

Chapter 5 Transportation Plan

INTRODUCTION

Overview

Automobile travel is the dominant form of transportation in East Hanover Township. Located approximately 15 miles east of Harrisburg and 10 miles north of Hershey, the Township faces increasing congestion on its roads as the region grows. The Township's proximity to these two business centers has helped transform it into a bedroom community. Commute to work data indicate that 95% of the Township's workers travel to work by automobile and 90% drive alone¹. The average travel time to work is 24.4 minutes². The Township also experiences a large amount of through traffic destined for Harrisburg, Hershey, and I-81. Much of this is truck traffic generated by the Hershey complex in Derry Township.

The high rate of growth in the Harrisburg-Hershey region in recent years translates into more vehicles and more time spent on the road. This places demands on the Township's roads, most of which were not designed for such a high level of use. As a result, traffic increases, road safety decreases, road maintenance costs rise, and the quality of life of East Hanover residents diminishes. Confronted with this situation, the Township must devise a plan that addresses existing conditions and the impacts of future development.

¹ US Census Bureau, 2000.

Transportation planning can have a significant impact on land use and on a community's quality of life. A balance must be reached between planning for needed road improvements and maintaining the community's rural character. It is the intent of this Comprehensive Plan to document needed circulation system improvements that will enhance the safety and efficiency of the Township's road network, and to coordinate future residential and commercial development with the transportation system. Items of concern and planned improvements are shown on map A-4. This Comprehensive Plan also seeks to avoid increased accessibility to the Township's undeveloped areas and mitigate impacts on its rural landscape. This approach is consistent with the goal of preserving the Township's rural character and sensitive natural features, but recognizes the need to relieve existing pressures on the circulation system.

GOALS & OBJECTIVES

Goal #1 Provide a safe, efficient road system consistent with rural character.

Objectives:

- Improve safety, congestion, and access issues along Route 22.
- Limit access points on major roads.
- Promote road design that is consistent with the Township's rural character.
- Limit the construction of new roads in the Township's interior.
- Limit the construction of cul-de-sacs and promote through-streets.

Goal #2 Provide for alternative modes of transportation.

Objectives:

- Obtain a parking area for carpoolers.
- Promote public transit service to Penn National, Harrisburg, and Hershey.
- Promote sidewalks and bike paths where appropriate.

EXISTING CONDITIONS

Road Network East Hanover Township's road network is largely comprised of two-lane rural roads. The Township contains approximately 89 miles of public roads. The Township maintains Fifty-Nine miles. Thirty miles are maintained by the state. State maintained roads are Interstate 81, US22

(Allentown Boulevard), PA743 (Laudermilch Road), PA 443 (Mountain Road), Canal Road, Sand Beach Road, Manada Gap Road, and Manada Bottom Road.

Township maintained roads are primarily winding, two-lane country roads that provide local access for residents. These rural roads contribute to the community's character and should remain unchanged except to correct safety issues. Traffic is moderate on these roads.

The state maintained routes serve as the Townships main transportation arteries. I-81 carries heavy volumes of automobile and truck traffic across the center of the Township. The interchange in Grantville provides access to and from PA743, PA443, and US22 and thus generates additional traffic on these roads. US22 parallels I-81 to the south and also traverses the Township in an east-west direction. Congestion on US22 and the potential for deteriorating conditions as the corridor develops is a major concern. PA743 is a rural, two-lane road that serves as the main north-south route in the Township. It carries heavy automobile and truck traffic between Hershey to the south and I-81 to the north. Congestion and safety along this route are a major concern and pose one of the greatest challenges to the Township and the region. In June 2004, HATS adopted the PA39/743 Transportation and Land Use Study, which examines conditions along PA743 and identifies needed improvements (see *Other Transportation Issues* below).

Sand Beach Road, Manada Gap Road, and Manada Bottom Road distribute north-south trips through the western half of the Township. Traffic on these roads is moderate but increasing. The existing capacities of these roads should be maintained in order to preserve the rural character of this area of the Township.

