Troy Mobility Plan

Draft Study Improvement Options

as of July 28, 2011

Background/Overview

This initial set of draft study improvement options was derived through meetings with the Study Steering Committee, interviews with area stakeholders, a community survey, and the results of a public open house held on March 2, 2011. They are also based on traffic analysis, review of accident history, and a safety audit.

The improvement options address the following broad categories:

- Roadway Geometry (size and layout of lanes and intersections)
- Operations (traffic signals and signal systems)
- Safety
- Ordinance-related issues
- Other planning-related issues and concerns

Draft Improvement Options

Draft improvement options are presented below in priority order, from highest to lowest priority. A discussion of the draft improvement options is organized around the following subheadings:

- statement of the improvement option,
- details surrounding the improvement option,
- why it is necessary,
- recommended priority,
- preliminary-level cost estimate,
- expected benefits, and
- level of community support.

The 14 suggested improvement options are:

- Upgrade the traffic signal at the intersection of US 6 and PA 14 in downtown Troy.
- Reconfigure the intersection of US 6 and East Main Street.
- Consider coordinating with Troy School District to provide Borough police support for directing traffic during school dismissal.
- Evaluate the need for warrants for signalizing the intersection of US 6 and PA 14 North.
- The Borough's Street Committee should continue addressing outdated signs.
- Extend High Street to intersect with Porter Road/SR 4008.
- Install a temporary, portable speed monitor trailer to improve compliance with posted speed limits.
- Install a new traffic sign to prevent traffic from blocking access to the Troy Community Hospital emergency room driveway entrance.
- Add pavement marking lines to designate on-street parking spaces.
- Inventory and upgrade borough sidewalks to provide pedestrian safety, continuity, ADA (Americans with Disabilities Act) compliance, and an acceptable condition.
- Develop a formal five-year Capital Improvement Program (CIP).
- Incorporate access management provisions into the subdivision and land development ordinance.
- Provide improved street lighting along US 6/Elmira Street.
- Address turning radii at the intersection of US 6 and Ballard Street.

A. Upgrade the traffic signal at the intersection of US 6 and PA 14 in downtown Troy.

Priority: HIGH **Planning Level Cost Estimate: $200,000 (assumes full replacement of all equipment)**	**Benefit**: Upgrades to the existing signal will improve traffic flow, safety, and intersection performance.

Background: The borough's primary traffic signal controls the intersection of US 6/Elmira Street with PA 14/Canton Street. The signal was originally installed in 1986 and has not been upgraded since April 2005. In the ensuing years, travel demand in the borough has changed dramatically, making the signal and its operations out of date. This has contributed to traffic congestion and safety concerns in the downtown area. The signal is pre-timed (as opposed to being an actuated signal triggered by the presence of a vehicle), which results in wasted green

time and deteriorating intersection performance.[1] The issue is one of the public's top concerns, as demonstrated through the community survey—more than 80 percent of survey respondents cited "improving traffic congestion downtown" as a high study priority. No other issue received a higher rating from the public.

Action:

1. ***The Borough should upgrade this signal to provide video detection and actuation for improved intersection performance.*** As part of the upgrade, the project should include countdown pedestrian signals to provide a greater margin of safety for pedestrians crossing the intersection. The upgrade should also consider the potential of providing "dynamic maximum" capabilities—which allows the signal to adapt to increases in traffic[2]—since the westbound approach on US 6 is prone to queuing during the PM peak hour. Finally, a new signal should have pre-emption capability for emergency responders.

2. ***The Borough should coordinate with PennDOT 3-0 and NTRPDC (the Northern Tier Regional Planning and Development Commission on funding options as part of programming this potential project.*** There are several funding programs that could be considered, including:
    a. *ARLE* – Automated Red Light Enforcement Funding Program –This program is currently limited to 20 specific intersections within the City of Philadelphia. The revenue being generated from this program is being used to provide additional funding reimbursement statewide to municipalities for safety and mobility improvements. Eligibility is broad and the program does not require a local match.
    b. *PCTI* – Pennsylvania Communities Transportation Initiative – Several Northern Tier communities (including Wellsboro and Mansfield) are currently benefitting from this relatively new state program. Two rounds of funding have already been made available for similar projects; the most recent, in January 2011, made $24 million available statewide.
    c. *TIP* – Transportation Improvement Program – During the second half of 2011 NTRPDC will begin soliciting municipalities across the region for candidate projects for the 2013 TIP.

