



## Final Report

October 2011

Prepared by

 **Gannett Fleming**



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## Executive Summary

### Why did we conduct this study?

Transportation facilities and services are vital community assets. Providing the financing for these assets is a joint responsibility shouldered by federal, state, and local government. Our current financial environment is very unstable, as evidenced by the series of Continuing Resolutions from Washington instead of a more predictable updated transportation bill. This environment has made even *planning* for future transportation services challenging. Despite these challenges, in 2010, decision-makers at Troy Borough launched a mobility analysis of the community. The Borough worked collaboratively with the Northern Tier Regional Planning and Development Commission (NTRPDC) in authorizing this study of our transportation facilities and services, with the goal of developing a plan for addressing the borough’s most important transportation concerns.

Two hundred years ago, the Commonwealth provided assistance for the construction of the roadway between Troy and Williamsport that is now known as PA 14. Work on the road proceeded as far north as Canton by 1805, and pushed onward to Troy and eventually, Elmira, New York. At that time, it met the most important demand for travel in Bradford County. Given the success of the new road, a railroad was first proposed as early as 1852 and was eventually surveyed and developed as the Northern Central Railroad. It was the first railroad built in Bradford County, and Canton and Troy were the primary communities served by the line. In building the new railroad line, its builders exclaimed, “It taps a rich region of country all along its line.”<sup>[1]</sup>

Since those years, the importance of roadways has eclipsed the central role of railroads in Troy and in Bradford County. The railroad maintained a presence in Troy until 1972, yet the roadways have continued to increase in importance. Today, the borough’s roadways must fulfill demands for both local and long-distance travel.

The richness of the Greater Troy region’s assets has once again highlighted the need for improved transportation in and through the borough. The rise of Marcellus shale gas extraction activity—largely unknown as recently as 2007—

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<sup>[1]</sup> “History of Bradford County,” H.C. Bradsby, 1891

has been a phenomenon that has underscored the borough's current transportation deficiencies. Western Bradford County has become a hotbed of well drilling activity, and the travel demand that is associated with it. Troy Borough is located in the center of this activity, as shown in Figure 1.

The increase in traffic has brought benefits—as well as burdens—to Troy. The increase in traffic

congestion downtown, more reportable (severe) crashes and non-reportable crashes (fender-benders), and a greater sense of uneasiness for pedestrians crossing the street highlight the significant growth in travel demand through the borough, particularly for trucks. In fact, as work on this plan drew to a close in September 2011, an elderly pedestrian was killed by a commercial truck while crossing Canton Street. This tragic accident highlights the need for infrastructure (such as intersections and crosswalks) that minimize the potential for such incidents, as well as the need for improved attention to safe practices by both pedestrians and drivers.

The transportation funding picture in Harrisburg and Washington means that expensive capacity-adding projects can rarely be considered. Expensive bypasses or expanded intersections cannot always be funded. Communities must turn to more cost-effective approaches to address the transportation challenges of today and the future.

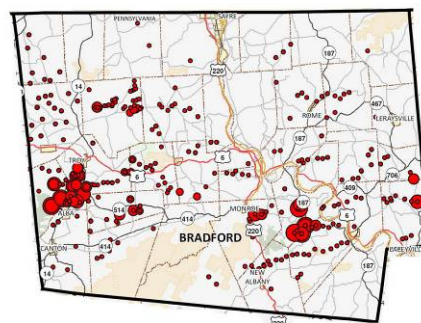
This report highlights the road ahead for Troy, and how the borough aims to improve its efforts at planning, maintaining, improving, and operating its transportation system into the future.

## What was studied, and how?

The Project Steering Committee members provided the overall direction for the study. The study team collected and analyzed data for the study area related to:

- People (population composition and trends),
- Transportation (system performance and safety), and
- Traffic (volumes and turning movement counts).

**Figure 1: Marcellus Shale Well Production, 2009-10**



Source: PennDOT GIS

## Study Methodology

- Project Advisory Committee
- Data Collection
- Stakeholder Input
- Community Survey
- Public Open Houses
- Development of Draft Recommendations and Outreach
- Final Report/Executive Summary

The team also collected anecdotal data with subjective input offered by the Project Steering Committee, a community survey, public open houses, an interactive Web survey, and stakeholder groups such as senior citizens.

Facts and opinions about the study process are highlighted on the following pages, and presented in detail in subsequent sections of this report.

## Facts: Highlights of Study Area Data

**Stable Socio-Demographics:** Over the past 60 years, the combined populations of Troy Borough and Troy Township have remained between 2,700 and 3,200. Data from the 2010 Census indicate that the greater Troy region now has just under 3,000 persons. The data indicate that the area has remained extremely stable demographically, even as travel demand and associated traffic volumes have continued to rise on area roadways.

**Intersection Choke Points:** There are four primary intersections within Troy Borough and Troy Township that pose bottlenecks to traffic. Issues at each vary, from outmoded operations to awkward roadway geometry to a lack of proper safety treatments altogether. The intersections highlight the borough's transportation concerns from the standpoint of safety and mobility. Other studies, such as NTRPDC's Marcellus Shale Freight Study, have identified Troy Borough as a choke point for freight-related traffic.

**Rising Traffic Volumes:** After experiencing several years of declining travel demand, the introduction of the Marcellus shale gas extraction industry to the region has brought increasing levels of truck traffic at a scale previously unknown. Traffic volumes on US 6 just east of Troy, for example, have increased from an AADT<sup>1</sup> of 3,500 in 2007 to nearly 6,000 in 2011. Truck traffic's share of overall traffic is now approaching 30 percent. There have been corresponding increases in both reportable and non-reportable crashes in the borough over that same time period, with law enforcement officials noting the rate increase in crash activity rising at "astonishing" levels.

**Outdated Traffic Signal Equipment:** Signal permits indicate that the signal downtown at the intersection of Elmira Street and Canton Street has not been updated since April 2005. The intersection is noted for the long lines of traffic on the north and westbound approaches, with an abundance of unused green time the other directions. This is characteristic of a pre-timed traffic signal, which does

Several of Troy's intersections are choke points in the regional highway network.

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<sup>1</sup> Annual Average Daily Traffic

not change the time given to a phase based on traffic demand. An all-pedestrian phase does not appear to be functional.

**Pedestrian Safety:** After traffic congestion issues in the downtown area, the “ability to cross the street safely” emerged as the most significant transportation issue. Problems range from sidewalks that stop, don’t connect, or are in poor condition, open drains along local streets, to crosswalks that are not Americans with Disabilities Act (ADA)-compliant.

**Bridge Conditions:** The Borough owns five structures that are longer than 20 feet. Three of these bridges (on Eureka Drive, Railroad Street, and Redington Avenue) are structurally deficient and have Sufficiency Ratings below 70. The oldest bridge (on Redington Avenue) will soon be 100 years old and is in need of replacement. Of the four state-owned bridges in the borough, only PA 14’s 78-year-old span crossing Fall Brook has been classified as being structurally deficient. The two County-owned bridges in the borough are both in good condition.

## Opinions: What’s important to residents

To help identify study issues, the study team mailed a survey to every property owner in the borough in February 2011. The team received 244 completed surveys for a return rate of better than 37 percent, which is excellent for this type of survey. Respondents were asked to rate various study issues as “Very Important,” of “Medium Importance,” and “Less Important.” The following table highlights the issues most important to borough property owners and was used as one basis for developing improvement options.

**Table 1 – Highest Rated Issues...by Percent Reporting “Very Important”**

Issue	Percent Saying “Very Important”
1. Traffic congestion downtown	78.7%
2. Ability to safely cross the street downtown	78.3%
3. Enforcement of traffic laws such as speeding	64.8%
4. Narrow lane widths downtown	62.3%
5. Safe walking routes to area schools	61.1%
6. The intersection of US 6 and East Main Street	59.8%
7. Difficulty pulling out onto US 6 and PA 14	59.8%
8. Availability of sidewalks and crosswalks	59.4%
9. Roadway conditions (e.g., potholes, faded lines)	57.8%
10. Maintenance/condition of sidewalks	56.2%

Source: Gannett Fleming, Inc.



## What were the results of the study?

The study team identified and included 14 improvement options in the study implementation plan. The improvement options are based on broad-based public participation, including two public open houses, a community survey, stakeholder outreach to senior citizens and PennDOT, and an interactive project Web site ([www.troymobility.com](http://www.troymobility.com)). As a result of the study process, the Borough has identified a prioritized listing of improvement needs with an associated action plan for implementation. Recommended improvement options cover the following broad subject areas:

- Roadway Conditions
- Operations (signals and signal systems)
- Sight distance
- Ordinance-related issues
- Non-motorized modes.

The improvement options are listed below and described in more detail in subsequent sections of this report:

- A. Upgrade the traffic signal at the intersection of US 6 and PA 14 in downtown Troy.
- B. Reconfigure the intersection of US 6 and East Main Street.
- C. Consider coordinating with Troy School District to provide Borough police support for directing traffic during school dismissal.
- D. Evaluate the need for warrants for signaling the intersection of US 6 and PA 14 North.
- E. The Borough's Street Committee should continue addressing outdated signs.
- F. Extend High Street to intersect with Porter Road/SR 4008.
- G. Install a temporary, portable speed monitor trailer to improve compliance with posted speed limits.
- H. Install a new traffic sign to prevent traffic from blocking access to the Troy Community Hospital emergency room driveway entrance.
- I. Add pavement marking lines to designate on-street parking spaces.
- J. Inventory and upgrade borough sidewalks to provide pedestrian safety, continuity, ADA (Americans with Disabilities Act) compliance, and an acceptable condition.
- K. Develop a formal five-year Capital Improvement Program (CIP).

- L. Incorporate access management provisions into the subdivision and land development ordinance.
- M. Provide improved street lighting along US 6/Elmira Street.
- N. Address turning radii at the intersection of US 6 and Ballard Street.

## Who led this study?

The Northern Tier Regional Planning and Development Commission hired Gannett Fleming, a planning consulting firm based in Camp Hill, and developed a Steering Committee to guide the study process. Members included:

Dave Blair	Troy Area School District
Todd Boyles	Martha Lloyd Community Services
Dan Close	Troy Borough Manager
Staci Covey	Troy Community Hospital
Jennifer Cummings	resident
Will Holmes	C&N Bank
Rick Hoover	Hoovers Hardware
Robert Ives	resident
Don Jenkins	Troy Township
Chris King	PennDOT District 3-0
Bill Miller	Martha Lloyd Community Services
Raymond Stolas	Bradford County Office of Planning
Roy Vargson	resident
Jamie Weis	resident
Matthew Williams	Northern Tier Regional Planning and Development Commission
Kyle Wisel	Troy Borough Police
Chuck Young	Troy Area School District

## What happens next?

As part of this study report, members of the study Steering Committee have finalized an implementation plan that outlines the framework for continued leadership and organizational cooperation, progress tracking and reporting, advocacy, funding, and communication/public information.

## Who paid for it?

The study was funded by the Federal Highway Administration (via PennDOT and the Northern Tier Regional Planning and Development Commission) and Troy Borough.

# **Objectives and Methodology**

## Objectives

During its November 17, 2010 kick-off meeting, the Project Steering Committee members identified the following as study objectives and expectations:

- **A Plan to Obtain Funding Sources:** The borough is limited in its ability to fund improvements to its transportation system without outside help from grants, CDBG, TIP dollars, or other outside sources. The resulting implementation plan will need to identify sources of funding for the borough to consider in moving forward.
- **Involvement by Troy Township:** The neighboring township completely surrounds Troy Borough. As such, transportation issues within the borough directly affect the businesses and residents of Troy Township. Supervisors from the Township participating in the study process. The participation of residents from areas outside of the borough will also be important.
- **Ability to Implement Quickly:** Members highlighted the need for the borough to be able to move forward on “quick hits” to attract positive public attention and establish momentum for the entire implementation plan.
- **Community Cooperation:** This involves more than coordination with neighboring Troy Township. This also includes other stakeholders, including PennDOT, the school district, and the business community, including those involved in the Marcellus shale play.
- **Addressing Traffic Problems:** The borough faces many issues involving traffic, ranging from overall travel demand, operational needs, and lane widths, among others.

## Methodology

### Steering Committee

A 17-member Steering Committee comprised of individuals from the following organizations reviewed draft study materials and guided the study process:

- Northern Tier Regional Planning and Development Commission
- Pennsylvania Department of Transportation
- Bradford County Planning Commission

- Martha Lloyd Community Services
- Troy Area School District
- C&N Bank
- Guthrie
- Troy Borough Fire & Police

The Steering Committee met five times over the course of the project.

## **Data Collection**

In developing a baseline for the study, the study team collected data from a variety of sources, including the U.S. Census Bureau and PennDOT management systems. Field work included turning movement counts at both intersections of US 6 with PA 14, as well as the intersections of Elmira Street with King Street, and East Main Street. Traffic engineers also conducted a safety audit of the borough's main thoroughfares, including US 6, PA 14 and several local roadways.

Finally, the study team examined related studies and plans that would have an impact on the Troy Mobility Plan. These documents included:

- Troy Borough Business District Conceptual Plan, July 2004
- Community Comprehensive Plan for Troy Borough and Troy Township, July 2005
- Bradford County Comprehensive Plan, 2004
- PAWilds Design Guide, and
- Troy Borough zoning, subdivision and land development ordinances.

## **Stakeholder Input**

The study team sought anecdotal stakeholder input through interviews with area officials and through focus group sessions with area senior citizens and members of the chamber of commerce. Personal interviews were also conducted with Bob Thorne at PennDOT District 3-9 Bradford County Maintenance.

## **Community Survey**

The study team mailed a community survey to every property owner within the borough. The survey instrument consisted of a brief overview of the study purpose and included questions geared to help identify which mobility issues were of most concern to the public. It was also designed to inform borough property owners of a public open house to be held on the evening of Thursday,

### **Study Methodology**

- Steering Committee
- Data Collection
- Stakeholder Input
- Community Survey
- Public Open Houses
- Recommendations and Outreach
- Final Report/Executive Summary

March 2, 2011, at the Troy High School cafeteria. A copy of the survey instrument is included as an appendix to the plan.

### **Survey Design**

The team designed the survey to be completed in a minimal amount of time. The survey instrument itself featured two demographic-related questions, along with a series of 26 additional questions to gauge community preferences on a range of issues. The issues surveyed were based on project data collection efforts to date. An open-ended question collected perspectives on issues not specifically addressed in the survey. A self-addressed envelope (without postage) was included as part of the survey mailing.

### **Survey Mailing**

Using records from the county planning commission, the study team identified all property owners within the borough. After eliminating duplicates from the database, the team mailed 655 surveys on February 18, 2011.

### **Response Rate**

In all, the study team received 244 surveys for a response rate of over 37 percent, which is excellent for this type of mailing.<sup>2</sup> Nearly two-thirds of all surveys were completed and returned within the first week of mailing. Survey respondents had the option of mailing the survey to the planning team, dropping off a copy at the Borough office, or bringing a copy to the open house. The survey responses were useful in understanding community priorities and were used in formulating the final study recommendations.

### **Public Open Houses**

The Borough hosted two public open houses at key project milestones. The Borough conducted the first open house on March 2, 2011 at the Troy High School cafeteria. The purpose of the first open house was to introduce the study process to the public and to receive input on an initial list of transportation issues. The Borough conducted a second open house on August 25, 2011 at the same location. The purpose of the second event was to introduce a listing of draft study improvement options. (The study team originally presented an initial list of study recommendations to the Steering Committee during its April 28, 2011 meeting, and subsequently vetted them with members of the Steering Committee,

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<sup>2</sup> The response rate for the sample size gives the study team statistical confidence of 95 percent that the survey results accurately reflect community preferences to within 5 percentage points.

Troy Borough Council, Troy Township Supervisors, and PennDOT District 3-0 prior to their public release.) The team used PowerPoint presentations and exit surveys at both public events.

## **Final Report/Executive Summary**

This report summarizes the study area's existing transportation conditions, trends and issues, as well as public comments and traffic analyses. Fourteen improvement options are included and found beginning on page 71. An Executive Summary geared toward a general audience has also been prepared and is included at the beginning of this report.





# **Background and Existing Conditions**

## Background

The quality and availability of transportation assets and services has figured prominently in the growth, development, and livelihood of Troy Borough. Its geographic advantage as a crossroads along present-day US 6 contributed to the area becoming a regional commercial center in western Bradford County. (For a time, creating a new county was considered, with Troy as its seat of government.) Troy incorporated as a borough in 1845, and the availability of such early forms of transportation such as the Williamsport and Elmira Railroad in 1854 contributed much to the area's economy. The railroad continued to serve the area until 1972, when the Penn Central Railroad closed the line after it sustained damage from Hurricane Agnes.

No matter the era, communities must have access to good transportation facilities and services in order to thrive. In the case of Troy, highways such as US 6 and PA 14 continue to serve the borough in connecting it to jobs and a regional workforce. The roadways of course are part of a broader transportation system that must serve the Troy area well if it is to continue to provide the level of mobility and accessibility that area residents have become accustomed to.

An important part of the study process includes developing a profile or baseline of the borough's existing transportation conditions. This profile is intended to be used as context from which to plan for the future. This section of the plan summarizes the study area's existing socio-demographic conditions and transportation system, and offers a review of other planning documents and studies that have a bearing on the planning process.

## Summary

The following bullet points summarize the plan findings:

- **Population** – The area's population (Troy Borough and Troy Township) has remained stable for nearly 60 years, with minimal change.
- **Dependent Population** – Nearly 40 percent of the borough's population is younger than 16 or older than age 65.
- **Journey to Work** – The borough is a net importer of labor, drawing from a "laborshed" that encompasses western Bradford and eastern Tioga Counties.
- **Roadway Network** – There are more than 7 miles of roadway within Troy Borough. A majority of this (5.5 miles) is owned and maintained by the borough. There are no roadway projects within the borough or surrounding township that have been programmed as part of the region's

2011 Transportation Improvement Program (TIP). However, a micro-surfacing project completed in 2009 on US 6 will help preserve the roadway surface until a resurfacing can be done in the 2014-15 timeframe.

- **Travel Demand** – After 10 years of decline, travel demand has boomed since 2008, with trucks now consisting of approximately 20 to 25 percent of all traffic on state roadways.
- **Roadway Investments** – The borough receives approximately \$30,000 annually in liquid fuels payments from PennDOT. It has budgeted \$65,000 to address transportation-related needs for the upcoming fiscal year. Troy does not have any roadway in PennDOT’s Roadway Turnback Program, where municipalities receive \$4,000 annually for every mile of roadway that has been “turned back” from the State to the municipality.
- **Roadway Safety** – In an average year, the borough experiences 13 reportable crashes, 60 percent of which are rear-end collisions or angle collisions. A majority of crashes occur during the noon hour and between three and four p.m. Since 2009, the number of non-reportable crashes has increased dramatically, up 57 percent to a 2010 total of 55.
- **Bridge Inventory** – There are only four state-owned bridges greater than eight feet in length within the borough. Only one of these spans, PA 14’s crossing of Fall Brook, is classified as “structurally deficient”—still safe to travel but in need of major repair. However, three of the five Borough-owned structures (greater than 20’ in length) are structurally deficient.
- **Signing** – Many of the borough’s signs are faded, obsolete, or out of date. In August 2011, the Federal Highway Administration published a proposed rulemaking that would rescind many of its earlier compliance dates related to signing. The change means that Troy can continue to replace its signs as they wear out, rather than replace them by a specific deadline.
- **Traffic Signals** – The signalized intersection downtown has not been upgraded since April 2005. It is pre-timed, and not actuated for optimum performance. Levels of service vary, with an LOS of “F” during the AM peak period. In Troy Township, the intersection of US 6 with PA 14 North operates at LOS “F” during the PM peak period.
- **Safety Audit** – Various safety deficiencies, such as missing sidewalks, crosswalks, guide rails with improper end treatments, access management issues, and open drainage have been documented and appear as part of Appendix D.

## Existing Socio-Demographic Conditions

### Geographic Position

Troy Borough is located in Pennsylvania’s northern tier region in western Bradford County, as shown in Figure 2. The borough is situated approximately 21 miles west of the county seat of Towanda, 17 miles east of the Borough of Mansfield, and 11 miles north of the Borough of Canton. It is located at the crossroads of US 6 and PA 14. The borough is 0.8 square miles in size, and is entirely surrounded by Troy Township.