Traffic Volume

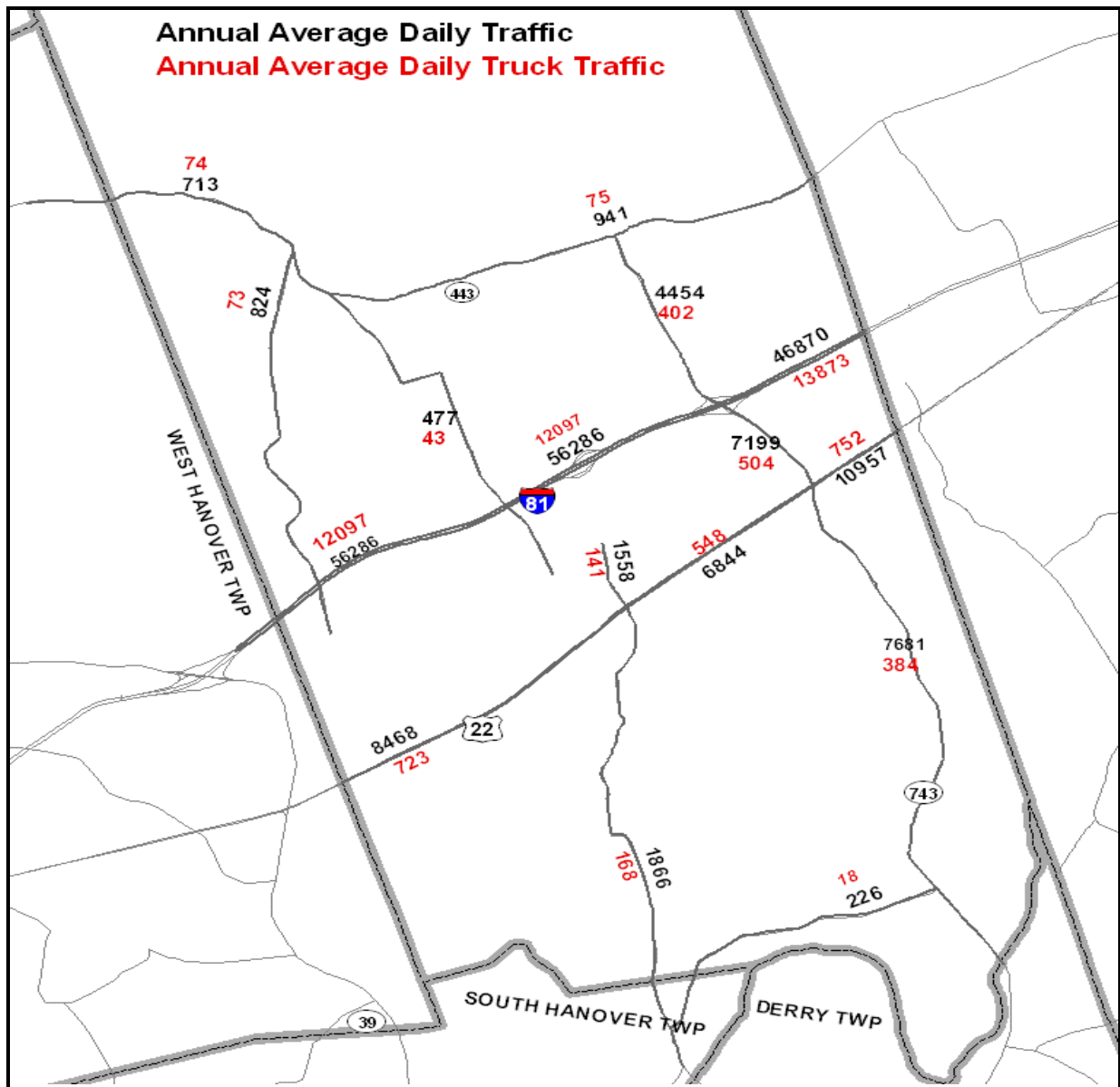
Traffic volume data are indicators of the potential for road capacity problems and help determine roadway function, design, and appropriate improvements. Plans for future residential and commercial development should consider current traffic volumes and potential impacts on traffic volumes. It is the intent of this Comprehensive Plan to avoid contributing to widespread increases in traffic volumes by coordinating growth with planned road improvements and focusing growth near roads with sufficient capacity.

