

READING AREA TRANSPORTATION STUDY

# **CONGESTION MANAGEMENT PROCESS**

DRAFT

**DRAFT UPDATE  
OCTOBER 2025**

# **READING AREA TRANSPORTATION STUDY**

## **C/O BERKS COUNTY PLANNING COMMISSION**

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# 1

## INTRODUCTION AND BACKGROUND

### a. History and Legislative References

The Congestion Management System (CMS) was first introduced by the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. This transportation planning legislation required regional planning agencies to enact various ‘systems’ that were meant to provide input into regional transportation plans and programs and support effective decision making. The Congestion Management System was continued under ISTEA’s successor law, the Transportation Equity Act for the 21st Century (TEA-21). When Congress enacted the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, the Congestion Management System was changed to Congestion Management Process, (CMP), reflecting the goal of the law to use a process that is an integral component of metropolitan transportation planning.

Federal regulations provide guidance on how Metropolitan Planning Organizations (MPOs), like the Reading Area Transportation Study (RATS), should address congestion management. As stated previously, the original regulations date back to ISTEA. These regulations were retained and largely unchanged by subsequent federal legislation, including MAP-21, and the current Infrastructure Investment and Jobs Act (IIJA) (P. L. # 117-58, also known as the “Bipartisan Infrastructure Law”) which was signed into law in November 2021. The CMP is a requirement under the regulations (23 CFR Parts 450.322 and 500.109) for urbanized areas (UZAs) with populations greater than 200,000, known as Transportation Management Areas (TMAs). These regulations specify that the CMP program be implemented as a continuous part of the metropolitan planning process like the other core

federal requirements: Long-Range Plan, Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP). According to the regulations, MPOs that serve a TMA (in this case the entirety of Berks County) must maintain a CMP that provides for:

*safe and effective integrated management and operation of the multimodal transportation system, based on cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities...through the use of travel demand reduction and operational management strategies.*

Congestion mitigation involves travel demand reduction, such as decreasing Single Occupant Vehicles (SOVs), increasing transit ridership, and improving system management and operation. Regulations require that alternatives to building new SOV road capacity should be explored first. Where additional capacity is found to be necessary, multimodal supplemental strategies must be included to obtain the most long-term value from the investment.

Starting with MAP-21 and continuing with the IIJA, the legislation created a performance-based surface transportation program with specific requirements for state Departments of Transportation (DOTs), MPOs, and transit agencies.



## **b. History of Congestion Management Systems and Processes in Berks County**

In 1996, the Reading Area Transportation Study (RATS), the federally designated Metropolitan Planning Organization (MPO) for Berks County, adopted its first CMS report. That report identified a number of corridors that experienced congestion and recommended measures to be taken in an effort to mitigate that congestion. From that report, a number of significant corridors in Berks County received treatments that had positive results.

In 2006, the MPO adopted a partial CMP update to the 1996 report. The major portion of that report was a listing of congested roadway segments based on 2007 PM Peak Volume-to-Capacity (V/C) ratios as derived from the Berks County Travel Demand Model. In the ensuing decade, a number of projects have been completed on roadway corridors and segments listed in that report.

The last iteration of the CMP for Berks County was completed in 2023. This updated report aims to expand upon the previous CMP by continuing to analyze corridors using available data sources such as INRIX and National Performance Management Research Data Set (NPMRDS) for identifying travel time reliability in congested corridors and bottleneck locations. This CMP will update the MPO's priority corridors, further define and quantify locations and causes of congestion, and provide updated mitigation strategies.

As a TMA, defined by U.S. Dept. of Transportation regulations, every four years RATS undergoes a Federal Certification Review conducted by FHWA, FTA, and EPA to review and certify that the planning process and programs are consistent with federal laws and guidelines. The latest draft review conducted in 2024 noted some shortcomings in the 2023 CMP and made a recommendation to update and further expand it in conformance with federal guidelines.

1. RATS should clearly identify a schedule, implementation responsibilities, and possible funding sources for each overall strategy to meet the requirements of 23 CFR 450 322(d) (5)



### c. What is Congestion?

Congestion defined at its most basic level is demand for road space exceeding supply. The U.S. Department of Transportation defines congestion as “the level at which the transportation system performance is no longer acceptable due to traffic interference.” The performance may vary by type of transportation facility, location, and time of day. There are two primary types of congestion: recurring and non-recurring. Recurring congestion tends to be concentrated in shorter time periods, such as rush hour, and is typically associated with excessive traffic volumes resulting in reduced speed, and flow rate on the roadway system. Nonrecurring congestion, on the other hand, is caused by irregularly occurring events that affect travel time reliability. The CMP addresses both type of congestion. The causes of recurring congestion can include: daily peak period commuter traffic; insufficient capacity; excess volume; bottlenecks, such as roadway geometry deficiencies; traffic signal timing and coordination issues; heavy truck volumes; seasonal activities; and long-term construction. The causes of nonrecurring congestion can include crash incidents, disabled vehicles, special events, bad weather, and short-term construction or road maintenance activities.

Certainly, the congestion sources’ percentages will vary by urban and rural location, and by type of facility. For example, arterial roadways with traffic signals may have some congestion related to poor signal timing, but this would not apply on limited-access freeways. Travel time reliability, or the variability of congestion, is an important measure to evaluate as a part of nonrecurring congestion. Traffic incidents, such as disabled vehicles or crashes, can unexpectedly make the typical 20-minute trip a 40-minute one. Also, the interaction between multiple types and sources of congestion may vary from day to day, causing frustration for commuters. Some events can cause other events to occur. For example, high congestion levels can lead to increases in traffic crashes due to closer vehicle spacing, or bad weather can lead to crashes.

The CMP identifies recurring and nonrecurring congestion locations. Recurring congestion is identified using the Travel Time Index (TTI) measure and indicates highly congested locations that occur on a recurring basis. Nonrecurring congestion is identified using the Planning Time Index (PTI) measure that indicates locations that have highly unreliable travel times.



## d. Reading MPO Regional Goals and Objectives

Congestion management objectives should define what the RATS region wants to achieve regarding managing congestion in the context of livability, economic vitality, safety, and multimodal access. The objectives should support the goals of the RATS Long-Range Transportation Plan, including performance and operation of the transportation system.

CMP objectives flow from the transportation goals of the Reading Area Transportation Study's Draft FFY 2027 – 2050 Long Range Transportation Plan (LRTP), (anticipated RATS MPO approval in May 2026) and congested locations that meet more CMP objective criteria will be given stronger support for recommended improvements. The primary goals of the CMP are drawn from the LRTP, goals one through five of the LRTP in some way or another address congestion. Their relationship is outlined below:

### GOAL #1

#### **SAFETY**

*Keep travelers safe and secure for all modes of transportation*

Non-recurring congestion can be caused by crashes and other types of incidents on the road network. Safety improvements can minimize crashes and increase mobility and traffic flow. Especially in areas prone to crashes.

### GOAL #2

#### **MAINTENANCE**

*Maintain and improve the existing multimodal transportation system and services within fiscal constraints*

Maintaining the system is paramount to the health of the transportation network. Proper and timely maintenance ensures that the road network is operating at its maximum efficiency.

### GOAL #3

#### **ECONOMIC DEVELOPMENT**

*Invest in projects that strengthen and enhance economic development and tourism opportunities.*

Keeping the road network operating at its most efficient functionality has a direct impact on the timely flow of goods and services from manufacturers to distributors and then ultimately to the consumer. An efficient transportation network can make the region more desirable for businesses to locate and/or remain in the region. This can have positive impacts on the tax base as well as create employment opportunities within the region.

### GOAL #4

#### **IMPROVED CONNECTIONS AND CHOICES**

*Give travelers a variety of well-designed transportation choices that are in good condition.*

Reducing the number of vehicles on the road can alleviate congestion in some scenarios. Giving travelers an option to utilize public transit, a bicycle, walk, or use a ride share service can reduce the number of Single Occupancy Vehicles (SOVs) on the road, thus maintaining corridor efficiency and ultimately reducing congestion.

### GOAL #5

#### **ENVIRONMENTAL SUSTAINABILITY**

*Enhance the County transportation system to address environmental impacts.*

Congestion on our roadways is a main contributor to degrading air quality. As vehicles sit in a cue idling, the exhaust gases emitting from the vehicle is concentrated and creates a bigger impact on the air quality than if the vehicle was moving. Management of congestion issues can have a direct effect on air quality and our environment.

This Congestion Management Process furthers the above goals by expanding on them with the following:

<b>Goal</b>	<b>Objective/Action</b>
Reduce Congestion	<ul style="list-style-type: none"> <li>• Minimize growth of recurring congestion</li> <li>• Anticipate and prepare for non-recurring congestion</li> <li>• Alleviate bottlenecks</li> <li>• Implement cost-effective mitigation strategies where feasible.</li> </ul>
Increase Accessibility and Mobility	<ul style="list-style-type: none"> <li>• Provide connectivity between motorized and non-motorized modes</li> <li>• Use planning and zoning to promote connectivity between adjacent land uses.</li> <li>• Maximize and expand transit opportunities and accessibility.</li> <li>• Increase connectivity between freight producers and haulers.</li> </ul>
Remove Barriers to Freight Movement	<ul style="list-style-type: none"> <li>• Alleviate traffic bottlenecks on freight routes.</li> <li>• Use economic development agencies and local/regional planning to promote freight accessibility to rail.</li> <li>• Improve freight access to regional roadway network.</li> </ul>
Increase Safety	<ul style="list-style-type: none"> <li>• Make safety improvements in high-crash corridors</li> <li>• Implement low-cost improvements in corridor-wide applications</li> </ul>
Ensure Congestion Mitigation Strategies Support Comprehensive Planning and Long Range Transportation Plan Principles	<ul style="list-style-type: none"> <li>• Maximize investments from limited resources</li> <li>• Promote investments in existing corridors that support Future Growth Areas and areas designated for Economic Development</li> <li>• Continue investments in connectivity-enhancement projects and programs</li> <li>• Continue promotion and expansion of transit opportunities</li> <li>• Promote residential and commercial growth in corridors where transit exists</li> <li>• Promote industrial and warehouse growth in corridors where Arterial/Interstate access exists</li> </ul>
Integration of PM3 Performance Measures	<ul style="list-style-type: none"> <li>• Prioritize transportation investments by integrating national PM3 reliability and traffic congestion performance measures</li> </ul>

# 2

## OVERVIEW OF THE CONGESTION MANAGEMENT PROCESS

### a. Overall Discussion of the Planning Process

The Metropolitan Planning Organization (MPO) for Berks County is the Reading Area Transportation Study (RATS). It was created in 1964 through a legal agreement between the City of Reading, Berks County and the Pennsylvania Department of Highways (now the Pennsylvania Department of Transportation). The Study was founded in response to the Federal-Aid Highway Act of 1962 that stated, in part, that any urban area with a population of more than fifty thousand people must maintain a continuing, comprehensive and cooperative (“3C”) transportation planning process consistent with the comprehensively planned development of the urbanized area in order to be eligible to receive Federal funding for transportation projects. RATS satisfies this planning requirement and assures Berks County the continued eligibility to receive state and federal funding for highway and transit system capital improvements

and operations. Though originally configured to cover only the Reading Urban Area, RATS planning and programming now covers all of Berks County. The transportation planning staff of the Berks County Planning Commission serves as the technical staff to RATS. Under the various pieces of federal transportation planning legislation that have been enacted over the years, including the current Fixing America’s Surface Transportation (FAST) Act, states and MPOs are required to develop a comprehensive planning process that coordinates transportation and land use planning more effectively. Since the Long Range Transportation Plan serves as the transportation element of the Berks County Comprehensive Plan 2030 Update (January 2020), staff assures consistency between land use and transportation planning.

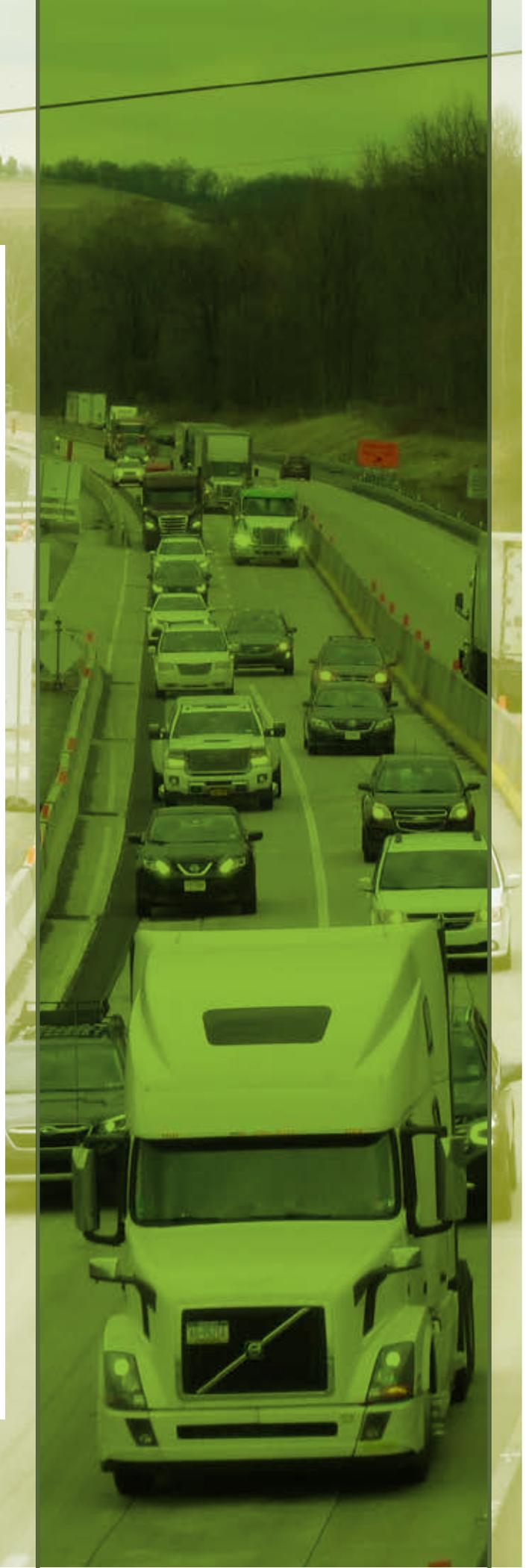
## b. Role of the CMP in the Planning Process

According to the Federal Highway Administration's 2011 Congestion Management Process: A Guidebook, "A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. The CMP is intended to move these congestion management strategies into the funding and implementation stages."

The CMP is meant to serve as a continual, systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system. The process is a continuous one that fits the needs of Berks County and will evolve as new congestion issues arise, new data sources become available and current data are updated, and goals & strategies change in response to new issues. It recognizes that all modes of transportation can and should work together, along with transportation system improvements, to lessen congestion. The process includes:

- Development of congestion management objectives
- Establishment of measures of multimodal transportation system performance
- Collection of data and system performance monitoring
- Identification of congestion management strategies
- Implementation activities
- Evaluation of the effectiveness of implemented strategies.

The ultimate goal of the CMP is to provide a source of projects that can be used to implement the Long Range Transportation Plan and, therefore, provide input into the Transportation Improvement Program (TIP) for project scheduling and funding.



# 3

## MEASURES OF CONGESTION AND CORRIDOR BUILDING

Although congestion occurs throughout Berks County, funding for system expansion is limited. Simply “building our way out of congestion” no longer works and, with limited funding, preserving and maximizing the existing system are priorities. Using the following factors, the Congestion Management Process Network was derived.

### a. National Highway System (NHS) in Berks County

The National Highway System serves as the basis for the CMP Network. These higher-order roadways (interstates, expressways, arterials), shown in Map 3.1, serve to move large volumes of traffic over longer distances, while still providing for local and regional travel. Congestion on the NHS has the potential to disrupt large amounts of regional and long-distance traffic and freight movement. Crashes on limited-

access expressways and interstates can result in long delays due to limited exit points and few detour routes. Arterials move regional and local traffic as well, and may have higher volumes, concentrated access points, traffic signals and other factors that contribute to longer delays. Designated Intermodal Connectors serve as vital links connecting modes.

### b. High Volume / Capacity (V/C) Segments

These were derived from the Berks County Travel Demand Model (BCTM). Now approaching its third decade of service, the BCTM has been used for federally mandated air quality conformity purposes since 1996. The BCTM contains a computerized representation of the County’s roadway network and, along with certain demographic and economic inputs, attempts to recreate traffic on the network. The Volume to Capacity (V/C) ratios are a derived metric that compares hourly traffic volumes on a roadway segment against the actual

capacity of that segment (in vehicles per hour) based on roadway geometry. The higher the V/C ratio, the more traffic is occurring and, therefore, more congestion on a particular segment. When the V/C ratio reaches 1.00, physical capacity of the roadway has been reached, and congestion begins. V/C ratios greater than 1.00 show worsening congestion. For the CMP, PM Peak (3:00 p.m. to 6:00 P.M.) V/C ratios are used to examine congestion as this time period is typically the busiest on the roadway network.



Based on Federal Highway Administration (FHWA) guidelines, travel models should be validated every ten (10) years or sooner. Validation is a process whereby the network is checked and updated against actual conditions for a given year; updated demographic and economic information is prepared; and the model is re-run for that same given year. The resulting traffic volumes are checked against actual counts and, if found to be statistically similar, the model is 'validated' and projections for future years can also be assumed to be 'valid'.

The demographic and economic information used for a given year are also known as Land Use Assumptions. These assumptions, gathered at roughly the Census Tract level (and even lower geographies in dense areas) include: Total Population, Household Population, Group Quarters Population, Total Households, Employment by four types (Retail, Office, Industrial, others), and School Enrollments. Changes in the Land Use Assumptions used for the different validation years result in differing traffic volumes being assigned to the roadway network. For example, between the 2015 Validation and the 2025 Validation, lingering effects of COVID-19 affected total employment as well as employment types and locations. School enrollments countywide dropped by roughly 3,000 persons, based on lower numbers of under 18 population after the 2020 Census. These types of factors, among others, affect how traffic is assigned to the roadway network and resultant V/C calculations.

### **c. Travel Time Index (TTI)**

This measure is derived from the 2024 INRIX XD travel time data and is defined as the ratio of the peak period average travel time to the free-flow travel time (uncongested travel time) for a given roadway segment. Free-flow values were determined for this, and all other INRIX based measures, using reference speeds provided by INRIX for each road segment based on 85th percentile observed speeds for all time periods. The greater the TTI value, the more congestion it indicates. A TTI of 1.00 indicated vehicles are traveling at free-flow speeds, while one at 1.50 indicates a 20-minute free-flow trip takes 30 minutes. Roadways with a TTI between 1.20 and 1.50 are considered moderately congested, and ones greater than 1.50 are considered highly congested. For this plan staff analyzed the data for weekdays during peak hours 7:00AM – 9:00AM and 4:00PM – 6:00PM. These segments are shown on Map 3.3.

## d. Planning Time Index (PTI)

This measure is also derived from the 2024 INRIX XD travel time data but is defined as the ratio of the peak period 95th percent travel time to the free-flow travel time for a given road segment. The 95th percentile indicates that 95 percent of the travel times are less, and 5 percent more, and measures the variability or reliability of travel. A PTI of 1.00 means the trip time is consistently the same from day to day, while higher values mean more variation and congestion. A PTI of 3.00 indicates a 20-minute free-flow trip will take 60 minutes in the peak period, which is equivalent to one workday a month, where one might expect to leave 40 minutes earlier to arrive on time. Roadways with a PTI between 2.00 and 3.00 are considered moderately unreliable and ones greater than 3.00 are considered highly unreliable. Staff analyzed the data for weekdays during peak hours 7:00AM – 9:00AM and 4:00PM – 6:00PM. Map 3.4 shows roadway segments with considered moderately and highly unreliable.

## e. High Crash Corridors

Using PennDOT's Pennsylvania Crash Information Tool (PCIT) RATS was able to identify corridors that have a high frequency of reportable crashes. Since congestion can cause accidents and accidents can cause congestion, these high crash corridors were included in the network selection process. The segments shown in Map 3.5 are corridors that have a concentration of 20 or more reportable crashes between 2019 and 2024.

## f. Freight and Intermodal Corridors

PennDOT examined freight trends as part of the development of their *2045 Freight Movement Plan* (PUB 791 (05-23)). Utilizing the Federal Highway Administration's (FHWA) established National Highway Freight Network (NHFN) PennDOT developed the statewide plan to examine trends and issues experienced throughout the Commonwealth. The NHFN includes the following subsystems of roadways:

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. As of the 2022 Congressional re-designation of the PHFS, this network consists of about 41,799 centerline miles, including 38,014 centerline miles of Interstate and 3,785 centerline miles of non-Interstate roads.
- **Other Interstate portions not on the PHFS (non-PHFS):** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 10,265 centerline miles of Interstate nationwide and will fluctuate with

additions and deletions to the Interstate Highway System. The mileage for Non-PHFS Interstate is based on the Interstate Mileage reported in the National Highway System (NHS) as of October 17, 2019.

- **Critical Rural Freight Corridors (CRFCs):** These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. As of January 2023, there are about 5,390 centerline miles designated as CRFCs.
- **Critical Urban Freight Corridors (CUFCs):** These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities. As of January 2023, there are about 2,656 centerline miles designated as CUFCs.

In Berks County the PHFS consists of Interstate 78, Interstate 176, US 222 South and US 422. The County has no non-PHFS designated roadways. PA 61 is designated as a CUFC and U.S. 222 North is considered a CRFC. For purposes of this plan, we identify each corridor as critical. Displayed in Map 3.6 are "Critical Freight Corridors" as taken from that *2045 Freight Movement Plan*.

## g. Bottlenecks

Traffic bottlenecks are specific physical locations on roadways that routinely and predictably experience congestion because the traffic volumes exceed highway capacity. Surge demand higher than can be accommodated by base capacity brings about bottleneck congestion. Bottlenecks are characterized by queues upstream and freely flowing traffic downstream.

Bottlenecks may be compared to a storm pipe that can carry only so much water – during floods the excess water just backs up behind it, much the same as traffic at bottleneck locations. However, the situation is even worse for traffic. Once the traffic flow breaks down to stop-and-go conditions, capacity is actually reduced – fewer cars can get through the bottle neck because of the extra turbulence.

Using the INRIX Roadway Analytics software RATS was able to identify the top bottleneck areas in Berks County for 2024 based on the Total Delay encountered at that particular site. The Total Delay is the speed differential factor, weighted by the volume estimate, considers raw speed drop, weighted by queue lengths for each time interval and queue length. The locations of the top bottleneck areas in Berks County are shown on Map 3.7. It should be noted that the bottleneck locations listed for Berks County are based on bottlenecks that have occurred during the 2024 calendar year. Because

of this, in some instances the bottleneck rankings may include non-recurring congestion such as winter weather, work zones, or incidents. An example of which can be seen on the map along the Interstate 78 corridor. The bottleneck locations shown are a result of ongoing construction projects.

## **h. Transit Routes**

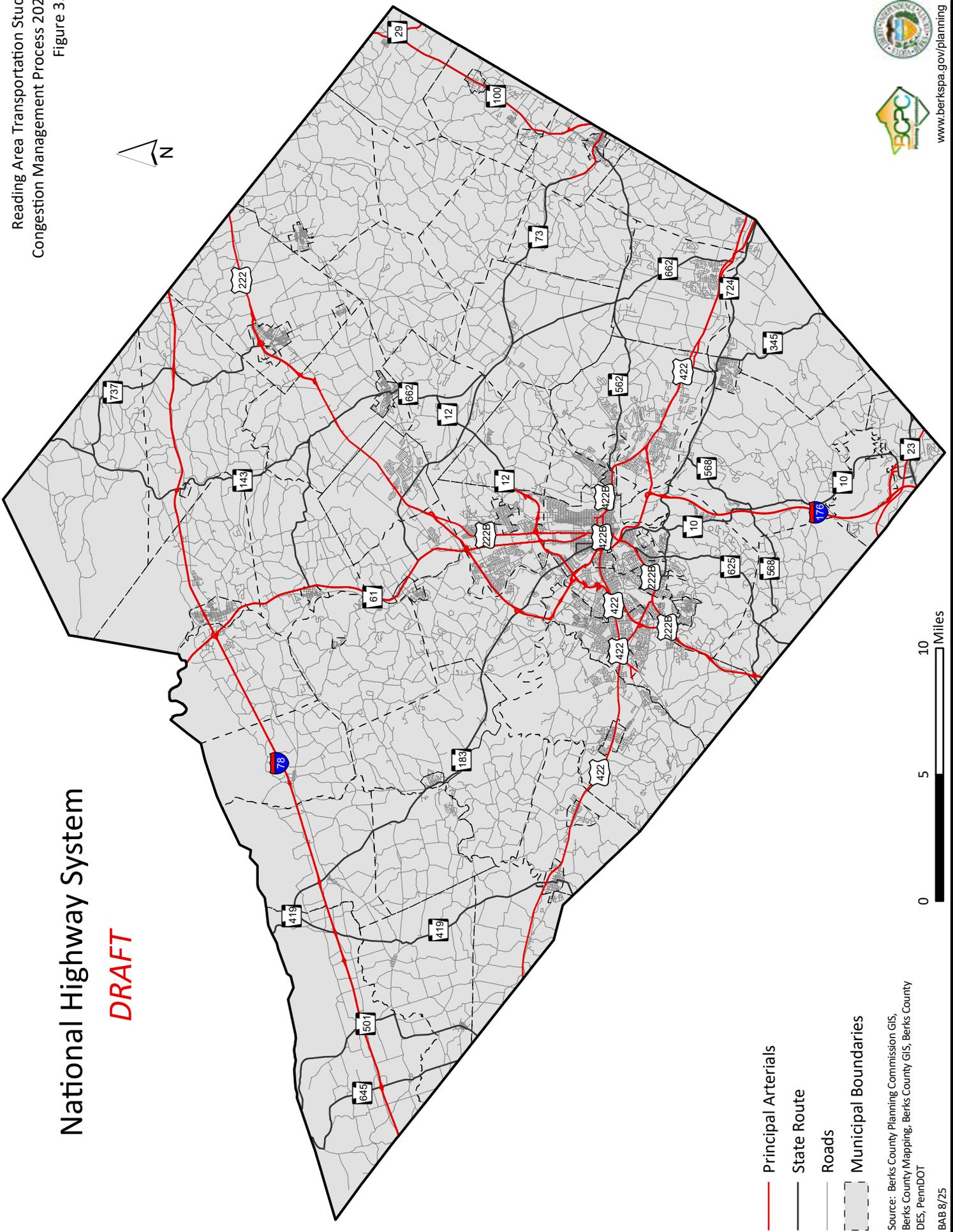
A truly intermodal process includes transit wherever feasible. The Berks Area Regional Transportation Authority (BARTA) provides fixed-route, scheduled bus transit services in Berks county. Current BARTA fixed-route transit service was examined as part of the network building process. In FFY 2021-2022, BARTA provided 2,972,896 trips on its system of 19 fixed routes. Of those trips, approximately 42 percent were for work purposes, 22 percent were for shopping, and the remaining 36 percent were for personal business, school, medical, social and other purposes. Map 3.8 shows the BARTA's fixed-route system and the roadways that are served as of August 2025.