**Figure 2: Study Area Regional Location**

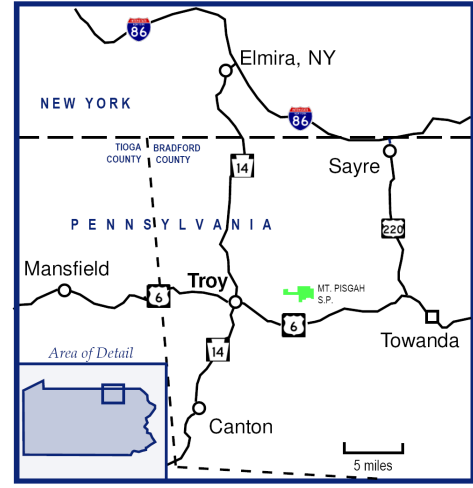
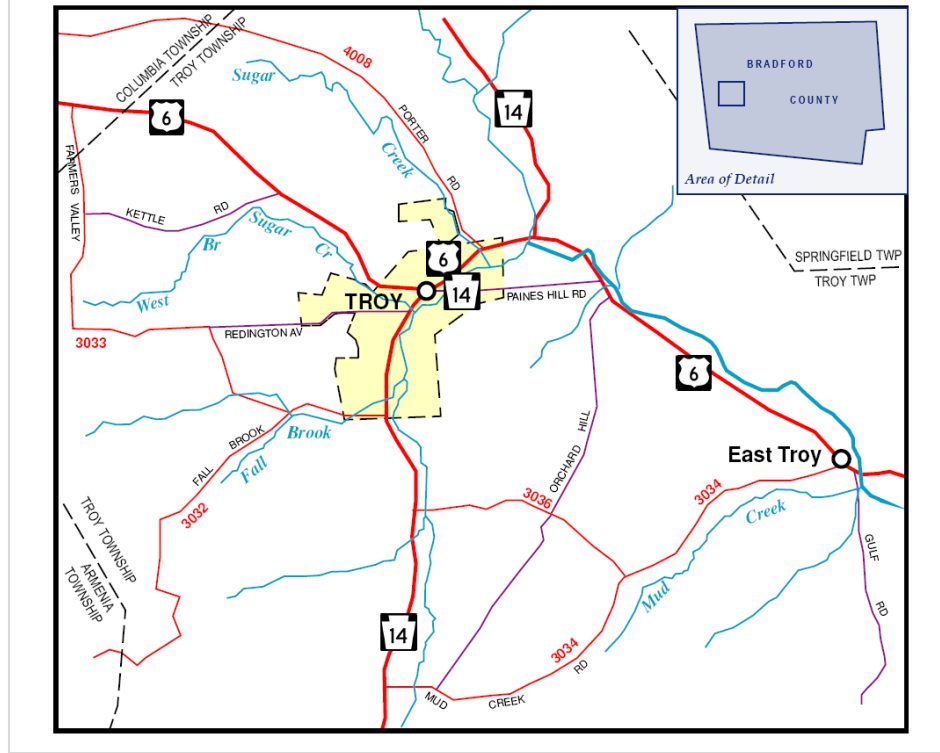


Figure 3 shows the extent of the immediate regional roadway network that serves Troy Borough. Regional travel demand is served primarily by US 6 and PA 14, and numerous other 4-digit state routes such as Mud Creek and Porter Roads.

**Figure 3: Greater Troy Regional Roadway Network**

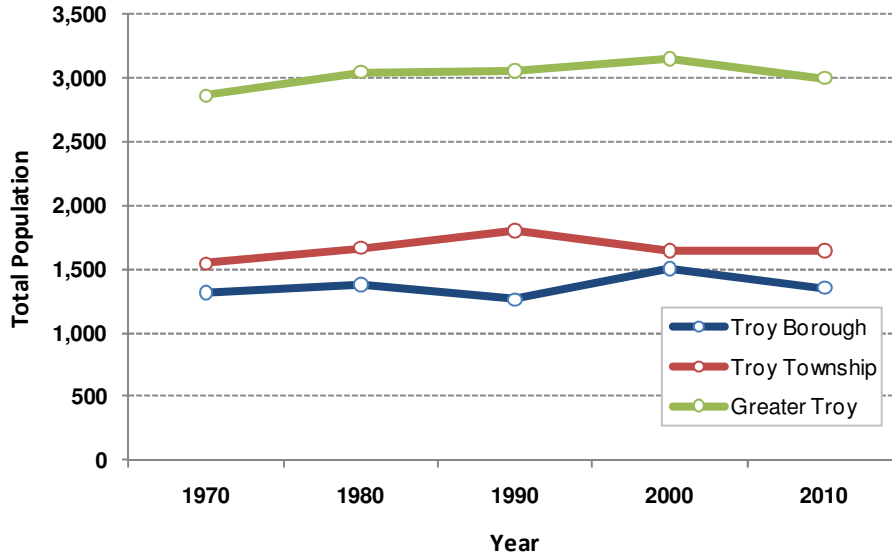


**Stable Population Growth Trends**

Troy Borough is a regional center for business and industry and is one of the largest communities in Bradford County. Together, Troy Borough and Troy Township have an estimated population of 3,000, a figure that has remained steady for decades. As it has in most areas of Pennsylvania, population growth in the greater Troy region has been marked by losses within the “core community” of the borough, which have been offset by small gains in adjoining Troy Township.

As Figure 4 shows, total population in Troy Borough and Troy Township has remained fairly constant over the past 40 years. The combined population of both municipalities has increased by only 200 persons, or just 7 percent since 1970. Like most rural areas of Pennsylvania during the 1970s, Troy Township experienced population increases before ultimately peaking at a total population of 1,797 in 1990. The township’s population has declined by 8 percent since then. After sustaining minor population losses during the 1980s, Troy Borough’s total population has rebounded to a present day total of 1,354—roughly the same as it was during the 1950s.

**Figure 4: Greater Troy Population Change, 1970-2010**



Source: U.S. Census

Table 2 shows the study area’s historical changes in total population dating back to 1950. The table demonstrates the stability of the area’s demographics, however, it should be noted that the latest figures from the U.S. Census may not capture the recent influx of people related to the surge in employment from the Marcellus shale natural gas extraction activity.

**Table 2: Historical Population, 1950-2010**

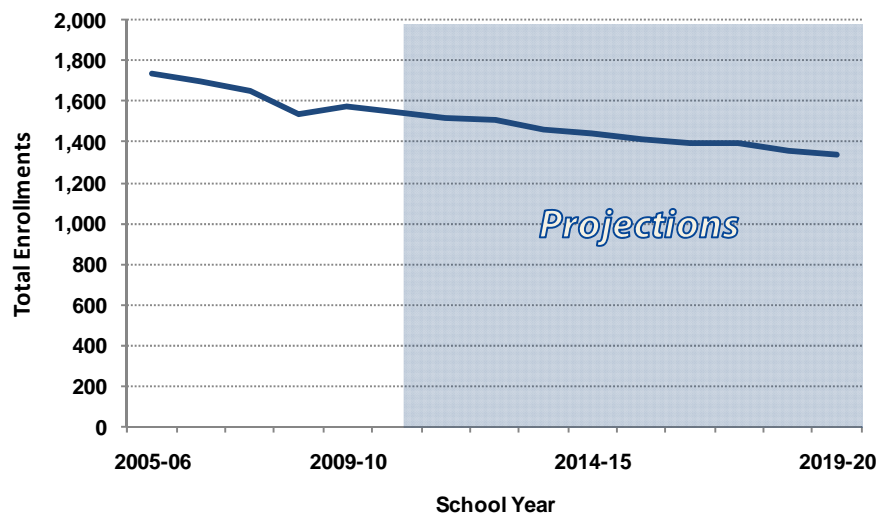
Municipality	1950	1960	1970	1980	1990	2000	2010
Troy Borough	1,371	1,478	1,315	1,381	1,262	1,508	1,354
Troy Township	1,334	1,393	1,545	1,666	1,797	1,645	1,645
Greater Troy	2,705	2,871	2,860	3,047	3,059	3,153	2,999
Bradford County	51,722	54,925	57,962	62,919	60,743	62,761	62,622
Region as Percent of County	5.2%	5.2%	4.9%	4.8%	5.0%	5.0%	4.8%

Source: U.S. Census

## Declining School Enrollment

Enrollment projections from the Troy Area School District indicate declining enrollments in recent years—a trend that is expected to continue. Total enrollment for the 2009-10 school year was 1,579. This is expected to decline to an estimated 1,339 over the next 10 years, as shown in Figure 5. The school district has recently consolidated some of its facilities, closing elementary schools in outlying areas and busing additional students to its facilities in Troy. This is expected to create more travel demand within the borough.

**Figure 5: Troy Area School District - Historical and Projected School Enrollments**



Source: Troy Area SD, July 2010

**An Aging Population**

Age is an important factor to consider when evaluating the community’s transportation system. The oldest and youngest members of the population likely cannot or do not drive and their transportation needs must be accommodated in ways other than as a motorist. Additionally, as the population as a whole becomes older, the roadway system must be responsive to the needs of older drivers.

Pennsylvania has one of the nation’s highest numbers of seniors (those age 65+). Median age in Pennsylvania is now over 40, as the first Baby Boomers reach retirement age. This is an increase from the 38.1 recorded during the 2000 Census. In Troy Borough, the median age was 40.6—one of the highest such rates in Bradford County. Table 3 shows median age for selected geographies over the past three censuses.

**Table 3: Median Age, 1990; 2000; 2010**

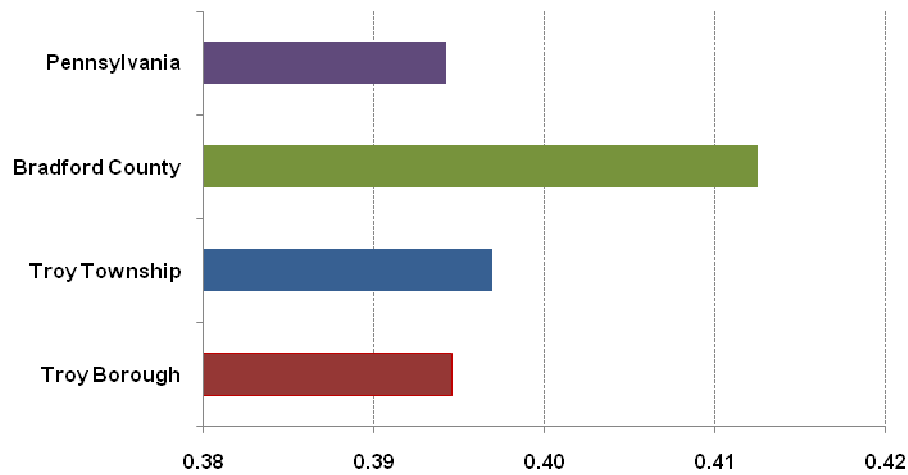
Municipality	1990	2000	2010 <sup>3</sup>
Troy Borough	37.1	40.6	**
Troy Township	36.3	41.1	**
Bradford County	34.6	38.9	43.4
Pennsylvania	34.9	38.1	40.1

Source: U.S. Census

Figure 6 below shows that Troy Borough actually has a smaller share of dependent population in comparison to state and county rates. Dependent population in this case is defined as those under age 16 and those older than 65. The borough’s rate is only marginally lower than that of surrounding Troy Township. The rate of dependent population within the municipality underscores a need for transportation assets and services (e.g., pedestrian infrastructure, public transportation, etc.) that meet the needs of this large segment of the overall population.

<sup>3</sup> As of the writing of the final report, there remain a limited number of geographies not yet available from the 2010 Demographic Profile.

Figure 6: Percent Dependent Population, 2000



Source; U.S. Census

**Troy: More Jobs than Workers**

Census data indicate there were 1,567 jobs within Troy, yet there are only 578 resident workers to fill them. Less than half (47.4 percent) of Troy’s residents who are employed work within the borough, while another 36.3 percent commute to other nearby communities such as Canton, Sayre, and Towanda/Wysox in Bradford County, Mansfield in Tioga County, and Elmira in New York. Nearly 10 percent of the borough’s workers are employed at out-of-state destinations. Table 4 shows the top 10 destinations for the borough’s workers in rank order.

Table 4: Destination of Troy Borough Resident Workers, 2000

Destination Municipality	Number of Workers
1. Troy Borough	274
2. West Burlington Township	47
3. Towanda Borough	31
4. Elmira, Chemung County, NY	26
5. Canton Borough	23
6. Wysox Township	19
7. Horseheads town, Chemung County, NY	17
8. Mansfield Borough, Tioga County, PA	17
9. Canton Township	15
10. Sayre Borough	15

Source: U.S. Census

Nearly 89 percent of all Troy’s workers reside in Bradford County.



Transportation is an important supporter of the Troy area economy. The borough is a net importer of workers, with a defined “laborshed” that reaches across most of Bradford County and into neighboring Lycoming, Sullivan, Susquehanna, and Tioga counties, as well as into Bingham Township in Potter County and into Tioga County, NY.

Table 5 shows the most significant origins of workers employed within Troy, demonstrating its importance as a major destination of workers residing in western Bradford County.

**Table 5: Origin of Workers in Troy Borough Jobs, 2000**

Municipality of Origin	Workers Employed in Troy
1. Troy Borough	274
2. Troy Township	173
3. Columbia Township	120
4. Canton Township	109
5. Granville Township	95
6. Springfield Township	88
7. Canton Borough	54
8. Sullivan Township, Tioga County PA	40
9. Sylvania Borough	37
10. South Creek Township	35

Source: U.S. Census

Table 6 shows that workers within Troy Borough are reliant on the private automobile to get to work. Nearly 88 percent either drive alone or carpool. The 2000 Census revealed that the mean travel time to work for both municipalities was approximately 20 minutes—20.6 in the borough, and 19.6 in the township. Estimates from the 2010 Census are expected to be higher.

Nearly 13 percent of Troy households do not have access to a vehicle.

**Table 6: Mode of Transportation to Work, 2000**

Mode	Workers 16+	Drive Alone	Carpool	Walk	Other	Work at Home
Troy Borough	578	446	61	35	5	31
Troy Township	810	636	90	30	7	47
Region	1,388	1,082	151	65	12	78

Source: U.S. Census

### Household Access to a Vehicle

Shown another way, Census data also reveal a mix of households with varying degrees of access to an automobile. Given its more urbanized environment, Troy Borough households generally have fewer cars than those in the more rural areas of the county, as exhibited in Figure 7. There are approximately 13 percent of households within Troy Borough without access to a vehicle—a rate nearly twice the county average. This high-level planning indicator reveals a need for the borough’s transportation system to be able to facilitate the safe movement of bicyclists and pedestrians, as well as sustain effective public transportation services.

**Figure 7: Household Access to a Vehicle, 2000**

Mode	# of Vehicles				By Percent			
	None	1	2	3+	None	1	2	3+
Troy Borough	75	231	198	77	12.9	39.8	34.1	13.3
Troy Township	33	212	267	137	5.1	32.7	41.1	21.1
Region	108	443	465	214	8.8	36.0	37.8	17.4
Bradford Co.	1,707	8,083	10,344	4,319	7.0	33.1	42.3	17.7

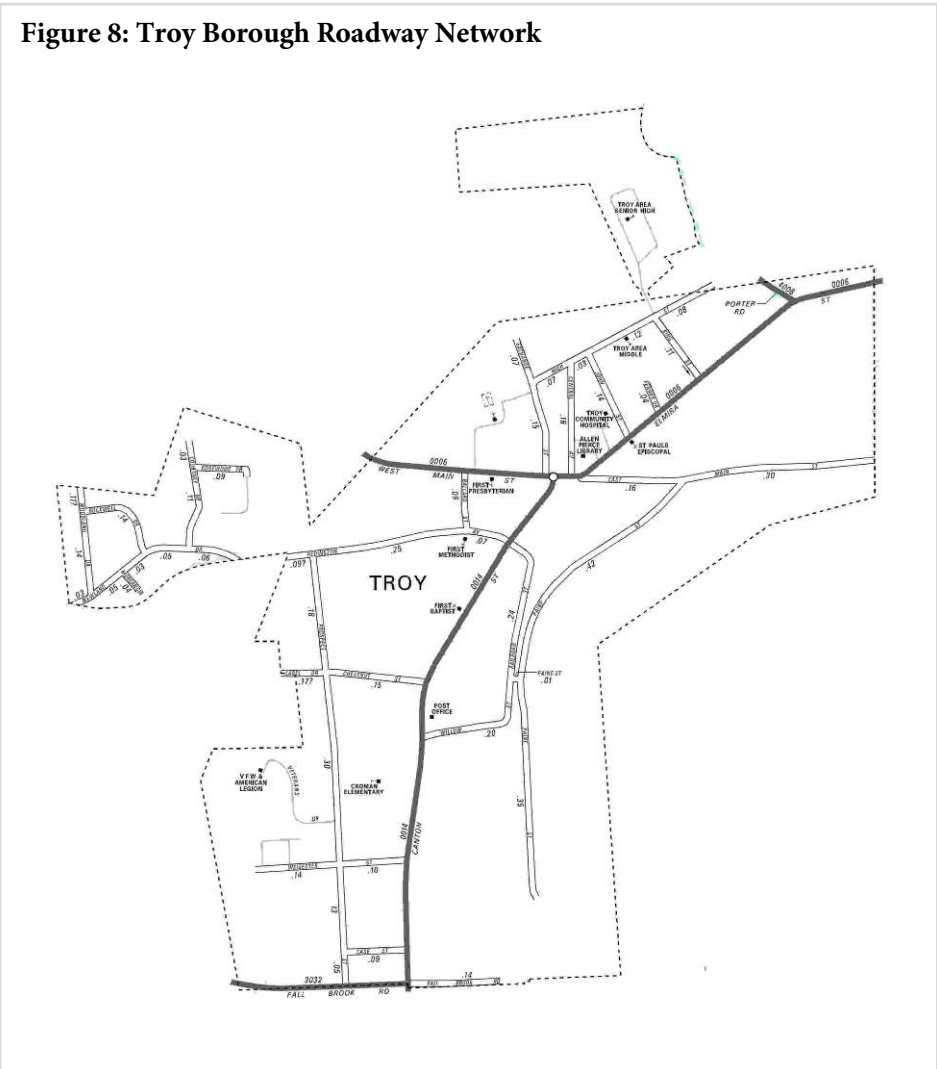
Source: U.S. Census

### Existing Transportation System

#### Roadways

Troy Borough’s transportation system is highlighted by its roadway network. This consists of both state and locally-owned roadway. Just over three-quarters of the borough’s roadways are owned and maintained by the municipality (5.5 miles), while the rest (1.76 miles) are state-owned facilities. Several principal state traffic routes converge in Troy, including US 6, PA 14, and SR routes 3032 (Fall Brook Road) and 4008 (Porter Road). These and other major traffic routes of the borough are shown below in Figure 8.

Troy has more than 7 linear miles of roadway.



Source: PennDOT Type 5B map

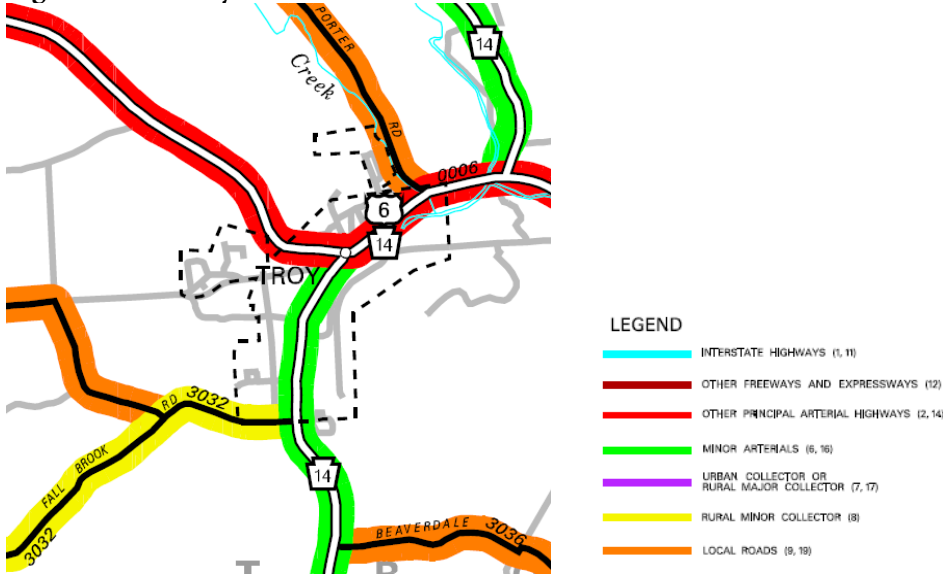
The borough's roadways vary in their characteristics and traffic-carrying capacity and are assigned one of five roadway classifications. These classifications are shown in Figure 9 and include:

- **Rural Principal Arterial** – These roadways link cities and larger towns and form an integrated network providing interstate and inter-county service. The only study area roadway in this classification is US 6, which is multiplexed with PA 14 through most of the borough.
- **Rural Minor Arterial** – Roadways of this classification provide service to corridors with trip lengths and travel densities greater than those predominantly served by rural collector or local roads. They are generally designed to accommodate relatively high overall travel speeds with a focus on through movement. Within the study area, PA 14 is classified as a rural minor arterial.
- **Rural Major Collector** – These roads generally serve travel needs that are intra-county in nature with shorter trip lengths and slower speeds. There are no roadways within Troy Borough with this classification.
- **Rural Minor Collector** – These roads collect traffic from local roads and link locally important traffic generators with rural areas. They are not eligible for federal aid. Fall Brook Road (SR 3032) is an example of a rural minor collector.
- **Local** – These roads are the lowest order of roadway with the slowest speeds and shortest travel distances. Many trips will begin and end on these roads that provide access to a wide range of areas. As with Minor Collectors, these roadways are not eligible for federal aid. Local roads include Porter Road and Beavertdale, and all municipally-owned roadways.

