



Transportation



Stefko Boulevard viewed from the Minsi Trail Bridge



■ Transportation Vision

Bethlehem's transportation system is in transition. Major roadway projects are planned to improve the Route 412 access to I-78 and improve traffic flow in the Five Points area. These improvements are critical to accommodate residents, workers and visitors in Bethlehem. They will also be important for growth of the City's two downtowns and redevelopment of former Bethlehem Steel lands.

The North Side does not have a shortage of roadway capacity. Rather, the City believes certain wide streets with excess capacity encourage motorists to drive at speeds that threaten safety and create excessive noise. Throughout Bethlehem, the City is striving to reduce speeds, enforce traffic laws, promote walking, enhance bicycle use, and increase safety.

The City's goals for Transportation include the following:

- Improve access and mobility for residents using all transportation modes.
- Increase the efficiency and safety of the roadway system.
- Increase capacity of roadway system near former Bethlehem Steel lands.
- Improve safety for pedestrians and bicyclists through a variety of means, including traffic calming on streets where vehicles regularly exceed speed limits.
- Encourage more walking and bicycling.
- Encourage greater transit use by increasing service on the South Side, between both downtowns, and to underserved areas.
- Add parking spaces in both downtowns.



The busy intersection of Stefko Boulevard and Pembroke Road



■ Transportation Overview

Vehicular

Functional Classification

PennDOT classifies roadways based upon their function. Functional classifications, as illustrated on the Functional Classification Map, include the following:

- Expressway – Highways where access is limited to interchanges. Expressways accommodate high volumes of interstate travel.
- Principal Arterial – Serves inter-regional and inter-community travel.
- Minor Arterial – Serves inter-community travel, but at a lower level of mobility than principal arterials. Also serves significant traffic movements across the community.
- Collector – Collects traffic from local roadways, and distributes it to arterial roadways.
- Local – Provides direct access to all land uses.



The 8th Avenue interchange of Route 378

Expressways in Bethlehem include:

- US Route 22, which is located along the northern edge of Bethlehem;
- I-78, which runs along the southern edges of the City;
- The segment of Route 378 north of Broad Street.

Together, these three expressways provide excellent regional access to and from Bethlehem.

Principal arterials include:

- Broad Street
- Route 412 (applied to Hellertown Road, Daly Avenue, and 3rd Street),
- Route 378 south of Broad Street (Wyandotte Street)
- Center Street
- Stefko Boulevard
- Easton Avenue
- Linden Street
- Union Boulevard
- Airport Road
- Schoenersville Road



FUNCTIONAL CLASSIFICATION



- █ Expressway
- █ Principal Arterial
- █ Minor Arterial
- █ Collector



0 2,250 4,500 9,000 Feet

**AVERAGE DAILY
TRAFFIC VOLUME**



**Estimated Average Vehicles
Per Weekday**

- █ >20,000
- █ 10,000 - 19,999
- █ <10,000

Source: PennDOT



0 2,250 4,500 9,000 Feet

Bethlehem has a traditional roadway grid in the center of the North Side. This system diffuses traffic and makes adherence to PennDOT design criteria for principal arterials less critical. Volumes on some principal arterials on the North Side—such as Center Street—are low compared to many principal arterials in other cities.

Traffic Volumes

Bethlehem's heaviest traffic is on its expressways: US Route 22 with an ADT (average daily traffic on weekdays) of 83,000; I-78 with an ADT of 51,000; and Route 378 in the center of the City with an ADT of 38,000.

Excluding expressways, Schoenersville Road just south of Route 22 has the highest traffic volume with an ADT of 29,000. Stefko Boulevard in the area of the Minsi Trail Bridge has an ADT of 20,000. Schoenersville Road south of Catasaqua Road, and Route 412 (Hellertown Road) just north of I-78 each have an ADT of 19,000. An ADT of 18,000 was recorded on Eighth Avenue between Union Boulevard and Schoenersville Road. An ADT of 17,500 was recorded on Stefko Boulevard in the vicinity of Pembroke Road. As shown on the Average Daily Traffic Volume map, no other ADT readings of over 15,000 were recorded in Bethlehem.

Vehicular Delays

Bethlehem's most serious traffic congestion is in the Five Points vicinity, such as on Wyandotte Street and Broadway; in the vicinity of the Hill-to-Hill Bridge; and on adjacent parts of 3rd Street and 4th Street.

At peak hours, long lines of traffic often exist on Route 412 at the entrances to I-78. With redevelopment of former Bethlehem Steel lands, traffic volumes will significantly increase on Route 412 between the Minsi Trail Bridge and I-78. A 2005 study entitled *Route 412 Section 001 Value Engineering Assessment* concluded that if Sands BethWorks and Bethlehem Commerce Center are completely built out as proposed, they could generate up to about 10,300 additional trips in the evening peak hour. Volumes are projected to be somewhat less in the morning peak hour.

The amount of tractor-trailer traffic associated with the industrial development northeast and east of Route 412 could also affect road capacity. Much of the traffic from the Sands BethWorks complex will peak during weekends, when there is less traffic from schools,



Commuter traffic on Route 378 at the Hill-to-Hill Bridge



colleges, offices and industries. The 2005 study estimated that the majority of new trips will be destined for I-78: about 70% of the Sands BethWorks trips, and 55% of the Bethlehem Commerce Center trips. The City's Route 412 improvement project is critical to avoid increased delays from this new development.