## **i. Congestion Management Process Network**

After assessing the factors discussed above, the overall CMP Network was derived (Map 3.9). The assessment included using the Expanded National Highway System as the base, then adding roadway segments where multiple categories of factors overlapped. The Network is divided into a series of 32 individual corridors that are assessed and have congestion mitigation strategies recommended. Though congestion mitigation strategies will be focused on these particular corridors, that is not to say that only these corridors are eligible for congestion planning. Individual corridors are assessed in Chapter 5.

# National Highway System

**DRAFT**



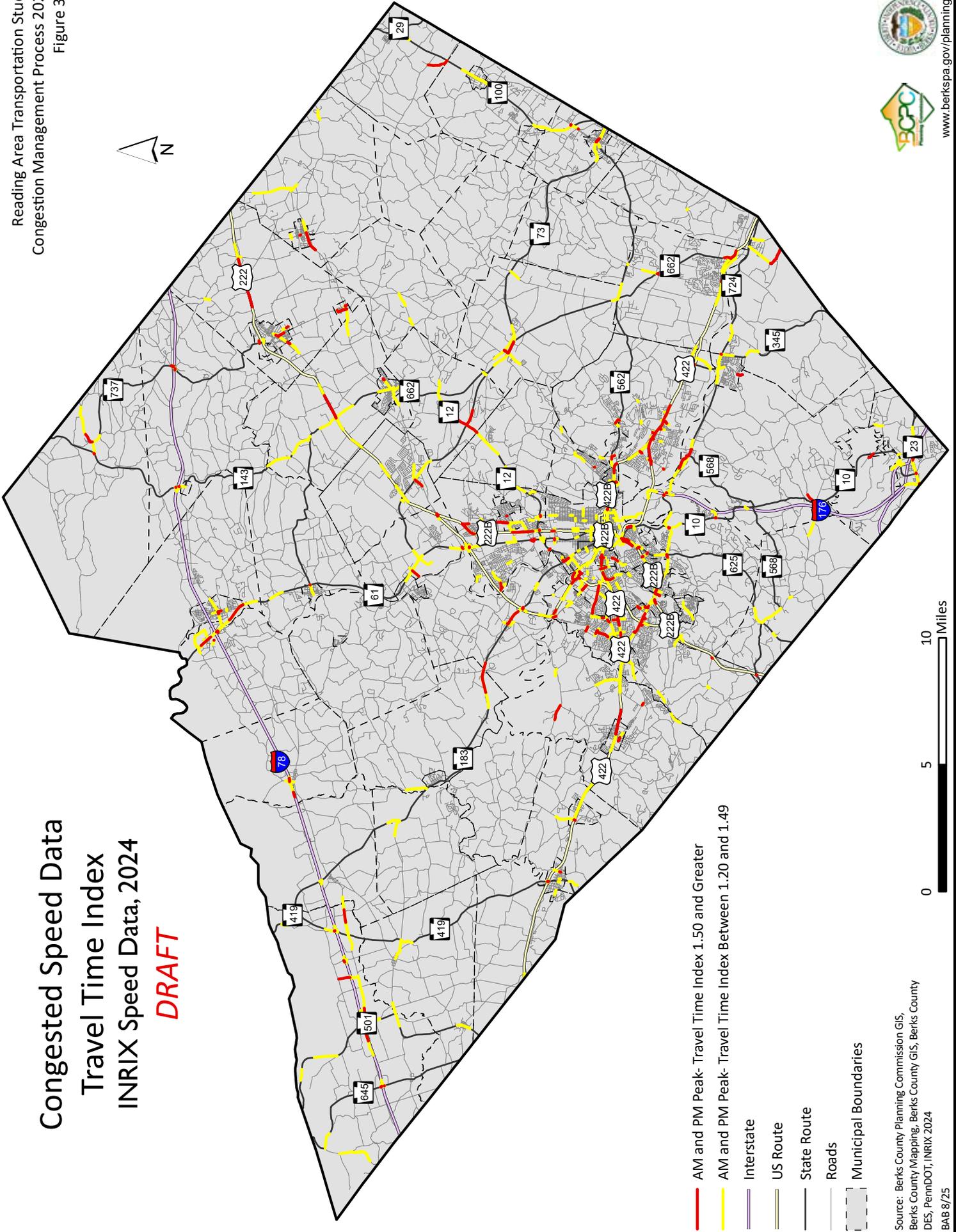
- Principal Arterials
- State Route
- Roads
- - - Municipal Boundaries

Source: Berks County Planning Commission GIS,  
 Berks County Mapping, Berks County GIS, Berks County  
 DES, PennDOT  
 BAB 8/25





# Congested Speed Data Travel Time Index INRIX Speed Data, 2024 **DRAFT**

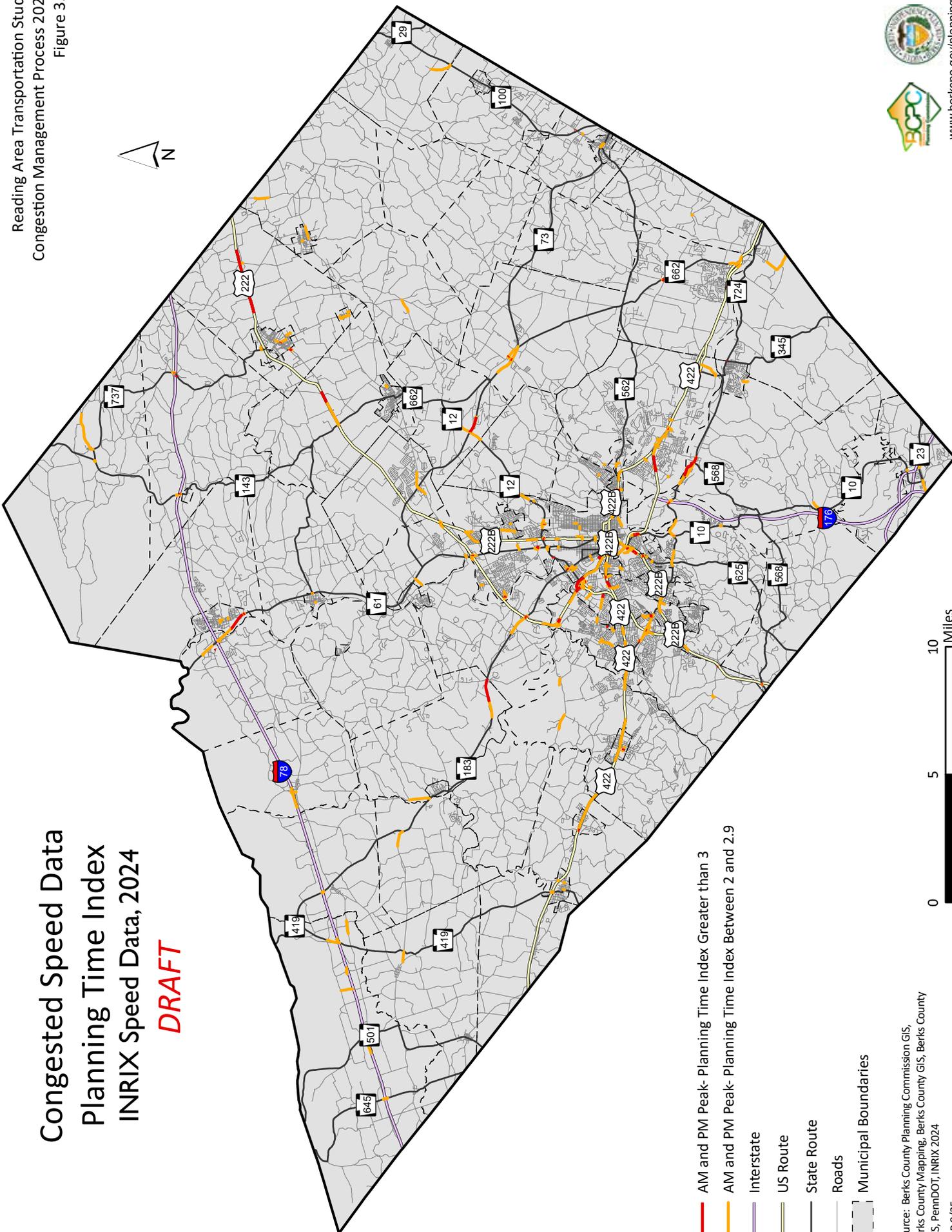


Source: Berks County Planning Commission GIS,  
Berks County Mapping, Berks County GIS, Berks County  
DES, PennDOT, INRIX 2024  
BAB 8/25



# Congested Speed Data Planning Time Index INRIX Speed Data, 2024

**DRAFT**



- AM and PM Peak- Planning Time Index Greater than 3
- AM and PM Peak- Planning Time Index Between 2 and 2.9
- Interstate
- US Route
- State Route
- Roads
- Municipal Boundaries

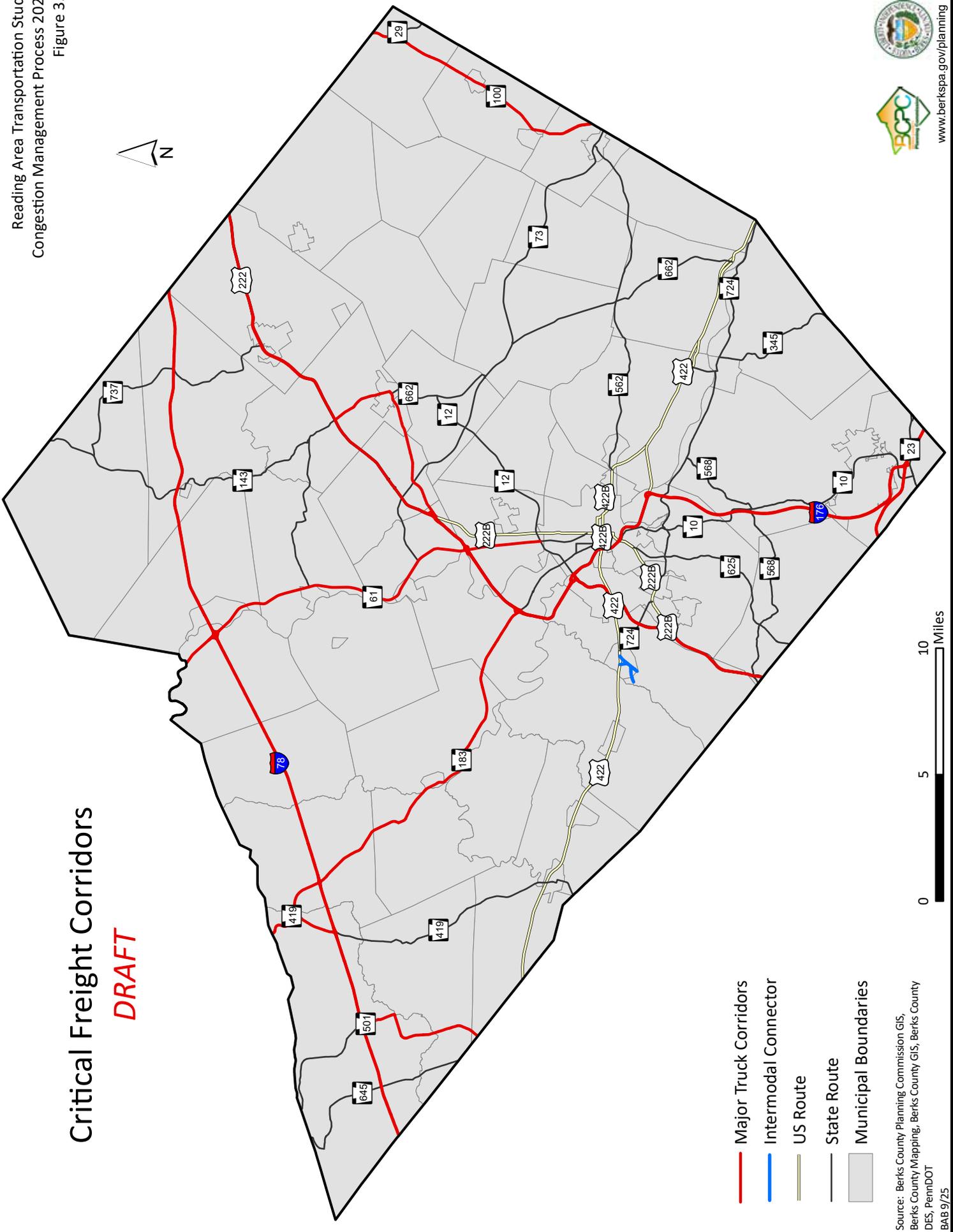
Source: Berks County Planning Commission GIS,  
 Berks County Mapping, Berks County GIS, Berks County  
 DES, PennDOT, INRIX 2024  
 BAB 8/25





# Critical Freight Corridors

**DRAFT**



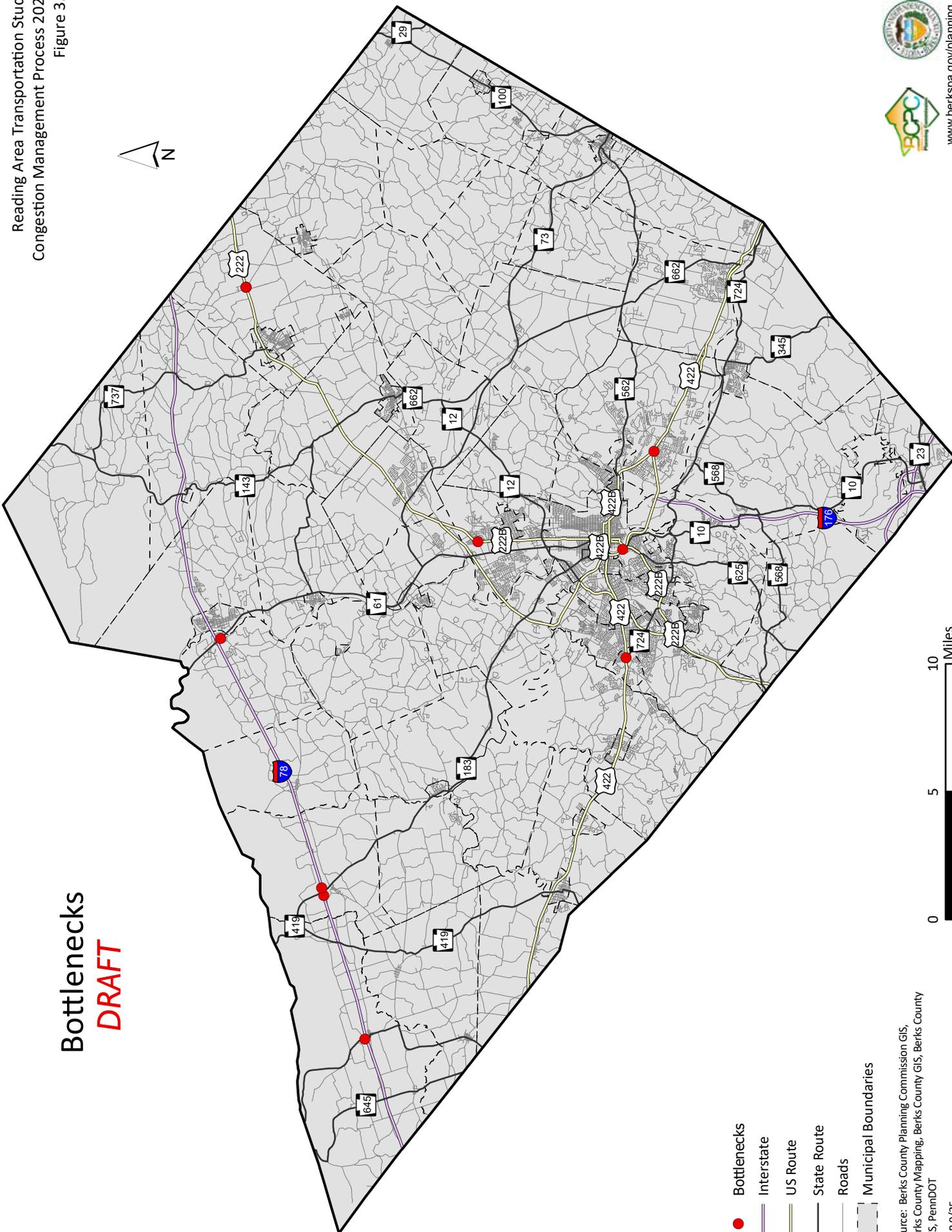
- Major Truck Corridors
- Intermodal Connector
- US Route
- State Route
- Municipal Boundaries

Source: Berks County Planning Commission GIS,  
 Berks County Mapping, Berks County GIS, Berks County  
 DES, PennDOT  
 BAB 9/25



# Bottlenecks

**DRAFT**



- Bottlenecks
- Interstate
- US Route
- State Route
- Roads
- Municipal Boundaries

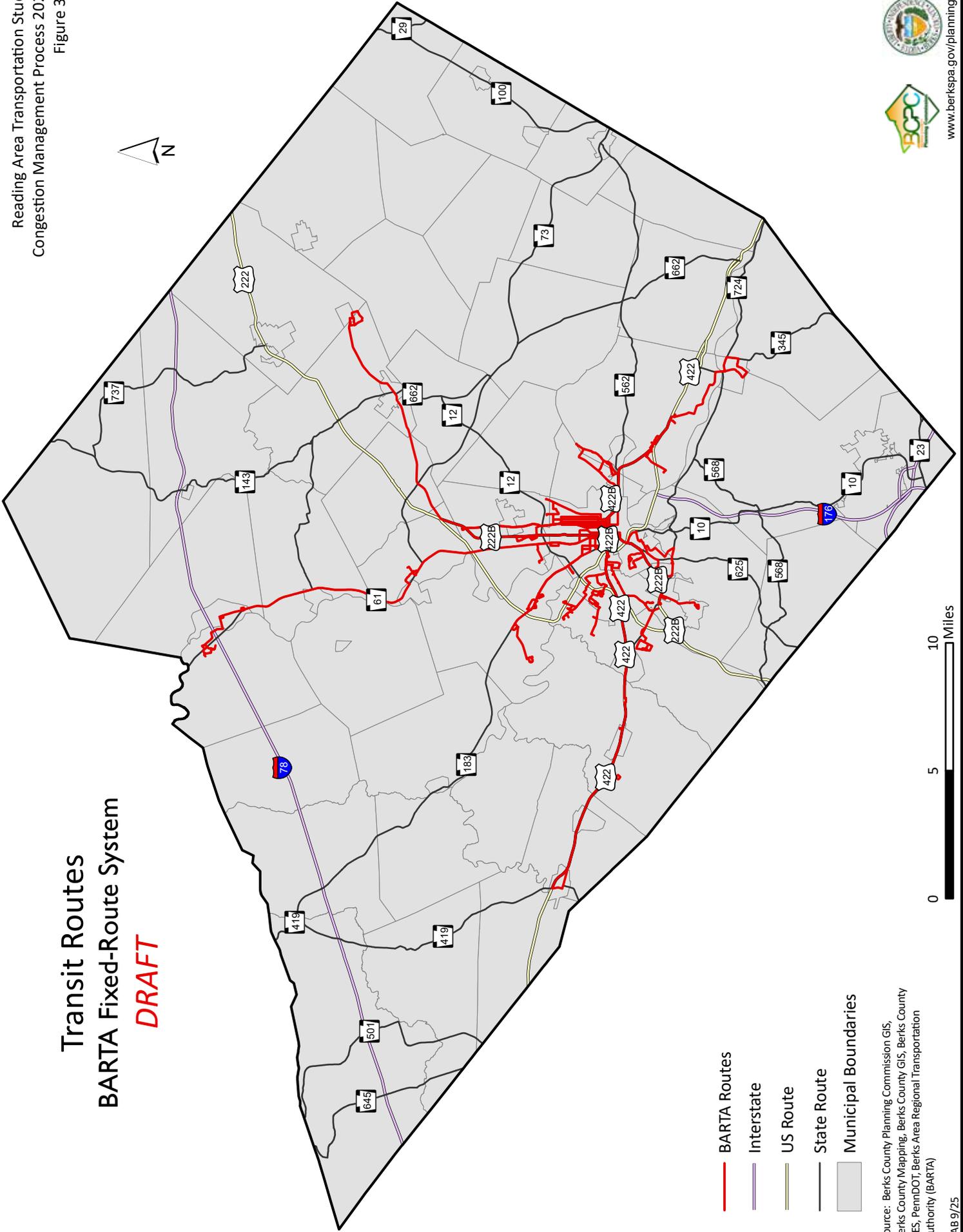
Source: Berks County Planning Commission GIS,  
 Berks County Mapping, Berks County GIS, Berks County  
 DES, PennDOT  
 BAB 9/25



# Transit Routes

## BARTA Fixed-Route System

**DRAFT**

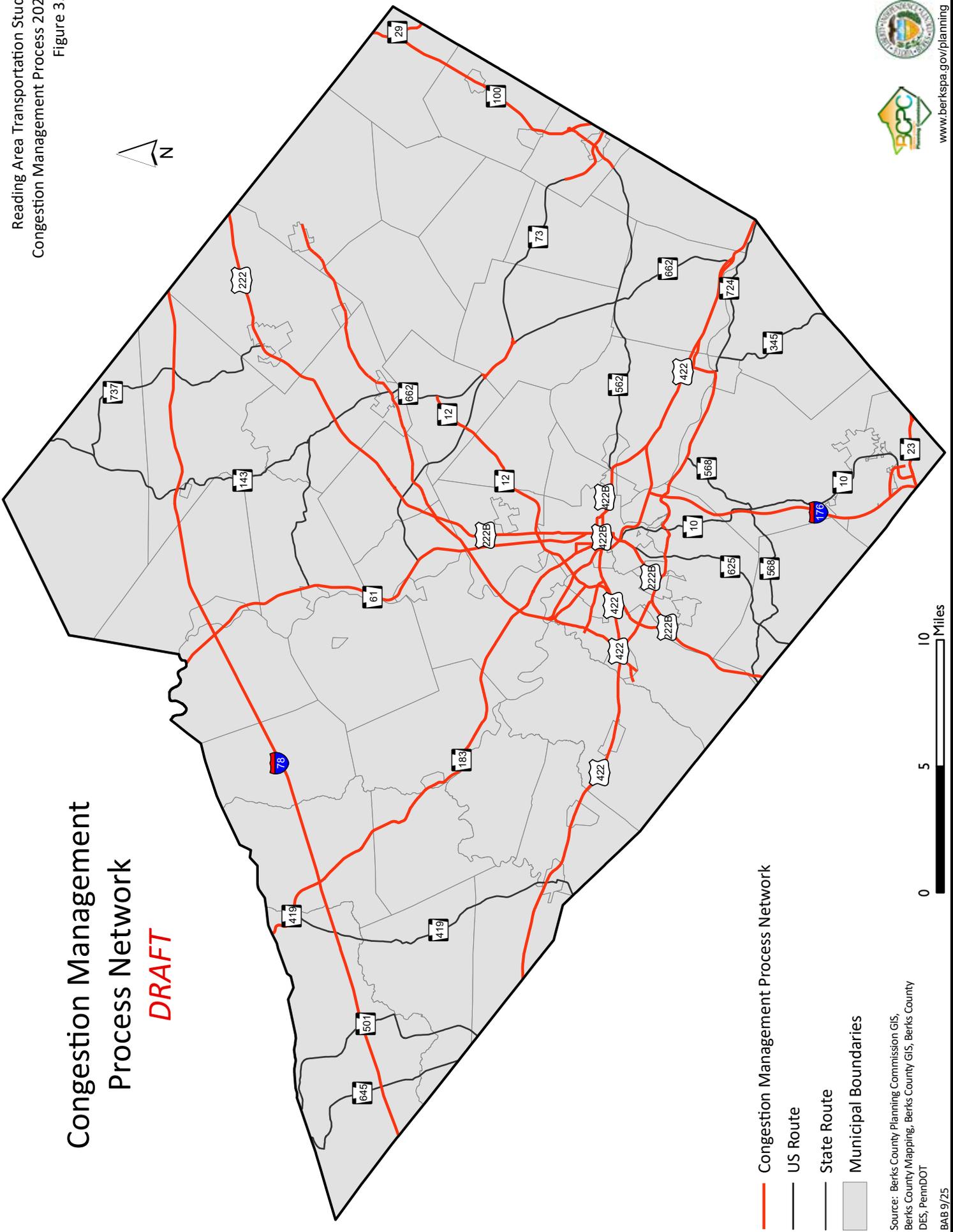


- BARTA Routes
- Interstate
- US Route
- State Route
- Municipal Boundaries

Source: Berks County Planning Commission GIS,  
 Berks County Mapping, Berks County GIS, Berks County  
 DES, PennDOT, Berks Area Regional Transportation  
 Authority (BARTA)