Porter Road (SR 4008), given its classification, could be considered by Troy as part of PennDOT's Turnback Program. Through this program, PennDOT would provide the borough with an annual maintenance payment of \$4,000 per Turnback mile, in exchange for ownership. Porter Road is part of a 12,000-mile network statewide that was originally identified as "functionally local" program candidates. Roughly half of all municipalities in the state have participated in PennDOT's Highway Transfer (Turnback) Program.

Figure 9 graphically shows the functional classification of the roadways within the borough and immediate surrounding areas.

Figure 9: Roadway Functional Classification



Source: PennDOT Bureau of Planning and Research

There are other roadway classifications in addition to functional class. In December 1995, Congress designated a National Highway System (NHS) as the centerpiece of the nation’s highway network. The NHS is important for commerce, mobility, and defense purposes. Within Bradford County, US 6 has been designated as part of this network, as well as US 220 north of Towanda. Having this designation qualifies US 6 to receive “NHS” funding available through the NHS Program as administered by FHWA and through the Northern Tier Regional Planning and Development Commission.<sup>4</sup>

The NHS is anchored by the Interstate Highway System, yet is also composed of two-lane roadways such as US 6. In spite of the designation, it is unlikely that US 6 (or PA 14) would become limited or controlled access highways in the Troy area. Troy’s comprehensive plan, in fact, urges that attention to these two roadways should be focused on keeping them as superior, two-lane multi-access roadway facilities.

<sup>4</sup> Other federal-aid roadways not on the NHS (such as PA 14) can receive Surface Transportation Program, or “STP” funds.

In addition to its designation as an NHS route, US 6 has also been designated by PennDOT as “BicyclePA Route Y.” The corridor serves as part of a broader statewide initiative to create a network of cross-state bicycle touring routes to guide long-distance bicycle tourists through Pennsylvania.

## **Roadway Investments**

The Northern Tier Regional Planning and Development Commission, in partnership with Bradford County and PennDOT, programs highway and bridge projects as part of its Transportation Improvement Program (TIP). The four-year TIP is updated every two years, most recently in 2011. A majority of the projects are oriented toward roadway resurfacings, bridge replacements, and other system preservation projects. As part of developing its state-level 2011 program, PennDOT recommends that organizations such as NTRPDC program at least 90 percent of their program resources to system preservation. Of that number, 85 percent of bridge improvement resources should be directed toward addressing structurally deficient bridges. TIP funds can be used only for bridges and federal-aid eligible highways.

As it relates to the study area, there are no TIP projects formally programmed within either Troy Borough or Troy Township. The Commission does however have \$33 million reserved during the program’s second four-year period (i.e., 2015-18) for Betterment<sup>5</sup> projects. The region’s 2011 TIP was approved by the State Transportation Commission (STC) on August 13, 2010, and took effect at the beginning of the new federal fiscal year October 1, 2010.

PennDOT’s Maintenance District 3-9, located in Towanda, performs maintenance projects programmed for state roads in the area. PennDOT contracted a micro-surfacing job through the borough in 2009 that will help preserve the roadway surface for a few years until a resurfacing can be done in the 2014-15 timeframe. Micro-surfacing cannot address more serious structural deficiencies, but is designed to help restore and preserve pavements by improving

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<sup>5</sup> A *Betterment project* consists of surface treatments/corrections to existing roadway (preferably within the Pennsylvania Department of Transportation's (PennDOT's) right-of-way) to maintain and bring the infrastructure to current design standards for that classification of highway. This may involve full depth base repair, shoulder widening, lane widening, correction of super-elevation, as well as drainage improvements and guide rail updates.

skid resistance. PennDOT plans to hire a contractor for the future resurfacing project to address not only the resurfacing, but also the ADA curb ramps at street intersections.

Area gas companies also make improvements to area roadways, but they typically do not provide much advance warning as to which roadways will be improved as they are not subject to the same planning, programming and funding cycles as public sector work.

Maintenance and improvements to Troy’s locally-owned roadway system are largely accomplished using Liquid Fuels revenues that are disbursed by PennDOT’s Bureau of Municipal Services. Troy’s share of this funding is determined by a formula based on the borough’s share of total population and municipal roadway mileage. For fiscal year 2011, this total was \$31,358, down slightly from the prior year. The only way this figure would increase significantly would be through a legislative change in the funding formula or a state gas tax increase. The funding total typically increases slightly from year to year, reflecting the typical increase in Daily Vehicle Miles of Travel (DVMT), which generates the gas tax revenues that provide money for the Liquid Fuels payments to municipalities. Total municipal roadway mileage in Troy is 5.5 miles<sup>6</sup>, while the 2010 Census put its population at 1,354.

**Table 7: Liquid Fuels Revenue, 2009-11**

	2009	2010	2011
Troy Borough	\$31,863	\$30,624	\$31,358

Source: PennDOT Bureau of Municipal Services

Troy Borough adopted its most recent budget on December 21, 2010, which included \$65,400 for transportation-related costs, including winter maintenance, operation and maintenance of traffic signals, and bridge repair. The projected year-end budget for 2010 had a surplus of approximately \$30,000. The Borough generally does not plan for major projects within the annual budget, as projects of any significance are usually completed with funds from the capital improvements budget. As such, the line items in the budget are generally for maintenance and repair. In addition to the \$30,000 available in the Liquid Fuels account, the

<sup>6</sup> This figure does not include 1.76 miles of state-owned roadway

Borough anticipates approximately \$60,000 in revenue from its lease to the water department. Both of these can be used for capital improvements. As of November 2010, the Borough’s capital account balance was at \$300,000. A summary of some of the highlights of the Borough’s 2011 budget, as it relates to roadway and bridge spending, is shown in Table 8.

**Table 8: Troy Borough Budget Line Items (selected), 2011**

Line Item	Amount
Budgeted Revenues	\$294,600
Public Works	\$13,080
Snow and Ice	\$2,500
Signs and Markings	\$14,450
Highway	\$35,372

Source: Troy Borough, 2011

The Borough does not have any miles of roadway registered as part of PennDOT’s Turnback Program, where municipalities receive \$4,000 annually for every mile of roadway that has been “turned back” from the State to the municipality.

### **Travel Demand and Traffic Volumes**

Traffic volumes were collected for the Troy area from several sources. Some of the data was collected from PennDOT databases that contain current and historical information. Other data was collected in the field by the consultant by either direct observation or from traffic data recorders placed in the roadway.

Data from PennDOT’s Bureau of Planning and Research indicate that travel demand within the borough on state-owned roadways declined for the 10-year period ending 2008, to a total of 10,962 vehicle miles of travel (VMT). Troy Township also registered a corresponding decline, to a 2008 total of 64,010 VMT. (The amount of travel on local roads is not recorded by PennDOT, so numbers for those networks are not available.) Table 9 below compares changes in overall travel demand among Troy Borough, Troy Township, Bradford County, and Pennsylvania as a whole.

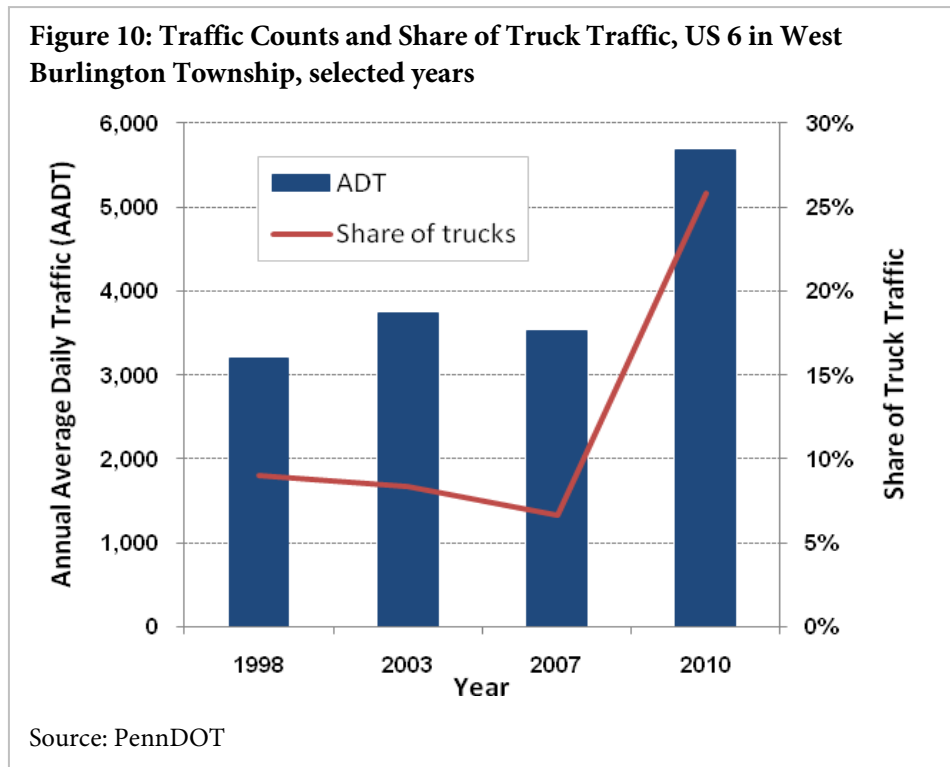


**Table 9: Daily Vehicle Miles of Travel (000s), 1998, 2003, 2008**

Municipality	1998	2003	2008
Troy Borough	17.4	14.1	10.9
Troy Township	89.9	70.3	64.0
Bradford County	1,428	1,405	1,320
Pennsylvania	274,951	290,725	293,153

Source: PennDOT Bureau of Planning and Research

The Northern Tier Regional Planning and Development Commission, in cooperation with PennDOT, has been conducting a study of Marcellus shale gas extraction and the impact that activity is having on travel demand and the condition of the region’s roadways. Both PennDOT and the consulting team have been collecting traffic counts at various points throughout the region. The following chart is provided for illustrative purposes, showing the increases in volume on US 6 in West Burlington Township (just seven miles east of Troy). The growth in traffic volume points to significant increases in travel demand and the role Marcellus shale development is having on the share of truck traffic on the region’s roadways.



As of December 2010, Troy Township had 40 wells drilled, ranking ninth among the five-county Northern Tier region. Within Bradford County, only Columbia and Wells had more wells drilled.

For comparison purposes, Figure 11 shows the same variables, but for PA 14 South in Troy Township between Mud Creek Road and Beaverdale Road.

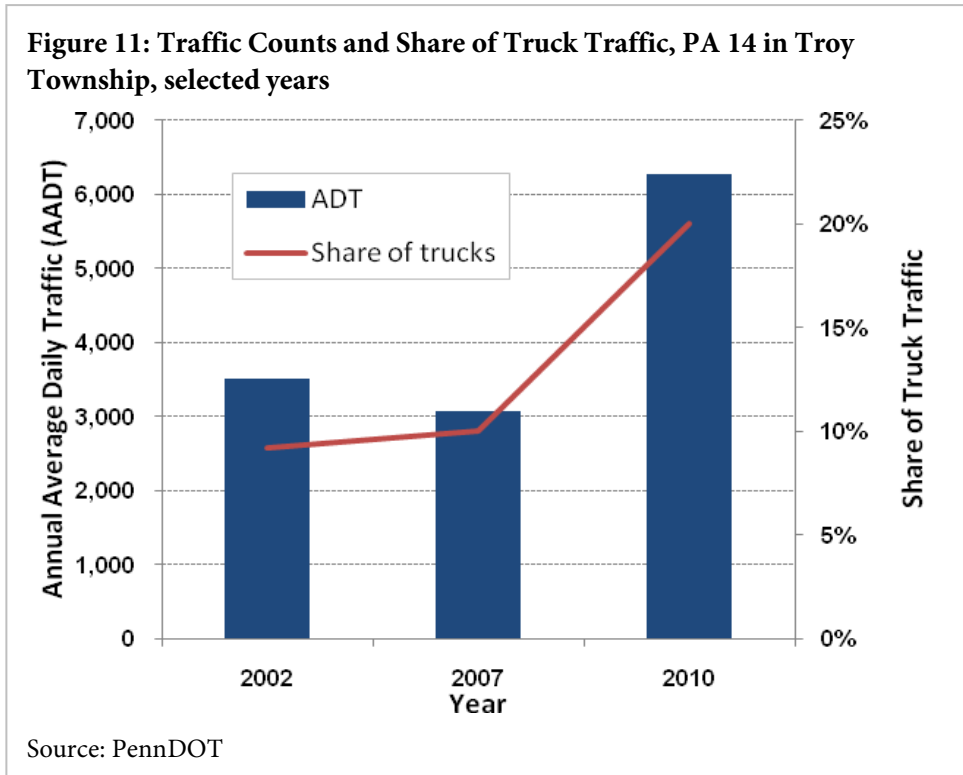
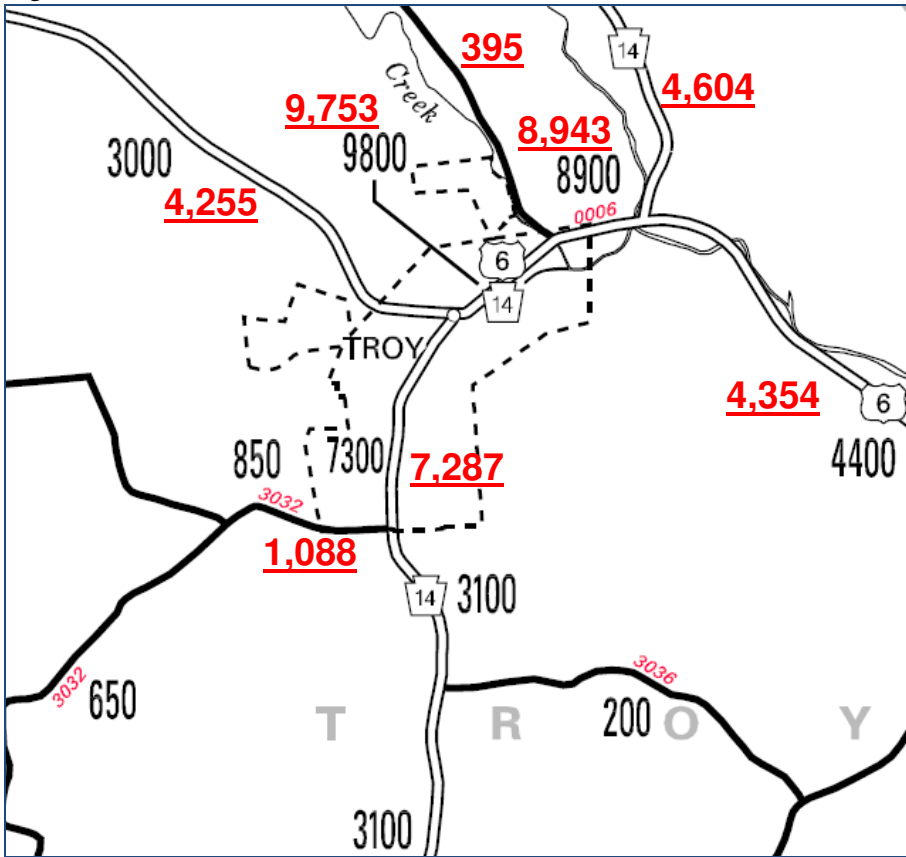


Figure 12 provides a comparison between historic (2006) and more recent (2010) traffic volumes. The roadway with the highest volume is the entire length of US 6/Elmira Street, with approximately 9,800 vehicles a day. A more detailed summary of volumes follows under the “Turning Movement Counts” subheading of this report, found beginning on page 41.

Figure 12: Traffic Volumes, 2006, 2010



Source: PennDOT Bureau of Planning and Research

Another major development of note in the area during this time period has been the development of AES' wind farm in nearby Armenia Township. Since AES completed the construction of its turbines in December 2009, there has been relatively little wind farm-related traffic on the area's roadways. For example, there are only 10 full-time employees who drive vehicles up the mountain every weekday, and those are pick-up trucks or smaller. AES typically does not employ many contractors now that construction is completed, and there are no deliveries of large parts of turbine components since deliveries were completed in October 2009. (Ordinary parts deliveries arrive by FedEx or UPS in typical delivery trucks.) A planned second phase, however, will see the construction of 57 additional windmills, primarily in Tioga County.

On average, there are 13 reportable crashes each year in Troy.

## Roadway Safety

As the borough's primary transportation asset, the safety of its roadway network is an important concern for this mobility analysis. In measuring safety, there are both "reportable" and "non-reportable" crashes. Reportable crashes are those where the vehicle cannot be driven from the scene of the crash. Non-reportable crashes, or fender-benders, are not inventoried at the state level. Over the five-year period ending 2009, Troy Borough experienced an average of 13 crashes per year. While none of these crashes resulted in a fatality, the loss of personal property and productivity is a social cost that must be addressed as part of transportation planning. The following section examines some of the trends and factors that have contributed to these crashes.

The most significant crash types within the borough are rear-ended and angle collisions. Nearly 60 percent of all crashes within the borough involve one of these two crash types. Other causes of crashes include hitting fixed objects, such as telephone poles. Only two reportable crashes during the five-year period involved pedestrians. A majority of all reportable crashes (nearly 60 percent) occurred on US 6.

Figure 13 shows how crash trends in Troy Borough overall compare to county and state trends. In 2009, Pennsylvania registered the lowest number of highway fatalities since record-keeping began in 1928. While there is much conjecture as to why this phenomenon occurred, the impact of the state's struggling economy has a direct impact on travel demand, and (by extension) crash totals and fatalities—fewer trips to work and shopping mean fewer cars on the road and fewer accidents. Other factors include infrastructure improvements, such as edge-line/shoulder and centerline rumble strips, which together have reduced the number of run-off-the-road and head-on crashes, respectively.

While crash trends for Bradford County align closely with state trends, the smaller base numbers for crash totals in Troy Borough are reflected in the volatility of the trendline. Regardless, the trends show a significant increase of crash activity in Troy Borough in 2009. Interviews with area law enforcement officials indicate that while official numbers for reportable crashes are not yet available, the number of observed crashes has increased at "astonishing" levels between 2009 and 2010. The trend appeared to begin in western Bradford County as a center of the Marcellus shale natural gas extraction activity.

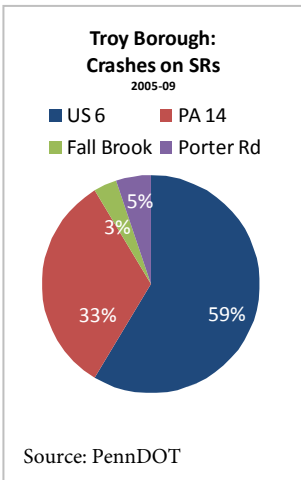
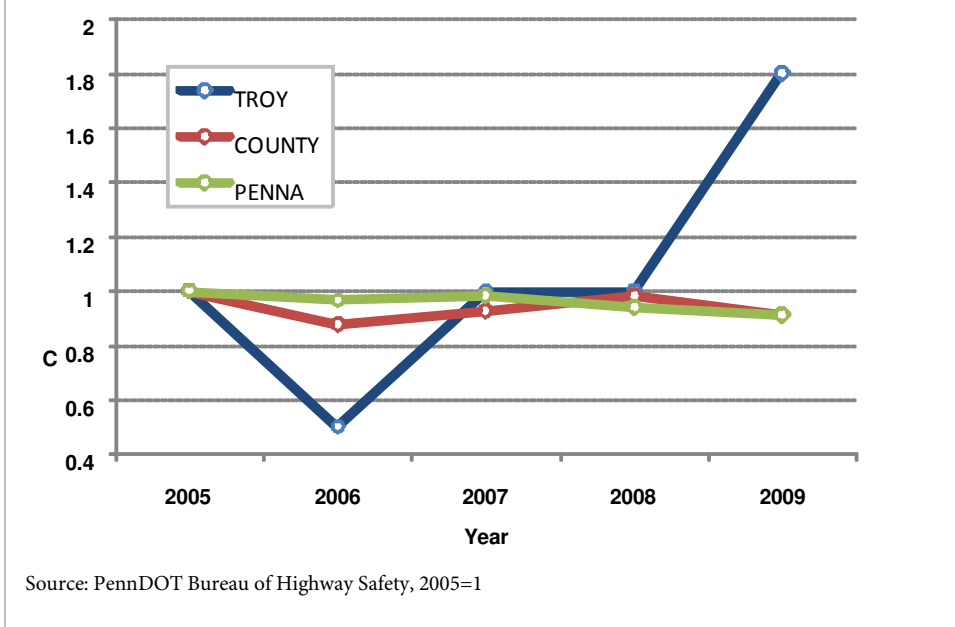


Figure 13: Total Crashes as a Percent of 2005 Values



In comparing when crashes occur in Troy Borough versus the state and county experience, the borough mirrors statewide rates with a few notable exceptions. Over the past five years, nearly one out of five crashes in Troy occurred on a Sunday, the most common day of the week for crash activity.<sup>7</sup> During the span of a given year, the most common month for crashes to occur was the month of June, with nearly 19 percent of all of the borough’s crash activity.