Vehicular Safety

Vehicular safety has become an increasing priority of state and federal highway programs. On average, there were 2,700 vehicular crashes per year in the City between April, 2003 and April 2006. The following eleven intersections had the highest number of crashes during this time. Their locations are illustrated on the Most Frequent Vehicular Crash Sites map.

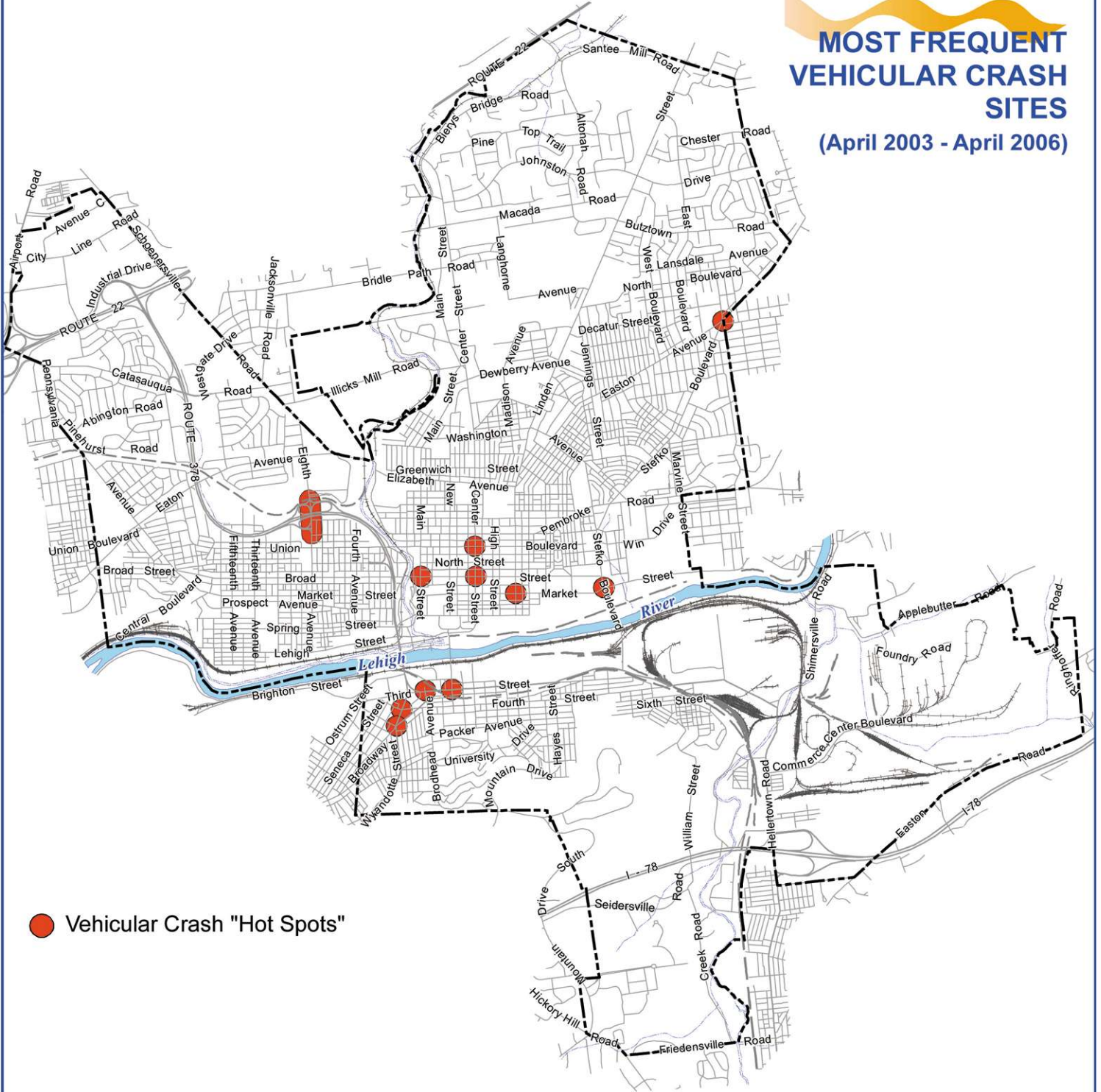
Intersections with Most Frequent Number of Vehicular Crashes: April 2003 - April 2006

	Intersection	Crashes
1	Route 378 ramp and 8th Avenue	37
2	Broadway and Wyandotte Street	34
3	Center Street and Broad Street	32
4	Easton Avenue and Stefko Boulevard	29
5	Wyandotte Street and 4th Street	27
6	3rd Street and Brodhead Avenue	26
7	Center Street and Union Boulevard	25
8	3rd Street and New Street	23
9	Linden Street and Market Street	23
10	Stefko Boulevard and Market Street	22
11	Broad Street and Main Street	22

Source: Analysis by Orth-Rodgers, using data provided by City of Bethlehem

The most crash-prone location, at the Route 378 ramps at 8th Avenue, received some recent improvements when Lowe's was built. Two of those ramps at 8th Avenue are signalized, and two are unsignalized. Nearly all of the intersections in the above list are signalized, which is expected since signalized intersections process higher traffic volumes. The only unsignalized intersection on this list is Linden Street and Market Street.