3. ***The Borough should plan to retime the signal on a recurring five-year cycle.*** As the owner of the signal, the Borough should program and amortize the costs of signal maintenance as part of a multi-year Capital Improvement Program (CIP). This is consistent with PennDOT District 3-0's recommended maintenance practices.

[1] US 6 westbound currently operates at Level of Service "D" during the PM peak period and "F" during the AM peak period.

[2] Maximum green time is adjusted cycle-by-cycle, varying with traffic conditions.

B. Reconfigure the intersection of US 6 and East Main Street.

Priority: HIGH **Planning Level Cost Estimate: $330,000**	**Benefit**: A redesigned intersection should improve safety for all users—motorists, pedestrians, and bicyclists. A redesigned intersection should also reduce the speed of traffic from Elmira Street onto East Main Street.

Background: The intersection is unsignalized and features awkward roadway geometry, with US 6 changing direction through the intersection and East Main Street intersecting US 6 at an acute angle. A driveway to a general store also intersects and effectively creates a third leg. The intersection features a wide throat, which makes motorists' actions less predictable and safe. The geometry of the intersection makes it confusing for motorists, bicyclists, and pedestrians alike. As such, issues at the intersection center more on safety than capacity. According to survey respondents, 64 percent cited "the intersection of US 6 and East Main Street" as a high study priority.

The parking lot to the general store is the largest off-street parking area in Troy. The area also provides access for delivery trucks to the rear of the commercial establishments lining Canton Street. Any improvement to the intersection must be able to accommodate the needs of motorists, delivery trucks, bicyclists, and pedestrians. Turning radii at driveways and intersections should be designed to balance the impacts on truck circulation and pedestrian crossing distances. The Institute of Transportation Engineers (ITE) recommends that curb return radii "be designed to accommodate the largest vehicle type that will frequently turn the corner." Pedestrian traffic at the intersection is generally light.

It should be understood that if this project were to advance for state and federal funding, more advanced studies and engineering evaluations of various alternatives would be performed. Current study results provide a beginning point for some future course of action.

Actions:

1. ***The Borough should continue the dialog with adjacent property owners begun through this study.*** This would include discussions concerning the future intersection geometry and points of ingress and egress to affected properties.

2. ***The Borough should involve PennDOT District 3-0 and NTRPDC to consider this project as part of the region's 2013 Transportation Improvement Program.*** Development of this program is scheduled to begin during the second half of 2011. Additional engineering work and traffic studies would be conducted as part of the project's preliminary engineering phase.

C. Consider coordinating with Troy School District to provide Borough police support for directing traffic during school dismissal.

Priority: HIGH

Benefit: Improved safety during times of school dismissal.

Planning Level Cost Estimate: $330,000

Background: According to the study's community survey, approximately 52 percent cited "the intersection of US 6 and King Street" as a high priority to be addressed. The intersection is the site of a crash cluster and is heavily affected by the release of students during school dismissal. The school district has a fleet of 22 buses in regular use (out of a total fleet size of 31, overall) in addition to a number of vans and smaller vehicles in circulation.

The school district has taken steps in recent years to address traffic circulation and the impacts that it has on the borough's overall travel patterns. For instance, in 2006-07, the district acquired a property on John Street to allow traffic to exit a school parking lot onto John, then north to High Street, then south on King Street before ultimately exiting onto US 6. This routing prevents school traffic from trying to access US 6 from three different side streets. Student busing is currently on a K-12 basis, which precludes the option of staggering school dismissal times to alleviate traffic issues.

In the past the district has placed a school crossing guard at the intersection of King Street and US 6 to facilitate the safe movement of traffic. However, this is not in conformance to Title 67 of the Pennsylvania Code, which states that crossing guards have authority to assist school children cross busy or hazardous highways, but not to direct traffic. The practice was discontinued in September 2009.

Action:

1) ***The school district should coordinate with Troy Borough to arrange for police or fire police to direct traffic*** at the intersection to improve safety and traffic flow.

D. Evaluate the need for warrants for signalizing the intersection of US 6 and PA 14 North.

Priority: HIGH **Planning Level Cost Estimate: $330,000**	**Benefits**: A warrant analysis would effectively determine the need for signalized control of the intersection. A signalized intersection would provide greater capacity for traffic southbound on PA 14 and a greater measure of safety for motorists making right turns onto US 6 westbound.