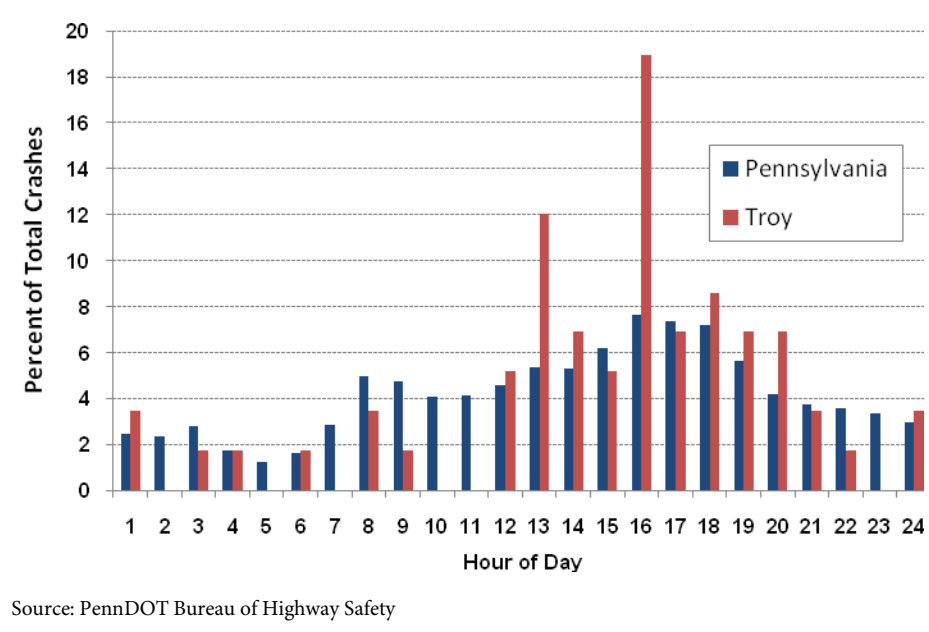
Perhaps most striking is a comparison of crashes in Troy against state rates by time of day. Figure 14 below shows that nearly one of out five crashes in the borough occurs between the hours of 3:00 and 4:00 p.m. The slope of the state’s curve is obviously more gentle, given its larger population base. Crash patterns in Troy, however, demonstrate far more variation, with peaks during the noon hour, and again during the 3:00 hour, during school dismissal.

“The dump trucks and water trucks that descend Route 6 from the west go through town at an amazing clip if the light is green.”

–from the project web site, 1/7/11

<sup>7</sup> It is unclear why there is a spike on Sundays, although the phenomenon could be the function of DUIs occurring on Saturday night, but not being reported until Sunday.

Figure 14: Crashes by Hour of Day, 2005-09



There are a variety of crash types within the borough, led by rear-end and angle collisions. Rates of these crash types are much higher in Troy than in Pennsylvania statewide. Area law enforcement officials have observed common problems— inattentive driving and motorists following too closely. Poor means of managing access to state roadways is a contributing factor to these types of crashes. Some examples include the area of US 6 between the Edgewood Restaurant and the Dandy Mart. Motorists have been observed using the center turning lane as a merging lane. Motorists have also been observed using Porter Road as a local reliever route.

There are also areas of the borough that appear to be prone to speeding motorists, such as the segment of US 6 west of downtown. The borough has recognized this and has stepped up enforcement of this area adjacent to Martha Lloyd Community Services using the ENRAD speed timing device.

Table 10 below compares crash types in Troy Borough against Pennsylvania statewide figures.

**Table 10: Crash Type Rates - Troy and Pennsylvania, 2005-09**

Crash Type	Troy		Pennsylvania
	#	Percent	Percent
Non-collision	n/a	n/a	3.6%
Rear-end	25	45.5%	21.2%
Head-on	1	1.8%	4.1%
Backing Up	n/a	n/a	0.1%
Angle	17	30.9%	25.6%
Sideswipe	3	5.4%	5.5%
Hit Fixed Object	7	12.7%	33.5%
Hit Pedestrian	2	3.6%	3.2%
Other	n/a	n/a	3.1%

Source: PennDOT Bureau of Highway Safety; 2009 Crash Facts & Statistics

**Non-reportable Crashes**

Borough police forces respond to all “non-reportable” crashes. After some incidents, affected motorists exchange information and drive away, yet with the increase in traffic and crashes overall, the Borough has begun making more of an effort to track these non-reportable crashes. Much of the non-reportable crash activity occurs downtown, where there are many “hit and run” type incidents. Other areas include along Canton Street and West Main Street. The area in front of the Pump and Pantry service station/convenience store is also an affected area, with motorists attempting to pass on the right. Incidences of non-reportable crash activity are more sporadic on the borough’s local street network.

Figure 15 shows how the frequency of such “non-reportable” crashes in the borough has generally increased since 2006. This trend appears to be in line with officers’ anecdotal assessment regarding an increase in crash activity overall (both reportable and non-reportable). From 2009 to 2010, the total number of non-reportable crashes in the borough increased by 20, or 57 percent.

As of the writing of this report (September 12, 2011), borough police have responded to 26 non-reportable crashes year-to-date. This yields an annualized total of 37, although only 22 percent of all crashes in Troy over the past five years occurred during the last quarter of the year. It would appear though that the total number of non-reportable crashes is returning to the levels they were prior to 2010.

From 2009 to 2010, the number of non-reportable crashes increased by 20, or 57 percent.

**Figure 15: Troy Borough Non-reportable Crashes, 2006-11**

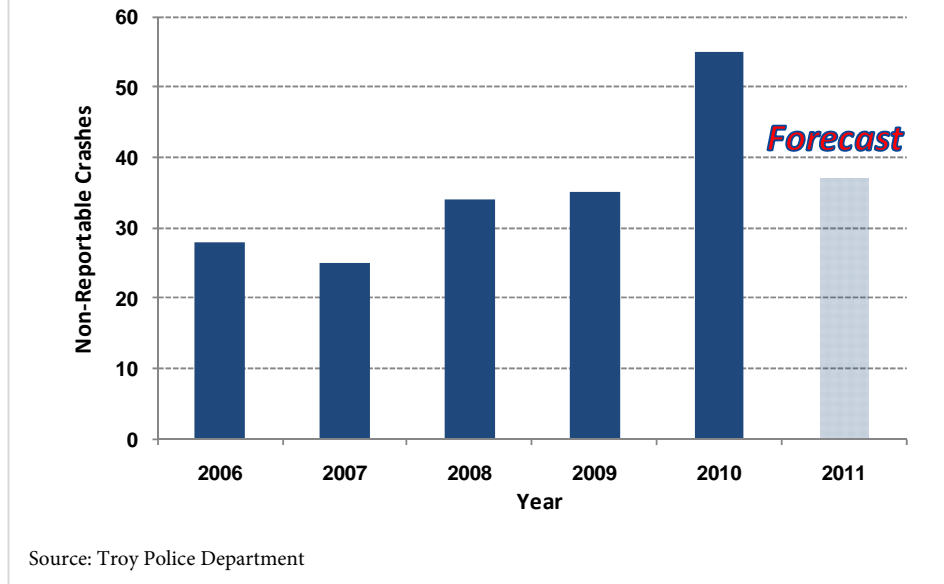
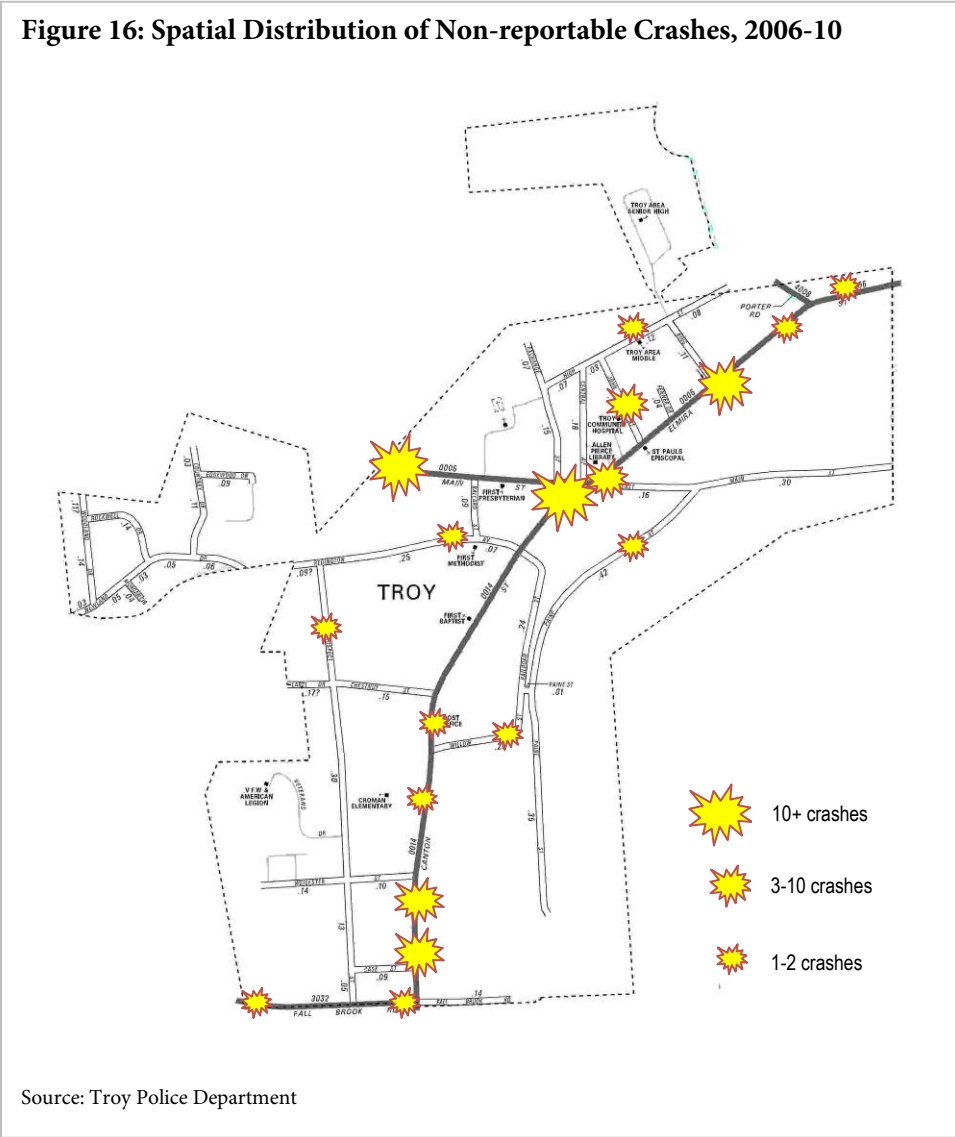


Figure 16 shows the spatial distribution of non-reportable crashes throughout the borough. The figure shows a concentration of crashes downtown and along state routes where traffic volumes and travel demand is the highest.





Figure 16: Spatial Distribution of Non-reportable Crashes, 2006-10



The borough has and continues to participate in a number of programs that deal with the aspect of traffic safety. One of these includes the Aggressive Driving Program (ADP). The ADP commits federal funds that are administered through the Commonwealth to municipalities participating in the program. The program reflects Troy Borough’s commitment to targeting aggressive driving violations such as speeding, tailgating, red light running, and seat belt enforcement. The Borough was awarded a grant to participate in the program into 2012, and is the only municipality in the county that participates in the program.

The Borough has also participated in the Buckle Up program since the end of November 2010. Non-use of driver seat belts is still a secondary offense (except

for children). Borough police work with “Survival 101” and driver’s education teachers from the school district to impress upon young motorists the importance of wearing a seat belt while driving. “Survival 101” is an intense program that has been updated with relatively new material.

There is also the “The Back is Where It’s At” program, which is targeted toward grade school students. Since its inception in 1999, the elementary seat belt program provides law enforcement officers with tools to educate children about the importance of proper seat belt use. The curriculum was created for Buckle Up Pennsylvania and uses existing community resources.

Although there have not been any recorded fatalities involving pedestrians, the borough in recent years has tried using “sandwich boards” as a way of alerting motorists to the presence of pedestrians and crosswalks. The devices did not work however, and had to be removed, due to the narrowness of the roadway. Law enforcement officials have indicated too that enforcement of motorists stopping for pedestrians in crosswalks is challenging, with violators accusing the law of entrapment.

### **Traffic Signs**

Traffic signing is also an important component of the borough’s transportation system, and directly relates to safety, wayfinding, and congestion. There are numerous signing issues within the borough, including signs that are outdated, missing, or too numerous. The lack of adequate signing contributes to unsafe conditions, such as motorists traveling the wrong way down one-way streets, as is frequently observed on Fenner Avenue.

It should be noted that in December 2007, the Federal Highway Administration adopted minimum values for most types of signs and incorporated them into the Manual on Uniform Traffic Control devices, or MUTCD. In August 2011, the Federal Highway Administration published a proposed rulemaking that would rescind many of its earlier compliance dates related to signing. The change would mean that Troy can continue to replace its signs as they wear out, rather than replace them by a specific deadline.

### **Bridges: State, County, and Local**

There are four state-owned bridges in Troy Borough that are greater than 8 feet long. US 6 crosses Sugar Creek at the northern end of the borough (the John Burgess bridge), while PA 14 crosses two of its tributaries: the West Branch of

Sugar Creek near Redington Avenue, and Fall Brook. Finally, SR 3032 (Fall Brook Road) crosses its namesake near the borough’s southern boundary. PennDOT has classified PA 14’s span across Fall Brook as being structurally deficient. Two of the state-owned bridges within the borough are more than 70 years old. Sufficiency ratings range from 47 to 92.<sup>8</sup> Table 11 provides more detail on state-owned bridges within the borough.

**Table 11: State-owned Bridges Greater than 8 Feet, 2010**

Carried	Feature Crossed	Length (in feet)	Deck Area (ft <sup>2</sup> )	Year Built	Suff. Rate	ADT
US 6	Sugar Creek	48	2,222	1940	82.3	9,753
PA 14	Fall Brook	32	1,376	1933	47.0	7,287
PA 14	W. Br. Sugar Cr.	34	1,666	2004	83.3	7,287
SR 3032	Fall Brook	19	798	1989	92.0	839

Source: PennDOT Bureau of Design, as of 6/29/11

Table 12 below provides more details on the condition of the borough’s locally-owned bridges. It should be noted that PennDOT has classified the Railroad (formerly Willow) Street Bridge as being functionally obsolete. The Eureka Drive Bridge is also structurally deficient. Finally, the Redington Bridge is the borough’s oldest locally-owned structure and has a posted weight limit of 17 tons. It is classified as being both structurally deficient and functionally obsolete and has a very low sufficiency rating of only 20.5. Average Daily Traffic (ADT) numbers shown in the table are estimates.

<sup>8</sup> A Sufficiency Rating is a federal formula that uses four separate factors in obtaining a numeric value indicative of a bridge’s sufficiency to remain in service. Structures with a Sufficiency Rating less than 80 are eligible for federal rehabilitation funds; those with a Sufficiency Rating less than 50 are eligible for federal replacement funds.

Three of the five bridges owned by the Borough are structurally deficient.

**Table 12: Locally-owned Bridges Greater than 20 Feet, 2010**

Carried	Feature Crossed	Length (in feet)	Deck Area (ft <sup>2</sup> )	Year Built	Suff. Rate	AADT
Ballard	Sugar Cr	28	728.0	1958	81.9	500
Eureka	Sugar Cr	35	1,011.5	1963	46.1	800
Prospect	Fall Brook	36	936.0	1972	80.1	500
Railroad	Sugar Cr	43	963.2	1948	67.2	100
Redington	Sugar Cr	32	796.8	1915	20.5	500

Source: PennDOT Bureau of Design, as of 12/30/10

There are only two bridges in the borough that are owned by Bradford County. These include structures on East Main Street and Railroad Street, both of which span Sugar Creek. There are 48 county-owned bridges in Bradford County, overall. Table 13 shows more detail on these two county-owned bridges, both of which are pre-stressed concrete, box beam structures.

**Table 13: County-owned Bridges Greater than 20 Feet, 2010**

Carried	Feature Crossed	Length (in feet)	Deck Area (ft <sup>2</sup> )	Year Built	Suff. Rate	AADT
E. Main	Sugar Cr	38	988.0	1994	99.9	900
Railroad	Sugar Cr	47	1,588.6	1990	80.9	1,000

Source: PennDOT Bureau of Design, as of 6/29/11

During 2012, PennDOT will be working with NTRPDC and its counterparts to develop a more accurate inventory of the location and condition of locally-owned bridges, statewide.



## **Turning Movement Counts**

In an effort to evaluate the performance of the borough's main intersections, the study team conducted manual turning movement counts. The team conducted the counts on Tuesday, November 16, 2010, at the following locations:

1. US 6 at PA 14 in downtown Troy
2. US 6/Elmira Street at East Main Street (in front of C&N Bank)
3. US 6 at King Street<sup>9</sup>
4. US 6 at PA 14 North in Troy Township.

Intersection evaluations included performing turning movement counts at the study intersections during morning (6:00-9:00), midday (11:00-1:00), and evening (3:00-6:00) peak periods; using this data to perform a Synchro capacity analysis of the four intersections to determine their respective Levels of Service; and collecting and compiling field notes and photographs of existing conditions.

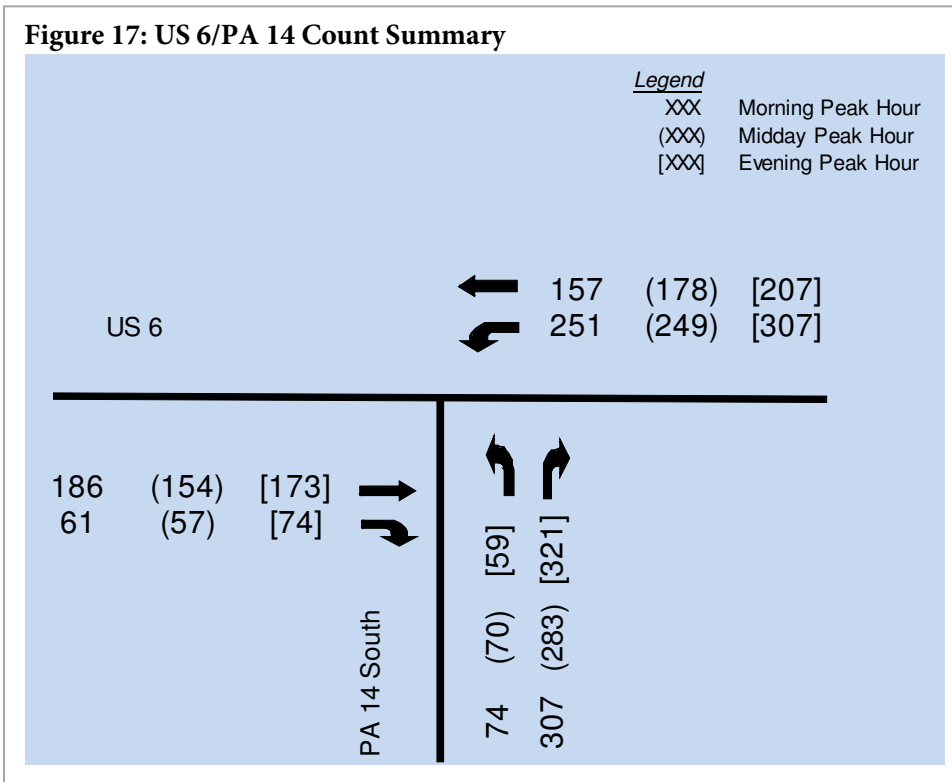
### **Intersection of US 6 with PA 14**

The intersection of US 6 and PA 14 in downtown Troy is the only signalized intersection in Troy Borough. It is a T-intersection, with US 6 running east-west and PA 14 intersecting northbound. The signal itself was originally installed in 1986 and was last upgraded in April 2005. It is a pre-timed, three-phase operation with an eastbound/westbound phase, permitted/protected westbound left phase, and a northbound phase. There is also a northbound overlap phase. The traffic signal permit obtained from PennDOT District 3-0 indicates that there is an all-pedestrian phase, however this did not appear to be functional.

The peak hour traffic volumes and levels of service for this intersection are shown in Figure 17, below:

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<sup>9</sup> Counts for intersections 2 and 3 were performed on December 15-16, 2010



Source: Gannett Fleming

From these data, the following levels of service (LOS) were determined, as shown in Table 14.