**MOST FREQUENT
 VEHICULAR CRASH
 SITES**
 (April 2003 - April 2006)



0 2,250 4,500 9,000
 Feet

The City hopes to do a comprehensive safety study on its highest vehicular crash intersections. Such a study would evaluate a variety of contributing factors. For example, few of the intersections have directly opposing dedicated left turn lanes. These lanes can improve the sight distance for motorists turning left and reduce left turn crashes.

Below are the five midblock locations with the most vehicular crashes between April, 2003 and April, 2006.

Midblock Locations with Highest Number of Vehicular Crashes: April 2003 - April 2006

	Road	Closest Intersecting Road	Crashes
1	Hellertown Road (Route 412)	Silvex Road	48
2	3rd Street	New Street	24
3	4th Street	Emery Street	23
4	8th Avenue	Eaton Avenue	22
5	Union Boulevard	Club Avenue	22

Source: Analysis by Orth-Rodgers, using data provided by City of Bethlehem

Note: Table does not include crash data for limited access roadways such as Route 378

Although these crashes are “midblock” crashes, in many cases the crashes are influenced by conditions at intersections upstream or downstream. For example, the high numbers of crashes on Route 412 at Silvex Road are likely influenced by the long lines that form to enter I-78 at this location.

The Lehigh Valley Planning Commission (LVPC) also identified high priority crash locations in its *2007-2030 Surface Transportation Plan*. The highest crash corridors in that study included 4th Street, Broadway, Center Street and Easton Avenue.

Access Management

A number of the major roadways in Bethlehem have too many driveway cuts. This leads to safety and traffic flow problems on those roads. The problems can be addressed by better regulating the frequency, spacing and design of access points. Municipalities across Pennsylvania have adopted access management ordinances in recent years, especially ordinances that apply to heavily traveled commercial corridors.



Stefko Boulevard is an ideal street for applying access management techniques



LVPC identified three Bethlehem streets as ideal for access management regulations: Stefko Boulevard, Linden Street, and Schoenersville Road. In conjunction with the City, LVPC has developed a draft access management ordinance, which covers the maximum number of access points, minimum corner clearance, non-traversable medians, driveway radii, and driveway spacing. The City is considering these types of regulations to improve access conditions.

Planned Improvements

Route 412

Today, Route 412 is the highest priority transportation improvement project in Bethlehem. This project has three main components:

- Minor intersection widening and signal interconnection along the Third Street corridor from Minsi Trail Bridge to Route 378 — contracts were let in 2008.
- A new 2nd Street ramp (including closure of the current ramp) at the western end of the corridor to tie Brodhead Avenue into the Hill-to-Hill Bridge — contracts will be let in 2009.
- Widening Route 412 from I-78 to Minsi Trail Bridge, resulting in a new cross-section of two through lanes in each direction, and a left-turn lane — contracts will be let in 2010.

Five Points Gateway Enhancement Project

Significant congestion exists in the Five Points neighborhood, which is framed by 3rd Street, Wyandotte Street, and Broadway. The neighborhood also hosts a number of high-crash intersections for both motorists and pedestrians. A one-way couplet pattern, in which Broadway would be one-way northbound within the study area and Wyandotte Street would be one-way southbound will be created. Wyandotte Street will be reconfigured from four travel lanes to two travel lanes and two parking lanes. The couplet will improve pedestrian safety, increase parking, and improve traffic flow. Curb extensions, wider sidewalks in certain locations, and other improvements to create a gateway into the City are also envisioned.

Traffic Calming

On the North Side, with its wide and multi-lane streets, speeding creates safety hazards for both pedestrians and motorists. On the major streets in downtown Bethlehem, speed limits are 30 mph or 35 mph, even in the most highly populated neighborhoods. Planners typically consider speed limits of 25 to 30 mph more desirable in urban centers. At a public meeting for this Comprehensive Plan, residents identified Eaton Avenue, Center Street, Linden Street and New Street as examples of roadways where vehicular speeding impairs quality of life. Center Street and Linden Street were specifically mentioned as roadways in need of traffic calming measures to combat speeding in residential areas. Techniques discussed included lower speed limits and back-in angle parking, among other measures. The City will evaluate these ideas based on potential effectiveness and long-term maintenance needs.

Angled Parking

Angled on-street parking can be used to reduce the width or number of travel lanes on a roadway, thus reducing vehicular speed. It can also increase the supply of on-street parking. It is especially valuable in commercial districts. Angled parking can be designed as front-in or back-in. Back-in angle parking improves the visibility of exiting motorists. Back-in angle parking has worked on East 3rd Street, Grenadier Blvd., and Sakon Place.

The City is considering angled parking on one side of West Broad Street with parallel parking on the other.