Penn DOT's Annual Average Daily Traffic (AADT) counts include all types of vehicles (Figure 5-1). AADT data for East Hanover Township show the heaviest traffic volumes along I-81, PA743 and US22 (See Figure 5-1). I-81 carries an average of 64,469 vehicles per day west of the interchange and 50,362 vehicles east of the interchange, indicating that more traffic is flowing between PA743 and the Harrisburg area. PA743 carries an average of 11,413 vehicles per day between the Township's southern boundary and US22, and 5,547 vehicles between US22 and I-81. US22 carries an average of 8,290 vehicles per day on the segment that lies east of PA743, 7,704 vehicles on the segment between PA743 and Sand Beach road, and 10,309 vehicles between Sand Beach road and PA39 in

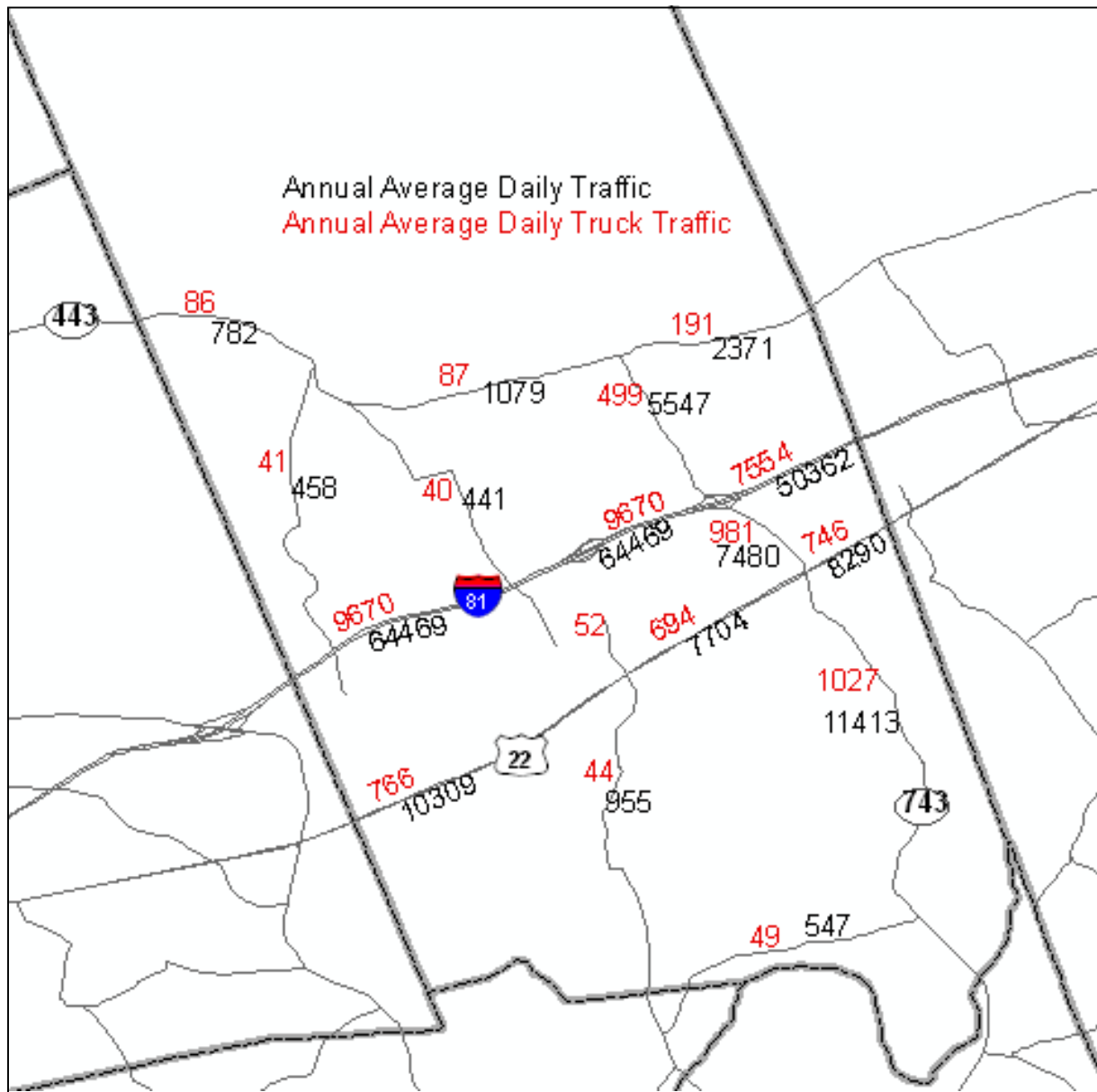
West Hanover Township. The traffic counts indicate that most traffic is flowing between PA743 and US22 and I-81.

