineering						156
					Final Design	\$875,000	\$52,000			\$927,000	
					Right-of-Way Acquisition	\$687,500	\$85,000			\$772,500	
					Utility Relocation			\$273,175		\$273,175	
					Construction				\$5,375,000	\$5,375,000	
					Total	\$1,562,500	\$137,000	\$273,175	\$5,375,000	\$7,347,675	

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BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
25	Bridge Preservation & Repair 8 Consultant design, construction of bridge repairs and preservation of various bridges in Lehigh and Northampton Counties.	114345	N	Lehigh County Northampton County	Preliminary Engineering						157
25a	Kings Highway over branch of Macoby Creek				Final Design						
25b	Route 22 & Route 309 Interchange				Right-of-Way Acquisition						
25c	Huckleberry Rd. over tributary to Jordan Creek				Utility Relocation						
25d	Route 309 over tributary to Jordan Creek				Construction	\$2,000,000	\$2,000,000	\$1,500,000	\$5,500,000		
25e	N. Dauphin St. over tributary to Lehigh River										
25f	Delaware Ave. over tributary to Delaware River				Total	\$2,000,000	\$2,000,000	\$1,500,000	\$5,500,000		
LVW	Municipal Bridge Line Item Reserve Line Item for municipal bridges at various locations in Lehigh and Northampton Counties.	117517	N	Lehigh County Northampton County	Preliminary Engineering						157
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction		\$250,000	\$250,000	\$250,000	\$750,000	
					Total		\$250,000	\$250,000	\$250,000	\$750,000	

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
28	South Albert Street over Lehigh Canal Replacement Replacement/rehabilitation of the South Albert Street bridge over Lehigh Canal.	118870	N	City of Allentown Lehigh County	Preliminary Engineering	\$100,000	\$209,000			\$309,000	
					Final Design			\$150,000	\$68,540	\$218,540	
					Right-of-Way Acquisition			\$54,635		\$54,635	
					Utility Relocation						
					Construction						
					Total	\$100,000	\$209,000	\$204,635	\$68,540	\$582,175	
29	Springhouse Road over Ontelaunee Creek Bridge Replacement (Mosserville Bridge) Replacement/rehabilitation of the Springhouse Road bridge over Ontelaunee Creek.	118880	N	Lynn Township Lehigh County	Preliminary Engineering		\$250,000	\$68,270		\$318,270	165
					Final Design			\$218,540		\$218,540	
					Right-of-Way Acquisition			\$27,318		\$27,318	
					Utility Relocation				\$39,393	\$39,393	
					Construction				\$731,575	\$731,575	
					Total		\$250,000	\$314,128	\$770,968	\$1,335,096	
30	Fish Hatchery Road over Little Lehigh Creek Bridge rehabilitation via superstructure replacement of Fish Hatchery Road (Route 2010) over Little Lehigh Creek.	119933	N	City of Allentown Lehigh County	Preliminary Engineering						157
					Final Design	\$217,950				\$217,950	
					Right-of-Way Acquisition						
					Utility Relocation	\$51,500				\$51,500	
					Construction		\$750,000	\$1,371,800		\$2,121,800	
					Total	\$269,450	\$750,000	\$1,371,800		\$2,391,250	
31	Limeport Pike over Hosensack Creek Replacement of the structure that carries Limeport Pike (Route 2029) over the Hosensack Creek.	119936	N	Lower Milford Township Lehigh County	Preliminary Engineering						157
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$20,600				\$20,600	
					Construction	\$1,062,500	\$353,750			\$1,416,250	
					Total	\$1,083,100	\$353,750			\$1,436,850	
LVW	Bridge Preservation & Repair 10 Preventative maintenance of various structures in various municipalities in Lehigh and Northampton Counties.	120953	N	Lehigh County Northampton County	Preliminary Engineering			\$600,000	\$400,000	\$1,000,000	BAMs
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total			\$600,000	\$400,000	\$1,000,000	

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BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
33	Box Culvert Bundle 3 This project involves box culvert replacements at various locations.	120955	N	Lehigh County Northampton County	Preliminary Engineering						BAMs
					Final Design		\$1,400,000	\$191,350		\$1,591,350	
					Right-of-Way Acquisition			\$289,565		\$289,565	
					Utility Relocation			\$300,493		\$300,493	
					Construction			\$1,900,000	\$2,197,625	\$4,097,625	
					Total		\$1,400,000	\$2,681,408	\$2,197,625	\$6,279,033	
LVV	Bridge Overlay Bundle 4 Bridge overlays at various locations.	123481	N	Lehigh County Northampton County	Preliminary Engineering				\$550,000	\$550,000	BAMs
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total				\$550,000	\$550,000	
35	Box Culvert Bundle 4 Bridge overlay at various locations.	123484	N	Lehigh County Northampton County	Preliminary Engineering						BAMs
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction				\$2,937,500	\$2,937,500	
					Total				\$2,937,500	\$2,937,500	
37	LVTS Municipal Bridge Bundle Bridge preservation of municipal owned bridges at various locations.	123493	N	Lehigh County Northampton County	Preliminary Engineering		\$1,000,000	\$803,530		\$1,803,530	157
					Final Design						
					Right-of-Way Acquisition			\$196,470	\$76,705	\$273,175	
					Utility Relocation				\$140,688	\$140,688	
					Construction				\$782,607	\$782,607	
					Total		\$1,000,000	\$1,000,000	\$1,000,000	\$3,000,000	

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	Future LV Pg #
39	Hill Top Road over Little Lehigh Creek Rehabilitation or replacement of the bridge carrying Hill Top Road over Little Lehigh Creek.	123497	N	Lower Macungie Township Lehigh County	Preliminary Engineering	\$250,000	\$213,000			\$463,500	164
					Final Design			\$312,500	\$137,700	\$450,200	
					Right-of-Way Acquisition			\$12,500	\$13,140	\$25,640	
					Utility Relocation						
					Construction						
					Total	\$250,000	\$213,500	\$325,000	\$150,840	\$939,340	
41	Brookside Road over Little Lehigh Creek Rehabilitation or replacement of the bridge carrying Brookside Road over Little Lehigh Creek.	123499	N	Lower Macungie Township Lehigh County	Preliminary Engineering				\$250,000	\$250,000	157
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total				\$250,000	\$250,000	
4	Church Road over Tributary to Little Bushkill Creek Replacement of the structure that carries Church Road (SR 1016) over the tributary to the Little Bushkill Creek.	12106	N	Plainfield Township Northampton County	Preliminary Engineering						157
					Final Design	\$174,360				\$174,360	
					Right-of-Way Acquisition						
					Utility Relocation	\$51,500				\$51,500	
					Construction	\$1,500,000	\$1,075,000			\$2,575,000	
					Total	\$1,725,860	\$1,075,000			\$2,800,860	
7	S. Main Street over Martins Creek Bridge rehabilitation or replacement of Route 1015 over Martins Creek.	85931	N	Bangor Borough Northampton County	Preliminary Engineering	\$362,500	\$55,290			\$417,790	160
					Final Design			\$218,750	\$327,600	\$546,350	
					Right-of-Way Acquisition			\$109,270		\$109,270	
					Utility Relocation						
					Construction						
					Total	\$362,500	\$55,290	\$328,020	\$327,600	\$1,073,410	
8	Route 512 over Brush Meadow Creek Bridge replacement of Washington Street (Route 512) over Brush Meadow Creek.	85945	N	Bangor Borough Northampton County	Preliminary Engineering						159
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$100,000				\$100,000	
					Total	\$100,000				\$100,000	

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BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
9	Beth-Bath Pike over Monocacy Creek Rehabilitation or replacement of the Beth-Bath Pike (Route 512) bridge over a tributary of Monocacy Creek.	85946	N	East Allen Township Northampton County	Preliminary Engineering						155
					Final Design	\$566,500				\$566,500	
					Right-of-Way Acquisition	\$400,000	\$424,000			\$824,000	
					Utility Relocation			\$273,175		\$273,175	
					Construction			\$2,187,500	\$1,250,000	\$3,437,500	
					Total	\$966,500	\$424,000	\$2,460,675	\$1,250,000	\$5,101,175	
10	Hecktown Road Bridge over Route 22 Replacement of the Hecktown Road (Route 2027) bridge over Route 22.	89614	N	Bethlehem Township Northampton County	Preliminary Engineering						155
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$1,345,700				\$1,345,700	
					Total	\$1,345,700				\$1,345,700	
11	Route 2025 over Little Bushkill Creek Bridge rehabilitation or replacement of Route 2025 over Little Bushkill Creek.	91931	N	Stockertown Borough Northampton County	Preliminary Engineering			\$375,000	\$116,715	\$491,715	160
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total			\$375,000	\$116,715	\$491,715	
12	Route 512 over Martins Creek Bridge rehabilitation or replacement of Route 512 over Martins Creek.	92007	N	Bangor Borough Northampton County	Preliminary Engineering						160
					Final Design		\$281,250	\$249,200		\$530,450	
					Right-of-Way Acquisition		\$106,090			\$106,090	
					Utility Relocation				\$39,395	\$39,395	
					Construction				\$1,562,500	\$1,562,500	
					Total		\$387,340	\$249,200	\$1,601,895	\$2,238,435	
15	Easton Road over Saucon Creek East Branch Bridge Rehabilitation or replacement of Route 2006 over East Branch Creek.	93631	N	Lower Saucon Township Northampton County	Preliminary Engineering						155
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$15,450				\$15,450	
					Construction	\$1,062,500	\$482,500			\$1,545,000	
					Total	\$1,077,950	\$482,500			\$1,560,450	

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #	
22	Box Culvert Bundle-Round 1 Box culvert replacements at various locations along Routes 512, 1040, 4014, 4007 and 4019.	110062	N	Lehigh County Northampton County	Preliminary Engineering						156	
22a	Vera Cruz Road over branch of Hosensack Creek				Right-of-Way Acquisition							
22b	Vera Cruz Road over branch of Hosensack Creek				Utility Relocation							
22c	Donats Peak Rd. over Kistler Creek				Construction	\$10,000						\$10,000
22d	Kings Highway over tributary to Ontelaunee Creek											
22e	N. Hokendauqua Dr. over Hokendauqua Creek											
22f	Frost Hollow Rd. over tributary to Delaware River											
22g	Main St. over tributary to Martins Creek											
22h	Martins Creek Belvidere Hwy. over tributary to Delaware River											
					Total	\$10,000				\$10,000		
26	Bridge Preservation #7 Consultant design, construction of bridge repairs and preservation of various bridges.	112231	N	Lehigh County Northampton County	Preliminary Engineering						156	
26a	Game Preserve Rd. over Jordan Creek				Right-of-Way Acquisition							
26b	Mountain Rd. over Trout Creek				Utility Relocation							
26c	Freemansburg Bridge over Lehigh River and Lehigh Canal				Construction	\$50,000						\$50,000
26d	Penn Allen R. over tributary to Monocacy Creek											
26e	Pennsylvania Ave. over Martins Creek											
26f	Main St. over Lehigh Canal											
26g	W. Broad St. over Route 378											
26h	N. 3rd St. over Bushkill Creek											
					Total	\$50,000				\$50,000		
LVW	Bridge Preservation & Repair 9 Design and construction of bridge repairs and preservation on various bridges.	117152	N	Lehigh County Northampton County	Preliminary Engineering	\$650,000	\$350,000			\$1,000,000	BAMs	
					Right-of-Way Acquisition							
					Utility Relocation							
					Construction				\$900,000	\$2,500,000		\$3,400,000
					Total	\$650,000	\$350,000	\$900,000	\$2,500,000	\$4,400,000		

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BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
27	Jacksonville Road Bridge Bridge rehabilitation/replacement of Jacksonville Road (Route 503).	117402	N	East Allen Township Northampton County	Preliminary Engineering	\$350,000	\$371,000			\$721,000	161
					Final Design			\$350,000	\$196,350	\$546,350	
					Right-of-Way Acquisition				\$112,550	\$112,550	
					Utility Relocation						
					Construction						
					Total	\$350,000	\$371,000	\$350,000	\$308,900	\$1,379,900	
LVW	County Bridge Reserve Line Item Line item for County Bridge Rehabilitation/ Replacement/Preservation in Various Locations.	117515	N	Lehigh County Northampton County	Preliminary Engineering						157
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction			\$19,797	\$1,737,744	\$1,757,541	
					Total			\$19,797	\$1,737,744	\$1,757,541	

BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
32	Lower Saucon Road over East Branch of Saucon Creek Replacement or rehabilitation of the structure that carries Lower Saucon Road (Route 2001) over East Branch of Saucon Creek.	119940	N	Lower Saucon Township Northampton County	Preliminary Engineering						157
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$51,500			\$51,500		
					Construction	\$1,500,000	\$560,000		\$2,060,000		
					Total	\$1,551,500	\$560,000		\$2,111,500		
LVW	Bridge Overlay Bundle #3 Bridge overlays of various structures in various locations.	120966	N	Lehigh County Northampton County	Preliminary Engineering	\$130,450				\$130,450	BAMs
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation			\$3,824,450	\$3,824,450		
					Construction						
					Total	\$130,450		\$3,824,450	\$3,954,000		
34	Columbus Street Bridge over Roseto Creek Bridge rehabilitation or replacement of Columbus Street over Roseto Creek.	123470	N	Roseto Borough Northampton County	Preliminary Engineering		\$250,000	\$174,360		\$424,360	163
					Final Design			\$382,445	\$382,445		
					Right-of-Way Acquisition			\$109,270	\$109,270		
					Utility Relocation				\$84,413	\$84,413	
					Construction				\$1,406,875	\$1,406,875	
					Total		\$250,000	\$666,075	\$1,491,288	\$2,407,363	
36	Box Culvert Bundle #5 Box culvert replacements at various locations.	123486	N	Lehigh County Northampton County	Preliminary Engineering				\$750,000	\$750,000	157
36a	Lehigh Dr. (Rt.248) over tributary to Bertsch Creek				Final Design						
36b	Mountain View Dr. over Indian Creek				Right-of-Way Acquisition						
36c	Monocacy Dr. over west branch of Monocacy Creek				Utility Relocation						
36d	Raubsville Rd. over tributary to Freys Run				Construction						
36e	Whitetail Deer Dr. over Monocacy Creek				Total					\$750,000	
38	Delabole Road over Waltz Creek Bridge rehabilitation or replacement of Delabore Road over Waltz Creek.	123495	N	Plainfield Township Northampton County	Preliminary Engineering	\$250,000	\$110,500			\$360,000	164
					Final Design			\$312,500	\$25,150	\$337,650	
					Right-of-Way Acquisition			\$12,500	\$13,140	\$25,640	
					Utility Relocation						
					Construction						
					Total	\$250,000	\$110,500	\$325,000	\$38,290	\$723,790	

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BRIDGE REPLACEMENT, REHABILITATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
40	Tatamy Road over Schoeneck Creek Rehabilitation or replacement of the bridge carrying Tatamy Road over Shoeneck Creek.	123498	N	Palmer Township Northampton County	Preliminary Engineering				\$250,000	\$250,000	161
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total				\$250,000	\$250,000	
24	Route 611 Retaining Wall Rehabilitation Retaining wall rehabilitation along North Delaware Drive (Route 611).	110179	N	City of Easton Northampton County	Preliminary Engineering						162
					Final Design	\$500,000	\$272,500			\$772,500	
					Right-of-Way Acquisition	\$62,500	\$40,500			\$103,000	
					Utility Relocation			\$109,270		\$109,270	
					Construction			\$1,500,000	\$1,250,000	\$2,750,000	
					Total	\$562,500	\$313,000	\$1,609,270	\$1,250,000	\$3,734,770	

RAIL

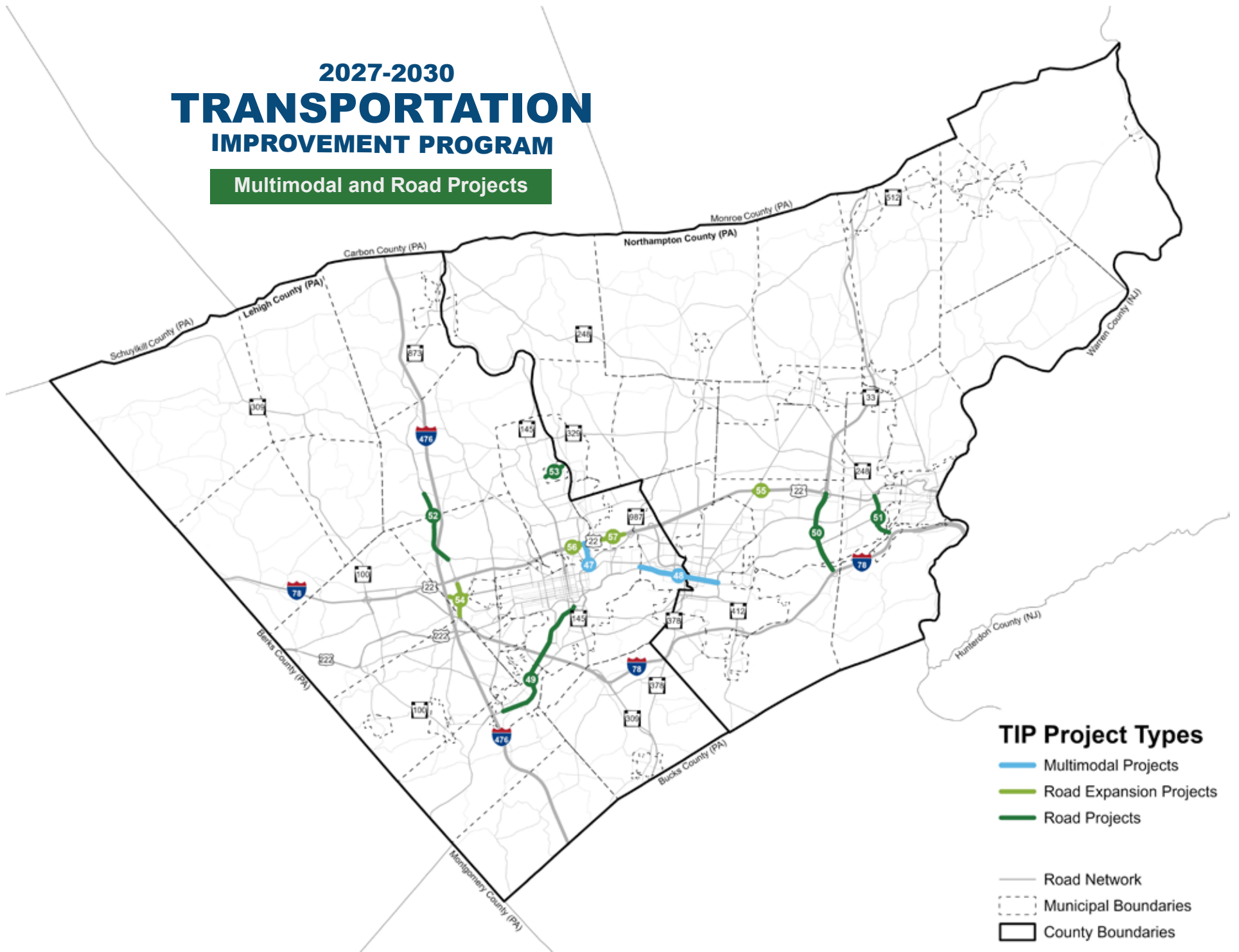
2027-2030 Investment
\$3,070,000

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
45	Penn Ave Albutis Railroad Crossing Upgrade to railroad safety equipment where Penn Avenue crosses Norfolk Southern railway. Install equipment with one mast arm and one cantilever to cover ongoing traffic.	102870	N	Albutis Borough Lehigh County	Preliminary Engineering						221
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction			\$282,000	\$282,000		
					Total				\$282,000	\$282,000	
46	Albert Street Allentown Railroad Crossing Upgrade the railroad safety equipment where Canal Road crosses the track of Norfolk Southern railway. Replace antiquated equipment.	102979	N	City of Allentown Lehigh County	Preliminary Engineering						Grant
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction		\$625,000		\$625,000		
					Total		\$625,000		\$625,000		
44	Beth-Bath Pike (Route 512) Norfolk Southern Railroad Crossing Upgrade the railroad safety equipment where Beth-Bath Pike (Route 512) crosses the track of Norfolk Southern railway.	102869	N	East Allen Township Northampton County	Preliminary Engineering						221
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction			\$300,000	\$200,000	\$500,000	
					Total			\$300,000	\$200,000	\$500,000	
43	Ruppsville Road Upgrade to the railroad safety equipment including the replacement of one mast arm and one cantilever to cover ongoing traffic where Ruppsville Road crosses the track of Norfolk Southern railway.	102868	N	Upper Macungie Township Lehigh County	Preliminary Engineering						221
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction		\$503,000		\$503,000		
					Total		\$503,000		\$503,000		
42 a-d	Bethlehem Corridor Safety Railroad Warning Devices Upgrade the railroad safety equipment where Township Line Road (Route 3015), Christian Springs Road, and Schoenersville Road cross the track of Norfolk Southern railway. Replace antiquated equipment with one mast arm and one cantilever to cover traffic.	102864	N	Bethlehem Township Northampton County	Preliminary Engineering						221
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction			\$660,000	\$500,000	\$1,160,000	
					Total			\$660,000	\$500,000	\$1,160,000	

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2027-2030 TRANSPORTATION IMPROVEMENT PROGRAM

Multimodal and Road Projects



MULTIMODAL

2027-2030 Investment
\$20,040,954

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #	
48	Broad Street Multimodal Project The addition of medians, bumpouts, crosswalks and pedestrian refuge aisles along Broad Street from Hanover Avenue to Stefko Boulevard.	123053	N	City of Bethlehem Lehigh County Northampton County	Preliminary Engineering						207	
					Final Design							
					Right-of-Way Acquisition							
					Utility Relocation							
					Construction	\$1,400,000				\$1,400,000		
					Total	\$1,400,000				\$1,400,000		
47	Riverside Drive RAISE Grant Convert two miles of an abandoned railroad bed along the west side of the Lehigh River from Lehigh Avenue to Furnace Street to a complete two-lane street with an adjacent multi-use path. The multi-use path will continue north to connect to the Delaware and Lehigh (D&L) Trail just north of Race Street. The project will also convert 450 feet of an abandoned railroad bed between Hamilton Street and Union Street to complete the southern terminus of Riverside Drive.	118070	Y	City of Allentown Whitehall Township Lehigh County	Preliminary Engineering						205	
					Final Design							
					Right-of-Way Acquisition							
					Utility Relocation							
					Construction	\$16,840,954	\$1,800,000			\$18,640,954		
					Total	\$16,840,954	\$1,800,000			\$18,640,954		

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ROAD

2027-2030 Investment
\$23,993,740

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVW	Environmental Impacts Resolution Line Item For monitoring, maintenance and repairs of constructed wetlands and Municipal Separate Storm Sewer System (MS4) requirements of the Environmental Protection Agency on approved highway and bridge projects, as well as identifying sites for environmental mitigation.	95400	N	Lehigh Northampton Counties	Preliminary Engineering	\$185,000	\$185,000	\$200,000	\$200,000	\$770,000	169
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$185,000	\$185,000	\$200,000	\$200,000	\$770,000	
52	Route 309 Resurface From Walbert Avenue to Shankweiler Road, mill and overlay, concrete patching, guide rail upgrades and movement markings. Reconstruction of the Orefield Road (Route 2005) intersection to accommodate truck turning movements and signal replacement.	102312	N	North Whitehall Township South Whitehall Township Lehigh County	Preliminary Engineering						168
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction		\$200,000		\$200,000		
					Total		\$200,000		\$200,000		
50	Route 33 Resurfacing Resurfacing of Route 33 from Interstate 78 to Route 22.	96423	N	Bethlehem Lower Saucon Townships Northampton County	Preliminary Engineering						168
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$8,000,000			\$8,000,000		
					Total	\$8,000,000			\$8,000,000		
51	25th Street Resurface Resurfacing Island Park Road (Route 2012) from Shimersville Road (Route 2014) to Route 248.	101564	N	City of Bethlehem, Glendon Wilson Boroughs Lower Saucon Palmer Township Williams Township	Preliminary Engineering						168
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction			\$500,000	\$811,240	\$1,311,240	
					Total			\$500,000	\$811,240	\$1,311,240	
49	Lehigh Street (Route 2005) Betterment Resurfacing and signal upgrades of Lehigh Street, State Avenue and Chestnut Street from Cedar Crest Blvd. (Route 29) intersection to Sixth Street and Lehigh Street intersection.	96413	N	Emmaus Borough City of Allentown Lehigh County	Preliminary Engineering						168
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$51,500			\$51,500		
					Construction	\$5,000,000	\$2,500,000	\$4,860,000	\$12,360,000		
					Total	\$5,051,500	\$2,500,000	\$4,860,000	\$12,411,500		

ROAD

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
53	Coplay Multimodal Street Improvements Resurfacing five sections of roadway.	123418	N	Various Locations in Coplay Borough Lehigh County	Preliminary Engineering						Grant
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$1,301,000			\$1,301,000		
					Total	\$1,301,000			\$1,301,000		

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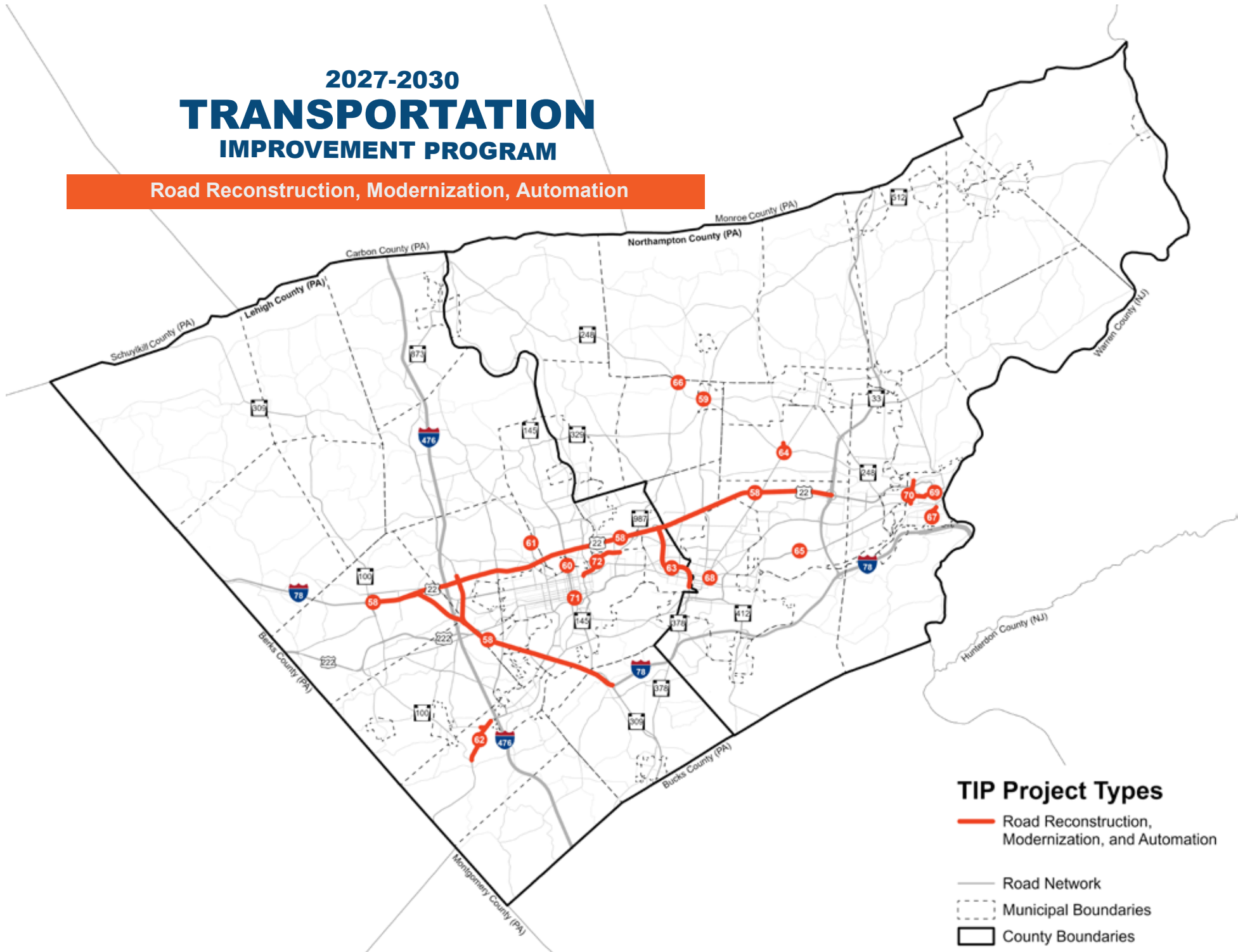
ROAD EXPANSION

2027-2030 Investment
\$35,280,520

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	Future LV Pg #
56	Route 22 / Fullerton Interchange Interchange improvements at the Route 22/Fullerton Interchange.	117610	N	Whitehall Township Lehigh County	Preliminary Engineering						199
					Final Design	\$3,000,000	\$1,120,000		\$4,120,000		
					Right-of-Way Acquisition		\$1,875,000	\$2,368,600	\$4,243,600		
					Utility Relocation			\$844,125	\$844,125		
					Construction			\$4,375,000	\$4,375,000		
					Total	\$3,000,000	\$2,995,000	\$2,368,600	\$5,219,125	\$13,582,725	
54	Route 309/ Tilghman Interchange Reconstruction Reconfiguration of the Route 309/Tilghman Street (Route 1002) Interchange. This project will also include two bridge replacements at Route 309 over Tilghman Street and Route 309 over Broadway Street, rehabilitation of the Route 309 culvert over Little Cedar Creek, roadway drainage improvements, base repair, overlay, and two new signals at the end of the reconfigured ramps.	96432	Y	Whitehall Township South Whitehall Township Lehigh County	Preliminary Engineering						199
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$708,745		\$1,000,000	\$1,708,745		
					Total	\$708,745			\$1,000,000	\$1,708,745	
55	Route 22/Route 191 Interchange Improvements Interchange improvements at the Route 22 / Route 191 Interchange.	117606	Y	Bethlehem Township Northampton County	Preliminary Engineering	\$500,000				\$500,000	199
					Final Design		\$1,375,000	\$1,375,000	\$1,493,600	\$4,243,600	
					Right-of-Way Acquisition		\$1,000,000	\$1,000,000	\$1,182,700	\$3,182,700	
					Utility Relocation				\$562,750	\$562,750	
					Construction				\$10,000,000	\$10,000,000	
					Total	\$500,000	\$2,375,000	\$2,375,000	\$13,239,050	\$18,489,050	
57	Route 22 Widening - Lehigh River Bridge to Airport Road Widening of Router 22 from four lanes to six lanes from the Lehigh River Bridge to the westbound on-ramp and eastbound off-ramp at the Airport Road interchange.	119690	Y	Hanover Whitehall Whitehall Townships Lehigh County	Preliminary Engineering				\$1,500,000	\$1,500,000	201
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total				\$1,500,000	\$1,500,000	

2027-2030 TRANSPORTATION IMPROVEMENT PROGRAM

Road Reconstruction, Modernization, Automation



ROAD RECONSTRUCTION MODERNIZATION, AUTOMATION

2027-2030 Investment
\$29,356,879

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVW	BPN-4 Guide Rail Upgrades Upgrade guiderail and end treatment at various locations, as appropriate.	123451	N	Lehigh Northampton Counties	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000	\$50,000			\$100,000	
					Total	\$50,000	\$50,000			\$100,000	
LVW	All Weather Pavement Markers Installation of all weather pavement markings at various locations throughout the region.	123450	N	Lehigh Northampton Counties	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$400,000		\$400,000		\$800,000	
					Total	\$400,000		\$400,000		\$800,000	
LVW	High Friction Surface Installation of High-Friction Surface treatments at various locations.	123452	N	Lehigh Northampton Counties	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$440,000		\$440,000		\$880,000	
					Total	\$440,000		\$440,000		\$880,000	
58	Freeway Service Patrol Two roaming tow trucks to respond to incidents on Interstate 78 from Route 100 to the Route 309 split and Interstate 78/Route 22, from Route 100 to Route 33.	68190	N	Upper Macungie Lower Macungie South Whitehall Whitehall Hanover Bethlehem Townships, City of Bethlehem in Lehigh and Northampton Counties	Preliminary Engineering						179
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$364,490	\$375,000	\$375,000	\$386,000	\$1,500,490	
					Total	\$364,490	\$375,000	\$375,000	\$386,000	\$1,500,490	
LVW	Traffic Operation Center Operator Funding for an operator in the Traffic Operations Center (TOC) in PennDOT District 5-0 for management coverage of Closed Circuit Television (CCTV) cameras, Dynamic Message Signs message boards and Highway Advisory Radio radio system along I-78, Route 22 and Route 309.	114344	N	Upper Macungie Lower Macungie South Whitehall Whitehall Hanover Bethlehem Townships, City of Bethlehem in Lehigh and Northampton Counties	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	
					Total	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	

ROAD RECONSTRUCTION MODERNIZATION, AUTOMATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
71	Allentown Light Emitting Diode (LED) Streetlight Conversion - LED Upgrading 210 pedestrian lighting infrastructure locations to high-efficiency LED technology.	123375	N	Various Locations in City of Allentown Lehigh County	Preliminary Engineering						184
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$219,000			\$219,000		
					Total	\$219,000				\$219,000	
62	Shimerville Hill (Route 29) Safety Improvements Corridor safety improvements on Shimerville Hill (Route 29) from Buckeye Road to Route 100, including removal and relocation of fixed objects, widening of the roadway for left turn lanes, installation of new signal equipment and signal interconnection between signals at Buckeye Road and Ramer Street, systematic signing and pavement marking upgrades.	110183	Y	Upper Milford Township Lehigh County	Preliminary Engineering						180
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000			\$50,000		
					Total	\$50,000				\$50,000	
60	7th Street Multimodal Corridor Improvements along 6th Street including minor widening, the addition of a northbound right turn lane onto Route 145 and the addition of sidewalk. The traffic signal at 6th Street/Route 145/Mickley Road will be updated to accommodate the proposed turning lanes.	99697	Y	City of Allentown Whitehall Township Lehigh County	Preliminary Engineering						180
					Final Design	\$483,175			\$483,175		
					Right-of-Way Acquisition	\$463,500			\$463,500		
					Utility Relocation			\$106,090	\$106,090		
					Construction			\$2,000,000	\$622,480	\$2,622,480	
					Total	\$946,675		\$2,106,090	\$622,480	\$3,675,245	
63	Route 378 Lighting Installation of lighting along Route 378 from the Hill-to-Hill Bridge to Route 22	110398	N	City of Bethlehem Lehigh County	Preliminary Engineering						180
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$82,400			\$82,400		
					Construction	\$1,000,000	\$1,060,000		\$2,060,000		
					Total	\$1,082,400	\$1,060,000		\$2,142,400		
72	American Parkway Safety Improvements Safety improvements along American Parkway.	123473	N	City of Allentown Lehigh County	Preliminary Engineering	\$300,000	\$215,000			\$515,000	186
					Final Design						
					Right-of-Way Acquisition		\$318,270		\$318,270		
					Utility Relocation		\$212,180		\$212,180		
					Construction		\$3,350,000	\$628,375	\$3,978,375		
					Total	\$300,000	\$4,095,450	\$628,375	\$5,023,825		

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ROAD RECONSTRUCTION MODERNIZATION, AUTOMATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
61	Mauch Chunk Road Signal Upgrade Improvements of the existing traffic signal operation at two intersections along Mauch Chunk Road (Route 1017) at Girard Avenue and Scherersville Road.	110174	Y	South Whitehall Township Lehigh County	Preliminary Engineering						180
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000				\$50,000	
					Total	\$50,000				\$50,000	
68	Linden Street Two-Way Conversion The conversion of Linden Street from one-way to two-way to improve traffic circulation.	120976	Y	City of Bethlehem Northampton County	Preliminary Engineering						185
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$50,000				\$50,000	
					Total	\$50,000				\$50,000	
64	Route 191 Lower Nazareth Intersection Improvements Improvements on the existing traffic signal, addition of the left-turn lanes, and realignment of Route 946.	116936	Y	Lower Nazareth Township Northampton County	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation	\$231,750				\$231,750	
					Construction	\$3,000,000	\$1,120,000			\$4,120,000	
					Total	\$3,231,750	\$1,120,000			\$4,351,750	
59	Route 248 Realignment Realign the Northampton Street intersection with Main Street along Route 248, reducing the number of turning movements through the Borough.	86853	N	Bath Borough Northampton County	Preliminary Engineering						179
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$200,000				\$200,000	
					Total	\$200,000				\$200,000	
66	Route 248/Airport Road Intersection Improvements Intersection improvements at Route 248 and Airport Road to improve safety and efficiency.	120952	Y	East Allen Township Northampton County	Preliminary Engineering						197
					Final Design	\$218,750	\$141,750			\$360,500	
					Right-of-Way Acquisition	\$312,500	\$202,500			\$515,000	
					Utility Relocation		\$53,045			\$53,045	
					Construction		\$2,000,000	\$1,182,700		\$3,182,700	
					Total	\$531,250	\$2,397,295	\$1,182,700		\$4,111,245	

ROAD RECONSTRUCTION MODERNIZATION, AUTOMATION

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
70	Traffic-Calming & Pedestrian Accomodation Improvements Installation of traffic-calming and pedestrian improvement measures along Northampton Street (Route 248) from 7th Street to 15th Street and along 13th Street from Butler Street to Jackson Street.	123037	N	City of Easton Northampton County	Preliminary Engineering						188
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$300,000	\$200,000		\$500,000		
					Total	\$300,000	\$200,000		\$500,000		
67	St. John Street Improvements Roadway and pedestrian improvements along St. John Street.	120975	N	City of Easton Northampton County	Preliminary Engineering						188
					Final Design	\$257,500			\$257,500		
					Right-of-Way Acquisition						
					Utility Relocation			\$81,953	\$81,953		
					Construction			\$1,200,000	\$1,859,560	\$3,059,560	
					Total	\$257,500		\$1,281,953	\$1,859,560	\$3,399,013	
65	Freemansburg Avenue Safety Improvements Reconstruction and realignment of the intersection at Freemansburg Avenue (Route 2018) and Farmersville Road.	117509	Y	Bethlehem Township Northampton County	Preliminary Engineering						181
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$1,457,310	\$398,601		\$1,855,911		
					Total	\$1,457,310	\$398,601		\$1,855,911		
LVW	Corridor Signal Improvement Line Item A reserve line item for signal improvements to congested corridors that contain multiple signals.	82804	N	Lehigh County Northampton County	Preliminary Engineering						179
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$9,000	\$41,000	\$51,000	\$34,000	\$135,000	
					Total	\$9,000	\$41,000	\$51,000	\$34,000	\$135,000	
69	Pearl Street Safety Improvements Conversion of intersection into a traditional T intersection, sidewalk improvements approaching the intersection and Americans with Disabilities Act-compliant improvements to the adjacent Bushkill Street intersection.	122908	N	City of Easton Northampton County	Preliminary Engineering						174
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$113,000			\$113,000		
					Total	\$113,000			\$113,000		

AQ Sig means air quality significance. / Y indicates the project is air quality significant and required modeling to determine its impact. / N indicates the project was not determined to be air quality significant.
 FFY is federal fiscal year. / LVW indicates Lehigh Valleywide
 The Multimodal Project Management System (MPMS) number acts as an inventory identifier for all TIP projects across the Commonwealth."

TRANSIT – LEHIGH AND NORTHAMPTON TRANSPORTATION AUTHORITY (LANTA)

2027-2030 Investment

\$193,152,767

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVVW	LANTA Operating Assistance Funding for annual operating assistance to help cover the costs of the state's urban and rural transit system to provide local public transportation service.	106703	N	Lehigh County Northampton County	Federal						222
					State	\$26,208,284	\$26,208,284	\$26,208,284	\$26,208,284	\$104,833,136	
					Local	\$1,542,022	\$1,618,461	\$1,699,385	\$1,784,354	\$6,644,222	
					Total	\$27,750,306	\$27,826,745	\$27,907,669	\$27,992,638	\$111,477,358	
LVVW	LANTA Shared Ride Operating Assistance Funding for annual operating assistance to help cover the costs of the state's urban and rural transit system to provide local public transportation service.	106704	N	Lehigh County Northampton County	Federal						222
					State	\$3,346,000	\$3,346,000	\$3,346,000	\$3,346,000	\$13,384,000	
					Local						
					Total	\$3,346,000	\$3,346,000	\$3,346,000	\$3,346,000	\$13,384,000	
LVVW	Associated Capital Maintenance Items Replacement and refurbishment of associated capital maintenance items which include tire lease agreement and capital maintenance items.	110171	N	Lehigh County Northampton County	Federal	\$92,160	\$92,160	\$92,160	\$92,160	\$368,640	222
					State						
					Local	\$23,040	\$23,040	\$23,040	\$23,040	\$92,160	
					Total	\$115,200	\$115,200	\$115,200	\$115,200	\$460,800	
LVVW	Purchase Van/Minibuses Replacement of vans/Minibuses over a four-year period based on age, condition and maintenance history.	95008	N	Lehigh County Northampton County	Federal	\$837,000	\$837,000	\$837,000	\$837,000	\$3,348,000	222
					State						
					Local	\$1,504,290	\$1,574,535	\$1,646,880	\$1,721,385	\$6,447,090	
					Total	\$2,341,290	\$2,411,535	\$2,483,880	\$2,558,385	\$9,795,090	
LVVW	Preventative Maintenance (Federal) Funding to provide preventative maintenance on the LANTA's fixed-route fleet and its administrative, operating and maintenance facilities.	95010	N	Lehigh County Northampton County	Federal	\$6,545,422	\$6,545,422	\$6,545,422	\$6,545,422	\$26,181,688	222
					State						
					Local	\$1,636,356	\$1,636,356	\$1,636,356	\$1,636,356	\$6,545,424	
					Total	\$8,181,778	\$8,181,778	\$8,181,778	\$8,181,778	\$32,727,112	
LVVW	Americans with Disabilities Act (ADA) Para-Transit Service Capitalization Funding to cover a portion of operating expenses associated with the provision of ADA paratransit service.	95015	N	Lehigh County Northampton County	Federal	\$960,000	\$960,000	\$960,000	\$960,000	\$3,840,000	222
					State						
					Local	\$240,000	\$240,000	\$240,000	\$240,000	\$960,000	
					Total	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$4,800,000	
LVVW	Service Vehicles Replacement Funding for the replacement of non-revenue service vehicles to assist in meeting LANTA's Transit Asset Management (TAM) Plan Goals and Targets under the Federal Transit Administration mandate.	95180	N	Lehigh County Northampton County	Federal						222
					State						
					Local	\$40,000	\$40,000	\$40,000	\$40,000	\$160,000	
					Total	\$40,000	\$40,000	\$40,000	\$40,000	\$160,000	

TRANSIT – LEHIGH AND NORTHAMPTON TRANSPORTATION AUTHORITY (LANTA)

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVW	Heavy-Duty Bus Purchase Replacement of buses over a 4 year period based on age, condition and maintenance history to assist in meeting LANTA's Transit Asset Management (TAM) Plan Goals and Targets under the Federal Transit Administration mandate.	95019	N	Lehigh County Northampton County	Federal	\$2,005,497	\$2,188,038	\$2,170,220	\$2,088,466	\$8,452,221	222
					State						
					Local	\$501,374	\$547,009	\$542,555	\$522,116	\$2,113,054	
					Total	\$2,506,871	\$2,735,047	\$2,712,775	\$2,610,582	\$10,565,275	
LVW	Intelligent Transportation System (ITS) and Security Project Purchase/Replace /Upgrade of technology, computer hardware/software, computers, printers and other technology for the operation of LANTaBus or LANTaVan systems.	95178	N	Lehigh County Northampton County	Federal	\$576,635	\$593,934	\$611,752	\$630,105	\$2,412,426	222
					State						
					Local	\$576,635	\$593,934	\$611,752	\$630,105	\$2,412,426	
					Total	\$1,153,270	\$1,187,868	\$1,223,504	\$1,260,209	\$4,824,852	
LVW	LANTA Engine Vehicle Overhaul Program Repair/Replacement of engines in LANTA vehicles.	97977	N	Lehigh County Northampton County	Federal	\$780,286	\$580,446	\$580,446	\$643,847	\$2,585,025	223
					State						
					Local	\$195,071	\$145,111	\$145,111	\$160,962	\$646,255	
					Total	\$975,357	\$725,557	\$725,557	\$804,809	\$3,231,280	
LVW	LANTA Enhanced Bus / Bus Rapid Transit Enhanced Bus Service is LANTA's longstanding name for Bus Rapid Transit, which provides fast, frequent and comfortable transit service along a dedicated transit line or corridor.	106530	Y	Lehigh County Northampton County	Federal	\$279,000	\$198,000		\$1,000,000	\$1,477,000	222
					State						
					Local				\$250,000	\$250,000	
					Total	\$279,000	\$198,000		\$1,250,000	\$1,727,000	
LVW	Signs, Shelters and Enhancements Improve passenger amenities at heavily used bus stops and transit centers through the purchase, installation and maintenance of informative bus stop signs at passenger shelters, waiting areas and benches.	95183	N	Lehigh County Northampton County	Transit TIPs have to report on all project types even if there is no funding programmed for a TIP iteration.					222	
LVW	LANTA Capital Reserve Reserve funding for capital projects.	120873	N	Lehigh County Northampton County	Transit TIPs have to report on all project types even if there is no funding programmed for a TIP iteration.					222	
LVW	LANTA Facility Improvements and Equipment Funding for engineering, design, renovation and construction activities at LANTA-owned or leased facilities with improvements and equipment.	110172	N	Lehigh County Northampton County	Transit TIPs have to report on all project types even if there is no funding programmed for a TIP iteration.					222	

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PLANNING & RESEARCH

2027-2030 Investment
\$5,600,000

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVW	Traffic Review Assist Funding for consultant staffing technical review assistance to the traffic unit in Lehigh and Northampton Counties.	102761	N	Lehigh Northampton Counties	Preliminary Engineering	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	
LVW	In-house Geotechnical Assistance In-house Geotechnical Assistance with retaining walls, noise wall, slopes, sink holes and geohazards, etc. Includes retaining walls, noise wall, slopes, sink holes and geo hazards.	117522	N	Lehigh Northampton Counties	Preliminary Engineering	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	
LVW	In-house Bridge Design Assistance Contract with consultant engineering firm to handle support services for in-house bridge design of replacement and rehabilitation projects.	80073	N	Lehigh Northampton Counties	Preliminary Engineering	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	
LVW	Construction Assistance Funding for construction consultant assistance for highway and bridge projects.	97325	N	Lehigh Northampton Counties	Preliminary Engineering						215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction	\$75,000	\$75,000	\$75,000	\$75,000	\$300,000	
					Total	\$75,000	\$75,000	\$75,000	\$75,000	\$300,000	

PLANNING & RESEARCH

Map #	Project Name / Description	MPMS #	AQ Sig.	Location	Project Phase	FFY 2027	FFY 2028	FFY 2029	FFY 2030	Total	FutureLV Pg #
LVW	Delivery Consultant Assistance Funding for Consultant Assistance for design aspects of project delivery of approved Transportation Improvement Program projects.	83086	N	Lehigh Northampton Counties	Preliminary Engineering	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$4,000,000	215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$4,000,000	
LVW	Transportation Enhancement/Alternatives Program Management Funding for a Consultant Contract to assist local sponsors in developing approved transportation enhancement/alternative projects.	89055	N	Lehigh Northampton Counties	Preliminary Engineering	\$125,000	\$125,000	\$125,000	\$125,000	\$500,000	215
					Final Design						
					Right-of-Way Acquisition						
					Utility Relocation						
					Construction						
					Total	\$125,000	\$125,000	\$125,000	\$125,000	\$500,000	

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**For more information
visit the LVPC website @ LVPC.org**

This program is the product of a collective effort by the LVTS, PennDOT, FHWA, FTA, community leaders, the public and community partners from all 62 municipalities to create a connected transportation network that gives access to opportunities for everyone. More elements of that effort can be found in *FutureLV: The Regional Plan*, *Walk/RollLV: Active Transportation Plan* and Bus Rapid Transit policies, among others. Regulatory materials in addition to a downloadable copy of this TIP Made Easy program summary and other referenced resources can be found at www.lvpc.org



Lehigh Valley Planning Commission
615 Waterfront Dr / Suite 201
Allentown, PA 18102
(610) 264-4544
www.lvpc.org

The logo consists of four colored squares in a row: a dark blue square with a white 'L', a light blue square with a white 'V', a green square with a white 'P', and a dark green square with a white 'C'.



Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

RESOLUTION 6-17-2026-B

RESOLUTION of the Lehigh Valley Transportation Study Metropolitan Planning Organization (LVTS MPO) to self-certify that the metropolitan transportation planning process is being carried out in accordance with all applicable federal requirements and that the local process to enhance the participation of the general public, has been followed in developing the Transportation Improvement Program (TIP).

WHEREAS, 23 CFR Part 450.336 specifies that, concurrent with submittal of a proposed TIP to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) as part of the State TIP (STIP) approval, Metropolitan Planning Organizations (MPOs) shall certify that the metropolitan transportation planning process is being carried out in accordance with all applicable requirements; and

WHEREAS, Section 134 of Title 23 USC, 49 USC 5303, and 23 CFR Part 450 set forth the national policy that the MPO designated for each urbanized area is to carry out a continuing, cooperative, and comprehensive multimodal transportation planning process, including the development of an MTP and TIP, and establish policies and procedures for MPOs to conduct the metropolitan planning process; and

WHEREAS, the TIP continues to be financially constrained as required by 23 CFR Part 450.326 (j) and the Federal Transit Administration (FTA) policy on the documentation of financial capacity, published in FTA Circular 7008.1A; and

WHEREAS, the requirements of Sections 174 and 176(c) and (d) of the Clean Air Act as amended [42 U.S.C. 7504, 7506(c) and (d)] and 40 CFR Part 93 have been met for non- attainment and maintenance areas; and

WHEREAS, the requirements of Title VI of the Civil Rights Act of 1964 and the Title VI assurance executed by each state under 23 USC Sec. 324 and under 49 USC Sec. 794 have been met. The Demographic Analysis and Potential Impacts of Transportation Projects on Community address regional priorities. The MPO will continue to develop demographic maps to better understand the community's transportation needs and potential impacts of projects on the TIP. This effort also helps to inform the public participation efforts and ensure all members of the community can participate in the transportation planning process; and,

WHEREAS, the requirements of 23 CFR and 49 CFR and Section 11101(e) of the Infrastructure Investment and Jobs Act (Public Law 117-58) regarding the involvement of disadvantaged or minority business enterprises in Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funded planning projects have been met; and

WHEREAS, the provisions of 23 CFR Part 230, regarding the implementation of an equal employment opportunity program on federal and federal-aid highway construction contracts have been addressed; and

WHEREAS, the provision of 49 CFR Part 20 prohibiting recipients of federal funds from using those funds for lobbying purposes has been met; and

NOW, THEREFORE BE IT RESOLVED THAT the Lehigh Valley MPO Technical Committee certifies that its metropolitan transportation planning process is being carried out in accordance with all applicable provisions of federal law and certifies that the local process to enhance the participation of the general public, has been followed in developing the region's transportation plans and programs, including the Federal Fiscal Year (FFY) 2027 – 2030 TIP.

NOW, THEREFORE BE IT RESOLVED THAT the Lehigh Valley MPO Coordinating Committee certifies that its metropolitan transportation planning process is being carried out in accordance with all applicable provisions of federal law and certifies that the local process to enhance the participation of the general public, has been followed in developing the region's transportation plans and programs, including the Federal Fiscal Year (FFY) 2027 – 2030 TIP.

I hereby certify that this Resolution was adopted by the Lehigh Valley Transportation Study Technical and Coordinating Committees at its joint meeting on June 17, 2026.

SIGNATURE PAGE

Ryan Meyer, Chair
LVTS Technical Committee

Nick Raio, Vice Chair
LVTS Technical Committee

Owen O'Neil, Chair
LVTS Coordinating Committee

Chris Kufro, Vice Chair
LVTS Coordinating Committee

ATTEST:

Becky A. Bradley, AICP, Secretary
LVTS Technical and Coordinating Committees

LVTS Metropolitan Planning Organization

FISCAL CONSTRAINT TABLE

FFY 2025-2028 TIP Highway and Bridge Element

Technical and Coordinating Committees

TIP Modifications from May 9, 2026 through June 5, 2026

MPO Tech Meeting: June 17, 2026

MPO Coord Meeting: June 17, 2026

Administrative Action #1			Fund Type		FFY 2025			FFY 2026			FFY 2027			FFY 2028			FFYs 2029-2032 and Beyond			Total	Remarks							
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)			Loc/Oth (\$)						
SR 248/Airport Road Intersection Improvements 248 - 07S Northampton County	120952	PE	Before	CAQ	Toll			618,000														618,000.00	Increase to convert project to digital delivery.					
			Before	NHPP	Toll			27,611																	27,611.00			
			Adjust	CAQ	Toll						37,014															37,014.00		
			After	CAQ	Toll			618,000			37,014															655,014.00		
			After	NHPP	Toll			27,611																			27,611.00	
SR 512 Bath Boro Corridor Signal Optimization 512 - 04S Northampton County	113887	CON	Before																				0.00	Deobligation returned to region for reassignment.				
			Adjust	CAQ							(37,014)															(37,014.00)		
			After																							0.00		
Administrative Action #2			Fund Type		FFY 2025			FFY 2026			FFY 2027			FFY 2028			FFYs 2029-2032 and Beyond			Total	Remarks							
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)			Loc/Oth (\$)						
Shimersville Hill Safety Improvements 29 - 05S Lehigh County	110183	CON	Before	HSIP	Toll			3,208,806				3,170,344												6,379,150.00	Adjust for low bid savings.			
			Before	STP	Toll								3,000,000													3,000,000.00		
			Before	STU	Toll								1,214,654														1,214,654.00	
			Adjust	HSIP	Toll								481,166														481,166.00	
			Adjust	STP	Toll								(1,115,899)															(1,115,899.00)
			After	HSIP	Toll			3,208,806			3,651,510																6,860,316.00	
			After	STP	Toll						1,884,101																	1,884,101.00
Lehigh Race Street Intersection 1004 - 03S Lehigh County	57433	FD	Before																					0.00	Deobligation returned to region for reassignment.			
			Adjust	HSIP								(384,975)															(384,975.00)	
LVTS Low Cost Signal Upgrades 100 - SBP Lehigh County	116663	CON	Before																					0.00	Deobligation returned to region for reassignment.			
			Adjust	HSIP								(17,370)															(17,370.00)	
			After																								0.00	
LVTS Low Cost Signal Upgrades 100 - SBP Lehigh County	116663	PE	Before																					0.00	Deobligation returned to region for reassignment.			
			Adjust	HSIP								(2,022)															(2,022.00)	
Route 145 Safety Improvements 145 - 13S Lehigh County	109971	ROW	Before																					0.00	Deobligation returned to region for reassignment.			
			Adjust	HSIP								(76,799)															(76,799.00)	
			After																								0.00	
LVTS Highway & Bridge LI Lehigh County	102201	CON	Before	BOF	185					308,223	59,928		81,280	779,554		755,016	1,942,654		27,377,555	37,380,461				68,684,671.00	Balancing source to maintain fiscal constraint.			
			Before	BRIP						13,877			757,472			431,680			43,730,272							44,933,301.00		
			Before	NHPP						121,158			219,940			19,000			65,076,480							65,436,578.00		
			Before	STP	581					154,118	527,606		468,588	77,694		842,768	128,685		31,204,252	92,509,480						125,913,191.00		
			Adjust	STP	581					1,115,899																	1,115,899.00	
			After	BOF	185					308,223	59,928		81,280	779,554		755,016	1,942,654		27,377,555	37,380,461						68,684,671.00		
			After	BRIP						13,877			757,472			431,680			43,730,272							44,933,301.00		
			After	NHPP						121,158			219,940			19,000			65,076,480							65,436,578.00		
			After	STP	581					1,270,017	527,606		468,588	77,694		842,768	128,685		31,204,252	92,509,480						127,029,090.00		
			Freemansburg Ave Safety Improvements 2018 - 02S Northampton County	117509	CON	Before	HSIP	Toll							1,350,000													4,069,612.00
Before	STP	Toll																								0.00		
Adjust	HSIP	Toll											524,694			(542,690)										(339,007.00)		
SR 191 Lower Nazareth Intersection Improvements 191 - 04S Northampton County	116936	CON	Before	HSIP	Toll							1,786,115												1,786,115.00	Align with anticipated need.			
			After	HSIP	Toll							1,874,694			1,457,310			398,601								3,730,605.00		
			After	STP	Toll							1,786,115															1,786,115.00	
Gap Bridge Repairs 873 - 02B Lehigh County	107552	PE	Before	HSIP	Toll							235,331			1,914,669			1,032,700						3,182,700.00	Deobligation returned to region for reassignment.			
			Adjust	HSIP	Toll							(235,331)															0.00	
Safety Line Item LVTS Lehigh County	82807	CON	Before	HSIP								289,363			881,331			3,483,688			39,246,000			43,900,382.00	Partial source.			
			Adjust	HSIP								(289,363)			307,359			321,011								339,007.00		
			After	HSIP							0		1,188,690			1,188,690			3,804,699			39,246,000				44,239,389.00		
LVTS Highway & Bridge LI Lehigh County	102201	CON	Before	BOF	185					308,223	59,928		81,280	779,554		755,016	1,942,654		27,377,555	37,380,461				68,684,671.00	Partial source.			
			Before	BRIP						13,877			757,472			431,680			43,730,272							44,933,301.00		
			Before	NHPP						121,158			219,940			19,000			65,076,480							65,436,578.00		
			Before	STP	581					1,270,017	527,606		468,588	77,694		842,768	128,685		31,204,252	92,509,480						127,029,090.00		
			Adjust	STP	581					1,115,253																	(1,115,253.00)	
			After	BOF	185					308,223	59,928		81,280	779,554		755,016	1,942,654		27,377,555	37,380,461						68,684,671.00		
			After	BRIP						13,877			757,472			431,680			43,730,272							44,933,301.00		
After	NHPP						121,158			219,940			19,000			65,076,480						65,436,578.00						
After	STP	581					154,764	527,606		468,588	77,694		842,768	128,685		31,204,252	92,509,480					125,913,837.00						

LVTS Metropolitan Planning Organization

FISCAL CONSTRAINT TABLE

FFY 2025-2028 TIP Highway and Bridge Element

Technical and Coordinating Committees

TIP Modifications from May 9, 2026 through June 5, 2026

MPO Tech Meeting: June 17, 2026

MPO Coord Meeting: June 17, 2026

Statewide Administrative Action #1				Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			FFYs 2029-2032 and Beyond			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)				
I-78 Recon-Berks County Line to SR 100 78 - Lehigh County	92780	PE	Before	581							0			0								0.00	Increase to cover additional PE tasks, i.e. change in CE level, additional limits of work, alternative analysis, additional structure work, etc. Source.	
			Adjust	581							6,000,000				3,317,513									9,317,513.00
			After	581								6,000,000				3,317,513								
Interstate Contingency	75891	CON	Before	BRIP	185					5,402,701							7,493,024						12,895,725.00	
			Before	NHPP	581					20,067,404	7,718,888			15,346,471	6,293,594		71,909	11,457,144					60,955,410.00	
			Before	STP																				
Line Item			Adjust	NHPP	581					(6,000,000)				(3,317,513)									(9,317,513.00)	
			After	BRIP	185					5,402,701							7,493,024						12,895,725.00	
			After	NHPP	581					20,067,404	1,718,888			15,346,471	2,976,081		71,909	11,457,144					51,637,897.00	
Central Office			After	STP																		0.00		

LVTS Metropolitan Planning Organization

FISCAL CONSTRAINT TABLE

FFY 2025-2028 TIP Highway and Bridge Element

Technical and Coordinating Committees

TIP Modifications from May 9, 2026 through June 5, 2026

MPO Tech Meeting: June 17, 2026

MPO Coord Meeting: June 17, 2026

Amendment #1			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			FFYs 2029-2032 and Beyond			Total	Remarks				
Project Title	MPMS	Phase	Fed.	Sta.		Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)						
309 Center Valley IC 309 - 19M Lehigh County	102160	FD	Before	CAQ	Toll				0												0.00	Reestablish FD due to project being converted back to Design/Bid/Build from Design/Build.				
			Adjust	CAQ	Toll				3,517,640															3,517,640.00		
			After	CAQ	Toll						3,517,640														3,517,640.00	
309 Center Valley IC 309 - 19M Lehigh County	102160	CON	Before	CAQ	581				3,102,180	1,487,500			6,000,000	4,937,500		6,000,000	4,437,500		5,000,000	2,929,200		33,893,880.00	Cashflow to align funds with anticipated need. Carried on draft 2027 TIP.			
			Before	NHPP									9,550,000			6,050,000			1,216,800					18,064,620.00		
			Before	STP									5,500,000			6,000,000			5,500,000					17,000,000.00		
			Before	STU																					0.00	
			Before	PRTCT	Toll									3,000,000											3,000,000.00	
			Adjust	CAQ	581						(3,102,180)										3,102,180					0.00
			After	CAQ	581						0	1,487,500			6,000,000	4,937,500		6,000,000	4,437,500		8,102,180	2,929,200			33,893,880.00	
After	NHPP							1,247,820				9,550,000			6,050,000			1,216,800				18,064,620.00				
After	STP											5,500,000			6,000,000			5,500,000				17,000,000.00				
After	STU																					0.00				
After	PRTCT	Toll																				3,000,000.00				
SR 512 Bath Boro Corridor Signal Optimization 512 - 04S Northampton County	113887	CON	Before	CAQ																		0.00	Deobligation returned to region for reassignment.			
			Adjust	CAQ					(323,484)													(323,484.00)				
SR 248 Signal Upgrade 248 - 06S Northampton County	110176	PE	Before	CAQ																		0.00	Deobligation returned to region for reassignment.			
			Adjust	CAQ					(1,000)													(1,000.00)				
SR 248 Signal Upgrade 248 - 06S Northampton County	110176	FD	Before	CAQ																		0.00	Deobligation returned to region for reassignment.			
			Adjust	CAQ					(40,475)													(40,475.00)				
SR 248 Signal Upgrade 248 - 06S Northampton County	110176	ROW	Before	CAQ																		0.00	Deobligation returned to region for reassignment.			
			Adjust	CAQ					(50,500)													(50,500.00)				
Easton Ave Corridor Imprv 2020 - 04S Northampton County	102156	ROW	Before	CAQ																		0.00	Deobligation returned to region for reassignment.			
			Adjust	CAQ					(1)													(1.00)				
Corridor Signal Impr LI Lehigh County	82804	CON	Before	CAQ								159,000			142,470			42,274,180				42,575,650.00	CAQ source.			
			Adjust	CAQ														(3,102,180)				(3,102,180.00)				
			After	CAQ								159,000			142,470			39,172,000				39,473,470.00				
Before FFY Totals						3,854,417	0	0	41,390,448	10,381,456	0	47,406,031	12,945,590	0	27,597,307	27,530,346	0	428,014,098	262,709,082		861,828,775	Actions do not affect the project delivery schedules or air quality conformity.				
FFY Adjustment Totals						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0			
After FFY Totals						3,854,417	0	0	42,994,950	10,381,456	0	47,406,031	12,945,590	0	27,597,307	27,530,346	0	428,014,098	262,709,082		863,433,277					

NOTES:

2025-2028 Transportation Improvement Program (TIP) Amendments – June 17, 2026

Amendment #1: Route 309 Center Valley Interchange (MPMS #102160) – Final Design Increase of \$3,517,640

This increase is due to the addition of tasks related to the bidding process, as the project has converted from design/build to design/bid/build. These tasks include project management, permit related tasks, data collection and analysis, required plans and studies, and other related direct and/or internal costs.

Funding Sources:

- \$3,102,180: Route 309 Center Valley Interchange – Construction Phase (MPMS #102160)
- \$415,460: Various (3) de-obligations returned to the region for reassignment
 - Route 512 Bath Borough Corridor Signal Optimization (MPMS #113887)
 - Route 248 Signal Upgrade (MPMS #110176)
 - Easton Avenue Corridor Improvements (MPMS #102156)

LANTA Amendment #1: LANTA Operating Assistance (MPMS #106703) - Increase of \$2,892,375

This increase will support operating expenses for LANTA during Federal Fiscal Year 2027.

Funding Source:

- \$2,892,375: Federal Fiscal Year 2026 Section 5307/5340 Urbanized Area Formula funds apportioned to LANTA

LVTS Metropolitan Planning Organization
FISCAL CONSTRAINT TABLE
FFY 2025-2028 TIP Transit Element
PMC Request/Administrative Action Request

MPO Meeting Date: June 17, 2026

Amendment #1			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)			
LANTA	106703	PT	Before	NA	1513	-	24,484,000	1,399,473	107,625	24,484,000	1,469,446	99,284	24,484,000	1,542,918	146,996	24,484,000	1,620,064	104,321,806	Increase Federal Section 5307 funds in the amount of \$2,892,375 in FFY2026 under MPMS #106703.	
			Adjust	NA	1513					2,892,375										2,892,375
Operating Assistance			After	NA	1513	-	24,484,000	1,399,473	3,000,000	24,484,000	1,469,446	99,284	24,484,000	1,542,918	146,996	24,484,000	1,620,064	107,214,181		
Administrative Action #1			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)			
LANTA	110171	PT	Before	5339	OA	69,459		17,365	250,000	-	62,500	120,000	-	30,000	120,000	-	30,000	699,324	Increase Federal Section 5339 funds in the amount of \$104,000 and Local funding in the amount of \$26,000 in FFY2026 under MPMS #110171.	
Associated Cap. Maint			Adjust	5339	OA				104,000		26,000									130,000
			After	5339	OA	69,459		17,365	354,000	-	88,500	120,000	-	30,000	120,000	-	30,000	829,324		
Administrative Action #2			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)			
LANTA	95015	PT	Before	5307	OA		-		2,050,619	-	512,654	1,028,400	-	257,100	1,028,400	-	257,100	5,134,273	Increase Federal Section 5307 funds in the amount of \$28,979 and Local funding in the amount of \$7,245 in FFY2026 under MPMS #95015.	
ADA Service			Adjust	5307	OA				28,979		7,245									36,224
Capitization			After	5307	OA		-	-	2,079,598	-	519,899	1,028,400	-	257,100	1,028,400	-	257,100	5,170,497		
Administrative Action #3			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)			
LANTA	95010	PT	Before	5307	OA		-		13,049,918	-	3,262,479	6,160,000	-	1,540,000	6,160,000	-	1,540,000	31,712,397	Increase Federal Section 5307 funds in the amount of \$1,755,676 and Local funding in the amount of \$438,919 in FFY2026 under MPMS #95010.	
PM Maintenance			Adjust	5307	OA				1,755,676		438,919									2,194,595
			After	5307	OA		-	-	14,805,594	-	3,701,398	6,160,000	-	1,540,000	6,160,000	-	1,540,000	33,906,992		
Administrative Action #4			Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks	
Project Title	MPMS	Phase	Amts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)			
LANTA	95180	PT	Before	5307	1514			-	32,000		8,000	32,000		8,000	32,000		8,000	120,000	Remove Federal Section 5307 funds in the amount of \$32,000 and Local funding in the amount of \$8,000 in FFY2026 under MPMS #95180.	
Service Vehicle Replace			Adjust	5307	1514					(32,000)		(8,000)								(40,000)

LVTS Metropolitan Planning Organization
FISCAL CONSTRAINT TABLE
FFY 2025-2028 TIP Transit Element
PMC Request/Administrative Action Request

		After	5307	1514		-	-		-	-	32,000	-	8,000	32,000		8,000	80,000				
Administrative Action #5		Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks			
Project Title	MPMS	Phase	Amnts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Total	Remarks		
LANTA			Before	5307	1514		-	-	40,000	-	10,000	40,000	-	10,000	40,000	-	10,000	150,000	Remove Federal Section 5307 funds in the amount of \$40,000 and Local funding in the amount of \$10,000 in FFY2026 under MPMS #95183. Add Federal Section 5339 funds in the amount of \$80,000 and Local funding in the amount of \$20,000 in FFY2026.		
Sign, Shelters and Enhanc	95183	PT	Before	5339	1514	128,042	-	32,011										160,053			
			Adjust	5307	1514				(40,000)			(10,000)								(50,000)	
			Adjust	5339	1514						80,000		20,000								100,000
			After	5307	1514				-	-		-	-	40,000	-	10,000	40,000	-		10,000	100,000
			After	5339	1514	128,042				-	32,011	80,000	-	20,000						-	
Administrative Action #6		Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks			
Project Title	MPMS	Phase	Amnts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Total	Remarks		
LANTA			Before	5307	1514			-	400,000		100,000	400,000		100,000	400,000		100,000	1,500,000	Remove Federal Section 5307 funds in the amount of \$400,000 and Local funding in the amount of \$100,000 in FFY2026 under MPMS #106530.		
Enhanced BRT Project	106530	PT	Adjust	5307	1514				(400,000)		(100,000)									(500,000)	
			After	5307	1514				-	-		-	-	400,000	-	100,000	400,000	-		100,000	1,000,000
Administrative Action #7		Fund Type			FFY 2025			FFY 2026			FFY 2027			FFY 2028			Total	Remarks			
Project Title	MPMS	Phase	Amnts	Fed.	Sta.	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Fed. (\$)	State (\$)	Loc/Oth (\$)	Total	Remarks		
LANTA			Before	5307	OA	550,887		193,887	615,000		153,750	567,338		141,834	839,975		209,994	3,272,665	Increase Federal Section 5307 funds in the amount of \$22,000 and Local funding in the amount of \$99,250 in FFY2026 under MPMS #97977.		
Engine VOH	97977	PT	Adjust	5307	OA				22,000		99,250							121,250			
Program			After	5307	OA	550,887		193,887	637,000		253,000		567,338		141,834	839,975		209,994		3,393,915	
Before FFY Totals						4,946,953	28,618,000	3,435,655	24,086,133	28,618,000	8,768,958	12,552,001	28,618,000	5,842,703	12,552,000	28,618,000	5,959,351	192,615,754			
FFY Adjustment Totals						0	0	0	4,411,030	0	473,414	0	0	0	0	0	0	0	4,884,444		
After FFY Totals						4,946,953	28,618,000	2,560,285	27,570,163	28,618,000	8,312,927	11,225,001	28,618,000	4,776,133	11,225,000	28,618,000	4,854,906	197,500,198			

NOTES:



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This Congestion Management Plan was researched, analyzed, written and coordinated as part of the Metropolitan Planning Organization, per requirements of the US Department of Transportation.



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Introduction

The Lehigh Valley is a vibrant, fast-growing region that continues to attract new residents, businesses, and investment. Its strong economy, strategic location, and high quality of life have made it one of Pennsylvania's most dynamic areas. More people are choosing to live and work here because of strong job opportunities, good schools, and a high quality of life. Growth is a positive sign of a healthy economy. But as more people use the roads, traffic congestion naturally increases. Some congestion is expected in busy areas. However, too much congestion can make it harder to get to work, school, stores, and medical care. It can slow travel, waste fuel, increase air pollution, and reduce overall quality of life. Managing congestion means finding the right balance, i.e., supporting growth while reducing the negative effects of traffic.

Growth drives opportunity, smart congestion management keeps it within reach

Because the Lehigh Valley's population is greater than 200,000, it is classified as a Transportation Management Area (TMA). Federal law requires regions like ours to prepare and maintain a Congestion Management Plan (CMP). Established under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and expanded

through subsequent laws such as Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Moving Ahead for Progress in the 21st Century Act (MAP 21), The Fixing America's Surface Transportation (FAST ACT) and the Infrastructure Investment and Jobs Act (IIJA), the CMP is a core component of metropolitan transportation planning.

The CMP integrates with the Metropolitan Transportation Plan (MTP), Transportation Improvement Program (TIP), and Unified Planning Work Program (UPWP) to ensure coordinated and performance-

based decision-making. Under these federal frameworks, MPOs collaborate with state departments of transportation and transit agencies to track system performance.

Under U.S. Department of Transportation (USDOT) and Federal Highway Administration (FHWA) performance management requirements, MPOs in TMAs are required to incorporate Performance Measure 3 (PM3) into the CMP to evaluate travel time reliability and congestion on the National Highway System, as well as the local road network. PM3 measures Peak Hour Excessive Delay (PHED), Level of Travel Time Reliability (LOTTR), and Truck Travel Time Reliability (TTTR), which assess the effectiveness of the transportation network for both passenger and freight mobility.

The Lehigh Valley Transportation Study (LVTS), housed within the Lehigh Valley Planning Commission (LVPC) creates the CMP to meet federal requirements and improve regional transportation performance. Using traffic and reliability data, it identifies congestion hotspots, analyzes causes, and prioritizes strategies that improve efficiency and safety. These strategies focus on reducing congestion, promoting transit and active transportation, and improving operations before expanding capacity.

The CMP also supports broader regional goals in the MTP, informs planning studies, policy decisions, and funding choices, including the Congestion Mitigation and Air Quality (CMAQ) program. Regular updates and coordination with regional partners allow the LVTS to proactively manage congestion, keeping the region connected, accessible, and economically strong.

Congestion Management in action—
reducing traffic, supporting transit, and keeping everyone connected

Congestion Management Plan Implementation

The CMP is a data-driven framework for evaluating and improving the Lehigh Valley's transportation network. Linking the MTP and the TIP, it uses congestion performance measures, and regional goals to identify and rank congested locations. The plan supports solutions like operational improvements, transit and multimodal options, demand management strategies, freight mobility enhancements, and selective roadway projects.

Linking Goals, Data, and Policy to Improve Regional Transportation

Federal law requires any project that adds single-occupant vehicles (SOV), which is any privately operated motor vehicle occupied solely by the driver with no passenger capacity to demonstrate consistency with the CMP to receive federal funding. Projects must also

incorporate multimodal improvements from the earliest design phases and be documented in the TIP for LVTS Technical and Coordinating Committee approval before implementation.

To ensure performance-based decision-making, the CMP integrates federal PM3 measures for travel times and delays. These metrics, along with forthcoming targets for peak hour delays and non-SOV travel (trips made using modes other than a single-occupancy vehicle, such as walking, biking, public transit, carpooling, or ridesharing), support a comprehensive understanding of regional congestion.

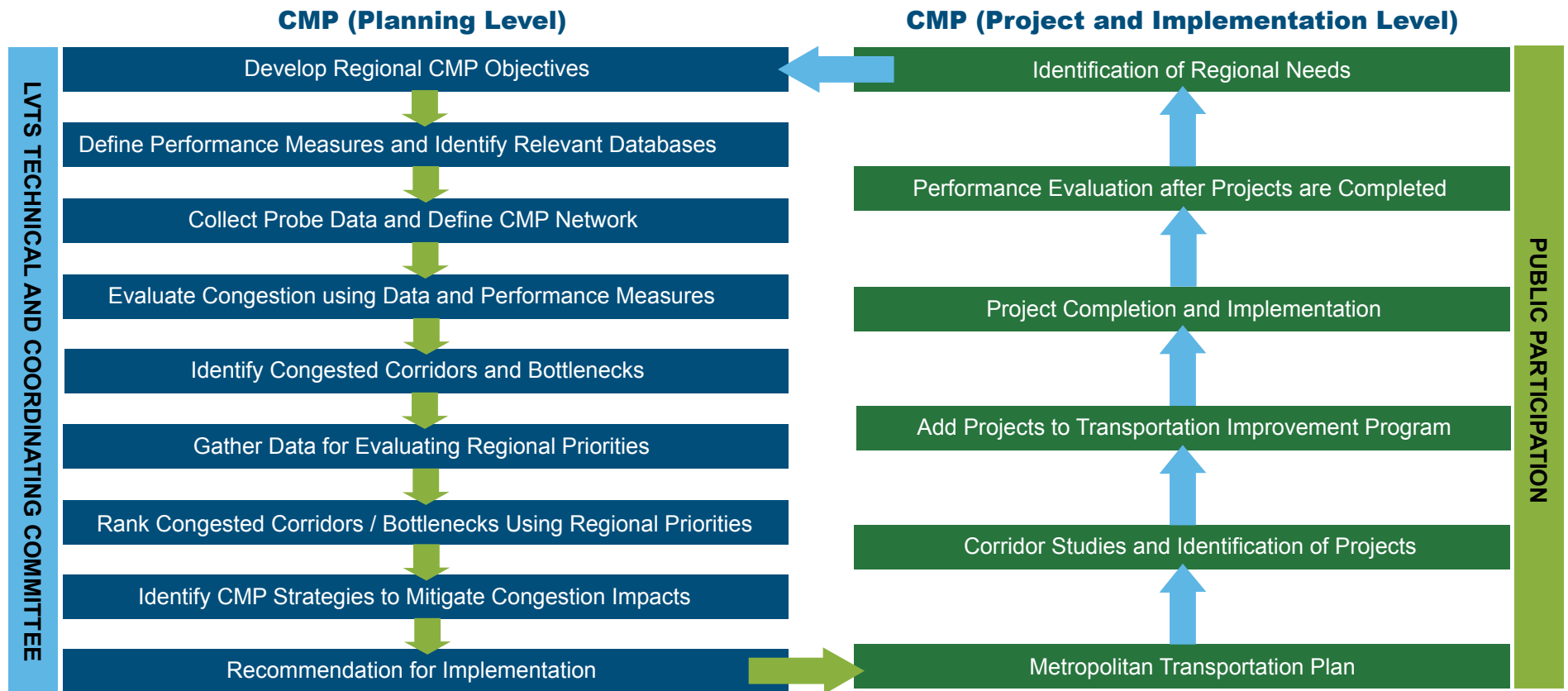
The CMP aligns with the FHWA's national guidance, linking data analysis, policy coordination and multimodal strategies to support an efficient, reliable and sustainable transportation system for the Lehigh Valley.

Federally mandated performance measures are used to identify, rank and visualize congested areas to guide congestion management strategies. These measures are selected in coordination with the LVTS Technical and Coordinating Committees to ensure consistency with regional objectives.

High-priority areas are targeted to improve reliability, reduce congestion, and integrate multimodal options, supporting goals like Vision Zero, infrastructure modernization, connectivity, resilience, and sustainability. Projects are incorporated into the MTP and guide funding, programming, and coordination with FHWA, PennDOT, and local municipalities.

Recognizing the region as a freight hub, the CMP prioritizes efficient goods movement while reducing conflicts with local travel, supporting a balanced, sustainable, and economically resilient transportation network.

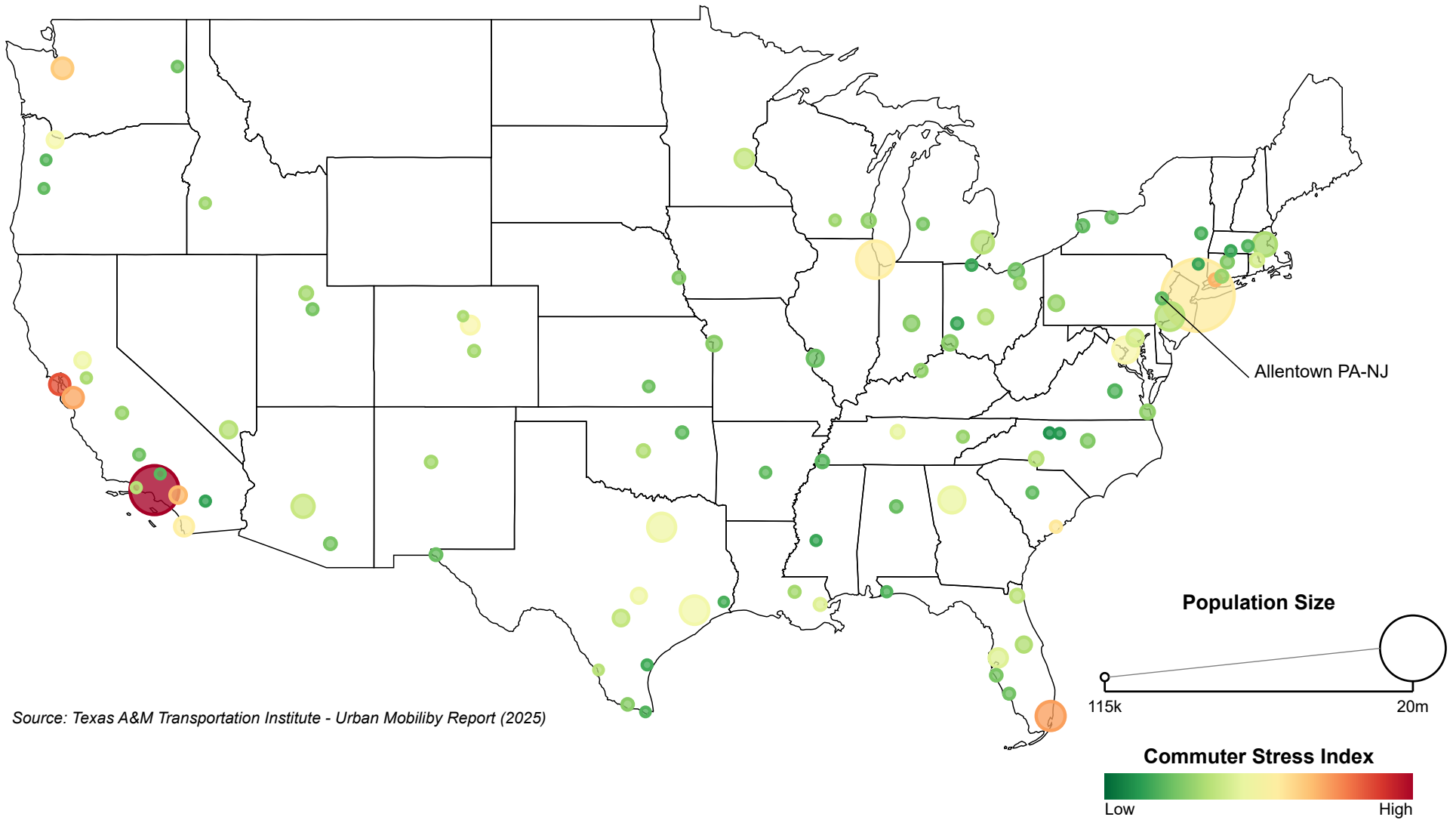
Steps to Managing Congestion





Trends

Commuter Stress Comparisons



Source: Texas A&M Transportation Institute - Urban Mobility Report (2025)

Urban Area Comparisons

As part of its strategic planning, the LVTS analyzed 15 metropolitan areas with similar economic characteristics to the Lehigh Valley to understand how the region compares to other metro areas.

Eight other regions were included in addition to those 15 for comparison in this CMP because of their geographic proximity to the Lehigh Valley.

The comparison focuses on two key congestion indicators from the 2024 Urban Mobility Report by the Texas A&M Transportation Institute: Annual Hours of Delay per Capita and the Commuter Stress Index (CSI).

Annual Hours of Delay per Capita measures the total annual delay experienced by all travelers in a region divided by the population, allowing fair comparisons across regions of different sizes.

The CSI is a unitless index that measures the main flow of

commuters during morning and evening peaks. A CSI of 1 means free-flow traffic, while higher values indicate longer commuting delays.

High CSI values represent longer travel times toward employment centers in the morning and toward residential areas in the evening. By using per-capita and index measures, these metrics allow comparisons of congestion across regions.

In the Allentown, PA–NJ urbanized area, Annual Hours of Delay per Capita is 22 and CSI is 1.17, both below the averages of the 15 similar metro areas (28 and 1.19), showing that Lehigh Valley commuters experience slightly better congestion conditions during morning and evening peaks than comparable and nearby regions, despite having more inbound commuters, with more people traveling into the region for work than leaving it (Longitudinal Employer Household Dynamics Dataset, US Census Bureau, 2022).



Urban Area Comparison

Urban Area	Population	Annual Hours of Delay Per Capita	Commuter Stress Index
New York-Newark, NY-NJ-CT	18,990,000	47	1.48
Philadelphia, PA-NJ-DE-MD	5,645,000	39	1.29
Atlanta, GA	5,275,000	50	1.39
Pittsburgh, PA	1,745,000	33	1.24
Indianapolis, IN	1,680,000	32	1.22
Charlotte, NC-SC	1,530,000	38	1.29
Raleigh, NC	1,100,000	26	1.21
Dayton, OH	740,000	21	1.12
Allentown, PA-NJ	708,000	22	1.17
Grand Rapids, MI	630,000	32	1.2
Albany-Schenectady, NY	605,000	27	1.14
Akron, OH	560,000	29	1.23
Palm Bay-Melbourne, FL	525,000	20	1.11
Toledo, OH-MI	505,000	25	1.12
Harrisburg, PA	495,000	31	1.17
Lancaster, PA	430,000	26	1.18
Durham, NC	405,000	36	1.2
Scranton, PA	390,000	20	1.12
Concord, NC	270,000	14	1.06
Gastonia, NC-SC	190,000	26	1.23
Binghamton, NY-PA	156,000	24	1.12
Hanover, PA	69,000	25	1.14
East Stroudsburg, PA-NJ	60,000	48	1.15

Note: *Urban areas were selected based on data analysis from LVPC and table is sorted by number of population; **Grey colored Urban Areas considered as Urban Areas near the Lehigh Valley; ***Population data as of 2024

What has caused congestion in the Lehigh Valley?

Traffic congestion can be recurring or nonrecurring. Recurring congestion happens regularly, usually during predictable peak periods like morning and evening commutes. It occurs when routine demand exceeds roadway capacity, slowing traffic.

Common causes include daily commuter travel, roadway bottlenecks, limited capacity, inefficient traffic signals, high truck volumes, seasonal variations, and long-term construction. Nonrecurring congestion is caused by unexpected events that disrupt traffic, such as crashes, vehicle breakdowns, special events, severe weather, or short-term maintenance. These events create unpredictable delays and reduce travel time reliability. An effective CMP addresses both types using operational improvements and long-term planning strategies.

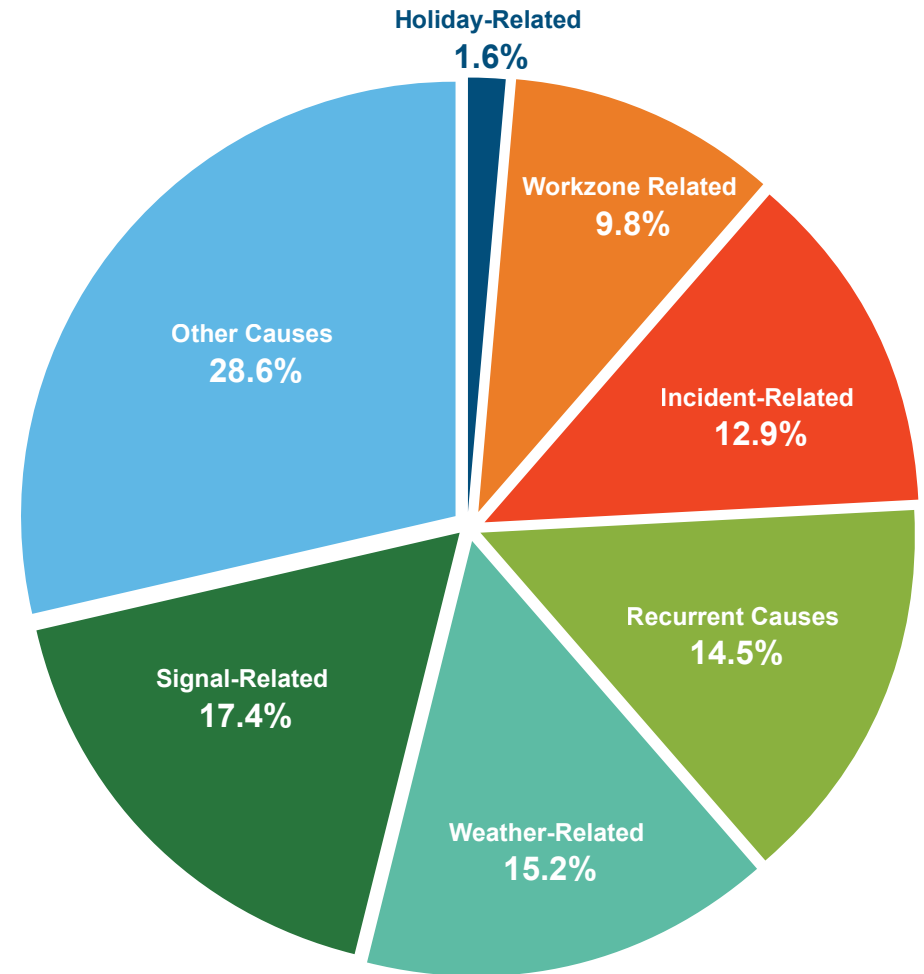
In the Lehigh Valley, the main contributors to congestion are traffic incidents and other/unclassified disruptions, which account for most delays. Incident-related congestion results from unplanned events such as crashes, stalled vehicles, or emergency responses that block lanes and disrupt normal traffic flow, while other causes include less common or unclassified disruptions, overlapping events, or temporary unusual traffic patterns that exacerbate delays.

Signal timing issues and peak-hour demand also create recurring congestion in key corridors; signal-related congestion occurs when traffic signal timing, coordination, or malfunctions impede smooth flow, and recurrent causes stem from predictable, regularly occurring factors like commuter demand or bottlenecks.

Secondary causes, such as weather, construction, or holidays, further worsening delays. Weather-related congestion arises from rain, snow, fog, or ice, workzone-related congestion comes from construction or maintenance activities that reduce roadway capacity, and holiday-related congestion results from increased travel during national or regional holidays.

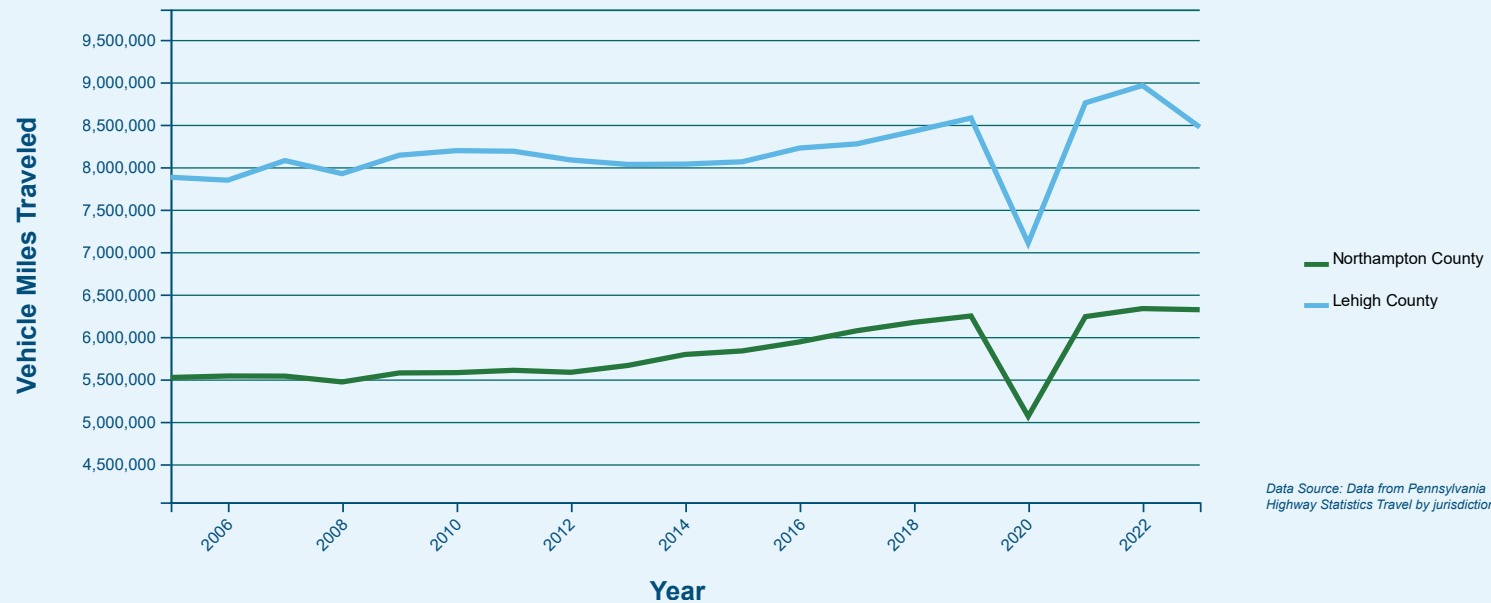
These patterns highlight the need for integrated strategies that combine better signal timing, data-driven operations, and proactive incident response to improve reliability and performance across the region.

Congestion Causes in the Lehigh Valley



Data Source: RITIS PDA Suite; Causes of Congestion Transportation Disruption and Disaster Statistics 2019

Vehicle Miles Traveled Throughout the Lehigh Valley



Regional Transportation Performance Trends

An overview of regional transportation performance trends focuses on key indicators such as Vehicle Miles Traveled (VMT), Travel Time Index (TTI), ride-share travel and performance targets. These trends provide insight into how the region’s transportation system is functioning and help guide future planning and investment priorities.