Edge Lines

Eaton Avenue west of 8th Avenue, and Center Street above Washington Avenue are roadways with “edge line” striping to narrow the width of travel lanes. The treatment is especially pronounced on Eaton Avenue, with 11 ft. striped parking lanes. This treatment could be extended to other roadways that are wide or do not see intensive use of on-street parking. Examples include Eaton Avenue east of 8th Avenue, Pennsylvania Avenue, Easton Avenue, and Stefko Boulevard.



Back-in angled parking on Sakon Place



Edge line striping on Eaton Avenue



On the 64 ft. wide section of Stefko Boulevard (the northern part), the roadway could be striped with five 11 ft. lanes (four through lanes, one left-turn lane) and two 4 ft. shoulders. On roads that do not permit parking (as is the case with Center Street north of Washington Avenue), striping an edge line can create a shoulder as narrow as four feet. On roadways with parking, the edge line could be striped at least 8 ft. from the curb. On roadways with unusually wide lanes, the edge line can be striped 10 to 11 ft. from the curb, provided the remaining travel lane is sufficiently wide.

Median Islands

Travel lanes can also be narrowed by median islands. Median islands exist on several North Side streets, such as Broad Street and Main Street. On Broad Street they accommodate trees and reduce travel lane width. On Main Street, a shorter island near the Moravian College reduces vehicular speeds and pedestrian crossing lengths.

Continuous medians of an extended length can reduce access to businesses. However, median islands of an abbreviated length can be used intermittently to provide refuge points for pedestrians so they only have to cross one direction of traffic at a time.

To improve pedestrian crossings, median islands are most valuable at unsignalized locations and on multi-lane roads. They are one of the most effective techniques for improving pedestrian safety.

Road Diets

Road diets place a roadway on a “diet” by removing some travel lanes, and converting this space to uses such as bike lanes or on-street parking. The term also refers to retaining travel lanes, but reducing their width.

A variation of the road diet technique involves converting one through lane on a street into a left turn lane. The treatment has the benefit of improving the safety of left turn movements. Road diets also calm traffic. On roadways with two or more lanes in the same direction, aggressive motorists are able to maneuver around other motorists to drive above the speed limit. On roadways with only one lane in each direction, more prudent motorists set the pace and aggressive motorists must follow at the same speed.



Median island on Main Street in front of Moravian College



Other Traffic Calming Measures

Certain traffic calming measures are most appropriate on streets below the level of arterial. For example speed humps and traffic circles work best on less heavily traveled streets.

Parking

There is a need for increased parking on both the North Side and the South Side. Demand is high in each of the three parking garages owned by the Bethlehem Parking Authority:

- Walnut Street – 777 spaces. The Parking Authority has issued permits for all spaces in this garage.
- North Street – 800 spaces. The Authority has issued 567 permits, and is reserving another 125 permits for the proposed North Street hotel.
- 2nd Street – 462 spaces. Of these, 312 spaces are rented, and 150 spaces are metered.

Because not all of the permit-holders occupy spaces every day, some spaces at Walnut Street and North Street are available for hourly occupancy. In addition to the garages, there are about 1700 on-street metered spaces.

The Bethlehem Parking Authority is developing a master plan to address downtown parking needs on both the North Side and the South Side.

Potential solutions discussed for the North Side include a large garage on or near to the Hotel Bethlehem Garage on Main Street, and a garage that would replace the Authority's surface lot on the north side of East Broad Street, east of New Street.

A 1,000 car garage is being planned as part of the East 3rd Street Garage and Multimodal Terminal, which would replace surface parking lots. The garage would be on the south side of East 3rd Street across from the Fowler Family Southside Center of Northampton Community College. Another parking garage under discussion would be adjacent to the historic Flatiron Building at 4th Street and Broadway in the Five Points area.



Walnut Street parking garage



Pedestrian and Bicycle Travel

Pedestrian Travel

The condition of pedestrian facilities varies considerably throughout the City. The large majority of streets on the South Side and North Side have sidewalks, although some need repair. Sidewalks do not exist in some outlying areas of the City.

The conditions of pedestrian signals at signalized intersections also vary widely. Some signalized intersections have the “Man/Hand” signal indicators; most do not. At many intersections without pedestrian indicators, it is difficult for waiting pedestrians to see the signal displays. At public involvement sessions for this Comprehensive Plan, residents indicated many motorists do not yield to pedestrians at intersections.

Two intersections in the North Side downtown area have exclusive walk signals that use red lights in all directions at the same time to allow pedestrians to cross. There are no signs indicating the existence of this “All Walk” phase, or that diagonal crossings are permitted. At select locations in the North Side downtown area, the City has installed curb extensions with textured crosswalks or other enhancements.



“Man/Hand” signal indicator at the intersection of Broad Street and New Street

The City’s Citizen Traffic Advisory Committee (CTAC) was developed several years ago to address pedestrian safety issues. CTAC efforts have included pedestrian and motorist education, physical improvements to aid pedestrians and enforcement activities, such as pedestrian stings.

Bicycle Travel

Biking in Bethlehem is a popular activity. Bethlehem has a multitude of residents who bicycle and the City attracts many visiting cyclists. Most of Bethlehem’s roadway system is excellent for cycling, plus there is a public trail network for off-road riding.