**Table 14: Existing Level of Service (LOS) - US 6 and PA 14**

Approach	Mvt.	Existing		
		Peak Period		
		AM	MID	PM
US 6 Eastbound	T	D	B	C
	R			
US 6 Westbound	L	F	B	D
	T	B	A	B
PA 14 South Northbound	L	B	C	B
	R	A	A	A
Overall		D	A	C

Source: Gannett Fleming

There was significant queuing observed at this intersection. The northbound and westbound approaches both queued. When observed, the queuing tended to be of shorter durations by different directions. There was not an extensive standing queue by approach; one direction would queue and later in the peak period another direction would queue.

There was wasted green time noted during the peak period. After all traffic demand traveled through the intersection for an approach, there was unused green time remaining for that approach while other approaches were queued.

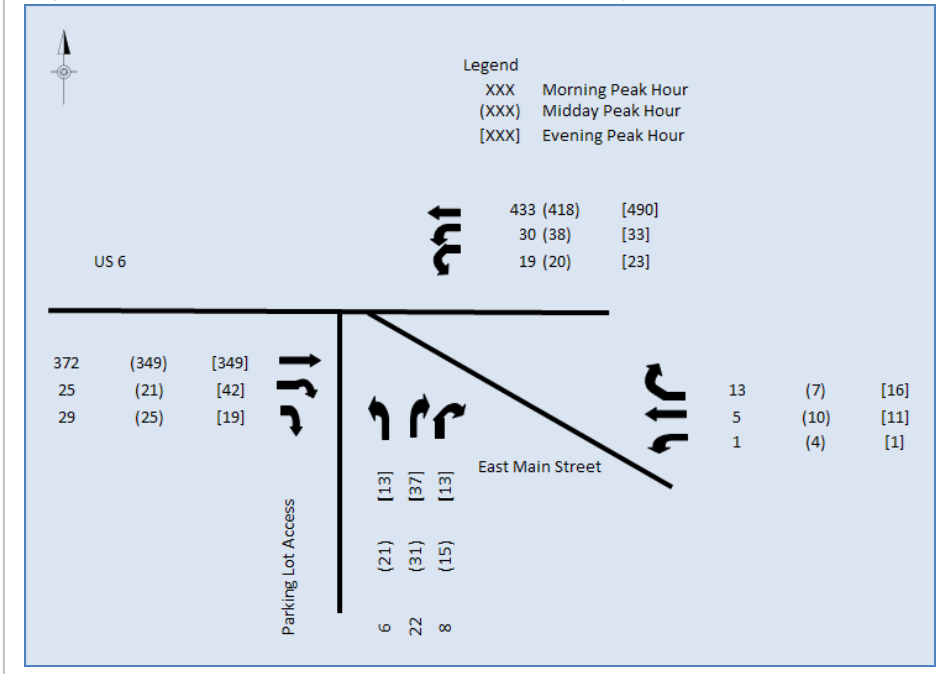
Both of these observations are characteristic of a pre-timed traffic signal. Pre-timed signals do not change the time given to a phase based on traffic demand, whereas actuated signals do. An actuated signal would be more efficient and improve intersection performance, and is preferred by PennDOT.

### **Intersection of US 6 with East Main Street**

The intersection of US 6 with East Main Street is unsignalized. It is a three-leg intersection. US 6 changes direction through the intersection. West of the intersection, it runs east-west. East of the intersection, it runs northeast-southwest. East Main Street intersects westbound. Due to the proximity of the Dollar General parking lot to this intersection, traffic to and from the lot was counted as a fourth leg of the intersection.

The peak hour volumes and existing levels of service for this intersection are shown below.

Figure 18: US 6/East Main Street Count Summary



Pedestrian traffic was observed to be rather light; however, it was noted that most pedestrians crossing East Main Street did not use the existing crosswalk, perhaps due to the fact that it is not perpendicular to the approach. Pedestrians generally crossed approximately 20 feet further up the road perpendicularly. The other two crosswalks were generally used. The signalized intersection of US 6 and PA 14 South (Intersection 1), when red on US 6, would quickly queue through the intersection with East Main Street.

The following table shows levels of service at this intersection.



**Table 15: Existing Level of Service (LOS) – US 6 and East Main Street**

Approach	Mvt.	Existing		
		Peak Period		
		AM	MID	PM
US 6 Eastbound	L	A	A	A
	T			
	R			
US 6 Westbound	L	A	A	A
	T			
	R			
Parking Lot Access Northbound	L	B	C	B
	T			
	R			
East Main St Westbound	L	B	C	C
	T			
	R			

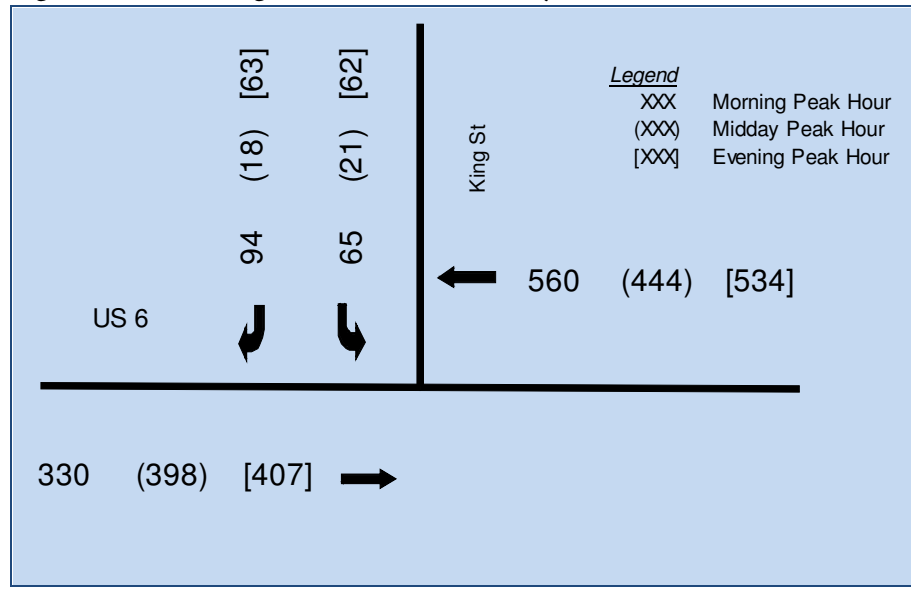
Source: Gannett Fleming

**Intersection of US 6 with King Street**

This intersection is presently unsignalized. It is a three-leg intersection with US 6 running east-west and King Street intersecting southbound. King Street is one-way southbound and is the primary exit for school buses coming from the schools on High and King Streets. The peak hour volumes and existing levels of service for this intersection are shown below.



Figure 19: US 6/King Street Count Summary



It was noted that buses exiting King Street in either direction lined up single file despite the two-lane approach of King Street to the intersection. Pedestrian traffic was rather limited; however, from 3:20-3:30 p.m. a crossing guard was present to aid about a dozen school children in crossing US 6.

Table 16 shows levels of service at this intersection.

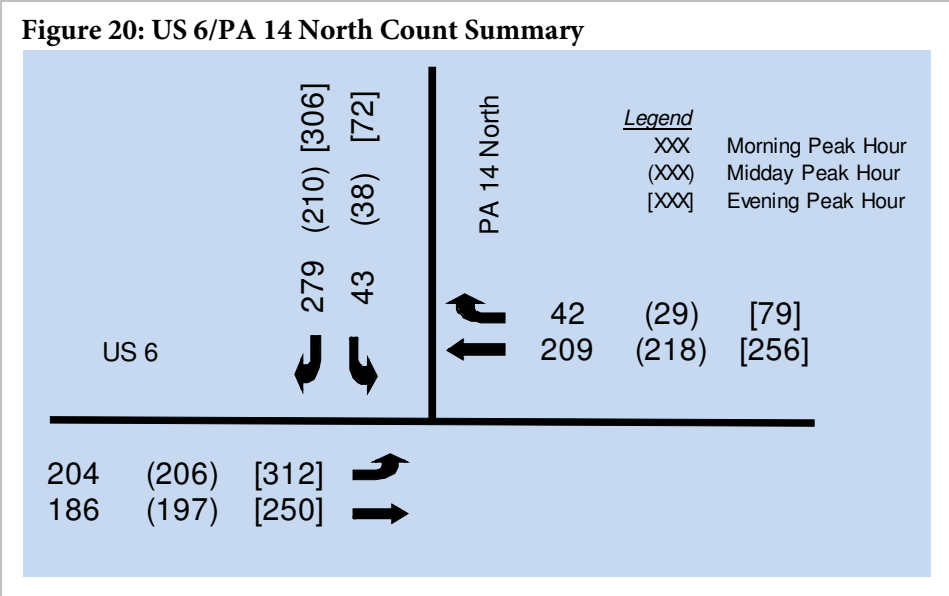
Table 16: Existing Level of Service (LOS) – US 6 and King Street

Approach	Mvt.	Existing		
		Peak Period		
		AM	MID	PM
King Street Southbound	L	C	C	C
	R	B	B	B
US 6 Eastbound	T	A	A	A
US 6 Westbound	T	A	A	A

Source: Gannett Fleming

**Intersection of US 6 with PA 14 North**

This intersection is unsignalized. It is a T-intersection with US 6 running east-west and PA 14 intersecting southbound. The peak hour volumes and existing levels of service for this intersection are shown in the following figure and in Table 17.



Source: Gannett Fleming

**Table 17: Existing Level of Service (LOS) – US 6 and PA 14 North**

Approach	Mvt.	Existing		
		Peak Period		
		AM	MID	PM
King Street Southbound	L	A	A	A
	T	A	A	A
US 6 Eastbound	L	A	A	A
	T			
US 6 Westbound	L	E	D	F
	R			

Source: Gannett Fleming

## **Intersection of US 6 with Martha Lloyd**

This is a pedestrian-actuated intersection intended to serve residents of the Martha Lloyd Community Services Campus. There is also a signal phase for a driveway for this campus where it intersects US 6. For the purposes of this study, the traffic signal permit for this intersection was obtained. No traffic data was obtained at this location. However, the intersection appears to function well. The side street (driveway) approach appears to have low traffic volumes, and few pedestrians were observed crossing. Therefore, most of the green time goes to US 6.

Intersection capacity is an important consideration for this study, as it affects the traffic flow and levels of congestion through the borough. Congestion in the borough also affects emergency responders, who must take local streets in responding to calls. In many instances, accessing US 6 or PA 14 from local streets is difficult for them.

## **Traffic Safety Audit**

A safety audit was performed for the following roadway segments within the Borough of Troy:

- US 6/Elmira Street
- PA 14 South/Canton Street
- East Main Street
- Exchange Street
- Fallbrook Street
- High Street
- King Street
- John Street
- Paine Street
- Prospect Street
- Railroad/Willow Streets
- Redington Avenue.

Particular attention was paid to pedestrian-related issues. It should be noted that this safety audit represents the study team's best effort at identifying common existing deficiencies. It is not necessarily an exhaustive listing of all existing deficiencies. Common deficiencies noted throughout the borough include:

- Sidewalks in poor condition or missing altogether
- Crosswalks with faded markings or missing altogether
- Curb cuts that are not ADA-compliant
- Access management issues along large segments of US 6 and PA 14
- Guide rails with improper end treatments

- Improper roadway markings
- Functionally obsolete bridges
- Directional signing that is faded, obsolete, or otherwise not in compliance with the MUTCD.

A summary of the safety audit results is provided in the Appendix D.

## **Public Transportation**

The Endless Mountains Transportation Authority (EMTA) offers 14 different fixed bus routes across the Northern Tier region and serves as the area's primary provider of public transportation services. EMTA serves Troy Borough with two distinct fixed bus routes, including:

- **Route 20**, which makes two runs daily on weekdays, connecting Troy to Canton, Towanda, and Monroeton. The morning loop makes stops at Troy Hospital at approximately 6:20 and 8:00 a.m., while the evening loop stops there at 3:35 and again at 5:05 p.m.
- **Route 90** makes two runs daily on weekdays and connects Troy to Mansfield and Towanda. There is a posted stop at the Troy Dandy Mart, however riders can make a flag stop at any point along the route where it is safe to board and exit the bus. The eastbound bus stops at the Dandy Mart at 7:00 a.m. and again at 5:00 p.m. while the westbound bus stops there at 8:25 a.m. and 5:00 p.m.

EMTA also operates door-to-door transportation services for certain people within specialized programs, which are funded by the Commonwealth. Those programs include:

- **Senior Shared Ride** – For residents age 65 or older
- **Persons with Disabilities** – For persons with a disability without access to other transportation
- **Medical Assistance** – For transportation to medical appointments
- **Access to Work** – For welfare to work participants
- **Human Service** – For transportation to human service providers (e.g., medical trips, etc.)



**Review of Other Planning Documents**

There have been a variety of other planning studies completed prior to this mobility analysis. The study team has reviewed these documents for their relevance to the current study and from the standpoint of how they can inform existing conditions, trends, and issues. The studies and corresponding documents were recommended for review by the Project Steering Committee and include:

- Community Comprehensive Plan for Troy Borough and Troy Township, July 2005
- Troy Borough Business District Conceptual Plan, July 2004
- Bradford County Comprehensive Plan, 2004
- PAWilds Design Guide
- Troy Borough Subdivision and Land Development Ordinance, 1978
- Troy Borough Zoning Ordinance, 1957

## Community Comprehensive Plan

The community adopted a joint comprehensive plan (in collaboration with Troy Township) in July 2005. The community's comprehensive plan outlines its long-term goals and objectives and provides direction for decision-making across a variety of community issues, including transportation.

As part of the plan's development, a Troy Community Planning Commission administered a community survey that asked respondents to weigh in on a variety of community planning topics, including public facilities, utilities, and services. Those that registered an average or low rating included public transportation, state highways, street maintenance, and downtown landscaping and benches. Issues such as sidewalks and curbing received a negative rating. The plan concluded that, "Overall, there is much positive feeling about the area and its quality of life, although certain needs, *especially economic ones*, require attention, according to the public" (emphasis added). The Central Business District (CBD) was also viewed as not being pedestrian-friendly, especially for those attempting to cross US 6 and PA 14 at crosswalks.

The plan offers several objectives and recommendations directly related to transportation, including:

- Discourage future strip or linear development along major highways, especially US 6, and encourage in-fill development within or directly adjacent to existing built-up areas.
- Formally request shoulder widening, surface improvements, pedestrian crossings, and intersection improvements along the major



state highways in the Troy area.

- Formally request an analysis of the level of service of the intersection of US 6 and PA 14 east of the borough, to ascertain if any type of signalization may be warranted.
- Continue to encourage the timely bridge replacement on PA 14 over Sugar Creek that [was] presently programmed for 2003-04.
- Ascertain the condition of and seek assistance for improvements to the Ballard Street bridge.
- Create a more pedestrian-friendly environment on US 6 in Troy Borough—through traffic calming techniques.
- Develop a sidewalk/trail interface between the Troy Business District and Alparon Park, focusing on a continuous sidewalk/trail between the business district and the BiLo Plaza. This could be done via sidewalks along Elmira Street or along the old railroad right-of-way and cemetery bridge.
- Request that PennDOT analyze the possibility of a left turn lane from West Main Street (US 6) onto Center Street.
- Encourage the Endless Mountains Transportation Authority to carry out service improvements for the Troy area in the form of more frequent service and improved marketing of service.

The Joint Community Comprehensive Plan contains the following points relevant to this mobility analysis as it relates to transportation needs and problem areas:

- Troy Heights Area – Poor roadway condition and inadequate storm water drainage.
- Redington Avenue and Prospect Street – Steep-sided open ditches should be replaced with inlets and complete storm water system.
- Railroad Street – Drainage problems requiring inlets and curbing around the Penn Troy Factory.
- US 6 and Fenner Avenue – Left turn lane needed for traffic turning from eastbound US 6 to Fenner Avenue.
- Vehicle traffic volumes and turning movements create obstacles to safe and efficient pedestrian crossings in the CBD.



## **Pennsylvania Wilds Initiative**

The Pennsylvania Wilds Initiative is a collaborative state and local program that concentrates on creating a clear vision for the future of a 12-county region of Northern Pennsylvania and the types of improvements that must be made to establish the area as a premier tourist destination. While Bradford County is not included in the region, it is immediately adjacent to it. Bradford shares a common history, heritage, and landscape with the region, making the Pennsylvania Wilds Initiative a worthy source of ideas and inspiration.

## **Pennsylvania Wilds Design Guide**

The Pennsylvania Wilds Design Guide was developed as part of the Pennsylvania Wilds Initiative. The goal of the design guide is to present a comprehensive and consistent set of design guidelines that can be applied to the Pennsylvania Wilds region to assist communities in reaping the benefits of change and growth while protecting their uniqueness and character. It shows, in graphical format, how to preserve and enhance the communities of the region while also promoting the aspects that are common to and knit together the larger Pennsylvania Wilds 12-county territory.

All sections of the design guide have some relevance to and can inform the ongoing improvement of Troy Borough by its residents and officials. Three sections of the design guide, however, are particularly relevant to this mobility plan. These sections include:

- Section 3.D – Residential Neighborhoods Best Practices
- Section 3.E – Town Centers Best Practices
- Section 3.G – Roadway Corridors Best Practices

## **Troy Borough Zoning Ordinance**

The zoning ordinance controls the location of various land uses throughout the borough as well as the area and bulk of improvements that may be built. The current ordinance was enacted in 1957. The zoning ordinance contains the following four zoning districts:

- R-a Residence District
- R-b Residence District
- C Business District
- I Manufacturing and Industrial District

In contrast to the zoning ordinance, the borough's zoning map, dated June 25, 1959, depicts a total of nine zoning districts. These districts include four residential, three commercial, and two industrial zoning districts. This

inconsistency makes it difficult to understand and interpret how to apply the zoning ordinance's regulations to various parcels throughout the borough.

The ordinance regulations appear to be generally reflective of the existing lot configurations and the locations of buildings upon those lots. The ordinance does not provide any minimum lot size regulations. While minimum lot sizes are not a requirement for a zoning ordinance, they are often used to establish the desired density of development, especially in residential zoning districts.

A more complete review of the ordinance would involve verifying whether the lots and buildings that exist today could be constructed using the regulations in the zoning ordinance. The zoning ordinance of a municipality that is largely developed, such as Troy, should contain regulations that would allow future development to generally align with existing development.

The sign provisions of the zoning ordinance are only applicable to the residential zoning districts. As such, there are no regulations governing the placement, size, or number of signs on properties within the C or I districts. This has the potential to allow signs to become visual obstructions to vehicular traffic, impede pedestrians, or cause other degradations to the transportation system and the borough's aesthetics.

The zoning ordinance does not contain any parking requirements. While this may have a positive influence by not requiring excessive parking to be constructed, it may also create some uncertainty for future development.

It is also relevant to note that because the ordinance has not been updated since its initial adoption over five decades ago, several of its provisions are outdated and the ordinance does not address any of the more recent requirements of the Pennsylvania Municipalities Planning Code.

### **Troy Borough Subdivision and Land Development Ordinance**

A Subdivision and Land Development Ordinance (SALDO) is used to define the process by which land can be subdivided and developed. The SALDO states what information must be shown on subdivision and land development plans; provides design standards for features such as roadways, storm water management facilities, and water and sewer utilities; and lays out the administrative process for reviewing and approving plans. Troy has a SALDO in

place, which was adopted in 1978.

Troy's SALDO appears to be fairly comprehensive, but because it is rather old, some of its provisions are outdated or do not meet the current standards prescribed by the MPC. In addition, some of the ordinance's design standards contain requirements that are out of character with the borough's existing "village" form of development. A review of the SALDO revealed the following:

- **Section 427.6 – Driveways.** This section requires driveways to be at least 75 feet from intersections. This requirement may be difficult to meet on a smaller residential lot.
- **Section 432 – Sidewalks** In a town setting, such as Troy, sidewalks should be required in almost all situations. The current wording only requires sidewalks in some situations.
- **Section 432 – Curbing** Similar to sidewalks, the ordinance only requires curbing in some situations. A continuation of the town setting requires curbing in most instances.
- **Section 436.3 – Street Intersections** The required intersection spacing of 1,000 feet along arterial roads and 400 feet along collectors is too large and would not allow portions of Troy to be built in its current form.
- **Section 436.4 – Intersection Curb Radii** The curb radii specified are too large for Troy's town setting.
- **Parking Lot Layout** The SALDO does not contain any requirements for the layout and design of parking lots.

## **Bradford County Comprehensive Plan**

The Bradford County Comprehensive Plan was completed in March 2004 and was designed to function as a policy guide for the future development of Bradford County communities. The plan examined existing conditions within the county and projected future growth trends, and then proposed goals, policies, and actions designed to accommodate expected growth while protecting the county's resources and quality of life. The following sections highlight the goals, policies, and actions from the plan that are most relevant to this current planning effort for Troy Borough.

### **Future Land Use Plan**

The future land use plan divides the county into four general land use categories: Town Growth Areas, Village Growth Areas, Rural Resource Production Areas, and Resource Preservation Areas. Troy Borough is included in the Town Growth Area designation. The purpose of the Town Growth Areas is:

*To accommodate and permit growth and development of intensive land uses (residential, commercial, industrial, and institutional) at overall*

*densities of one unit per acre or less and where public infrastructure services (water, sewer, and telecommunications) are provided or planned.*

**Goal:** Continue Sound Land Use planning efforts that are consistent with town, village, and countryside settings.

**Policy:** Support municipal and multi-municipal planning throughout the county.

**Policy:** Coordinate regulations, incentives, and service areas to make specific areas attractive for development.

- Encourage higher-density development potential through mixed-use, clustered, and Traditional Neighborhood Development, and transit-oriented development techniques.