Vehicle Miles of Travel

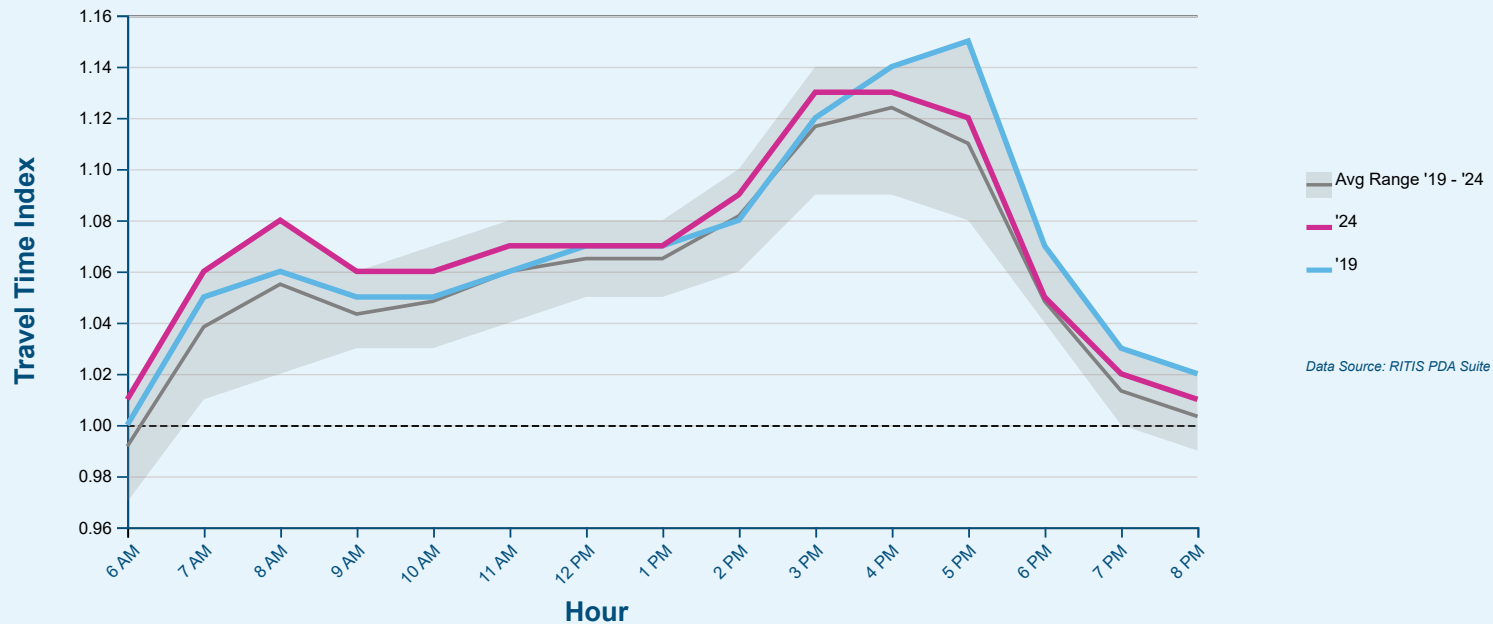
VMT is the Federal Highway Administration’s main measure of travel activity on roadways, calculated as the total daily miles traveled by all vehicles. Higher VMT generally indicates more congestion, making it an important metric for monitoring regional traffic. From 2005 to 2023, both Lehigh and Northampton counties saw overall VMT growth compared to 2005. Both counties experienced a sharp decline in 2020 due to the COVID-19 pandemic, then rebounded in the following years. While both counties followed similar trends,

Northampton showed slightly more consistent year-over-year growth, especially from 2013 onward.

Travel Time Index (TTI)

TTI is a unitless index measures the ratio of observed travel time to free-flow travel time. In simpler terms, TTI shows how much longer a trip takes in traffic compared to if you could drive without any delays, helping quantify congestion and assess how efficiently roads are performing. A TTI value above 1 indicates congestion and longer travel times. From 2019 to 2024, TTI in the Lehigh Valley shows consistent congestion patterns throughout the day. Travel times peak in the morning (7–9 am) and again in the afternoon/evening (3–6 pm). The most significant delays occur between 3 pm and 6 pm, when travel times are 10–15% longer than free-flow conditions, making the evening commute the most congested period.

Travel Time Index Throughout Daytime Hours



Non-SOV Travel Trends by County

Non-SOV, or non-single-occupant vehicle, travel refers to trips made using modes other than a single-occupancy vehicle, such as walking, biking, public transit, carpooling, or ridesharing. Monitoring and promoting Non-SOV travel is important because it helps reduce congestion, lower emissions, and improve overall transportation system efficiency and accessibility. From 2010 to 2024, the amount of non-SOV travel shows changing travel patterns across the overall Lehigh Valley.

The most dramatic shift, particularly since 2020, has been the increase in telecommuting, which has grown from 4.4% (12,856 commuters) to 13% (46,032 commuters) of commuters. This reflects a lasting shift in work culture following the COVID-19 pandemic and the growing adoption of flexible work arrangements.

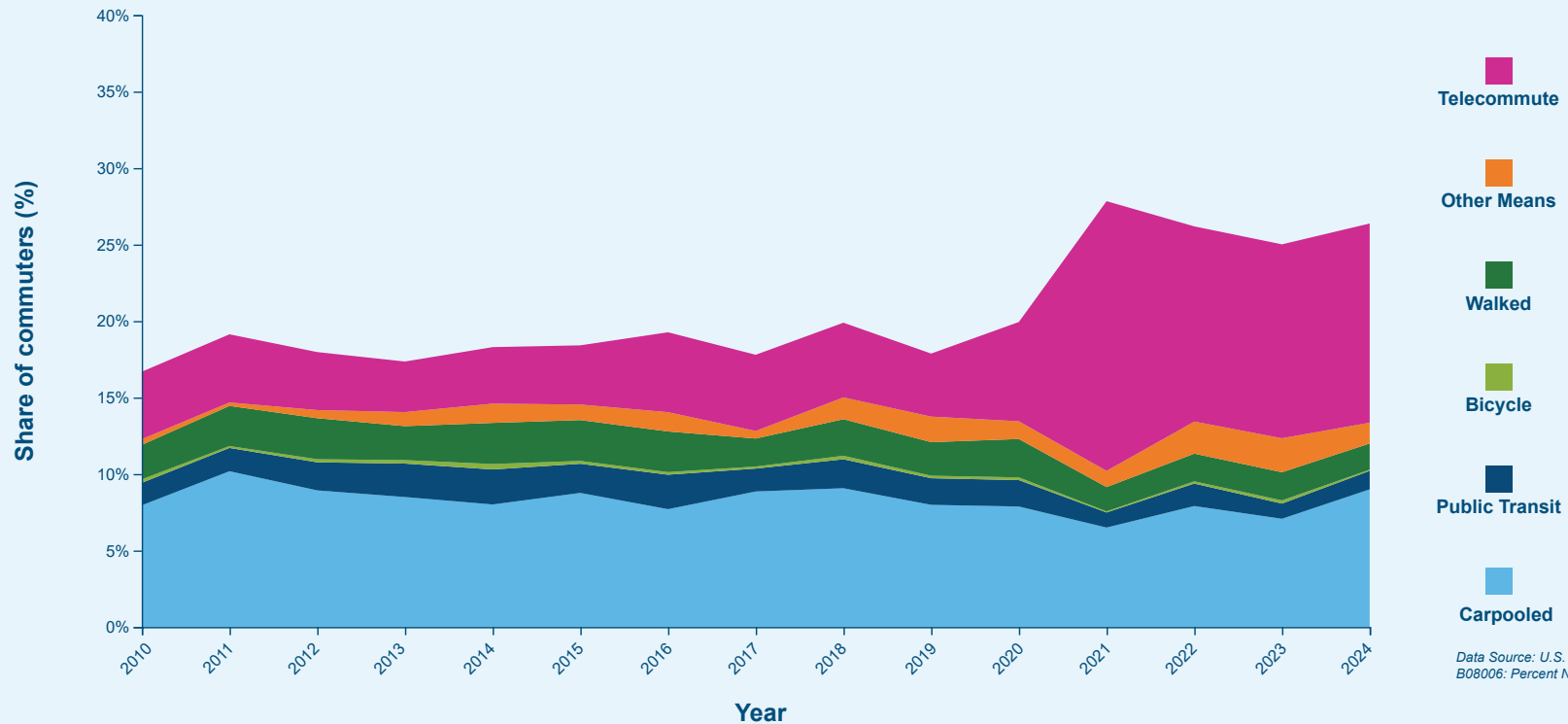
Carpooling, public transportation, bicycling, and walking have

remained relatively stable from 2010 to 2024. In recent years, both counties have converged in their commuting trends, suggesting a regionwide shift toward flexible work and reduced use of shared transportation.

These stabilizing trends likely reflect the fact that many Lehigh Valley transit users are employed in occupations that are less amenable to telecommuting and therefore rely on these modes for their daily commute.

However, it is worth mentioning that for this trend interpretation, US Census Bureau data was used, which provides aggregate commuting statistics, but does not capture variations in individual commuting patterns within the same occupation or across different weeks. This gap warrants further investigation as additional data becomes available.

Share of Non-Single Occupancy Vehicle Commuters in the Lehigh Valley



Non-SOV Travel Target Setting

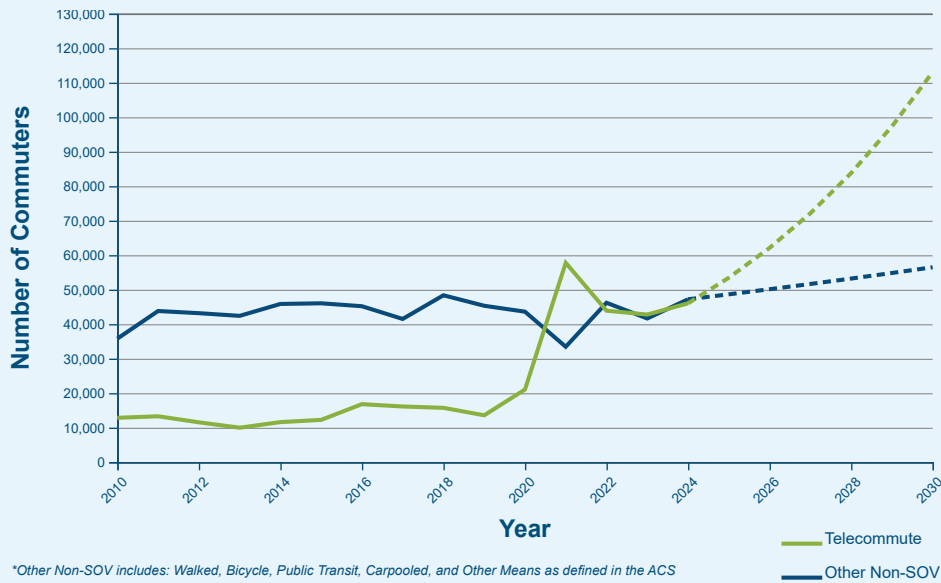
The federal government tracks progress in reducing congestion by measuring how many people commute without driving alone. This is called the percent non-SOV commuter mode share, and it includes trips made by transit, carpooling, biking, walking, or working from home. Because the Lehigh Valley has an urbanized area with more than 200,000 residents, federal law under the IJJA requires LVTS to monitor this percentage and set short- and long-term improvement goals. Over the past decade, the share of people using options other than driving alone has increased across the Lehigh Valley.

In Lehigh Valley, the starting point for non-SOV travel comes from the ACS one-year estimates, which provide a reliable picture of how people commute. Factors like remote work, the economy, and shifting

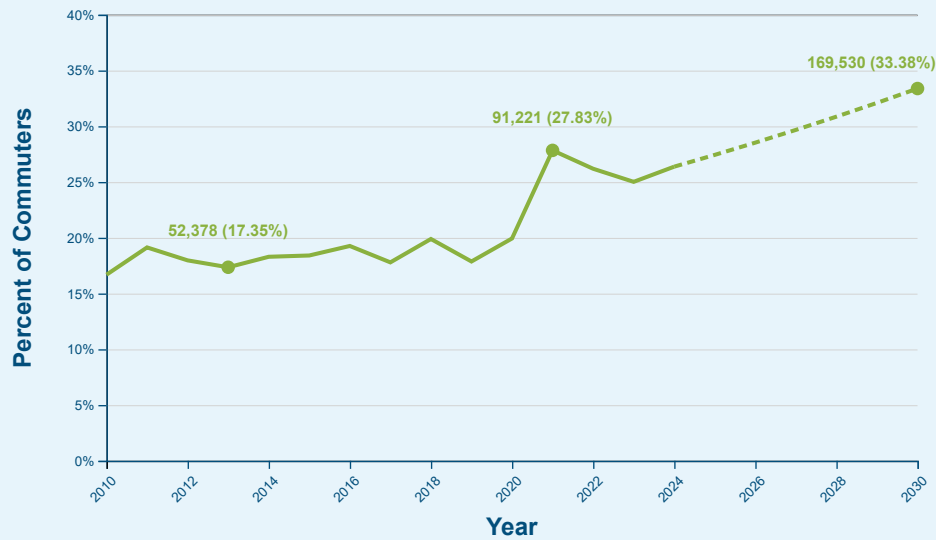
travel habits all affect this number, which is why ongoing monitoring is important for transportation planning. Forecasts for 2024–2030 show modest growth in non-SOV travel, while forecasts for telecommuting are expected to grow more quickly than other non-SOV counterparts.

Targets were set based on the average historic year-to-year rate of change of the percentage non-SOV travel in the Lehigh Valley. The two-year non-SOV target in 2026 is approximately 28% and the four-year non-SOV target in 2028 approximately 31%. These numbers reflect a planning goal to shift travel behavior over time, encouraging more people to use transit, carpool, bike, or walk to reduce congestion and environmental impacts.

Number of Telecommuter and Other Non-SOV Commuters in the Lehigh Valley



Projected Non-Single Occupancy Vehicle Commuter Targets for the Lehigh Valley



The two-year non-single occupancy vehicle target in 2026 is 28% and the four-year target in 2028 is 31%.



Performance-Based Measurement

Performance-based Measurement required for a CMP

The LVTS studies congestion and travel reliability to understand how serious, widespread and unpredictable traffic is across the region's road network. The analysis mainly uses travel time data collected by INRIX from vehicle-based GPS systems to provide a comprehensive picture of travel speeds and delay, across the Valley's street and highway network. The FHWA outlines how the data must be collected, processed, and used to calculate PM3 congestion and reliability measures. More information on the data sources or federal regulations is provided in the Appendix.

Congestion and Reliability Measures

Congestion and reliability measures were used to evaluate how well the transportation network is performing. Each measure helps show how traffic is flowing, where delays occur, and how dependable travel times are. Free-flow travel time serves as the baseline for these measures and is based on the reference speed provided in the INRIX dataset.

Travel Time Index (TTI)

The Travel Time Index (TTI) is derived from INRIX travel time data. TTI helps to compare how long a trip takes versus how long it would take with no traffic. It represents the ratio of average travel time during peak hours to the corresponding free-flow travel time for a roadway segment. A higher TTI value reflects more severe congestion. TTI was evaluated during the weekday AM peak of 7 am to 9 am. and PM peak of 4 pm to 6 pm.

Peak Vehicle Delay

This measure expresses travel time delay for individual roadway segments, reported in seconds. Peak vehicle delay is defined as the difference between the observed average peak-period travel time and the corresponding free-flow travel time. Larger differences reflect greater levels of delay. The measure was calculated based on INRIX travel time data for weekdays during the AM and PM peak periods.

Peak Volume Delay

Peak Volume Delay measures vehicle delay during peak hours, by taking the average vehicle delay and multiplying it by the number of vehicles using a segment during the peak periods. It is expressed as total hours.

Road segments that experience both high vehicle delay and high volume-related travel time typically generate congestion with broader regional impacts, as large numbers of vehicles are affected. This measure is applied to rank peak-period travel time and volume delays along Focus Roadway Corridors, and to assess travel time volume delay at Focus Bottlenecks.

For corridor-level analysis, volume delay is normalized by producing a peak volume delay per mile measure. Peak hour delays were derived from data published by PennDOT's Bureau of Planning and Research 2024 Pennsylvania Traffic Data document.

Volume-to-capacity (V/C) ratio

The volume-to-capacity (V/C) ratio is a measure of roadway performance that compares observed traffic volumes with the estimated capacity of a roadway segment.

The Highway Capacity Manual classifies capacity conditions using the critical volume-to-capacity ratio, where values are less than or equal to (\leq) 0.85 indicate under-capacity conditions, values between 0.85 and 0.95 indicate near-capacity conditions, and values between 0.95 and 1.00 indicate at-capacity conditions.

Using FHWA guidelines and functional class-based reference tables, maximum AADT values were assigned to each roadway segment according to its classification.

The resulting V/C ratios were used to identify congestion conditions. Roadway segments with ratios greater than 0.85 were classified as congested.

Level of Travel Time Reliability or LOTTR is a statewide PM3 metric used to evaluate the performance of the NHS. It is a unitless index that represents the percentage of person-miles traveled on both interstate and non-interstate NHS routes that meet reliability standards within a region.

LOTTR is calculated for each roadway segment as the ratio of the 80th percentile travel time to the median (50th percentile) travel time, with higher ratios showing less reliable conditions.

For instance, imagine a three-mile street that usually takes five minutes to drive. But sometimes it takes eight minutes instead. As eight divided by five equals 1.60, that means the trip can take 60% longer than normal. It means the street does not always take the same time to drive, sometimes it's much slower than usual, so it is not very reliable for planning your trip. This is what LOTTR measures.

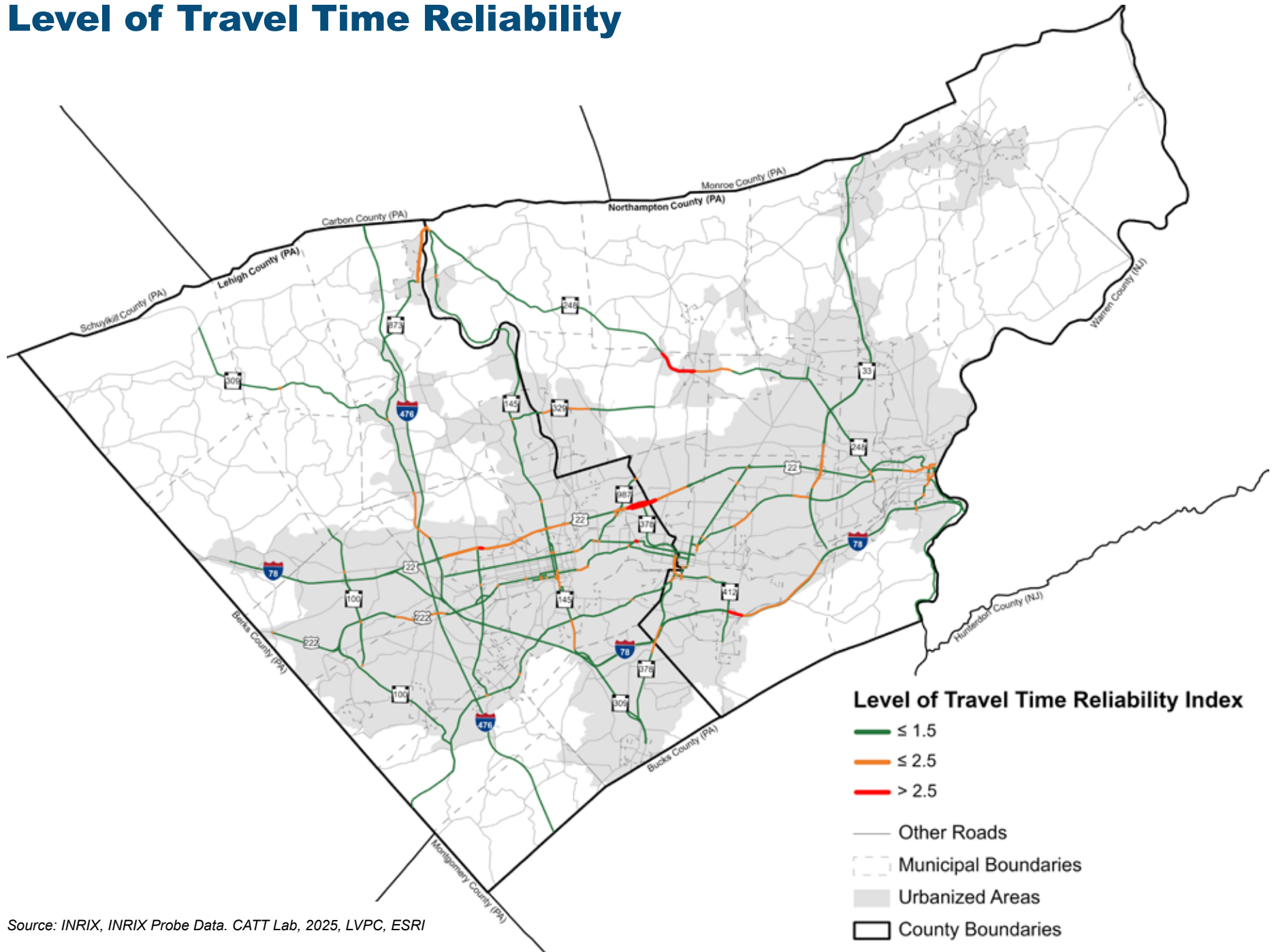
In this CMP, LOTTR is computed across four peak periods: weekdays from 6 am to 10 am, 10 am to 4 pm and 4 pm to 8 pm, as well as weekends from 6 am to 8 pm. LOTTR values below 1.50 across all four periods classifies as reliable because travel times do not substantially deteriorate during peak or off-peak conditions.

Segments exceeding 1.50 in any period are considered unreliable, reflecting conditions where travelers experience frequent or unpredictable delays.

Annual traffic volume and average vehicle occupancy are incorporated into the calculation of the NHPP reliability measures presented in tables below. The NHPP reliability measure is reported separately for interstate and non-interstate routes in the tables.



Level of Travel Time Reliability



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI

Truck Travel Time Reliability (TTTR) Index

Truck Travel Time Reliability or TTTR Index is a statewide PM3 measure used to evaluate the reliability of freight movement on the interstate system within a region. TTTR, also referred to as the freight reliability measure, is a unitless index that is calculated for each interstate segment as the ratio of the 95th percentile travel time to the median (50th percentile) travel time.

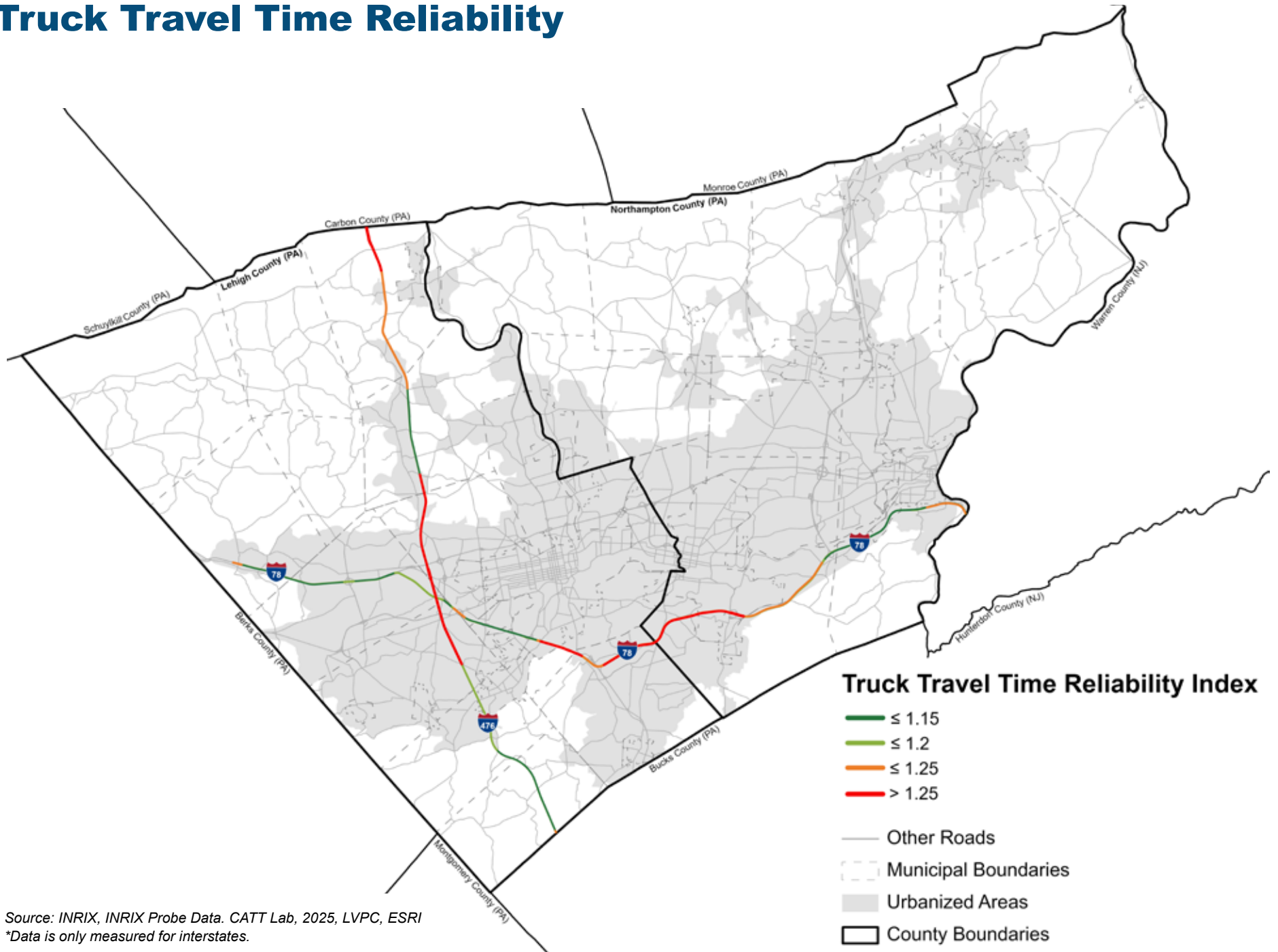
For example, imagine a 10-mile stretch of highway. Most of the time, a truck can drive that stretch in 10 minutes. But sometimes traffic slows things down. About one out of every 20 trips, the same drive takes 17 minutes or more. So, to understand how reliable the road is, we compare the longer time (i.e., 17 minutes)

to the normal time (i.e., 10 minutes). This number is called the Truck Travel Time Reliability (TTTR). A TTTR of 1.7 means the trip can take 70% longer than usual. That tells us the road is not very reliable for trucks, because travel times can change a lot. TTTR is calculated across five time periods: weekdays from 6 am to 10 am, 10 am to 4 pm, 4 pm to 8 pm, weekends 6 am to 8 pm, and each day from 8 pm to 6 am.

For analysis and mapping, the time-period with the highest TTTR for each segment is used as the reliability indicator. Freight Reliability of the whole region was calculated and presented in Reliability and TTTR Baseline and Target tables below.



Truck Travel Time Reliability



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI
*Data is only measured for interstates.

For interstates and non-interstates, reliability is calculated by comparing the travel time people experience during rush hour to the normal or expected travel time. Roads that take longer than expected more often are considered less reliable.

Interstate reliability has remained consistently strong, staying above 95% across all reported years, though the slight decline in 2024 suggests growing pressures on the highway system that may warrant closer monitoring. Non-Interstate reliability showed a positive trend, between 2019 to 2023. However, it shows decreased reliability level, from 89.7% to 88.5%, in 2024. TTTR has fluctuated, ranging from a low of 1.31 in 2021 to a high of 1.40 in 2024.

While these values indicate that freight movement remains generally reliable, the upward trend in 2024 highlights potential challenges for goods movement that could affect regional economic competitiveness. Together, these measures suggest that while overall reliability remains strong, continued attention to freight performance and interstate trends will be essential for maintaining efficient mobility in the Lehigh Valley.

Looking ahead, the Lehigh Valley’s reliability measures reflect a focus on sustaining strong performance across the region’s transportation network. Interstate reliability targets are set at 95.5% for 2028, with a modestly higher 96.5% for 2026, reflecting expectations of continued high performance on the highway system.

Non-Interstate reliability is projected to remain stable, with targets of 88.8% for 2026 and 88.5% for 2028, consolidating the improvements achieved in 2024 on secondary and local roadways. Truck reliability targets are set at 1.39 for 2026 and 1.40 for 2028, indicating expectations of stable and manageable travel conditions for freight movement.

Overall, these targets emphasize maintaining strong interstate performance, sustaining gains on non-interstate routes, and preserving stable freight reliability over the next four years.

Lehigh Valley Truck Travel Time Reliability (Baseline)

Measure	2019 Actual	2021 Actual	2023 Actual	2024 Baseline
Interstate Reliability	99.4%	100%	99.6%	95.5%
Non-Interstate Reliability	85.2%	89.0%	89.7%	88.5%
Truck Reliability	1.35	1.31	1.36	1.40

Lehigh Valley Truck Travel Time Improvements (Targets)

Measure	2024 Baseline	2026 2-Year Target	2028 4-Year Target
Interstate Reliability	95.5%	96.53%	95.5%
Non-Interstate Reliability	88.5%	88.8%	88.5%
Truck Reliability	1.40	1.39	1.40

Annual Hours of Peak Hour Excessive Delay (PHED)

Peak Hour Excessive Delay (PHED) measures the total extra time vehicles spend on a roadway when travel is slower than expected during peak periods (6–10 am and 3–7 pm). The Lehigh Valley is included in the Allentown–Bethlehem–Easton, PA–NJ Urban Area geographical boundary.

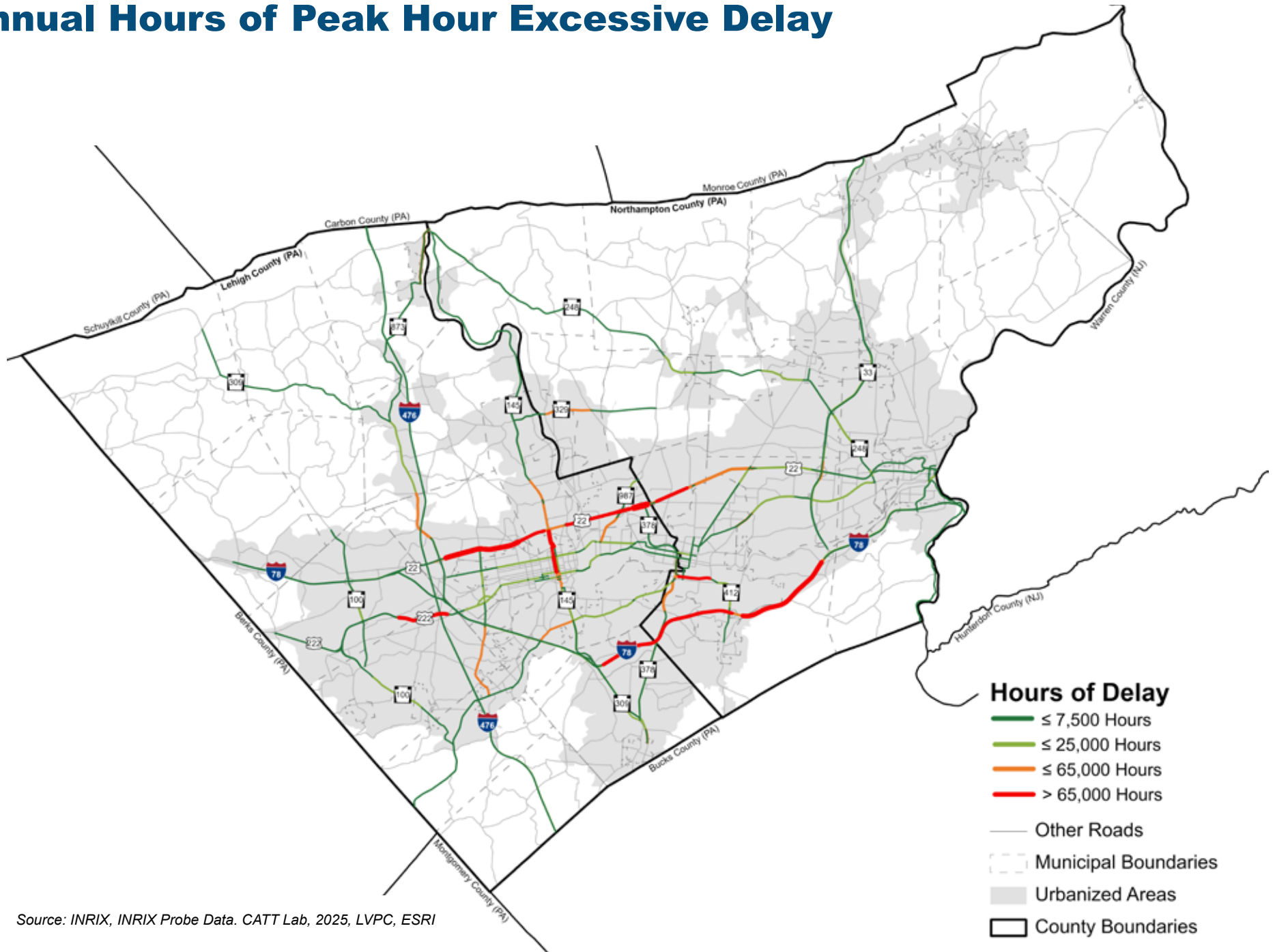
The calculation uses travel times, hourly traffic volumes, posted speed limits, mode shares (passenger vehicles, buses, and trucks), and average vehicle occupancy at the roadway segment level for the full calendar year. Mode share and vehicle occupancy data come from FHWA’s Highway Performance Monitoring System and Average Vehicle Occupancy factors provided by FHWA.

Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita is calculated by dividing the total excessive delay for the entire urban area by the total population. This single value represents the average amount of delay experienced per resident, showing the shared impact of congestion across the region and the potential benefit when some trips are reduced, shifted to walking or biking, or occur outside peak periods.

Peak Hour Excessive Delay (PHED) Measure and Non-Single Occupancy Vehicle (SOV) Baseline

Measure	2019	2021	2023	2024
Annual Hours of PHED Per Capita	7.30	6.81	7.78	8.00
Percent Non-SOV Travel*	18%	28%	25%	26%
Population	684,907	694,137	701,716	708,644

Annual Hours of Peak Hour Excessive Delay



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI

Truck Travel Time Index (TTTI)

The National Performance Management Research Data Set (NPRMDS), is a database of travel times and traffic speeds on highways across the U.S., approved by the U.S. Department of Transportation for performance management under the MAP-21 regulations.

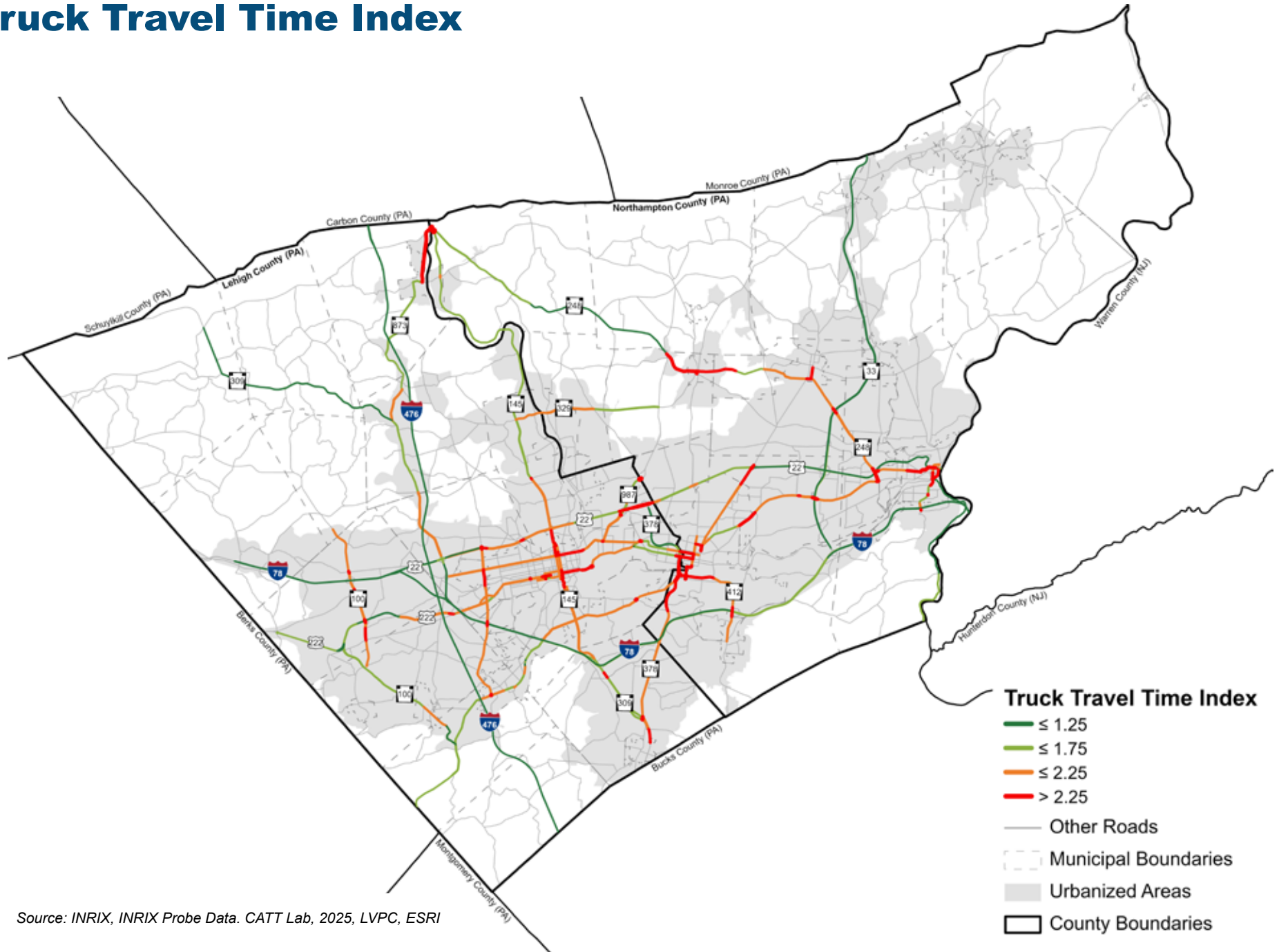
Truck Travel Time Index, or TTTI, derived from the NPRMDS, is a measure that uses truck-only travel times on the NHS including both interstate and non-interstate routes. This measure is separate from the PM3 metrics and is used to

identify locations where truck traffic contributes to congestion and unreliability.

The TTTI is a unitless index defined as the ratio of observed truck travel time to free-flow truck travel time for each roadway segment. TTTI is analyzed for weekdays during AM peak hours from 7 am to 9 am and PM peak hours from 4 pm to 6 pm. For CMP analysis, the NPRMDS truck travel data were conflated to the INRIX roadway network to align segment-level mapping and scoring.



Truck Travel Time Index



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI

Freight Assessment

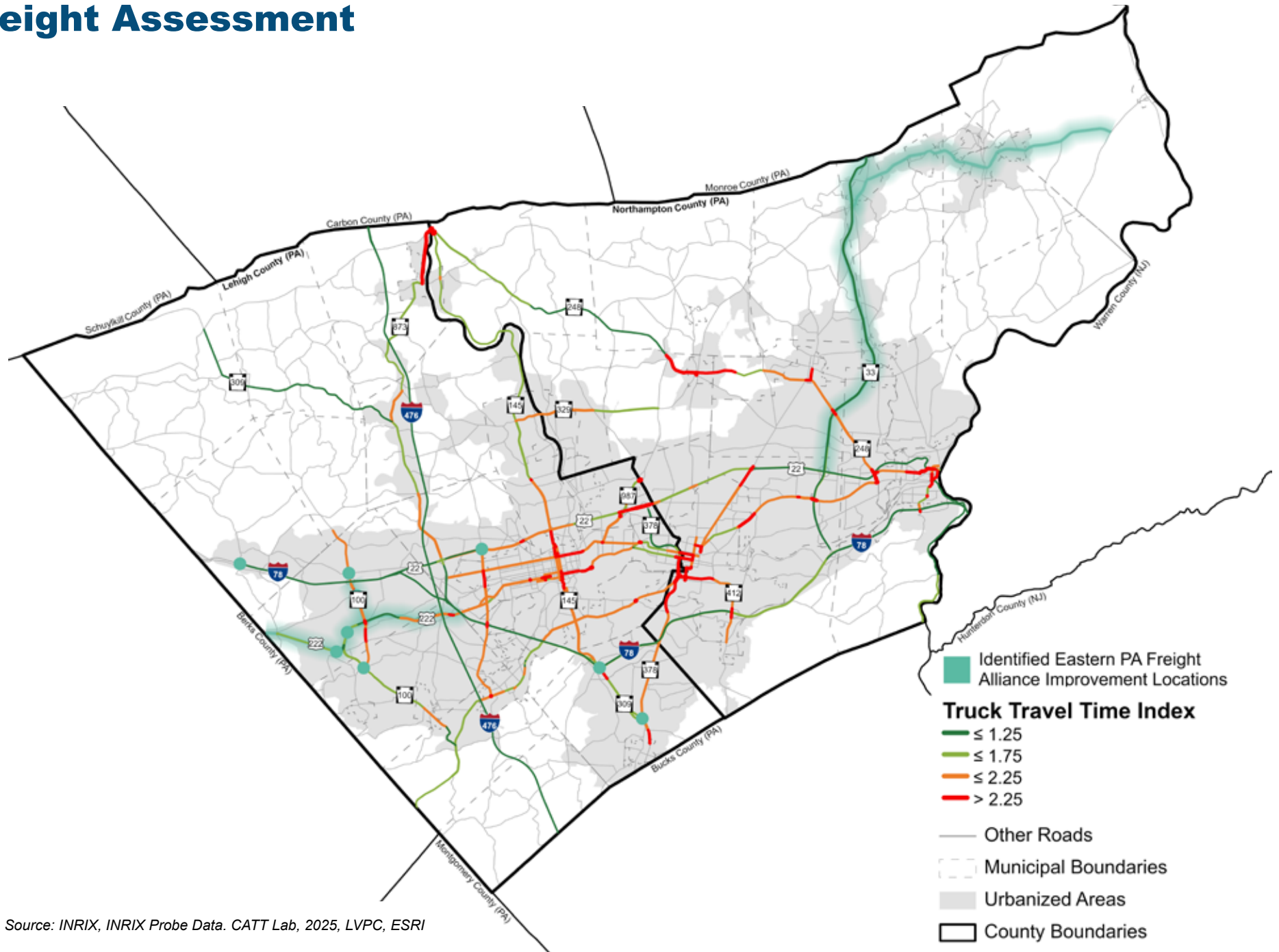
A key goal of managing congestion is to keep goods moving efficiently and support the region's economy. In 2024, LVTS completed the Eastern Pennsylvania Freight Alliance (EPFA) Infrastructure Plan, which identified important Priority Freight Corridors in the region. The recommendations from that plan are now being incorporated into the CMP to better coordinate freight planning with overall transportation goals.

Alongside, the TTTI was mapped to show where freight activity overlaps with major roadways and where truck congestion may be a concern.

This approach helps to highlight corridors that carry a large share of goods, supporting smarter strategies to improve freight movement, maintain efficiency, and direct funding where it is most needed.



Freight Assessment



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI





Regional Objectives for Congestion Management

Regional Objectives for Congestion Management

The CMP sets out how the region manages congestion while supporting broader goals like livability, economic growth, safety, and access to multiple travel options. These objectives align with MTP to improve how the transportation system works.

Each CMP objective has specific performance measures, called CMP Objective Measure criteria. Some measures have multiple thresholds, with higher thresholds carrying more weight.

For example, the TTI is tracked using two levels: above 1.50 and between 1.20–1.50, each counted separately. The LVTS Technical Committee used local knowledge and regional priorities to evaluate these measures and guide congestion mitigation strategies.

LVTS has assigned custom weights to each objective (adding up to 100) to ensure balanced scoring. This approach helped identify the most congested corridors and bottlenecks.



Enhance Mobility and Reliability

Focus on reducing both chronic and unexpected traffic congestion to achieve established PM3 performance standards



Modernize and Maintain Infrastructure

Prioritize the efficiency and adaptability of road and transit networks, specifically ensuring they support freight needs and meet PM3 freight benchmarks.



Align with FutureLV: *The Regional Plan* Priorities

Direct transportation investments toward established centers, improve multimodal coordination, expand transit in high-need areas, and bolster system-wide safety, security, and emergency resilience.

CMP Objectives	Measure Type	Name of Measure	Definition	Measurement
Enhancing system reliability and mobility	PM3 (performance measures): reliability measures	Peak hour excessive delay (PHED)	PHED measures the amount of extra time drivers spend in traffic during rush hour. A corridor/bottleneck is considered highly congested if the delay is worse than the regional average.	Total hours of delay during rush hour go beyond an acceptable limit. A corridor/bottleneck is considered highly congested if its delay is above the regional average.
		Level of travel time reliability (LOTTR)	LOTTR shows how dependable travel times are from day to day. If this number is high, it means your trip time can vary a lot depending on the day.	Measures of how consistent travel times are during busy periods. A value of 2.50 or higher means low reliability; 1.50–2.49 means moderate reliability.
	Congestion intensity measures	Volume to capacity (V/C) ratio	V/C ratio compares how much traffic a road carries (volume) to how much it was built to handle (capacity). A higher ratio means the road is overcrowded.	Shows how much traffic a road carries compared to how much it was designed for. Roads/Bottlenecks are considered congested when this ratio is greater than 0.85.
		Travel time index (TTI)	TTI compares how long a trip actually takes versus how long it would take with no traffic.	Compares actual travel time to free-flow (no-traffic) conditions. The higher the number, the worse the congestion.
Ensuring Cross-Border Mobility and Network Modernization	PM3: Truck reliability and congestion intensity measures	Truck travel time index (TTTI)	Similar to TTI but focuses on trucks. A high number means trucks are heavily delayed compared to free-flow conditions.	Similar to TTI but focuses only on truck travel.
		Truck travel time reliability (TTTR)	TTTR evaluates how consistent truck travel times are. High values mean truck travel times vary widely and are less predictable.	Measures how reliable truck travel times are on major highways during peak hours.
	Network modernization	Freight centers and Lehigh Valley airport terminals	Corridors/bottlenecks are selected if they are located near major freight facilities or airports, where truck activity and deliveries are common.	Quarter-mile of major freight centers or airport terminals in the Lehigh Valley.
Supporting the goals identified in <i>FutureLV: The Regional Plan</i>	Ozone and particulate matter 2.5	Ozone and particulate matter 2.5 concentration	Identifies areas with higher air pollution levels than the regional average. These are areas more affected by emissions and poor air quality.	Census tracts where ozone or fine particulate matter levels are higher than the regional average.
	Multimodal accessibility	Near fixed-route transit system	Corridors/bottlenecks are selected if they are located close to fixed route public transit system.	Within a quarter-mile of the fixed-route transit system.
		Near population and employment centers	Corridors/bottlenecks are selected if they are located in an area with high concentrations of residents or jobs, where many people live or work.	Census blocks with high population density or within a quarter-mile buffer of employment centers.
		Near corridors identified in <i>FutureLV</i>	Corridors/bottlenecks are selected if they are close to major corridors that are part of the region's metropolitan transportation plan.	Quarter-mile buffer of a corridor identified in <i>FutureLV</i> .
	Safety	Locations with maximum crash severity	Corridors/bottlenecks are selected if they are in areas where serious crashes happen more frequently, indicating potential safety concerns.	Quarter-mile buffer of an area with high crash severity as determined through the Pennsylvania Crash Information Tool.
	Infrastructure Resilience	Near major bridges	Corridors/bottlenecks are selected if they are near bridges that carry higher daily traffic volumes.	If the Annual Average Daily Traffic on the bridge exceeds the regional average
Located in a flood hazard area		Corridors/bottlenecks are selected if they fall within a flood-prone area as identified by FEMA. These are more likely to be impacted during flooding events.	Quarter-mile of the 2024 national flood hazard.	





Network Analysis

Network Analysis

This section defines the congestion management network, identifies the significantly congested locations, and evaluates key performance measures. The congestion management network was identified, consisting of corridors and bottlenecks. Priority corridors and bottlenecks were identified based on scoring criteria created with LVTS.

Identifying the Congestion Management Network

Congestion management network corridors were then selected using thresholds from the empirical quantile distributions of key performance indicators: Annual Average Daily Traffic (AADT) > 12,622, Volume to Capacity Ratio (V/C) \geq 0.575, or Annual Daily Truck Traffic (ADTT) \geq 727.205 with V/C \geq 0.401. These criteria

ensured corridors represent above-average traffic, congestion or truck activity. Using this approach, the LVTS identified 326 focus corridors for analysis, considering both directions.