Most of the cycling in Bethlehem is recreational. The City should plan for and encourage more bicycling throughout the City to encourage healthy living, as a means to promote alternative transportation and save energy, to reduce traffic congestion within the City and to reduce parking demand. This can be achieved through the following activities: Bicycle Education, Supportive Bicycle Culture, Bicycle Facilities and Bicycle Parking.

Bicycle Education

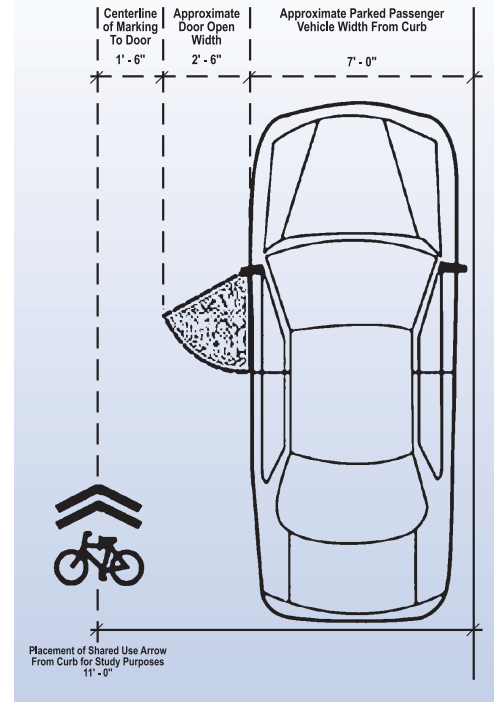
To accommodate and encourage cycling, the City should support bicycling education, for all residents, including families, enforcement officers, planners and decision makers. The City could create incentive for Bethlehem employees to take Traffic Skills 101, the League of American Bicyclists course that provides the skills necessary to begin bicycling for transportation.

CAT (Coalition for Appropriate Transportation) offers bicycle education classes and events year round and has made Bethlehem a focal point for bicycle education in the region. As a result of CAT's work, thousands of recreational cyclists receive information about how a bike works and how to ride confidently in traffic. Bethlehem reportedly has more League of American Bicyclists certified Cycling Instructors than any other city in the country. Every effort should be made to encourage continued and expanded bicycle education programming.

Supportive Bicycle Culture

While most of the bicycling is recreational, some of it is for transportation. National and regional statistics show that less than 2 tenths of one percent of all commuters are bicyclists. To facilitate more bicycling for transportation requires a concerted, ongoing support system, a supportive bicycle culture.

The City needs to continue to encourage acceptance of cycling for transportation. Bicycling for transportation events, such as Moravian College's Celebrate the Bicycle Day, should be acknowledged and supported. Visible efforts to nurture bicycling travel will help the few who bike to work now and galvanize more riders to try cycle commuting. The City should continue to support CAT, which operates the Bethlehem Bicycle Cooperative, offering supportive bicycle culture year round, attracting hundreds of cyclists to downtown Bethlehem. The City also partners with Moravian College, the North by Northwest Neighborhood Initiative, Lehigh University and other organizations to provide support for transportation cyclists. These partnerships make Bethlehem a great place to ride bike in the Lehigh Valley.



Plan dimensions for the placement of shared use pavement markings



Bicycle and Pedestrian Crashes

The City takes both bicycle and pedestrian crashes seriously. Pedestrian and bike crash reports for the most recently available three-year period (November 2004 through October 2007) reveal that there were 121 pedestrian crashes, or about 40 per year; and 75 bicycle crashes, or 25 per year. Neither number is exceptional for a municipality of Bethlehem's size. What is very important is how the City works to proactively decrease the number of crashes. Bethlehem will continue to take bicycle crash reporting seriously and to maintain important statistics on bicycle crashes. The City could consider working with its partners to complete bicycle behavior studies to establish a benchmark for analyzing future bicycle-related activities and to track the results of different bicycle programs.

Additional Ways to Enhance the Cycling Culture

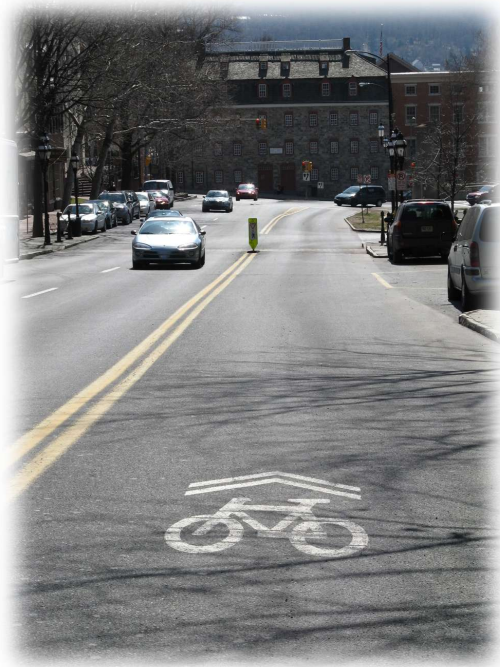
Enforcement of traffic law violations, particularly speeding, improves road safety for both pedestrians and bicyclists. CAT will continue to work with the Police Traffic Division to prioritize intersections and corridors for traffic safety violations.