Background: Of the five intersections examined in detail as part of this study, the intersection of US 6 and PA 14 North is the only one to register a Level of Service (LOS) of "E" or "F." Traffic engineers have recorded the southbound approach of PA 14 to be operating at LOS "E" during the AM peak period, "D" during the midday peak period, and "F" during the PM peak period. Because it can be so difficult to make a left onto US 6 at that intersection, eastbound traffic has been observed turning west onto US 6, then turning around in the Tops parking lot to go east on US 6. Intersection performance is expected to grow worse. More than 57 percent of survey respondents cited "the intersection of US 6 and PA 14 North" as a high study priority. The approaches on US 6 both operate at LOS "A" at all times of the day.

Action:

1) ***Troy Township should request approval to have a more detailed traffic study conducted at the intersection of US 6 and PA 14 North.*** The purpose of the study would be to determine whether the intersection meets warrants, or criteria, for signalization. There are nine warrants overall that could be considered, including eight-hour vehicular volume and four-hour vehicular volume. Justification for any new signal would need to be prepared by a traffic engineer and reviewed by PennDOT District 3-0. If a new traffic signal is justified, PennDOT would process a traffic signal maintenance agreement with the township. Final design of a new signal would not begin until an agreement is in place. The township would then need to commit funding to have a signal designed and installed.

E. The Borough's Street Committee should continue addressing outdated signs.

Priority: HIGH **Planning Level Cost Estimate: $330,000**	**Benefits**: A primary benefit of implementing such an action will be to position the borough ahead of FHWA (Federal Highway Administration) deadlines for sign compliance. Developing a sign inventory would also help the Borough reduce sign and installation costs, while improving motorist safety. The benefits of reducing crashes (including the resultant loss of life and property), far outweigh the cost of managing a sign inventory.

Background: A roadway safety audit conducted in November 2010 identified numerous signs throughout the borough that are outdated, faded, or out of compliance with the Manual on

Uniform Traffic Control Devices (MUTCD).[3] Most importantly for Troy, many signs will soon be out of compliance to new federal standards being implemented through the MUTCD:

- By January 22, 2012, the Borough will be required to have a plan in place to address minimum levels of retro-reflectivity of its highway signs.
- By January 22, 2015, the Borough must replace regulatory, warning, and ground-mounted guide signs not meeting retro-reflectivity requirements.
- By January 22, 2018, the Borough must replace overhead guide signs and street name signs not meeting retro-reflectivity requirements.

Failure to replace non-compliant devices by the prescribed compliance date could result in a withholding of federal funds.

Actions:

1) ***The Borough Engineer and Street Committee should develop a plan for addressing minimum levels of retro-reflectivity*** on its street signs and begin a program for their replacement.

2) ***The Borough should consider developing a sign inventory.*** Traffic signs provide one of the greatest benefit-cost ratios of transportation-related improvements since they are a relatively low cost tool for reducing crashes.

F. Extend High Street to intersect with Porter Road/SR 4008.

Priority: MEDIUM

Planning Level Cost Estimate: $4.6 million

Benefits: A new roadway link connecting High Street with Porter Road would reduce travel demand and traffic congestion on US 6 by giving motorists an alternative. The new connector would help "complete" the borough's roadway network.

Background: The topography of Troy Borough has dictated the scale and development of its housing developments and street patterns. The lateral confinement posed by Sugar Creek and its tributaries has forced Troy to develop largely off of what is now known as US 6 and PA 14. As a result, there are few connecting roadways that would help complete the borough's roadway network grid. This means that both local and through trips must use US 6.

PennDOT has promoted the concept of "Smart Transportation," one of the tenets of which is developing a complete roadway network. Having a grid of streets rather than just one street through town helps disperse traffic. Creating a more developed (and efficient) network can disperse traffic rather than concentrating it at a handful of intersections.

[3] Traffic engineers audited nine locally-owned streets within the borough, in addition to US 6 and PA 14. A summary appears in Appendix X.