Focus bottlenecks were identified using the University of Maryland's Center for Advanced Transportation Technology (CATT) Lab Probe Data Analytics (PDA) Bottleneck Ranking Tool, which produced a ranked list of 1,000 bottlenecks. Segment-level congestion measures were averaged to create representative values for each metric. Bottlenecks were included if AADT > 10,685, V/C \geq 0.61, or ADTT \geq 427.5, resulting in 228 focus bottlenecks for analysis. Finally, consistent with HCM guidance, corridors with V/C \geq 0.85 were highlighted during prioritization and evaluation of high-congestion locations, as described later in the document.



Identifying Congested Corridors and Bottlenecks for Regional Prioritization

To identify priority corridors and bottlenecks for regional investment, LVTS developed a scoring framework linking MTP goals and performance measures with CMP objectives. The LVTS Technical Committee assigned weights to each CMP objective and sub-objectives, which measure congestion, mobility, safety, multimodal access, freight efficiency, system resilience, and long-range planning priorities.

Corridors and bottlenecks were scored based on their performance across relevant CMP objectives and sub-objectives. Scores were aggregated by CMP objective and normalized to a maximum of 100 for consistent comparison. Locations with the highest cumulative scores represent the most critical areas for operational improvements and investment.

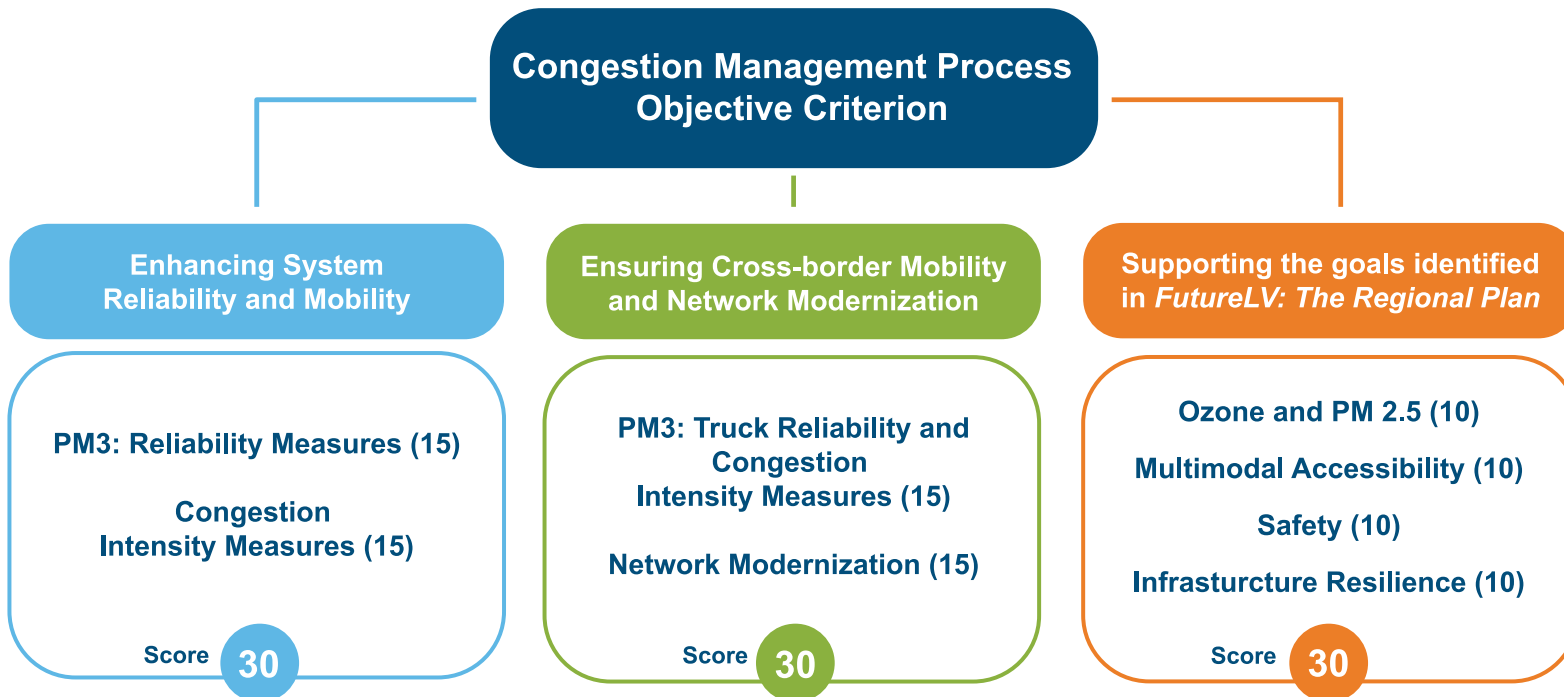
Using this process, LVTS identified the top 10 corridors and bottlenecks

in Northampton and Lehigh counties. The top 10 scoring locations in both counties were identified, with volume to capacity ratio as a tie breaker to assign priority ranks.

Shared corridors were given a rank for both counties. Restricted-access roadways, such as interstates, were moved to the bottom of the list to prioritize non-restricted-access roads. Lists of these priority corridors and bottlenecks are provided on the tables Priority Corridors and Priority Bottlenecks.

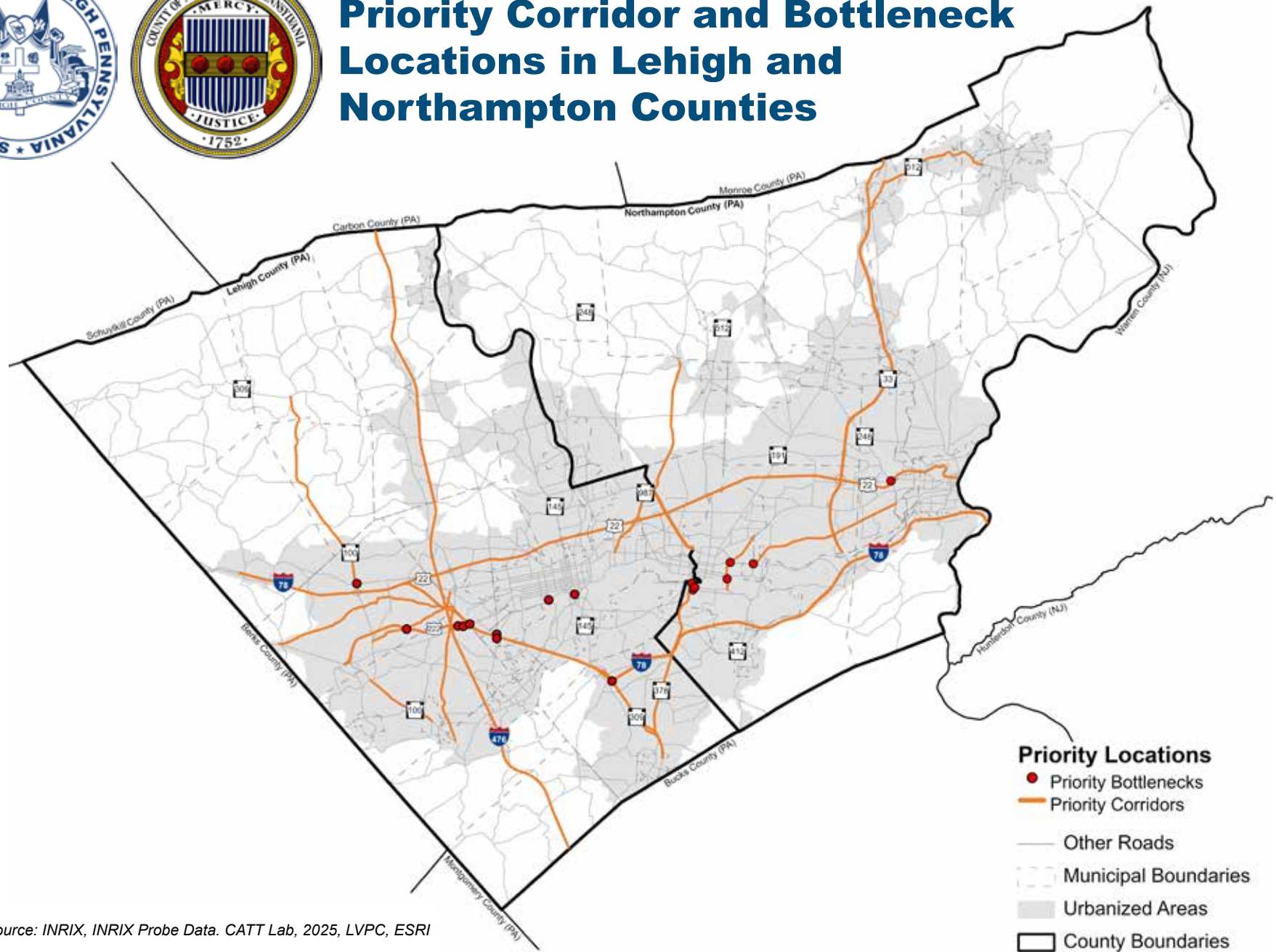
The LVTS Technical Committee formally adopted and weighed the CMP Objective Criteria on November 19, 2025, to guide the identification of priority corridors and bottlenecks.

LVTS staff then allocated points to specific sub-criteria to create a comprehensive score for each category. The tables in the upcoming pages show the resulting priority corridors and bottlenecks.



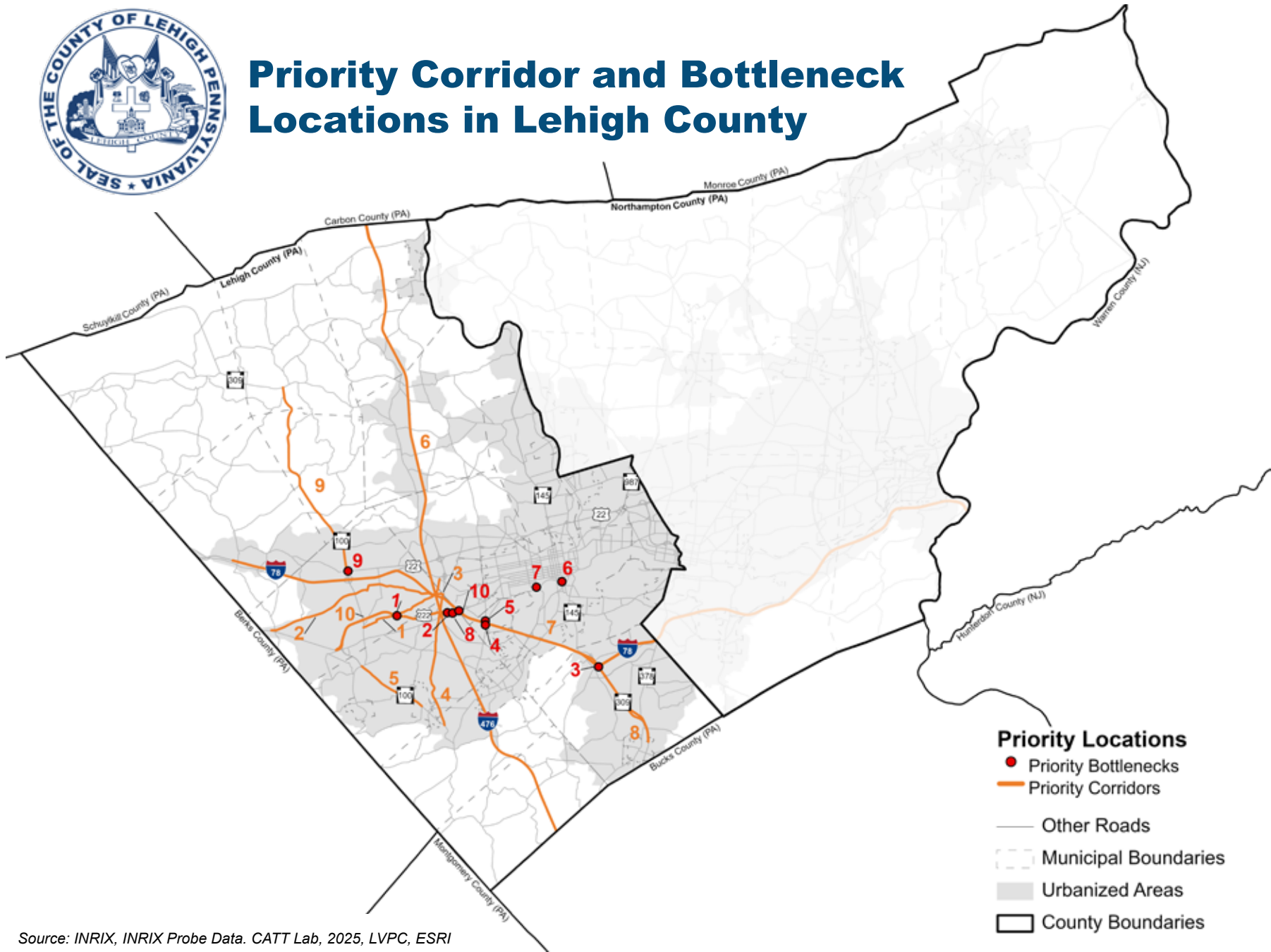


Priority Corridor and Bottleneck Locations in Lehigh and Northampton Counties





Priority Corridor and Bottleneck Locations in Lehigh County



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI



Top 10 Priority Corridors in Lehigh County

Roadway	Limits From	To	Length in Miles	AADT	ADTT	V/C	TTTI	TTTR	Objective Score	Rank
Cetronia Road	Old Route 100	Broadway	3.81	8,832	593	1.46	NA	NA	100	1
Schantz Road	Route 222	Cetronia Road	7.01	4,016	466	1.29	NA	NA	100	2
Schantz Road	Hamilton Blvd	Cetronia Road	1.21	9,755	828	1.03	NA	NA	100	3
Brookside Road	Kings Highway	Route 222	4.59	8,463	293	0.88	NA	NA	100	4
Main Street	Church Street	Spring Creek Road	2.85	9,425	888	0.88	1.54	NA	95.23	5
I-476	Lehigh County Line	Lehigh County Line	27.35	38,841	428	1.00	1.18	1.19	90.32	6
I-78	Lehigh County Line	Northampton County Line	32.40	29,594	5709	0.69	1.18	1.17	90.32	7
Route 309	Fairmount St	I-78	4.06	17,268	1,814	0.73	1.80	NA	89.29	8
Route 100	Tilghman St	Route 309	8.17	12,271	1,157	0.70	2.06	NA	89.29	9
Route 222	I-78	Hamilton Blvd	5.25	16,698	1421	0.670	1.48	NA	89.28	10



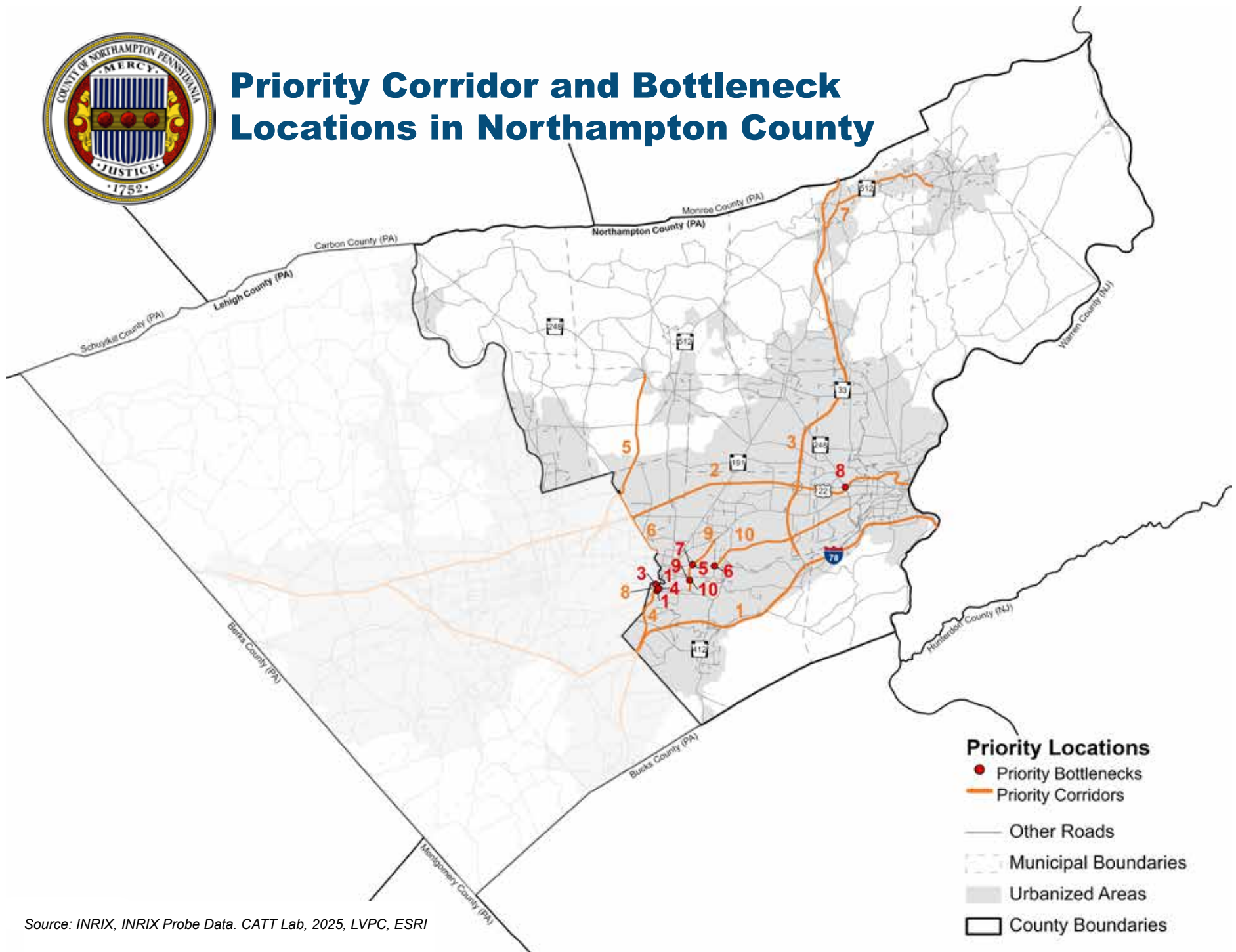
Top 10 Priority Bottlenecks in Lehigh County

Bottleneck	Municipality	County	AADT	ADTT	V/C	TTTI	TTTR	Objective Score	Rank
Route 222 (Westbound) near Mill Creek Road	Upper Macungie	Lehigh	19,400	1,248	0.73	1.62	NA	77.39	1
Route 222 (Eastbound) near Route 222 Bus / Hamilton Boulevard	Lower Macungie	Lehigh	16,379	1,537	0.65	1.42	NA	77.39	2
Route 309 (Southbound) near I-78 / Exit 60b & 20	Upper Saucon	Lehigh	26,344	3,712	0.71	1.39	NA	72.61	3
Route 29 (Northbound) near I-78 / Route 309	Salisbury	Lehigh	14,767	1,107	2.42	1.79	NA	71.43	4
Cedar Crest Boulevard (Northbound) near I-78 / 78/ Route 309	Salisbury	Lehigh	18,090	1,949	1.74	2.09	NA	71.43	5
Martin Luther King Junior Drive (Westbound) near Route 145 / Lehigh Street	Allentown	Lehigh	15,154	455	1.05	NA	NA	71.43	6
S. Jefferson Street (Northbound) near S. 15th Street / Martin Luther King Junior Drive	Allentown	Lehigh	12,728	586	0.99	NA	NA	70.67	7
Route 222 (Eastbound) near Route 222 Bus	Lower Macungie	Lehigh	16,178	1,497	0.66	1.53	NA	70.24	8
Tilghman Street (Eastbound) near Route 100	Upper Macungie	Lehigh	13,874	1,527	0.98	NA	NA	68	9
Route 222 (Southbound) near I-78	South Whitehall	Lehigh	12,883	1,117	0.76	1.84	NA	67.9	10





Priority Corridor and Bottleneck Locations in Northampton County



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI



Top 10 Priority Corridors in Northampton County

Roadway	Limits From	To	Length in Miles	AADT	ADTT	V/C	TTTI	TTTR	Objective Score	Rank
I-78	Berks-Lehigh County Line	Delaware River Crossing	32.40	29,594	5,709	0.69	1.18	1.18	90.32	1
Route 22	I-78	Delaware River Crossing	22.66	31,466	3,590	0.58	1.52	NA	89.29	2
Route 33	I-78	Northampton-Monroe County Line	16.41	25,825	3,131	0.52	1.22	NA	89.29	3
Route 378	Route 309	Broadway Avenue	5.64	14,475	947	0.51	1.83	NA	89.29	4
Airport Road	Union Boulevard	West Main Boulevard	8.07	10,376	723	0.60	2.08	NA	87.50	5
Schonerville Road	Elizabeth Avenue	Airport Road	2.81	12,213	592	0.77	NA	NA	85.71	6
Route 512	Route 33	Market Street	5.51	11,592	676	0.91	NA	NA	84	7
Wyandotte Street	Broadway Avenue	Northampton County Rail Line	0.38	22,143	541	0.86	2.98	NA	78.57	8
Stefko Boulevard	Daly Avenue	Easton Avenue	2.47	13,802	774	0.93	NA	NA	76	9
Freemansburg Avenue	Cambria Street	Twenty fifth Street	6.14	13,640	799	0.86	NA	NA	76	10



Top 10 Priority Bottlenecks in Northampton County

Bottleneck	Municipality	County	AADT	ADTT	V/C	TTTI	TTTR	Objective Score	Rank
Route 412 (Westbound) near W. 4th Street	Bethlehem	Northampton	13,314	450	1.09	NA	NA	68	1
Route 412 (Eastbound) near W. 3rd Street / River Street	Bethlehem	Northampton	13,314	450	1.09	NA	NA	68	2
Route 378 (Northbound) near Hill-to-hill Bridge	Bethlehem	Northampton	17,267	852	0.62	2.37	NA	67.86	3
Route 412 (Westbound) near W. 3rd Street / River Street	Bethlehem	Northampton	17,832	813	0.61	2.34	NA	60.71	4
Stefko Boulevard (Northbound) near Pembroke Road	Bethlehem	Northampton	14,633	951	1.01	NA	NA	60	5
Pembroke Road (Eastbound) near Washington Street / Cambria Street	Freemansburg	Northampton	13,136	648	0.94	NA	NA	60	6
Pembroke Road (Westbound) near Stefko Boulevard	Bethlehem	Northampton	14,113	533	0.88	NA	NA	60	7
S. 25th Street (Northbound) near Route 22	Palmer	Northampton	14,039	551	0.65	2.61	NA	56.95	8
Stefko Blvd (Northbound) near Minsi Trail Bridge	Bethlehem	Northampton	13729	1115	1.00	NA	NA	54.67	9
Stefko Blvd (Southbound) near Minsi Trail Bridge	Bethlehem	Northampton	12368	996	0.98	NA	NA	54.67	10



Public Participation

Public Participation

On March 2, 2026, LVTS hosted WorkshopLV: Transportation as part of the Congestion Management Plan (CMP) update process to identify congested locations across the Lehigh Valley. The workshop was advertised in the Lehigh Valley Press on February 26, 2026, and specific outreach was made to employers, private and non-profit providers of public transportation, transportation management organizations, and organizations that provide job access reverse commute projects or job-related services to low-income individuals.

During the meeting, public participants, including employers, members of the public, local municipalities, and other stakeholders, were provided an overview of the Congestion Management Plan and invited to identify locations experiencing recurring congestion along the designated CMP network. The workshop resulted in the identification of multiple congested locations throughout the Valley. These locations were identified through a discussion at the event

where participants expressed their concerns and experiences about congestion at these locations. This contextualizes qualitatively the congestion encountered throughout the Lehigh Valley.

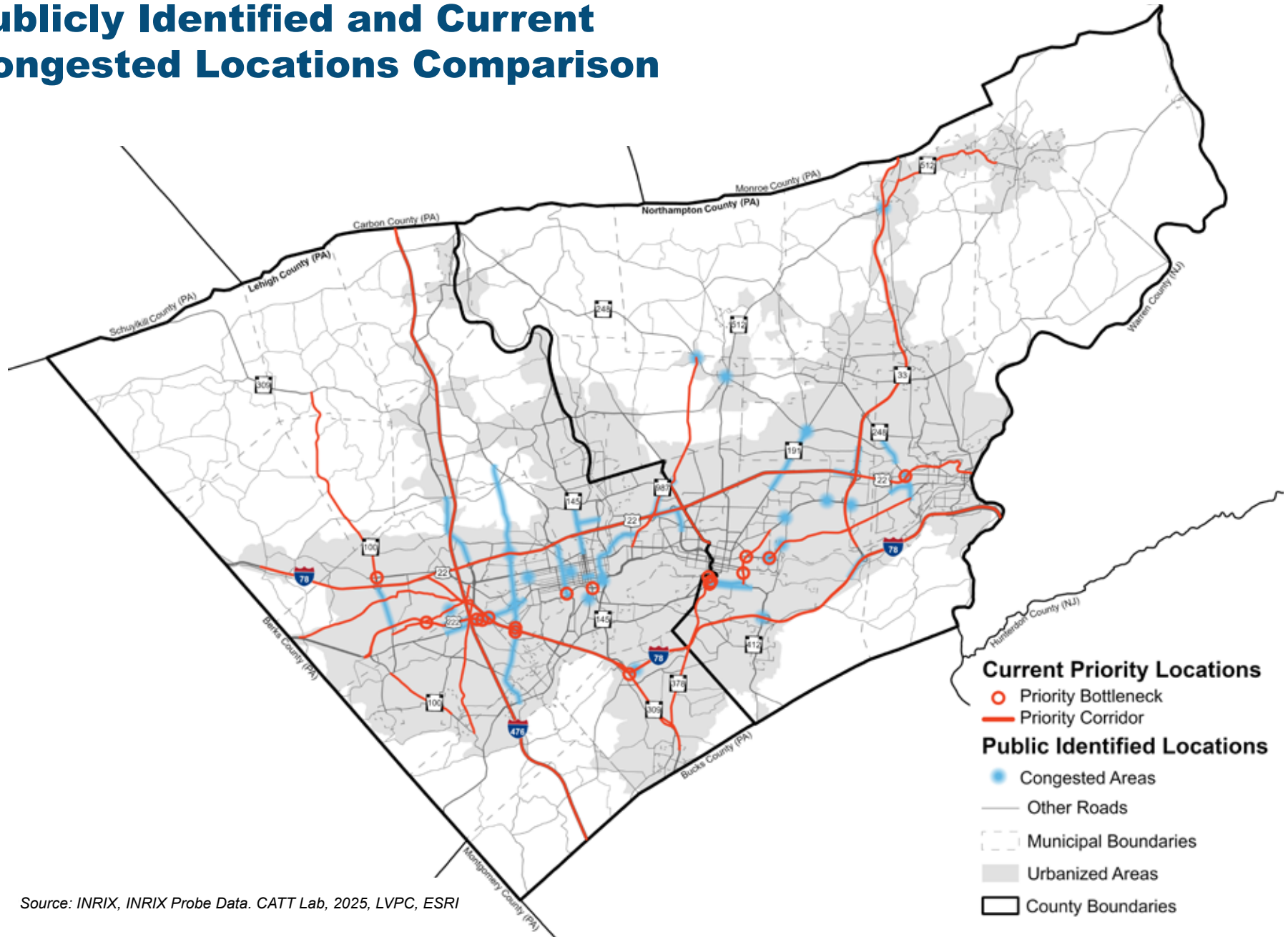
Throughout the discussion, participants repeatedly emphasized that “schools, universities, healthcare locations, and shopping centers are recurring congestion generators, creating traffic surges at varying times of day, both during traditional peak hours and outside of them.” Others noted that this is also true for truck movements, especially along western Lehigh County, which occur at irregular and often unpredictable times throughout the day. This is particularly noteworthy because the CMP analysis focused on AM and PM peak periods; the public’s input suggests that congestion associated with these land uses may extend beyond those windows, indicating that time-of-day dynamics could be broader than captured in the peak-period analysis alone.



Participants noted common causes of congestion, including:

- Badly timed lights
- No designated turning lanes
- Outdated intersections
- Complex intersections
- Lanes merging and weaving ramps
- Backup traffic around shopping centers and schools
- Non-coordinated signaling across municipalities
- Heavy industrial and truck traffic
- Driver behavior
- Stop signs

Publicly Identified and Current Congested Locations Comparison



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI

One participant recognized that “we can never eliminate congestion entirely.” Others emphasized that “even if travel speeds are lower, maintaining steady movement without frequent stops would represent a significant improvement”.

“Congestion Can’t Be Eliminated, but Steady Traffic Flow Is a Meaningful Improvement”

- Participant

This perspective closely aligns with the intent of the PM3 performance measures, which focus on improving travel time reliability and reducing excessive delay rather than eliminating congestion altogether.

A third, and perhaps most significant comment we heard was that “people are recognizing the increasing pace of economic development across the region.” Participants widely agreed

that “planning for the future is of utmost importance,” emphasizing that growth must be managed proactively.

This sentiment underscores the need for coordinated, forward-looking planning efforts such as the Congestion Management Plan (CMP) and *FutureLV: The Regional Plan* to ensure that transportation infrastructure keeps pace with development and continues to support the region’s long-term mobility and economic objectives.

Together, these insights show that congestion is a complex issue, and its timely and effective management is important. By and large, the comments from the participants aligned with the data analysis.

Qualitative feedback complemented quantitative analysis, validating identified locations and highlighting areas data alone might miss. Locations identified through both methods include:

1. Route 33
2. Route 512
3. 25th Street in Palmer Township
4. Route 22
5. Route 222
6. Cedar Crest Boulevard
7. Cetronia Road
8. Krocks Road
9. Route I-78
10. Freemansburg Avenue
11. Airport Road
12. Route 100

Most of the other locations identified through the public participation process were on or in close proximity to locations identified in the plan.



Congestion Mitigation Strategies

Traffic Congestion Mitigation Strategies

FHWA encourages identification and evaluation of strategies to address congestion in a systematic and effective manner. Recommended strategies typically fall into various categories, which may be considered individually or in combination depending on the congested location under study.

1. Demand Management Strategies focus on influencing travel behavior to reduce congestion and emissions. Key approaches include promoting compact, transit-oriented and infill development, managing parking through pricing and restrictions, encouraging alternatives to single-occupancy vehicles via employer programs and flexible schedules, and supporting active transportation by completing bicycle lane/trail networks and sidewalks, and developing public awareness initiatives.

2. Traffic Operational Improvements involve optimizing the performance of the existing roadway network. Strategies may include signal timing and coordination, intersection and interchange improvements, incident management, and other operational techniques designed to enhance traffic flow and reduce delays.

3. Public Transportation Improvements aim to provide viable alternatives to driving, including expanded transit service, improved frequency and reliability, and enhanced access to transit facilities. These strategies encourage a shift from single-occupancy vehicles to higher-occupancy buses, supporting air quality goals. They may also include fare and incentive programs, demand-responsive and flexible transit options, and transit-oriented development (TOD) strategies to integrate land use with transit access.

4. Intelligent Transportation Systems (ITS) Technologies leverage technology to improve real-time traffic management, traveler information, and overall system efficiency. ITS strategies should be consistent with the regional ITS architecture and may include traffic monitoring, adaptive signal control, integrated traveler information systems, and readiness for connected and autonomous vehicles (CAVs). Regional coordination, linking ITS across jurisdictions, can further enhance corridorwide efficiency and support seamless multimodal travel.

5. Additional System Capacity may only be considered when other strategies cannot adequately address congestion. As the Lehigh Valley is in a Transportation Management Area (TMA) designated as nonattainment for ozone and maintenance for PM 2.5, federal funding for projects that significantly increase SOV capacity is restricted, with exceptions limited to safety improvements or the elimination of bottlenecks. When adding capacity, a Complete Streets approach should be applied to accommodate multimodal users, including pedestrians, cyclists, and transit riders. Environmental mitigation should also be integrated, such as green infrastructure, low-impact construction methods, and other strategies to minimize ecological impacts.

6. The CMP requires a thorough analysis, when additional capacity is warranted, demonstrating that travel demand reduction and operational strategies cannot fully meet corridor needs. It also requires that all reasonable strategies for managing the new SOV capacity are incorporated, with public engagement and clear communication of results to decision-makers and stakeholders to ensure transparency and informed decision-making.

7. Freight and Commercial Vehicle Strategies aim to reduce congestion and improve efficiency by incentivizing delivery trucks to operate during non-peak hours, encouraging consolidation of shipments, and reducing unnecessary truck trips. These measures help minimize conflicts between commercial vehicles and general traffic while supporting smoother, safer travel for all road users.

For all strategies, the CMP includes identification of implementation schedules, responsible agencies, and potential funding sources. Additionally, a process for periodic assessment of implemented strategies is essential, with results communicated to decisionmakers and the public to guide future planning and ensure that strategies remain effective in meeting established performance and air quality objectives.



Priority Corridors

In this CMP, priority corridors and bottlenecks are identified through performance-based data analysis and a weighting methodology developed by LVTS to establish regional priorities. These corridors and bottlenecks are ordered based on their composite CMP objective scores.

Specific strategies for each location are then developed through a comprehensive review process that includes manual screening

of current conditions using tools such as Google Maps Streetview, along with data-driven evaluation of PM3 system performance, asset management conditions and safety-related indicators.

This analysis is further informed by a review of project priorities identified in the TIP and *FutureLV: The Regional Plan* to ensure consistency with regional goals, investment priorities, and long-range planning objectives.





Cetronia Road (Old Route 100 to Broadway)

Cetronia Road serves a mix of residential, commuter, institutional and freight traffic. The western segment passes established neighborhoods, while central and eastern sections provide access to major employment and activity centers.

Key traffic generators, including St. Luke’s University Health Network orthopedic and dental facilities, logistics hubs like U-Line and Amazon, and commercial operations such as the Coca-Cola plant, cause congestion unpredictably throughout the day, highlighting the need for strategic traffic management and infrastructure improvements.

Participants in the CMP workshop on March 2 noted the intersection with Krocks Road, which is controlled by an all-way stop as particularly congested.

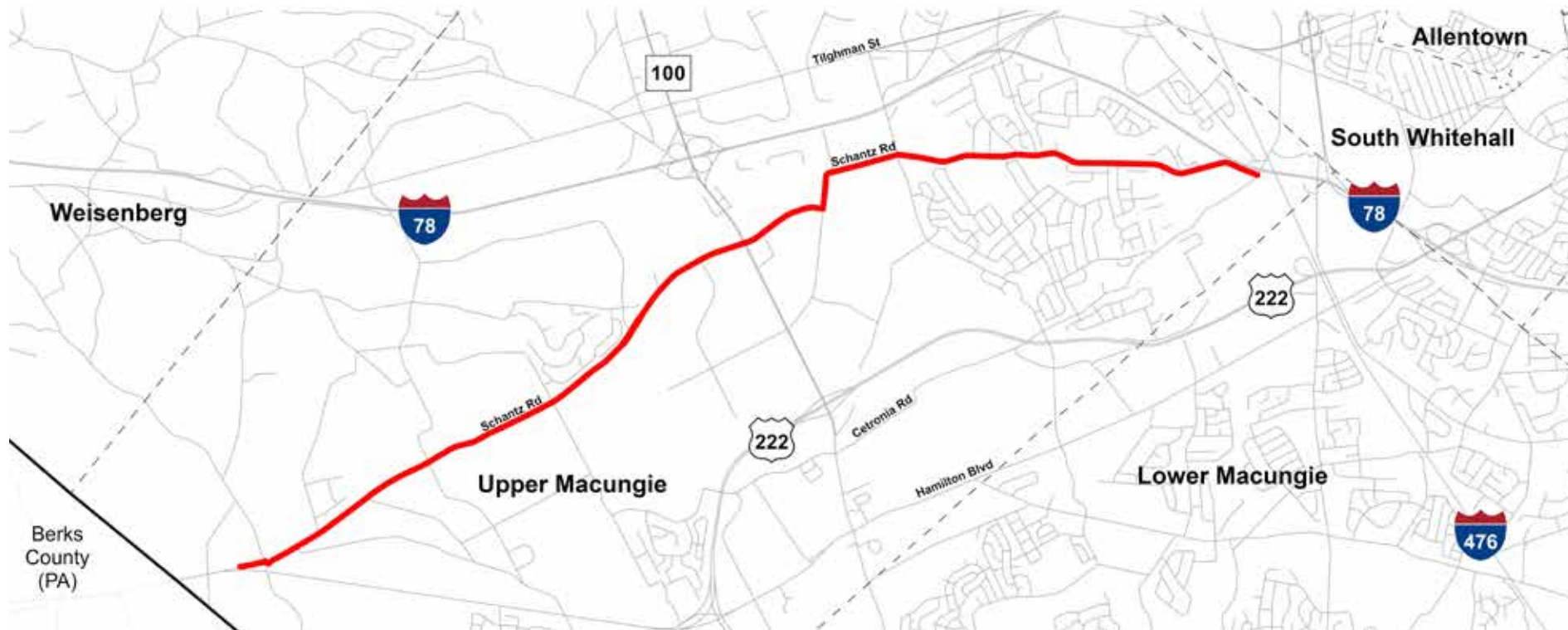
Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	593
Annual Average Daily Traffic	8,832
Land use classification	Residential, Agricultural, Commercial
Length	3.81 miles
Lanes	2
Municipalities	Upper Macungie and South Whitehall Townships
Level of Service (V/C)	1.47
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	1

Planned Improvements

- *FutureLV: The Regional Plan*
 - Jandl Highway (Route 222), Grim Road and Cetronia Road Intersection Improvements - Replace turn lanes with “jughandle” ramps to improve safety and capacity, project also involves multimodal infrastructure, including sidewalks.

Strategies

- Signal improvements
- Integrated Corridor Management (ICM) - Corridor wide management of freeways, transit, arterials, and parking using ITS and innovative strategies
- Walking and bicycle improvements
- Incident management and emergency response
- Accommodate residential, employment and healthcare-related travel, while reducing crash risk



Schantz Road (Route 222 to Cetronia Road)

Schantz Road is a major east-west corridor in Upper Macungie Township, linking Route 100 with Route 222 and serving agricultural, industrial, residential, and freight land uses. The western segment near the Route 863/Route 222 roundabout is primarily agricultural, transitioning to industrial and warehousing near Ruppssville Road with substantial truck activity. Eastward toward I-78, land use becomes increasingly residential, requiring the corridor to accommodate both commuter and freight traffic.

Schantz Road provides access to one of the Lehigh Valley's most economically significant industrial districts, including major manufacturing, food and beverage, medical supply, and distribution facilities.

Key employers and freight generators include Coca-Cola, Ocean Spray, Niagara Bottling, B. Braun Medical, Bimbo Bakeries, Nestlé, Sharp Corporation and Kane Logistics. High truck volumes and time-sensitive freight movements make Schantz Road a critical connector for the region's economic base.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Replacement/Rehabilitation of the Schantz Road (Route 2015) bridge over a tributary of Cedar Creek.

- Nestle Way/Grim Road Corridor and Schantz Road (Route 3012) Intersection Improvements - Widen Nestle Way, including a culvert to accommodate turning lanes between Adams Road and Oldt Road, intersection improvements at Schantz Road and Grim Road/Industrial Boulevard to improve freight mobility in the area and improve safety. Project also includes pedestrian and multimodal facilities such as sidewalks.
- Schantz Road resurfacing betterment from Route 222 to Boulder Drive, improving pavement conditions along a freight-heavy section.
- Transportation Improvement Program (TIP)
 - Schantz Road over a Tributary to the Cedar Creek: Replacement/ Rehabilitation of Schantz Road (Route 2015) bridge over a tributary of Cedar Creek (MPMS 92049)*
- Past CMP actions addressing congestion and safety include new traffic signals and geometric upgrades at Schantz Road and Farmington Road (MPMS 78556); planned roundabouts at key intersections (MPMS 79554; construction programmed in the 2015 and 2017 TIPs)

Strategies

- Resurface freight-heavy segments and rehabilitate or replace bridges
- Geometric design and signal enhancements
- Prioritize heavy-vehicle accommodation while maintaining corridor connectivity
- Incorporate pedestrian facilities where feasible
- Implement adaptive signal timing for variable truck flows
- Evaluate truck parking/staging, access management
- Intersection upgrades including roundabouts
- Loading and deliveries improvement

* *Multimodal Project Management System (MPMS) serves as the identification number for TIP projects.*

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	466
Annual Average Daily Traffic	4,015
Land use classification	Industrial, Residential, Agriculture
Length	7.01 miles
Lanes	2
Municipalities	Upper Macungie Township
Level of Service (V/C)	1.30
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	2



Schantz Road (Cetronia Road to Hamilton Boulevard)

Beginning at Cetronia Road, this segment of Schantz Road passes a mix of commercial, industrial, and institutional uses. Key generators include Rye Barker Fire & Safety, Hannabery HVAC, Green Acres Outdoor Living, U-Haul and Budget Store & Lock Self Storage, manufacturing supply operations, multiple auto dealerships and a stone quarry, along with a church and smaller businesses that contribute to steady local traffic. Approaching Hamilton Boulevard, the corridor becomes a major access point for expanding regional industrial and commercial activity. Portions lie within a designated floodplain, highlighting vulnerability to storm impacts and the need for resilient infrastructure. An off-system bridge requires structural monitoring and targeted investment to maintain safe movement for passenger and truck traffic. Sharp curves leading to a narrow one-lane bridge create bottlenecks, elevate safety risks, and combined with limited shoulders, constrain emergency access and heavy-vehicle maneuvering.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	828
Annual Average Daily Traffic	9,754
Land use classification	Commercial, Industrial
Length	1.20 miles
Lanes	2
Municipalities	Upper Macungie and Lower Macungie Townships
Level of Service (V/C)	1.04
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	Yes
Priority Rank	3

Planned Improvements

- Transportation Improvement Program (TIP)
 - Schantz Road/Tributary of Cedar Creek: This project involves a replacement/rehabilitation of the Schantz Road bridge over a tributary of Cedar Creek in Upper Macungie Township, Lehigh County. (Project Manager Number: 6108714550)

Strategies

- Reconfigure geometric design
- Add emergency pull-offs to improve truck maneuverability
- Implement adaptive signal control and coordinated intersection upgrades
- Support freight demand
- Upgrade drainage and monitor off-system bridges
- Apply structural improvements to address floodplain risks
- Prioritize improvements that maintain reliable truck access.



Brookside Road/E. Macungie Road (Route 222 to Kings Highway North)

Brookside Road is a major north-south corridor in Lehigh County, serving Lower Macungie Township and connecting Route 222 with Route 100. It carries significant commuter traffic and provides access to residential neighborhoods, commercial centers, and institutional uses.

The corridor serves schools including Eyer Middle School, Shoemaker Elementary and Macungie Elementary, creating peak travel periods tied to student pick-up and drop-off. Portions intersect pipeline infrastructure operated by Buckeye Partners, and the road functions as an evacuation route for pipeline-related emergencies, emphasizing its role in regional safety and emergency management. Previously identified as a focus corridor in *MoveLV: The Congestion Management Process*, Brookside Road faces operational and safety challenges. Key intersections at Spruce Road, Liberty Lane and Oplinger Road lack traffic control despite increasing turning movements and school traffic, highlighting the need for CMP attention and targeted improvements.

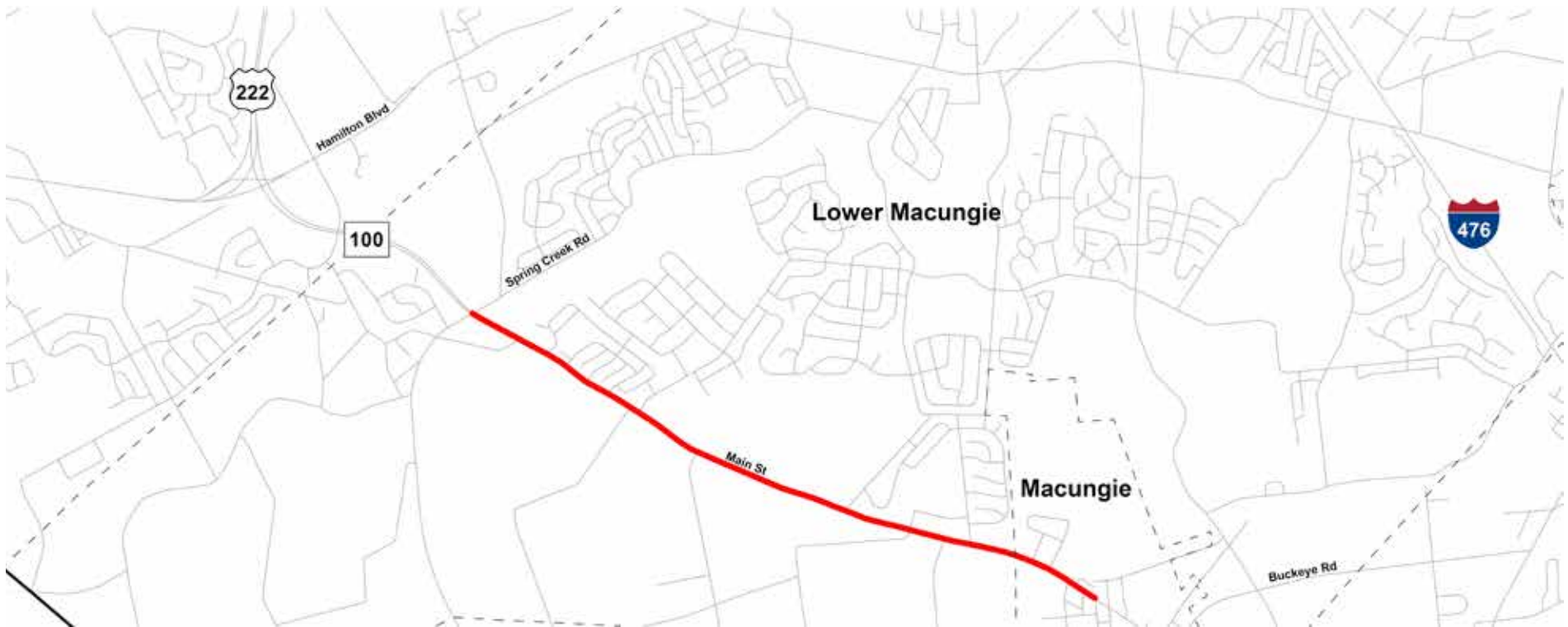
Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	293
Annual Average Daily Traffic	8,463
Land use classification	Residential, Agriculture
Length	4.61 miles
Lanes	2
Municipalities	Lower Macungie and Upper Milford Townships
Level of Service (V/C)	0.89
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	4

Planned Improvements

- Not available currently.

Strategies

- Signal upgrades at key intersections
- Expand sidewalk connectivity near high pedestrian areas
- Strengthening traffic control and coordinating evacuation routes
- Incident and emergency management
- Integrated corridor management
- Balance residential, school, and through-traffic needs to reduce crashes and improve corridor reliability



Main Street (Church Street to Spring Creek Road)

Along this segment of Route 100, logistics and industrial facilities such as Mack Trucks, Allentown Logistics, Pratt Industries, UPS Shipping and St. Lukes Care at Macungie sit directly opposite dense residential neighborhoods, creating a corridor where heavy truck and commuter traffic routinely compete for limited roadway space.