Smooth roadways benefit all road users, too. But cyclists are more vulnerable to potholes and road surface inconsistencies than other vehicle operators. The City will continue to take reports from cyclists of dangerous road conditions and continue to make every effort to maintain and repair road surfaces in Bethlehem.

Bicycle Facilities

Shared Lane Markings are markings on the street indicating that a travel lane is jointly used by both bicycles and other vehicles. Shared lane markings encourage cyclists to ride in the street instead of on the sidewalk. The markings encourage cyclists to travel the same direction as other vehicles in the roadway.

Properly placed shared lane markings can encourage cyclists to avoid the opening of parked car doors. The shared lane markings on Min Street in Bethlehem are part of a targeted educational effort to improve bicycle safety.



Example of shared use marking on Main Street



The markings remind motorists to expect cyclists in the roadway. Shared lane markings remind all road users that Bethlehem supports riding a bicycle in the street. These markings have been recently placed on Main Street and Elizabeth Avenue and have been well received by both motorists and cyclists. The City is now developing a strategy to prioritize areas for additional future shared lane markings.

Share the Road Signs are recommended by PennDOT where roads narrow. This situation requires cyclists to use the lane more aggressively. These signs have also been used by Bethlehem to complement shared lane markings.

Bicycle Lanes are designated by markings for the exclusive use of bicyclists. They are typically 6 feet in width. Bike lanes can increase the complexity of intersections, which are the primary location of bike-car crashes. Improperly placed bike lanes can encourage riding in the door zone and making turns from the wrong location in an intersection. At this point, the City is pursuing the installation of shared lane markings in lieu of bike lanes.

Bicycle Parking

The City will continue to encourage bicycle parking facilities. The City will continue working with CAT, the North by Northwest Neighborhood Initiative and other partners to install bike hitches and bike racks, particularly in the downtowns and neighborhoods near downtown. In addition, businesses along the South Bethlehem Greenway will be encouraged to provide bicycle parking to facilitate trips to these businesses by bicycle and to encourage recreational cyclists to stop at these businesses.

Freight – Rail and Trucking

Rail

Rail service has long been critical to Bethlehem's economy. A major Norfolk Southern main line passes east-west across South Bethlehem, connecting to western Pennsylvania and to the New York City area. The 78 million gross tons carried annually by this line represents one of the five highest volumes in the state. Rail service is an important draw for companies locating on former Bethlehem Steel lands, and is valuable in reducing tractor-trailer traffic.



The Lehigh Valley Rail Management (LVRM) Railroad handles rail service along several short lines once owned by Bethlehem Steel. The Canadian Pacific Railroad operates in this area using Norfolk Southern-owned track.

A major intermodal facility east of Route 412 transfers trailers, containers and other shipments from trucks to rail. Of the six intermodal facilities in the Lehigh Valley, three are in Bethlehem:

- Beth Intermodal – serviced by LVRM, with movement of trailers and containers;
- Beth Intermodal Transloading – serviced by LVRM, with commodities of minerals, food products, building products, and manufactured products;
- Triple Crown Railroaders – serviced by LVRM, with movement of Triple Crown Railroader trailers.

Norfolk Southern and Canadian Pacific both interact with the LVRM at Beth Intermodal.

Trucking

Beth Intermodal is the largest generator of tractor-trailers in the City. Additional redevelopment of former Bethlehem Steel land has the potential to further increase tractor trailers. The increased capacity proposed for Route 412 will enable this roadway to accommodate more large trucks. Movement of tractor trailers from new facilities should be monitored to ensure they do not affect other areas of the City.

Public Transit

Bus Service

LANTA (Lehigh and Northampton Transportation Authority) operates nine bus routes in Bethlehem. These are illustrated on the Transit Routes map. With the exception of Route H, all routes that circulate through the North Side downtown area between Main Street and New Street, stop at the Metro Transit Center at Broad Street and Guetter Street—the transfer point for all routes in the City. LANTA is now formally evaluating transit service in the Lehigh Valley, including Bethlehem. Results are due in 2009.