Annual Average Daily Truck Traffic data shows heavy truck volumes on I-81, PA743 and US22 (Figure 5-2). I-81 carries 9,670 trucks west of the interchange and 7,554 trucks east of the interchange. PA743 south of US22 has the second highest volume of truck at approximately 1,027 per day. US22 carries 700 to 800 trucks per day. Again, traffic counts indicate that most truck traffic flows between PA743 and US22 and I-81.

Figure 5-1: Average Annual Daily Traffic Volumes for 1999



Source: Penn DOT Traffic Counts 1999 (Accessed 2009)

Figure 5-2: Average Annual Daily Truck Volumes for 2007

Source: Penn DOT Traffic Counts, 2007 (Published 2009)

A comparison of 1999 and 2007 traffic volumes reveals the following trends:

- Route 743: Significant increases in volume were found both south and north of the I-81 Interchange. The increases are higher on the southern side of I-81.
- Interstate 81: Decreases of truck volume both east and west of the Route 743 Interchange. Overall AADT has significantly increased.

- Route 22: Moderate increase of truck volume west of Route 743, with little change present on the eastern side of Route 743. Significant increase of AADT on the western side of Route 743 while a decrease is found on the eastern side of 743.
- Route 443: Significant increases of AADT are found from the eastern end of the Township to Manada Gap. Greater increases of Truck Traffic are found East of Route 743.
- Significant decreases of both Car and Truck Volume were found on Manada Gap Rd and Sand Beach Rd.
- Significant increases of both Car and Truck Volume were found on Canal Road.

Functional Classification

Both the East Hanover Township Zoning Ordinance and Subdivision and Land Development ordinance specify the functional classification of roads in the Township. However, there are inconsistencies between the two documents. Removing the list from the Zoning Ordinance and simply referencing the appropriate section of the SALDO should remedy this. Furthermore, the classification system should differentiate between urban and rural roads, similar to the functional classification system used by Penn DOT. The Township's road master is currently re-evaluating the roads and their functional classifications.

Implementation Strategies:

- Update the functional classifications of roads using Penn DOT's urban/rural scheme as a guide and amend the SALDO to reflect the updated classifications.
- Amend the Zoning Ordinance to remove the list of functional classifications of roads and instead insert a reference to the functional classifications contained in the SALDO.

Rural Roads

Township maintained roads are primarily winding, two-lane country roads that provide local access for residents. These rural roads contribute to the community's character and should remain unchanged except to correct safety issues. Construction of new roads in the Township's interior should be limited and any new road that is built should conform to a rural design.

Implementation Strategies:

- Establish ordinance provisions to regulate uses, setbacks, and signs, and billboards along rural roads.
- Establish landscaping requirements for land uses that front on a rural road.

Scenic Roads

Penn DOT administers the Pennsylvania Byways program, which recognizes selected roads for their cultural, historical, recreational, archaeological, scenic and natural qualities. Roads are designated as Pennsylvania Byways at the request of the local community and upon successfully completing an application process. Designation as a Pennsylvania Byway carries many benefits including the ability to protect of the road's qualities, eligibility for federal funding, marketing by Penn DOT and DCED, and eligibility for designation as a National Scenic Byway by the Federal Highway Administration. Designation as a Pennsylvania Byway also promotes local pride and heightens local desire to protect the road's qualities.