The narrow roadway with single lanes in each direction and no usable shoulders leaves little room for emergency stops and contributes to capacity constraints and elevated volume-to-capacity ratios. Several intersections along Main Street require lighting and signal upgrades for recurring congestion and safety risks.

Portions of the corridor lie within a floodplain and include off-system

bridges, underscoring vulnerability to storm events and the need for infrastructure resilience.

Planned Improvements

- *FutureLV: The Regional Plan*
- Schantz Road resurfacing betterment from Route 222 to Boulder Drive, supporting pavement condition improvement along a freight-heavy section.
- Resurfacing between Alburdis Road and Weilers Road.
- Targeted upgrades from Chestnut Street to Creamery Road.
- Major intersection improvements at Route 29 and Kings Highway.

Strategies

- Resurface and perform betterment along freight-heavy sections
- Implement targeted upgrades and intersection improvements
- Prioritize improvements that accommodate heavy vehicles
- Maintain connectivity between key industrial and regional routes
- Create infrastructure resilience for storm or flood related traffic response strategies

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	888
Annual Average Daily Traffic	9,425
Land use classification	Residential, Rural, Residential, Agriculture
Length	2.85 miles
Lanes	2
Municipalities	Macungie Borough and Lower Macungie Townships
Level of Service (V/C)	0.89
PHED	1828
LOTTR	1.049
TTTI	1.131
TTTR	1.205
High Crash Severity	Yes
Priority Rank	5



I-476 in Lehigh County

The Pennsylvania Turnpike (I-476) serves as a major regional and interstate freight corridor, providing critical north–south connectivity through the Lehigh Valley and linking local roadways to the Turnpike and other key arterials. It carries high volumes of passenger and heavy truck traffic, particularly for freight accessing industrial areas and regional distribution centers.

While the roadway is designed for high-capacity travel, congestion at interchanges, speed differentials between passenger vehicles and trucks, and limited merging areas can create operational challenges and safety concerns. These conditions may contribute to travel time variability and elevated crash risk, particularly during peak periods and adverse weather, affecting both mobility and freight efficiency in the region.

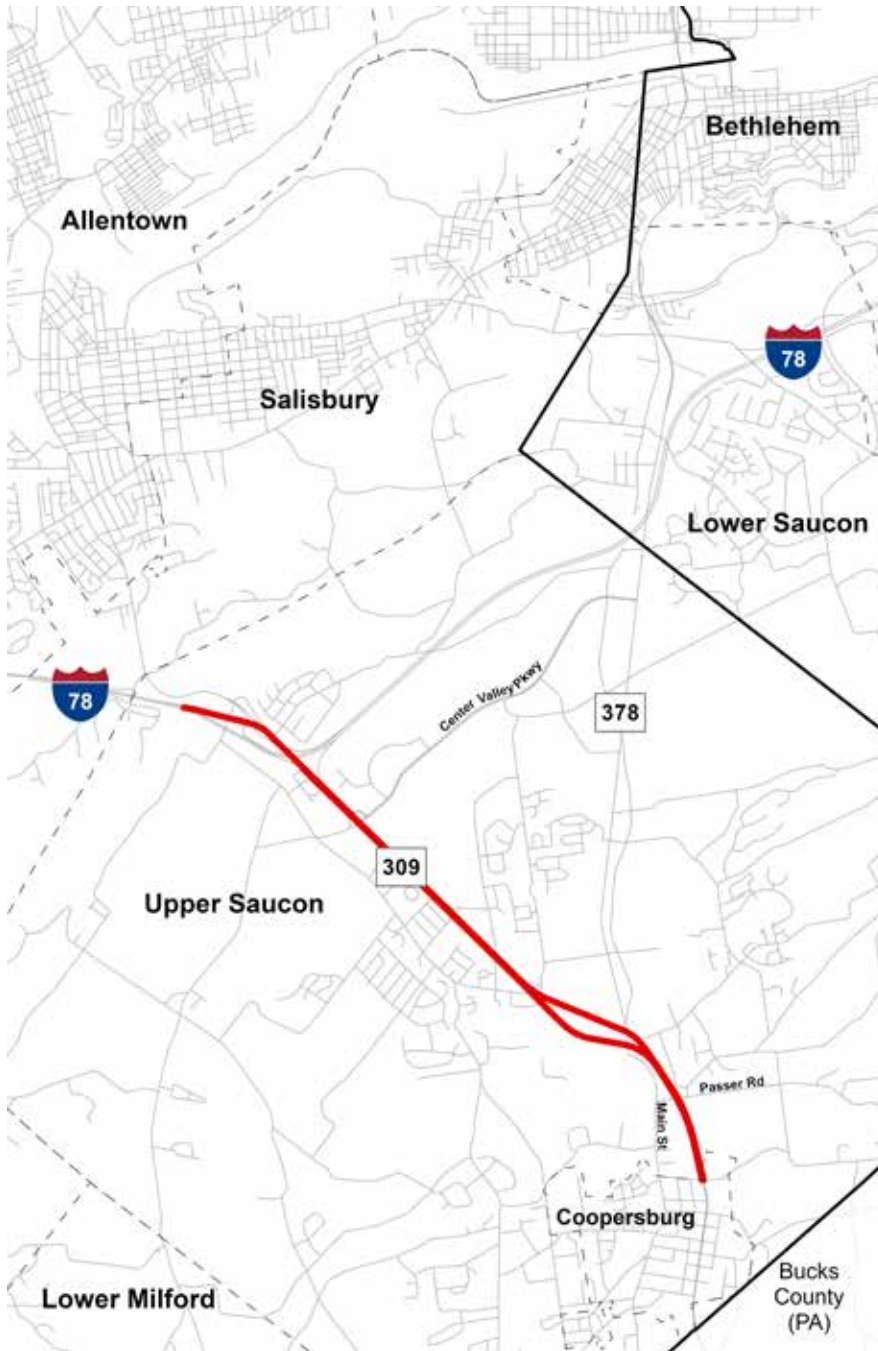
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	427
Annual Average Daily Traffic	38,841
Land use classification	Many use types
Length	27.35
Lanes	4
Municipalities	Through Lehigh County
Level of Service (V/C)	1.01
PHED	1827.992
LOTTR	1.49487
TTTI	1.238096
TTTR	1.205507
High Crash Severity	Yes
Priority Rank	6

Planned Improvements

- *FutureLV: The Regional Plan*
 - Planned to widen section from Quakertown 663 interchange to the Lehigh tunnel from four lanes to six.

Strategies

- Reconfigure geometric design
- Add emergency pull-offs to improve truck maneuverability
- Support freight demand
- Upgrade drainage and monitor off-system bridges
- Apply structural improvements to address floodplain risks
- Prioritize improvements that maintain reliable truck access



Route 309 (I-78 to Fairmount Street)

Route 309 serves as a critical north - south arterial linking I-78 in the Lehigh Valley to Bucks County, Montgomery County, and Philadelphia, accommodating a mix of regional through traffic and substantial local access demand. Existing conditions along the corridor reflect this dual role, with high daily traffic volumes, frequent congestion during peak commuting periods, and recurring delays at major intersections and commercial access points. The roadway traverses a predominantly suburban context characterized by intensive roadside development, numerous signalized intersections and closely spaced driveways, all of which contribute to reduced travel time reliability and operational inefficiencies.

Heavy truck activity associated with regional freight movement further compounds congestion, particularly where through traffic interacts with local turning movements.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,814
Annual Average Daily Traffic	17,268
Land use classification	Residential, Agriculture
Length	4 miles
Lanes	4
Municipalities	Upper Saucon Township
Level of Service (V/C)	0.74
PHED	9430.585923
LOTTR	1.19534
TTTI	1.833575
TTTR	NA
High Crash Severity	Yes
Priority Rank	8

While the corridor provides important connectivity for commuters, freight, and goods movement, its current operating conditions indicate constrained capacity, limited multimodal accommodations in some segments, and heightened sensitivity to incidents and seasonal demand fluctuations.

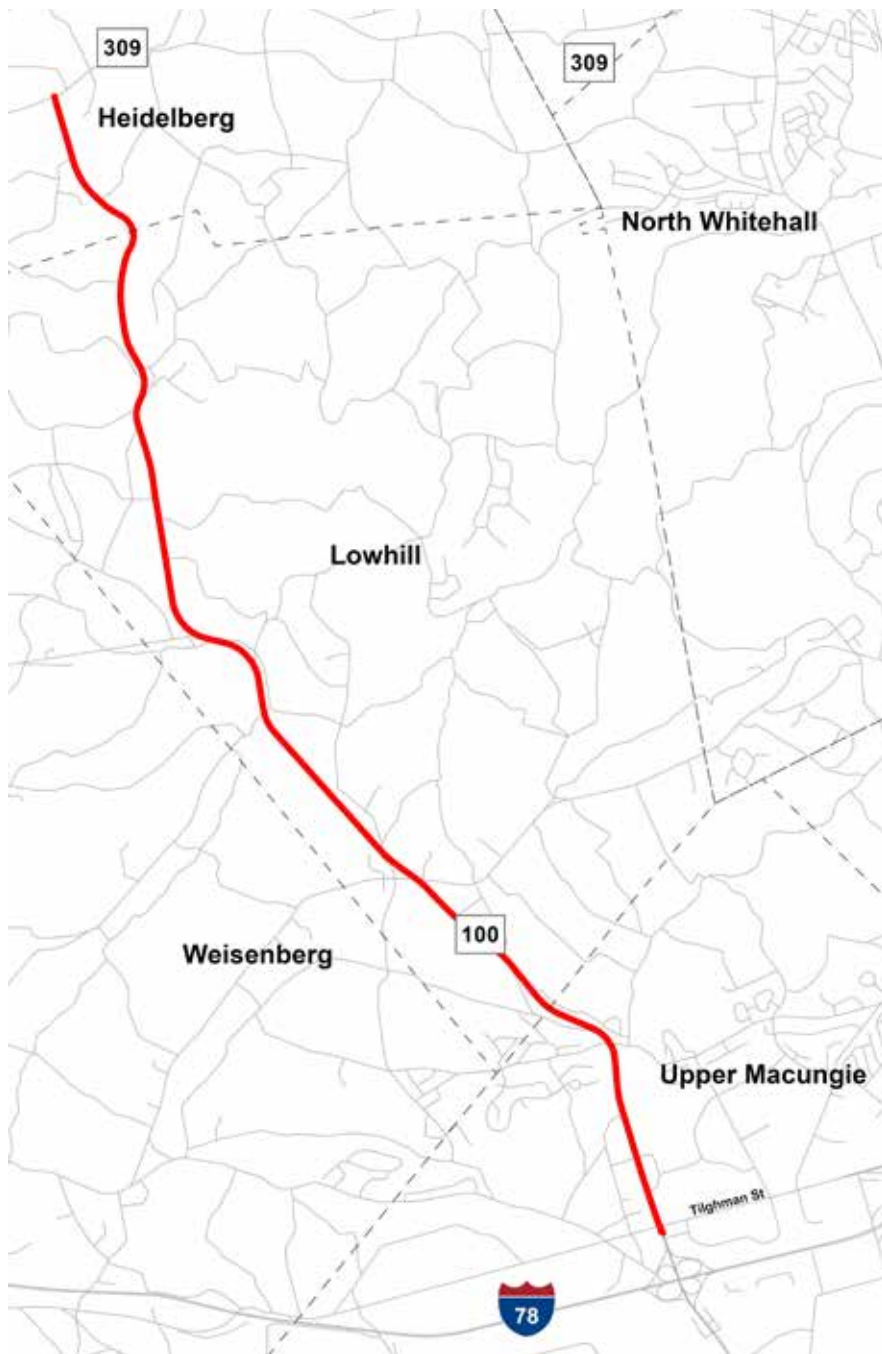
Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 309 - Rehabilitation/replacement of box culvert over tributary to Kistler Creek.
 - Route 309 Resurface Betterment Project - Resurface from Lehigh/Bucks Counties Line in Coopersburg Borough to Center Valley Parkway (Route 2044) in Upper Saucon Township.
 - Route 309 - Signal Head Reflective Backplate - The low cost safety improvement is adding signal head backplates on the northbound and southbound Route 309 signals.
 - Route 309 Center Valley Interchange - Interchange improvements.
 - Interstate 78 from Lehigh Street (Route 2005) to Route 309 South Interchange - Highway preservation/restoration, including pavement overlay and patching of existing mainline and shoulders, rehabilitation/replacement of drainage system, including access ramps.
 - Interstate 78 Corridor Safety Improvements from Emmaus Avenue (Route 2002) to east of Route 309 Interchange for Center Valley
 - Improvements include conversion of shoulders into a dual use lane on I-78 eastbound from the Emmaus Avenue (Route 2002) Interchange to the Route 309 southbound split. The median barrier will be updated to add glare screens, and the drainage system will be rehabilitated or replaced. Two ramps at the Route 309 interchange will also be reconstructed.

- Route 309 Northbound Realignment - Relocated northbound traffic to southbound traffic side between Route 378 and Lanark Road (Route 2039) to improve traffic congestion, safety and the quality of life of residents along the current northbound side of Route 309.
- Route 309 Pedestrian Bridge - Construct an alternative mode of transportation multimodal bridge over Route 309 to connect residents to recreational amenities and trails on both sides of highway.
- Transportation Improvement Program (TIP)
 - Route 309 and Center Valley Interchange (MPMS: 102160).

Strategies

- Rehabilitate and replace aging roadways, bridges and drainage assets
- Integrated corridor management
- Implement low-cost and targeted safety improvements
- Upgrade key interchanges to reduce congestion, improve ramp functionality
- Use operational and geometric improvements to better manage demand
- Expand pedestrian and multimodal connections to improve safe access across major roadway barriers.
- Apply roadway realignments and design solutions



Route 100 (Tilghman Street to Route 309)

Route 100 functions as a major north - south connector between Tilghman Street and Route 309, carrying medium levels of freight activity along its rural segments.

Despite its importance for goods movement, the corridor lacks sufficient shoulder width, creating unsafe conditions for emergency pullovers and limiting operational flexibility. Turning lane design deficiencies and outdated pavement markings further contribute to movement inefficiencies, particularly where rural cross-sections narrow.

The corridor also experiences a high Travel Time Index, indicating congestion and delay that could be mitigated through signal retiming strategies aimed at improving flow for both freight and general traffic.

South of Tilghman Street, the road provides essential access to Upper Macungie Township's extensive distribution and logistics clusters, an area that generates sustained commercial and freight volume. Its direct connectivity between I-78 and Route 309 positions

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,156
Annual Average Daily Traffic	12270
Land use classification	Rural Residential, Agriculture, Industrial
Length	8.17 miles
Lanes	2 and 4
Municipalities	Upper Macungie, Heidelberg and Lowhill Townships
Level of Service (V/C)	0.71
PHED	7096.487
LOTTR	1.409
TTTI	2.116
TTTR	NA
High Crash Severity	Yes
Priority Rank	9

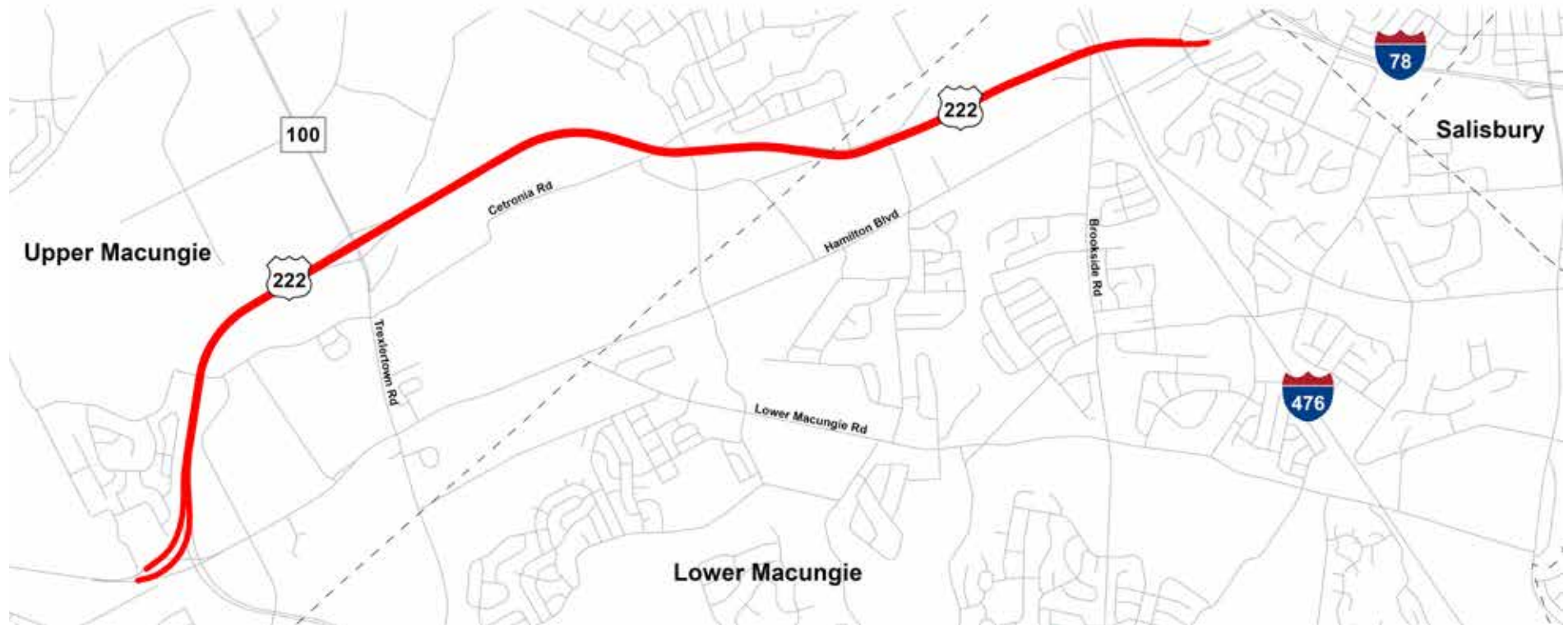
Route 100 as a preferred bypass for through-truck traffic, reinforcing its regional function as both a freight corridor and a pressure-relief route for parallel highways.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 100 - Rehabilitation/replacement of bridge over Hassen Creek.
 - Route 100 Betterment Project - Improvements from Creamery Road to Routes 100/222 split.
 - Route 100 Betterment Project - Improvements from Chestnut Street to Creamery Road.
 - Route 100 Betterment Project - Improvements from Tilghman Street to Kernsville Road.
 - Route 100 Betterment Project - Improvements from Kernsville Road to Route 309.
 - Route 100 Turning Lane at Hollenbach Road - Construct turning lane from northbound Route 100 onto Hollenbach Road.
 - Route 100 Turning Lane at Lyon Valley Road - Construct turning lane from northbound Route 100 onto Lyon Valley Road.

Strategies

- Prioritize rehabilitation and replacement of aging bridges for long-term reliability
- Integrated corridor management
- Implement Route 100 betterment projects and intersection upgrades to improve throughput and reduce congestion
- Incorporate sidewalks and pedestrian infrastructure at key intersections
- Turning and Geometric Improvements
- Freight Operations Improvements
- Maintain and expand Freeway Service Patrol coverage to reduce non-recurring congestion



Route 222 (Hamilton Boulevard to I-78)

Route 222 between Hamilton Boulevard and I-78 in the Lehigh Valley is a principal arterial carrying commuter, freight and regional traffic, with two to four lanes per direction and auxiliary or turn lanes at major intersections.

Daily volumes are moderate to heavy, with peak-hour congestion near Hamilton Boulevard, Airport Road, and I-78 ramps due to high turning movements and merging conflicts.

The corridor has multiple signalized intersections, some outdated, and varying pavement conditions, including rutting and cracking.

Pedestrian and bicycle facilities are inconsistent, with intermittent sidewalks and limited bike accommodation.

Adjacent land uses -- commercial, industrial, and residential -- generate frequent turning movements and localized congestion, while freight access adds heavy vehicle volumes.

Safety concerns are concentrated at intersections, merging areas and high-turning-demand segments, and limited stormwater management and impervious surfaces present environmental challenges.

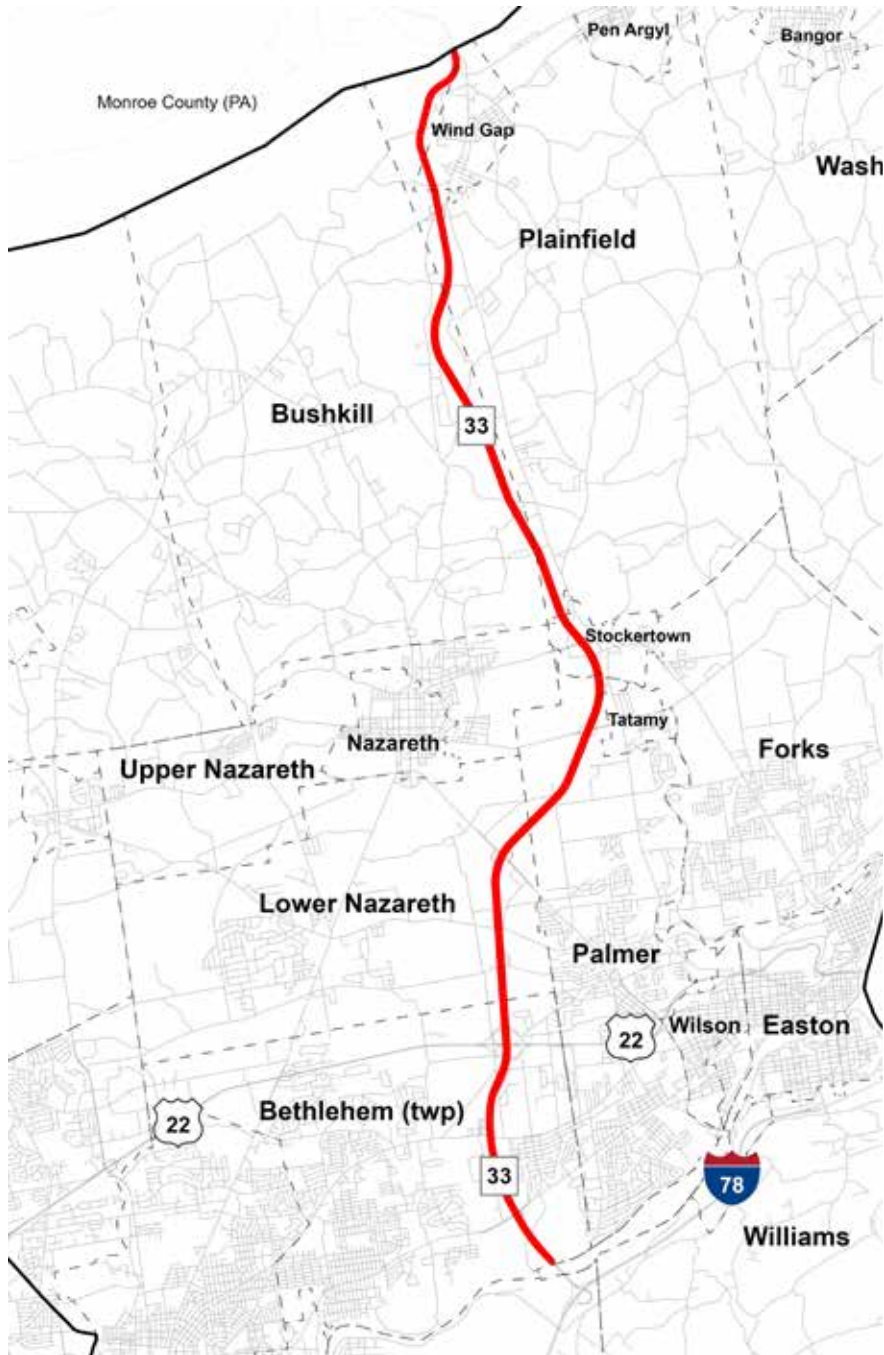
Planned Improvements

- *FutureLV: The Regional Plan*
 - Box culvert rehabilitation/replacement over Breinig Run - Route 222 north widening and betterment projects from Cedar Crest Boulevard to 15th Street, Kutztown Road to Grimm Road, Grimm Road to Cedar Crest Boulevard, west of Weilers Road to Trexlertown Road, and I-78 to 15th Street.
 - Intersection improvements at Route 222 and Shantz Road and Route 863, Jaindl Highway at Krocks, Grim, and Cetronia Roads; signal upgrades along Jaindl Highway/Hamilton Boulevard/Hamilton Street at 17 intersections.
 - Safety and traffic management redesign in the “weave area” near Turnpike bridge and I-78 interchange, including Kessler and Cedarbrook Roads.
 - Roundabouts at Breinigsville/Newtown Roads and Hamilton Boulevard/Lower Macungie Road; I-78/Route 222 interchange improvements with lane reconfigurations, revised signals, and ramp modifications.
- Transportation Improvement Program (TIP)
 - Route 222/Schantz Road/Route 863 roundabout to improve safety, traffic operations and mobility at the intersection of Independent Road and Schantz Road.

Strategies

- Prioritize safety improvements via roundabouts, intersection redesigns and upgraded signals
- Integrated corridor management
- Expand corridor capacity with lane reconfigurations, turn lanes, and interchange upgrades
- Maintain and resurface pavement for reliability and long-term infrastructure health
- Integrate multimodal infrastructure, including sidewalks and bike facilities
- Use data-driven traffic management to optimize signal timing and monitor project performance

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,420
Annual Average Daily Traffic	16,698
Land use classification	Residential, Industrial
Length	5.3 miles
Lanes	4
Municipalities	Upper Macungie and Lower Macungie Townships
Level of Service (V/C)	0.68
PHED	16547.202
LOTTR	1.211
TTTI	1.580
TTTR	NA
High Crash Severity	Yes
Priority Rank	10



Priority Corridors in Northampton County

Route 33

Route 33 is a major north–south expressway in the Lehigh Valley, connecting I-78 in the south to the Monroe County line in the north. It serves as a critical freight and commuter route, linking Route 22 and other primary highways while providing access to employment centers, industrial areas, and residential communities.

Congestion and bottlenecks occur near major interchanges, especially I-78 and Route 22, during peak periods, increasing travel times. Undersized interchanges and ramps limit large freight vehicle movements, creating operational and safety concerns.

Pavement conditions vary, with some segments needing resurfacing or rehabilitation. High freight and commuter traffic elevate crash risk, particularly at interchanges and curves. The corridor also experiences localized flooding in low-lying areas and noise impacts affect adjacent residential neighborhoods.

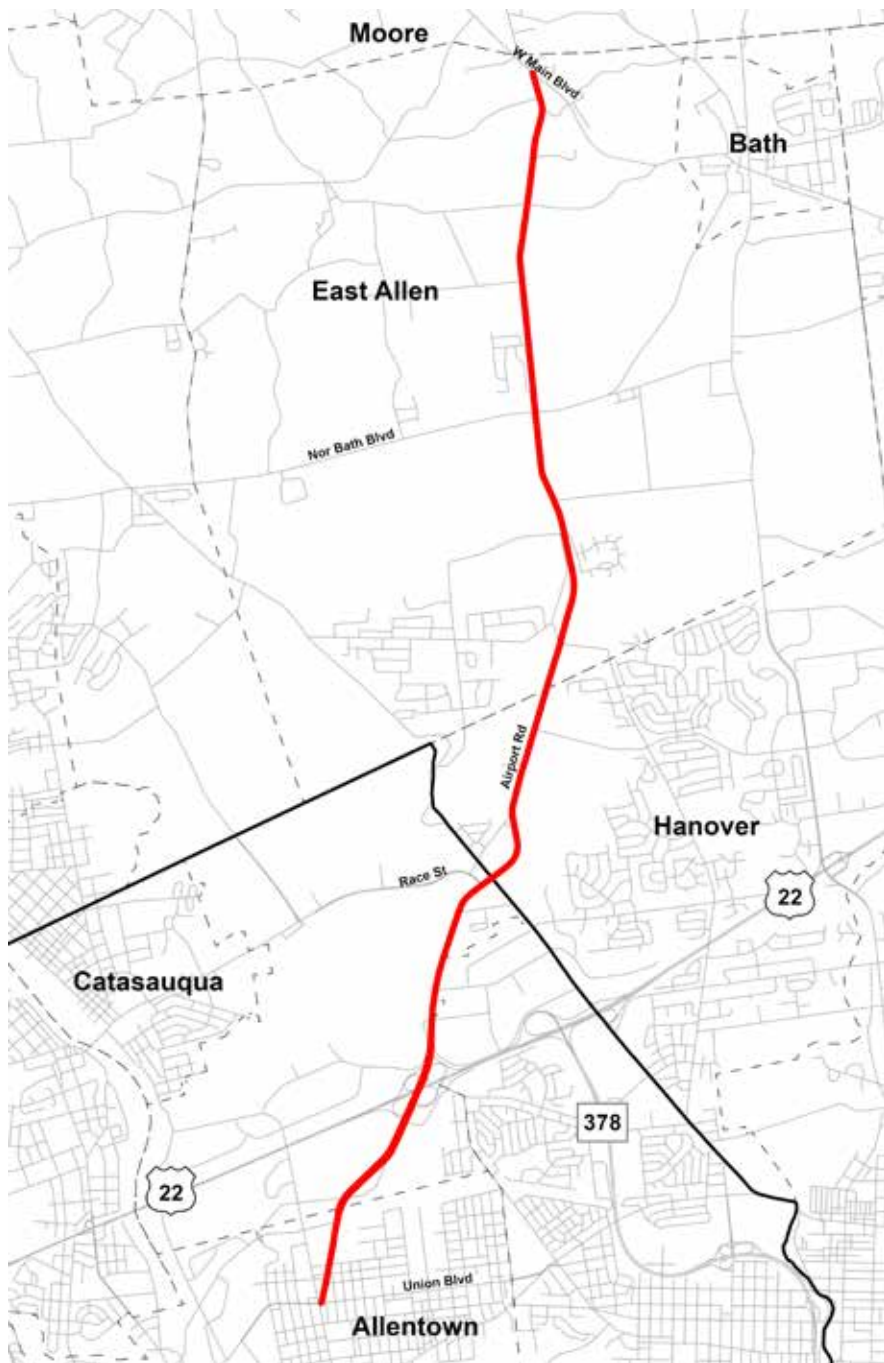
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	3,066
Annual Average Daily Traffic	26,711
Land use classification	All
Length	16.47 miles
Lanes	4
Municipalities	Stockertown and Wind Gap Boroughs, and the Townships of Palmer, Bethlehem, Bushkill, Lower Nazareth and Plainfield
Level of Service (V/C)	0.52
PHED	7515.689
LOTTR	1.201
TTTI	1.221
TTTR	NA
High Crash Severity	Yes
Priority Rank	3

Planned Improvements

- *FutureLV: The Regional Plan*
 - Replacement of Bushkill Creek Bridges for long-term safety.
 - Route 33 pavement rehabilitation and resurfacing from I-78 to Monroe County line, including Route 22 to Tatamy Interchange, Belfast, and Route 512.
 - Route 33/I-78 interchange reconstruction to improve operations.
 - William Penn Highway (Route 2020)/Route 33 interchange converted to diverging diamond to enhance capacity.
 - Route 22, Route 33, and I-78 landscape improvements with green spaces, public art, and sustainable design.
- Transportation Improvement Program (TIP)
 - Pedestrian trail along Route 33 from Sullivan Trail to Henry Road (MPMS 119824)
 - Adaptive traffic management upgrades (MPMS 110086); Route 33 resurfacing from I-78 to Route 22 to improve pavement, safety, and operational efficiency (MPMS 96423)

Strategies:

- Replace aging bridges Bushkill Creek Bridges and reconstruct interchanges to reduce crashes and improve safety
- Implement interchange redesigns and upgrade traffic management technology for adaptive corridor control
- Prioritize resurfacing and rehabilitation along key corridors like Route 33 for safe, efficient freight and commuter travel. Incorporate green spaces, public art, and sustainable design to support community livability



Airport Road

Airport Road serves as a primary north–south arterial corridor in Northampton County, connecting Union Boulevard to West Main Boulevard while accommodating a diverse mix of commuter, commercial, retail, and freight traffic. The corridor provides direct access to major regional destinations, including Lehigh Valley International Airport, large distribution and warehouse facilities, retail centers, and hospitality uses.

Proximity to the airport, logistics hubs, and industrial operations generates consistent truck volumes, while adjacent commercial strip development and signalized intersections contribute to recurring congestion during peak travel periods.

Traffic conditions fluctuate throughout the day due to shift changes, flight schedules, delivery activity, and retail demand, underscoring the importance of coordinated access management, intersection optimization, and long-term capacity and safety enhancements along the corridor.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	723
Annual Average Daily Traffic	10,376
Land use classification	Residential, Commercial, and Industrial
Length	8.07 miles
Lanes	2
Municipalities	Hanover and East Allen Townships, and Allentown City
Level of Service (V/C)	0.60
PHED	7,943
LOTTR	1.46
TTTI	2.08
TTTR	N/A
High Crash Severity	Yes
Priority Rank	5

Planned Improvements

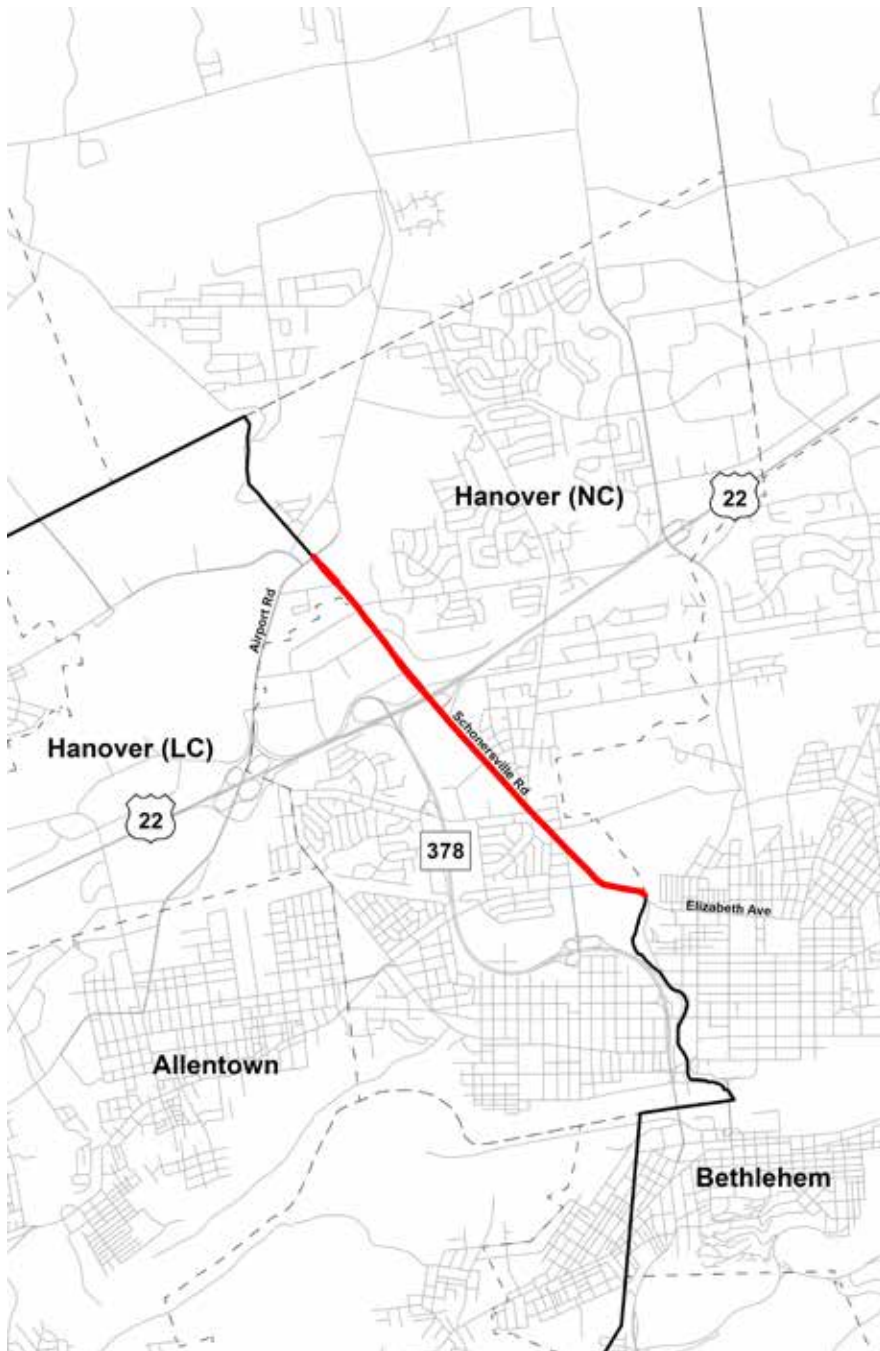
- *FutureLV: The Regional Plan*
 - Airport Road Bridge - Rehabilitation of bridge over abandoned railroad.
 - Airport Road (State Route 987) Betterment Project - Improvements from US Route 22 to Schoenersville Road.
 - State Route 1003 Airport Road Resurfacing Betterment Project
 - Repaving and traffic signal upgrades along the corridor and creating center turn lanes at Union Boulevard and Congress Street.
 - Airport Road/Chestnut St (State Route 987) Resurface Betterment Project - Resurface from county line at Schoenersville Road (State Route 1009) in Hanover Township (Northampton County) to Nor-Bath Boulevard (State Route 329) in East Allen Township and from Northampton Street (State Route 248) in Bath Borough to Community Drive (State Route 946) in Moore Township.
 - Airport Road North-bound Ramp from Route 22 Westbound Ramp to Postal Road/Avenue A - Jughandle for left turns onto Postal Road.
 - Airport Road Corridor Study - Evaluation and identification of infrastructure improvements needed to improve functionality, safety and multimodal mobility along Airport Road from American Parkway and including the interchange of Route 22, the intersection of Schoenersville Road to the intersection of Route 248.
 - Airport Road Corridor Phase 1 Infrastructure Implementation

Line Item - Funding for implementation of recommendations of infrastructure improvements identified as a result of the Airport Road Corridor Study of Airport Road from American Parkway to State Route 248.

- Airport Road Corridor Phase 2 Infrastructure Implementation Line Item - Phase 2 Funding for implementation of recommendations of infrastructure improvements identified as a result of the Airport Road Corridor Study of Airport Road from American Parkway to State Route 248.
- Airport Center Road & Airport Road - Add traffic-calming and pedestrian crossing upgrades along Airport Road at Airport Center Shopping Center area.
- Transportation Improvement Program (TIP)
 - Route 248/Airport Road Intersection Improvements: Intersection improvements at Route 248 and Airport Road to improve safety and efficiency.

Strategies

- Rehabilitation of Bridges and Corridors wherever necessary
- Traffic signal upgrades and repaving
- Jughandle for left turns onto Postal Road
- Infrastructure improvements to improve functionality, safety, and multimobility
- Traffic calming and pedestrian crossing upgrades
- Intersection improvements



Schoenersville Road

Schoenersville Road functions as an important east–west connector between Elizabeth Avenue and Airport Road, serving a blend of residential neighborhoods, commercial establishments, and institutional land uses. The corridor provides access to established housing areas while also supporting traffic destined for nearby retail centers, light industrial properties, and employment hubs in the Airport Road area. Peak-period congestion is influenced by commuter travel, school-related traffic, and commercial vehicle movements, particularly near signalized intersections and driveway access points. Its role as a feeder route to Airport Road further amplifies turning movements and corridor demand during morning and afternoon peaks.

These conditions highlight the need for targeted intersection improvements, access management strategies, and multimodal enhancements to improve traffic flow, safety, and overall corridor performance.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	593
Annual Average Daily Traffic	12,550
Land use classification	Residential, Commercial, and Industrial
Length	2.81 miles
Lanes	2
Municipalities	Bethlehem and Hanover Townships
Level of Service (V/C)	0.77
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	6

Planned Improvements

- *FutureLV: The Regional Plan*
 - Schoenersville Road (Route 1009) Corridor Improvements.
 - Reduce congestion and improve safety along the corridor between Route 22 and Eaton Avenue.

Strategies

- Sidewalk enhancements
- Geometric redesign
- Integrated corridor management
- Safety enhancements at key intersections



Wyandotte Street

Wyandotte Street, extending from Broadway Avenue to the Northampton County Rail Line, functions as a local collector serving a mix of residential, neighborhood commercial, and light industrial land uses. The corridor provides important connectivity between Broadway Avenue and adjacent employment and service areas, while also accommodating daily neighborhood circulation.

Proximity to the rail line and nearby industrial properties contributes to periodic truck traffic and freight-related activity, which can create localized congestion and turning conflicts.

On-street parking, closely spaced driveways, and pedestrian activity further influence operational performance along the corridor. While traffic volumes are generally moderate, peak-hour commuter flows and freight movements highlight the need for intersection visibility improvements, traffic calming where appropriate, and enhanced multimodal safety measures to support balanced corridor operations.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	541
Annual Average Daily Traffic	22,143
Land use classification	Residential, Commercial, and Industrial
Length	0.38 miles
Lanes	2
Municipalities	Bethlehem
Level of Service (V/C)	0.85
PHED	0.04
LOTTR	1.37
TTTI	2.97
TTTR	N/A
High Crash Severity	Yes
Priority Rank	8

Planned Improvements

- *FutureLV: The Regional Plan*
 - Wyandotte Street (Route 378) Resurface Betterment Project - Resurface from the county line at Colesville Road in Lower Saucon Township to Brighton Street in Bethlehem.
 - Wyandotte Street (Route 378) Corridor Improvements - Reduce congestion and improve safety along the corridor between Third Street to and including the “5-points” intersection at Broadway.
- Transportation Improvement Program (TIP)
 - Hill-to-Hill Bridge: Rehabilitation of Route 378 Bridge over the Lehigh River, Norfolk Southern railroad and various city streets.

Strategies

- Adaptive signal retiming
- Adequate turning radius and sign truck movements
- Pedestrian signal enhancements and high visibility crosswalks
- Resurface corridors and rehabilitation bridges that require investments
- Detour traffic during peak periods



Stefko Boulevard

Stefko Boulevard, extending from Daly Avenue to Easton Avenue, operates as a principal urban arterial supporting a diverse mix of residential, commercial, and institutional traffic. The corridor serves established neighborhoods while also providing access to retail centers, service businesses, schools, and community facilities. Its function as a north–south connector between major east–west routes contributes to sustained traffic volumes throughout the day, with peak-period congestion influenced by commuter travel, school-related activity, and commercial turning movements.

Multiple signalized intersections, closely spaced driveways, and pedestrian crossings affect operational efficiency and safety conditions along the corridor.

These characteristics underscore the need for coordinated signal timing, access management strategies, and multimodal enhancements to improve mobility, safety, and overall corridor performance.

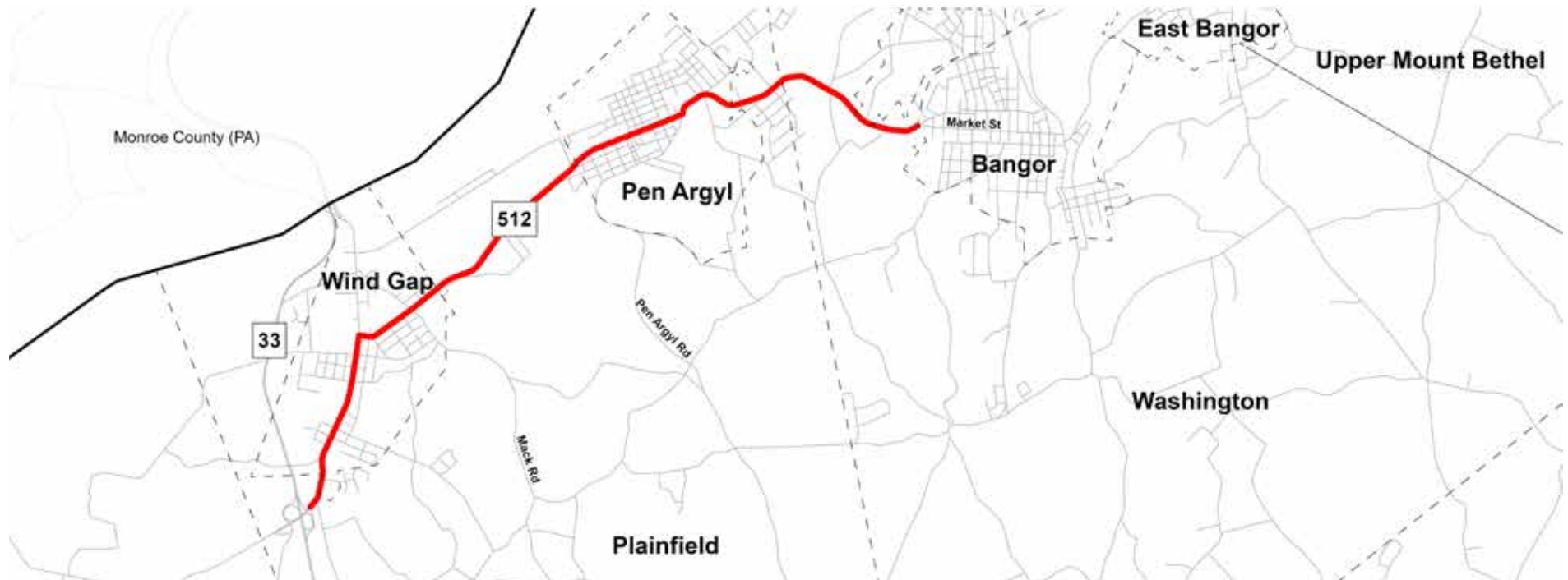
Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	774
Annual Average Daily Traffic	13,801
Land use classification	Residential, Commercial, and Institutional
Length	2.47 miles
Lanes	2
Municipalities	Bethlehem City
Level of Service (V/C)	0.93
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	9

Planned Improvements

- None currently.

Strategies

- Signal retiming and coordination
- Intersection optimization
- Consolidate redundant commercial driveways
- Sidewalk continuities
- High visibility crosswalks and pavement marking improvements



Route 512

Route 512, extending from Route 33 in Wind Gap to Market Street in Bangor, serves as the main arterial through the borough, accommodating a mix of local residential, commuter, and small-scale commercial traffic.

The corridor provides critical connectivity between Route 33 and the borough’s commercial and civic areas, supporting daily travel for residents, local businesses, and service vehicles.

Traffic volumes fluctuate throughout the day, with peak congestion occurring near key intersections and commercial access points. Its dual role as both a local access route and a connector to regional highways underscores the need for coordinated signal timing, pedestrian and bicycle safety enhancements, and context-sensitive roadway improvements to maintain efficient and safe operations along the corridor.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	676
Annual Average Daily Traffic	11,592
Land use classification	Residential and Commercial
Length	5.5 miles
Lanes	2
Municipalities	Wind Gap and Pen Argyl Boroughs and Washington and Plainfield townships
Level of Service (V/C)	0.91
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	7

Planned Improvements

- None currently.

Strategies

- Signal enhancements
- Pedestrian infrastructure enhancements



Freemansburg Avenue

Freemansburg Avenue, extending from Cambria Street to 25th Street, functions as a key east–west arterial serving residential neighborhoods, commercial properties, and community-oriented land uses.