# Congestion Management Process Network *DRAFT*



- Congestion Management Process Network
- US Route
- State Route
- Municipal Boundaries

Source: Berks County Planning Commission GIS,  
Berks County Mapping, Berks County GIS, Berks County  
DES, PennDOT  
BAB 9/25





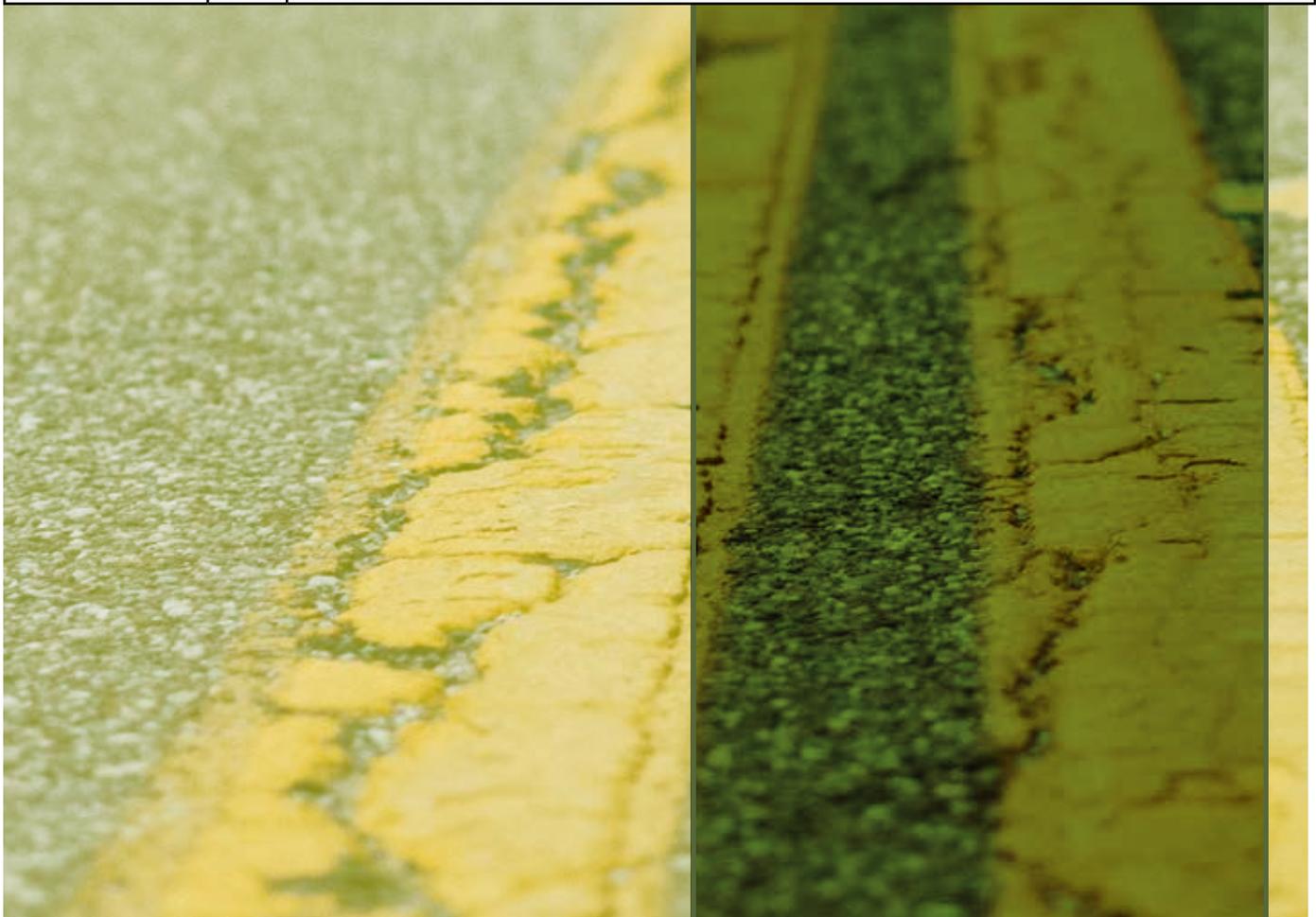
# 4

## CONGESTION MITIGATION STRATEGIES

Mitigation strategies are designed to address both recurring and non-recurring congestion. Recurring congestion is that which happens most days during predictable times at the same locations. The typical example is commuter congestion on roads during daily A.M. and P.M. peak 'rush hour'. Non-recurring congestion is the opposite; it occurs at seemingly random times with varied reasons. Weather events, crashes, construction, major events at entertainment venues, and other issues can cause congestion at times and places that it usually does not occur. This collection of strategies includes measures that can be applied either countywide or to specific corridors. These strategies cover all modes of transportation as well as ways to encourage more efficient patterns of land use and development. In most situations, more than one mitigation strategy can and should be applied in an effort to reduce or eliminate congestion. Strategy numbers are included, where appropriate, with individual corridors in Chapter 5.

Strategy		Options
<b>Land Use Based</b>	1A	Early coordination between BARTA and local municipal officials should happen when development is to occur on/near bus routes
	1B	Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways
	1C	Municipalities should require new development to maintain and enhance street and sidewalk connectivity
	1D	Municipalities should require bicycle and pedestrian accommodations throughout residential and commercial developments that promote accessibility and connectivity within and at the edges
	1E	Use the Local Technical Assistance Program (LTAP) to provide training to municipal officials on how their Highway Occupancy Permit (HOP) process operates and how to effectively incorporate it into the local development process
	1F	Municipalities should use the Official Map process, where applicable, to promote network connectivity
<b>Alternative Mode Options</b>	2A	PennDOT, MPO and BARTA staff should continue working with organizations like CommutePA that promote alternative modes of transportation
	2B	CommutePA staff should continue working with employers to promote and provide incentives for commuters to use alternative modes
	2C	MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located
	2D	BARTA should examine where expanded transit service can be provided where significant benefits can be realized
	2E	BARTA should examine where existing transit stops need improvements
	2F	Municipalities should identify bicycle and pedestrian related weaknesses in local land development plans and ordinances and correct them
	2G	Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals
	2H	Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities
	2I	Encourage the use of rail, where feasible, to reduce truck traffic on roads
<b>Educate the Motoring Public About Congestion Reduction</b>	3A	PennDOT should coordinate with the Berks County Intermediate Unit, school districts and private driver education professionals to provide proper education about merges, accident reduction, aggressive and distracted driving
	3B	Local government officials, business leaders and CommutePA staff should coordinate with local print and television media in education campaigns, particularly regarding high-impact construction projects and highly congested corridors
	3C	PennDOT should work with local officials to establish readily identifiable detour routes around frequently-congested high crash locations

Strategy	Options	
<b><i>Make Full Use of Existing Roadway Capacity</i></b>	4A	Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs
	4B	Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques
	4C	Review signalized intersections for signal coordination and optimization
	4D	Expand the use of new technologies such as video detection at congested intersections and corridors
	4E	Use the Local Technical Assistance Program (LTAP) to educate municipal governments on their responsibilities with signal maintenance and operations
	4F	Explore non-traditional intersection treatments such as roundabouts to gain additional throughput
	4G	Reconstruct all freeway interchanges to meet current design standards
<b><i>Make Safety Improvements in High-Accident Areas Where Congestion is Also an Issue</i></b>	5A	MPO staff should coordinate with PennDOT District staff and review the District Safety Plan to identify areas where accidents exacerbate existing congestion issues
	5B	Implement Freeway Safety Patrols in congested corridors to efficiently clear minor incidents
	5C	PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors
	5D	PennDOT should consider working with municipalities to help manage traffic incidents or develop a comprehensive program for incident management
<b><i>Use New Construction as a Last Resort</i></b>	6A	Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief
	6B	Explore the use of 'hardened shoulders' to add temporary capacity where feasible
	6C	Work with municipalities to use land use tools to preserve future rights-of-way



# 5

## CMP NETWORK

As the transportation planning and programming process moves forward, changes also occur on the roadway network. Development occurs, roadway projects are completed, and traffic reflects those changes. The CMP is meant to follow those changes and recommend appropriate strategies for implementation.

The following pages detail the 32 individual corridors that comprise the entire CMP Network. Each corridor is mapped and contains: a Summary description; a list of Planned Improvements (those on the current Transportation Improvement Program); a list of Planned Off-Corridor Improvements (where these improvements could have an impact on identified corridor); a list of Recommended Strategies; and a synopsis of Roadway Measures. Those measures include:

- a. Corridor Length (Miles): End-to-end length of the corridor;
- b. Traffic (AADT): Annual Average Daily Traffic (AADT) range of two-way traffic as obtained from PennDOT's online One Map system;
- c. Truck %: Trucks traffic as a percentage of total traffic as obtained from PennDOT's online One Map system;
- d. Average AM Peak Speed (MPH): Morning peak period (7-9 a.m.) average speeds in Miles per Hour (MPH) throughout the entire corridor as derived from INRIX data for 2024;
- e. Average PM Peak Speed (MPH): Afternoon peak period (4-6 p.m.) average speeds in Miles per Hour (MPH) throughout the entire corridor as derived from INRIX data for 2024;
- f. Travel Time Index (TTI): The average TTI for a 24-hour period during weekdays (Monday through Friday) for roadway segments within the identified corridor as derived from INRIX data for 2024. Travel Time Index is a measure of congested speeds as a function of free-flow (non congested) speeds;
- g. Planning Time Index (PTI): The average PTI for a 24-hour period during weekdays (Monday through Friday) for roadway segments within the identified corridor as derived from INRIX data for 2024. Planning Time Index is a measure of congested speeds as a function of free-flow (non congested) speeds, it can be another indicator of how reliable your travel times are in a given corridor;

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Each Roadway Measures box is colored based on the Peak TTI measure for that corridor. While not meant to provide a formal ranking of corridors for this CMP, this particular measure best reflects levels of congestion:

- a. No Color, Peak TTI <1.20
- b. Yellow, Peak TTI  $\geq 1.20$  and  $\leq 1.49$
- c. Red, Peak TTI  $\geq 1.50$

Corridors are listed in numerical order. Where a roadway has multiple corridors, they are listed from west-to-east or south-to-north. Where two numbered roads run concurrently, the corridor is listed based on the lower roadway number.

# PA 10

## Summary

The southernmost segment of PA 10 in Berks County provides direct access to the PA Turnpike from the Morgantown area and also northern Chester and Lancaster counties. The roadway consists of one lane in each direction. Informal 'park and ride' parking occurs along the shoulders near the Turnpike interchange. This corridor also provides access to the newly constructed Hollywood Casino Morgantown, Conestoga Landfill, and surrounding industrial properties in Caernarvon Township and New Morgan Borough. There are currently proposals to construct multiple warehouses along PA 10 just north of this corridor in New Morgan Borough.

## Planned Improvements

None.

## Problem Area(s) Identified

- Area of moderate congestion at Interstate 176 bridge.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

## Roadway Measures

Corridor Length (Miles): **1.06**

Traffic (AADT): **5,006 – 7,765**

Truck %: **8 – 18**

Avg. AM Peak Speed (MPH): **33.50**

Avg. PM Peak Speed (MPH): **33.40**

TTI: **1.32** | PTI: **1.57**

## Additional Factors

NHS: **No**

High V/C Corridor (PM Peak): **No**

High Crash Corridor: **No**

Critical Freight Corridor: **No**

Bottleneck Location: **No**

Transit Route: **No**



# PA 12 (Warren Street Bypass)

## Summary

As part of the urban expressway system, PA 12 connects U.S. 222/422 in the western suburbs with the suburbs north of Reading, and to rural northeastern Berks as well. The portion of expressway between the U.S. 222/422 interchange and PA 183 interchange is actually not limited but controlled access, as numerous private driveways and city streets connect directly. PA 12 also provides direct connections to busy PA 61 and U.S. 222 Business north of Reading. The PA 61 interchange does not allow all movements, and--along with River Road and PA 183--of a substandard design. Strategies to Preserve Corridor Capacity.

## Planned Improvements

- MPMS #94900, PA 12 Intelligent Transportation System – implementing freeway service patrol on SR 422, US 222 and PA 12 in the City of Reading, West Reading Borough, Wyomissing Borough, and the townships of Muhlenberg, Cumru, Exeter, Bern, Maiden Creek, Ontelaunee, and Spring (this project is currently being implemented).

## Strategies to Preserve Corridor Capacity

- 4G** Reconstruct all freeway interchanges to meet current design standards.
- 5C** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- 6B** Explore the use of ‘hardened shoulders’ to add temporary capacity where feasible.
- OTHER** Implement access control in the non-Limited-Access portion of the expressway.

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## Roadway Measures

Corridor Length (Miles): **4.59**  
Traffic (AADT): **10,520 – 40,363**  
Truck %: **4 – 7**  
Avg. AM Peak Speed (MPH): **56.90**  
Avg. PM Peak Speed (MPH): **56.30**  
TTI: **0.94** | PTI: **1.09**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **No**



# PA 12 (Pricetown Road)

## Summary

This segment begins as the Warren Street Bypass narrows from an expressway to a rural two-lane arterial, and continues as such for its length. There are no turn lanes and driveways are scattered throughout. The southern portion includes the intersection with Elizabeth Avenue (SR 2016) which has a high crash history. Topography places limitations on expansion in the southern section as the roadway traverses steep slopes and watercourses. Most congestion occurs near Elizabeth Avenue, Woodside Drive, PA 73 and PA 662.

## Planned Improvements

- MPMS #79467 – Safety improvements along the PA 12 Corridor from Hill View Road/ Elizabeth Avenue to Skyline Drive with potential roundabouts.
- MPMS #110318 – Intersection improvements and addition of two-way center left turn lane along PA 12 (Pricetown Road) from Antietam Road to Mount Laurel Avenue in Alsace Township.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.

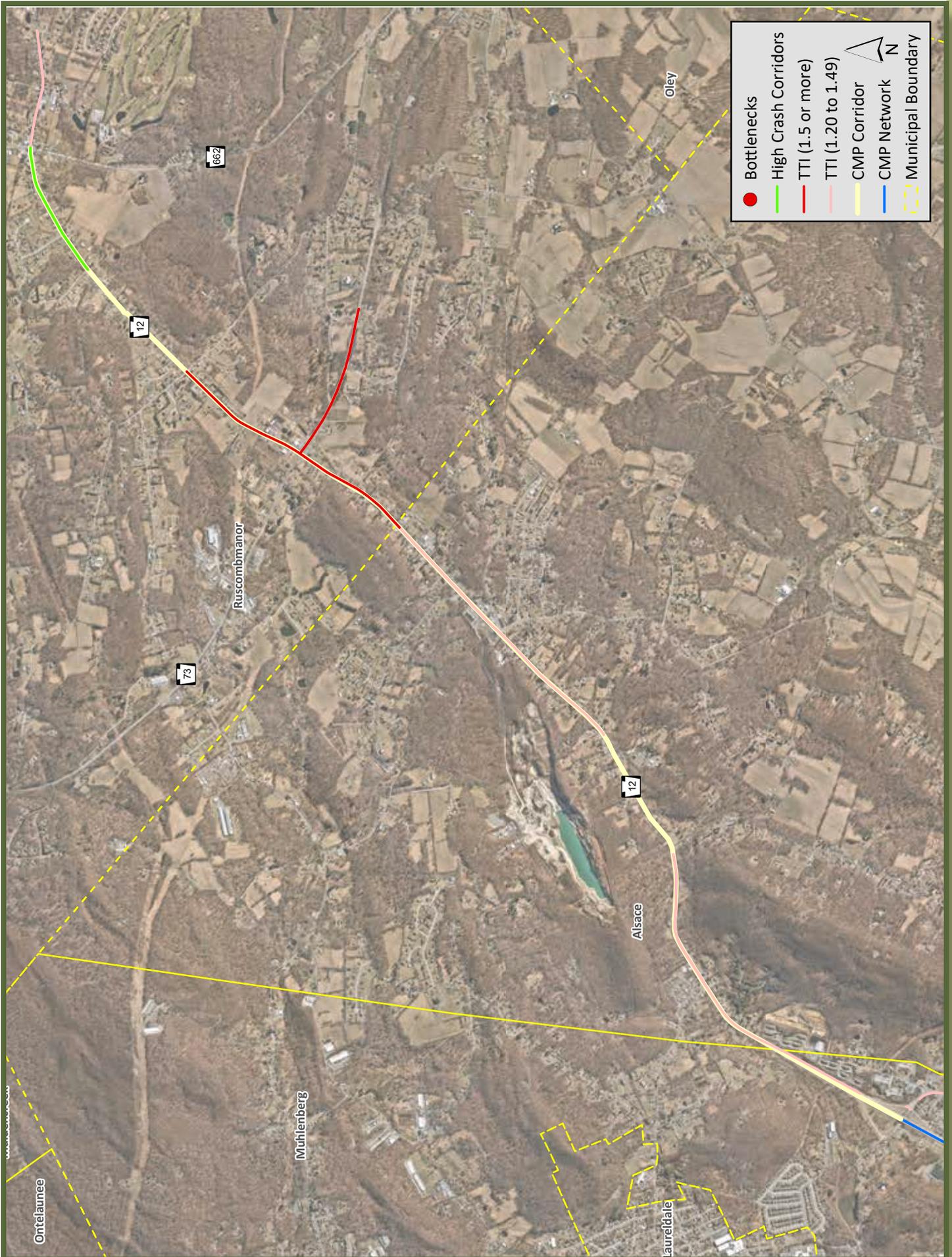
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## Roadway Measures

Corridor Length (Miles): **4.86**  
Traffic (AADT): **9,111 – 18,322**  
Truck %: **3 – 5**  
Avg. AM Peak Speed (MPH): **37.70**  
Avg. PM Peak Speed (MPH): **37.80**  
TTI: 1.03 | PTI: 1.26

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **No**



# PA 23 and PA 401

## Summary

PA 23 is a two-lane roadway traversing Caernarvon Township in southern Berks in an east-west direction and bisects the village of Morgantown. PA 23 provides indirect access (via SR 2083 and PA 10, respectively) to Interstate 176 and the PA Turnpike. Since it traverses an older developed village, the potential for roadway expansion is limited within the village. PA 23 also serves as a link to Twin Valley School District facilities with bus stops scattered along its length. Bicycle PA Route S also runs along the length of PA 23 in this area. PA 401 enters Berks at the eastern end of PA 23 at an unsignalized intersection, and serves as a link to/from Chester County. Strategies to Preserve Corridor Capacity.

## Planned Improvements

None on TIP, though the PA Turnpike Commission has announced Turnpike expansion plans that would necessitate the replacement and enlargement of the existing PA 23 bridge over the Turnpike.

## Problem Area(s) Identified

- PA 401 – moderate congestion at the intersection with PA 23.
- PA 23 – area of high congestion between Morgan Way and Valley Road.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2H** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.

### Roadway Measures (PA 23)

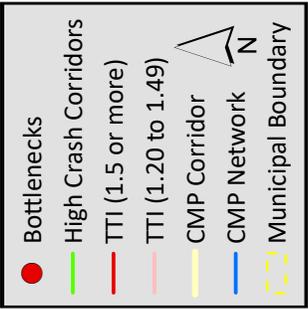
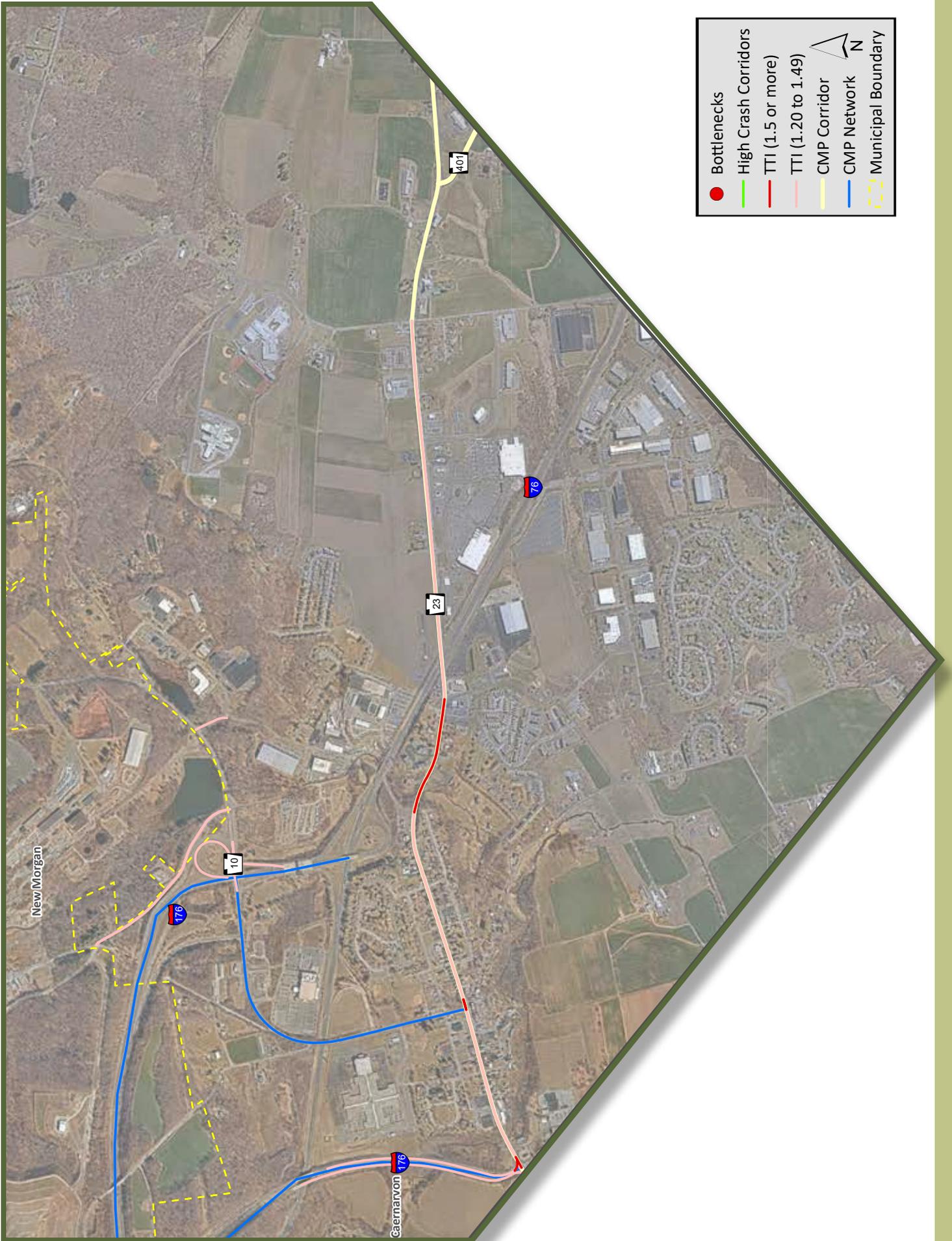
Corridor Length (Miles): **3.0**  
 Traffic (AADT): **7,486 – 14,197**  
 Truck %: **6-10**  
 Avg. AM Peak Speed (MPH): **31.60**  
 Avg. PM Peak Speed (MPH): **29.20**  
 TTI: **1.23** | PTI: **1.57**

### Roadway Measures (PA 401)

Corridor Length (Miles): **0.20**  
 Traffic (AADT): **6,419**  
 Truck %: **6**  
 Avg. AM Peak Speed (MPH): **33.50**  
 Avg. PM Peak Speed (MPH): **31.10**  
 TTI: **1.30** | PTI: **1.61**

### Additional Factors

NHS: **No**  
 High V/C Corridor (PM Peak): **No**  
 High Crash Corridor: **No**  
 Critical Freight Corridor: **No**  
 Bottleneck Location: **No**  
 Transit Route: **No**



# PA 61 (U.S. 222 Business to PA 12)

## Summary

Beginning just north of the City's commercial core, PA 61 travels through the Centre Park Historic District containing mostly residential and professional office businesses. The roadway varies from one-to-two lanes in each direction. The northern part of this corridor gets more commercialized, and also provides truck access to a steel mill, smaller industries, and fan access to FirstEnergy Stadium, home of the Reading Fightin' Phils minor league baseball team. The corridor is signalized and lane configurations vary by location. Congestion usually occurs during peak hours at the intersections with Spring and Bern Streets as they intersect with PA 61.

## Planned Improvements

None.

## Problem Area(s) Identified

- Moderate congestion between Spring Street and Windsor Street.
- Moderate congestion between Bern Street and Exeter Street.

## Strategies to Preserve Corridor Capacity

- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4G** Reconstruct all freeway interchanges to meet current design standards.
- OTHER** Work with local law enforcement to expedite traffic flow during events at FirstEnergy Stadium.

## Roadway Measures

Corridor Length (Miles): **1.92**  
Traffic (AADT): **3,521 – 12,945**  
Truck %: **3 – 5**  
Avg. AM Peak Speed (MPH): **25.10**  
Avg. PM Peak Speed (MPH): **25.70**  
TTI: **1.27** | PTI: **1.57**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# PA 61 (PA 12 to U.S. 222)

## Summary

Starting at the substandard PA 12 interchange on the southern end of the corridor, PA 61 runs through Muhlenberg Township north to the recently reconstructed interchange at U.S. 222. The PA 12 interchange does not allow for all movements, which promotes a number of illegal and dangerous maneuvers and additional traffic on surrounding roads. This segment varies from one to two lanes in each direction with uneven protected left-turn capabilities and few shoulders. The most congested areas are around George Street and Tuckerton Rd. Intersection improvements at Tuckerton Road are currently under construction and should help alleviate congestion in that area.