Seventeen Pennsylvania Byways are currently recognized. The nearest is the Lebanon-Cornwall Byway, which runs 14 miles along Route 419 between Routes 322 and 422. Potential candidate roads in East Hanover Township for Pennsylvania Byways designation are as follows:

- Mountain Road – for its scenic and natural qualities.
- Sand Beach Road – for its scenic and natural qualities and because it contains a portion of the Horseshoe Trail.
- Manada Bottom Road - for its scenic and natural qualities and because it contains a portion of the Horseshoe Trail.
- Jonestown Road – for its scenic qualities and historical significance as the first road leading west out of New York City.
- Devonshire Road – for its scenic and natural qualities.

Implementation Strategies:

- Establish ordinance provisions to regulate uses, setbacks, and signs, and billboards along identified scenic roads.
- Establish landscaping requirements for land uses that front on a scenic road.
- Require a viewshed analysis for new development and prohibit/minimize obstruction of views from scenic roads.
- Apply for Pennsylvania Byways designation for the Township's identified scenic roads.

Bridges

Penn DOT is responsible for ensuring that the 32,000 bridges in the Commonwealth are inspected according to state and federal regulations. Each bridge must be inspected at least once every two years. Some bridges, such as those with weight restrictions, are inspected once a year. Approximately 25,000 bridges are owned by the state and inspections are

performed by Penn DOT employees and consultants who are certified bridge safety inspectors. Penn DOT provides oversight for the approximately 7,000 bridges owned and inspected by local municipalities and other agencies. The Pennsylvania Turnpike Commission is responsible for inspecting its bridges and is required to submit the inspection information to Penn DOT.

Inspection data are used to determine when a bridge requires maintenance and repair actions. Penn DOT uses the combined inspection data from all bridges to plan future repair and replacement projects and to estimate the cost of such projects.

There are 23 state-owned bridges, 19 township-owned bridges, and 3 county-owned bridges in East Hanover Township. Five of the state-owned bridges have been deemed “structurally deficient” by Penn DOT inspectors, meaning that the bridge has deterioration to one or more of its major components. According to Penn DOT, although deterioration is present, a structurally deficient bridge is safe. Of these five bridges, four are identified on the HATS 2009-2012 Transportation Improvement Program (see Transportation Improvement Program below). Work on Manada Bottom Bridge 2 has been completed, and work on Manada Creek Bridge 2 is in progress.

Of the 19 township-owned bridges, the Dauphin County bridge engineer inspects nine bridges; the Township inspects the other ten. Six bridges are posted with weight restrictions. The three county-owned bridges are maintained by the county on township roads.

Township Bridge Projects

Three bridge improvement projects have been identified by the Township. Additional bridge projects are included in the HATS Transportation Improvement Plan (See “HATS Transportation Improvement Plan” section below). The bridge improvement projects identified by the Township are as follows:

B1 – Jonestown Road over Bow Creek between Spring Road and Bow Creek Road– Bridge weight is restricted to 15 tons and the bridge is rated as poor condition. Proposed remedy is the replacement of the existing bridge. The estimated cost is \$590,000. Funding approval is pending. The estimated completion is 2012

B2- Carlson Road Bridge over Manada Creek - The bridge carrying Carlson Road over the Manada Creek is a single lane structure and is currently posted for 18 tons. The bridge is located on a school bus route. Adjacent to the bridge is a dry hydrant that is utilized by the fire department to fill the tanker trucks from the creek. The bridge width does not meet current standards and the approach guide rails also do not meet current standards. The most recent Bridge Inspection performed in 2007 gives the bridge and overall structural condition appraisal of 5 (fair condition). The Proposed

Remedy is the replacement of the existing bridge at a cost of \$590,000. The estimated completion is 2013.

B3 – Crooked Hill Road over the East Branch Manada Creek between Carlson Road and Crawford Road – Bridge weight is restricted to 33 tons and the bridge is rated as poor condition. Proposed remedy is the replacement of the existing bridge. The estimated cost is \$475,000. Funding approval is pending. Completion in October 2011 is anticipated.

B5 – South Meadow Lane Drainage Improvements between Trail Road and Pheasant Road (south) – Failing and deteriorated drainage are in need of replacement. Estimated Cost \$66,000. Funding has been obtained through the county grant program. The estimated completion is 2012.