The corridor provides important connectivity between local streets and higher-capacity regional routes, accommodating daily commuter traffic as well as local circulation.

Adjacent retail establishments, service businesses, and institutional

uses generate frequent turning movements and driveway activity, contributing to operational friction along the roadway.

Traffic volumes fluctuate throughout the day, with peak congestion occurring near signalized intersections and commercial nodes. Its role as both a neighborhood access route and a through corridor highlights the need for intersection optimization, access management strategies, and multimodal safety improvements to enhance efficiency and corridor livability.

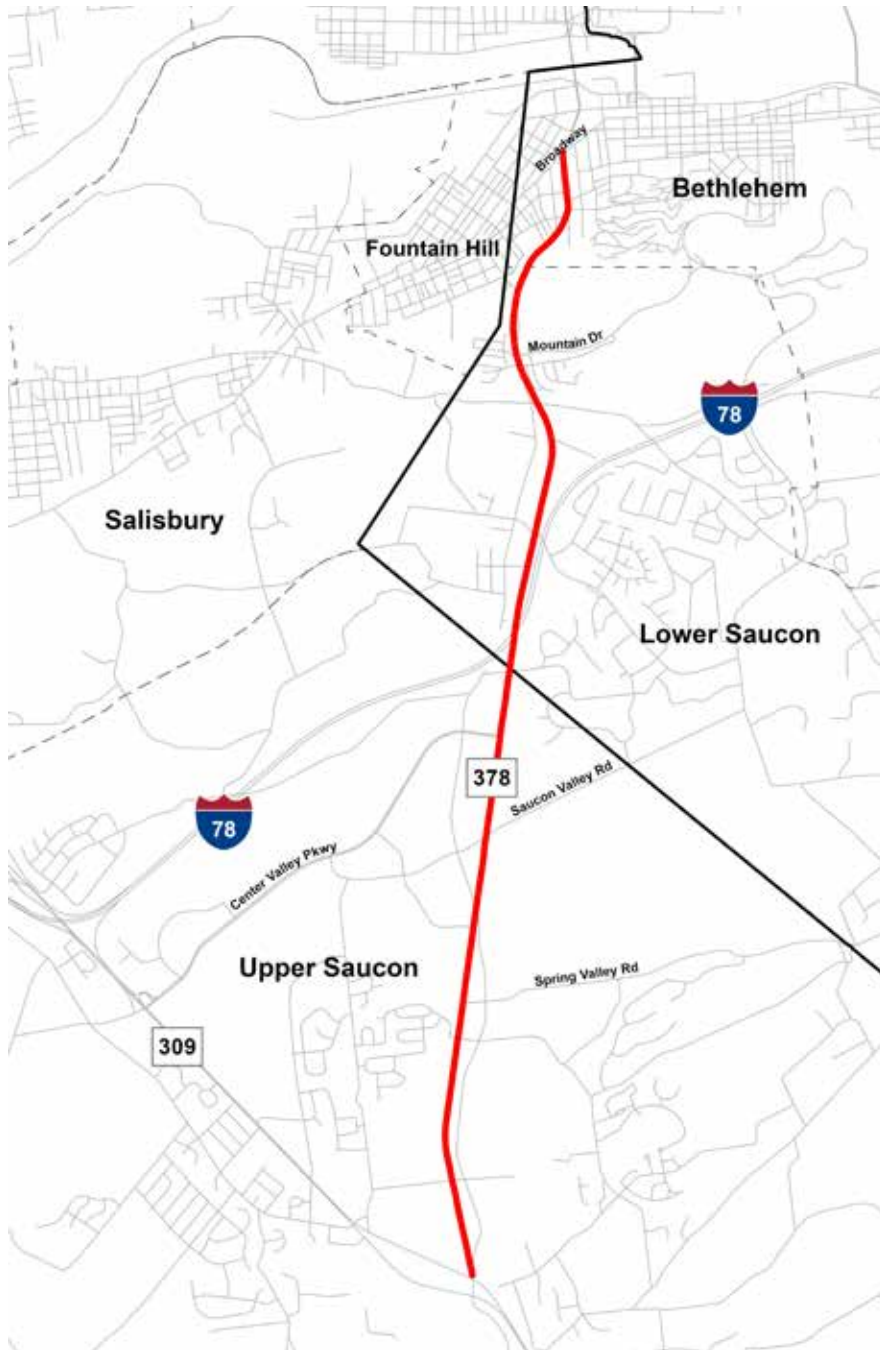
Planned Improvements

- *FutureLV: The Regional Plan*
 - Freemansburg Avenue and Willow Park Road Intersection Improvements - Project would review the challenges of the current intersection geometry and provide recommended solutions that the Township would work toward implementing with PennDOT.
 - Freemansburg Avenue (Route 2018) Safety Improvements - Intersection safety improvements.
 - Signal & Sign Installation - Freemansburg Avenue at 9th Street and 9th Street at Hamilton Street.
 - Freemansburg Avenue (Route 2018) and Willow Park Road (Route 3007) Intersection Study - Conduct study along State Route 2018 and State Route 3007 to improve safety and traffic flow.
- Transportation Improvement Program (TIP)
 - Freemansburg Avenue Safety Improvements: Reconstruction and realignment of the intersection at Freemansburg Avenue (Route 2018) and Farmersville Road.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	799
Annual Average Daily Traffic	13,640
Land use classification	Residential and Commercial
Length	6.13 miles
Lanes	2
Municipalities	Palmer Township, Freemansburg Borough, and Bethlehem City
Level of Service (V/C)	0.86
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	10

Strategies

- Intersection improvement and geometric realignment
- Intersection safety improvement, including signal and sign installation
- Reconstruction and realignment of intersections of concern
- Pedestrian enhancements and sidewalk connectivity
- Crossroad visibility improvements



Priority Corridors in Both Counties

Route 378 (Route 309 to Broadway Avenue)

Route 378, between Route 309 and Broadway Avenue, serves as a principal arterial providing north–south connectivity for residential neighborhoods and direct access to downtown Bethlehem.

The corridor experiences recurring congestion, limited multimodal accommodations, and several constrained segments that affect safety and travel reliability.

As a principal arterial supporting both through and local traffic, it is particularly sensitive to outdated roadway conditions, aging structures, and high pedestrian activity at key intersections.

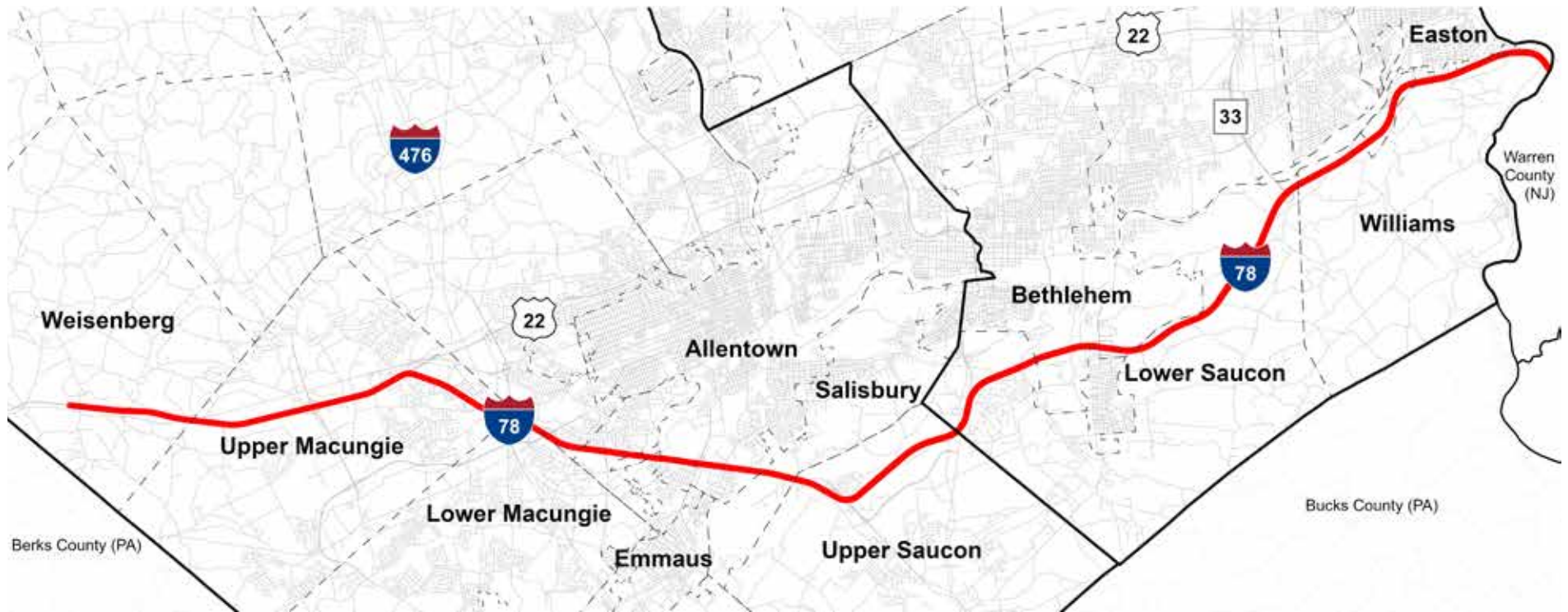
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	947
Annual Average Daily Traffic	14,475
Land use classification	Agriculture, Rural Residential
Length	5.64 miles
Lanes	2
Municipalities	Bethlehem, Upper Saucon and Lower Saucon Townships
Level of Service (V/C)	0.51
PHED	15.9004
LOTTR	1.566
TTTI	1.718
TTTR	NA
High Crash Severity	Yes
Priority Rank	4 (NC), NA (LC)

Planned Improvements

- *FutureLV: The Regional Plan*
 - Main Street Ramp Bridge Rehabilitation - Rehabilitation of bridge to connect to Main Street from Route 378.
 - Route 378 Betterment Project - Improvements from Colesville Road to Brighton Street.
 - Route 378 Betterment Project - Improvements from Main Street to Route 22.
 - Wyandotte Street (Route 378) Corridor Improvements - Reduce congestion and improve safety along the corridor between Third Street and including the “5-points” intersection at Broadway.
 - Route 309 Northbound Realignment - Relocated Northbound traffic to Southbound traffic side between Route 378 and Lanark Road (Route 2039) to improve traffic congestion, safety and the quality of life of residents along the current northbound side of Route 309.
 - Route 378 Lighting - Route 378 street lighting upgrades.
- Transportation Improvement Program (TIP)
 - Route 378 Lighting (110398) upgrades.

Strategies

- Fully rehabilitate bridges to maintain structural integrity and support regional mobility
- Resurface and implement corridor betterments for improved ride quality
- Upgrade intersections and signals to reduce congestion and enhance operations
- Implement corridorwide lighting to improve safety and livability
- Integrate safety treatments and operational enhancements accommodating non-motorized users



I-78

I-78 is a major east–west interstate in the southern Lehigh Valley, serving as a critical freight and commuter corridor. It connects employment centers in Allentown, Bethlehem and surrounding municipalities, providing access eastward to New Jersey and the New York metropolitan area and westward to Berks and Lebanon Counties. The corridor links key north–south routes, including Routes 309, 100, 145, 412, 33 and 22, supporting regional and interstate goods movement.

Industrial, logistics and commercial development -- particularly in Upper and Lower Macungie Townships and near the I-78/I-476 interchange - generates high truck volumes and peak-period congestion. Interchanges face bottlenecks from high turning movements, closely spaced ramps, and limited auxiliary lanes, while

geometric and capacity constraints reduce travel-time reliability. Stormwater, drainage, and pavement deterioration, along with noise and frequent truck-involved crashes, highlight the corridor's operational, safety, and infrastructure challenges.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Interstate 78/Route 309 - Rehabilitation/replacement of bridge over Fish Hatchery Road (Route 2010) and Little Lehigh Creek (Lehigh Parkway).
 - Freeway Service Patrol - To provide two roaming tow trucks along Interstate 78 from Route 100 to the Route 309 split, and along

Route 22 from Route 100 to Route 33 for removal of disabled or accident vehicles.

- Variable Speed Limit Technologies - Implement signing to incorporate the ability to adjust speed limits on Route 22 and Interstate 78 to improve operations and safety during inclement weather or times of congestion.
- Interstate 78 from Lehigh Street (Route 2005) to Route 309 South Interchange - Highway preservation/restoration, including pavement overlay and patching of existing mainline and shoulders, rehabilitation/replacement of drainage system, including access ramps.
- Interstate 78 Corridor Safety Improvements from Emmaus Avenue (Route 2002) to East of Route 309 Interchange for Center Valley - Improvements include conversion of shoulders into a dual use lane on I-78 eastbound from the Emmaus Avenue (Route 2002) Interchange to the Route 309 south split. The median barrier will be updated to add glare screens, and the drainage system will be rehabilitated and/or replaced. Two ramps at the Route 309 interchange will also be reconstructed.
- Interstate 78 from Route 309 Interchange Ramps for Center Valley/Allentown Interchange to Saucon Viaduct Structure at Route 412 Interchange - Highway preservation overlay of existing mainline and shoulders.
- Interstate 78 from Saucon Viaduct Bridges west of Route 412 Interchange to Easton Road (Route 2006) Bridge - Highway preservation overlay of existing mainline and shoulders.
- Interstate 78 from Berks County/Lehigh County Line to East of Route 100 - Highway reconstruction to add truck climbing lanes and Route 100 interchange ramp reconfiguration.
- Interstate 78 Saucon Valley Viaduct Bridges West of Route 412 over College Drive, Silvex Road and Saucon Creek - Rehabilitation and preventative maintenance, including paint and miscellaneous substructure and drainage repairs.
- Interstate 78 Various Bridges in Glendon Borough, Lower Saucon Township and Williams Township - Bridge rehabilitation, replacement and preservation activities.

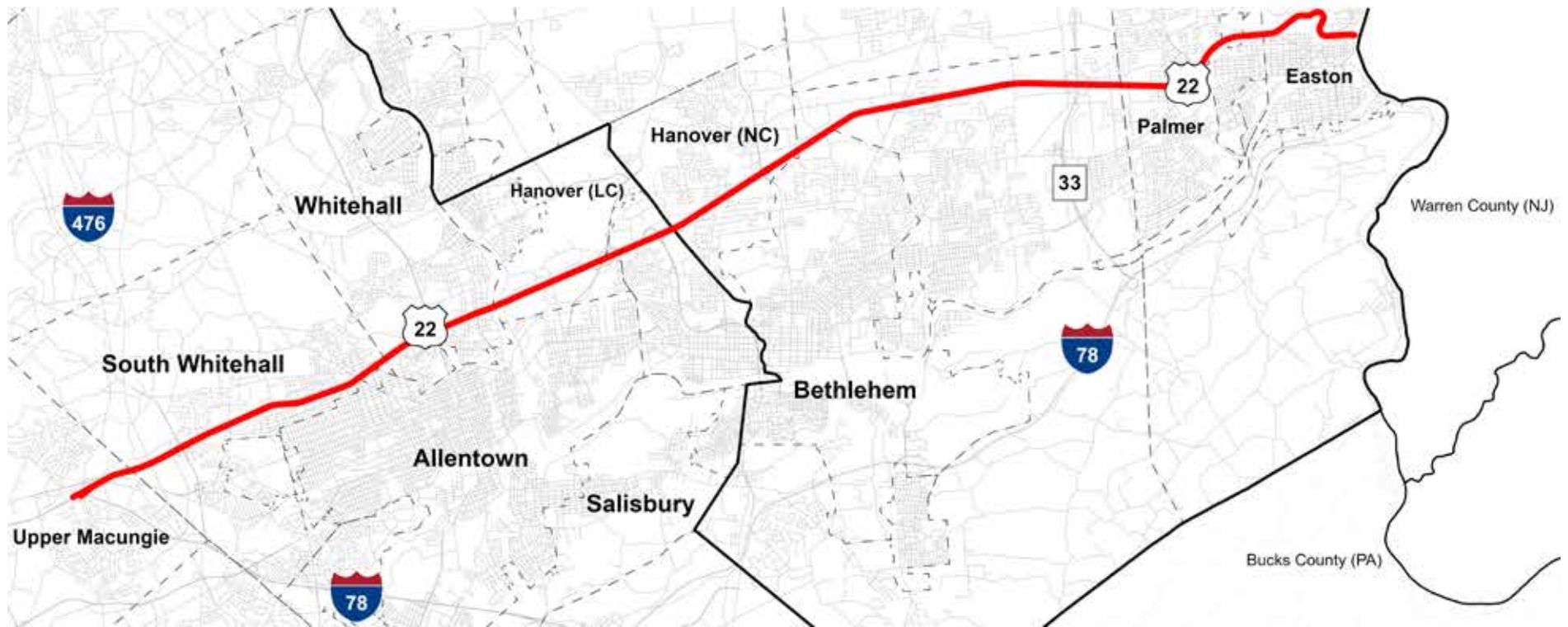
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	5,708
Annual Average Daily Traffic	29,593
Land use classification	Many Uses
Length	32.400 miles
Lanes	4
Municipalities	Cities of Allentown Bethlehem and Easton, Glendon Borough and the Townships of Upper Macungie Township, Salisbury, Weisenberg, Upper Saucon, Lower Saucon, Williams, Lower Macungie and South Whitehall
Level of Service (V/C)	0.69
PHED	9244.444
LOTTR	1.130
TTTI	1.197
TTTR	1.177
High Crash Severity	Yes
Priority Rank	7 (LC), 1 (NC)

- Interstate 78 from Route 33 Interchange to Pennsylvania/New Jersey State Line - Highway preservation pavement overlay of existing mainline and shoulders and resurfacing of associated ramps.
- Interstate 78 Bridge over Fish Hatchery Road (Route 2010) and the Little Lehigh River/Lehigh Parkway - Rehabilitation of the bridge "Parkway Arches" support structures.
- Interstate 78 from Lehigh Street (Route 2005) to Route 309 Northbound Exit - Highway preservation overlay of existing mainline and shoulders.
- Interstate 78 Bridge Rehabilitation, Replacement and Preventative Maintenance at Various Locations - Rehabilitation of PennDOT bridges identified by the following bridge key numbers: 23005, 28523, 28526, 28540; replacement of bridge identified by PennDOT key number: 28545 (over Route 2014/Redington Road) and preventative maintenance at PennDOT bridges.

- Interstate 78 Various Bridges in Upper Macungie Township - Bridge rehabilitation, replacement and preservation activities.
- Interstate 78 Bridge Substructure Condition Study - Study of bridge over Easton Road (Route 2006).
- Interstate 78 over Easton Road (Route 2006) to Route 33 Interchange - Highway preservation/ restoration of concrete slab roadway.
- Route 33 and I-78 Interchange Reconstruction - Reconfigure and reconstruct the interchange and approaches to improve safety and operational functionality.
- Transportation Improvement Program (TIP)
 - Freeway Service Patrol – Two roaming tow trucks to patrol I-78 from Route 100 to Route 309 split and I-78/Route 22 from Route 100 to Route 33, for rapid incident removal to reduce congestion and improve safety.

Strategies

- Prioritize rehabilitation, replacement, and preventative maintenance of key bridges and viaducts
- Conduct resurfacing and reconstruction of mainline and ramps to support reliable travel
- Implement lane reconfigurations, ramp modifications and truck climbing lanes
- Implement variable speed limits, and Freeway Service Patrols
- Incorporate landscaping, green spaces and sustainable design
- Convert shoulders to dual-use lanes and update median barriers
- Rehabilitate drainage systems to improve safety and manage stormwater



Route 22

Route 22 is a key east–west corridor in the Lehigh Valley, running from the I-78 junction through eleven municipalities before crossing the Delaware River in Easton.

It forms the backbone of regional mobility. It connects major employment and population centers -- including Allentown, Bethlehem and Easton -- and provides links to I-78, facilitating traffic between Berks County and Warren County, New Jersey.

The corridor intersects significant routes such as Route 33, Route 512, Route 145, Route 309, and Route 100, supporting freight and commuter flows.

Heavy commercial, industrial, and residential development, along with undersized interchanges, contribute to congestion and operational inefficiencies.

Recurring flooding, stormwater management issues, and noise impacts highlight infrastructure challenges. Safety remains a concern, with 11 fatal, 51 suspected serious injury, and 2,111 crashes reported during the period of 2020-2024.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 22 bridge rehabilitation or deck replacement over Bushkill Creek and Jacksonville Road.
 - Pavement resurfacing and betterment from Farmersville Road to Route 512 and along segments connecting to Route 33 and I-78.
 - Landscaping enhancements with green spaces, public art, and sustainable design.
 - Interchange upgrades per “22 Tomorrow” plan at Route 22/Route 191, Route 22/Fullerton, and Route 22/13th Street.
 - Widening from Lehigh River to Airport Road and Mauch Chunk Road to Route 145 (DDI).
 - Multimodal and operational improvements via Freeway Service Patrol, variable speed limits, and corridor studies
- Transportation Improvement Program (TIP)
 - Bridge preservation (MPMS 68190) for design and construction of various repairs and maintenance activities to support long-term structural integrity.

Strategies

- Prioritize rehabilitation and deck replacement of key bridges (e.g., Bushkill Creek, Jacksonville Road) and implement bridge preservation programs
- Conduct resurfacing and betterment projects along key segments to enhance safety, reliability, and operational efficiency
- Widen critical segments, upgrade interchanges
- Deploy operational improvements such as variable speed limits and Freeway Service Patrols
- Integrate landscaping improvements, including green spaces, public art, and sustainable design

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	3,589
Annual Average Daily Traffic	31,466
Land use classification	All
Length	22.7 miles
Lanes	4
Municipalities	Cities of Allentown, Bethlehem, Easton, Wilson Borough and the Townships of Upper Macungie and Hanover (NC and LC), Palmer, Bethlehem, South Whitehall and Whitehall
Level of Service (V/C)	0.58
PHED	22821.733
LOTTR	1.480
TTTI	1.543
TTTR	N/A
High Crash Severity	Yes
Priority Rank	2 (NC), NA (LC)



Priority Bottlenecks in Lehigh County



Route 222 (Westbound) near Mill Creek Road

Congestion increases where Grange Road merges into Route 222 and uncoordinated signal timing at the Mill Creek Road intersection further contributes to delays.

Hamilton Boulevard, from Grange Road to Schantz Road was also identified as a congested corridor in CMP 2016.

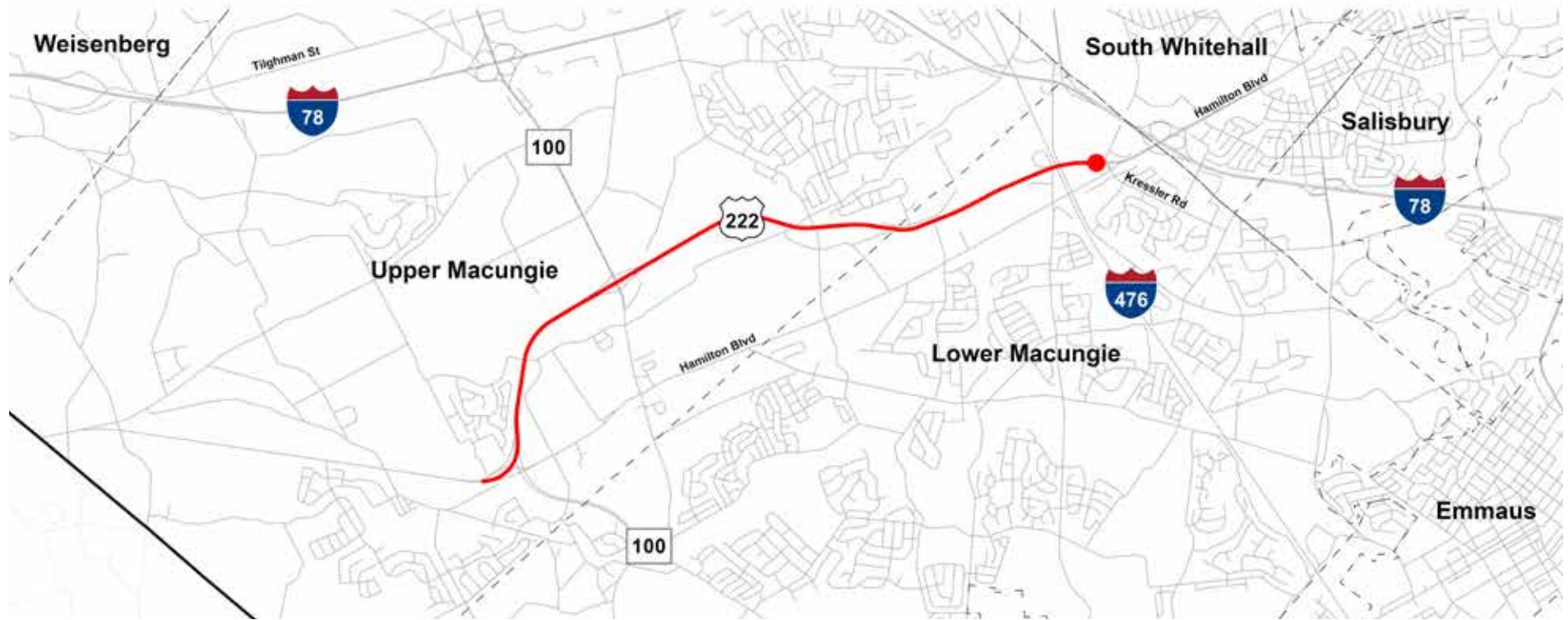
Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 222 Betterment Project - Improvements from Grimm Road to Cedar Crest Boulevard.

Strategies

- Retime signals and evaluate lane configurations to reduce delays

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,248
Annual Average Daily Traffic	19,400
Municipality	Upper Macungie Township
Level of Service (V/C)	0.73
PHED	4365.131
LOTR	1.215
TTTI	1.622
TTTR	N/A
High Crash Severity	Yes
Priority Rank	1



Route 222 (Eastbound) near Route 222 Bus/Hamilton Boulevard

Recurring congestion on Route 222, at the eastbound intersection with BUS/Hamilton Boulevard eastbound contributes to vehicle queues at the signalized intersection, creating a chokepoint and intermittent bottlenecks along Hamilton Boulevard.

Planned Improvements

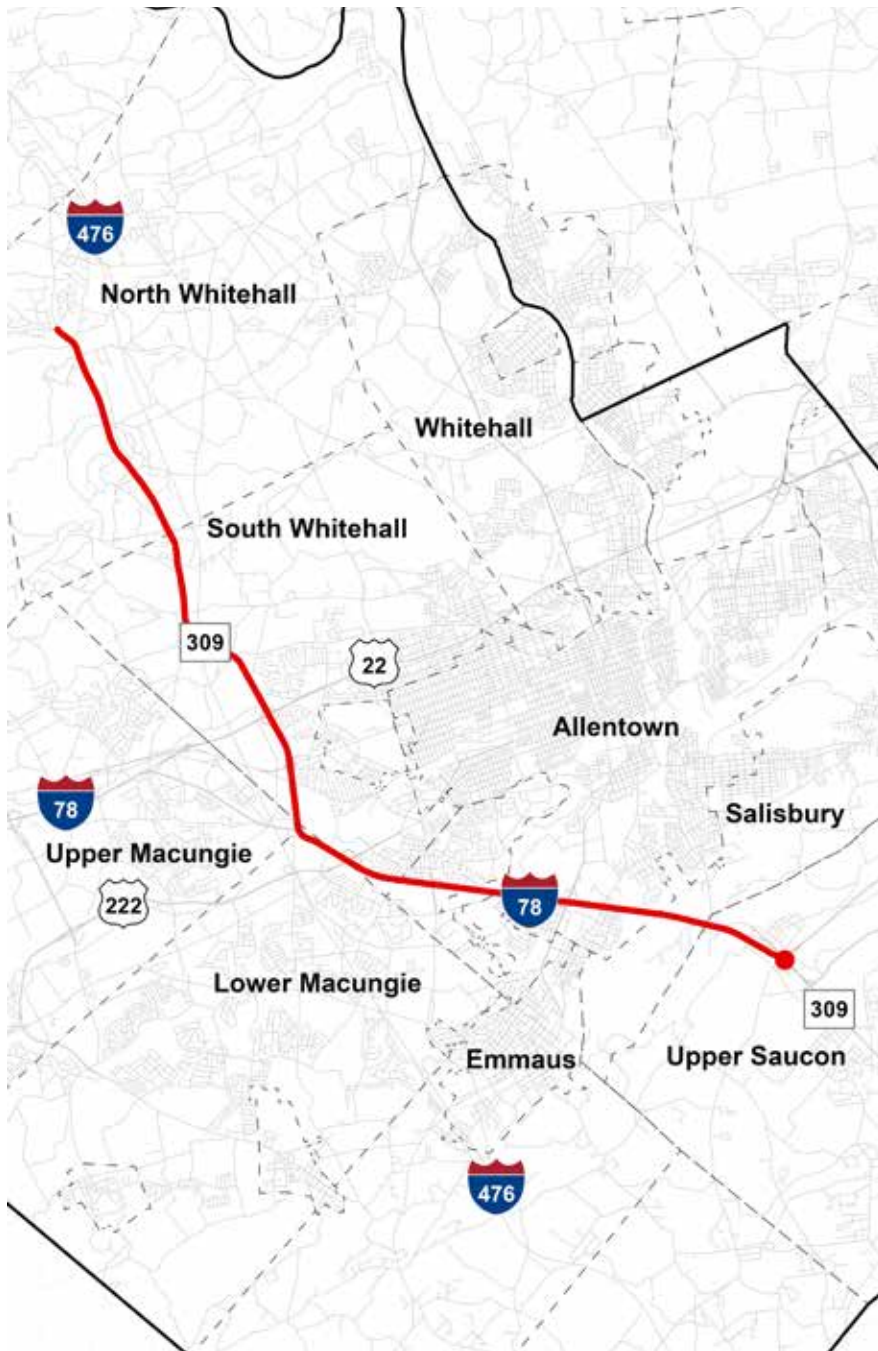
- *FutureLV: The Regional Plan*
 - Route 222 Betterment Project – Improvements from Grimm Road to Cedar Crest Boulevard.
 - Route 222/Hamilton Boulevard Betterment Project – Improvements from Route 222 to Kressler Road.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,537
Annual Average Daily Traffic	16,379
Municipality	Lower Macungie Township
Level of Service (V/C)	0.65
PHED	14665.530
LOTTR	1.169
TTTI	1.416
TTTR	N/A
High Crash Severity	Yes
Priority Rank	2

- Jandl Highway/Hamilton Boulevard/Hamilton Street (Route 222) Signal Improvements – upgrades to traffic infrastructure and timing to implement automated traffic signal performance measures at approximately 17 intersections.
- Jandl Highway (Route 222) Safety Improvements – Redesign and construction for safety and traffic management in the “weave area” between the Pennsylvania Turnpike Northeast Extension (I-476) bridge and I-78 interchange, including Hamilton Boulevard, Kessler Road and Cedarbrook Road (Route 2011).

Strategies

- Extend merge lanes
- Coordinate signals to reduce queue spillback



Route 309 (Southbound) near I-78/Exit 60b & 20

Route 309 South at the I-78 interchange (Exit 60B & 20) functions as a major gateway between the regional interstate system and the Route 309 corridor, carrying high volumes of commuter, regional, and freight traffic.

Conditions at this location are characterized by recurrent peak-period congestion driven by heavy merging and weaving movements between I-78 ramps and Route 309 mainline traffic, resulting in reduced speeds and travel time reliability.

The closely spaced ramps, signalized intersections and downstream commercial access intensify operational constraints, particularly during weekday commuter peaks and seasonal travel periods.

These conditions make the interchange a critical bottleneck, where minor disruptions can quickly propagate delays along both Route 309 and I-78.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	3,712
Annual Average Daily Traffic	26,344
Municipality	Upper Saucon Township
Level of Service (V/C)	0.71
PHED	4213.84555
LOTTR	1.092399
TTTI	1.394608
TTTR	N/A
High Crash Severity	Yes
Priority Rank	3

Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 309 - Rehabilitation/replacement of box culvert over tributary to Kistler Creek.
 - Route 309 Resurface Betterment Project - Resurface from Lehigh/Bucks County Line in Coopersburg Borough to Center Valley Parkway (Route 2044) in Upper Saucon Township.
 - Route 309 - Signal Head Reflective Backplate - The low-cost safety improvement is adding signal head backplates on the northbound and southbound Route 309 signals.
 - Route 309 Center Valley Interchange - Interchange improvements.
 - Interstate 78 from Lehigh Street (Route 2005) to Route 309 South Interchange - Highway preservation/restoration, including pavement overlay and patching of existing mainline and shoulders, rehabilitation/replacement of drainage system, including access ramps.
 - Interstate 78 Corridor Safety Improvements from Emmaus Avenue (Route 2002) to east of Route 309 Interchange for Center Valley.
 - Improvements include conversion of shoulders into a dual use lane on I-78 eastbound from the Emmaus Avenue (Route 2002) Interchange to the Route 309 South split. The median barrier will be updated to add glare screens, and the drainage system will be rehabilitated or replaced. Two ramps at the Route 309 interchange will also be reconstructed.

- Route 309 Northbound Realignment - Relocate northbound traffic to southbound traffic side between Route 378 and Lanark Road (Route 2039) to improve traffic congestion and safety.
- Route 309 Pedestrian Bridge - Construct an alternative mode of transportation multimodal bridge over Route 309 to connect residents to recreational amenities and trails on both sides of highway.
- Transportation Improvement Program (TIP)
 - Route 309 and Center Valley Interchange improvements (MPMS: 102160)

Strategies

- Rehabilitate and replace aging roadways, bridge and drainage assets
- Implement low-cost and targeted safety improvements
- Upgrade key interchanges to reduce congestion, improve ramp functionality, and enhance traffic flow
- Use operational and geometric improvements to minimize recurring congestion
- Expand pedestrian and multimodal connections to improve safe access across major roadway barriers
- Apply roadway realignments and design solutions that improve safety and quality of life for adjacent neighborhoods



Route 29 Northbound near I-78 / Route 309

The exit lane of the Route 29 northbound interchange with I-78/Route 309 merges onto Cedar Crest Boulevard while allowing both left and right turns.

This configuration creates recurring conflicts that contribute to a continuous bottleneck along Cedar Crest Boulevard.

Traffic accumulation is further compounded by the downstream signalized intersection, exacerbating congestion along the corridor.

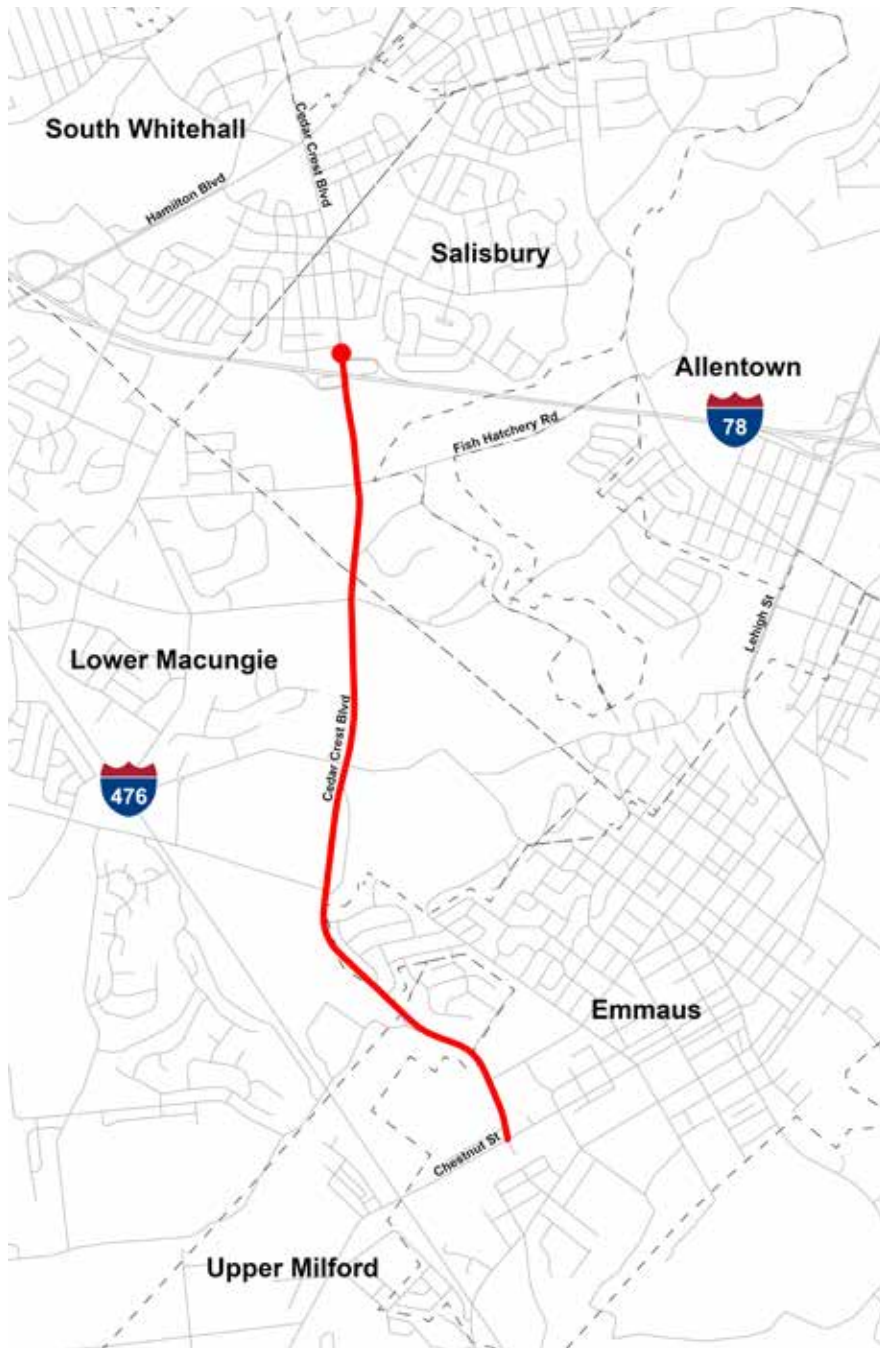
Planned Improvements

- None currently.

Strategies

- Redesign merge zones
- Add directional lanes to reduce conflict and improve flow

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,107
Annual Average Daily Traffic	14,767
Municipality	Salisbury Township
Level of Service (V/C)	2.42
PHED	29299.462
LOTTR	1.174
TTTI	1.786
TTTR	N/A
High Crash Severity	Yes
Priority Rank	4



Cedar Crest Boulevard Northbound near I-78/Route 309

The exit lane of the Cedar Crest Boulevard North interchange with I-78/Route 309 merges onto Cedar Crest Boulevard while allowing both left and right turns, creating a continuous conflict that contributes to recurring congestion.

Traffic is further impeded by the downstream signalized intersection, which leads to vehicle accumulation and a non-stop bottleneck along Cedar Crest Boulevard.

Participants in the CMP workshop on March 2 mentioned Emmaus High School and LHVN Cedar Crest Hospital as significant traffic generators.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Cedar Crest Boulevard (Route 29) Resurface Betterment Project
 - Resurface from Minesite Road in Lower Macungie Township to I-78 in Salisbury Township.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,420
Annual Average Daily Traffic	16,698
Land use classification	Residential, Industrial
Length	5.3 miles
Lanes	4
Municipalities	Upper Macungie and Lower Macungie Townships
Level of Service (V/C)	0.68
PHED	16547.202
LOTTR	1.211
TTTI	1.580

- Transportation Improvement Program (TIP)
 - Cedar Crest Signal Upgrade - Traffic signal upgrades along Route 2005 from Fish Hatchery Road to Lincoln Avenue.
 - Freeway Service Patrol - Two roaming tow trucks responding to incidents on I-78 from Route 100 to the Route 309 split and I-78/Route 22 from Route 100 to Route 33 to improve corridor reliability and safety.

Strategies

- Add dedicated turn lanes
- Optimize downstream signals to reduce vehicle accumulation



Martin Luther King (MLK) Jr. Drive Westbound near Route 145/Lehigh Street

Traffic merging from Lil Peep Street onto MLK Jr. Drive contributes to queuing at the signalized intersection, creating a recurring bottleneck. Additional factors include school bus parking and notable pedestrian activity.

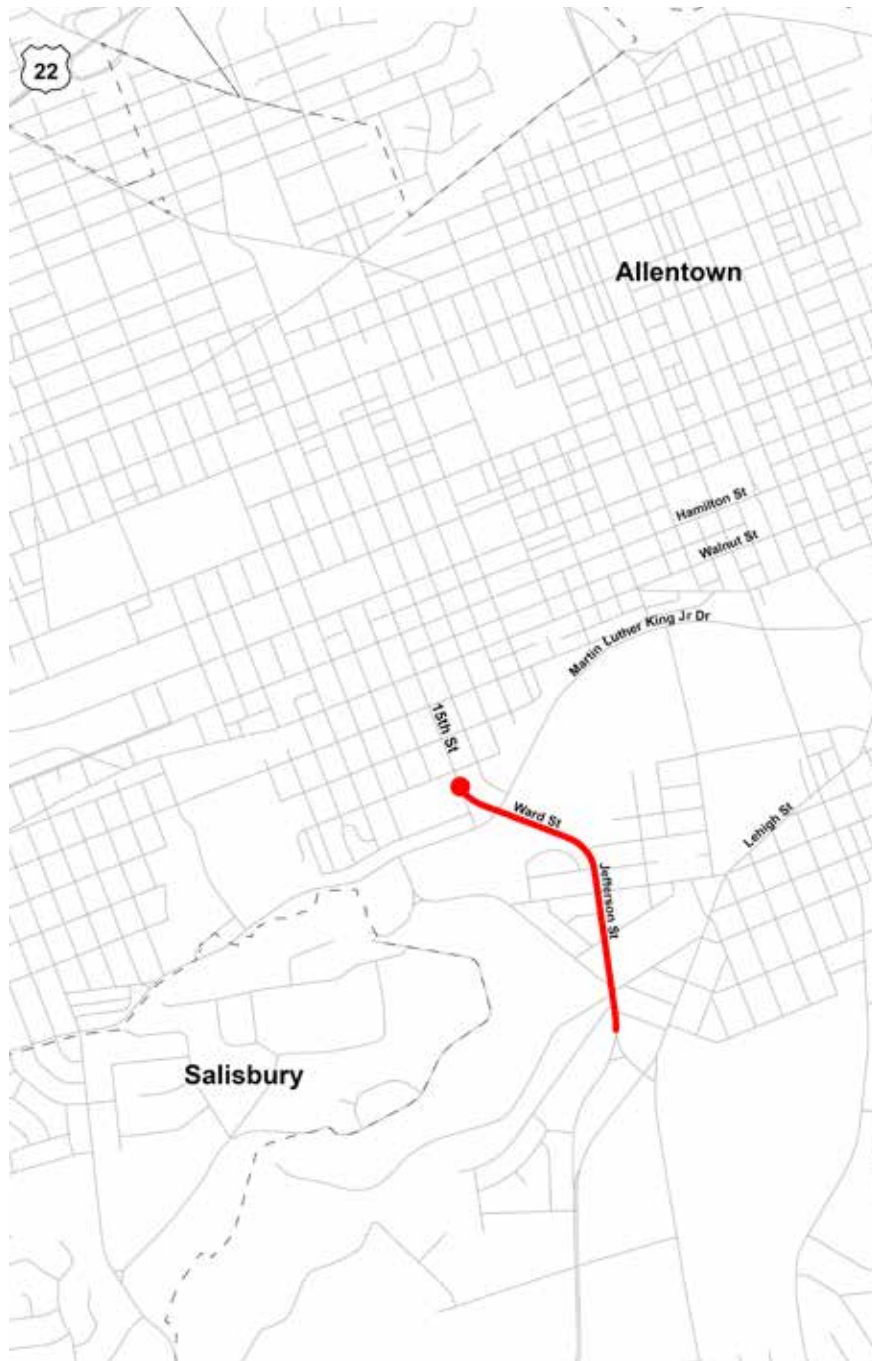
Planned Improvements

- *FutureLV: The Regional Plan*
 - Allentown MLK Jr. Drive Project - Pedestrian enhancements along MLK Jr. Drive at 4th Street and Lehigh Street.
 - MLK Jr. Drive Pedestrian Improvements - Upgrade multimodal infrastructure including Americans with Disabilities Act-compliant ramps, traffic control devices, and crosswalks.
 - MLK Jr. Trail Extension - Construct the next phase of the trail network to connect the corridor to the Cedar Creek Parkway trail network.

Strategies

- Implementing roundabouts with sidewalk enhancements

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	454
Annual Average Daily Traffic	15,154
Municipality	Allentown
Level of Service (V/C)	1.05
PHED	N/A
LOTTR	N/A
TTTI	N/A
TTTR	N/A
High Crash Severity	Yes
Priority Rank	6



S. Jefferson Street/Ward Street (Northbound) near S. 15th Street at Martin Luther King Junior Drive

A mix of merging lanes, unsignalized intersections, pedestrian crossings, and nearby signalized intersections within a short distance contributes to recurring congestion and bottlenecks.

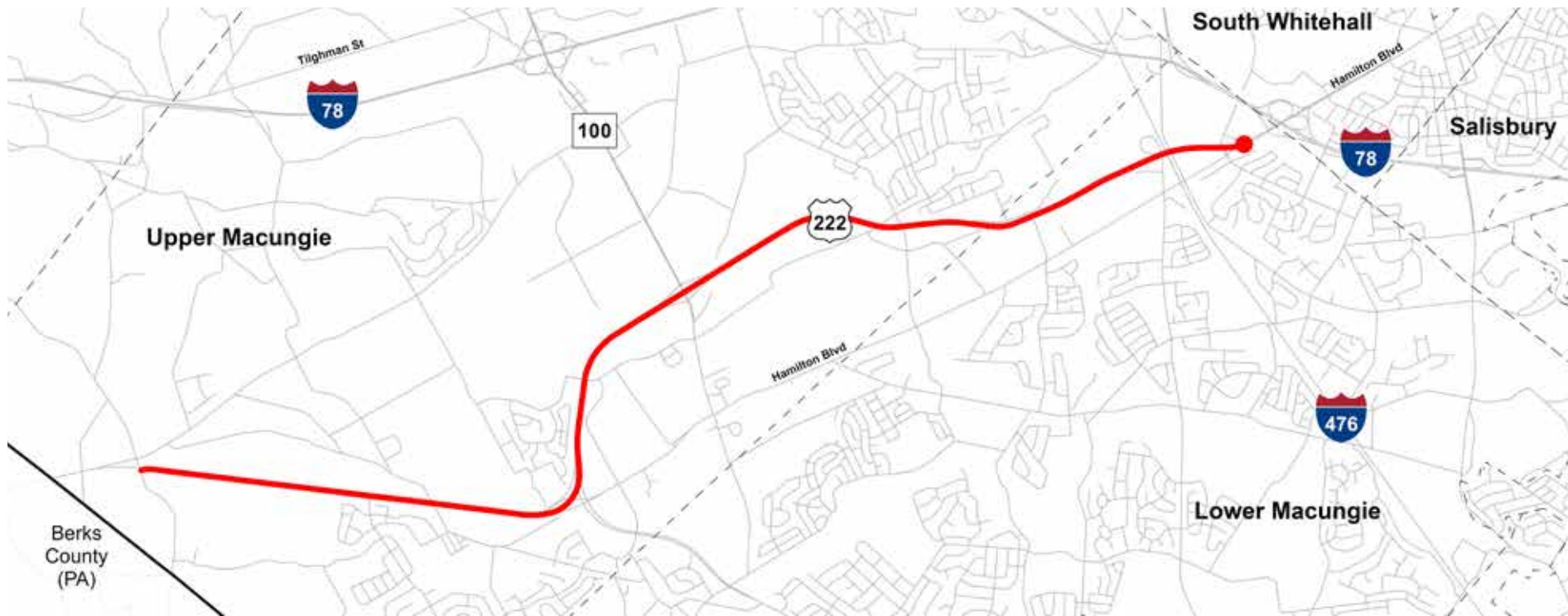
Planned improvements

- *FutureLV: The Regional Plan*
 - Jefferson Street Road Diet/Roundabout - Construction of a roundabout at the intersection of Jefferson Street and Park Drive, Lehigh Parkway East, Lehigh Parkway South and Tioga Street. Implement lane narrowing and multimodal pedestrian improvements along the corridor.