## Planned Improvements

None.

## Problem Area(s) Identified

- High congestion between George Street and Leisz's Bridge Road.
- High congestion between East Bellevue Avenue and Reading Crest Avenue.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4G** Reconstruct all freeway interchanges to meet current design standards.

## Roadway Measures

Corridor Length (Miles): **2.93**  
Traffic (AADT): **9,350 – 18,699**  
Truck %: **5 – 7**  
Avg. AM Peak Speed (MPH): **31.10**  
Avg. PM Peak Speed (MPH): **30.20**  
TTI: **1.38** | PTI: **1.76**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# PA 61 (U.S. 222 to Schuylkill County)

## Summary

PA 61 provides regional vehicle and freight access between north Reading suburbs and northern Berks, Interstate 78, and Schuylkill County. A four lane highway for its length, major intersections are signalized and protected left-turn lanes are provided throughout. Congestion occurs where signals are grouped, particularly in the far southern portion, and at PA 662 in Shoemakersville Borough. North of the I-78 interchange, major retail development has occurred within the last fifteen years. Today, this corridor has been impacted by the proliferation of warehousing in Shoemakersville Borough and Perry Townships. An extensive roadway reconstruction between U.S. 222 and PA 73 was completed in 2015, as was a new signalized intersection with Grand Street in Hamburg Borough. There are incidents of high crash areas recorded at various points along the corridor. One location at the southern end of the corridor at the U.S. 222 interchange, one in Hamburg Borough and the other location just north of the Interstate 78 interchange.

## Planned Improvements

- MPMS #109337 – Median barrier project, addition of median barrier from the Walmart entrance at Lowland Road to a point approximately 0.4 miles north of Tilden Township.
- MPMS #109894 – Bridge rehabilitation, SR 61 over SR 4028.
- MPMS #10328 – Highway restoration on PA 61 from 4th Street to SR 4028/Schuylkill River Bridge, including two bridge rehabilitations and one bridge replacement.
- MPMS #97258 – Safety improvements on PA 61 in Perry and Windsor Township and Hamburg Borough. Improvements include median barrier work and pavement markings.
- MPMS #10867 – Highway restoration on PA 61 and median barrier installation from Zions Church Road to the PA61/4th Street intersection.
- MPMS #96373 – PA 61 resurface project from approximately 1700' south of Cabela's Drive to the south end of the bridge over the Reading Blue Mountain and Northern and Schuylkill River in Tilden Township.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 4C** Review signalized intersections for signal coordination and optimization.

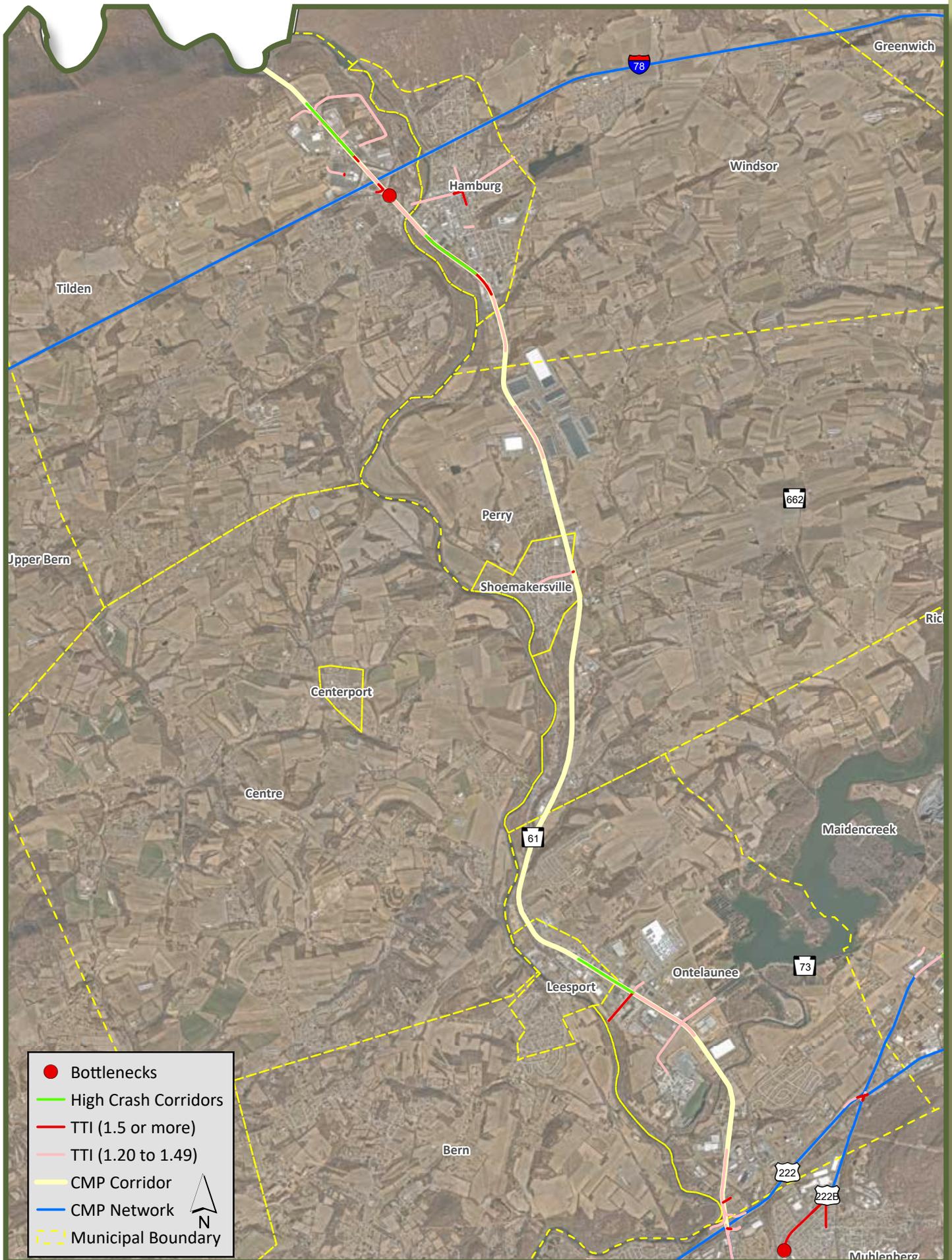
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## Roadway Measures

Corridor Length (Miles): **13.07**  
Traffic (AADT): **10,428 – 15,025**  
Truck %: **8 – 12**  
Avg. AM Peak Speed (MPH): **40.90**  
Avg. PM Peak Speed (MPH): **44.40**  
TTI: **1.19** | PTI: **1.50**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **Yes** (@ I-78 interchange)  
Transit Route: **Yes**



# PA 73 (Oley Area)

## Summary

This segment of PA 73 runs concurrent with PA 662 just south of Oley Village, and includes both northern and southern intersections with PA 662. PA 73 serves as a two lane link between eastern Berks and the Reading urban area as well as local residential traffic. Additionally, PA 73 and PA 662 serve to connect U.S. 222 and U.S. 422. PA 73 also serves to link the community to the Oley Valley School District campus and Berks Career and Technology Center-East via Oley Road. Two recent projects installing roundabouts at both the eastern and western PA 73/PA 662 intersections were completed. These projects are having a positive effect on traffic circulation and safety throughout the corridor. It is foreseen that this improvement in safety and circulation will be reflected in future iterations of the CMP.

## Planned Improvements

- MPMS #117668 – Guide rail upgrades at the western PA73/PA662 roundabout.

## Problem Area(s) Identified

- High congestion area between Friedenbergl Road and Deturk Road.

## Strategies to Preserve Corridor Capacity

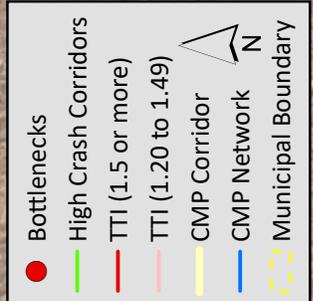
- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.

## Roadway Measures

Corridor Length (Miles): **1.99**  
Traffic (AADT): **4,967 – 12,373**  
Truck %: **9 – 11**  
Avg. AM Peak Speed (MPH): **33.40**  
Avg. PM Peak Speed (MPH): **32.40**  
TTI: **1.48** | PTI: **1.86**

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **No**



# PA 73 (Boyertown Area)

## Summary

This segment of PA 73 covers central Colebrookdale Township east through Boyertown Borough to Montgomery County, just west of PA 100. This two-lane road has no turn lanes (except at PA 562/Reading Ave. in the borough), uncontrolled driveway access, and on-street parking along most of its length. PA 73 serves local residential and commercial traffic along with regional access to PA 100 north to the Lehigh Valley and south to Pottstown and the greater Philadelphia area. Most congestion on this corridor occurs within the Borough of Boyertown, specifically at the intersection with PA 562 (North Reading Avenue).

## Planned Improvements

None.

## Problem Area(s) Identified

- Area of high congestion between PA 562 and Washington Street.

## Strategies to Preserve Corridor Capacity

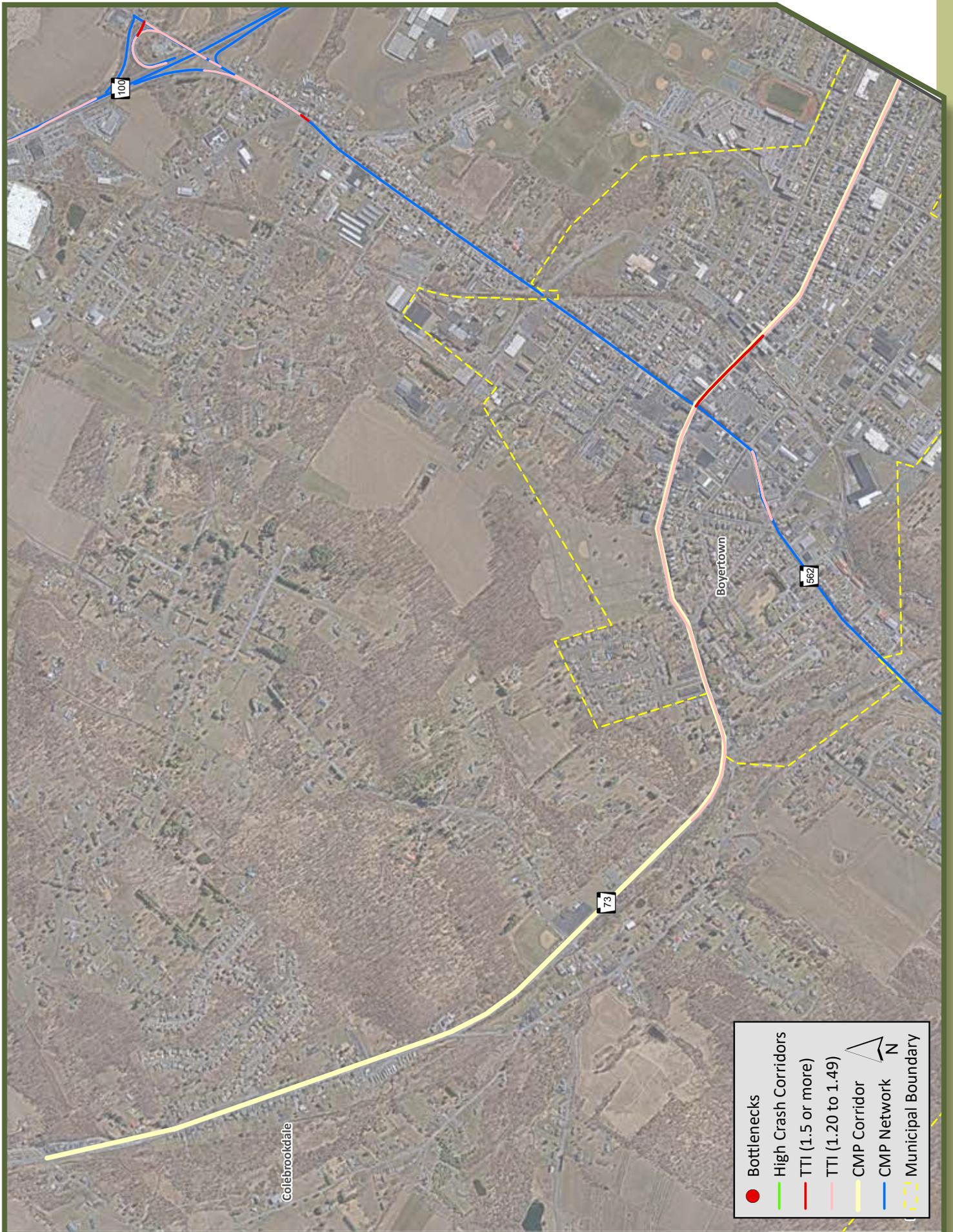
- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways..
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities..
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

## Roadway Measures

Corridor Length (Miles): **2.84**  
Traffic (AADT): **7,588 – 10,839**  
Truck %: **7 – 15**  
Avg. AM Peak Speed (MPH): **32.10**  
Avg. PM Peak Speed (MPH): **31.90**  
TTI: **1.27** | PTI: **1.53**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **Yes** (East of PA 562)  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **No**



# INTERSTATE 78

## Summary

Crossing the northern part of Berks County, Interstate 78 provides a regional connection between freight ports and destinations in the New Jersey/New York area and Baltimore, Washington DC and beyond. New warehousing development has occurred in the Lehigh Valley just east of this corridor, and at PA 501. Additional warehousing development is planned for PA 61, which will be accessing I-78 in the Hamburg area. Congestion becomes an issue during crashes which cause roadway closures. The only true detour in the area – Old 22/Hex Highway – is a two-lane road, partly state maintained and partly local. Though crash causes differ, high speed, truck volumes and weather all play varying roles. Bottleneck locations along the corridor are the direct result of the current highway widening project from the Lenhartsville interchange to the Lehigh County line.

## Planned Improvements

- MPMS #10605 – I-78 Weigh Station, installation of a weigh station between exits 19 and 23 in Upper Tulpehocken Township.
- MPMS #91658 – ITS, project involves funding for an operator working in the Traffic Operations Center in PennDOT District 5-0 who oversees/monitors cameras, variable message signs and radio systems along I-78 in Berks County.
- MPMS 120121 – Concrete pavement patching and joint repairs in Bethel Township.
- MPMS #120372 – Interchange removal project – removal of the Grimes interchange in Bethel Township.
- MPMS #120991 – ITS Camera gaps, installation of ITS cameras at various locations to eliminate gaps in the current system.
- MPMS #72807 – Highway resurfacing/preventive maintenance, I-78 Shartlesville to Hamburg mill and overlay, concrete patching and joint rehabilitation.

## Strategies to Preserve Corridor Capacity

- 2A** PennDOT, MPO and BARTA staff and should continue working with organizations like Commuter Services of Pennsylvania that promote alternative modes of transportation.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 4A** Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs.
- 5B** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- 5C** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- OTHER** Add moveable median barriers to allow motorist clearance between interchanges during closures.
- OTHER** Explore improvements to routes used for detours.

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## Roadway Measures

Corridor Length (Miles): **35.22**  
Traffic (AADT): **16,616 – 19,201** (eastbound)  
Traffic (AADT): **14,650 – 19,165**(westbound)  
**Truck %: 30 – 42** (eastbound)  
**Truck %: 33 – 41** (westbound)  
Avg. AM Peak Speed (MPH): **63.70**  
Avg. PM Peak Speed (MPH): **65.80**  
TTI: **0.97** | PTI: **1.08**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **Yes**  
Transit Route: **No**



# PA 100 and PA 29

## Summary

PA 100 enters Berks County just east of Boyertown from Montgomery County as a 4-lane arterial, then quickly transitions to a 2-lane arterial. PA 100 serves both regional traffic flowing between Pottstown and the Lehigh Valley along with local residential and highway commercial traffic. PA 29 enters Berks County from the east in Hereford Township and intersects PA 100 at SR 1010, where it turns north and runs concurrent with PA 100.

## Planned Improvements

- MPMS #92009 – Bridge replacement with box culvert on Main Street (PA 100) over a tributary to Perkiomen Creek in Bally Borough.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

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### Roadway Measures (PA 29)

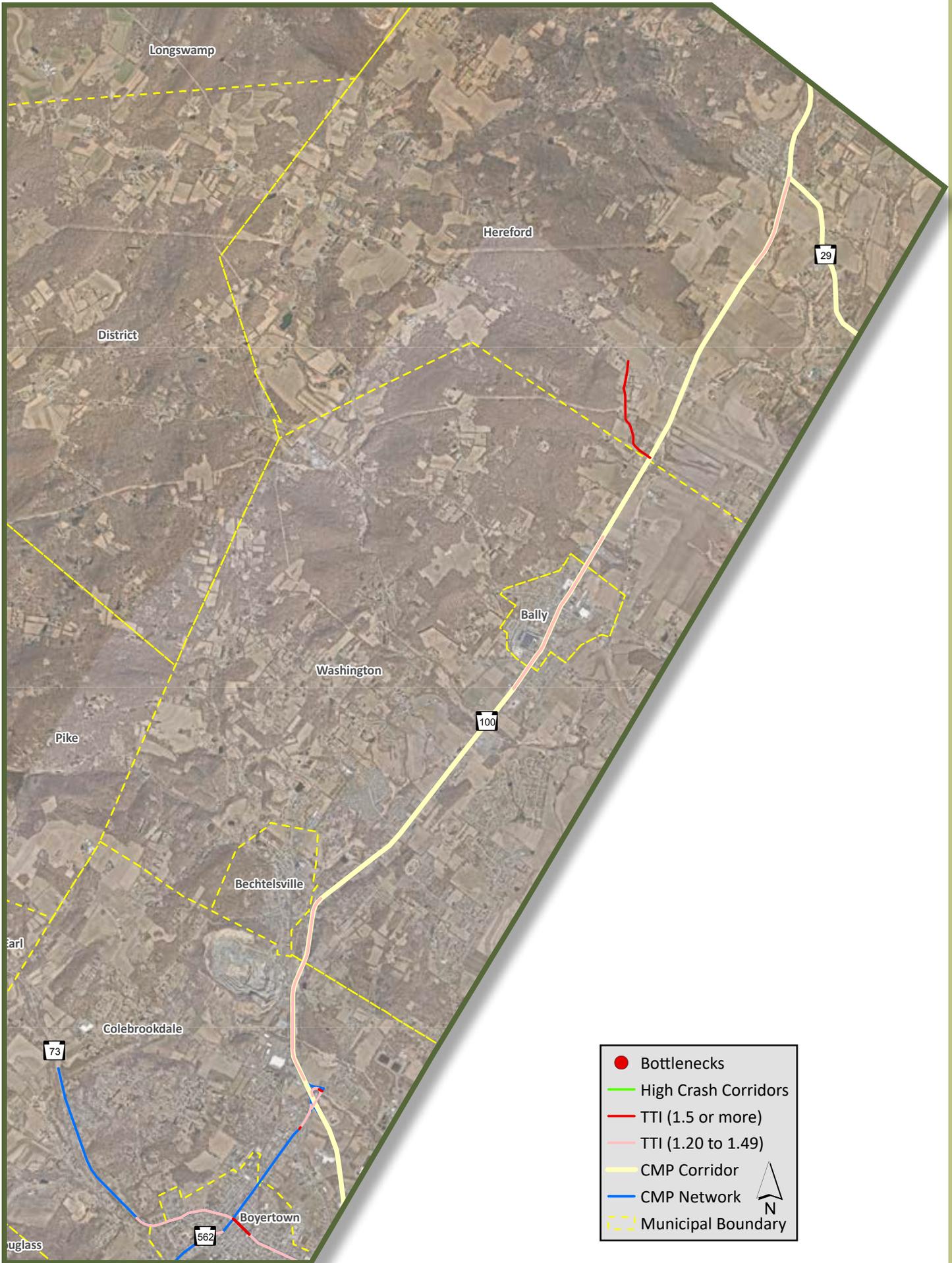
Corridor Length (Miles): **1.42**  
Traffic (AADT): **7,102 – 9,729**  
Truck %: **10**  
Avg. AM Peak Speed (MPH): **36.90**  
Avg. PM Peak Speed (MPH): **37.30**  
TTI: **1.04** | PTI: **1.21**

### Roadway Measures (PA 100)

Corridor Length (Miles): **11.08**  
Traffic (AADT): **7,283 – 17,223**  
Truck %: **8 – 10**  
Avg. AM Peak Speed (MPH): **41.20**  
Avg. PM Peak Speed (MPH): **40.90**  
TTI: **1.08** | PTI: **1.28**

### Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **No**  
Transit Route: **No**



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- Municipal Boundary



# INTERSTATE 176/SR 2089

## Summary

The Morgantown Expressway (I-176) provides a direct expressway connection between the Reading urban area and the Pennsylvania Turnpike (Interstate-76). Refuse trucks use this roadway to access an active landfill in New Morgan Borough. Prior to the early 1990's when I-176 was connected directly to the PA Turnpike, SR 2089 was part of I-176. Now, SR 2089 provides a connection to PA 10/23 to northern Lancaster and Chester counties.

## Planned Improvements

- MPMS #91658 – ITS, project involves funding for an operator working in the Traffic Operations Center in PennDOT District 5-0 who oversees/monitors cameras, variable message signs and radio systems along the I-176 corridor.

## Strategies to Preserve Corridor Capacity

- 2A** PennDOT, MPO and BARTA staff and should continue working with organizations like Commuter Services of Pennsylvania that promote alternative modes of transportation.
  - 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
  - 4A** Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs.
  - 5B** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
  - 5C** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- OTHER** Explore improvements to routes used for detours.

### Roadway Measures (SR 2089)

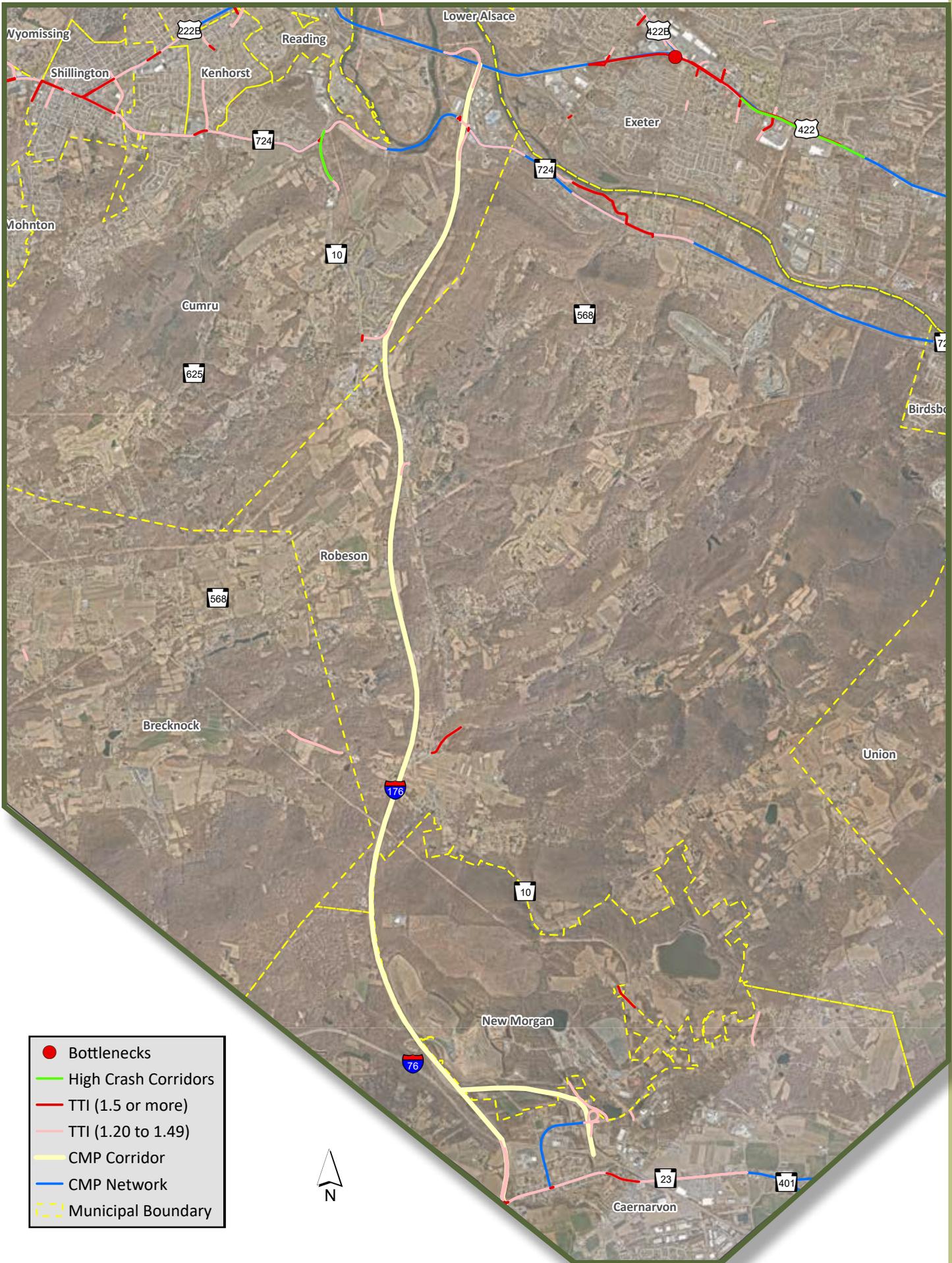
Corridor Length (Miles): **1.41**  
Traffic (AADT): **3,577** (northbound)  
Traffic (AADT): **3,810** (southbound)  
Truck %: **11** (northbound)  
Truck %: **10** (southbound)  
Avg. AM Peak Speed (MPH): **51.60**  
Avg. PM Peak Speed (MPH): **53.50**  
TTI: **1.06** | PTI: **1.27**

### Roadway Measures (Interstate 176)

Corridor Length (Miles): **11.36**  
Traffic (AADT): **3,432 – 7,791** (eastbound)  
Traffic (AADT): **3,524 – 8,958** (westbound)  
Truck %: **13 – 18** (eastbound)  
Truck %: **12 – 17** (westbound)  
Avg. AM Peak Speed (MPH): **60.20**  
Avg. PM Peak Speed (MPH): **61.80**  
TTI: **0.94** | PTI: **1.09**

### Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **No**  
Transit Route: **No**



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- - - Municipal Boundary



# PA 183 (Washington Street to U.S. 222)

## Summary

Starting in the downtown core, PA 183 travels through Reading's dense northwest residential area, provides access to the Warren Street Bypass (PA 12), north to the Reading Regional Airport and U.S. 222. PA 183 provides direct access to a large steel mill, one of Berks' two hospitals, and industrial development adjacent to the airport. The bridge over the Schuylkill River underwent a major rehabilitation in 2015, and the interchange at U.S. 222 was reconfigured and expanded. Much of the congestion along the corridor happens at peak times in the Glenside area of the City of Reading.