## **Economic Plan**

**Goal:** Support small business merchants, especially in downtown business districts.

**Policy:** Assist the merchant community in developing, maintaining, and marketing viable sales and service operations.

## **Transportation Plan**

**Goal:** Develop, maintain, and improve travel routes that interconnect communities and provide access to regional highways and interstates.

**Policy:** Coordinate state, regional, county, and local efforts and funding streams for efficient transportation system improvements.

- Provide testimony to present before the State Transportation Commission hearings on a biennial basis on needed capital projects within the county.
- Work toward the goals established by NTRPDC for the region's major highway corridors: US Routes 6 and 220, PA Routes 14, 187, 328, 414, and 706.
- Use fuel tax revenues to jointly purchase road maintenance equipment and materials.
- Explore the creation of a county program to provide local matching monies for road and bridge improvements.
- Encourage the establishment of a regional position for contract administration of local bridge projects.
- Encourage municipalities to include access management practices in their subdivision and land development policies.

**Goal:** Provide transportation alternatives between communities as well as to natural and cultural assets.

**Policy:** Assist in implementation of strategic plans to achieve regional goals for multimodal transportation.

- Continue financial assistance to Endless Mountains Transportation Authority
- Implement the strategies outlined in the Northern Tier's Bicycle/Pedestrian Plan for Bradford County.
- Explore the possibility of bus, mini-bus, and trolley or taxi service between community centers or events.

**Goal:** Continue to support the presence and expansion of a multimodal transportation network.

**Policy:** Pursue policies, acquisition, and funding in support of multimodal and intermodal transportation.

## **Community Facilities and Services Plan**

**Goal:** Support councils of government, watershed organizations, and other inter-municipal initiatives that coordinate community development, protection, and facilities and services.

**Goal:** Provide for recreational and cultural programming opportunities that encourage social interaction among all age groups and income levels

**Policy:** Expand and integrate recreational and cultural facilities and services.

- Review and revise downtown ordinances to require development to provide pocket parks or donate fees-in-lieu.
- Improve transportation services and alternatives (pedestrian/bicycle routes) between communities, community facilities, and special events.
- Coordinate public access to school athletic facilities, e.g., for adult sports programs.

## **Natural and Cultural Resources Plan**

**Goal:** Support the preservation of historic architecture and architectural styles through both public and private funding.

**Policy:** Promote historic resource preservation and conservation, as appropriate.

- Assist municipalities in developing detailed ordinances and development guidance/standards for site and architectural features, including signage

- and streetscapes.
- Interconnect historical sites with local and county greenways and bicycle and pedestrian routes.

## **Troy Borough Business District Conceptual Plan**

This 2004 document was designed to show a conceptual plan for revitalizing the Troy Central Business District through three groups of recommendations:

1. **Physical Improvements** such as storefront renovation, streetscape enhancement, and traffic calming improvements.
2. **Management Improvements** such as parking management, marketing, coordination, recruitment, and the Main Street Approach.
3. **Branding the area as a Destination** by using its agricultural heritage or its location on US Route 6.

The report includes three sections that have direct relation to this study. Those sections are: Parking – Occupancy and Turnover, Pedestrian and Vehicular Traffic, and Streetscape Enhancements. The principal recommendations from each section are summarized below.

### **Parking – Occupancy and Turnover**

This section concluded with four recommendations for making better use of the downtown’s parking supply:

1. Strict enforcement of existing two-hour parking restrictions for on-street parking after a new off-street lot is developed for long-term parking.
2. Location, marking, and enforcement of half-hour convenience parking spaces at strategic locations.
3. Continued monitoring of the effect of increased customers and tourists on the parking supply.
4. Consideration of the reinstallation of parking meters, with revenue devoted to downtown activities.

### **Pedestrian and Vehicular Traffic**

This section described the need to address pedestrian accommodation and safety and discussed various traffic calming measures. Recommendations included textured crosswalks at the following locations:

1. Intersection of Route 6 and Route 14
2. Intersection of Center Street and Main Street/Elmira Street
3. Between the Borough building and the Citizens and Northern Bank

4. On Route 6 West near Martha Lloyd
5. Mid-block on Canton Street

## **Streetscape Enhancements**

This section describes methods to enhance the streetscape and visual character of the Troy CBD. It ends with recommendations for over \$400,000 in streetscape enhancements including

- benches,
- landscaping,
- bicycle racks,
- trash receptacles,
- ornamental light standards, and
- sidewalk reconstruction.



# **Public and Stakeholder Involvement**

## Background/Overview

Public and stakeholder involvement for the Troy Mobility Plan was extensive and included:

- A 19-member **Project Steering Committee**, which convened five times over the course of the planning process to review draft study materials (a listing of all members appears in the front of this report, while meeting summaries are included in Appendix C).
- Two public **open houses** (one on March 2, 2011, to identify study issues; a second on August 25, 2011, to review improvement options).
- A **community survey** which was released on February 18, 2011, to every property owner within the borough (a total of 243 surveys were returned from an original mailing of 655<sup>10</sup>). The survey netted a response rate of more than 37 percent.
- An interactive **Web survey** at [www.troymobility.com](http://www.troymobility.com) (results appear later in this section and in Appendix A).
- **Stakeholder sessions** with residents at Paul Reynolds Apartments on February 9, 2011.
- Press releases and display ads in the *Towanda Daily Review*.

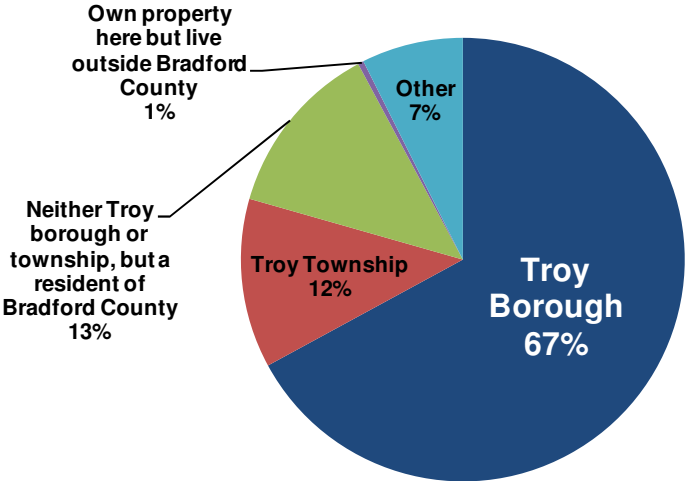
## Summary of the Community Survey Results

This section summarizes highlights of the community survey results.

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<sup>10</sup> The response rate for the sample size gives the study team 95 percent confidence that the survey results accurately reflect community preferences to within 5 percentage points.

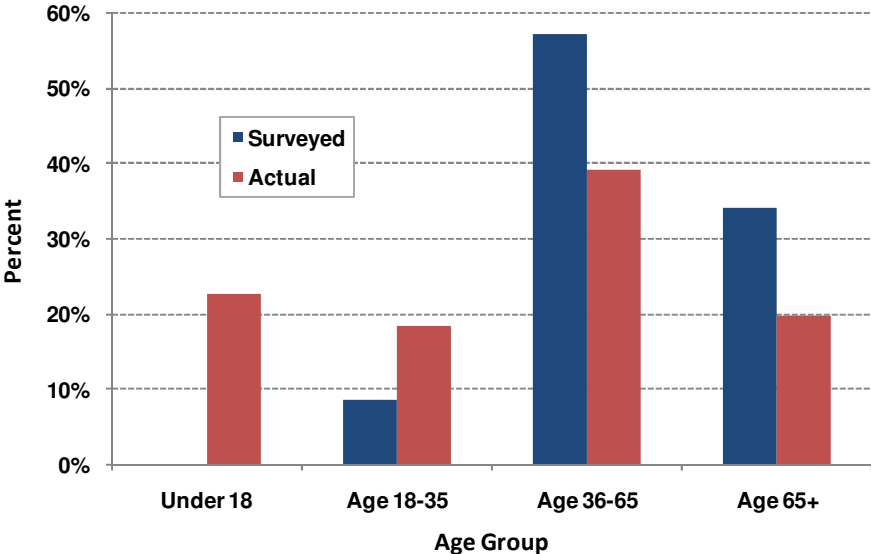
Figure 21 – Where Do You Live?



Source: Troy Mobility Plan Community Survey

The team mailed surveys to all property owners within Troy Borough. As might be expected, a majority of survey respondents (67 percent) reside within the borough. Another 12 percent were from neighboring Troy Township, with an additional 13 percent residing elsewhere in Bradford County.

Figure 22 – What Is Your Age?



Source: Troy Mobility Plan Community Survey

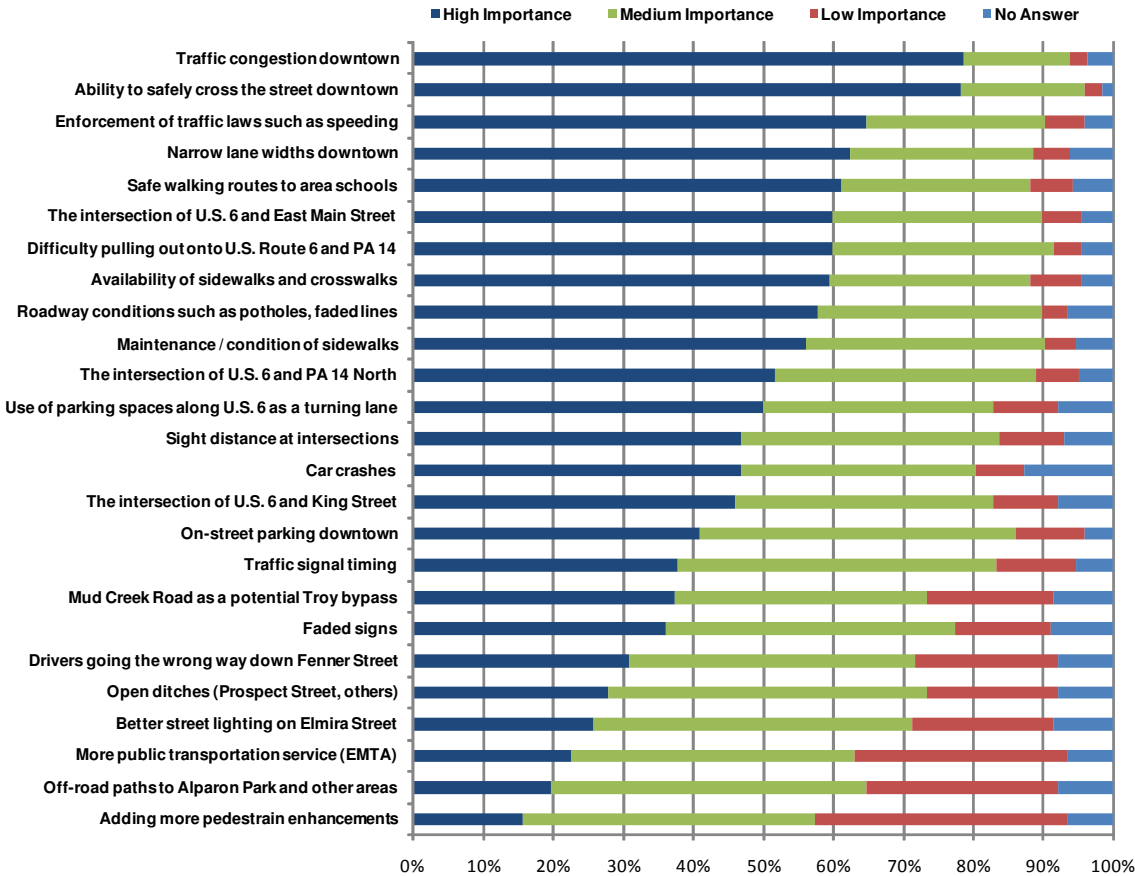


A majority of survey respondents (57 percent) were people between the ages of 36 and 65. While the Census Bureau records indicate that approximately 19.8 percent of the borough's population is over the age of 65, nearly 35 percent of those responding to the survey indicated they were in that particular age group. This means that survey results are oriented more toward the perspectives of those over the age of 35. There were no survey respondents who were younger than age 18.

The survey instrument included a question with 26 issues for respondents to gauge as "Very Important," "Less Important," or of "Medium" importance. From the survey, the top study issues emerged as:

1. Traffic congestion downtown.
2. The ability to safely cross the street.
3. Enforcement of traffic laws such as speeding.
4. Narrow lane widths downtown.
5. Safe walking routes to area schools.

Figure 23: Issues Ranked from "High Priority" to "Low Priority"



Source: Troy Mobility Plan Community Survey

Shown another way, Figure 24 above shows how the area’s transportation issues are arrayed in terms of their importance to the community. There were 11 transportation issues in all that garnered more than 50 percent citing it as a “Very Important” or high priority study issue. The need to address traffic congestion downtown was ranked the highest overall priority.

No study issue attracted a similarly high level of disagreement as an issue to be addressed, although the issue of “adding more pedestrian enhancements” downtown led the list. Other issues with higher than average levels of “low importance” involved improvements to public transportation services, such as those offered by Endless Mountains Transportation Authority (EMTA).

A final planning indicator includes the number of survey issues that were submitted with no response. Curiously, the most common issue receiving no response involved that of crashes. The issue with the fewest number of blank surveys was “Safety in crossing the street,” attesting to the community’s high level of interest in that topic.

## Troy Chamber of Commerce

The study team met with members of the Chamber of Commerce at the Edgewood Restaurant on January 5, 2011. The study project manager presented an overview of the purpose of the planning process and provided some initial study findings. Afterwards, chamber members provided their perspectives on transportation deficiencies in the borough by answering this question: “What are the top five transportation issues or concerns within the borough that should be addressed by 2016?” Responses included:

- **Parking** – This was the most frequent issue mentioned by chamber members, cited by all but two of the 18 respondents. Issues related to parking included the potential elimination of parking on one side of the street (Canton), and improved enforcement of the two-hour limit.
- **Traffic signal timing** – The second most common response involved that of the timing of the traffic signal at US 6 and PA 14. Several chamber members noted that the traffic signal could be improved (through actuation) for increased intersection performance.
- **Crosswalks** – Along PA 14, there are no mid-block crosswalks between US 6 and Redington Avenue.
- **Fenner Avenue** – There have been problems with motorists traveling the wrong way down this one-way street from the school.
- **Truck traffic on narrow streets** – This has contributed to parked cars getting their mirrors clipped off.
- **Safety** – Particular areas of note include the areas in front of the Dandy Mini Mart and the Dollar General store downtown, Tops Market, and pulling out onto PA 14 from Redington Avenue. Also, there are open drainage ditches on several local streets (such as Prospect) that are especially dangerous, especially during the autumn and winter seasons, when they may be covered with leaves or snow.
- **Traffic Congestion** – The timing and release of school students/school buses could be metered or staggered to lessen afternoon peak period congestion. Police could be used to direct

traffic to improve flow during peak periods.

- **Roadway markings** – The turning lane from US 6 to PA 14 North needs marked more clearly. On the eastbound approach, there are no line markings at all on the John Burguess Bridge. One noted a desire for longer turning lanes at intersections.
- **Paine Street** – The southern portion of the roadway is in substandard condition and in need of improvement.
- **Missing sidewalks** – This includes along Paine Street, which is an area of the borough that is developing with new housing units, yet has no sidewalks connecting it to the elementary school.
- **Pedestrian safety** – This is particularly a problem at the downtown intersection of US 6 and PA 14. More pedestrian walkways are desired, in addition to a longer signal phase for pedestrians at the intersection of US 6 and PA 14.
- **Truck Traffic** – There is a need to better accommodate the water trucks and gas industry trucks through the borough. Trucks use engine brakes, which contribute to noise issues for borough neighborhoods.
- **Signing** – This could be improved at Fenner Avenue so that it is not blocked by traffic queuing at the signal.
- **Speeding** – This is particularly a problem on US 6 in both directions west of the borough, where it is posted at 25 mph. Other areas include US 6 between McDonald’s and PA 14 North.
- **Public transportation** – More service is desired.
- **Area Roadway Network** – Improve the region’s roadway network to lessen travel demand through the downtown.

### Senior Stakeholder Involvement

Senior citizens, because of their age and declining health, often have higher requirements of the transportation system than younger members of the community. When driving, their reaction times are not as fast as a younger person’s and their vision may be less sharp. Therefore, there is a need to accommodate them by building extra margins of safety into the roadway system and placing signs in the most visible locations possible. When walking, especially if using a cane or walker, seniors are more likely to be hindered by sidewalks that are uneven, cracked, or missing. Those in wheelchairs face similar problems. Similarly, seniors may be dependent on transit for trips to destinations to which they cannot walk.

Accordingly, the input from seniors in Troy is critical to understanding the deficiencies of the current transportation system in the borough. A system that has been designed to meet the needs of these seniors with their greater demands would be beneficial to all users.

To get this vital input on the transportation system from seniors' point of view, the borough facilitated an event at the Paul Reynolds Apartments on February 9, 2011. Highlights of the session are summarized below:

- **Speed enforcement** – This is a concern, particularly on East Main Street, notably for eastbound traffic
- **Sidewalk safety and maintenance** – Some sidewalks in the borough are in a poor state of repair and need to be replaced. Many walk to Tops at the other end of the borough, yet the sidewalk is discontinuous and sometimes snow gets plowed onto the sidewalk.
- **Crosswalk safety** – This is a concern for many seniors. Many motorists do not stop for pedestrians in the crosswalk. Seniors observe truckers stopping more frequently than other motorists.
- **Larger street signs** – There are oversized signs that are used in Elmira, New York, that might be considered in Troy.
- **Public transportation** – Fixed route transit offers timely service, although most people do not use it. Shared ride service is not as timely, and customers cannot be sure they will always arrive to their appointment on time. In order to get to the mall, riders must ride to Towanda to catch a transfer.
- **Parking** - Additional parking lots in the borough would allow for the removal of some on-street parking (e.g., on Canton Street and West Main Street)
- **Signalized intersection downtown** – Signal timing improvements are needed there. Also, it was expressed that the stop line near the intersection of Fenner Avenue is too close to the intersection, as motorists sometimes need to back up in order to allow trucks to turn the corner from Canton Street onto Elmira Street, eastbound.
- **Use of borough police** – Would be beneficial in directing traffic during times of school dismissal.

### Public Open House #2

As part of promoting the study's second public open house, a press release was prepared announcing the event and the availability of a study survey on the project's Web site. Participants from the previous open house were also alerted to



the follow-up open house by e-mail. The Web site included the 14 draft improvement options being proposed. Survey respondents were asked to identify what they believed to be the high, medium, and low priorities for implementation.

The second open house gave the public the opportunity to review and comment on the draft study improvement options. The study team delivered a PowerPoint presentation describing the options, their rationale, and expected benefits. Maps and posters were also on display highlighting the improvement options. Open house participants had the option to complete a paper version of the online survey. A total of 46 people responded to the survey, either online or through the open house.

The survey results largely affirm that the improvement options being proposed satisfy the mobility goals/directions expressed in the previous open house held in the winter. Top issues then included addressing traffic congestion downtown and the ability to safely cross the street. Study issues continue to be dominated by intersection performance of US 6 at PA 14, East Main Street, King Street, and at PA 14 North in Troy Township. Perhaps not surprisingly, the three improvement options receiving the most support from survey respondents all involved intersection improvements. These intersections represent the primary bottlenecks to mobility, in addition to safety concerns for both motorists and pedestrians.

Above all else, the desire for upgrading the traffic signal at US 6 and PA 14 emerged as the most important transportation issue for Troy survey respondents, with 89 percent citing it as a “high” study priority. Concern was nearly as high for US 6’s other intersection with PA 14 North, at 73 percent, and at East Main Street, at 71 percent. The fourth primary study intersection (at King Street) was cited by 58 percent as a high study priority.