Strategies

- Enhance crosswalks and geometric redesign
- Signal enhancements to improve traffic flow and safety

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	586
Annual Average Daily Traffic	12,728
Municipality	Allentown
Level of Service (V/C)	0.99
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	Yes
Priority Rank	7



Route 222 (Eastbound) near Route 222 Business

Recurring congestion is driven by conflicting lane-changing maneuvers from both the freeway and the arterial. Vehicles exiting Route 222 eastbound toward Hamilton Boulevard and continuing to I-78 must merge across traffic entering from Hamilton Boulevard headed toward Allentown, creating turbulence in the traffic stream.

These weaving and merging conflicts reduce operational efficiency and cause recurring delays, with queues frequently extending downstream to the Route 222/Schantz Road roundabout.

The overlapping movements - drivers from Hamilton Boulevard attempting to reach I-78 and those from Route 222 attempting to reach Allentown - concentrate demand in the same limited merge area, intensifying the bottleneck.

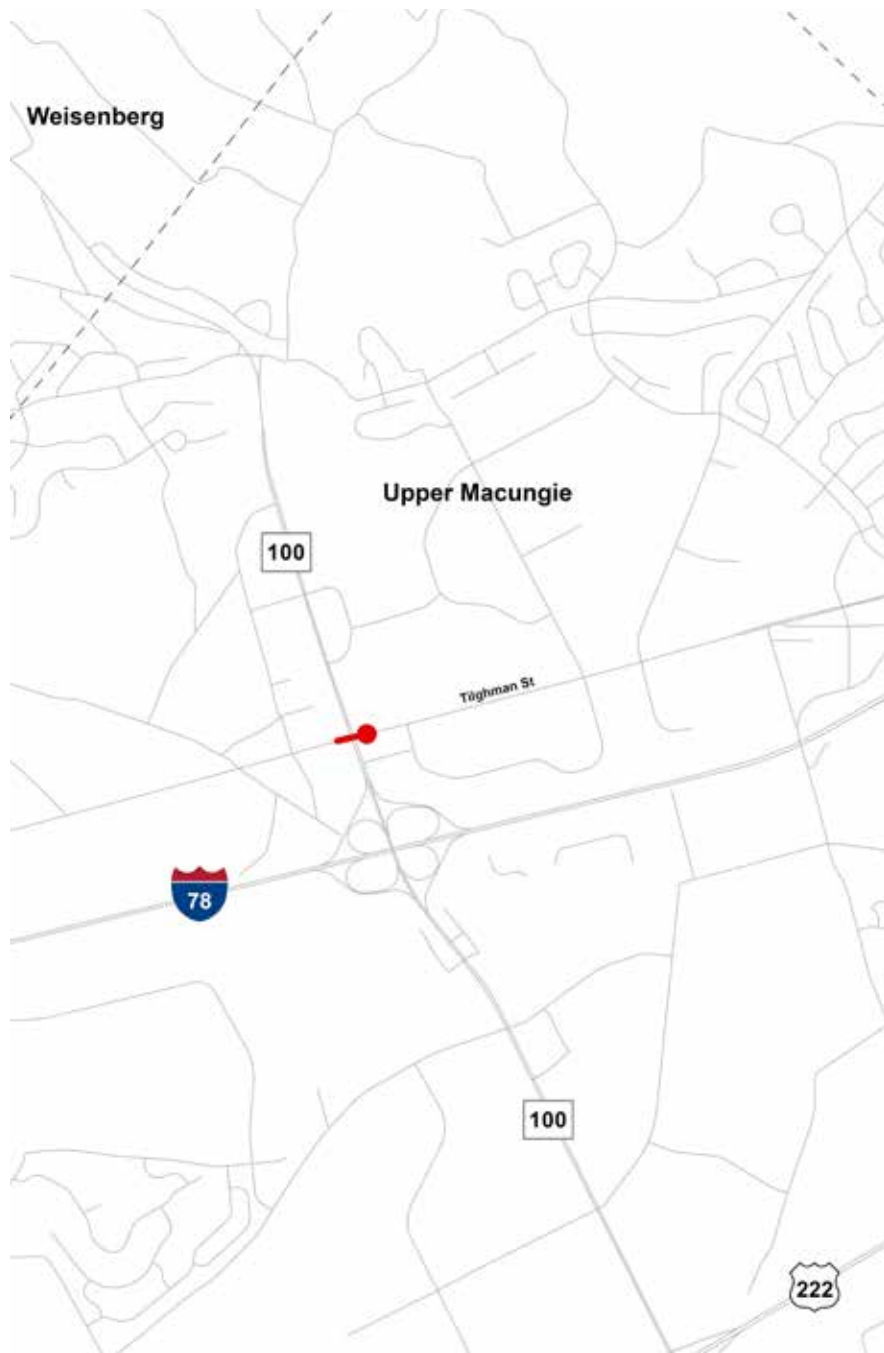
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,496
Annual Average Daily Traffic	16,177
Municipality	Lower Macungie Township
Level of Service (V/C)	0.66
PHED	11797.806
LOTTR	1.179
TTTI	1.534
TTTR	N/A
High Crash Severity	Yes
Priority Rank	8

Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 222/Hamilton Boulevard Betterment Project - Improvements from Route 222 to Kressler Road.
 - Hamilton Boulevard (Route 222) Resurface Betterment Project - Resurface from I-78 in South Whitehall Township to 15th Street in Allentown.
 - Jaindl Highway/Hamilton Boulevard/Hamilton Street (Route 222) Signal Improvements - Upgrades to traffic infrastructure and timing to implement automated traffic signal performance measures at approximately 17 intersections.
 - Hamilton Boulevard (Route 222) and Lower Macungie Road (Route 2012) Roundabout - Construction of a new roundabout at this intersection, including feasibility analysis per PennDOT guidelines.
 - Jaindl Highway (Route 222) at Krocks Road Intersection Improvements - Intersection upgrades to reduce congestion and improve safety.

Strategies

- Signalize and coordinate timings with the adjacent signals to reduce conflict and better meter flow



Tilghman Street (Eastbound) near Route 100

Tilghman Street East at Route 100 operates as a key suburban arterial intersection supporting both regional through movements and local access within the western Lehigh Valley.

Existing conditions include high traffic volumes, particularly during weekday peak periods, driven by commuter travel and commercial activity along both corridors.

The signalized intersection experiences recurring delay and queuing due to heavy turning movements, closely spaced access points, and downstream congestion along Tilghman Street.

Surrounding retail and employment land uses generate frequent ingress and egress, which, combined with limited roadway spacing, contribute to operational constraints and reduced travel time reliability at this intersection.

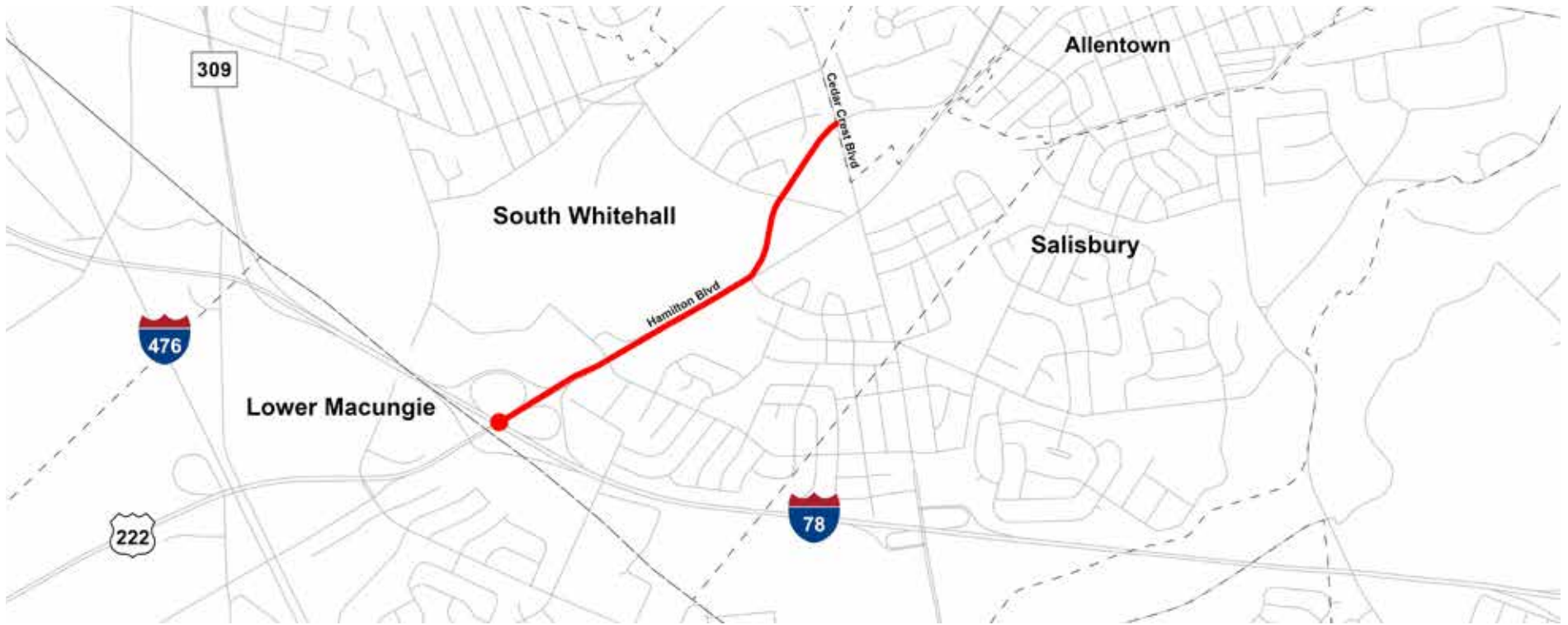
Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	1,527
Annual Average Daily Traffic	13,874
Municipality	Allentown
Level of Service (V/C)	0.98
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	N/A
High Crash Severity	Yes
Priority Rank	9

Planned Improvements

- *FutureLV: The Regional Plan*
 - Tilghman Street (Route 1002) Resurface Betterment Project - Resurface Tilghman Street from Route 100 in Upper Macungie Township, through South Whitehall Township to North Dauphin Street (Route 1007) in Allentown.
 - Route 100 Betterment Project - Improvements from the Routes 100/222 split to Tilghman Street.
 - Route 100 Betterment Project - Improvements from Tilghman Street to Kernsville Road.
 - Tilghman Street (Route 1002) Improvements - Widen corridor from Route 100 to Ruppssville Road (Route 3019), including betterment of traffic management through traffic signal upgrades, pavement markings, multimodal accommodations and sidewalks.

Strategies

- Resurface and perform betterment projects to enhance ride quality and corridor durability
- Upgrade and modernize intersections
- Integration with the Traffic Management Center to optimize operations
- Incorporate sidewalks and enhanced pavement markings
- Implement widening and interchange reconstruction projects
- Improve vehicle throughput and operational reliability
- Ensure Freight Operations Improvements and Integrated Corridor Management (ICM) strategies



Route 222 (Southbound) near I-78

At this location, which sees significant seasonal traffic for Dorney Park, the lack of dedicated merging lanes between the I-78 exits and Route 222 contributes to recurring congestion, as vehicles entering Route 222 must merge directly into through traffic, causing delays and safety risks.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Hamilton Boulevard and I-78/Route 222 Projects – Hamilton Boulevard (Route 222) Resurface Betterment Project from I-78 in South Whitehall Township to 15th Street in Allentown.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	1,117
Annual Average Daily Traffic	12,883
Municipality	South Whitehall Township
Level of Service (V/C)	0.76
PHED	5292.792
LOTR	1.217
TTTI	1.838
TTTR	NA
High Crash Severity	No
Priority Rank	10

- Jaiindl Highway (Route 222) Safety Improvements - Redesign and construct for traffic management in the “weave area” near the Pennsylvania Turnpike Northeast Extension (I-476) bridge and I-78 interchange, covering Hamilton Boulevard (Route 222), Kessler Road and Cedarbrook Road (Route 2011).
- Interstate 78/Route 222 Interchange Upgrades – Improvements to include lane reconfigurations, revised signalization and ramp modifications.

Strategies

- Construct continuous auxiliary lanes
- Reconfigure ramps to improve merging and reduce delays



Priority Bottlenecks in Northampton County



Broadway (Westbound) at 4th Street

Broadway Westbound at 4th Street Ramp and Broadhead Avenue operates as a key urban arterial segment within the City of Bethlehem, supporting a mix of local circulation and regional connectivity across the Lehigh River.

Existing conditions at this location are influenced by a dense urban street network, signalized intersections, and frequent pedestrian activity associated with adjacent residential, commercial, and institutional land uses.

Traffic operations are characterized by moderate to high peak-period volumes, turning movement conflicts and constrained roadway geometry, which contribute to reduced speeds and intermittent queuing.

The presence of on-street parking, transit activity and limited curb space further affect operational efficiency, making this bottleneck location sensitive to minor fluctuations in demand and requiring careful balancing of vehicle, pedestrian, and multimodal needs.

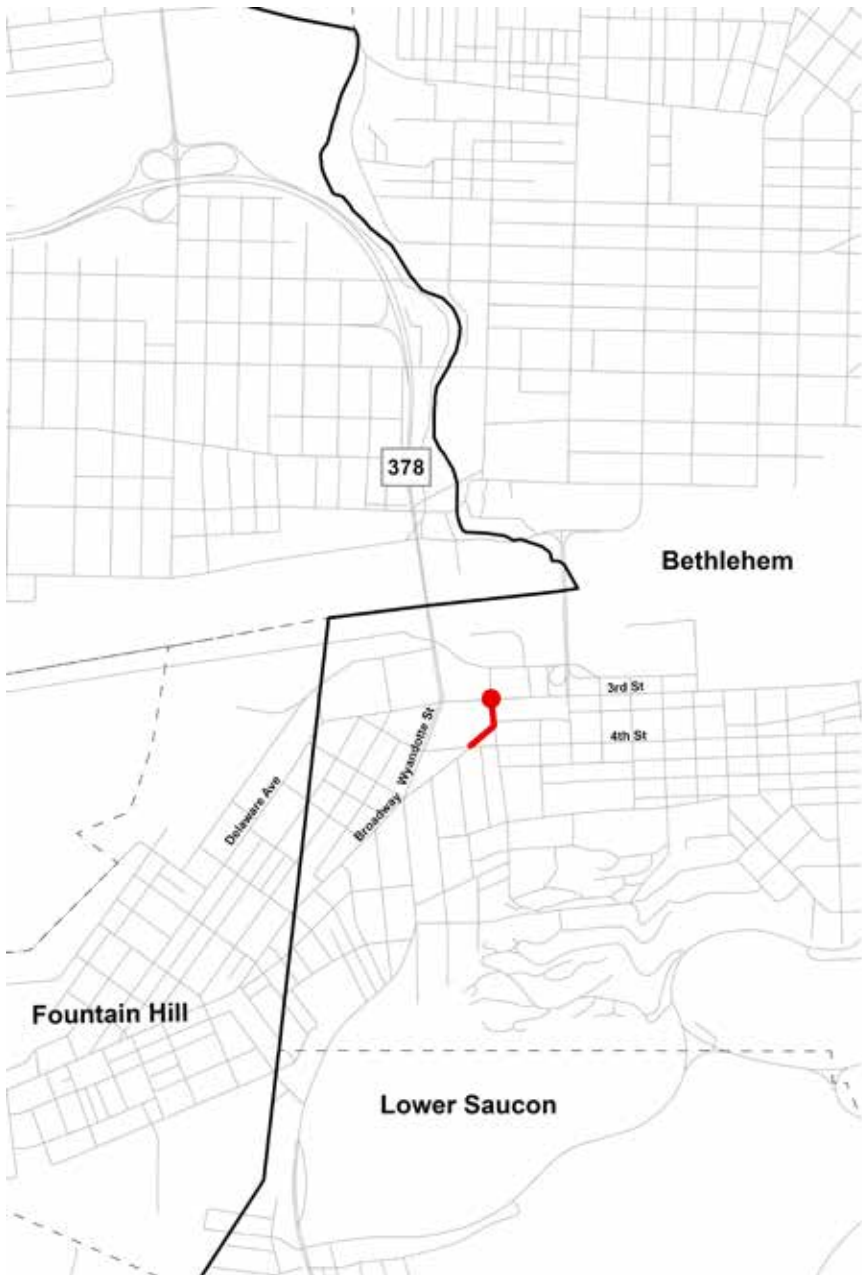
Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	450
Annual Average Daily Traffic	13,314
Municipality	Bethlehem
Level of Service (V/C)	1.09
PHED	NA
LOTR	NA
TTTI	NA
TTTR	N/A
High Crash Severity	Yes
Priority Rank	1

Planned Improvements

- Currently none.

Strategies

- Optimize signal timing and turning movements to reduce delays and queuing during peak periods
- Upgrade crosswalks, pedestrian signals and curb geometry to improve safety for pedestrians and cyclists
- Improve on-street parking management and loading zones to reduce conflicts and maintain traffic flow



Broadway (Eastbound) near W. 3rd Street

Broadway eastbound at West 3rd Street/River Street functions as an important urban connector along the Lehigh River, linking downtown Bethlehem with adjacent neighborhoods and regional routes.

Existing conditions at this location reflect a constrained urban setting with closely spaced intersections, signalized control, and a high level of pedestrian and bicycle activity tied to nearby residential, commercial, and recreational land uses.

Traffic operations are influenced by turning movements, on-street parking, and periodic curbside activity, resulting in moderate congestion and queuing during peak periods.

The corridor's proximity to the riverfront and downtown destinations increases multimodal demand, requiring careful management of vehicular flow while maintaining accessibility and safety for non-motorized users.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	450
Annual Average Daily Traffic	13,314
Municipality	Bethlehem
Level of Service (V/C)	1.09
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	N/A
High Crash Severity	Yes
Priority Rank	1

Planned Improvements

- Currently None.

Strategies

- Optimize signal timing and turning movements to reduce delay and queuing during peak periods
- Upgrade crosswalks, pedestrian signals, and curb geometry to improve safety for pedestrians and cyclists
- Improve on-street parking management and loading zones to reduce conflicts and maintain traffic flow



Route 378 (Northbound) near Hill-To-Hill Bridge

Travel slows at the Route 378, northbound approach to the Hill-to-Hill Bridge, causing delays, traffic stoppages and safety risks. Congestion is compounded by queues from upstream signalized intersections, causing a recurring bottleneck.

Planned Improvements

- *FutureLV: The Regional Plan*
 - Route 378 and Main Street Bridge Projects – Main Street Ramp Bridge Rehabilitation to connect to Main Street from Route 378.
 - Route 378 Betterment Project from Colesville Road to Brighton Street.
- Transportation Improvement Program (TIP)
 - Hill-to-Hill Bridge Improvements - Rehabilitation of Route 378 Bridge over the Lehigh River, Norfolk Southern railroad and various city streets.
 - Bridge Preservation and Repair 8 - Preservation and rehabilitation of various bridges.
 - Route 378 Lighting - Installation of lighting from Hill-to-Hill Bridge to Route 22.

Strategies:

- Bridge replacement or rehabilitation to improve traffic flow

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	851
Annual Average Daily Traffic	17,267
Municipality	Bethlehem
Level of Service (V/C)	0.62
PHED	19794.963
LOTTR	1.421
TTTI	2.367
TTTR	NA
High Crash Severity	Yes
Priority Rank	3



W. 3rd Street (Westbound) at 2nd Street Ramp

W. 3rd Street (westbound to 2nd Street ramp/Brodhead Ave) is a recurring bottleneck within the corridor due to high volumes, closely spaced intersections, and concentrated turning movements.

Westbound traffic experiences queuing during peak commuter periods as vehicles merge, turn, and navigate signalized control in a constrained urban setting.

The interaction between regional through traffic and local access movements creates operational friction, particularly where lane configurations and signal timing limit discharge capacity.

Proximity to mixed-use development and institutional destinations further intensifies short-term demand surges. These combined factors contribute to recurring delay, reduced travel time reliability,

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	450
Annual Average Daily Traffic	13,314
Municipality	Bethlehem
Level of Service (V/C)	1.09
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	N/A
High Crash Severity	Yes
Priority Rank	1

and increased rear-end and side-swipe conflict potential, highlighting the need for targeted intersection optimization, lane-use evaluation, and access management strategies to improve westbound flow and safety.

Planned Improvements

- None currently.

Strategies

- Dedicated truck routing and off-peak delivery incentives
- Corridor-wide redesign of 3rd street to avoid shifting bottlenecks downstream
- Signal Retiming



Stefko Boulevard (Northbound) near Pembroke Road

Stefko Boulevard (northbound) near Pembroke Road is a localized bottleneck driven by high directional peak-hour demand during both AM and PM peaks, signalized intersection control, and concentrated turning movements.

Northbound queues frequently develop during commuter periods as through traffic competes with left- and right-turn movements serving adjacent residential and commercial properties.

Closely spaced access points and pedestrian crossings further influence progression and reduce effective capacity along the approach. Variability in traffic flow, including school-related activity and neighborhood circulation, contributes to intermittent but recurring delays.

These conditions result in reduced travel time reliability and elevated rear-end conflict potential, indicating the need for signal timing optimization, turn-lane evaluation, and targeted operational improvements to enhance northbound performance and safety.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	951
Annual Average Daily Traffic	14,633
Municipality	Bethlehem
Level of Service (V/C)	1.01
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	Yes
Priority Rank	5

Planned Improvements

- None currently.

Strategies

- Signal retiming and coordination
- Intersection optimization
- Redundant commercial driveways
- Sidewalk continuities
- High visibility crosswalks and pavement marking improvements



Freemansburg Avenue (Westbound) near Washington Street / Cambria Street

Freemansburg Avenue (westbound) near Washington Street / Cambria Street functions as a recurring bottleneck due to concentrated peak-hour traffic and high turning activity at the intersection.

Westbound vehicles frequently experience queuing as left- and right-turn movements compete with through traffic, compounded by closely spaced driveways serving adjacent residential and neighborhood commercial land uses.

Limited storage capacity for turning lanes and signal progression constraints further reduce corridor efficiency. These conditions result in periodic congestion, increased rear-end conflict risk, and reduced travel time reliability, emphasizing the need for signal timing adjustments, turn-lane enhancements, and targeted access management to improve westbound flow and overall safety.

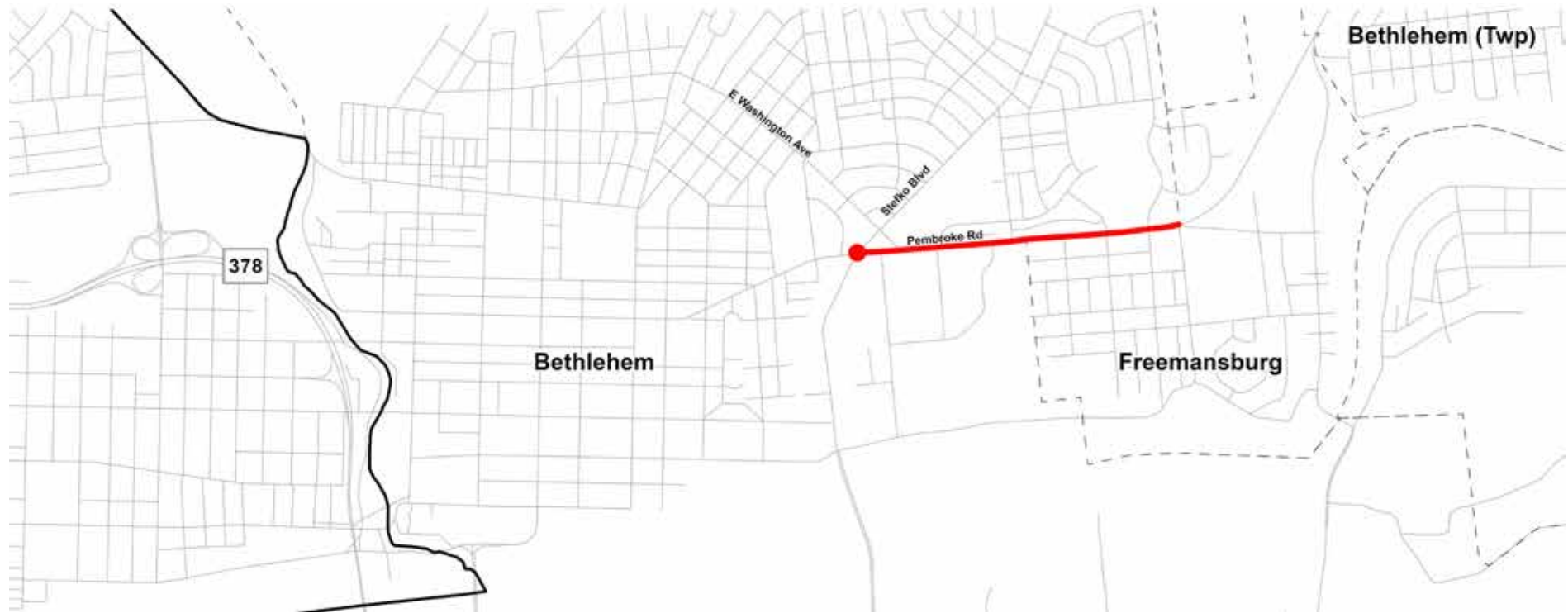
Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	859
Annual Average Daily Traffic	13522
Municipality	Bethlehem
Level of Service (V/C)	0.856
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	Yes
Priority Rank	6

Planned Improvements

- Transportation Improvement Program (TIP)
 - Freemansburg Avenue Safety Improvements: Reconstruction and realignment of the intersection at Freemansburg Avenue (Route 2018) and Farmersville Road.

Strategies

- Signal timing optimization
- Off-peak delivery for truck delivery
- Sidewalk connectivity and pedestrian enhancements
- Crosswalk enhancements



Pembroke Road (Westbound) near Stefko Boulevard

Pembroke Road (westbound) near Stefko Boulevard is a localized bottleneck due to high directional AM and PM peak-hour demand and turning movements at the signalized intersection. Westbound traffic often experiences queuing and delays as vehicles navigate left- and right-turn movements serving adjacent residential and commercial properties. The combination of closely spaced driveways, pedestrian crossings, and merging traffic from side streets further reduces effective lane capacity and limits progression. These conditions create recurring congestion during morning and afternoon peak periods, increase rear-end collisions potential, and diminish travel time reliability, highlighting the need for signal timing optimization, turn-lane enhancements, and targeted access management to improve westbound corridor performance.

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	533
Annual Average Daily Traffic	14,113
Municipality	Bethlehem
Level of Service (V/C)	0.88
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	Yes
Priority Rank	7

Planned Improvements

- None currently.

Strategies

- Reconstruction and realignment of intersection
- Rectangular rapid flash beacon light upgrades
- Pedestrian improvements and sidewalk connectivity
- Improving transit amenities at bus stops



S. 25th Street (Northbound) near Route 22

S. 25th Street (northbound) near Route 22 is a significant bottleneck due to heavy commuter and regional traffic merging onto and off the highway. Northbound volumes peak during morning and evening periods, creating queuing at the intersection and limiting upstream progression. Frequent turning movements, closely spaced commercial access points, and interactions with adjacent traffic signals exacerbate congestion, while the mix of passenger vehicles and trucks further constrains capacity.

These conditions result in recurring delay, reduced travel time reliability, and increased potential for rear-end and turning-related conflicts, emphasizing the need for signal timing optimization, turn-lane evaluation, and strategic access management to improve northbound flow and overall corridor safety.

Attribute / Metric	Value / Description
NHS status	Yes
Annual Daily Truck Traffic	551
Annual Average Daily Traffic	14,039
Municipality	Palmer
Level of Service (V/C)	0.65
PHED	7,048
LOTTR	1.32
TTTI	2.61
TTTR	NA
High Crash Severity	Yes
Priority Rank	8

Planned Improvements

- *FutureLV: The Regional Plan*
 - 25th Street Hill Improvement - A full restoration, resurfacing and rehabilitation to South 25th Street (State Route 2012) from the intersection of Freemansburg Avenue to the divided highway at the Lehigh River Bridge near Glendon Borough.
 - Nazareth Road (State Route 248) Resurface Betterment Project
 - Resurface from Hollo Road in Lower Nazareth Township to South 25th Street in Palmer Township.
 - 25th Street Hill (State Route 2012) Improvements - Safety and infrastructure enhancements and reconstruction, including drainage upgrades, shoulder widening, flattening of curves, intersection improvements, signage and guiderail upgrades including embankment removal.
 - Butler Street (State Route 2020) Streetscape Improvements - Improve streetscapes along South 25th Street (State Route 2012) and South 15th Street.
 - South 25th Street Multimodal Corridor Study - Plan for three phases of future multimodal transportation improvement recommendations and designs along the corridor from Park Avenue to the Lehigh River.
 - US State Route 22, State Route 248 and 25th Street - Conduct a US Route 22 interchange study for State Route 248.

Strategies

- Restoration, resurfacing, and rehabilitation of corridors and infrastructure
- Safety and Infrastructure enhancements and reconstruction
- Drainage upgrades and geometric redesign
- Sidewalk and guiderail improvements
- Streetscape and multimodal enhancements
- Interchange studies along Route 22



Stefko Blvd (Southbound) near Minsi Trail Bridge

Stefko Boulevard (southbound) near the Minsi Trail Bridge operates as a frequent bottleneck due to high peak-period traffic, constrained bridge lane capacity, and significant turning movements at nearby intersections. Southbound queues often form as vehicles merge and navigate signalized access points, while interactions with commercial driveways and pedestrian crossings reduce effective throughput. The combination of bridge geometry, peak commuter flows, and local access demands contributes to recurring congestion, diminished travel time reliability, and elevated rear-end conflict potential. These conditions underscore the need for targeted operational improvements, including signal timing coordination, turn-lane optimization, and strategies to enhance southbound corridor flow and safety across the bridge.

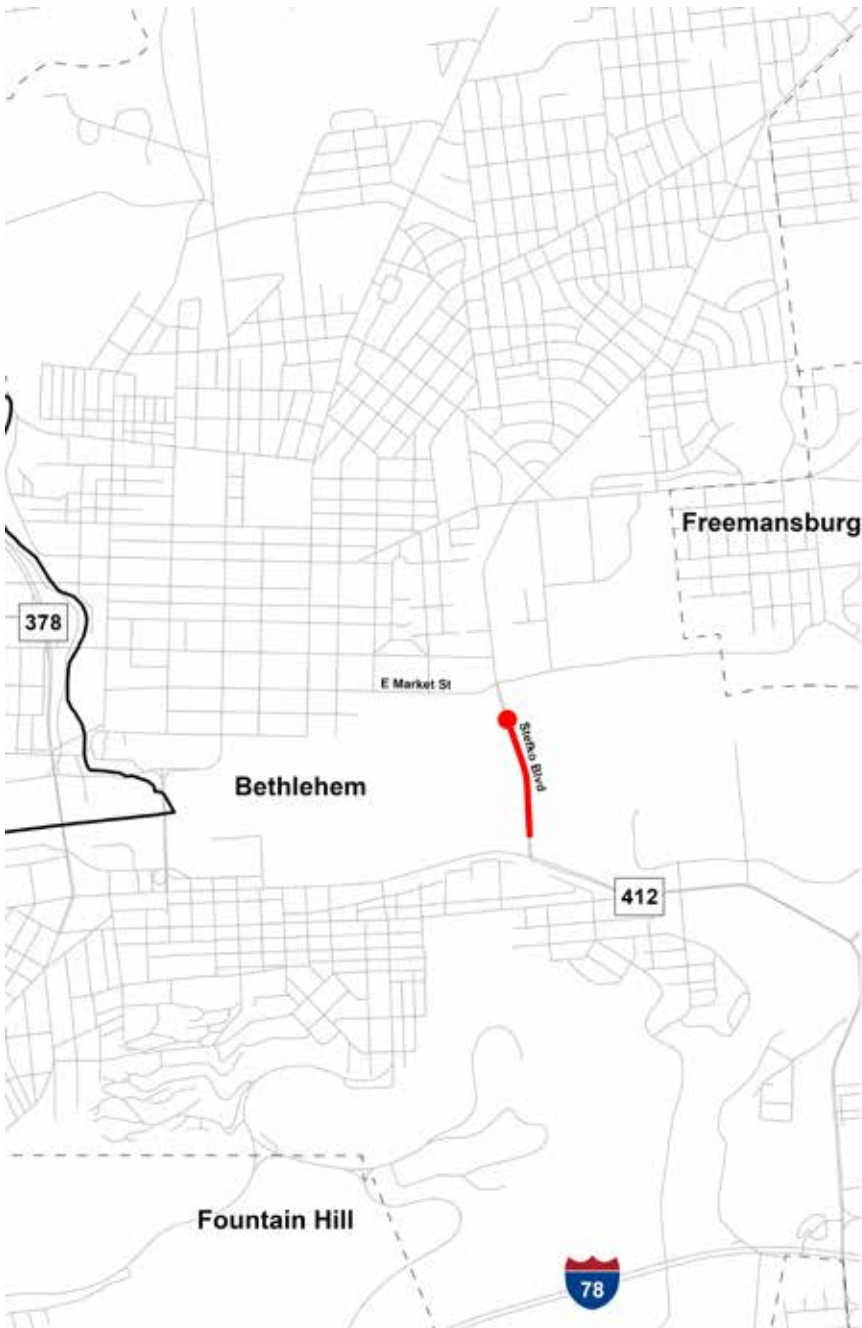
Planned Improvements

- Transportation Improvement Program (TIP)
 - Board street multimodal improvements.

Strategies

- Signal Retiming
- Left turn lane configuration coming from Stefko Road and Market Street up to Broad Street
- Pedestrian Infrastructure

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	996
Annual Average Daily Traffic	12,368
Municipality	Bethlehem
Level of Service (V/C)	0.98
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	No
Priority Rank	9



Stefko Blvd (Northbound) near Minsi Trail Bridge

Stefko Boulevard (northbound) near the Minsi Trail Bridge functions as a recurring bottleneck due to high peak-hour commuter demand, bridge-related lane constraints, and concentrated turning movements at adjacent intersections. Northbound traffic frequently experiences queuing as vehicles merge and navigate signalized approaches, with limited lane capacity on the bridge exacerbating congestion. The proximity of commercial and residential access points, along with pedestrian crossings, further reduces progression and contributes to stop-and-go conditions.

These factors create recurring delays, increased rear-end conflict risk, and reduced travel time reliability, highlighting the need for signal timing optimization, turn-lane evaluation, and operational improvements to enhance northbound flow and safety across this critical bridge segment.

Planned Improvements

- Transportation Improvement Program (TIP)
 - Board street multimodal improvements.

Strategies

- Signal Retiming
- Left turn lane configuration coming from Stefko Road and Market Street up to Broad Street
- Pedestrian Infrastructure

Attribute / Metric	Value / Description
NHS status	No
Annual Daily Truck Traffic	1,115
Annual Average Daily Traffic	13,729
Municipality	Bethlehem
Level of Service (V/C)	1.00
PHED	NA
LOTTR	NA
TTTI	NA
TTTR	NA
High Crash Severity	No
Priority Rank	10



Evaluating Performance Trends

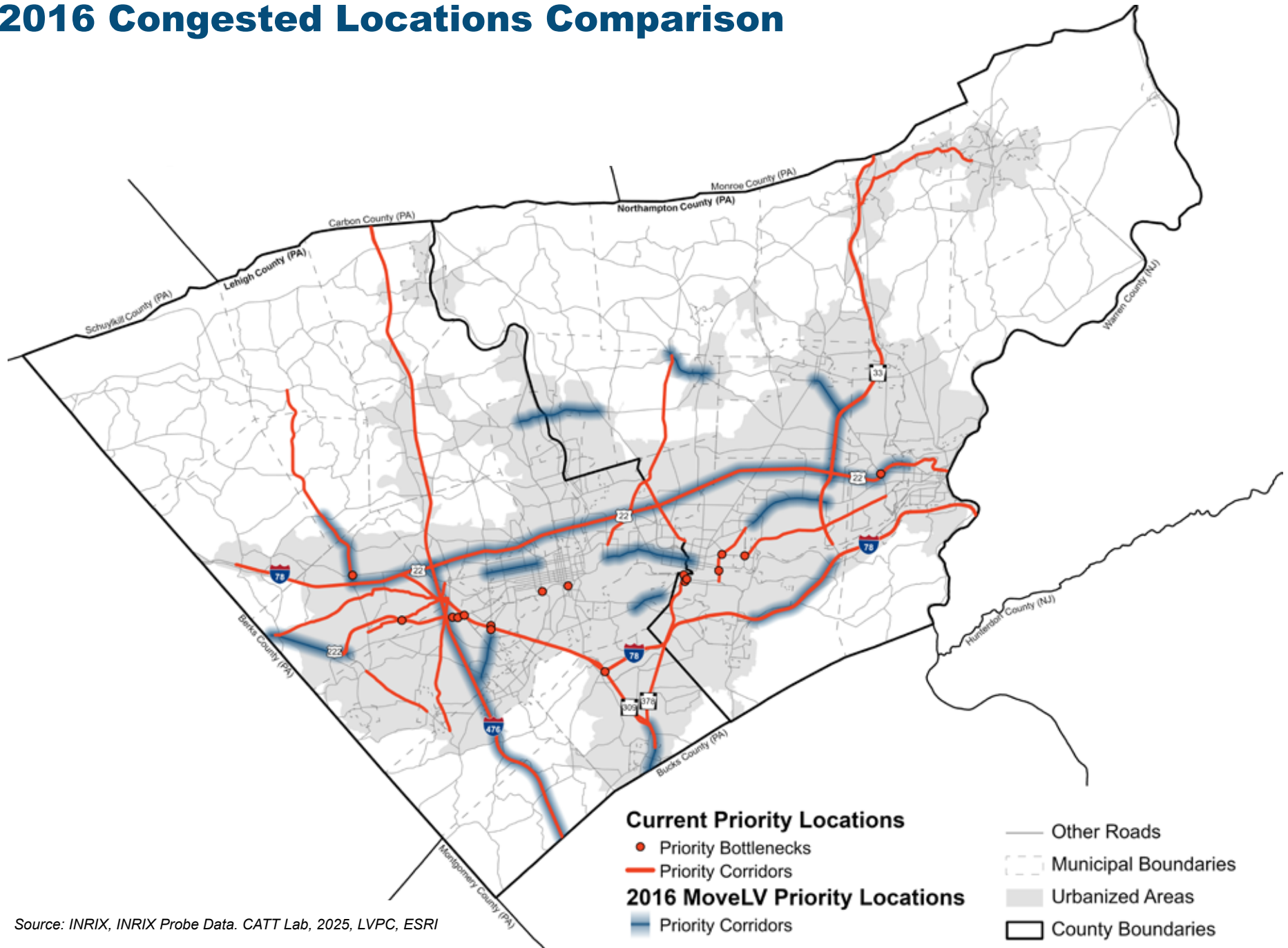
The CMP helps track how the Lehigh Valley's transportation network performs and identifies ways to reduce congestion across different travel modes. However, it does not directly measure how well implemented solutions work. Evaluating conditions before and after a project is important to see if strategies improve traffic flow, but such assessments are often limited by staffing and data availability.

Traffic patterns are influenced by factors like land use, economic shifts and travel behavior, making it difficult to measure a single project's impact. Still, estimating potential effects is critical for prioritizing investments that deliver the most meaningful improvements.

In the 2016 CMP update, LVTS identified 15 congested corridors, designating them as priorities due to their importance and severity of congestion. For this 2026 update, LVTS used INRIX to probe vehicle data for more precise congestion evaluation. The analysis compared current conditions with the 2016 list to determine if any corridors have improved enough to be removed.



2016 Congested Locations Comparison



Source: INRIX, INRIX Probe Data. CATT Lab, 2025, LVPC, ESRI

The 15 priority corridors received a focused review to determine whether they remain critical congestion locations. Checked boxes indicate where previous priority corridors overlap with current ones.

The CMP analysis shows that several corridors prioritized in the 2016 *MoveLV* plan have seen measurable traffic improvements.

Of the 15 priority corridors, six – Tilghman Street, Route 29, Emmaus Avenue, Hanover Avenue, Route 248, and Easton Avenue – currently show no significant congestion at either the corridor or bottleneck level.

This suggests that the 2016 plan’s mitigation strategies were effective. Ongoing monitoring and targeted interventions on the remaining congested corridors will be important to maintain and improve traffic flow in the Lehigh Valley.

2016 <i>MoveLV</i> Priority Corridors	Current Corridors
Route 222/Hamilton Boulevard (Folk Road to Route 100)	X
Route 100 (Claussville Road to Tilghman Street)	X
Route 22 (Route 100 to Wood Avenue)	X
Route 329 (Route 145 to Weaversville Road)	X
Tilghman Street (N Cedar Crest Boulevard to N 15th Street)	
Route 476 (Route 22 to Lehigh County Line)	X
Route 29 (Fish Hatchery Road to Little Lehigh Drive)	
Route 309 (U-Turn S of Main Street to Lehigh County Line)	X
Emmaus Avenue/Broadway (Church Road to Delaware Avenue)	
Hanover Avenue/W Broad Street (N Irving Street to Guetter Street)	
Route 248 (Grouse Drive to Washington Street)	
Route 33 (Van Buren Road to Church Road)	X
Route 248 (Wambold Street to Route 33 southbound ramps)	
Easton Avenue (Nottingham Road to Hope Road)	
I-78 (Route 412 East ramps to Route 33 East ramps)	X



Lehigh Valley Congestion Management Strategies to Reduce Single-Occupancy Vehicle Travel

To address congestion and reduce reliance on single-occupancy vehicle (SOV) travel, the Lehigh Valley has advanced a range of coordinated strategies spanning transit, active transportation, pricing and regional connectivity. Examples include:

- The LVTS Coordinated Public Transit: Human Services Transportation Plan identifies transportation needs of transit-dependent older adults, low-income populations and individuals with disabilities, and evaluates service providers while also outlining strategies, projects, and activities to improve service efficiency and set implementation priorities based on funding, timing and feasibility.
- LANTA's Enhanced Bus Service (EBS) represents a key transit investment aimed at improving service frequency, reliability, and overall system attractiveness, making transit a more competitive alternative to driving alone. Reduced fare programs are also provided by LANTA which include three-hour passes, day passes, monthly passes, and special fares for seniors, people with disabilities, people with a Medicare card, and children.

- *Walk/RollLV: Active Transportation Plan* focuses on coordinating trails, bikeways, sidewalks, roadways, and public transit to create a convenient, safe, and multimodal transportation network. This effort supports reducing SOV travel and enhancing quality of life by improving air quality, health, mobility, safety, tourism, recreation, and overall environmental outcomes.
- Parking pricing strategies in the cities of Allentown, Bethlehem and Easton are being used to better manage demand, encourage turnover, and reduce incentives for SOV in high-activity areas.
- *The Lehigh Valley Trail Connection Strategy* focuses on closing gaps between existing and proposed trails to create a more continuous regional network. By strengthening these linkages, the strategy expands options for both everyday travel and recreational use without dependence on single-occupant vehicles. It also complements broader active transportation efforts across the region and provides municipalities and partner organizations with guidance and supporting information for pursuing funding for trail development and improvements.



Guidelines for Aligning Projects with the Congestion Management Plan

Under federal requirements, proposed transportation projects must be evaluated to ensure they align with the CMP. When initiating a study or advancing a project that could increase roadway capacity, project sponsors are expected to coordinate early with LVTS staff.

This coordination helps ensure that the project follows the appropriate procedures and is incorporated into the review.

LVTS staff can provide support in identifying and developing strategies for projects that introduce minor increases in SOV capacity. However, greater emphasis is placed on reviewing projects that result in substantial capacity expansion. Determining whether a project does not add SOV capacity or should be classified as a minor or major capacity increase requires careful evaluation.

Project sponsors are expected to assess their proposals using the criteria outlined in the flowchart.



Projects that do not increase SOV capacity are typically identified through their eligibility for exempt categories under regional air quality guidelines. These include safety improvements, transit investments, air quality programs, and other designated activities.

Project types not expected to increase capacity include:

- **Active transportation** - bicycle and pedestrian facilities
- **Infrastructure maintenance** - bridge repair or replacement, drainage and dam upgrades, resurfacing, routine maintenance (e.g., signal updates), shoulder and guiderail improvements, and sight distance enhancements
- **Streetscape and environment** - landscaping, historic preservation, sound barriers, and environmental mitigation (e.g., wetland restoration)
- **Roadway changes** - widening that does not add travel lanes
- **Programs and systems** - Safe Routes to School, Intelligent Transportation Systems (ITS) for monitoring, traveler information, or emergency response, and signage improvements
- **Transit and demand management** - transit projects, Transportation Demand Management (TDM), and off-roadway infrastructure like parking garages
- **Air quality and funding programs** - Congestion Mitigation and Air Quality (CMAQ) projects
- **Planning and support activities** - outreach, transit/TDM planning, regional or local studies, regulatory reviews, freight planning, and GIS data collection

The only exception is when planning or support activities directly contribute to major highway expansion projects, which are classified separately.



Minor SOV capacity projects create small, localized increases in roadway capacity without adding new through lanes or constructing new roads that would significantly alter travel patterns. They are typically implemented as stand-alone improvements and evaluated based on consistency with congestion management goals and their role within existing or planned corridors.

Common examples include:

- ITS applications that improve flow (e.g., signal coordination)
- Intersection upgrades such as added turn lanes or geometric adjustments (though widespread upgrades may be classified as major)
- Center turn lanes, acceleration/deceleration lanes, and jughandles
- Modifications to ramps at existing interchanges, including improved merging areas
- Roundabouts, traffic circle cut-throughs, and small-scale bottleneck improvements that do not significantly affect travel times or corridor performance
- Access management strategies that improve traffic flow and safety by controlling driveway access, managing turning movements, and reducing conflict points, without increasing roadway capacity (e.g., no added through lanes)

In general, these projects improve operations, including turning movements or merging, without materially changing corridor function, land use patterns, or overall travel demand.

Major SOV capacity projects substantially increase roadway capacity and are likely to influence travel behavior at the corridor or regional scale. While factors such as inclusion in air quality modeling or non-exempt study codes may inform classification, they are not determinative on their own. Projects are evaluated based on consistency with congestion management strategies, their presence in heavily traveled corridors, and their role in long-range plans and state transportation agency descriptions. Projects identified as major regional expansions in long-range plans typically receive added scrutiny.