## Planned Improvements

- MPMS #91091 - Schuylkill Ave. Bridge (SB), Bridge replacement over Norfolk Southern railroad, currently in construction.

## Problem Area(s) Identified

- High crash area between Walnut Street and West Green Street.
- High congestion between Lehigh Street and Lackawanna Street.

## Strategies to Preserve Corridor Capacity

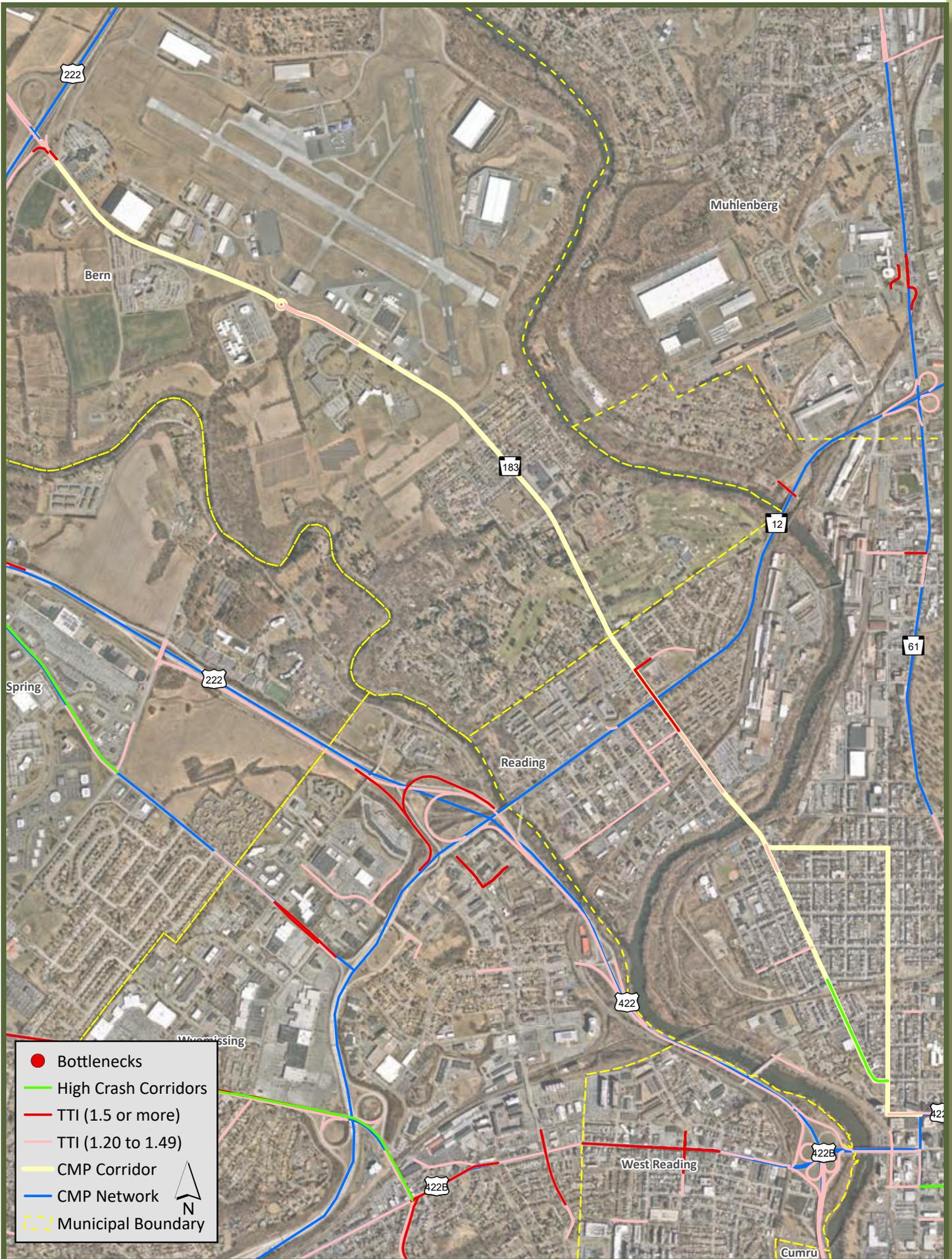
- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4G** Reconstruct all freeway interchanges to meet current design standards.

## Roadway Measures

Corridor Length (Miles): **5.70**  
Traffic (AADT): **5,196 – 15,941**  
Truck %: **2 – 6**  
Avg. AM Peak Speed (MPH): **23.50**  
Avg. PM Peak Speed (MPH): **22.60**  
TTI: **1.34** | PTI: **1.68**

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **Yes** (Glenside area in City of Reading)  
High Crash Corridor: **Yes** (in the City of Reading)  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# PA 183 (U.S. 222 to Schuylkill County)

## Summary

Once north of U.S. 222, PA 183 travels through increasingly rural Berks County north to I-78 and Schuylkill County. Left turn lanes are not provided except at the few signalized intersections, shoulder widths vary, and detours are difficult. Congestion occurs in the southern end of the corridor between West Leesport Ave. and U.S. 222.

## Planned Improvements

- MPMS #114378 – Bridge Preventive maintenance projects at various bridges along corridor.
- MPMS #91976 – Bridge replacement of the bridge carrying PA 183 over the Little Northkill Creek.
- MPMS #117721 – Widening project to eliminate the narrow section between U.S. 222 and West Leesport Road.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.

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## Roadway Measures

Corridor Length (Miles): **16.55**

Traffic (AADT): **4,766 – 27,047**

Truck %: **6 – 12**

Avg. AM Peak Speed (MPH): **42.80**

Avg. PM Peak Speed (MPH): **42.80**

TTI: **1.11** | PTI: 1.32

## Additional Factors

NHS: **No**

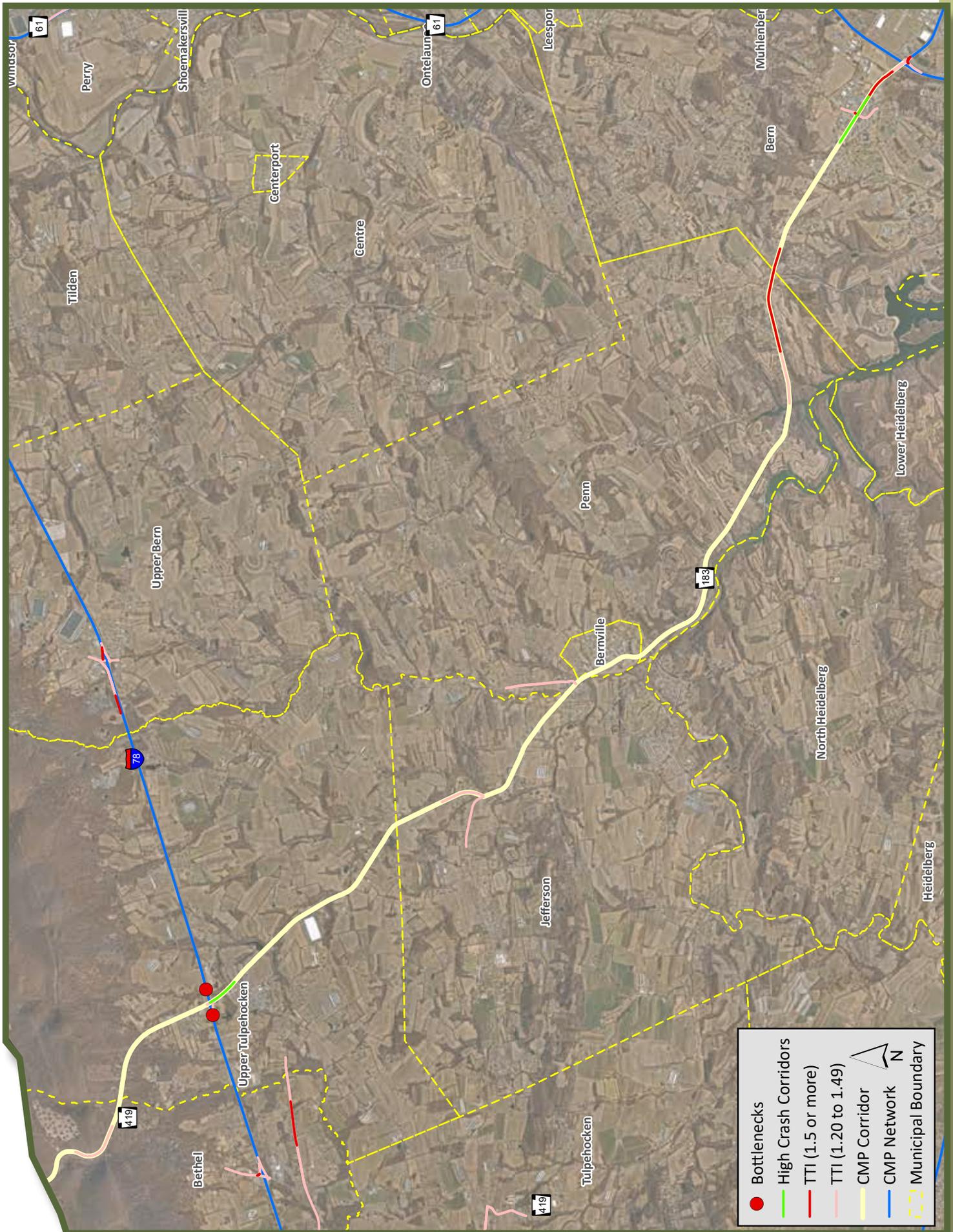
High V/C Corridor (PM Peak): **No**

High Crash Corridor:(in Bern and Upper Tulpehocken Townships): **Yes**

Critical Freight Corridor: **Yes**

Bottleneck Location: **No**

Transit Route: **No**



# U.S. 222 (Lancaster County to U.S. 422 Merge)

## Summary

The southern portion of U.S. 222 is the newest addition to Berks County's expressway system. Overall, U.S. 222 connects Interstate 78 in the Lehigh Valley with U.S. 30 in Lancaster, which helps it serve as an alternative route between New Jersey/New York to the north and Baltimore/Washington to the south. Local traffic is also carried. Non-recurring congestion causes include accidents and inclement weather events.

## Planned Improvements

- MPMS #94900 - PA 12 ITS – implementing freeway service patrol on SR 422, US 222 and PA 12 in the City of Reading, West Reading Borough, Wyomissing Borough, and the townships of Muhlenberg, Cumru, Exeter, Bern, Maiden Creek, Ontelaunee, and Spring.

## Strategies to Preserve Corridor Capacity

- 4A** Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs.
- 5B** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- OTHER** Increase promotion of existing Park and Ride lot at PA 568.

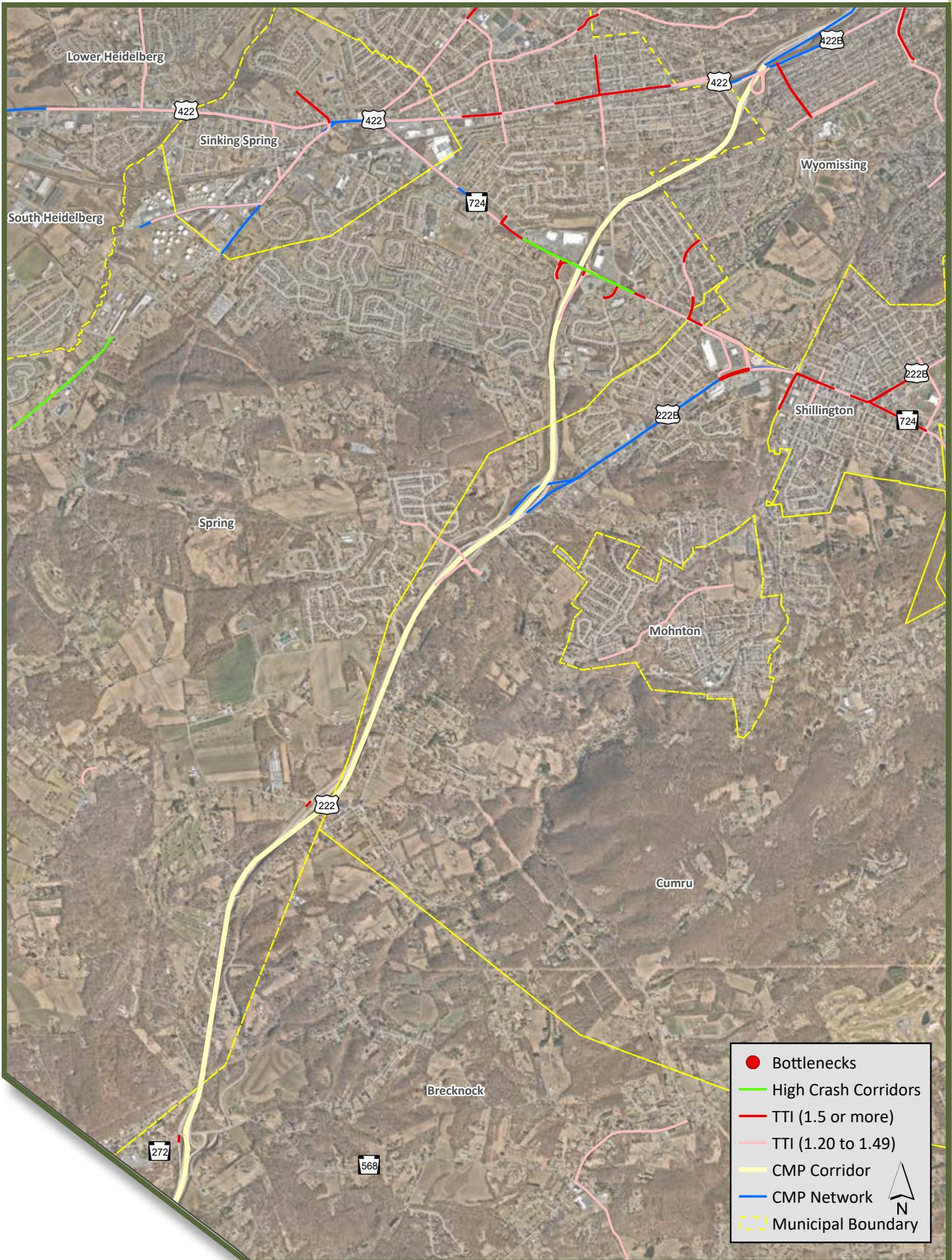
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## Roadway Measures

Corridor Length (Miles): **7.98**  
Traffic (AADT): **39,356 – 51,071**  
Truck %: **1 – 14**  
Avg. AM Peak Speed (MPH): **63.00**  
Avg. PM Peak Speed (MPH): **63.90**  
TTI: **0.88** | PTI: **0.99**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **No**  
Transit Route: **No**



# U.S. 222 (U.S. 422 Merge to U.S. 222 Business Merge)

## Summary

This section of the expressway system serves both local traffic accessing the commercial and residential portion of western Berks County, as well as through traffic on U.S. 222. Parts of this section also run concurrent with U.S. 422 which serves east-west traffic. Interchange reconfiguration projects have been completed at PA 183 and PA 61. The U.S. 222 northbound and southbound ramps at U.S. 422 narrow the roadway capacity into one lane each direction around sharp bends which creates a significant bottleneck.

## Planned Improvements

- MPMS #110007 – Concrete patching and resurfacing of U.S. 222 portions and adjoining ramps from Wyomissing Borough line to the U.S. 222/U.S. 422 interchange.
- MPMS #94900 - Intelligent Transportation Systems – implementing freeway service patrol on SR 422, US 222 and PA 12 in the City of Reading, West Reading Borough, Wyomissing Borough, and the townships of Muhlenberg, Cumru, Exeter, Bern, Maiden Creek, Ontelaunee, and Spring.
- MPMS #117622 – Safety improvements - Installation of all-weather pavement markings along corridor.
- MPMS #11008 – Addition of an auxiliary lane along U.S. 222 southbound between Paper Mill Road and Routes 222/422 interchanges in Wyomissing Borough.

## Strategies to Preserve Corridor Capacity

- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 4A** Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs.
- 4G** Reconstruct all freeway interchanges to meet current design standards.
- 5B** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- 5C** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief, particularly southbound between Broadcasting Road and U.S. 422 West.

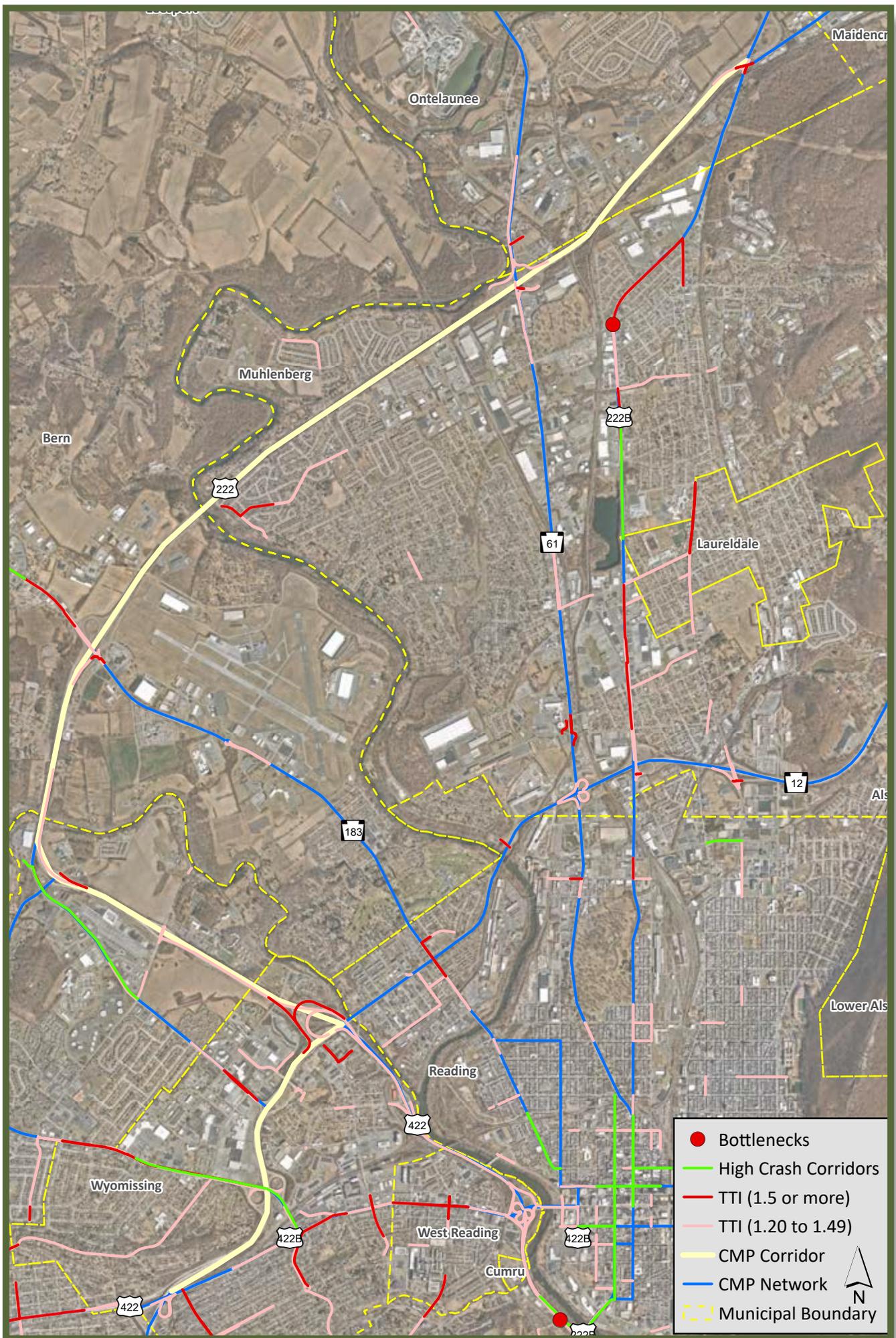
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## Roadway Measures

Corridor Length (Miles): **10.60**  
Traffic (AADT): **33,850 – 113,173**  
Truck %: **6 – 13**  
Avg. AM Peak Speed (MPH): **57.30**  
Avg. PM Peak Speed (MPH): **54.90**  
TTI: **0.82** | PTI: **0.98**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **No**  
Transit Route: **No**



# U.S. 222 (U.S. 222 Business Merge to Lehigh County)

## Summary

Known locally as Route 222 North, this corridor has historically been one of the most congested in the County. The majority of this corridor carries regional and local traffic on a two-lane rural arterial through signalized intersections. High truck truck and their associated slower speeds have added to congestion. Recently, a number of projects have been completed and some are under way to improve safety and circulation through the corridor. Roundabout installation at various intersections along the corridor have greatly improved traffic flow. Construction is still occurring along the corridor, it is anticipated that once complete travel times will continue to improve along the corridor.

## Planned Improvements

- MPMS #61972 - U.S. 222 Widening, roadway widening from PA 73 north to Kutztown Bypass.
- MPMS #90569 - U.S. 222 and Long Lane, Intersection improvements to include a roundabout.
- MPMS #117622 – Safety improvements - Installation of all-weather pavement markings along corridor.

## Problem Area(s) Identified

- High congestion area and bottleneck location at Long Lane.
- High congestion and crash area at Moselem Spring Road.
- High crash area between Genesis Drive and Schaeffer Road.

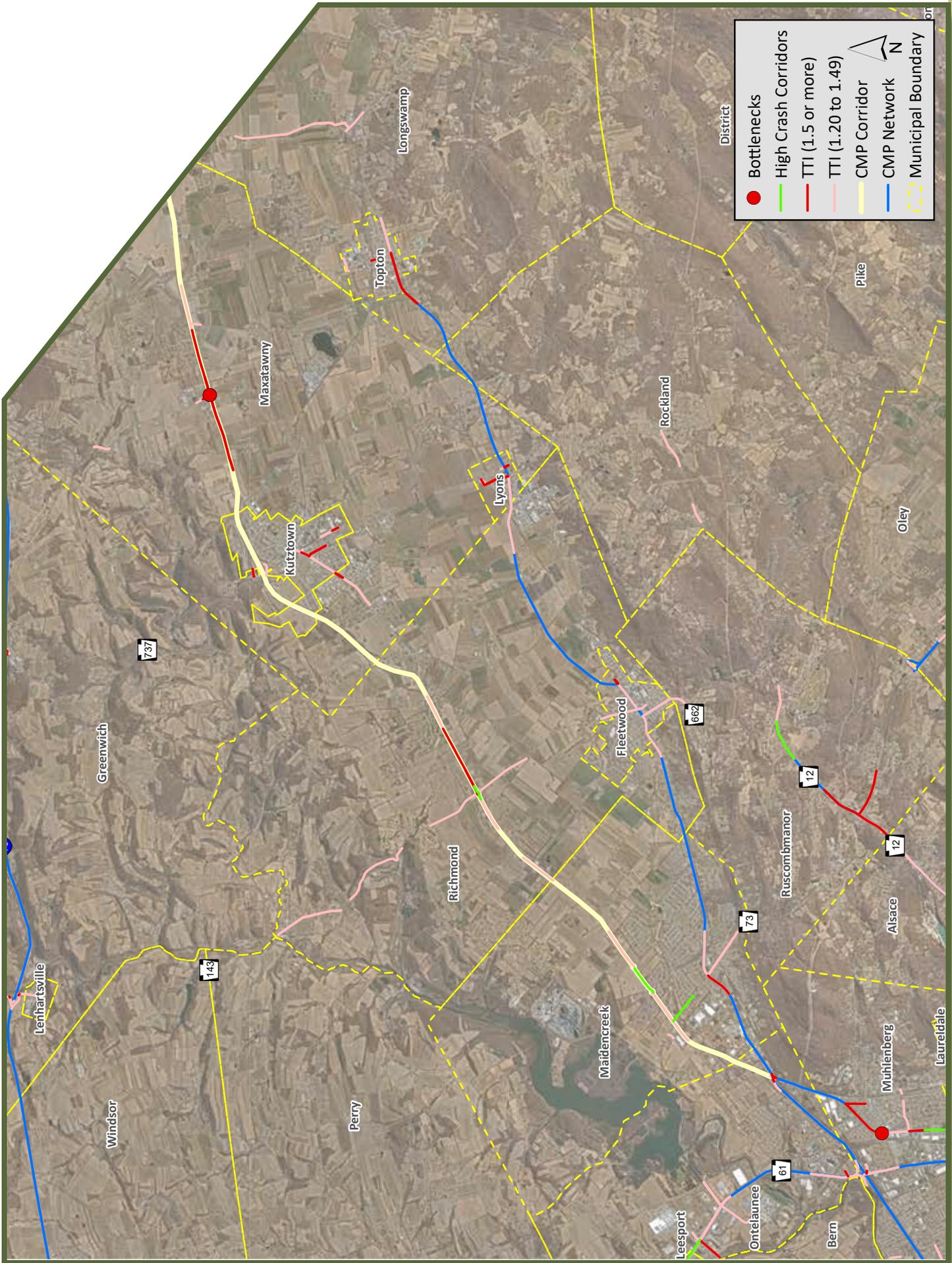
- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2A** PennDOT, MPO and BARTA staff and should continue working with organizations like Commuter Services of Pennsylvania that promote alternative modes of transportation.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.
- 4G** Reconstruct all freeway interchanges to meet current design standards.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief.
- 6C** Work with municipalities to use land use tools to preserve future rights-of-way.
- OTHER** Berks County officials should coordinate with Lehigh County officials on roadway expansion/improvements north of the corridor.