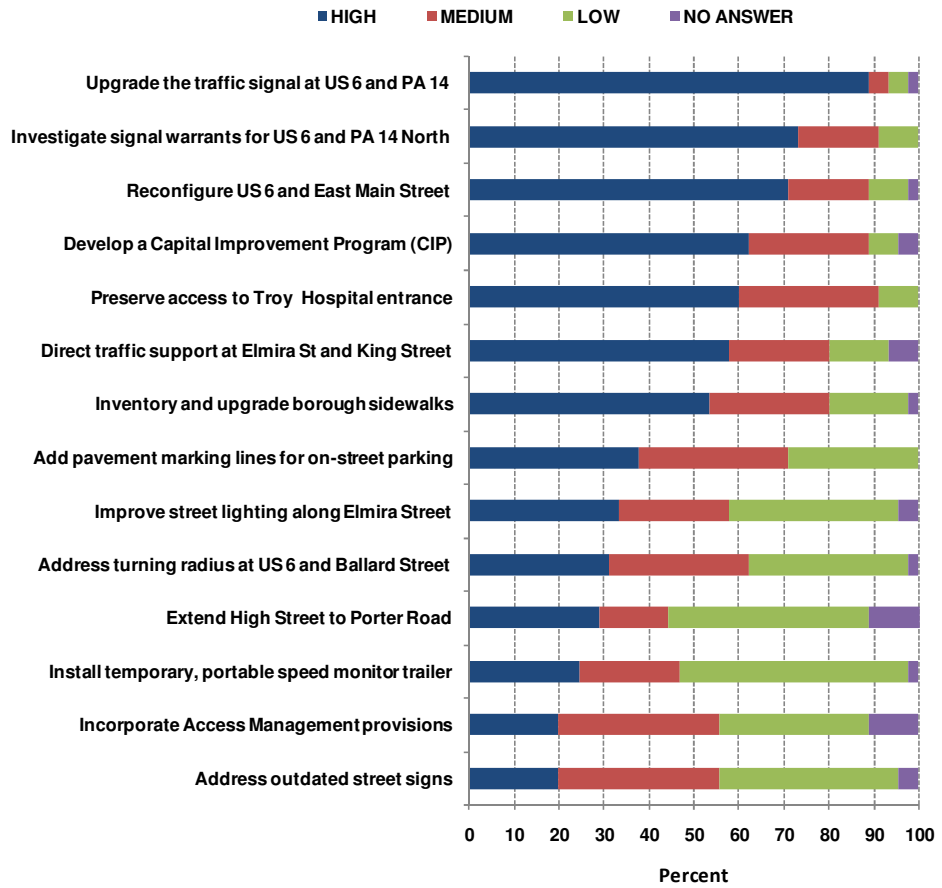
Options receiving the highest negative reaction, with more than 30 percent indicating “low or no priority,” included the following:

- Extending High Street to Porter Road (38 percent).
- Installing a temporary, portable speed monitor trailer (37 percent).
- Improved street lighting along Elmira Street (31 percent).

The option receiving the highest percentage of no responses included the one addressing access management, which may indicate a level of unfamiliarity with the topic. Figure 25 provides more detail on the magnitude of support for each study improvement option.

The top three study improvement options all involve intersections.

Figure 24: Improvement Options Ranked from "High Priority" to "Low or No Priority"



Source: Troy Mobility Plan Public Survey

A summary of open-ended comments received appears in Appendix A.

# **Improvement Options and Implementation Plan**

## Background/Overview

This initial set of draft study recommendations 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 recommendations address the following broad categories:

- Roadway Geometry
- Operations (traffic signals and signal systems)
- Safety
- Ordinance-related issues
- Other planning-related issues and concerns

Draft recommendations are presented below in no priority order. A discussion of the draft recommendations addresses the following subheadings:

- Statement of the recommendation itself
- Details surrounding the recommendation
- Why it is necessary
- Recommended priority
- Expected benefits
- Level of community support

The priorities shown are not binding, but are recommendations only. Ultimately, the steering committee will provide its recommendations to the Borough Council through the final study report.

The 14 suggested improvement options are:

- A. Upgrade the traffic signal at the intersection of US 6 and PA 14 in downtown Troy.
- B. Reconfigure the intersection of US 6 and East Main Street.
- C. Consider coordinating with Troy School District to provide Borough police support for directing traffic during school dismissal.
- D. Evaluate the need for warrants for signaling the intersection of US 6 and PA 14 North.
- E. The Borough's Street Committee should continue addressing outdated signs.
- F. Extend High Street to intersect with Porter Road/SR 4008.

- G. Install a temporary, portable speed monitor trailer to improve compliance with posted speed limits.
- H. Install a new traffic sign to prevent traffic from blocking access to the Troy Community Hospital emergency room driveway entrance.
- I. Add pavement marking lines to designate on-street parking spaces.
- J. Inventory and upgrade borough sidewalks to provide pedestrian safety, continuity, ADA (Americans with Disabilities Act) compliance, and an acceptable condition.
- K. Develop a formal five-year Capital Improvement Program (CIP).
- L. Incorporate access management provisions into the subdivision and land development ordinance.
- M. Provide improved street lighting along US 6/Elmira Street.
- N. 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.

**Public preference:** 89 percent of survey respondents indicated this as a “high” study priority.

**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.<sup>11</sup> 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<sup>12</sup>—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.

<sup>11</sup> US 6 Westbound currently operates at Level of Service “D” during the PM peak period and “F” during the AM peak period.

<sup>12</sup> Maximum green time is adjusted cycle-by-cycle, varying with traffic conditions.

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 benefiting 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. TIP candidate projects are solicited on a biennial basis.
  - d. *Liquid Fuels* – Of which Troy Borough receives approximately \$30,000 annually from the state’s Motor License Fund.
  
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.



## 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.

**Public preference:** 71 percent of survey respondents indicated this as a “high” study priority.

**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. ***Complete Level 2 Screening form and associated cost estimate before going on TIP.***
3. ***The Borough should involve PennDOT District 3-0 and NTRPDC to consider this project as part of a future Transportation Improvement Program.*** Development of the 2013 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 study phase.

**Figure 25: US 6/East Main Street Intersection Upgrade Conceptual Design**



## 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.

**Public preference:** 58 percent of survey respondents indicated this as a “high” study priority.

**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 across 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: \$15,000**

**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.

**Public preference:** 73 percent of survey respondents indicated this as a “high” study priority.

**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 conduct a more detailed traffic study 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. (A financial commitment from the township would be required before the warrant analysis.) 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**

**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.

**Public preference:** 20 percent of survey respondents indicated this as a "high" study priority.

**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).<sup>13</sup> 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.

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<sup>13</sup> Traffic engineers audited nine locally-owned streets within the borough, in addition to US 6 and PA 14. A summary appears in Appendix D.

## 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. A portion of liquid fuels funding could be allocated to address sign replacements.
- 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: LOW**

**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.

**Public preference:** 29 percent of survey respondents indicated this as a “high” study priority.

**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 and PA 14.

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.

A Beta Index of Troy Borough’s street network indicates that the borough’s network 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.<sup>14</sup> 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

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<sup>14</sup> Ewing, R. (1996) Best Development Practices

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<sup>15</sup> 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 Transportation Improvement Program (TIP) as a possible candidate for funding under the Appalachian Regional Commission’s (ARC) Local Access Road Program.*** Each year, ARC allocates \$1 million in funding to Pennsylvania for local road access projects. The ARC may approve the funding for local access roads which serve educational areas, such as the Troy Junior/Senior High School campus. With only \$1 million available annually, this funding would likely need to be made a part of some larger funding package.

***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. It should be noted that High Street is a local roadway and is not on the federal-aid system.

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<sup>15</sup> From the end of High Street

Figure 26: High Street Extension to Porter Road, Conceptual Design





**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.

**Public preference:** 24 percent of survey respondents indicated this as a “high” study priority.

**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.

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.



Figure 27: An example of a speed monitor trailer in Alba Borough.

**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.

**Public preference:** 60 percent of survey respondents indicated this as a “high” study priority.

**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.

**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.”*

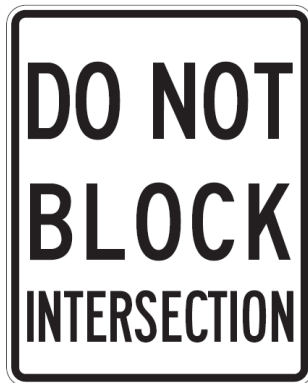


Figure 28: an example of an R10-7 series traffic sign, from the Manual of Uniform Traffic Control Devices (MUTCD).

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

**Priority: MEDIUM**

**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.

**Public preference:** 38 percent of survey respondents indicated this as a “high” study priority.

**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 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.

**Public preference:** 53 percent of survey respondents indicated this as a “high” study priority.

**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.

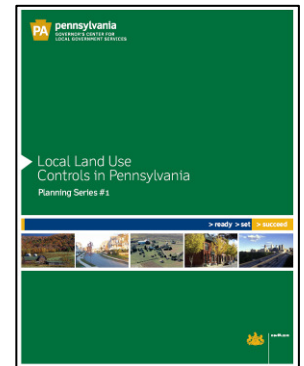
**Public preference:** 62 percent of survey respondents indicated this as a “high” study priority.

**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 (see [www.newpa.org](http://www.newpa.org) > Planning Series No. 1 – Local Land Use Controls in PA). 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.

**Public preference:** 20 percent of survey respondents indicated this as a “high” study priority.

**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.

**Public preference:** 33 percent of survey respondents indicated this as a “high” study priority.

**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* 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

**Public preference:** 31 percent of survey respondents indicated this as a “high” study priority.

**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 Highway Occupancy Permit would be required through the PennDOT District’s Permits Unit. Right-of-way may also need to be acquired from the church to increase local road right-of-way. Public/private partnerships could also be explored in helping to fund the project.



## **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 originally cited this as a high study priority.

### **B. A pedestrian crosswalk along Canton Street south of the intersection of US 6/PA 14.**

**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,<sup>16</sup> 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.

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<sup>16</sup> PennDOT Traffic Publication 46

As work on this plan drew to a close, the Borough experienced its first traffic-related fatality in several years when an elderly pedestrian attempted to cross Canton Street outside of the crosswalk and was struck by a commercial truck. While the nature of the accident is still under investigation, it is clear that pedestrian safety is a critical issue, especially given the increase in traffic through the borough. Future improvements to intersections, roadways, crosswalks, and sidewalks must minimize the potential for conflicts between pedestrians and motorized vehicles.

## Implementation Plan

### **Background & Purpose**

- The Troy Mobility Plan (hereinafter “the Plan”) was developed to address a wide range of transportation issues and opportunities for a community that is highly valued by its residents and many visitors.
- The plan included a series of major recommendations that are being “converted” to “Projects and Initiatives” for the purposes of this implementation document, recognizing that the Borough intends to move forward on all of the recommendations.
- The Steering Committee is the assumed body for overseeing and coordinating the plan’s implementation in partnership with the Northern Tier Regional Planning and Development Commission, PennDOT, and others.
- This document is dynamic. It has been developed as a chapter of the plan, but also as a stand-alone document and tool for managing and monitoring the plan’s implementation.

### **How to Use and Update**

- At minimum, the Steering Committee or its successor oversight body should do a full review and update of the Implementation Plan on an annual basis. This should be done in coordination with NTRPDC (and PennDOT) as part of its own work program planning.
- A status column is provided for the Steering Committee to simply record any updates for any of the projects or initiatives. This also points to another important use for the Implementation Plan—it is a communication tool from which to extract key updates to keep the public informed of progress.

## **Implementation Plan Structure**

- A matrix is provided for each of the 14 improvement options. The matrix lists supporting actions and indicates whether the action is either near-term, medium or long range, or a continuous activity. A rationale for each was discussed as part of finalizing the plan but not included in the implementation plan for the sake of brevity.
- A lead organization is shown for each project or initiative. This is not to imply that they are solely responsible, but it is important to have a point organization that recognizes and accepts its role to move the project or initiative forward. As a dynamic document, the Borough is free to change the leadership for any project or initiative as necessary.
- Finally, the consultants have provided both implementation considerations shown in bulleted form and a variety of early steps or checklist items shown with checkmarks. Both are intended to foster early action and momentum.

IMPLEMENTATION PLAN

Project/Initiative	Actions	Priority	Timing <sup>17</sup>	Logical Lead	Moving to Implementation
A. Upgrade the traffic signal at the intersection of US 6 and PA 14 in downtown Troy.	Upgrade signal hardware, adding actuation, dynamic maximum capability, and pedestrian countdown signals.	High	Ongoing	Streets Committee	The Borough should monitor its funding request through the Automated Red Light Enforcement Program, or ARLE. The Borough should develop a maintenance schedule or program for its signals, and incorporate this activity as part of a proposed Capital Improvement Program (CIP).
B. Reconfigure the intersection of US 6 and East Main Street.	Improve intersection geometry for improved safety.	High	Near-term	Streets Committee	The Borough should petition NTRPDC to have the intersection considered as a candidate for placement on the region’s Transportation Improvement Program, or TIP. The Borough may be called upon to assist NTRPDC in completing Level 1 and Level 2 screening forms as part of this process.
C. Coordinate with Troy School District in providing police support to direct traffic during school dismissal.	Signalize the intersection.	High	Near-term	Borough Police	The Borough and school district should collaborate on providing police or fire police to direct traffic at the intersection of Elmira and King Streets during school dismissal. These personnel can direct traffic at the school entrance; however, crossing guards legally cannot.

<sup>17</sup> Near-term = 0-1 year; Medium-term = 1-2 years; Long-term = > 2 years



Project/Initiative	Actions	Priority	Timing <sup>17</sup>	Logical Lead	Moving to Implementation
D. Evaluate need for warrants for signalizing the intersection of US 6 and PA 14 North.	Complete warrant analysis for possible signalization of intersection.	High	Ongoing	Troy Township Supervisors	The township will need to approach the PennDOT District Executive with a request to signalize the intersection. This request should include a written financial commitment from the township indicating that it will commit appropriate funding to construct the signal installation, as well as agree to operate and maintain the traffic signal on an ongoing basis.
E. Continue addressing outdated signs.	Replace signs that are faded or outdated; ensure new signs are of breakaway design.	High	Ongoing	Borough Council; Streets Committee	Continue to replace signs as needed. Monitor any additional guidance regarding FHWA's proposed rule-making re: the MUTCD sign requirements.
F. Extend High Street to Porter Road/SR 4008.	Extend High Street to connect with Porter Road.	Low	Long-term	Borough Council; Troy Area School District	If federal APL money is not available for such an improvement, costs could be shared between the Borough and the school district as part of a long-term strategy for implementation. Possible public/public partnership could be evaluated with guidance from NTRPDC and PennDOT Office of Planning.
G. Install temporary portable speed monitor trailer.	At various locations on West Main Street and East Main Street as deemed necessary.	Medium	Medium	Borough and PennDOT	Carry out in cooperation with PennDOT District 3-0. PennDOT will place, operate, and retrieve its speed monitor trailer at no cost to the municipality along state highways. Contact Bill Houpt (368-4210) to request the placement of this unit. There are some requirements for placing the device such as having known speeding problems.
H. Prevent traffic from blocking Troy Hospital entrance.	Install a modified version of the R10-7 traffic sign.	Medium	Near-term	Borough and PennDOT	In collaboration with Troy Community Hospital, the Borough should put a request in writing to PennDOT District 3-0 for installation of the sign.
J. Add pavement marking lines for on-street parking spaces.	Add pavement markings to delineate on-street parking spaces downtown.	Medium	Near-term	Streets Committee	The Borough should also add two-hour parking signs to improve parking enforcement.

Project/Initiative	Actions	Priority	Timing <sup>17</sup>	Logical Lead	Moving to Implementation
J. Inventory and upgrade borough sidewalks.	Identify a network of priority bicycle/pedestrian facilities in the borough.	Medium	Near-term, then Ongoing	Borough Planning Commission	Borough Council should task the planning commission or a citizen’s advisory group to develop criteria for prioritizing the borough’s most important bike/ped linkages (see detail on previous pages). A public campaign could also be launched to help identify locations most in need of repair.
K. Develop a Capital Improvement Program (CIP).	Develop a CIP as a planning tool for projects beyond normal maintenance and operations.	Medium	Near-term	Borough Planning Commission	Specific guidance on developing CIPs and examples of best practices are available at PA DCED at <a href="http://www.newpa.org">www.newpa.org</a> .
L. Develop and Adopt an Access Management Ordinance.	Develop an Access Management Plan.	Medium	Medium	Borough Planning Commission	Borough council could task the planning commission to develop ordinance. PennDOT’s guidance handbook is available electronically: <a href="http://www.dot.state.pa.us/ftp://ftp.dot.state.pa.us/public/bureaus/CPDM/WEB/Access%20Management%20Model%20Ordinances%20for%20PA%20Municipalities.pdf">http://www.dot.state.pa.us/ftp://ftp.dot.state.pa.us/public/bureaus/CPDM/WEB/Access%20Management%20Model%20Ordinances%20for%20PA%20Municipalities.pdf</a>
M. Provide improved street lighting along Elmira Street.	Ensure adequate street lighting along Elmira Street.	Low	Ongoing	Borough Manager	Continue to monitor adequacy of street lighting along Elmira Street and other locally-owned streets.
N. Address turning radii at US 6 and Ballard Street.	Increase turning radius at US 6 and Ballard Street.	Low	Medium	Borough Council	In collaboration with the First Presbyterian Church, the Borough should coordinate with PennDOT District 3-0 in obtaining a Highway Occupancy Permit and in increasing the turning radius at the intersection.





## Appendix A - Public and Stakeholder Involvement

Gannett Fleming is continuing a considerable effort to raise awareness of sustainability in our day-to-day activities and our projects. Our goal is to work sustainability into our projects in a more consistent and meaningful way than we have in the past.

**As such, we are providing some appendices in electronic format in order to reduce paper waste while at the same time being able to provide additional resources and references.**



## **Comments from Community Survey**

The survey conducted during the first public open house provided opportunity for open-ended comments. A description of these is summarized below. A total of 184 survey respondents provided comments over and above what was shown on the survey instrument. Comments are shown on the following pages in no priority order and organized by topic area. They offer a community's commentary on its transportation issues.

### **Traffic Signal Operations**

- Allow right on red.
- Install a traffic light on King St and Elmira St for school buses.
- Install a traffic light at the Rt 14 and Rt 6 east of the borough.
- Delete the crosswalk buttons for pedestrians at the center of town. Usually the person trying to cross is out of sight by the time the signals actually stop traffic and all the traffic sits and watches an empty crosswalk.

### **Pedestrian Safety**

- I think there is a great need for better street lighting down Elmira Street from the Hospital to at LEAST McDonald's if not further.
- For pedestrian safety, especially school children walking to WR Croman on the west side of Canton St., please consider no parking on Canton St - both sides from Redington Ave southward & move the center line on Canton St back to the center. This will keep trucks from coming so close to the side walks.
- Walking in Troy is a dangerous thing to attempt. The sidewalks are in poor repair, the street lights are under powered, many places require walking in the street because there are no sidewalks, if you walk in the road there is a danger of falling into the ditches that line the streets. Why does Troy pave their ditches instead of installing underground sluices? There is no curbing.

### **Parking**

- As far as parking (area which was made for 3rd bank has been made for business people, should be for customers) business owners should be made to park at Dollar Store they don't need entire area. Or park behind old Penneys (unless there is a funeral).
- Cut down on parking on both sides of streets; first starting corner Vinnie's Pizza to Krise's Garage. Second, from in front bakery up West Main Street.

- Corner parking space (East) in front Cooke's delete.
- Perhaps the last few parking spots on the right in front of borough hall could be more clearly marked so that drivers can see they are not to be used as a travel lane. Maybe these parking spots need to be blocked off entirely. I thought these drivers were from out of town, but the last time it happened it was my next-door neighbor.

## **Roadway Network**

- Under red light heading (South) left lane move back one car length.
- Traffic within all of Troy needs more closely monitored like; NO right turn at red light when light is RED, all vehicles coming into town from all (3) directions are way over speed limit, people NOT leaving room at ER entrance and also at school bus entrance at Center Street.

Several of these traffic problems have been a problem in our Boro for a long time; not just because of the gas/water trucks.

- One of my biggest concerns is getting sideswiped while waiting at the red light in downtown Troy to travel West on Rt. 6. Four times in the last 13 months my car has nearly been sideswiped by drivers who travel through parking spaces on the right, basically creating a third lane for themselves. As I started forward on green, passing Fenner Ave., these drivers either speeded up to pull ahead of me back into the actual travel lane, or turned right onto Fenner Ave.
- Rebuild Mud Creek Road so it is suitable as a bypass for traffic on Rt 6 east going south on Rt 14 and the other way.

I have lived here nearly 30 years and these conditions existed when I arrived and have not been improved since. I think a long-range plan to deal with these issues needs to be in place so things can be upgraded instead of perpetuated. A little bit at a time would result in much improvement over time.

Please accept these criticisms as suggestions and an attempt to bring some of these things to the table for discussion.

Good luck with this project. I hope you are successful.

## **Comments on Suggested Improvement Options**

Open ended comments received on the suggested improvement options are highlighted below.

## **Extending High Street to Porter Road**

- I do not like the idea of extending High Street to Porter Road. I think this would just move the problem with school traffic down to the Porter Road and Elmira Street intersection. Thanks.
- Extending high street to porter road is a terrible idea! It would not help to reduce traffic on Elmira Street very much, the new road would be very steep and therefore dangerous for school buses in the winter, and the project would be very big and expensive and disruptive to our small town. Not to mention, it would destroy the RESIDENTIAL neighborhood on the dead end of high street. It's bad enough that the school has torn down half of the homes to put in a giant parking lot without the promised trees. There are still some homes there whose value isn't completely destroyed yet but will certainly be if a new bridge is put in. There are so many smarter ways we could spend money. I would especially like to see pedestrian and bicycle improvements.
- Extending High to Porter is a screwball idea. Add crosswalks, please. Only shielded lights...not the maximum security prison orange that light up the sky
- The Porter Road project would only be moving the problem down the street.
- Extending High Street to Porter Road is too costly and has no benefit.
- High Street should not be extended to Porter.
- Extending High Street to Porter is just moving the problem. It is not corrective or feasible in my opinion.
- Extending High Street to Porter Road would be high cost with low impact.