Common examples include:

- Construction of new highways or bypasses
- Adding through lanes to existing roadways
- Coordinated corridor improvements that collectively increase capacity
- New interchanges or adding missing movements to existing interchanges
- Converting intersections to grade-separated interchanges
- Operational strategies such as shoulder running or flex lanes

Projects undergoing an Environmental Assessment (EA) or Environmental Impact Statement (EIS) or similar reviews that include high-capacity alternatives may be temporarily classified as major to support early coordination. Final classification is determined once a preferred alternative is selected.

Periodic Update and Implementation Schedule of Congestion Management Plan

Several strategic actions are recommended for future implementation to ensure the CMP remains adaptable and responsive to changing conditions.

Those include:

- **Promoting Multimodal Solutions for Capacity Projects** - Maintain ongoing dialogue with stakeholders whenever large-scale highway capacity expansion projects are proposed. The objective is to integrate multimodal and alternative transportation modes, such as public transit, pedestrian walkways, and bicycle infrastructure, to maximize the investment's long-term vision and value.
- **Evaluating Project Effectiveness and Refine Metrics** - Capitalize on historical travel time data to conduct before-and-after assessments on recently completed congestion relief initiatives. Established performance measures must be specifically used to evaluate the effectiveness of the proposed implementations. This will measure how well these projects improve traffic flow and reliability. Additionally, the metrics established in the current CMP should be refined to more systematically pair specific congestion issues with the most effective mitigation tactics at the corridor and bottleneck levels.
- **Collaborating on Targeted Interventions** - Work closely with local municipalities, PennDOT, and FHWA planning partners to assess needs at the most congested locations. This collaborative effort should focus on drafting immediate and long-range improvement strategies, complete with projected cost estimates where appropriate.
- **Tracking Year-over-Year Data Trends** - Continue the annual collection of travel time data to build robust comparative models. Analyzing year-to-year trends is vital for judging the success of past congestion strategies, guiding future financial investments, and informing PM3 performance target benchmarks.

- **Modeling the impact of economic activity on travel demand**

As development intensifies, trip generation must be explicitly accounted for, since increased land use activity directly drives higher travel demand. While the intended level of service for a corridor may remain unchanged, or might decrease, the actual traffic volumes operating within that design framework will rise, placing greater pressure on the corridor's capacity, leading to increased congestion.

- **Diagnosing the Root Causes of Delay** - Deepen the analysis

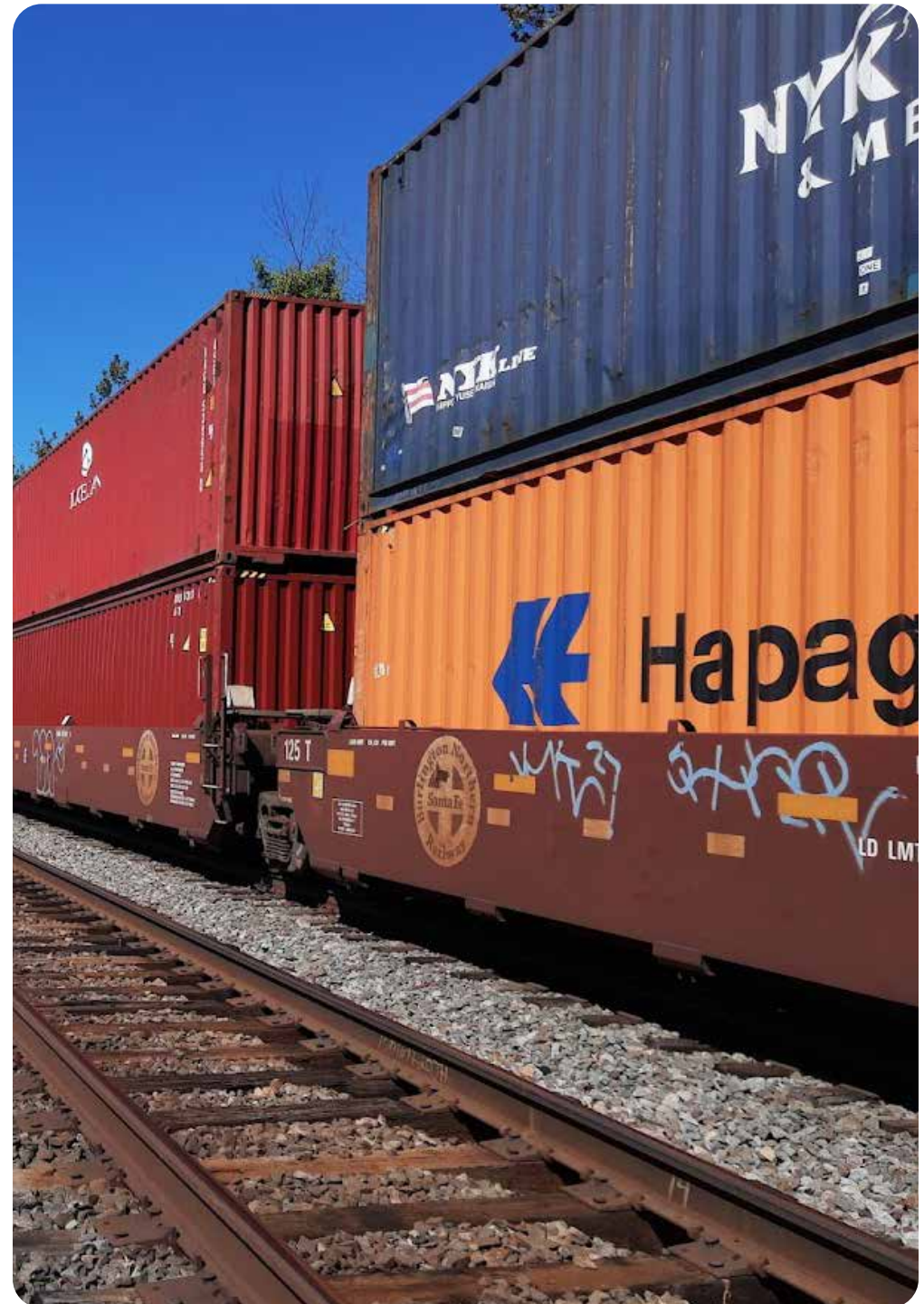
of why traffic builds up in priority corridors and bottlenecks. By utilizing datasets like INRIX, planners can map origin-destination patterns to see where short and long trips are concentrated. Additionally, platforms like the University of Maryland's Center for Advanced Transportation Technology Laboratory Probe Data Analytics Suite should be used to pinpoint the location, severity, and regional impact of unpredictable traffic disruptions, such as accidents, construction zones, extreme weather, or special events.

- **Enhancing GIS Mapping and Visualization** - Develop GIS web

maps so users can more easily visualize congestion metrics like AADT, ADTT, V/C Ratio, and LOS that clearly link the plan's proposed mitigation strategies to their respective corridors and bottlenecks.

- **Aligning with Regional Freight Initiatives** - Continue executing

the CMP in coordination with the Eastern Pennsylvania Freight Alliance (EPFA) multi-regional freight plan, ensuring that all strategies mutually support broader freight and logistics goals.



During the creation of the 2026 CMP update, the LVTS Technical Committee served as the primary driving force, receiving continuous backing from the Coordinating Committee. By convening monthly, these groups collaborated and provided steady feedback to successfully achieve a unified consensus for the new plan.

Both LVTS committees will maintain their regular meeting schedules to manage routine business, with plans to revisit the CMP frequently during subsequent revision cycles. This timeline will be closely aligned with the schedule for the update of subsequent versions of *FutureLV: The Regional Plan*. The participating organizations and entities who will actively contribute, or use the CMP for future development, project justification, and monitoring efforts include:

- Lehigh and Northampton Counties
- Local municipalities
- PennDOT
- LANTA
- Federal partners, including Federal Highway Administration and Federal Transit Administration
- Transportation Management Associations
- Other LVPC Committees, including the LVPC Transportation, Environmental and Comprehensive Planning Committees
- Other participants as invited or asked to join





Conclusion

The CMP provides a data-driven framework for evaluating congestion, mobility and reliability across the Lehigh Valley's transportation network. Linking Metropolitan Transportation Plan (MTP) goals to measurable PM3 indicators helps planners consistently identify priority corridors, bottlenecks and other critical locations.

The scoring framework ensures investments and operational strategies target areas with the greatest need, considering travel reliability, safety, multimodal access, system efficiency and freight movement. Implementation relies on collaboration among LVPC, LVTS, PennDOT, transit operators, freight stakeholders, municipalities and regional partners. This coordinated approach aligns strategies across jurisdictions and modes, leverages shared data, and supports regional performance goals.

As new data and tools become available, the CMP will evolve to refine thresholds, corridor definitions and evaluation metrics, maintaining consistency with MTP objectives while responding to changing travel patterns.

The CMP provides transparent, repeatable methods for planning, prioritizing investments and monitoring performance. Priority corridors and bottlenecks identified through this process guide targeted operational improvements, demand management, and capital investments. Ongoing monitoring of congestion, reliability, safety and multimodal access will inform future MTP updates and ensure accountability.

Overall, CMP implementation benefits all system users. Commuters gain more reliable travel and improved safety, freight operators benefit from reduced delays and more efficient goods movement, and multimodal travelers see better access and connectivity for transit, walking and biking.

By linking performance metrics to clear objectives and coordinated action, the CMP supports a safer, more reliable and more efficient transportation system that advances the Lehigh Valley's mobility, economic vitality and quality-of-life goals.





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2026 Transportation Needs Assessment Survey

Supporting the Update of
FutureLV: The Regional Plan

Published June 2026

Transportation Needs Assessment Survey

The Lehigh Valley Planning Commission (LVPC) conducted a Transportation Needs Assessment (TNA) Survey as part of the updates of *FutureLV: The Regional Plan* and the Lehigh Valley Transportation Study's (LVTS) Metropolitan Transportation Plan. The TNA Survey is intended to understand the public's most urgent concerns, identify their long-term priorities, and establish how limited financial resources should be allocated. The survey was created in Microsoft forms, and it was open from April 16 to May 17. It was distributed through email, social media, event program advertisements, and in-person events such as the Northampton County Festival and the LVPC's Strategy Labs. It was also promoted at public meetings of the LVTS and LVPC.

Survey Findings

The following pages summarize the findings from this year's survey and compare them to the results from a similar survey taken in 2023. Additional response options and changes in several question's wording are the bulk of the difference between the 2023 and 2026 surveys. These changes were made to reflect discussions with the Lehigh Valley Transportation Study, Lehigh Valley Planning Commission and public. The comparison notes where the survey methodology or questionnaire between the two surveys was somewhat different, which affected an exact comparison between the two.

1. Survey Participation

The 2026 survey was live for just over four weeks and gained 601 responses, while the 2023 survey ran for two months, yielding just more than 1,000 responses. The 2026 survey allowed responses to list more than one role, which is why the percentages in the 2026 column exceed 100. Roughly 80% of the responses to both surveys came from residents. The share of responses from elected officials doubled and appointed officials increased from 4.8 to 6% in 2026, while the response shares from municipal staff declined from 5.8% to 4.8%. The participation shares from external commuters and businesses operating in the Lehigh Valley more than doubled.

Participation Metric	2023 TNA Survey	2026 TNA Survey*
Total Responses	1,007	601
Residents	802 (79.6%)	502 (83.5%)
Appointed Officials	48 (4.8%)	36 (6.0%)
Elected Official	32 (3.2%)	39 (6.5%)
Municipal Staff	58 (5.8%)	29 (4.8%)
External Commuters / Businesses ("Other")	67 (6.7%)	90 (15.0%)
Geographic Coverage	60 out of 62 municipalities	58 out of 62 municipalities
Margin of Error	3.09%	4.00%

*The total percentages for 2026 responses exceed 100% because participants were permitted to choose as many roles as applied to them.

2. What Transportation Issues does the Lehigh Valley Care About?

The first question asked people what general transportation issues were most concerning to them, rating each concern on scale of 1 to 5 (most important). Traffic flow and congestion and road pavement conditions were the top issues in both surveys. Walking, bridge conditions, and interstate highways were almost as high in both the 2023 and 2026 surveys. Trails were not on the questionnaire in 2023 but were highly rated in 2026. Truck and rail freight saw a significant increase in importance, reflecting increasing concerns about truck volumes and parking issues. Transit saw a marked decline in interest. Bicycling, local bus transit, and intercity bus all had lower overall ratings, but in each case a significant number of responses rated them as highly important (for this reason, the average scores were not statistically significant).

Rating of Transportation Issues

Variable	2023	2026
Traffic Flow/Congestion	4.3	4.2
Road Pavement	4.3	4.1
Walking	4.0	4.0
Bridges	4.1	3.8
Interstate Highways	3.7	3.8
Trails	N/A	3.8
Freight (Trucks and Rail)	2.9	3.6
Bicycling	3.4	3.3**
Passenger Rail (to NY/NJ, Philadelphia, and/or Harrisburg)	3.3	3.3
Aviation	2.9	3.1
Bus Transit (Local/Lehigh Valley)	3.6	2.9**
Intercity Bus (to NY/NJ, Philadelphia, and/or Harrisburg)	N/A	2.9**

**Not statistically significant

3. What are the Region’s Top-Ranked Roadway and Bridge Objectives?

The survey then focused on specific transportation categories and asked people to rank which issues were most important for each.

For roads and bridges, three new categories; congestion management, emergency response and incident management, and public transit access and reliability were added to the survey in 2026 and respondents were asked to rank the options from 1-10. Congestion management was the clear respondent favorite as the most important issue in 2026, rated the highest by more than a third of all respondents. Roadway operations, transportation safety, and road and bridge conditions were also highly rated, as was the case in 2023.

Ranking of Road and Bridge Categories

Categories	2026 Rank	2023 Rank
Congestion Management (reducing traffic delays, bottlenecks, peak-hour travel)	1	N/A
Roadway operations (signal timing, traffic flow)	2	2
Transportation safety (crashes, turn lanes, improving safety measures)	3	1
Condition of roadways and bridges (maintenance, resurfacing or refurbishing)	4	3
Emergency response and incident management (emergency vehicle access, clearance times, disaster response)	5	N/A
Funding for transportation infrastructure maintenance and improvements	6	4
Freight movement (truck parking, establishing, or enhancing truck routes)	7	6
Accessible roadway design for all ages, abilities, and transportation modes (sidewalks, transit infrastructure, bicycle infrastructure, trails)	8	5
Public transit access and reliability (Increase service & routes, improve transit stops)	9	N/A
Transportation technologies (electric vehicle charging infrastructure, smart signals)	10	7

4. Trails as a Part of the Transportation Network

We asked people to rate the importance of the Lehigh Valley's Trail network as part of the transportation system. In 2026, 35% of respondents said they consider trails as a part of their transportation network, as opposed to 2023, where the response was 48%. The number who said they were not part of their transportation network increased from 31% to 44%. In both years, 21% of respondents had mixed opinions. This shift suggests that the trail network has not yet matured to the point where it is a full alternative to other transportation modes. The priority trail gaps that were recently identified in LVPC's *Lehigh Valley Trail Connection Strategy* will significantly strengthen the network and may help increase recognition of the trail network as a robust transportation system.

Are Trails a Part of Your Transportation Network?

Opinion	2023	2026
Yes	48%	35%
No	31%	44%
Maybe	21%	21%
Total	100%	100%

5. Walking, Cycling, Rolling, & Accessibility

The survey sought community feedback on infrastructure that improves conditions for walking, cycling and accessibility. Three new options were added to this year’s survey, including traffic-calming measures, expanding trails and connecting to the road network, and improving pedestrian and accessible connections to bus stops. Respondents were asked to rate each objective on a one-to-five (1-5) scale, with 5 being most important. The distribution of rankings was relatively narrow, with all of the options having moderate-to-strong support. Traffic-calming, one of the new objectives in the survey, and was rated highest overall.

Bike, Pedestrian and Accessibility Objectives	2023	2026
Implementing traffic-calming measures	N/A	3.9
Adding or marking crosswalks	3.7	3.6
Adding sidewalks to new and existing roads	3.7	3.6
Adding or improving sidewalks and intersect	3.8	3.6
Expanding trails and connecting to the road	N/A	3.5
ADA Accessibility/Adding or improving curb ramps for accessibility by all persons	3.6	3.3
Building and connecting bike lanes	3.5	3.2
Connecting bus stops to walking or rolling	N/A	3.1

6. Transportation Mode Choices

The survey asked respondents to estimate how many times they had used each transportation mode in the previous twelve months, ranging from 25 times or more to once or twice or not at all. The tables below show the percentage of responses for each mode and provides the 2023 survey results for comparative purposes. For 2026, two modest, but consistent trends emerged. More people are walking, rolling and using trails. Meanwhile, the percentage of persons making frequent drive-alone trips dropped from 91% to 88%. Transit received mixed responses: the percentage making frequent trips went down slightly, but percentage of people making occasional trips increased.

Transportation Mode Choices (percentages) 2026 Survey

How Often did you use the modes	Walking/Rolling	Cycling	Trails	Transit	Driving Alone	Carpooling	Taxi or Rideshare (Uber, Lyft, etc)
25 Times or More	32%	13%	16%	2%	88%	14%	3%
13-24 Times	12%	6%	13%	2%	5%	13%	5%
3-12 Times	23%	15%	22%	5%	3%	20%	18%
Once or twice	16%	14%	19%	10%	1%	16%	23%
Never	17%	52%	30%	81%	3%	37%	52%
Total	100%	100%	100%	100%	100%	100%	100%

2023 Survey

How Often did you use the modes	Walking/Rolling	Cycling	Trails	Transit	Driving Alone	Carpooling	Taxi or Rideshare (Uber, Lyft, etc) or
25 Times or More	29%	10%	14%	3%	91%	14%	2%
13-24 Times	10%	6%	10%	2%	4%	10%	4%
3-12 Times	24%	12%	20%	3%	2%	20%	19%
Once or twice	16%	15%	20%	8%	1%	15%	23%
Never	22%	58%	36%	83%	2%	42%	53%
Total	100%	100%	100%	100%	100	100%	100%

7. Ranking Transit Objectives

Respondents were asked to identify three important transit objectives for their community. New options were added to the previous survey, including bus stop amenities, expanding hours of service, and increasing bus speeds. One broad topic: expanding the span of public transportation service across the region, was dropped; the aspects covered in that category are addressed elsewhere. Improving transit service to connect major employment centers with residential neighborhoods was the highest priority, followed by improving bus stop amenities.

Transit Issues	2023	2026
Expanding transit service to connect major employment centers with residential neighborhoods	24.90%	24%
Adding shelters, seating, lighting, and real-time schedule information at bus stops	N/A	19%
Increasing service frequency to reduce wait times	16.60%	16%
Expanding on-demand public transportation options (LANTA Flex)	13.40%	11%
Improving customer information on LANTA services	10.15%	10%
Expand hours of service	N/A	10%
Increasing bus speed to reduce travel times	N/A	5%
Expanding the span of service of public transportation across the region	25.37%	N/A
Others	9.49%	6%

8. Freight Issues

Respondents were asked to identify three important freight-related issues in their community. This was a new question, so no response comparison to the 2023 survey is possible. This question was added to assess the growing freight movements to, from, and through the Lehigh Valley. The most popular responses addressed concerns about the impacts of trucking on street and highway congestion, damage to local roads, trucks driving on neighborhood streets, and air and noise pollution from air/road/rail freight. Truck parking and safety at rail crossings received lower concern responses.

Freight Issues	Percentage
Trucks adding to street and highway congestion	24%
Trucks damaging local roads	20%
Trucks on neighborhood streets	18%
Air and noise pollution from <u>freight</u> , and air cargo	17%
Truck impacts on drivers, <u>bicycles</u> , and pedestrian safety	12%
Trucks parking on road shoulders and ramps	5%
Safety at rail crossings	2%
Others	1%
Total	100%

9. Allocation of Public Funds

The final question in the survey asked people to engage in an exercise to see how public dollars should be invested. Each respondent was given a theoretical budget of \$100 and asked to choose how these funds should be spent on various transportation investments. Two new options were added for this year's survey: passenger rail or bus service to other regions, and aviation and airports. Roads and bridges were the overall response leader in both surveys. Infrastructure resilience and passenger rail or inter-regional bus were tied for second area of investment in this year's survey, whereas infrastructure resilience and walking, biking, and accessibility were tied for second place in 2023.

Funding Category	2023 Allocation (Average)	2026 Allocation (Average)
Roads and Bridges	\$35	\$28
Infrastructure Resilience	\$23	\$17
Walking, Biking, and Accessibility	\$23	\$16
Transit Within Region	\$18	\$14
Passenger Rail or Bus To Other Regions	NA	\$17
Aviation and Airports	NA	\$8

Conclusion

This year’s survey provides a good snapshot of public opinion regarding the transportation challenges facing the Lehigh Valley. Auto travel is by far the dominant mode, so traffic congestion and road and bridge conditions were top of mind for respondents overall. However, there is also substantial interest in transit and active transportation modes, and substantial support for improving these networks. The mode choice question revealed walking/rolling and cycling have mode shares that are greater than what is seen in our journey to work data. This indicates that people are more likely to walk or roll for non-work trips like shopping and recreation. Concerns about safety informed much of the support for both road and bridge improvements as well as pedestrian, cycling and accessibility needs.

The results of this survey, along with the recently completed community dialogue and solutions-focused Strategy Labs will shape LVPC’s efforts as we undertake the project selection process and policy development for *FutureLV: The Regional Plan*.

Thank you to everyone who participated in the Transportation Needs Assessment survey. More information and additional opportunities to shape the future of the Lehigh Valley may be found at www.lvpc.org, emailing planning@lvpc.org or by calling the LVPC at (610) 264-4544.

Appendix

Transportation Needs Assessment Survey Questions and Response Options

Lehigh Valley Transportation Needs Assessment Survey

The Lehigh Valley Planning Commission wants to hear from you about the region's transportation needs and priorities. Your feedback will help shape updates to the transportation components of *FutureLV: The Regional Plan*—guiding future transportation investments, projects, and policies across the region. This survey takes about six minutes to complete. Your responses are completely anonymous, and the survey does not ask for any information that could identify you. Results will be combined with others' responses and used only to support regional planning efforts. Please Note: An (*) indicates a required question response.

1. Which municipality do you reside in? *

- Albutis Borough
- Allen Township
- Allentown City
- Bangor Borough
- Bath Borough
- Bethlehem City
- Bethlehem Township
- Bushkill Township
- Catasauqua Borough
- Chapman Borough
- Coopersburg Borough
- Coplay Borough
- East Allen Township
- East Bangor Borough
- Easton City
- Emmaus Borough
- Forks Township
- Fountain Hill Borough
- Freemansburg Borough
- Glendon Borough
- Hanover Township (Lehigh County)
- Hanover Township (Northampton County)
- Heidelberg Township
- Hellertown Borough
- Lehigh Township
- Lower Macungie Township
- Lower Milford Township
- Lower Mount Bethel Township

- Lower Nazareth Township
- Lower Saucon Township
- Lowhill Township
- Lynn Township
- Macungie Borough
- Moore Township
- Nazareth Borough
- North Catasauqua Borough
- North Whitehall Township
- Northampton Borough
- Palmer Township
- Pen Argyl Borough
- Plainfield Township
- Portland Borough
- Roseto Borough
- Salisbury Township
- Slatington Borough
- South Whitehall Township
- Stockertown Borough
- Tatamy Borough
- Upper Macungie Township
- Upper Saucon Township
- Walnutport Borough
- Washington Township (Lehigh County)
- Washington Township (Northampton County)
- Weisenberg Township
- West Easton Borough
- Whitehall Township
- Williams Township

- Wilson Borough
- Wind Gap Borough
- I Don't Know
- Other

2. Do you represent an organization(s)? If so, which one(s)?

3. What is your role within the community or organization (Check all that apply)? *

- Resident
- Appointed Official
- Elected Official
- Municipal Staff
- Business Owner
- Representative of Community Organization
- Other

4. Please rate **Traffic Flow/Congestion** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



5. Please rate **Road Pavement** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



6. Please rate **Bridges** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



7. Please rate **Freight (Trucks and Rail)** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



8. Please rate **Interstate Highways** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



9. Please rate **Bus Transit (Local/Lehigh Valley)** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



10. Please rate **Passenger Rail (to NY/NJ, Philadelphia, and/or Harrisburg)** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



11. Please rate **Intercity Bus (to NY/NJ, Philadelphia, and/or Harrisburg)** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



12. Please rate **Aviation** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



13. Please rate **Trails** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



14. Please rate **Walking** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



15. Please rate **Bicycling** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



16. Please rate **ADA Accessibility** according to your personal priorities. 1 Star means "Not Important" and 5 Stars means "Most Important." *



17. Rank the following road and bridge objectives for your community from one (1 – most important) to ten (10 – least important). Please drag the objectives below into your preferred order from one to ten. *

- Roadway operations (signal timing, traffic flow)
- Congestion Management (reducing traffic delays, bottlenecks, peak-hour travel)
- Transportation safety (crashes, turn lanes, improving safety measures)
- Freight movement (truck parking, establishing, or enhancing truck routes)
- Emergency response and incident management (emergency vehicle access, clearance times, disaster response)
- Transportation technologies (electric vehicle charging infrastructure, smart signals)
- Accessible roadway design for all ages, abilities, and transportation modes (sidewalks, transit infrastructure, bicycle infrastructure, trails)
- Funding for transportation infrastructure maintenance and improvements
- Condition of roadways and bridges (maintenance, resurfacing or refurbishing)
- Public transit access and reliability (Increase service & routes, improve transit stops)

18. Do you consider trails as part of your transportation network? *

- Yes
- No
- Maybe
- No Opinion

19. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Adding or marking crosswalks, adding pedestrian islands or median crossings** *



20. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Adding sidewalks to new and existing roads and developments** *



21. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Adding or improving sidewalks and intersections for accessibility by all persons** *



22. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Building and connecting bike lanes** *



23. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Implementing traffic calming measures to make roads safer for all users** *



24. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Expanding trails and connecting to the road and sidewalk network** *



25. Please rate the following walking, rolling and accessibility objectives for your community. 1 Star means "Not Important" and 5 Stars means "Most Important." **Connecting bus stops to the walking, rolling and accessibility network** *



26. How often did you use the following transportation modes to reach a destination in the past 12 months? (Check one circle for each row). *

	Never	Once or Twice	3-12 Times	13-24 Times	25 Times or More
Walking/Rolling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transit (LANTA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Driving Alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carpooling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taxi or Rideshare (Uber, Lyft, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. What are the most important transit objectives for your community? (Select three): *

Please select at most 3 options.

- Increasing service frequency to reduce wait times
- Expanding transit service to connect major employment centers with residential neighborhoods
- Increasing bus speed to reduce travel times
- Expanding on-demand public transportation options (LANTAFlex)
- Expand hours of service
- Improving customer information on LANTA services
- Adding shelters, seating, lighting, and real-time schedule information at bus stops
- Other

28. What are the most important issues related to freight in your community? (Select three): *

Please select at most 3 options.

- Trucks on neighborhood streets
- Trucks parking on road shoulders and ramps
- Trucks damaging local roads
- Trucks adding to street and highway congestion
- Truck impacts on driver, bicycle, and pedestrian safety
- Air and noise pollution from trucks
- Air and noise pollution from freight rail
- Air and noise pollution from air cargo
- Delays at rail crossings
- Safety at rail crossings
- Other

How would YOU allocate funds?

If you had \$100 in public funds to spend on the following transportation issues anyway you wished, how would you spend it? (Your total should add up to \$100)

29. Walking, Biking + Accessibility *

Number must be between 0 ~ 100

30. Transit within the region *

Number must be between 0 ~ 100

31. Passenger Rail or Bus to Other Regions *

Number must be between 0 ~ 100

32. Road + Bridge *

Number must be between 0 ~ 100

33. Aviation and Airports *

Number must be between 0 ~ 100

34. Infrastructure Resilience *

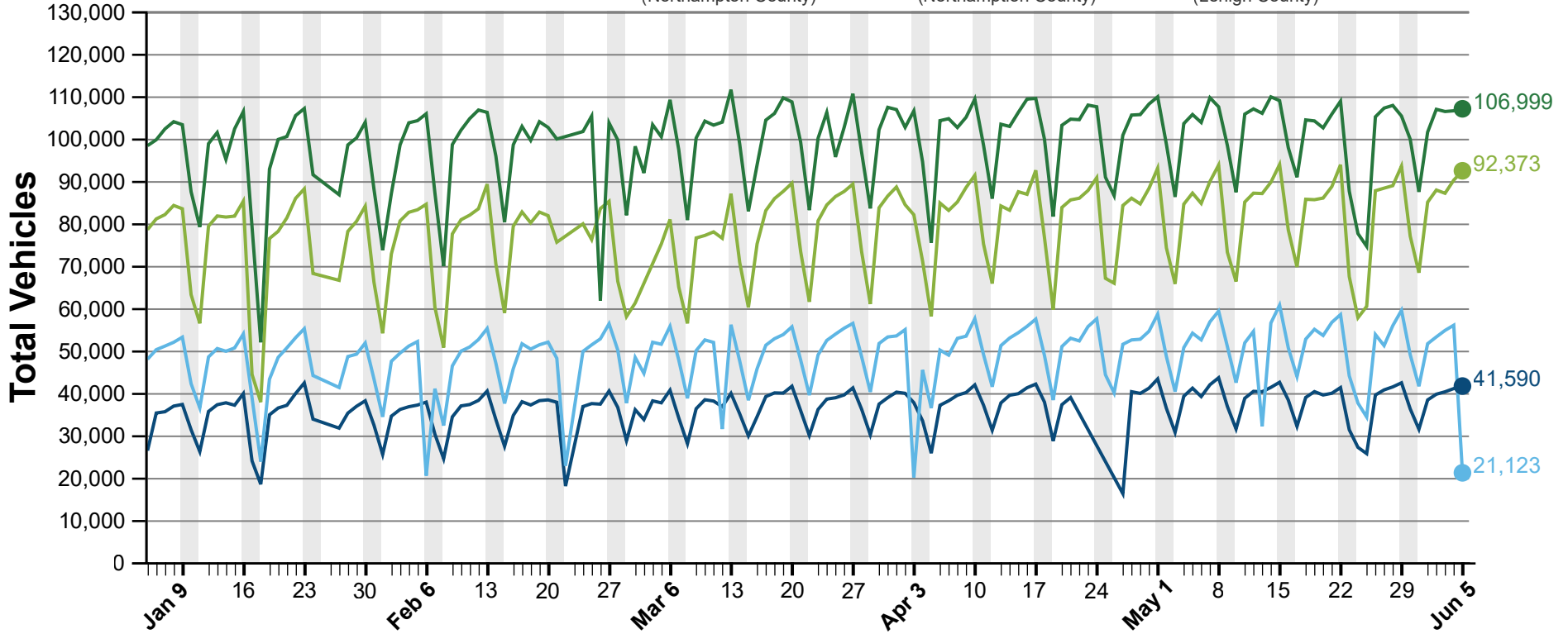
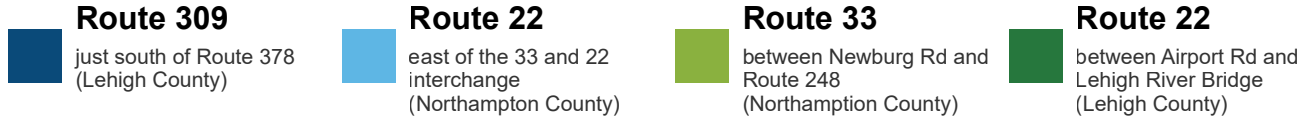
Number must be between 0 ~ 100

35. Add up your totals above; do they equal 100? If not please go back and redistribute funds! *

Yes

No

Traffic Volumes Throughout the Lehigh Valley



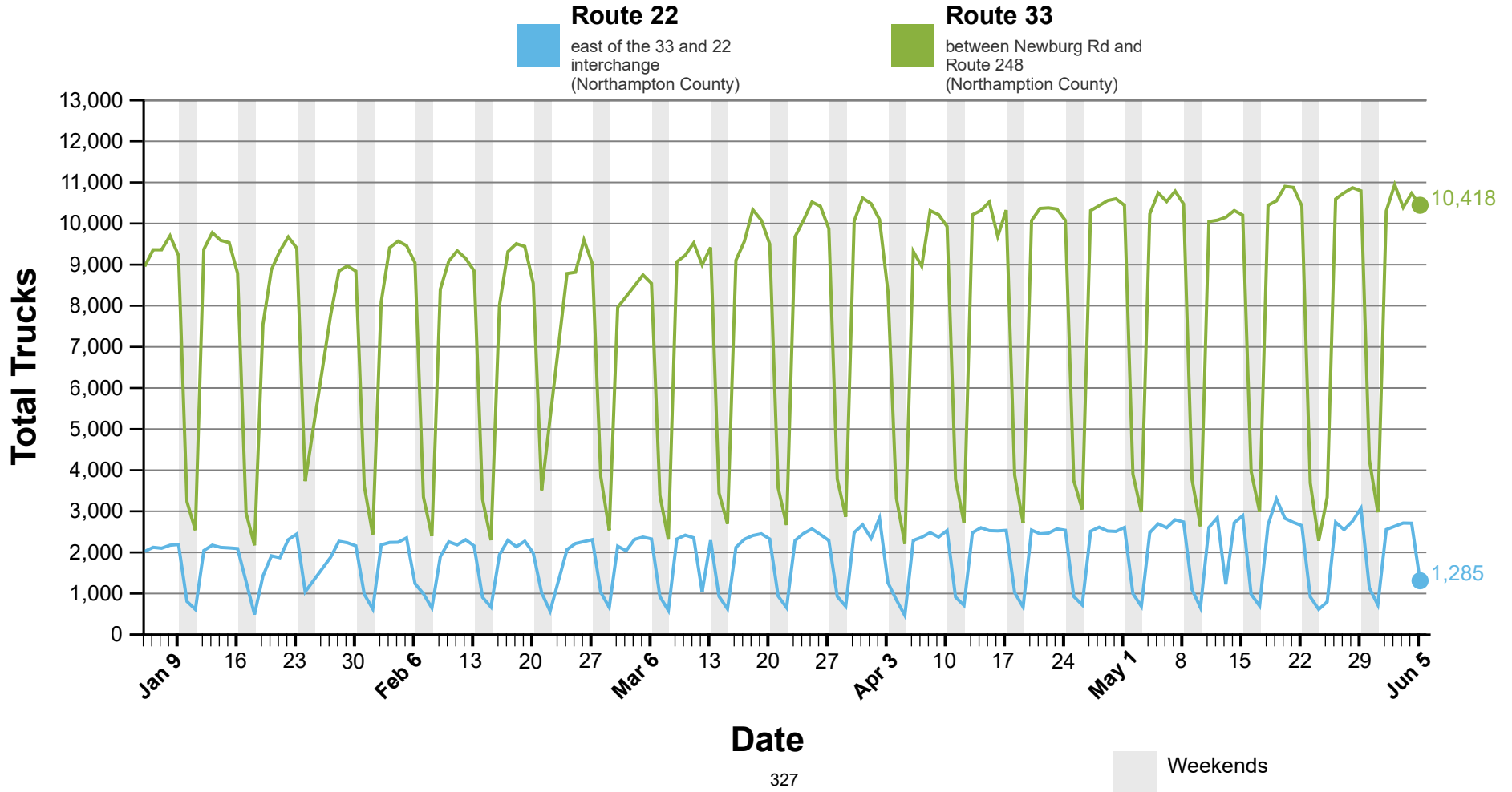
Date

326

Weekends

*Data from Jan/5/2026 - Jun/5/2026 at daily intervals

Truck Volumes Throughout the Lehigh Valley



**LEHIGH VALLEY TRANSPORTATION STUDY
BRIDGE STATUS REPORT
MEETING JUNE 17, 2026**

SR 145 over Jordan Creek Bridge Replacement (C-J. Crawford)

City of Allentown and Whitehall Township, Lehigh County

MPMS 110076 – est. let November 1, 2029

- Meeting held April 14, 2026, to discuss design criteria due to recent design guidance changes
- Meeting held April 29, 2026, to discuss APE for ongoing CE investigations, Section 4(f) impacts
- Designer working on finalizing H&H analysis, Final TS&L and proposed geotechnical investigations to be submitted after H&H
- Preliminary TCP to be submitted with Safety Review and TS&L after H&H
- Additional coordination with LANTA and municipalities anticipated after TS&L and preliminary traffic plans are developed

SR 378 Hill to Hill Bridge Rehabilitation over Lehigh River (C-B. Teles)

City of Bethlehem, Lehigh and Northampton Counties

MPMS 93630 – est. let August 13, 2026

- ROW plan was recorded December 2025, appraisals and property owner coordination ongoing
- Traffic, Signals and Pavement marking Plans were submitted for review
- Roadway Plans and ADA ramps were submitted for review
- Lighting Plans were submitted for review
- Structure Plans were submitted for review
- Coordination with Norfolk Southern, PUC and utilities continues
- Environmental Site Assessments were submitted for review
- JPA, NPDES, E&S and COE Section 408 permits are under review
- CE Re-Evaluation is in progress
- Constructability review is progressing
- Drainage repair work north of the site on SR 378 SB within PennDOT's Legal ROW has progressed, draft report submitted for review
- City confirmed they will grant will not be obtained in time. PennDOT and City met to reduce the work on locally owned structures to match funding available without a grant
- Sidewalk, lighting, and stormwater agreements sent to the City December 2025

Fifth Street (SR 1029) Bridge Replacement (C-C. Frey)

Whitehall Township, Lehigh County

MPMS 94873 – est. let April 1, 2030

- Project to be let with the SR 22 Fullerton Interchange project due to overlapping project limits and traffic control measures
- Design team and DUA have determined the Northampton Borough Municipal Authority (NBMA) waterline will need to be relocated due to proximity to the proposed Fifth Street Bridge abutment foundations. Meeting to be scheduled with NBMA after the Foundation Report is reviewed
- Foundation Report comments issued in February 2026, resubmission expected mid-June
- Final Structure Plan submission is being prepared and will be submitted after the Foundation Report is approved
- Phase II ESA work completed on 2 parcels. Phase III ESA investigation needed on both parcels; Phase II ESA documentation and Phase III testing plan is currently under review; Phase III testing will be scheduled sometime in 2026
- Gap ROW Plan for 2 parcels on the north side of SR 22 that involve relocations approved and acquisition process has been initiated
- Several Whitehall Township officials provided positive feedback on the project and have verbally committed to maintaining the sidewalk on the bridge; a sidewalk maintenance agreement will be executed along with a storm sewer maintenance agreement once the storm sewer design is finalized

**LEHIGH VALLEY TRANSPORTATION STUDY
BRIDGE STATUS REPORT
MEETING JUNE 17, 2026**

**Lower Saucon Road (SR 2001) over E Branch of Saucon Creek (C-J. Crawford)
Lower Saucon Township, Northampton County**

MPMS 119940 – est let January 14, 2027

- CE Level 1b approved March 5, 2026, project in Final Design
- Digital Delivery Execution Plan submitted to Central Office Digital Delivery Team May 1, 2026
- Designer working to update approved DFV plans to full digital delivery project

**Church Road (SR 1016) over Trib to Little Bushkill Creek (C-E. Berg)
Plainfield Township, Northampton County**

MPMS 12106 – est let June 10, 2027

- Design Field View submitted January 13, 2026
- Structure Boring field work completed February 26, 2026
- Pre-Application Meeting February 27, 2026
- Section 106 Complete and 4(f)s signed March 13, 2026
- 30% Constructability Review completed May 5, 2026
- CE Approved May 19, 2026, Final Design work order in progress

**Fish Hatchery Road (SR 2010) over Little Lehigh Creek (C-C. Nguyen)
City of Allentown, Lehigh County**

MPMS 119933 – est let July 29, 2027

- DFV resubmit on April 8, 2026
- Section 4(f) forms for Historic District and Lehigh Parkway approved on May 6, 2026
- CE document approved on May 11, 2026

**Powder Valley Road (SR 2025) over Indian Creek (C-J. Crawford)
Upper Milford Township, Lehigh County**

MPMS 109237 – est. let February 11, 2027

- Project field survey verified and updated to match current field conditions in May 2026
- Designer working on finalizing H&H report so that TS&L and LG&T submissions can be finalized and submitted

Limeport Pike (SR 2029) over Hosensack Creek (C-M. Fallon)

Lower Milford Township, Lehigh County

MPMS 119936 – est let April 29, 2027

- Final Right of Way plans submitted for plan review to Central Office March 24, 2026, and accepted as noted May 7, 2026
- Final Right of Way plans submitted for District review March 24, 2026, comments received April 30, 2026, and resubmitted May 22, 2026
- TCP submitted April 14, 2026, comments received May 6, 2026
- SPMP submitted April 13, 2026, comments received May 6, 2026
- Chapter 105 permit (GP-11) submitted for District review May 20, 2026

**LEHIGH VALLEY TRANSPORTATION STUDY
BRIDGE STATUS REPORT
MEETING JUNE 17, 2026**

ACRONYM REFERENCE	
ACM/LBP	ASBESTOS CONTAINING MATERIAL / LEAD BASED PAINT
ACOE	ARMY CORPS OF ENGINEERS
ADA	AMERICAN WITH DISABILITIES ACT
BRPA	BRIDGE AND ROADWAY PROGRAMMATIC AGREEMENT
CBR	CONSTANT BIT RATE
CE	CATEGORICAL EXCLUSION
CEE	CATEGORICAL EXCLUSION EVALUATION
CO	CENTRAL OFFICE
CRP	CULTURAL RESOURCES PROFESSIONAL
DCNR	DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DFV	DESIGN FIELD VIEW
DO	DISTRICT OFFICE
E&S	EROSION AND SEDIMENTATION
ESA	ENVIRONMENTAL SITE ASSESSMENT
FD	FINAL DESIGN
FHWA	FEDERAL HIGHWAY ADMINISTRATION
GP	GENERAL PERMIT
H&H	HYDROLOGIC AND HYDRAULIC
HOP	HIGHWAY OCCUPANCY PERMIT
HRSF	HISTORIC RESOURCE SURVEY FORM
JD	JURISDICTIONAL DETERMINATION
JPA	JOINT PERMIT AGREEMENT
L&G	LINE AND GRADE
LCCD	LEHIGH COUNTY CONSERVATION DISTRICT
LGTS	LINE, GRADE AND TYPICAL SECTION
MPT	MAINTENANCE AND PROTECTION OF TRAFFIC
NOITE	NOTICE OF INTENT TO ENTER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NTP	NOTICE TO PROCEED
PHMC	PA HISTORICAL AND MUSEUM COMMISSION
PNDI	PENNSYLVANIA NATURAL DIVERSITY INVENTORY
POA	POINT OF ACCESS
PS&E	PLANS, SPECIFICATIONS AND ESTIMATE
ROW	RIGHT OF WAY
RSGER	RECONNAISSANCE SOILS AND GEOLOGICAL ENGINEERING REPORT
SEPS	SUBSURFACE EXPLORATION PLANNING SUBMISSION
SFV	SCOPE AND FIELD VIEW
SHPO	STATE HISTORIC PRESERVATION OFFICE
SPMP	SIGNING AND PAVEMENT MARKING PLAN
SUE	SUBSURFACE UTILITY ENGINEERING
T&E	THREATENED AND ENDANGERED SPECIES COORDINATION
TCP	TRAFFIC CONTROL PLAN
TIF	TECHNICALLY INFEASIBILITY FORM
TS&L	TYPE, SIZE AND LOCATION
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE



Lehigh Valley Transportation Study

OWEN O'NEIL
Chair, Coordinating Committee

RYAN MEYER
Chair, Technical Committee

BECKY A. BRADLEY, AICP
Secretary,
Coordinating Committee +
Technical Committee

MEMORANDUM

DATE: June 9, 2026
TO: Lehigh Valley Transportation Study
FROM: Hannah Milagio, Regional Planner for Community Engagement
REGARDING: Public Engagement, Education and Grants

Public Engagement

The most recent **Plan Lehigh Valley National Public Radio** show, which aired at 6:30 pm, June 1 on WDIY radio 88.1 FM, dove deep into the data being collected for the Route 22: Mobility, Safety and Congestion Plan being drafted later this year, with guest LVPC Transportation Planning Director Steve Weber. Weber and co-hosts Becky Bradley and Matt Assad discussed how many of Route 22's flaws can be traced back to the outdated designs of interchanges and acceleration lanes. The podcast is now streaming at www.wdiy.org/show/plan-lehigh-valley and www.lvpc.org/news/v. The next Plan Lehigh Valley show will focus on data centers and air Monday, July 6 at 6:30 pm.

The last **Morning Call Business Cycle Column** published Sunday, May 17, focused on the \$545 million Transportation Improvement Program. In the column, Becky notes that while the mega projects costing as much as \$100 million get all the headlines, some of the plan's smaller projects can have a big impact for motorists and neighborhoods across the region. The column is now available at www.lvpc.org/news/v and mcall.com. The next column in the Morning Call will publish on Sunday, June 30 and focus on the data collected while preparing the Route 22: Mobility, Safety and Congestion Management Plan.

Educational Opportunities

The following Lehigh Valley Government Academy (LVGA), Local Technical Assistance Program (LTAP) Classes will be held **in-person at the LVPC Office**. More information and registration can be found at <https://gis.penndot.gov/LTAP/default.aspx>

Temporary Traffic Control (Work Zones)

What: The purpose of this Temporary Traffic Control course is to enhance the awareness of the importance of safety for all workers and road users in work zones. The course covers basic principles for work zones and reviews the different control devices applied in work zones. The course also emphasizes worker safety, including appropriate safety apparel, safe work zone practices, and appropriate work zone set-ups.

When: Tuesday, June 30, 8 am to 3pm

All LVGA LTAP classes are free and are intended for municipalities, transportation non-profits and organizations with a transportation purpose. LTAP enables many practitioners who need courses with professional development hours (PDHs) to earn credits for maintaining their licenses and certificates.

Anyone can register at www.gis.penndot.gov/LTAP or by contacting Hannah Milagio at hmilagio@lvpc.org or 610-264-4544

Grant Opportunities

PA Department of Community and Economic Development (DCED): Multimodal Transportation Fund

The Multimodal Transportation Fund provides grants to encourage economic development and ensure that a safe and reliable system of transportation is available to the residents of the commonwealth. Funds may be used for the development, rehabilitation and enhancement of transportation assets to existing communities, streetscape, lighting, sidewalk enhancement, pedestrian safety, connectivity of transportation assets and transit-oriented development.

Applications for the Multimodal Transportation Fund are accepted annually between March 1 and July 31. All applications and all required supplemental information must be electronically submitted by close of business on July 31st. More information is available at <https://dced.pa.gov/programs/multimodal-transportation-fund/>

PA Department of Transportation (PennDOT): Automated Red Light Enforcement (ARLE) Transportation Enhancement Grants Program

The Automated Red Light Enforcement (ARLE) Funding Program supports a range of safety and mobility projects located in Pennsylvania. Examples of eligible projects include, but are not limited to:

- Vulnerable Road User Improvements
- Roadway Safety and Mobility Upgrades
- Local Technical Assistance Program (LTAP) Projects
- Traffic Signal Improvements

Preapplication scoping forms are required. Feedback on preapplication submission forms submitted by April 30, 2026, will be provided by May 29, 2026. Applications will be accepted from June 1, 2026, to June 30, 2026. More information is available at <https://docs.penndot.pa.gov/Public/Bureaus/BOO/TSPortal/FUNDARLE.html>