A Beta Index of Troy Borough's street network indicates that the borough has a ratio of 1.3, which is the total number of roadway segments divided by the total number of intersections. This is generally in line with a traditional development rate of 1.4.[4] The higher the ratio, the higher the level of street connectivity. However, in communities such as Troy where there are few alternate routes and interconnecting roadways, an incident on any segment (such as a crash or maintenance work) will create greater delays than in communities with more alternate routes.

In the case of High Street, the roadway is used extensively by the Troy Area School District. The district has approximately 1,570 students, of which 1,300 are bused. None of the district's buses serves students living within Troy (with the exception of special needs students). The school district is large (approximately 275 square miles), and a planned consolidation of the district's elementary schools will introduce more bus traffic to Troy Borough, as more modern schools such as W. R. Croman will receive new students from East Troy and from outlying areas such as Mosherville Elementary School in Millerton. What was formerly the middle school will now be the Troy Intermediate School (grades 3 through 6), while the junior/senior high school will now consist of grades 7 through 12.

Actions:

1) ***The Troy Area School District and Troy Borough should begin preliminary discussions aimed at the eventual extension of High Street to Porter Road.*** The proposed project would see a new, bi-directional local road approximately 475 feet long[5] and a structure crossing a tributary of Sugar Creek.

2) ***The Borough should coordinate with PennDOT District 3-0 and NTRPDC in placing the proposed project on the region's 2013 Transportation Improvement Program (TIP) as a possible candidate for funding under the Highway Safety Improvement Program (HSIP).*** Funding is allocated by PennDOT to NTRPDC on a formula basis consisting of lane miles, vehicle miles of travel, highway fatalities, and reportable crashes. Projects using HSIP funds must be included as part of an overall PennDOT- and FHWA-approved Safety Program.

If the project cannot be programmed using state and federal dollars, the project could be considered as part of a local public/public partnership between the Borough and the school district to succeed as a long-range strategy.

[4] Ewing, R. (1996) *Best Development Practices*
[5] From the end of High Street

G. Install a temporary, portable speed monitor trailer to improve compliance with posted speed limits.

Priority: MEDIUM

Benefit: A speed trailer will provide an automated, low-cost option for addressing speeding issues along this segment of US 6 in the borough.

Background: Speeding motorists can be a problem in any community, and Troy is no exception. One of the most common complaints raised through the study process was that of the safety risks posed by speeding, particularly on East Main Street and West Main Street adjacent to the Martha Lloyd campus. More than 68 percent of respondents to the study's community survey indicated that the "enforcement of traffic laws, such as speeding" should be a high priority for the Borough to address. For the five-year period ending in 2009, 10 percent of all reportable crashes on US 6 within the borough were attributed to "driving too fast for conditions." The Borough has, in fact, stepped up speed enforcement in these areas of the borough.

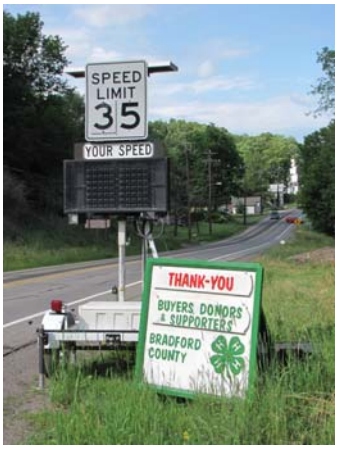

Figure 1: An example of a speed monitor trailer in Alba Borough.

The Borough is also participating in the PA Aggressive Driving Enforcement and Education Program (ADP). The ADP provides federal funds to the state to reimburse an officer's commitment to ticketing aggressive driving violations such as speeding and tailgating, seat belt enforcement and red light running, and handing out pamphlets. The Borough was approved for participation in ADP in 2012, and is the only municipality in Bradford County that is a part of the grant.

There is presently a pedestrian-actuated intersection serving the residents of the Martha Lloyd Community Services campus, in addition to a signal phase for a driveway for this campus where it intersects US 6.

Action:

1) ***The Borough should approach PennDOT District 3-0 concerning the use of a speed monitor trailer*** on a temporary basis to discourage speeding on borough streets. While there are currently no formal PennDOT publications dealing with the issue of a Speed Display Sign (SDS) System, PennDOT's Bureau of Highway Safety and Traffic Engineering has developed a process for a permanent installation if the Borough can demonstrate a problem using speed (radar) data. A pre-study and after-study would need to be conducted to determine the effectiveness of the speed monitor. PennDOT District 3-0 has a trailer it loans to municipalities—a permanent installation is not recommended due to various concerns with liability, cost (ranging from $10,000 to $12,000), and long-term effectiveness. The Borough can obtain the trailer for temporary use through a letter request to the District.