Implementation Strategies:

- Lobby HATS to have needed bridge improvements placed on its Transportation Improvements Program.
- Lobby Penn DOT to have needed bridge improvements placed on its Twelve Year Program.
- Continue to seek funding for need bridge projects.

Alternative Modes of Transportation

Alternative modes of transportation include airports, rail service, bus service, commuter lots, pedestrian facilities, and bikeways. Aside from carpooling, alternative transportation in East Hanover Township is extremely limited. Due to its low population density and location, public transit services have not been established in the Township. Residents can, however, access bus service as well as air and rail in nearby communities. Daily travel by foot or bicycle is limited and is not practical or feasible for most East Hanover residents.

Available alternative modes of transportation are:

- Airports: The nearest airport is Harrisburg International Airport (HIA) located in Middletown. HIA provides daily service to several east coast and Midwest cities and Toronto.
- Rail: Rail service is provided by Amtrak, which has stations in nearby Elizabethtown, Harrisburg, Lancaster, and Middletown. The Keystone train connects Harrisburg to New York City via Philadelphia. The Pennsylvanian connects Pittsburg to New York City via Harrisburg and Philadelphia.
- Bus: The following national and regional bus services are present in the near vicinity of East Hanover Township.

- Greyhound Lines provides nationwide service and has stations at Hershey, Hershey Medical Center, Hummelstown, and Harrisburg.
 - County of Lebanon Transit (COLT) is currently providing bus service between Fredericksburg, Lickdale, Indiantown Gap and the Hollywood Casino.
 - Capitol Area Transit (CAT) provides service between Harrisburg and Hershey. CAT also operates a Shared Ride/Paratransit Division. Seniors aged 65 and over ride free on all regularly scheduled CAT bus routes.
 - A network of ten community based transportation programs provide van service for all Dauphin County residents aged 60 and over.
- Hershey Intermodal Center: The Hershey intermodal Center is located adjacent to Hershey Park at West Chocolate Avenue and Park Avenue. It currently provides bus service; train service is proposed for the future. Capital Area Transit runs ten bus routes from this location, serving the Harrisburg region. A service agreement between CAT and Penn National was proposed in recent years but did not come to fruition. COLT does not use the Hershey Intermodal Center.
 - Carpool: An informal carpool lot has emerged on Bow Creek Road just south of the I-81 interchange, where carpoolers are parking in a field along the road. The Township is interested in arranging for a more suitable location for the carpool lot.

Implementation Strategies:

- Continue to participate in efforts by HATS and public transportation providers to expand service into appropriate areas of East Hanover Township.
- Meet with hotel operators and other appropriate parties to establish an arrangement for the sharing of, or dedication of space for a new carpool parking lot. Enlist the support of HATS in this effort.

**HATS
Transportation
Improvement
Program**

The Harrisburg Area Transportation Study (HATS) prepares a Transportation Improvement Program (TIP) every two years. The TIP reflects the priority projects adopted by HATS and is included in Penn DOT's Twelve Year Program. Input is solicited from HATS municipalities, the public and interested parties through a public planning process. TIP projects can include all transportation modes: highway, bridges, aviation, rail freight, public transit and other transportation modes. Projects in East Hanover Township that are included in the HATS 2009-2012

Transportation Improvement Program (and Penn DOT's Twelve Year Program) are listed below. It should be noted that Township project designations have not been included with these projects, as these were not considered to be immediate priorities for action by the Township.

- **Allentown Boulevard US 22 Bridge (HATS# MPMS 84012)** - Replace US 22 bridge over Manada Creek in East Hanover Township. Estimated time for completion is July 2013.
- **Manada Bottom Road Bridge 1 (HATS# MPMS 19106)** - Replace bridge on SR 2017 over Manada Creek in East Hanover Township. Estimated time for completion is 2017.
- **Manada Creek Bridge 2 (HATS# MPMS 74516)** - Replace bridge on SR 2017 (Manada Bottom Road) over Manada Creek in East Hanover Township (in progress). The estimated time for completion is July 2013.