LANTA's downtown Bethlehem MetroTransit Center on Guetter Street



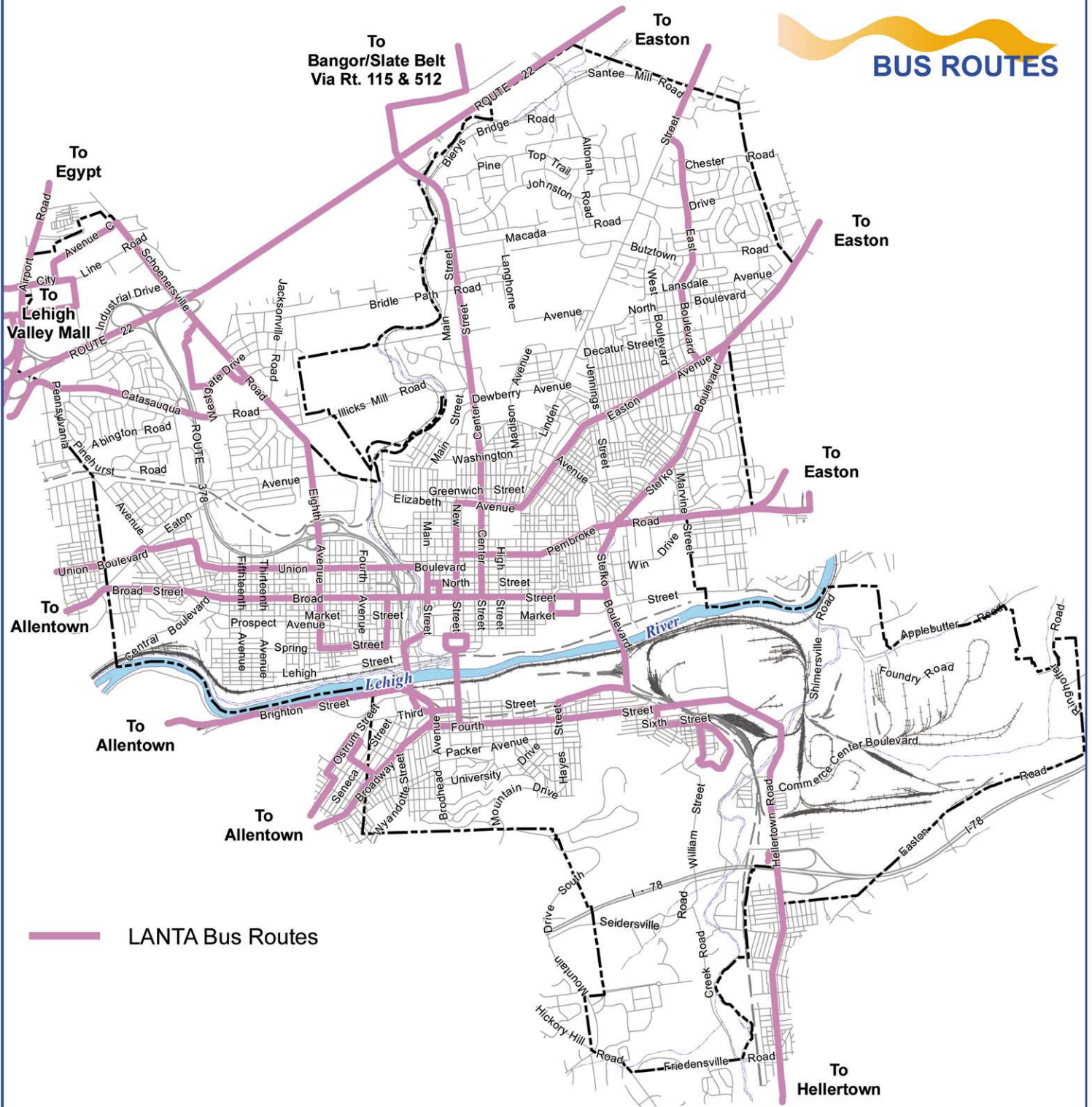
City of

Bethlehem

Comprehensive Plan



BUS ROUTES



 LANTA Bus Routes



0 2,250 4,500 9,000 Feet



Transit service will be enhanced by the multimodal facility and 1,000 car parking garage proposed for East 3rd Street across from the Northampton Community College Fowler Family Southside Center. These improvements would serve the bus lines currently operating on the South Side.

Recommendations for improving bus service in Bethlehem were advanced as part of the 2006 Keystone Innovation Zone *Southside Bethlehem Transportation Linkage Study*. The study indicated that mass transit does not adequately serve the R&D District located south of the Lehigh River and north of Second Street (and encompassing the former Bethlehem Steel Site). Two alternative recommendations were made for routes to serve this area, and the larger South Side:

- One route would use, in part, the existing Norfolk Southern right-of-way, and an on-road route;
- The primary on-road route would start at New and Morton Streets, and travel around the Flatiron area, to the east along 3rd Street to Steel Avenue before turning back west. Secondary shuttles would connect the KIZ to the surrounding neighborhoods of Fountain Hill/ St. Luke's Hospital, North Bethlehem, BethWorks, and the Park-n-Ride at I-78.

Standards adopted by LANTA for fixed route bus service call for 28 passengers per revenue service hour and 13 passengers per revenue service hour for shuttle routes. Two private carriers offer commuter services:

- Trans-Bridge Lines runs to the Port Authority Bus Terminal and other points in New York City. There are 33 daily trips to New York from Bethlehem.
- Bieber Tours provides four trips per day from Bethlehem to Philadelphia. It provides 23 trips per day from the Hellertown Park 'n' Ride to New York.



A bus shelter located on Stefko Boulevard



Passenger Rail Service

SEPTA (Southeastern Pennsylvania Transit Authority) terminated passenger rail service between Bethlehem and Philadelphia in 1981. Analysis of public transportation services between the Lehigh Valley and New York, conducted in 1990 concluded that commuter rail service was not justified. However, a significant amount of change has occurred in the Lehigh Valley since those times. For instance:

- Population growth has occurred at a rate faster than anyone had predicted.
- Many Lehigh Valley and Bethlehem residents that have recently located here continue to commute to jobs in the New York, New Jersey and Philadelphia areas.
- Many residents desire the flexibility, convenience and cost savings of regional public transportation, such as passenger rail service.
- A greater portion of the new development in the Valley is now occurring in the urban core areas rather than in the suburban areas and Bethlehem is a prime example of that.
- Concerns about the environment and rising prices, especially for gas, make passenger rail service and other public transit services more and more appealing to many residents.