H. Install a new traffic sign to prevent traffic from blocking access to the Troy Community Hospital emergency room driveway entrance.

Priority: MEDIUM

Benefit: The new sign provides an economical way to better manage the driveway's intersection with US 6/Elmira Street. This is efficient, as the hospital is planning to relocate in two to three years.

Background: Due to traffic queuing on US 6/Elmira Street, the driveway entrance to the Troy Community Hospital emergency room can become blocked to motorists. Some roadway treatments, such as "Don't Block the Box" pavement markings can be a maintenance concern, and are not recommended.

Figure 2: an example of an R10-7 series traffic sign, from the Manual of Uniform Traffic Control Devices (MUTCD).

Action:

1) ***The Borough and Troy Community Hospital should petition PennDOT District 3-0 to install signing,*** such as the R10-7 sign, pictured here. According to PennDOT, this sign can be modified to read "Driveway," as opposed to "Intersection."

I. Add pavement marking lines to designate on-street parking spaces.

Priority: MEDIUM

Planning Level Cost Estimate: $4.6 million

Benefit: Delineation of on-street parking will increase parking capacity downtown. This is especially important in light of the expected loss of other on-street parking spaces due to other study recommendations aimed at improving intersection capacity.

Background: The location and availability of parking is an important component of any downtown business district. Many businesses benefit from the door-to-door convenience offered by the availability of on-street parking. In Troy, on-street parking is available on Canton Street and on East and West Main Street. The availability of on-street parking not only provides consumers with easy access to downtown businesses, it also serves as a protective buffer between pedestrians and downtown traffic. By constricting the widths of the travel lanes, on-street parking causes traffic to slow down to safer speeds.

Despite the availability of on-street parking, many spaces downtown are not properly delineated. When spaces aren't clearly painted, motorists tend to park farther away from each other, meaning fewer cars can fit in on-street parking areas. Adding pavement markings would provide a low-cost solution to adding on-street parking capacity downtown.

There are also large-lot off-street parking spaces available downtown, most notably by the Dollar General store. The Borough has also received a grant to acquire the Schucker property (on the west side of Canton Street between West Main and Redington Avenue) to be developed

into approximately 20 to 30 additional off-street parking spaces. The Borough's subdivision and land development ordinance was adopted in 1978, and does not contain any provisions for the layout and design of parking lots.

Action:

1) ***The Borough's Street Committee should better define on-street parking spaces on Canton Street with pavement markings.*** Related to this action, the Borough and its study partners should also consider the following:

    a. The Borough should install signing limiting on-street parking to two hours to improve parking enforcement.
    b. The Borough and Chamber of Commerce should discourage downtown merchants from using on-street parking spaces for owners and employees in order to free up additional parking capacity for downtown shoppers.
    c. Borough police should enforce a "No Parking" zone at the corner of Canton Street and West Main Street.

J. Inventory and upgrade borough sidewalks to provide pedestrian safety, continuity, ADA (Americans with Disabilities Act) compliance, and an acceptable condition.

Priority: MEDIUM

Benefit: A well-maintained sidewalk network will benefit Troy Borough by providing residents with improved pedestrian connections. Pedestrian transportation is a fundamental government service, since it has a high number of potential users. Improved sidewalks can enhance safety, sense of community, and health and wellness. Sidewalks can also improve property values.

Background: Troy's sidewalk system currently shows significant signs of aging and is in need of a comprehensive inventory and evaluation to appropriately allocate funds for repairs and restoration of important linkages. The Borough conducted a safety audit of its pedestrian facilities in November 2010 along nine borough streets, in addition to Elmira Street and Canton Street. The audit uncovered numerous examples of sidewalks and crosswalks that were either in poor condition, not ADA-compliant, or missing altogether. In these instances, pedestrians must walk in traffic lanes for access.