Implementation Strategies:

- Continue to work to complete the bridge improvements listed on the TIP.
- Continue communications with HATS and Penn DOT to ensure that needed bridge and road improvements get placed on their TIP and Twelve Year Programs.

***Township-Identified
Transportation
Issues***

In addition to the projects included in the TIP, the Township has identified several other transportation issues that need to be addressed. The Township can lobby HATS to include these projects in its next TIP if it deems them to be priorities. It can also seek grant funding to assist with the cost of improvements. The issues on PA743 listed below have also been identified by HATS in its *PA39/743 Transportation and Land Use Study* (adopted June 2004).

PA743 experiences extremely high volumes of car and truck traffic traveling between Hershey and the I-81 interchange. These traffic volumes exceed the designed capacity of the roadway, causing congestion problems and safety concerns along the entirety of the East Hanover portion of the route. This is an issue of local as well as regional concern. Several issues have been identified by the township and HATS and are included the HATS *PA 39/743 Study*:

- **PA743 and Canal Road:** Sight distance is severely limited at this intersection due to a rise in the roadway. The PA39/743 Study recommends grading slopes to the north and south of PA743. It estimates the cost at \$11,600 and suggests use of local funds and Liquid Fuels funds.

- PA743 and Meadow Lane: Sight distance is severely limited for vehicles on Meadow Lane attempting to enter PA743 and for vehicles on PA743 approaching the intersection. The PA39/743 Study recommends realignment of the roadway, removing obstructions, and restricting access to right-in/right-out. It estimates the total cost at \$260,300 and suggests financing through state and federal funding and Penn DOT's Twelve-Year Program
- PA743 and US22: Stacking at the intersection of PA743 and US22 occurs at peak hours and causes delays at the intersection. The lack of turning lanes on to US22 contributes to the problem. Possible remedies cited in the PA39/743 Study include construction of a left turn lane on both northbound and southbound PA743, and a right turn lane on southbound PA743. The PA39/743 Study estimates total costs at \$3,174,000 and suggests financing through state and federal funding and Penn DOT's Twelve-Year Program.
- PA743 from Jonestown Road to US22: Congestion and stacking at intersections occurs at peak times along this segment of PA743. The PA39/743 Study recommends construction of northbound and southbound left turn lanes on PA743. Coordination of the traffic signals at Jonestown Road and at US22 would also help to relieve congestion and stacking. The PA39/743 Study estimates total costs at \$400,000 and suggests financing through state and federal funding and Penn DOT's Twelve-Year Program.
- PA443 at Bow Creek Road: Insufficient drainage causes pooling and generally wet conditions on PA443 at Bow Creek Road. Penn DOT recently improved PA443 up to Bow Creek Road and will continue the improvement eastward from the Lebanon County line. It is unclear at this time whether Penn DOT intends to eventually correct the drainage problem at Bow Creek Road. The Township should inquire about this and lobby Penn DOT to remedy the drainage problem.

Implementation Strategies:

- Work to get the funding from sources identified in the PA 39/743 Study in order to accomplish the recommended road improvements.
- Lobby HATS to place these projects on its Transportation Improvements Program.
- Lobby Penn DOT to place these projects on its Twelve Year Program.

In addition to the issues with PA 743, the Township has identified the following:

- **US22 Access Management:** The issue of multiple driveway access points along US22 is both a local and regional concern. Numerous access points along a roadway increase congestion and present hazards to safety. As the Township develops in the future it must limit and consolidate driveway access points directly to/from US22. A separate service lane can be installed parallel to US22 or to the rear of the businesses and homes along US22. Commercial development can also be contained to selected intersections along US22 to prevent strip development and the proliferation of driveway access points. Residential developments should be accessed from existing roads rather connecting new roads to US 22.

Implementation Strategies:

- Establish design guidelines for non-residential uses to require rear access lanes, side and rear parking, and minimal setbacks from the street line.
- Consider an Official Map to identify and obtain rights-of-way for access lanes along US 22.