For each of the above-noted reasons the City strongly advocates the pursuit of passenger rail service for the residents of Bethlehem and for the Lehigh Valley in general.

The regional organization called the Lehigh Valley Transportation Study (LVTS) is participating in two studies analyzing the feasibility of passenger rail opportunities in the Lehigh Valley. The first is a NJ Transit and NJ TPA study that includes examining the feasibility of extending passenger rail service on the Raritan Valley Line further west to Philipsburg. If that extension is judged to be feasible, a further extension into the Lehigh Valley will be analyzed.

Another study now underway is assessing the feasibility of extending SEPTA passenger rail service from its current termination point in Lansdale to Shelly, which is near Quakertown. This rail line ultimately connects to the Lehigh Valley via a currently unused SEPTA line through Hellertown.

Typically, the challenge in passenger rail feasibility studies is to demonstrate that the potential cost per rider will be low enough to make the service viable. The City continues to support these ongoing studies. However, the City also fully favors reintroducing rail service to the Lehigh Valley and supports regional advocacy for these efforts.

■ Transportation Strategies

Vehicular Travel

1. Continue advancing the Route 412 improvement project as a highest priority and continue to work with the Lehigh Valley Transportation Study (LVTS) to support regional transportation issues, as designated in the Transportation Improvement Program (TIP).
2. Advance the Five Points Gateway Enhancement project because it will provide pedestrian enhancements, on-street parking, and better traffic flow.
3. Conduct a comprehensive safety study of high vehicular crash intersections and corridors in the City.
4. Adopt access management regulations that will reduce the number of vehicular crashes along commercial corridors, and better manage traffic flow.
5. Examine existing speed limits on major roadways to determine if any should be lowered.
6. Assess the need for traffic calming measures in locations where speeding is a problem and road capacities may be larger than necessary. For example, North Side roadways such as New Street, Center Street, Linden Street and Stefko Boulevard are among the places where one or more of the following traffic calming techniques may have the potential to improve current conditions and address neighborhood concerns:
 - More edge lines and “road diet” treatments to narrow travel lanes.



A pedestrian crosswalk on Illick's Mill Road



Back-in angle parking can be used to provide more on-street parking and reduce vehicle speeds.

- Short median islands that serve as pedestrian refuges for people crossing wide streets.
- Back-in angle parking to provide more on-street parking and reduce vehicle speeds.

- 7.** Study the appropriateness of restoring two-way traffic on Center Street and on Linden Street.
- 8.** Continue studying existing and projected parking needs, and continue identifying appropriate locations and funding to construct new public parking facilities.

Pedestrian and Bicycle Travel

- 9.** Conduct safety studies of the corridors and intersections with the highest number of pedestrian and bicycle crashes.
- 10.** Pay special attention to 4th Street for pedestrian and bicycle improvements. The narrow width of 4th Street and presence of parked cars make this roadway an ideal corridor for creating a “Main Street” atmosphere, with regular marked crosswalks, and related enhancements.
- 11.** Continue ongoing educational efforts for both pedestrian and motorists, including:
 - Steps to increase the number of drivers yielding to pedestrians throughout the City, including innovative signs and markings, such as “Yield to Pedestrian” signs mounted on the roadway centerline.
 - Pedestrian wayfinding signs in the downtown sections of the North Side and South Side.
 - Signs indicating an “All Walk” phase at the signalized intersections of Broad and Main Streets, and New and Market Streets.
- 12.** Continue to identify bicycle routes where future “Shared Use Arrow” markings could be installed. The City is currently collaborating with Moravian College on a related effort.
- 13.** Install more bike racks, both at public facilities and by developers.

Freight – Rail and Trucking

- 14.** Widely market rail lines and intermodal facilities to attract companies that depend on freight movement and to reduce the number of large trucks on roadways.
- 15.** Monitor the movement of trucks through the City, especially as industrial and distribution facilities are developed on former Bethlehem Steel lands.

Public Transit Service

- 16.** Continue advocating for the preservation of rail rights-of-way from Hellertown to Lansdale even though current analysis suggests that restoring passenger rail service to the Lehigh Valley is not currently viable.
- 17.** Improve transit stops throughout the City including installation of additional shelters. Institute an improved signing program for all bus stops, with signage indicating the route and schedule. Partner with LANTA for both transit shelter and signage upgrades.
- 18.** Develop a new South Side to North Side bus or trolley loop shuttle. Any shuttle created should address the following issues:
 - Service should link to both existing and future land uses, particularly the Casino and other major land uses at the BethWorks site.
 - Visitors to the Casino should be actively encouraged to visit other attractions in Bethlehem and the greater Lehigh Valley via transit.
 - Service should connect with other routes at the proposed parking garage near Northampton Community College.
 - Frequent service should be provided between the North Side and South Side.
- 19.** Continue supporting studies assessing the potential viability of reintroducing passenger rail service to the Lehigh Valley.



Downtown Bethlehem's Broad Street and Guetter Street intersection



The Hill-to-Hill Bridge carries Route 378