A community's walkability is increasingly important to prospective residents, and research shows that the market for more walkable communities is increasing. Those over age 60 and those under age 40 are showing the greatest interest in communities where it is easy and safe to walk to local shops, restaurants, schools, parks, and other local destinations. Demographically, more than 40 percent of Troy's resident population is over the age of 65 or younger than age 18. In terms of community interest, 62 percent of survey respondents indicated that the availability

of sidewalks and crosswalks should be a high study priority. An additional 60 percent said that sidewalk maintenance/condition was also important.

Actions:

1) ***The Borough planning commission should identify a network of priority bicycle/pedestrian facilities in the borough.*** Priority streets would include those that link neighborhoods with schools, park areas, and the downtown commercial district. The planning commission should use the following elements to help prioritize the most important linkages:
    a. Major Pedestrian Generators – These include areas around facilities such as schools, parks, the downtown central business district, and other public places that are natural generators of pedestrian traffic that should be given priority.
    b. Street Classification – Sidewalks that parallel higher-order streets such as Canton and Elmira Street and those that connect to state roadways should take precedence since they would have a higher potential for pedestrian use.
    c. Missing Links – These include areas where sidewalks are discontinuous or where the network is incomplete. Often there are worn trails or "goat paths" along the roadway that provide evidence of pedestrian demand.
    d. ADA Compliance – These include areas where sidewalk grade is excessive, or where there are missing curb ramps or where detectable warning surfaces are not parallel to the intersection (such as at the intersection of High and King streets).
    e. Street Resurfacing Programs – The planning commission should be aware of future roadway resurfacing projects. Any such maintenance to the roadway requires that corresponding sidewalk and ramps be ADA-accessible. This step then should be coordinated with existing Borough plans and maintenance programs.

    The network could be identified and captured in a GIS (Geographic Information System) database with assistance from NTRPDC, or more simply on a PennDOT Type 5B borough map. A public campaign could also be launched to assist in identifying the worst locations in the borough's sidewalk inventory. An alternative to using the planning commission would be to appoint a citizen task force to provide input.

2) ***The Borough should consider setting money aside to address sidewalk repairs,*** either through offering low-interest loans to private property owners or by spending money directly on sidewalk repairs. The Borough could also consider using federal Community Development Block Grant funds (CDBG) to address sidewalk repair issues in low- to moderate-income neighborhoods.

Other options include applying for funding from the DCED's "Keystone Community" program (which is the successor to the Elm Street program). Governor Corbett's 2011 budget streamlines and consolidates key programs and services under this new Keystone Communities program, which is poised to serve as the Commonwealth's core community revitalization tool.

K. Develop a formal five-year Capital Improvement Program (CIP).

Priority: MEDIUM	**Benefit**: The use of a multi-year Capital Improvement Program will give the Borough a useful planning tool for planning, monitoring, and maintaining its most important transportation assets.

Background: Not all transportation projects can be completed through the use of state or federal dollars. Developing a Capital Improvement Program (CIP) will enable the Borough to develop a schedule or list of projects for which public funds are needed beyond normal operations and maintenance. The CIP enables better prioritization of projects and programming of funds over a period greater than a fiscal year. It brings together a full range of funding options for evaluation, going beyond what might be available for state and federal funding through the Northern Tier's TIP.

Many Pennsylvania municipalities (including Troy Borough) do not manage or maintain a multi-year CIP. A recent survey conducted by the state Transportation Advisory Committee during Spring 2011 found that only 38 percent of the state's boroughs maintain such a program.

Action:

1) ***Members of the Troy Borough Planning Commission should develop a draft CIP for council's consideration.*** The Pennsylvania DCED has developed specific guidance for developing CIPs as part of its Planning Series. The CIP should be developed/maintained as part of the update to the borough's comprehensive plan.

L. Incorporate access management provisions into the subdivision and land development ordinance.

Priority: MEDIUM	**Benefit**: This action provides a relatively inexpensive solution for improving safety and capacity along US 6 and PA 14 by reducing conflicts.

Background: The main streets in the borough are accessed freely by numerous driveways. Safety data from PennDOT's Bureau of Highway Safety and Traffic Engineering indicate that a majority of reportable crashes on state-owned roadways within the borough are rear-end and angle collisions.

Improved access management would serve to reduce the total number of driveways or decision points along the roadway, increasing safety for motorists, pedestrians, and bicyclists. In addition to safety, improved access management can also enhance roadway capacity.