- **Meadow Lane/Laudermilch Road Intersection Improvements (EHT Designation R3)** – There is poor sight distance at this intersection. The proposed remedy is to modify the profile and shoulders of Laudermilch Road to improve sight distance. Estimated cost \$330,000. Funding approval is pending. The estimated project completion is 2012.
- **Laudermilch Road / Kelly Court / Faith Road Intersection Improvements (EHT Designation R4)** – There is poor sight distance at these intersections along Laudermilch Road. The proposed remedy is to modify the profile and shoulders of Laudermilch Road to improve sight distances. Estimated cost \$270,000. Funding approval is pending. The estimated project completion is 2012.
- **Township wide Traffic and Street Signs Improvements (EHT Designation R14)** - Township street signs are missing or are not meeting current standards. The proposed remedy is to inventory and replace or install road signs as needed. Estimated cost \$100,000. Funding approval is pending. The estimated project completion is 2011.

Implementation Strategies

- Secure grant funding to complete identified projects.

- **Relocation of the carpool lot on Bow Creek Road at I-81:** An informal carpool lot has arisen where commuters are parking in a field along Bow Creek Road near the I-81 interchange. Due to safety concerns, the Township would like to find a new, nearby location for the carpool lot. The Township should speak to the hotel operators in the vicinity to arrange for permission to use of a portion of their parking lot as a carpool area.

Implementation Strategies:

- Meet with hotel operators and other appropriate parties to establish an arrangement for the sharing of, or dedication of space for a new carpool parking lot. Enlist the support of HATS in this effort.
- Continue discussions with representatives with CAT and Penn National Gaming to procure CAT Service to the casino.
- Place proposed location of parking lot on an Official Map.

- **Pollution from idling trucks:** Trucks frequently stop at the rest stop on I-81 in East Hanover Township with their engines idling for extended durations in order to maintain heating and air conditioning in the cab. Some newer trucks are equipped to provide heat and air conditioning without idling the engine. However, until all trucks are equipped, idling engines will continue to contribute to declining air quality in the area.

Implementation Strategies:

- The Township should discuss with Penn DOT and the FHWA any additional measures that can be taken to improve the existing rest stop to provide electrical, heating, air conditioning and other needed services.

- **Congestion and safety:** Minimizing traffic congestion and maintaining safe roads are the Township's primary transportation concerns. This becomes increasingly challenging as development increases across the Township.

Implementation Strategies:

- Amend SALDO to require a Traffic Impact Study.
 - Coordinate development density and type with transportation infrastructure.
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- **Cul-de-sacs:** Cul-de-sac streets prevent the flow of through traffic. The Township wishes to promote through streets and extend access to/from existing cul-de-sacs in order to facilitate the movement of traffic.

Implementation Strategies:

- Amend SALDO to remove construction of cul-de-sac streets as an option or to require an access easement at the end of cul-de-sacs.
- Adopt an Official Map to identify access drives at the end of existing cul-de-sacs where a through street connection can be formed.

PLANNING IMPLICATIONS

Transportation & Land Use

It is the intent of this Comprehensive Plan to coordinate growth with transportation infrastructure by directing future growth toward roads that will have adequate capacity and safety, and by discouraging growth in the Township's rural interior where roads are not designed to accommodate more growth and where future improvements are not planned. Because US22 and PA743 are the Township's main arteries and provide access to local and regional destinations, and because future improvements to these two roads are either pending or likely to occur in the future, they offer the most logical corridors for future growth.

However, future development of the US22 and PA743 corridors must be planned in a manner that avoids commercial strip development and sprawl along these two roadways, which would only exacerbate existing problems. Small-scale commercial and office development centered at main intersections along US22 and with rear access lanes and parking facilities will eliminate the potential for multiple curb cuts along that roadway. Small-scale commercial, office, and/or light industrial development on PA743 adjacent to Derry Township will take advantage of the proximity to Hershey and completed improvements to PA743 in that area. Setbacks and landscaping requirements should also be instituted to maintain the aesthetics of the roadways.

Improvements to roads in the Township's western interior will continued to be improved to maintain safety, but increased capacity should be avoided as this commonly leads to more traffic and higher speeds and can be a catalyst for more land development.

Plans for future road and bridge improvements must take into consideration the plan for future land use and the impacts of land uses on traffic volumes. At the time of a development plan application, a traffic impact study should be submitted to the Township.