## Roadway Measures

Corridor Length (Miles): **15.00**  
Traffic (AADT): **10,297 – 47,719**  
Truck %: **10 – 21**  
Avg. AM Peak Speed (MPH): **43.60**  
Avg. PM Peak Speed (MPH): **41.20**  
TTI: **1.25** | PTI: **1.62**

## Additional Factors

NHS: **Yes**  
High V/C Corridor: **Yes**  
High Crash Corridor: **Yes** (U.S. 222/662 intersection)  
Critical Freight Corridor: **Yes**  
Bottleneck Location: **Yes** (Long Lane/222 - construction related)  
Transit Route: **No**



# U.S. 222 BUSINESS (U.S. 222 Merge to U.S. 422 West Shore Bypass)

## Summary

Lancaster Avenue (U.S. 222 Business) traverses older, dense residential and commercial development in southwest Reading, neighboring boroughs and a small portion of Cumru Township. Peak hour congestion occurs regularly throughout the corridor, particularly at the PA 724 and PA 10/U.S. 422 intersections. The roadway consists of two lanes each direction in Reading with no turn lanes, then turns into a single lane with center turn lanes or protected left lanes in Cumru and Shillington. After Museum Road, Lancaster Pike reverts back to two lanes each direction. The highly congested intersection at PA 10/U.S. 422 will be reconfigured during the West Shore Bypass reconstruction.

## Planned Improvements

- MPMS #102161 – U.S. 222 Business corridor safety improvements from Kenhorst Borough line to PA 10 (Schuylkill River Trail Bridge).
- MPMS #114439 – West Shore Bypass reconstruction project. Project involves highway reconstruction with ramp reconfiguration (222/WSB), bridge replacement and preventative maintenance activities.

## Problem Area(s) Identified

- High congestion areas located between Revere Boulevard and Thomas Drive, Museum Road and South Sterley Street, New Holland Avenue and South Waverly Street, and Elkins Avenue and South Summit Avenue.
- High crash area between New Holland Road and Morgantown Road.

## Strategies to Preserve Corridor Capacity

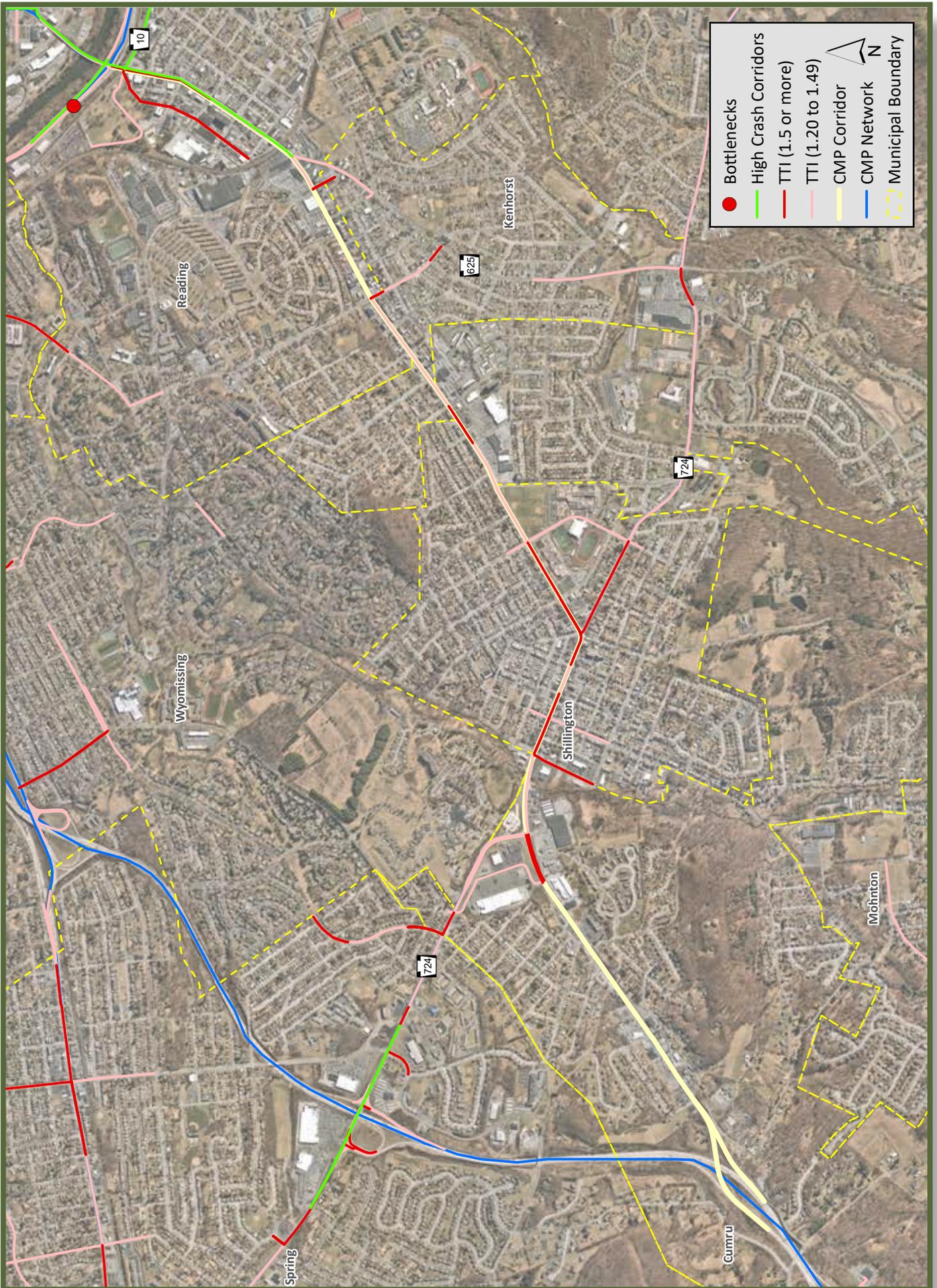
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.
- OTHER** On-street parking elimination where turn lanes are needed.

### Roadway Measures

Corridor Length (Miles): **4.58**  
Traffic (AADT): **9,998 – 24,807**  
Truck %: **2 – 5**  
Avg. AM Peak Speed (MPH): **27.50**  
Avg. PM Peak Speed (MPH): **24.90**  
TTI: **1.35** | PTI: **1.79**

### Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# U.S. 222 BUSINESS

(U.S. 422 West Shore Bypass to PA 12)

## Summary

This central portion of U.S. 222 Business traverses the residential and commercial heart of the City of Reading. Congestion occurs throughout the corridor as a result of signals, lack of left-turn lanes, on-street parking, daily commuter traffic to/from downtown businesses. This segment also serves to connect suburban visitors with downtown attractions.

## Planned Improvements

- MPMS #114439 – Highway reconstruction/widening with ramp reconstruction, bridge replacement, and bridge preventive maintenance activities. West shore bypass from Buttonwood Street overpass in West Reading to Schuylkill River Bridge east of I-176 in Exeter Township.
- MPMS #10613 – Bridge replacement of the Fifth Street Bridge over the Norfolk Southern railroad tracks in the City of Reading.

## Problem Area(s) Identified

- High crash corridor on the Lancaster Avenue Bridge, 4th Street between Chestnut Street and Laurel Street, and 5th Street (US 222 Business) between Centre Avenue and Penn Street (US 422 Business).
- High congestion area between Bern Street and Hiesters Lane.

## Strategies to Preserve Corridor Capacity

- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

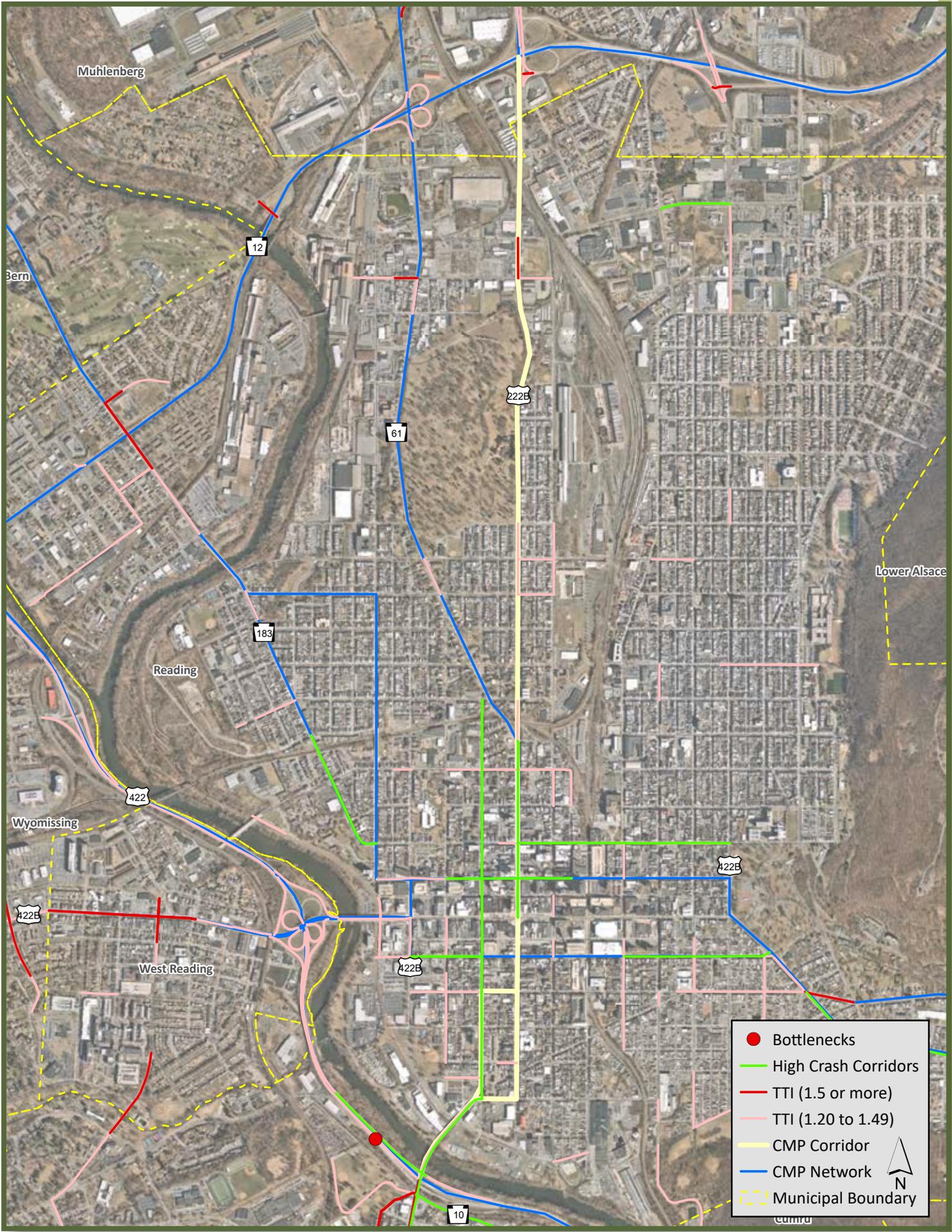
**OTHER** Wayfinding signage in downtown area.

## Roadway Measures

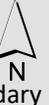
Corridor Length (Miles): **4.20**  
Traffic (AADT): **1,012 – 21,854**  
Truck %: **2 – 8**  
Avg. AM Peak Speed (MPH): **19.60**  
Avg. PM Peak Speed (MPH): **19.20**  
TTI: **1.55** | PTI: **2.04**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- - - Municipal Boundary



# U.S. 222 BUSINESS (PA 12 to U.S. 222 Merge)

## Summary

North of Reading, U.S. 222 Business traverses the heart of Muhlenberg Township's business district. The southern half of the corridor contains multiple strip shopping centers, the Fairground Square Mall, and several big box retailers with individual businesses scattered throughout. A number of neighborhood streets intersect at skewed angles. The northern portion also contains strip and big box retail, but also more residential development as well.

## Planned Improvements

- MPMS #114378 – Bridge preventive maintenance on the bridge carrying Business U.S. 222 over Laurel Run.

## Problem Area(s) Identified

- High congestion between Madison Avenue and Bellevue Avenue, North Temple Boulevard and Water Street, and Tuckerton Road and Kutztown Road.
- Bottleneck location Tuckerton Road.
- High crash area between the Laureldale Borough line and South Temple Boulevard.

## Strategies to Preserve Corridor Capacity

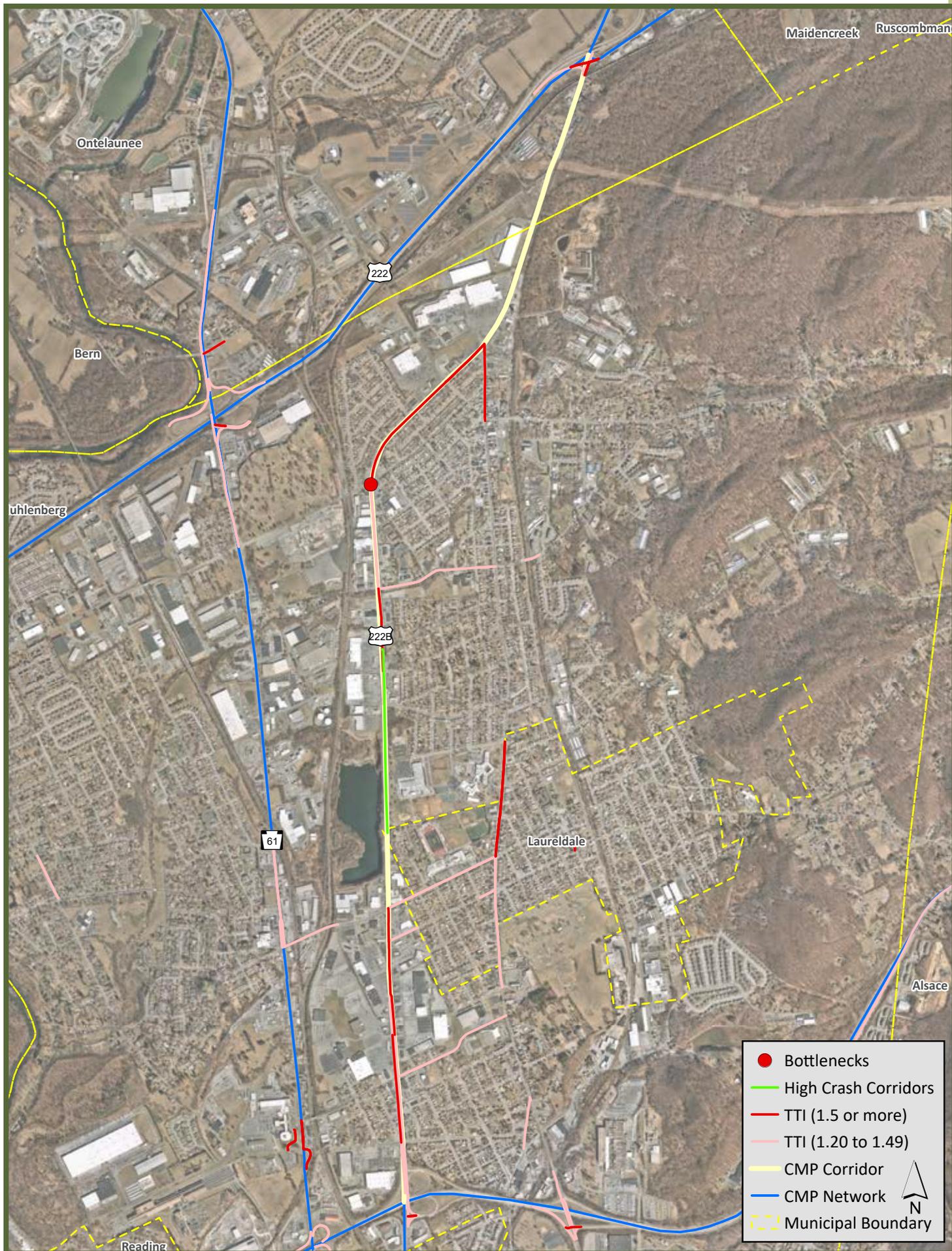
- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 1D** Municipalities should require bicycle and pedestrian accommodations throughout residential and commercial developments that promote accessibility and connectivity within and at the edges.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- OTHER** Coordinate between PennDOT, RATS and township officials to begin implementing roadway improvements called for in the Muhlenberg Township Corridor Revitalization Study.

## Roadway Measures

Corridor Length (Miles): **4.20**  
Traffic (AADT): **15,130 – 31,612**  
Truck %: **3 – 10**  
Avg. AM Peak Speed (MPH): **31.40**  
Avg. PM Peak Speed (MPH): **27.90**  
TTI: **1.48** | PTI: **1.98**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: Yes (at Tuckerton Road intersection)  
Transit Route: **Yes**



# U.S. 422 (Lebanon County to U.S. 222 Merge)

## Summary

From the point where U.S. 222/422 merges with Penn Ave. (U.S. 422 Business), the roadway narrows to a mostly two-lane cross section with either protected left-turn lanes or center turn lanes throughout most of the corridor. This portion of U.S. 422 serves both regional traffic to/from Lebanon and Harrisburg, and the densely developed western suburbs of Berks County. Highway commercial development lines the roadway, particularly in the eastern section and in the boroughs. Signalized intersections occur throughout the corridor, particularly in the eastern section and within Wernersville and Robesonia boroughs. Peak hour congestion occurs regularly in West Lawn/Spring Township/Sinking Spring Borough, and in Wernersville and Robesonia boroughs. South of U.S. 422, Columbia Ave. and Mountain Home Road form a National Highway System Intermodal Connector, linking petroleum pipelines in the area to the roadway network. Historically, bottleneck conditions occur at the intersection of U.S. 422 (Penn Ave) and PA 724 (Shillington Rd). Because of this, the Borough of Sinking Spring has been working with PennDOT on plans to reconfigure this intersection to improve efficiency. Parallel to this project is an ongoing plan for the Borough to create a new road by adding a connection between Shillington Road and Columbia Avenue.

## Planned Improvements

- MPMS #87688 – U.S. 422 (Penn Avenue) at Shillington Road and Mull Avenue intersection realignments in Sinking Spring Borough.
- MPMS #92070 – Bridge rehabilitation of the U.S. 422 (Penn Avenue) over the Cacoosing Creek in Sinking Spring Borough.

## Strategies to Preserve Corridor Capacity

- 2A** PennDOT, MPO and BARTA staff and should continue working with organizations like Commuter Services of Pennsylvania that promote alternative modes of transportation.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

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## Roadway Measures

Corridor Length (Miles): **15.54**

Traffic (AADT): **8,466 – 43,730**

Truck %: **3 – 9**

Avg. AM Peak Speed (MPH): **35.60**

Avg. PM Peak Speed (MPH): **34.60**

TTI: **1.16** | PTI: **1.44**

## Additional Factors

NHS: **Yes**

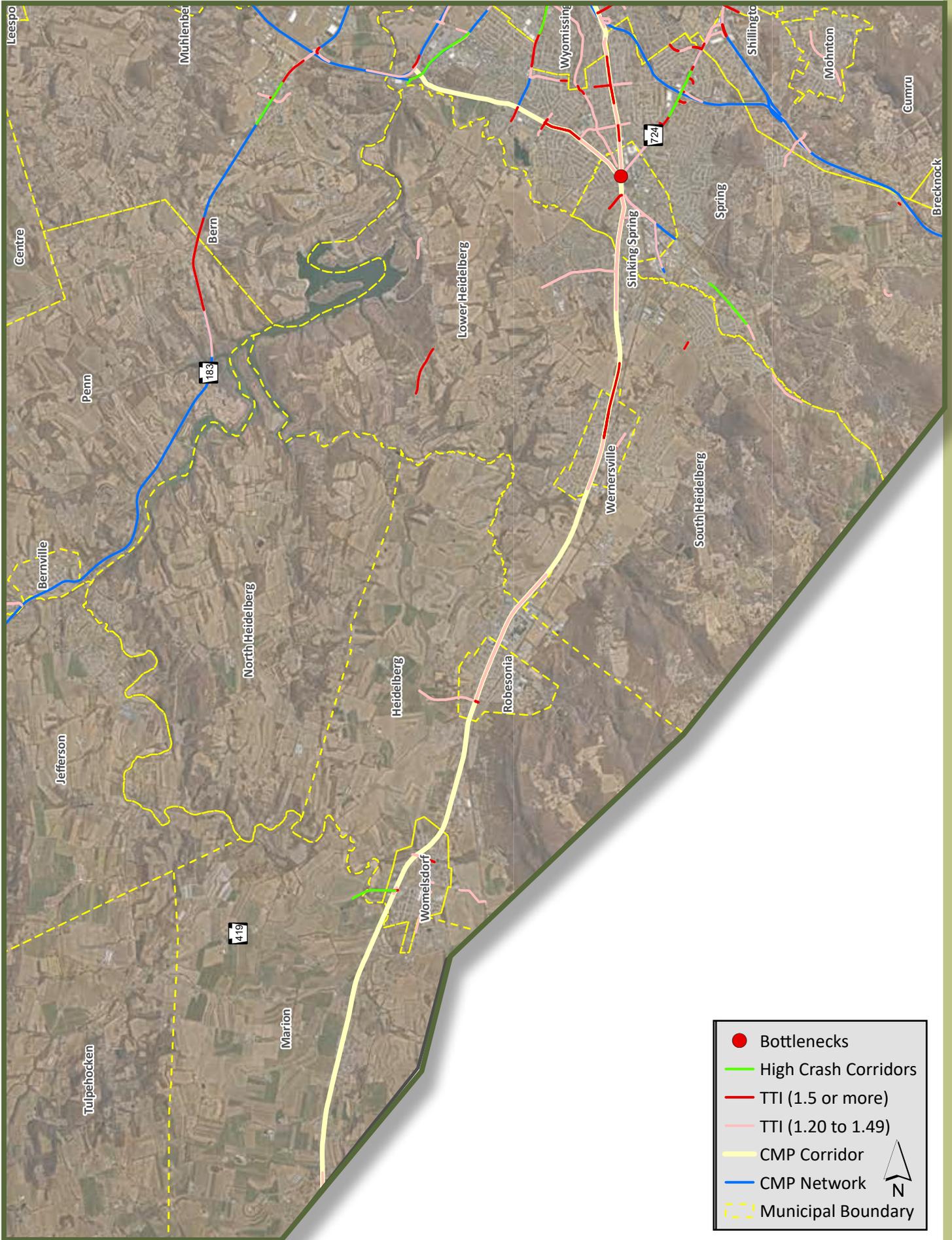
High V/C Corridor (PM Peak): **Yes**

High Crash Corridor: **No**

Critical Freight Corridor: **No**

Bottleneck Location: **Yes** (U.S. 422 @ U.S. 724)

Transit Route: **Yes**



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- Municipal Boundary

# U.S. 422 (West Shore Bypass)

## Summary

Containing the most heavily-traveled expressway corridor in Berks County, the West Shore Bypass carries local and regional traffic on U.S. 422. Built in the 1960's, the roadway has difficulty carrying the volume of traffic using it today. Interchanges are obsolete, and traffic stacking on ramps occurs regularly during peak periods. Detour routes are limited and involve traveling on local streets through the urban area.

## Planned Improvements

- MPMS #114439 – West Shore Bypass from Buttonwood Street overpass in West Reading to Schuylkill River Bridge east of I-176 in Exeter Township. Project includes highway reconstruction with ramp reconfiguration, bridge replacement and preventive maintenance activities.
- MPMS #72814 – Reconstructing and widening approximately 5 miles of U.S. 422 (West Shore Bypass) from PA 12 in Wyomissing Borough to the Schuylkill River Bridge east of Interstate 176 into Exeter Township including the interchanges at N. Wyomissing Boulevard, Penn Street/Penn Avenue, Lancaster Avenue, and Interstate 176.

## Strategies to Preserve Corridor Capacity

- 2A** PennDOT, MPO and BARTA staff and should continue working with organizations like Commuter Services of Pennsylvania that promote alternative modes of transportation.
- 5A** MPO staff should coordinate with PennDOT District staff and review the District Safety Plan to identify areas where accidents exacerbate existing congestion issues.
- 5C** PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief, particularly southbound between Broadcasting Road and U.S. 422 West.
- 6B** Explore the use of 'hardened shoulders' to add temporary capacity where feasible.