Actions:

1) ***The Borough should develop and adopt an Access Management Plan and Ordinance*** which would require shared driveways and parking areas, thus improving roadway capacity and safety. Over time, the Borough should attempt to obtain an average spacing of 250 feet between access drives. PennDOT's Model Ordinance can be accessed online at http://www.dot.state.pa.us and can be used as a guide in developing the local ordinance.

2) ***The Borough should work with individual property owners and businesses*** in encouraging them to create driveway connections between their properties and potential opportunities for joint parking.

3) ***Owners of new development should be encouraged to allow for joint use and access,*** with a maintenance agreement that outlines maintenance responsibilities. As site plans are submitted, access points should be planned for adjacent parcels to encourage joint driveways.

M. Provide improved street lighting along US 6/Elmira Street

Priority: LOW

Benefit: Improved lighting would enhance visibility and safety for motorists, pedestrians, and bicyclists using US 6/Elmira Street.

Background: The issue of improved lighting on US 6/Elmira Street between East Main Street and the McDonald's restaurant was cited by several during the study process as an important study issue. The issue in fact even pre-dates this mobility study, dating back to the development of the joint comprehensive plan with Troy Township. PennDOT crash data from 2005-09 indicate that 17 percent of crashes (a total of six) on Elmira Street occurred at nighttime or during times when the street was illuminated by street lighting.

Act 129 of 2008 declared that "the public interest would be served by the adoption of energy efficiency and conservation measures." Due to the environmental issues associated with mercury, Penelec, during Spring 2011 exchanged the borough's mercury vapor lights for high-pressure sodium vapor fixtures. The new lights will be more energy efficient and will not lose their lumens (or fade) over time, as mercury vapor lights are prone to do.

Only 28 percent of survey respondents cited this as a high study priority.

Actions:

1) ***The Borough should work with Penelec and PennDOT*** in monitoring the adequacy of lighting along this portion of US 6/Elmira Street. Requests for new lights or additional wattage should come from the Borough to Penelec in response to consumer demand.

N. Address turning radii at the intersection of US 6 and Ballard Street.

Priority: LOW **Benefit**: Increased safety at the intersection.

Planning Level Cost Estimate: $130,000

Background: The intersection of US 6 and Ballard Street features small turning radii (the turn is too tight for large trucks). In the past, trucks served the stock barn; today, Ballard Street provides access to drivers of water trucks seeking access to the borough's municipal well. Some damage has been done to the curbing along US 6 at this intersection due to the substandard turning radii.

Action:

1) ***The Borough should coordinate with PennDOT District 3-0 and the First Presbyterian Church to increase the turning radius at the southeastern corner of the intersection of US 6 and Ballard Street.*** A permit would be required through the PennDOT District's Permits Unit.

Other Study Considerations

The study process also uncovered other issues and concerns that are not being addressed through any formal recommendations, yet are still items of concern for the Borough.

A. Use of Mud Creek and Porter Road as local reliever routes.

Background/Overview: These state-owned roadways provide mobility in the greater Troy area and have been used as local reliever routes. Both roadways are posted at 10 tons. These roadways, however, do not have adequate pavement condition for trucks, and should not be recommended to be signed or promoted as formal bypass routes for Troy. Locals who are aware of these routes will use them anyway.

Only 42 percent of survey respondents cited this as a high study priority.

B. A pedestrian crosswalk along Canton Street south of the intersection of US 6/PA14.

Background/Overview: There is no mid-block crosswalk in downtown Troy between US 6/PA 14 and Redington Avenue. There had been some interest expressed through the study process for a mid-block crosswalk to be installed in the downtown area on Canton Street. Despite the apparent benefits of such a recommendation, it is not being recommended for the following reasons:

- It is generally preferred to have all pedestrians cross at a controlled point where traffic will be stopped (e.g., the upgraded signalized intersection downtown).
- Mid-block crossings tend to provide a false sense of security—the pedestrian thinks he is safe since he is crossing in a crosswalk, but motorists may not always do their part and stop.
- Additional on-street parking spaces would need to be removed to accommodate a new mid-block crosswalk. PennDOT does not permit parking within 75 feet of a mid-block crosswalk,[6]which would equate to a loss of 16 on-street parking spaces. PennDOT also requires that any proposed mid-block crossing be a minimum of 300 feet from the nearest marked crosswalk.

[6] PennDOT Traffic Publication 46