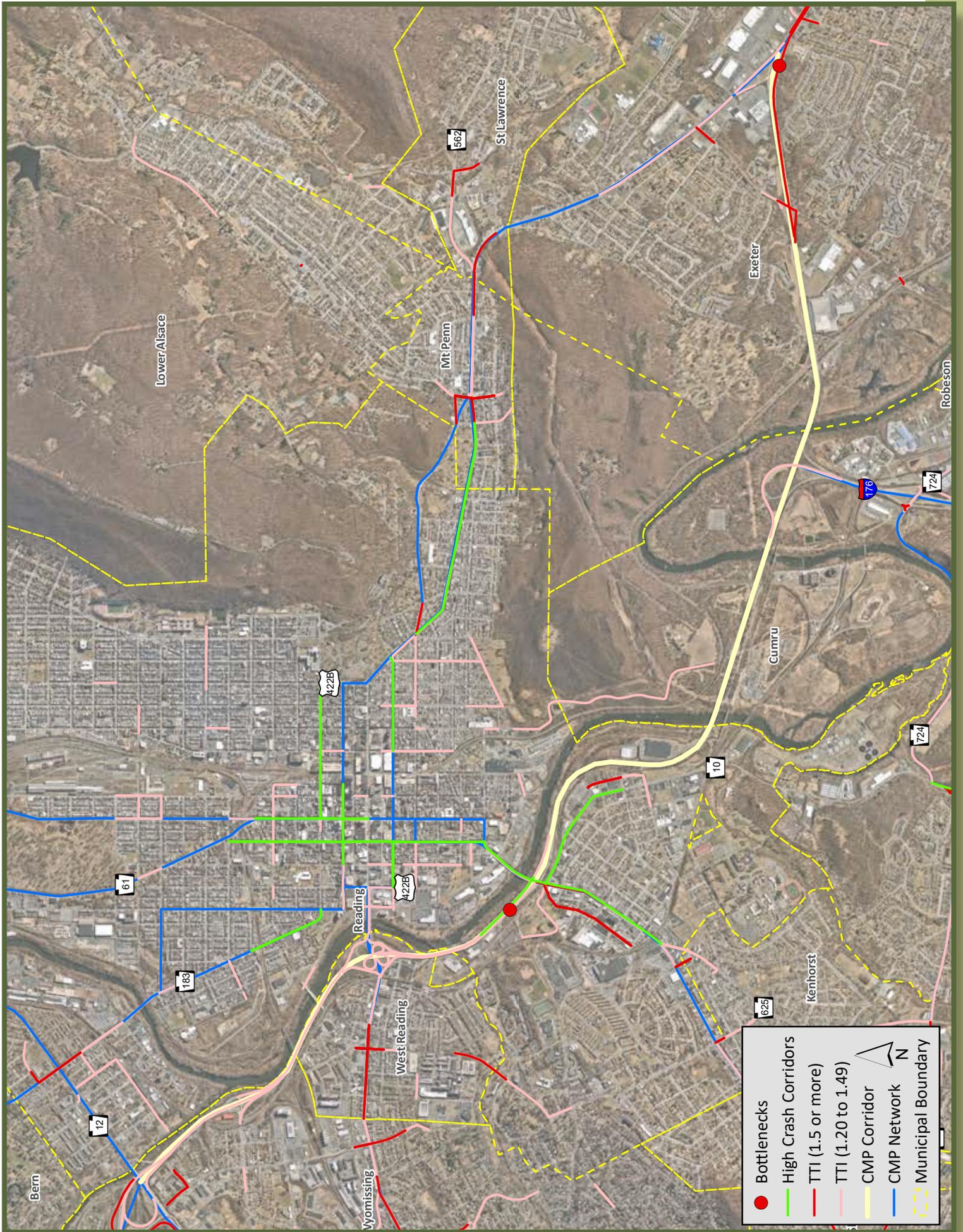
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## Roadway Measures

Corridor Length (Miles): **7.00**  
Traffic (AADT): **33,543 – 84,788**  
Truck %: **5 – 9**  
Avg. AM Peak Speed (MPH): **55.40**  
Avg. PM Peak Speed (MPH): **51.20**  
TTI: **0.98** | PTI: **1.12**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **Yes** (Multiple ramps along corridor)  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **Yes**  
Bottleneck Location: Yes (eastbound @ ramp to Lancaster Avenue)  
Transit Route: **No**



# U.S. 422 (West Shore Bypass to Montgomery County)

## Summary

U.S. 422 becomes a four-lane divided arterial through this entire corridor. This corridor grew residentially and commercially after the 1980's as the Pottstown Bypass increased access to the Philadelphia suburbs. Left turns are permitted mostly at signalized intersections, with exceptions where the roadway physically splits. Congestion occurs at signalized intersections throughout the corridor.

## Planned Improvements

- MPMS #110075 – Traffic signal upgrades of 13 signalized intersections to be more traffic responsive between Pineland Road and River Bridge Road on U.S. 422 in Amity and Exeter Townships.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4A** Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.

## Roadway Measures

Corridor Length (Miles): **10.08**  
Traffic (AADT): **26,154 – 35,671**  
Truck %: **5 – 9**  
Avg. AM Peak Speed (MPH): **41.40**  
Avg. PM Peak Speed (MPH): **39.70**  
TTI: **1.19** | PTI: **1.50**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: **Yes** (@ U.S. 422/422Business)  
Transit Route: **Yes** (western portion of corridor contains transit route)



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- Municipal Boundary

# U.S. 422 BUSINESS (U.S. 222 Merge to U.S. 422 Interchange)

## Summary

Penn Avenue serves as West Reading Borough's 'Main Street', along with providing commuter access between Reading and Wyomissing and western Berks County. Penn Avenue through both boroughs contains a single lane in each direction with either protected left- or center left-turn lanes at most intersections. The corridor is lined with commercial and professional businesses, has on-street parking, and traffic signals throughout. A majority of the congested segments occur from State Hill Road east to U.S. 422.

## Planned Improvements

- MPMS #117620 – Congestion reduction project at the Business 422 and State Hill Road (SR 3023) intersection by conversion into a roundabout.
- MPMS #114439 – Penn Avenue/West Shore Bypass interchange reconfiguration and widening.

## Problem Area(s) Identified

- Areas of high congestion between State Hill Road and Reading Boulevard and between 8th Avenue and South 4th Avenue.

## Strategies to Preserve Corridor Capacity

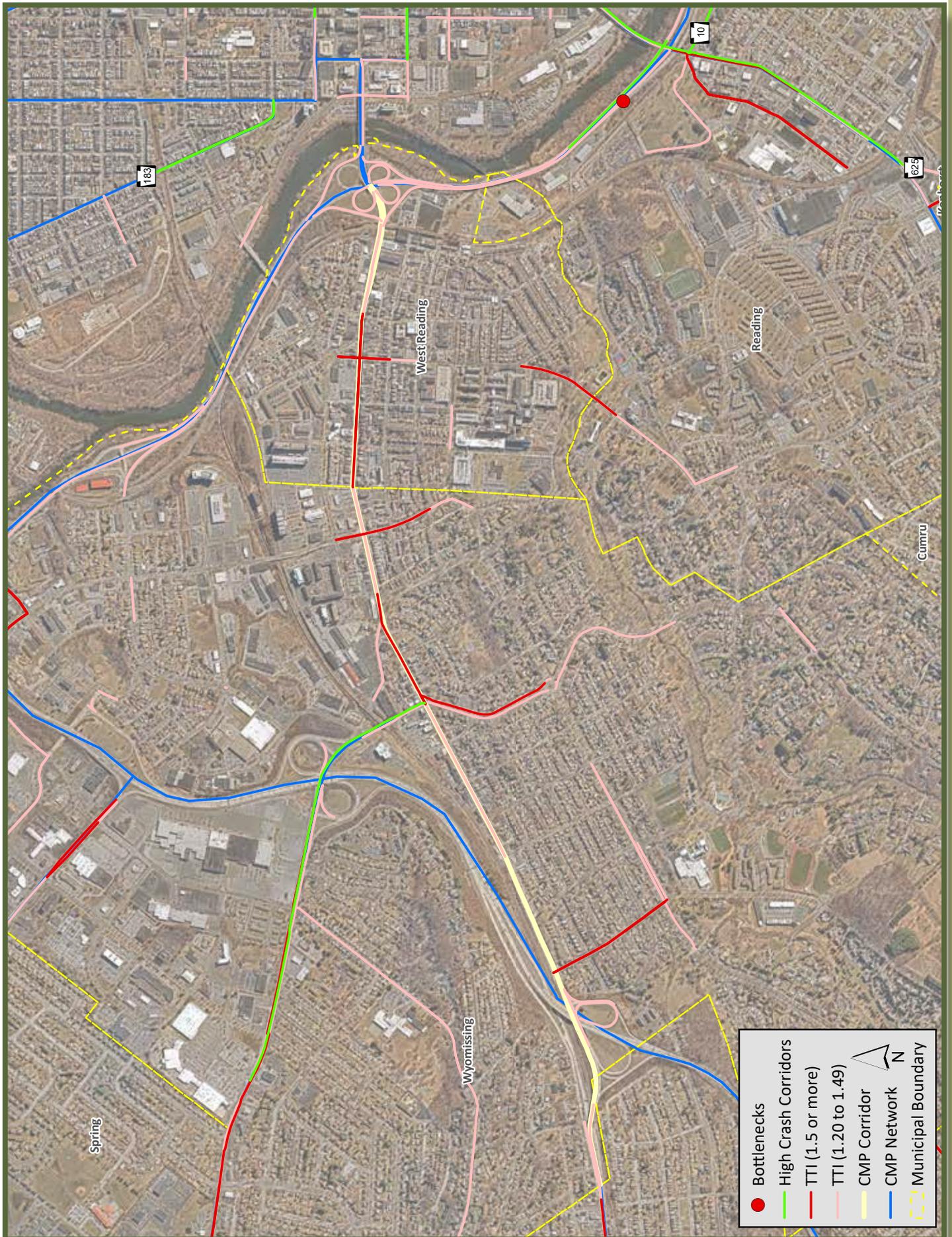
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- OTHER** Explore improvements to parallel routes to accommodate local traffic.
- OTHER** Create additional off-street parking in commercial areas.

## Roadway Measures

Corridor Length (Miles): **2.32**  
Traffic (AADT): **10,470 – 27,173**  
Truck %: **2 – 5**  
Avg. AM Peak Speed (MPH): **23.70**  
Avg. PM Peak Speed (MPH): **21.00**  
TTI: **1.36** | PTI: **1.81**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **Yes**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# U.S. 422 BUSINESS (Penn Street Bridge to U.S 422 Merge)

## Summary

In Reading, U.S. 422 Business splits between one-way urban streets through the city core, then traverses residential and commercial areas of Mount Penn Borough and Exeter Township. Lane configurations vary from one to three lanes on either one way or two way streets depending on location and signals are present throughout. On-street parking on sections in Reading and Mount Penn Borough also create friction to through traffic, and proximity to local businesses and residences create pedestrian and bicycle traffic. Congested segments are not clustered; rather, they are spread throughout the corridor. The eastern section of the corridor links to a number of strip commercial centers and to U.S. 422.

## Planned Improvements

None.

## Problem Area(s) Identified

- Areas of high crashes in the City of Reading along portions of Washington Street, Franklin Street, and Perkiomen Avenue.
- High congestion at the intersections with Saint Lawrence Avenue and Mineral Spring Road.

## Strategies to Preserve Corridor Capacity

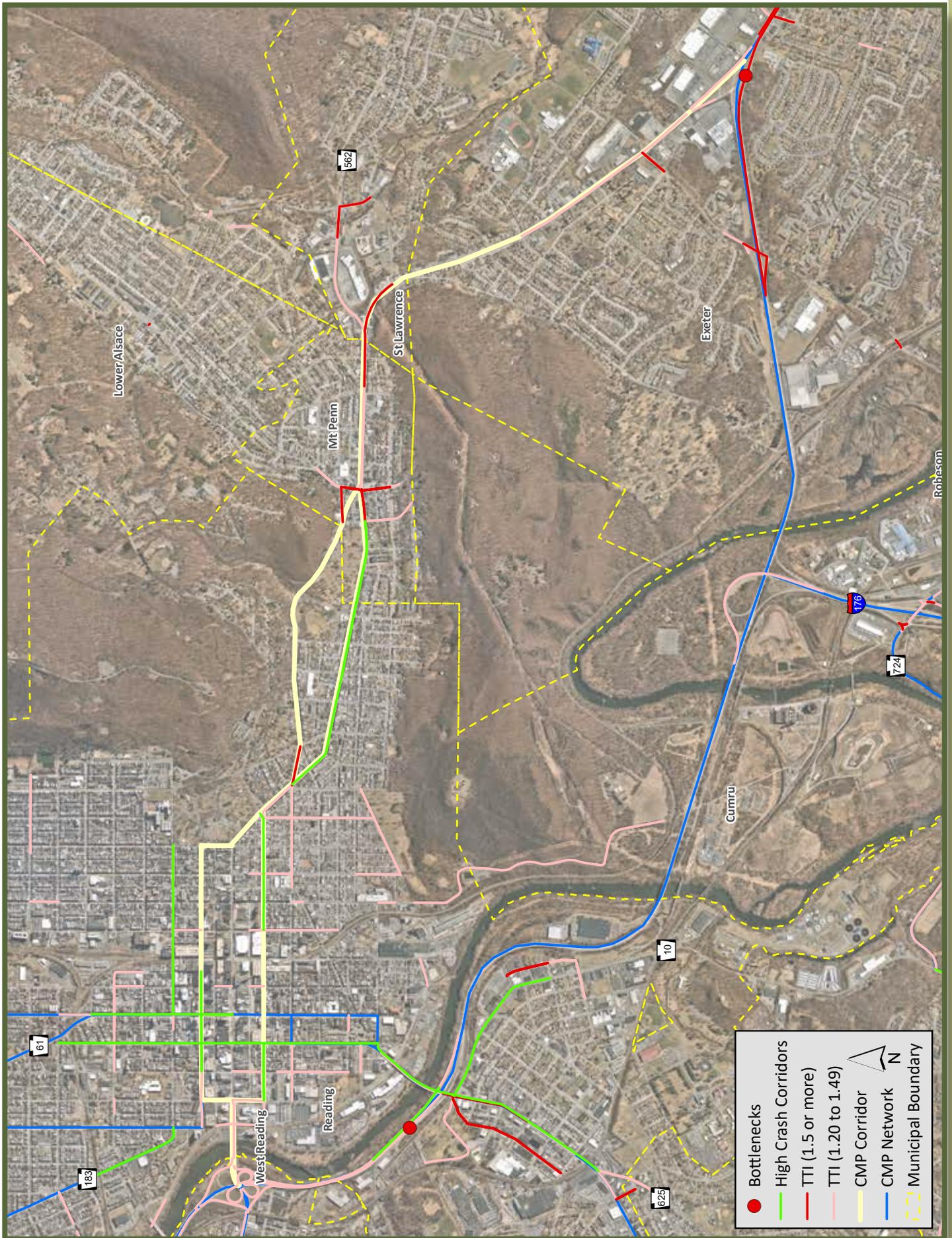
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- OTHER** Wayfinding signage in downtown area.

## Roadway Measures

Corridor Length (Miles): **4.84**  
Traffic (AADT): **4,183 – 22,599**  
Truck %: **1 – 7**  
Avg. AM Peak Speed (MPH): **22.60**  
Avg. PM Peak Speed (MPH): **21.50**  
TTI: **1.44** | PTI: **1.83**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes** (multiple locations in the City of Reading)  
Critical Freight Corridor: **No**  
Bottleneck Location: **Yes** (@ U.S. 422/422Business)  
Transit Route: **Yes**



# PA 562 and SR 2067

## Summary

PA 562 enters Boyertown Borough from the southwest, then terminates at PA 73 and becomes SR 2067 (Reading Avenue North). PA 562 is one of two state routes that connect Boyertown with the Reading Urban Area (PA 73 being the other). These roadways also connect with PA 100 serving the Lehigh Valley and Pottstown areas. Locally, the roadway is bordered by residential uses and the Boyertown Downtown District, and is close to Boyertown Area School District facilities. Pedestrian improvements have taken place in the downtown Boyertown area over the last number of years to improve the main street increase pedestrian safety and circulation.

## Planned Improvements

None.

## Problem Area(s) Identified

- Area of moderate congestion between 2nd Street and 3rd Street.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

## Roadway Measures (PA 562 and SR 2067)

Corridor Length (Miles): **2.99**

Traffic (AADT): **8,399 – 9,703**

Truck %: **6 – 8**

Avg. AM Peak Speed (MPH): **27.80**

Avg. PM Peak Speed (MPH): **27.20**

TTI: **1.32** | PTI: **1.59**

## Additional Factors

NHS: **No**

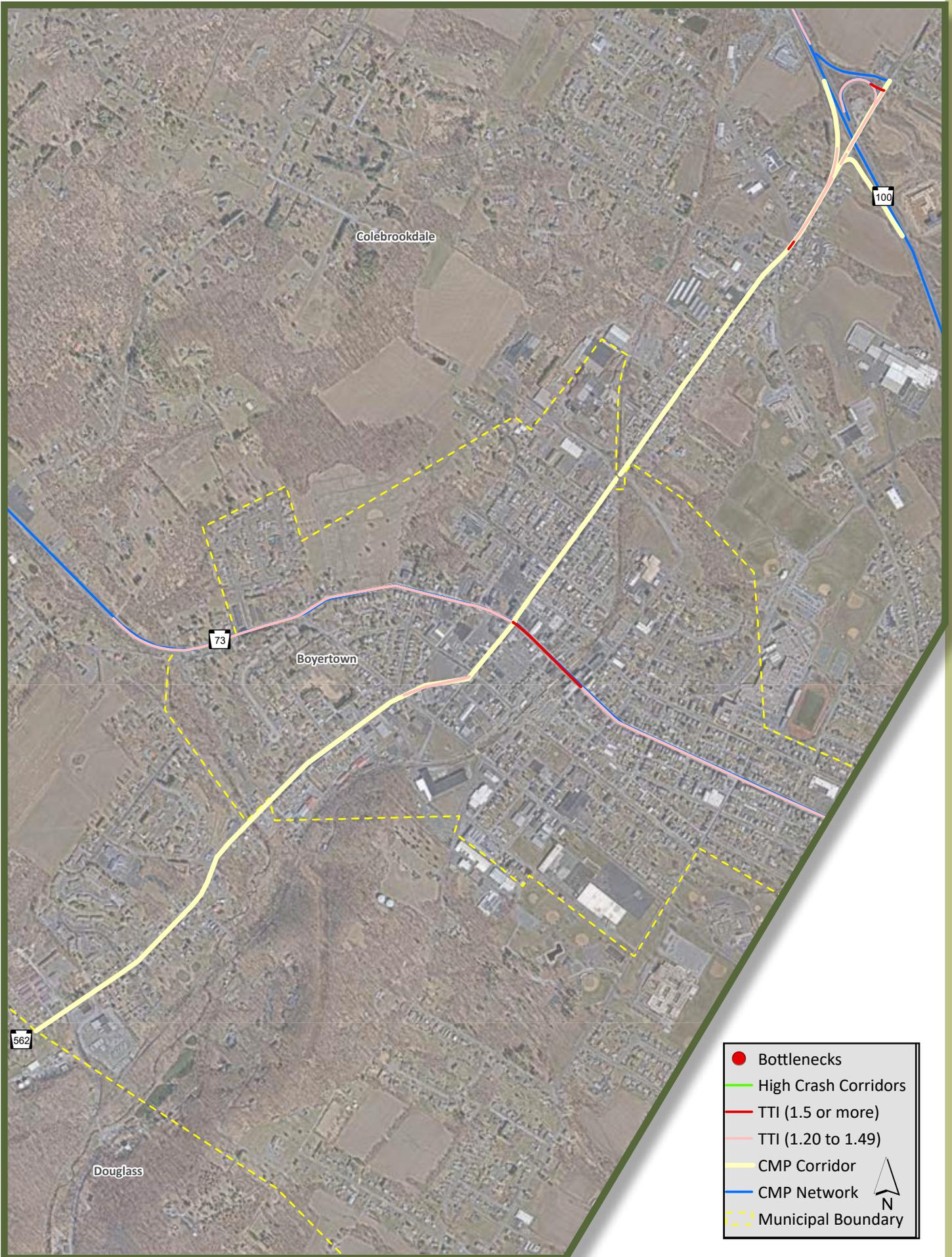
High V/C Corridor (PM Peak): **Yes**

High Crash Corridor: **No**

Critical Freight Corridor: **No**

Bottleneck Location: **No**

Transit Route: **No**



# PA 724 (Sinking Spring to U.S. 222 Business)

## Summary

Beginning at Penn Avenue (U.S. 422) in Sinking Spring, PA 724 traverses mixed suburban residential and commercial development, and provides direct access to U.S. 222. The corridor is signalized, and lane configurations vary. Sinking Spring Borough officials are spearheading efforts to reconfigure portions of the corridor containing four offset intersections in the borough including U.S. 422/PA 724. Congestion occurs regularly throughout the corridor. The heaviest congestion occurs at peak times at the signalized intersections with U.S. 422, Spohn Road, Jefferson and Harvard Boulevards and U.S. 222 Business.

## Planned Improvements

- MPMS #87688 – U.S. 422 (Penn Avenue) at Shillington Road and Mull Avenue intersection realignments in Sinking Spring Borough.

## Problem Area(s) Identified

- High congestion and high crash areas between Spohn Road and Cloister Court.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief, particularly southbound between Broadcasting Road and U.S. 422 West.
- 6C** Work with municipalities to use land use tools to preserve future rights-of-way.

## Roadway Measures

Corridor Length (Miles): **2.48**  
Traffic (AADT): **5,977 – 11,953**  
Truck %: **3-5**  
Avg. AM Peak Speed (MPH): **24.50**  
Avg. PM Peak Speed (MPH): **22.10**  
TTI: **1.59** | PTI: **2.13**

## Additional Factors

NHS: **Yes**  
High V/C Corridor (PM Peak): **Yes**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: Yes (western end at U.S. 422 (Penn Ave.) intersection)  
Transit Route: **Yes**



# PA 724 (U.S. 222 Business to Interstate 176)

## Summary

This corridor is diverse with older, dense suburban development on the western side of the PA 10 intersection, and rural low density development east of PA 10. Most of the congested segments occur on the western side, particularly at U.S. 222 Business and PA 625. The double-signal intersection with PA 10 was improved within the last 10 years but still exhibits some peak hour congestion.

## Planned Improvements

None.

## Problem Area(s) Identified

- Areas of high congestion between Business 222 and South Waverly Street and Cedar Top Road and New Holland Road.
- Moderate congestion along the length of the corridor.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4G** Reconstruct all freeway interchanges to meet current design standards.

## Roadway Measures

Corridor Length (Miles): **4.07**  
Traffic (AADT): **8,590 – 19,005**  
Truck %: **3**  
Avg. AM Peak Speed (MPH): **29.50**  
Avg. PM Peak Speed (MPH): **28.80**  
TTI: **1.29** | PTI: **1.72**

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes** (@ PA 10)  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes** (only part of corridor is serviced)



# PA 724 (Interstate 176 to Birdsboro) and PA 345 (PA 724 to U.S. 422)

## Summary

This corridor provides an eastbound commuter alternative to U.S. 422, as it continues from Berks to the Pottstown urban area and beyond. Though a mostly rural roadway, older village development occurs in the western segment, and two active quarries are served as well. Birdsboro Borough anchors the eastern end, where PA 724 and PA 345 intersect. The new PA 345 bridge over the Schuylkill River was completed in 2015, which provides direct access to an active landfill and U.S. 422.

## Planned Improvements

- MPMS #10700 – Bridge replacement/rehabilitation on PA 724 (Gibraltar Road) bridge over the Allegheny Creek in Robeson Township.

## Problem Area(s) Identified

- PA 345 – High congestion between northbound and southbound US 422.
- PA 724 – High congestion between PA 568 and Gibraltar Road.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4C** Review signalized intersections for signal coordination and optimization.
- 4F** Explore non-traditional intersection treatments such as roundabouts to gain additional throughput.
- 4G** Reconstruct all freeway interchanges to meet current design standards.

### Roadway Measures (PA 724)

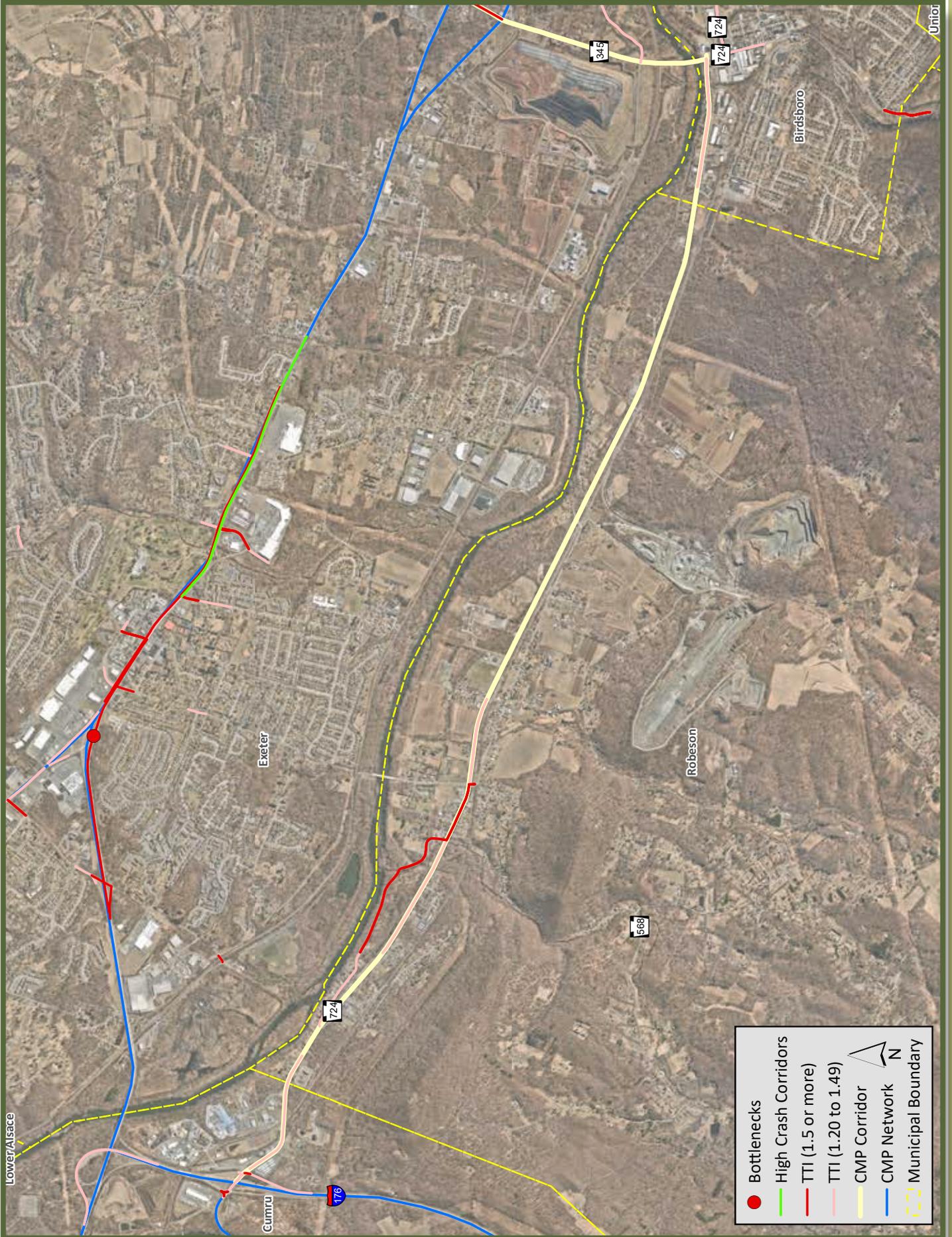
Corridor Length (Miles): **5.44**  
Traffic (AADT): **9,040 – 10,608**  
Truck %: **8 – 10**  
Avg. AM Peak Speed (MPH): **41.60**  
Avg. PM Peak Speed (MPH): **41.20**  
TTI: **1.21** | PTI: **1.43**

### Roadway Measures (PA 345)

Corridor Length (Miles): **1.17**  
Traffic (AADT): **3,554 – 9,630**  
Truck %: **7 – 14**  
Avg. AM Peak Speed (MPH): **29.80**  
Avg. PM Peak Speed (MPH): **31.40**  
TTI: **1.33** | PTI: **1.66**

## Additional Factors

- NHS: **No**
- High V/C Corridor (PM Peak): **No**
- High Crash Corridor: **No**
- Critical Freight Corridor: **No**
- Bottleneck Location: **No**
- Transit Route: **YES** (along PA 345 into Birdsboro Borough)



# SR 1010

## Summary

The longest non-Interstate corridor in the CMP, this portion of SR 1010 serves eight municipalities of varying densities and land uses with one lane in each direction, few turn lanes and scattered signals. More importantly, this roadway serves as an alternative to U.S. 222 and, at times, a detour route during crashes on U.S. 222. PA 73 crosses SR 1010 in the Village of Blandon, where congestion occurs regularly. SR 1010 serves East Penn Manufacturing, Berks County's largest manufacturing employer. SR 1010 continues east of this CMP corridor and connects with PA 29/PA 100, linking traffic to the Lehigh Valley and Pottstown.

## Planned Improvements

None.

## Problem Area(s) Identified

- Areas of high congestion between Blandon Avenue and PA 73 and Zimmerman Lane and Haas Street in the Borough of Topton.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 1C** Municipalities should require new development to maintain and enhance street and sidewalk connectivity.
- 1D** Municipalities should require bicycle and pedestrian accommodations throughout residential and commercial developments that promote accessibility and connectivity within and at the edges.
- 2B** Commuter Services staff should continue working with employers to promote and provide incentives for commuters to use alternative modes.
- 2C** MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.

## Roadway Measures

Corridor Length (Miles): **13.42**

Traffic (AADT): **5,891 – 14,184**

Truck %: **4 – 10**

Avg. AM Peak Speed (MPH): **35.90**

Avg. PM Peak Speed (MPH): **37.10**

TTI: **1.30** | PTI: **1.61**

## Additional Factors

NHS: **No**

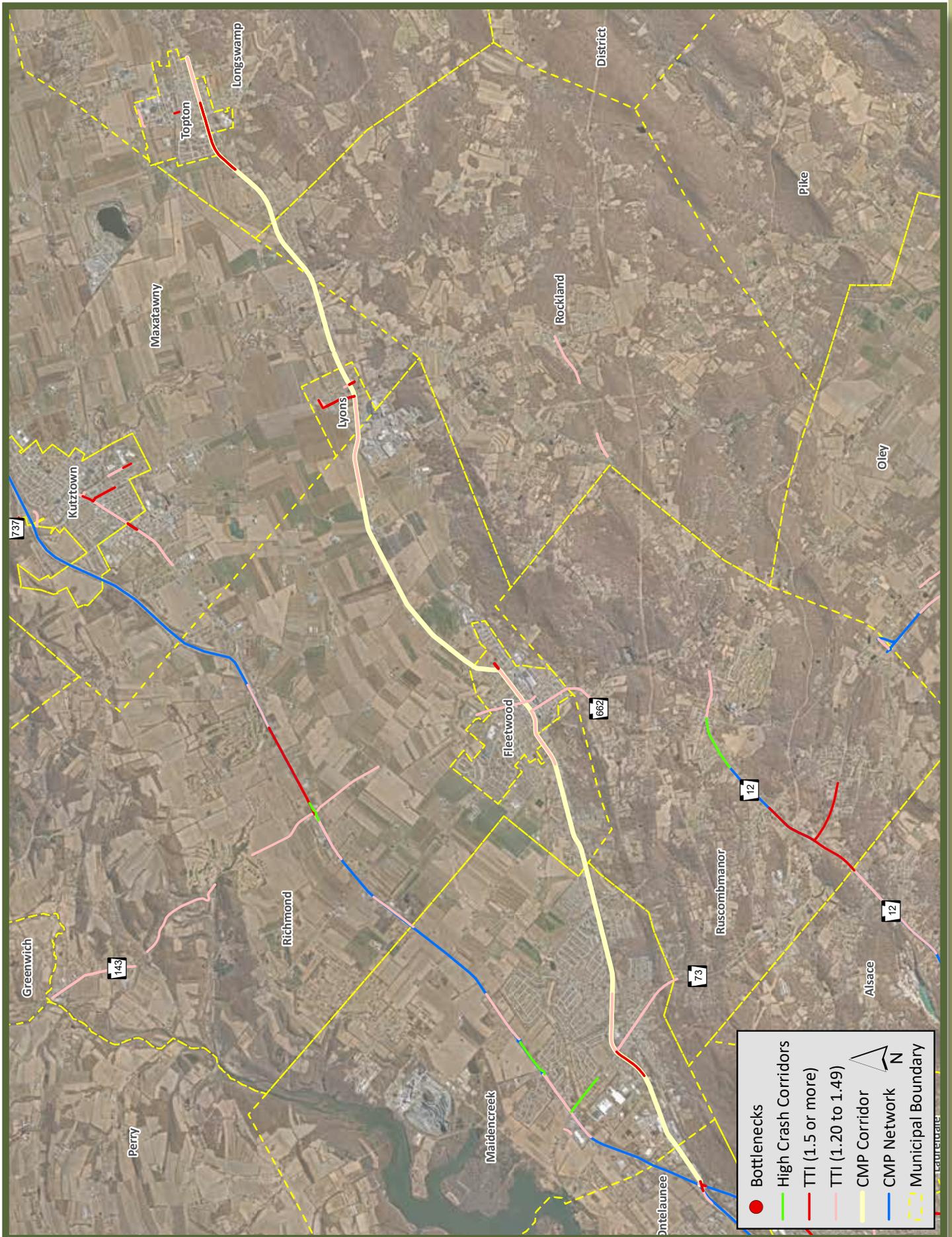
High V/C Corridor (PM Peak): **Yes**  
(within Borough of Fleetwood)

High Crash Corridor: **No**

Critical Freight Corridor: **Yes**  
(U.S. 222 to PA 662)

Bottleneck Location: **No**

Transit Route: **Yes**



<span style="color: red;">●</span>	Bottlenecks
<span style="color: green;">—</span>	High Crash Corridors
<span style="color: red; font-weight: bold;">—</span>	TTI (1.5 or more)
<span style="color: red;">—</span>	TTI (1.20 to 1.49)
<span style="color: yellow;">—</span>	CMP Corridor
<span style="color: blue;">—</span>	CMP Network
<span style="border-bottom: 1px dashed yellow; width: 20px; display: inline-block;"></span>	Municipal Boundary

N

# SR 3021 (Paper Mill Road)

## Summary

Paper Mill Road serves a highly developed commercial and residential area in Wyomissing Borough and Spring Township. SR 3021 provides direct access to U.S. 222 at two separate points, thus making it a vital connection. Much of the development in this corridor has occurred since the 1970's, and improvements to the roadway have been sporadic in nature. The roadway has a mostly 4-lane and 5-lane cross section, though lane function varies along the corridor. There are multiple signals and driveway access throughout. One large agricultural parcel remains undeveloped with the potential to add significant traffic in the future. As of this update there is currently a sketch proposal for a mixed-use development on this site. The applicant has also filed a Transportation Impact Study (TIS) Determination and Scoping Meeting application for the proposed project on 3-2-2023.

## Planned Improvements

None.

## Problem Area(s) Identified

- High crash corridor from Van Reed Road to Broadcasting Road.
- High congestion area from Berkshire Boulevard to Woodland Road.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief, particularly southbound between Broadcasting Road and U.S. 422 West.
- 6C** Work with municipalities to use land use tools to preserve future rights-of-way.

## Roadway Measures

Corridor Length (Miles): **1.08**  
Traffic (AADT): **8,078 - 16,170**  
Truck %: **2**  
Avg. AM Peak Speed (MPH): **29.10**  
Avg. PM Peak Speed (MPH): **25.30**  
TTI: **1.29** | PTI: **1.64**

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# SR 3023 (State Hill Road)

## Summary

State Hill Road serves a highly developed commercial and residential area in Wyomissing Borough and Spring Township. Much of the development in this corridor has occurred since the 1970's, and improvements to the roadway have been sporadic in nature. The roadway varies from a 2-lane to a 5-lane cross section with multiple signals and uncontrolled driveway access.

## Planned Improvements

- MPMS #117603 – Congestion reduction project at SR 3023 (State Hill Road) intersections with SR 222 southbound ramps, SR 222 northbound ramps and Spring Street/Granite Pointe Drive with addition of a roundabout at SR 222 southbound and addition of a roundabout combining SR 222 northbound and Spring Street.
- MPMS #105954 – Corridor safety improvements along SR 3023 (State Hill Road) in Wyomissing Borough. Improvements to include widening, access management, and intersection upgrades.
- MPMS #117620 – Congestion reduction project at the intersection of SR 3023 (State Hill Road) and Business 422 (Penn Avenue).

## Problem Area(s) Identified

- High congestion and high crashes between Keiser Boulevard and Penn Avenue (Business 422). Planned improvements will address these roadway deficiencies.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2G** Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 6A** Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief, particularly southbound between Broadcasting Road and U.S. 422 West.
- 6C** Work with municipalities to use land use tools to preserve future rights-of-way.

### Roadway Measures

Corridor Length (Miles): **2.99**  
Traffic (AADT): **16,519 - 19,018**  
Truck %: **1 – 3**  
Avg. AM Peak Speed (MPH): **26.70**  
Avg. PM Peak Speed (MPH): **22.50**  
TTI: **1.58** | PTI: **2.13**

### Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **No**  
High Crash Corridor: **Yes**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **Yes**



# SR 3055 (Van Reed Road)

## Summary

SR 3055 is a highly-developed suburban corridor with mostly dense residential development interspersed with scattered commercial. Additionally, the Wilson School District has their large campus serving all grade levels, along with sports facilities along this corridor. Van Reed Road serves as a direct link between U.S. 222 to the north and U.S. 422 to the south. Sinking Spring Borough officials are spearheading efforts to reconfigure portions of the corridor containing four offset intersections in the borough including Van Reed Rd/U.S. 422.

## Planned Improvements

- MPMS #87688 – Intersection re-alignment at SR 422 (Penn Avenue) at Shillington Road and Mull Avenue.

## Strategies to Preserve Corridor Capacity

- 1B** Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways.
- 2D** BARTA should examine where expanded transit service can be provided where significant benefits can be realized.
- 2E** BARTA should examine where existing transit stops need improvements.
- 2H** Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities.
- 4B** Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques.
- 4C** Review signalized intersections for signal coordination and optimization.
- 6C** Work with municipalities to use land use tools to preserve future rights-of-way.

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## Roadway Measures

Corridor Length (Miles): **3.15**  
Traffic (AADT): **0,503 – 11,655**  
Truck %: **3**  
Avg. AM Peak Speed (MPH): **26.80**  
Avg. PM Peak Speed (MPH): **28.00**  
TTI: **1.18** | PTI: **1.52**

## Additional Factors

NHS: **No**  
High V/C Corridor (PM Peak): **Yes**  
High Crash Corridor: **No**  
Critical Freight Corridor: **No**  
Bottleneck Location: **No**  
Transit Route: **No**



- Bottlenecks
- High Crash Corridors
- TTI (1.5 or more)
- TTI (1.20 to 1.49)
- CMP Corridor
- CMP Network
- - - Municipal Boundary



# 6

## IMPLEMENTATION AND FUTURE ACTIONS

As the transportation planning and programming process moves forward, changes also occur on the roadway network. Development occurs, roadway projects are completed, and traffic reflects those changes. The CMP is meant to follow those changes and recommend appropriate strategies for implementation.

### a. Network Monitoring

The factors listed in Chapter 4 provide the performance measures that will be used to monitor the network and provide timely, regular updates to this CMP. As projects are implemented and measures change, the CMP network will evolve. Additionally, staff will evaluate other measures of congestion and determine if they warrant inclusion in future CMP updates.

### b. Project Tracking

As time progresses, updates of active projects listed on the current TIP are given at MPO meetings. CMP corridors with projects on the TIP will be monitored specifically, and—as new projects on those corridors are added to the TIP—those CMP corridors will be updated.

### c. Project Evaluation

As projects progress through their major stages (Preliminary Engineering, Final Design, Right-of-Way, Utility, Construction), corridor-specific updates will be made in Chapter 5. As projects are completed on the CMP network traffic conditions will be monitored and the CMP updated.

### d. Update Schedule

In an effort to provide input into the biennial update of the region's Transportation Improvement Program (TIP), this CMP will be updated every other year in years between TIP updates. Through monitoring of the measures outlined in Chapter 3 and listed on individual CMP corridors, project completion and overall system changes, updates to the overall CMP network and individual corridors will take place. Mitigation strategies can be advanced that will ultimately lead to meaningful projects being introduced into the region's LRTP/TIP. The advancement from measures and strategies to meaningful project placement on the LRTP/TIP and delivery can only occur through meaningful, regular, open dialogue between federal, state, local, MPO partners and the public.

### e. Program and Implementation Strategies

In an effort to meet the requirements of 23 CFR 450 322 (d)(5) and accommodate the recommendation of the Federal Review Team that provided comment on the 2023 Congestion Management Process staff provided the matrix on the following pages. This table provides the conceptual schedule, implementation responsibilities, and possible funding sources for each identified Strategy to Preserve Corridor Capacity previously identified in Chapter 4 of this CMP. Implementation schedule timeframes are based subjectively on potential costs, difficulty of implementation, and partnerships involved. Short-term is essentially 1 – 5 years; Mid-term is 6 – 10 years; and Long-term is greater than 10 years.

<b>Strategy</b>		<b>Options</b>	<b>Implementation Schedule</b>	<b>Responsible Party(s)</b>	<b>Possible Funding Source(s)</b>
<b>Land Use Based</b>	1A	Early coordination between BARTA and local municipal officials should happen when development is to occur on/near bus routes	Ongoing	BARTA/SCTA, Municipalities, MPO	Transit
	1B	Municipalities should include Access Management strategies such as rear access, shared driveways, alleyways, defined driveways and limited curb cuts in new development and redevelopment projects and along existing roadways	Ongoing	Municipalities	STP, HSIP, CMAQ
	1C	Municipalities should require new development to maintain and enhance street and sidewalk connectivity	Ongoing	Municipalities	STP
	1D	Municipalities should require bicycle and pedestrian accommodations throughout residential and commercial developments that promote accessibility and connectivity within and at the edges	Ongoing	Municipalities	HSIP
	1E	Use the Local Technical Assistance Program (LTAP) to provide training to municipal officials on how their Highway Occupancy Permit (HOP) process operates and how to effectively incorporate it into the local development process	Ongoing	MPO, PennDOT	STP
	1F	Municipalities should use the Official Map process, where applicable, to promote network connectivity	Ongoing	Municipalities	STP
<b>Alternative Mode Options</b>	2A	PennDOT, MPO and BARTA staff should continue working with organizations like CommutePA that promote alternative modes of transportation	Ongoing	PennDOT, MPO, BARTA/SCTA	Transit
	2B	CommuterPA staff should continue working with employers to promote and provide incentives for commuters to use alternative modes	Ongoing	CommuterPA	CMAQ
	2C	MPO and PennDOT staffs should identify locations where formalized Park and Ride lots should be located	Short-term	MPO, PennDOT	CMAQ
	2D	BARTA should examine where expanded transit service can be provided where significant benefits can be realized	Short-term	BARTA/SCTA, Municipalities, MPO	Transit
	2E	BARTA should examine where existing transit stops need improvements	Short-term	BARTA/SCTA, Municipalities, MPO	Transit
	2F	Municipalities should identify bicycle and pedestrian related weaknesses in local land development plans and ordinances and correct them	Short-term	Municipalities, MPO	N/A
	2G	Municipalities should ensure that bicycle, pedestrian, and transit-friendly improvements are integrated into all new development proposals	Short-term	Municipalities, MPO	N/A

<b>Strategy</b>		<b>Options</b>	<b>Implementation Schedule</b>	<b>Responsible Party(s)</b>	<b>Possible Funding Source(s)</b>
<b>Alternative Mode Options</b>	2H	Local officials and non-profit organizations should become familiar with grant, loan and reimbursement programs available through governmental and non-profit sources that can be used for bicycle and pedestrian facilities	Short-term	Municipalities, MPO	N/A
	2I	Encourage the use of rail, where feasible, to reduce truck traffic on roads	Ongoing	MPO, PennDOT	RRX
<b>Educate the Motoring Public About Congestion Reduction</b>	3A	PennDOT should coordinate with the Berks County Intermediate Unit, school districts and private driver education professionals to provide proper education about merges, accident reduction, aggressive and distracted driving	Mid-term	PennDOT, BCIU, School Districts	N/A
	3B	Local government officials, business leaders and CommutePA staff should coordinate with local print and television media in education campaigns, particularly regarding high-impact construction projects and highly congested corridors	Ongoing	MPO, PennDOT, CommutePA, Greater Reading Chamber Alliance (GRCA)	N/A
	3C	PennDOT should work with local officials to establish readily identifiable detour routes around frequently-congested high crash locations	Short-term	PennDOT, Municipalities	HSIP
<b>Make Full Use of Existing Roadway Capacity</b>	4A	Expand and enhance current Intelligent Transportation System (ITS) network throughout the Urban Area and in areas where congestion occurs	Ongoing	PennDOT, MPO	HSIP, CMAQ
	4B	Review corridors for simple, low-cost improvements that make use of existing cartway such as narrower lanes, restriping, left-turn lanes, channelization, and inclusion of physical separation techniques	Ongoing	MPO, PennDOT, Municipalities	CMAQ
	4C	Review signalized intersections for signal coordination and optimization	Ongoing	PennDOT, MPO, Municipalities	STP, HSIP, CMAQ
	4D	Expand the use of new technologies such as video detection at congested intersections and corridors	Ongoing	PennDOT	STP, HSIP, CMAQ
	4E	Use the Local Technical Assistance Program (LTAP) to educate municipal governments on their responsibilities with signal maintenance and operations	Ongoing	PennDOT, MPO	N/A
	4F	Explore non-traditional intersection treatments such as roundabouts to gain additional throughput	Ongoing	PennDOT, MPO	STP, HSIP, CMAQ
	4G	Reconstruct all freeway interchanges to meet current design standards	Long-term	PennDOT, MPO	STP, HSIP, CMAQ

Strategy		Options	Implementation Schedule	Responsible Party(s)	Possible Funding Source(s)
<b>Make Safety Improvements in High-Accident Areas Where Congestion is Also an Issue</b>	5A	MPO staff should coordinate with PennDOT District staff and review the District Safety Plan to identify areas where accidents exacerbate existing congestion issues	Short-term	MPO, PennDOT	HSIP
	5B	Implement Freeway Safety Patrols in congested corridors to efficiently clear minor incidents	Ongoing	PennDOT, MPO	HSIP
	5C	PennDOT safety staff should engage law enforcement in discussions regarding increased enforcement efforts in high crash corridors	Short-term	PennDOT	HSIP
	5D	PennDOT should consider working with municipalities to help manage traffic incidents or develop a comprehensive program for incident management	Short-term	PennDOT, Municipalities	NHPP, HSIP
<b>Use New Construction as a Last Resort</b>	6A	Explore additional through lanes where traffic volumes exceed capacity beyond typical peak periods where none of the above provide adequate relief	Long-term	PennDOT	NHPP, HSIP, CMAQ
	6B	Explore the use of 'hardened shoulders' to add temporary capacity where feasible	Long-term	PennDOT	NHPP, HSIP, CMAQ
	6C	Work with municipalities to use land use tools to preserve future rights-of-way	Long-term	PennDOT, Municipalities	NHPP, HSIP, CMAQ

**STP:** Surface Transportation Program

**HSIP:** Highway Safety Improvement Program

**NHPP:** National Highway Performance Program

**CMAQ:** Congestion Management/Air Quality

**RRX:** Rail/Highway Grade Crossings



# **READING AREA TRANSPORTATION STUDY 2025**

## **Reading Area Transportation Study Coordinating Committee**

<i>PennDOT District 5-0</i>	<i>Mr. Chris Kufro, Acting District Executive (Chairman)</i> <i>Ms. Jennifer Ruth, Planning &amp; Program Manager*</i>
<i>PennDOT Central Office</i>	<i>Mr. Raymond Green, Planning Division Manager</i> <i>Center for Program Development and Management.</i> <i>Mr. Nick Raio, Trans. Planning Specialist Supervisor *</i>
<i>Berks County Commissioners</i>	<i>Mr. Michael Rivera, Commissioner</i>
<i>Berks County Planning Commission</i>	<i>Mr. Thomas McKeon, Board Member (Vice Chairman)</i> <i>Mr. Alan Piper, Transportation Planner III (MPO Secretary)*</i>
<i>City of Reading</i>	<i>Ms. Donna Reed, Council Member</i> <i>Mr. O. Chris Miller, Council Member*</i>
<i>Berks County Boroughs</i>	<i>Mr. Brian Hoffa, Borough Council Member</i> <i>(Sinking Spring Borough)</i>
<i>Berks County 1st Class Townships</i>	<i>Ms. Lisha Rowe, Township Commissioner</i> <i>(Cumru Township)</i>
<i>Berks County 2nd Class Townships</i>	<i>Mr. Arthur "Ray" Lambert, Township Supervisor</i> <i>(Upper Bern Township)</i>
<i>South Central Transit Authority /</i>	<i>Mr. Greg Downing, Executive Director</i>
<i>Berks Area Regional Transportation Authority</i>	<i>Mr. Keith Boatman, Assoc. Director of Capital Projects/Planning</i>
<i>Reading Regional Airport Authority</i>	<i>Mr. Dante Santoni, Jr., Board Member</i>

## **Reading Area Transportation Study Technical Committee**

<i>PennDOT District 5-0</i>	<i>Mr. Scott Vottero, District Executive for Design (Chairman)</i> <i>Mr. Michael Donchez, Transportation Planning Specialist*</i>
<i>PennDOT Central Office</i>	<i>Ms. Nyomi Nonnemaker, Transportation Planning Specialist</i> <i>(Vice Chairman)</i> <i>Mr. Nick Raio, Trans. Planning Specialist Supervisor *</i>
<i>Berks County Planning Commission</i>	<i>Mr. Alan Piper, Transportation Planner III (MPO Secretary)</i> <i>Ms. Amanda Timochenko, Transportation Planner II*</i>
<i>Berks County Planning Commission</i>	<i>Mr. Michael Golembiewski, Transportation Modeler</i> <i>Ms. Amanda Timochenko, Transportation Planner II*</i>
<i>City of Reading</i>	<i>Mr. Timothy Krall, Department of Public Works</i>
<i>City of Reading</i>	<i>Mr. Kyle Zeiber, Department of Public Works</i>
<i>South Central Transit Authority /</i>	<i>Mr. Keith Boatman, Assoc. Director of Capital Projects/Planning</i>
<i>Berks Area Regional Transportation Authority</i>	<i>Ms. Lauri Ahlskog, Manager of Transit Planning &amp; Compliance*</i>
<i>Reading Regional Airport Authority</i>	<i>Mr. Zackary Tempesco, Airport Manager</i>

*\* Denotes Board Alternate*

## **Berks County Planning Commission Staff for this Report**

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