## **Parking**

- For the most part ELIMINATE ON-STREET PARKING on Canton St. (PA Route 14 ) between Redington Ave. and the traffic light. Do the same for the length of road from the Martha Lloyd School to John Street. Develop off-street parking, immediately to access local businesses. Gas drilling companies should be strongly encouraged to participate in the development of parking areas.
- Reevaluate on road parking, especially in front of boro hall and by White's CPA on 6 since two semis cannot pass there when cars are parked. Dangerous as well as stopping traffic for a time until one passes.
- Looks like there would be room for 2 lanes going west from in front of the police station to the light. If a couple of parking spaces were eliminated there would be less congestion. The way it is now, some cars



tend to block access to the westbound lane and it sits empty until the light changes. There is plenty of room to move the left lane further left coming up to Center Street.

- The parking markings would be visible so that traffic does not drive in parking areas. Many consumers are reluctant to park downtown due to sideswiping issues.

## **Temporary Portable Speed Monitor Trailer**

- East Troy absolutely needs...[a] temporary portable speed monitor trailer. If measures are not taken to control speed in East Troy, it is very likely there could be additional accidents here on the East Troy RT 6 bridge. There have already been too many. The last accident on the East Troy bridge must have cost hundreds of thousands of dollars in damage repairs. Trees have grown out around the bridge blocking the view that there is even a bridge there. Big trucks from gas wells pull onto Rt 6 from Gulf Road and vice versa, right on a blind curve on the bridge-- this is very dangerous. There are no clear signs that indicate there is a bridge ahead in East Troy. Most do not obey the 40 MPH speed limit - better speed limit signs are needed in East Troy. There have been numerous accidents here since the increase in traffic (and change in type of traffic) with the shale drilling and absolutely nothing has been done to address this.
- Lower speed limits in borough. Restrict on street parking near intersection of rt 6 & 14.
- Let police do their job (instead of a speed monitor trailer)
- Will [installing a temporary speed monitor trailer] truly have any impact?
- Installing a speed monitor trailer is not practical.
- Speeding on s railroad st and west main st going by Martha Lloyd. making the road on west main wider (from Vinnies thru church area to accommodate all the large vehicles that are now in the area, there is not enough space for two lanes of traffic (with big trucks) and parking on both sides of the road also.

## **Pedestrian Enhancements**

- Create pedestrian crosswalk w/ blinker, button activated signal at the bottom of King St and Route 6 for school pedestrians. Prioritize bikes & walkers - sidewalks, bike paths, etc - Grants available? Younger children now at former Middle School. Allow K-2 students to get on bus at King-High Sts to ride to WR Croman Elementary to avoid dangerous crossings and 1 mile distance unsupervised. Subdivision and land development

ordinances are severely out-of-date in many areas, and a complete revision should be done, not just access management.

- Do another pedestrian crosswalk down by H&R. I don't feel safe crossing by the red light - too many running the red light. Put up cones representing crosswalks like Towanda has - you do have to stop.
- How are you going to enforce [sidewalk upgrades] with home owners?
- Upgrading the borough sidewalks is a safety issue.

## **Lighting along Elmira Street**

- Lighting needs to be addressed on more than along route 6. Many of the side streets in town have inadequate lighting and are dangerous to try to walk.
- The lighting on Elmira St. doesn't seem to be a traffic issue, nor do the sidewalks. Both would be nice upgrades, but please don't call them traffic issues.
- Lighting and signage should be [addressed] after mobility is addressed.

## **Access Management**

- Access management seems logical, but I am reluctant to create regulations that would make it more difficult to attract additional tax base. I would hope that such regulation would be realistic and common sense. We are regulated to death with ridiculous codes.
- I don't believe you should force shared driveways, etc. on property owners, especially private homes.
- Remove the upper entrance to Dollar General.

## **King Street Intersection**

- Let police handle letting buses out.
- (King St exit) Need timing training - cost of police should be shared. I serve on the borough planning commission and would be willing to especially study sidewalks
- Most urgent is the school bus issue, an officer for the high school is a must. The officer that sits at Croman would be more useful at Elmira and King Sts. at dismissal time. Both areas, of course, need a crossing guard.
- Allow a few buses at a time to enter onto Elmira Street.
- I believe a light is necessary for King Street. I feel this should have been done already.

## **Intersection of US 6 and PA 14 (Elmira and Canton Streets)**

- The priority should be to install a traffic signal at Rt 6 and Rt 14 North. There have been at least three accidents involving drivers exiting the gas station and drivers running the intersection. Also, the gas companies should be footing part of the bill. Their vehicles are the reason for the improvements.
- At the intersection of 6 and 14 maybe there should be 2 turning lanes seeing as people have already pretty much made it that way when they come up along side of you on the right to get ahead of traffic and turn.
- Address illegal use of boro hall parking spaces as west traffic lane.
- Use funds to make the largest impact. Major needs are the light at Rt. 14 and 6, and then pavement markings to keep the downtown alive.
- People are going on the right at the intersection of 6 and Fenner.

## **Hospital Entrance Access**

- This would be ignored the same as the other one close to the intersection. I always see drivers blocking the side street.
- The Ballard St., East Main/Rt.6, Rt.14/Rt.6, and hospital entrance accessibility issues are urgent. Correcting these issues would at the very least help.
- Wait for hospital plans (before addressing access issues).

## **Intersection of US 6 and PA 14 North**

- Cannot believe [US 6 and PA 14 North] is not eligible for a [traffic signal]. - very dangerous. Glad to see the borough has been proactive on [addressing outdated signs] I live in Gillett and travel 14/6 each and every day. That intersection is so dangerous and really needs to have a signal. I am truly surprised there have not been more accidents and deaths at this location.
- This intersection (US 6 and PA 14 North) has become very dangerous!
- There is NO question we need a light at rt-6 & 14!

## **Miscellaneous Comments**

- Add extra turn lane at Rt. 6 and Rt. 14 intersection for south bound traffic
- Make better use of the Porter Road for traffic moving East or West on Rte #6 - make it a Troy by-pass for this kind of through traffic
- Stop water trucks from being filled from borough while residents have to conserve.

- Due to the high volume of truck traffic during daytime hours, attention needs to be paid to monitoring the flow of these vehicles. Whenever possible truck traffic should be limited to off peak travel periods.
- An alternate route (new) is needed from Rt 14 South of Troy to Rt 6 both East of Sylvania and West of East Troy, to remove the trucks from downtown.
- Tell all gasholes to move back to the south!
- Have you considered connecting Paine Street to Eureka Drive using the former railroad grade to create a complete bypass around Troy for even light weight traffic (cars and pickups)?
- This does not address the narrow road on West Main Street and the traffic problems when Tractor Trailers meet each other when cars are parked on both sides of the road.
- Perhaps gas companies should assist with the funding for this as they are the reason for the need.
- Need more clearly labeled signage, especially during bus/pedestrian traffic high points.
- The borough should already have a plan (CIP).
- Improve the intersections where accidents occur.
- Direct traffic from the new parking lot (Schucker) to Redington Avenue.
- Nice work so far. Looking forward to seeing the changes implemented and how that impacts the community!

## **Appendix B - Newspaper Articles**



# Troy issues warning to crossing guards

*Published: September 2, 2009*

Review Photo/ERIC HRIN School buses leave Troy High School Tuesday.  
BY ERIC HRIN



TROY - Crossing guards in the Troy Area School District are not being permitted to direct traffic to allow school buses to enter routes 6 and 14 in Troy. Citing the Pennsylvania Transportation Code, Troy Police Chief Kyle Wisel issued written warnings Monday to the crossing guards, one at W.R. Croman Elementary School and one at Troy High School.

They have cooperated and stopped the practice, he said. For decades, they had been directing traffic at the elementary school on Canton Street (Route 14) and at the high school at the intersection of King and Elmira streets (Route 6 and 14).

According to Wisel, however, crossing guards only have the authority to assist school children cross busy or hazardous highways. He said they can't direct traffic to let the buses out. He cited Title 67 of the Pennsylvania Transportation Code.

Wisel said the police department will work strongly with the school district to maintain a "safe environment" where the buses enter traffic.

"We're going to be at both locations to make a strong police presence," he said. "I'm committed to helping any way we can in regard to the general traffic on the main thoroughfares and the school traffic in the guidelines of the law."

Wisel, who has been looking into the matter since 2006, said he consulted PennDOT and attorneys for the agency, who he said agreed with him. He noted that a meeting was held on June 23, 2008, involving the school district, the police, and PennDOT over the matter.

School board member Susan May said custodians acting as crossing guards were directing the traffic to let the buses out, noting it had been done for 50 years.

But Wisel said today's traffic is a lot different than 50 years ago, considering the additional general traffic and the gas drilling vehicles that are on the road. With more traffic, he said there is more congestion. He thought that, with crossing guards directing traffic to let the buses out, rear-end collisions were a danger.

"And we've had them," he said. In the summer, there were three rear-end collisions on Route 6 at the intersection with Porter Street in a week, he said.

"We're following the law and enforcing the law. If the law is changed, then that's the law." May said she agrees that there is more traffic, and that's why the crossing guards need to direct traffic for the seven minutes needed to get the buses out.

"They need to get them out of town safely and home," she said.

Despite the district's 2008 meeting with police and PennDOT, she said Wisel needed to come to the school district before the warnings were issued Monday. May said she thought Wisel acted inappropriately in not coming to the school district first.

"A year went by, and nothing had been changed since that meeting (in 2008)."

In response, Wisel said that, at the meeting in 2008, the school board was advised to contact the state legislature to request the Pennsylvania Vehicle Code be changed to allow the crossing guards to direct traffic.

He also said the traffic situation isn't a new issue in the Troy Area School District, saying it was the subject of a recommendation in a study conducted by Bergmann and Associates in 2005.

The recommendation, he said, was worded: "Review control of traffic and investigate possible improvements to traffic control operations at the intersection of Route 6 with King Street during the p.m. peak hours when school is dismissed. Investigate procedures designed to allow a balance between King Street traffic demands and Route 6 traffic demands."

Wisel said: "I see no effort in that undertaking since 2005." He also noted that he suggested the district contact PennDOT to request an additional traffic study.

As for the future, May said, "We're not sure what we can do. We're hoping cooler heads prevail and common sense prevails. Ultimately, everyone's focus should be the safety of our students." May, meanwhile, is concerned about the kids getting home on time.

"You have kids who are going to be coming home late," she said.

Wisel said, "I encourage everyone to be courteous of the school buses, and to maintain a safe distance and acknowledge the crossing guards as they assist the school children across the road." On Tuesday at dismissal time, traffic at the intersection of King and Elmira streets stopped for the buses, even though it wasn't being directed.

"They're stopping because that's the way it's always been," borough manager Dan Close, who was the scene, said. "Unfortunately, it's backing up traffic on Elmira Street."



# Troy traffic study progresses

BY ERIC HRIN (STAFF WRITER)

Published: December 2, 2010

*Review Photo/ERIC HRIN The Troy Chamber of Commerce met Wednesday and one of the topics discussed was the ongoing traffic study in Troy. Here, chamber members talk at the meeting at the Troy Vets Club. Lori Foust sits on the bottom left.*



**TROY** - A company doing a traffic study for Troy Borough has put together a steering committee as it moves ahead with its work.

During the Troy Chamber of Commerce meeting Wednesday, chamber member Staci Covey, president of Troy Community Hospital and a member of the steering committee representing the hospital, reported on the progress of the study, called "The Troy Mobility Plan."

According to Covey, the company doing the study, Gannett Fleming, headquartered in Camp Hill, Pa., has assembled a steering committee, and they are assisting the company with developing the plan.

When asked for comment over the phone, Brian Funkhouser, a project manager with Gannett Fleming, said there are 19 people on the steering committee representing various groups, such as Troy Borough, Martha Lloyd Community Services, Troy Area School District, and C & N Bank, as well as Troy Community Hospital.

"We're using them (the steering committee) as a sounding board," he said.

Covey said several people went on a walking tour on Nov. 17 of the borough. Those on the walking tour included Dan Close, Troy Borough manager; Ray Stolinas, county planning director; Troy Police Chief Kyle Wisel and Richard Biery of the Northern Tier Regional Planning and Development Commission.

Funkhouser said the primary goal of the tour was to acquaint steering committee members with the traffic issues facing the borough as well as safety issues, sight distance problems, speeding, sidewalk issues, and parking, among other things.

Speaking to the chamber, Covey said pedestrian and bike traffic, public safety issues, the impact of big trucks, crosswalks, off- and on-street parking, traffic lights, and crash data and traffic volume data on certain roads are being studied, among others. Troy police and Troy Area School District will be interviewed for the study.

The first phase of the project is developing a transportation profile of trends and issues affecting the borough as they relate to the traffic, Funkhouser said.

He noted that the company wants to talk to senior citizens to get their input as well. He added that the borough has a high number of "dependent" individuals, meaning those who don't have a driver's license and depend on someone else for transportation. This demographic, he noted, can include people under 18 years old and also those who are more than 65 years old. It's about 40 percent of the borough's population, according to the U.S. Census, he said.

Toward the end of the first phase, there will be a public open house early next year, he said. Its purpose will be to get the general public acquainted with the study and get their input on areas of concern related to traffic and safety issues, Funkhouser noted. He said it will give people the chance to "weigh in" and will also give the study participants knowledge that they're perhaps not aware of.

The second phase of the study is developing recommendations and an implementation plan, which could include new projects or policies for the borough to consider.

Gannett Fleming should be wrapped up with the study by June. In the late spring, the study recommendations will be "rolled out" to the public in another open house, Funkhouser said.

As far as the possibility of a bypass to alleviate traffic in the borough, Funkhouser said transportation funding for this type of project is limited, and a bypass is "highly unlikely," given today's funding environment. Instead, he said Mud Creek Road in Troy Township, for example, possibly could be examined to see if something could be done to this road to make it more useful as "local reliever route" to allow traffic to travel on it rather constructing something new.

"A bypass was never on the agenda...it was nothing the borough council ever considered in doing this study," Close said, when asked for comment.

Funkhouser said the study will likely focus on operational improvements in the borough, such as traffic signal timing and operational and safety modifications.

Gannett Fleming will meet with the chamber in January regarding the study.

Close noted that the borough will use the study as a tool in obtaining funding to implement the recommendations in the study. The total cost of the study is around \$80,000, a cost being paid for with about \$20,000 from the borough and the remainder from a grant.

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# Future Troy parking lot discussed

BY ERIC HRIN

Published: January 21, 2011

Review Photo/ERIC HRIN The Schucker property on Canton Street in Troy, pictured here, is slated to become a parking lot.

TROY - A future parking lot on Canton Street in Troy is one step closer to reality.

During Tuesday's borough council meeting, the matter was discussed.

The parking lot is planned for the former Bob and Ina Schucker property on Canton Street in Troy, which Troy Borough bought last year for \$91,500, according to Troy Borough Manager Dan Close.

Following Tuesday's council meeting, Close announced that funding has been received for work needed to develop the site.

He said the borough has been approved for up to \$30,000 in federal grant money through the Central Bradford Progress Authority and the Western Bradford Development Corporation. The money will be used to tear down the house on the lot. If enough money is left over from the demolition work, then the remainder will be used to put down an asphalt parking lot. According to Close, the project is in the "very preliminary" stages and engineers are preparing the work to be bid out.

"I'm happy we're getting the grant money," he said. "I appreciate what Central Bradford Progress Authority and the Western Bradford Development Corp. has done in Troy and Canton and the surrounding area to enhance their economic development."

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# Troy Mobility Plan open house set

BY ERIC HRIN (STAFF WRITER)

Published: February 16, 2011

TROY - A public open house being offered as part of the Troy Mobility Plan study has been set from 6 to 8:30 p.m. on Wednesday, March 2 at the Troy High School cafeteria in Troy.

On Tuesday, the open house date was announced at the Troy Borough Council meeting. The mobility plan is meant to address traffic issues in the borough, and topics at the open house will include sidewalks, bikeways, traffic congestion, bus service, safety, and the Route 6 intersections with Route 14, East Main Street, and King Street, the open house invitation notes. The event will discuss potential community and transportation improvements in the area.

Gannett Fleming Inc. is assisting with the study.

A formal presentation is scheduled for 6:30 p.m. during the open house.

"This meeting is your opportunity to learn more about the study and express your ideas, preferences and opinions on recommended future transportation improvements," the open house invitation notes.

The invitation also notes why the study is being conducted. It reads, "Troy is a significant destination for many types of travelers, including shoppers, workers, tourists, and shippers. Recent developments including the Marcellus Shale play will affect the performance of our transportation system. This study aims to identify and correct the area's existing transportation deficiencies while preserving the area's best qualities and making it an even better place in which to live, work, and play."

As to what to expect at the open house, the invitation notes that attendees will view a study background presentation and then, at their own pace, visit various stations where they can learn more about and discuss various aspects of the study. Before they leave, they can complete a survey, which is described as an opportunity to weigh in on questions such as where development should and should not occur, what about the community should be preserved and enhanced, and how transportation can better serve the area.

Residents will be mailed the open house invitation this week, and accompanying it will be a Troy Borough Community Transportation Survey as well as the following frequently asked questions and answers:

**Question 1:** Truck traffic in the borough is getting worse. Will the study result in a new bypass of Troy Borough?

**Answer:** Traffic volume through the borough is indeed increasing. However, building new roads will not necessarily provide cost-effective or lasting relief to roadway congestion. The study will focus on ways to improve how our existing highway network operates, through modest

improvements to the roads and traffic signals to address congestion and safety for both motorists and pedestrians.

**Question 2:** Will the intersection of US 6 and PA 14 North by the Dandy Mini-Mart get a traffic signal?

**Answer:** Initial traffic data indicates that, while congestion is an issue at the intersection, it currently does not meet PennDOT standards for a traffic light. Other low-cost improvements could possibly be made however, including re-striping the roadway to allow for a left turn lane from PA 14 onto Route 6.

**Question 3:** Who will pay for the transportation improvements that are recommended?

**Answer:** Money for roadway improvements can come from a variety of sources, including federal, state, and local, as well as the private sector. Given the condition of today's economy, the borough will be looking to fund some "common sense" approaches to addressing transportation concerns. There are many types of transportation projects that offer a good return on investment. Projects identified through the study will be able to compete for available funding through the regional transportation program.

The study may recommend projects or policies that could be funded within existing budgets and programs or grants (such as the one used to help acquire the Schucker property to create more off-street parking downtown). Others could involve contributions from the private sector, such as for privately-owned sidewalk repair or construction.

**Question 4:** Will the borough be creating more parking for downtown businesses?

**Answer:** The location and availability of parking downtown is a community concern. Lane widths are very narrow, and it is not uncommon for cars parked along the street to get their mirrors broken off. In addition to the off-street parking being created at the Schucker property, the study may also consider the possibility of removing some on-street parking to allow for a re-striping of the traffic lanes and improve safety.

Also, there is a website for the Troy Mobility Plan at [www.troymobility.com](http://www.troymobility.com). Brian Funkhouser, with Gannett Fleming, said the survey can be returned to the borough hall, mailed to Gannett Fleming, or brought to the public open house.

As for the website, he said about half a dozen comments have been received there.

"People are logging on and checking it out," he said.

# Despite gas boom, U.S. Census says Bradford County's population dropped slightly

by james loewenstein (Staff Writer)

Published: March 30, 2011

Bradford County Planning Director Ray Stolinas presides over this week's Western Bradford County Council of Governments (COG) meeting in Troy, where census results were discussed. Stolinas serves as a consultant for the COG.



Review Photo/ERIC HRIN Bradford County Planning Director Ray Stolinas presides over this week's Western Bradford County Council of Governments (COG) meeting in Troy, where census results were discussed. Stolinas serves as a consultant for the COG.

Despite the influx of workers in the natural gas industry, the population of Bradford County, as measured by the U.S. Census, actually dropped slightly from 2000 to 2010, the Bradford County planning director said.

Bradford County's population in 2010, according to the U.S. Census, was 62,622, which is a .2 percent drop from 2000, when the county's population was 62,761, Bradford County Planning Director Ray Stolinas said.

"The (U.S. Census) numbers we're seeing (in Bradford County) are not reflective of the gas boom, in my opinion," Stolinas said. "I would have expected an increase in the population with what we're experiencing."

"A transient worker working here temporarily, I think would be counted (as living) in Bradford County," Stolinas said.

Stolinas said that the Census numbers are important, because the state's liquid fuels allocation to a municipality for road maintenance is based on a municipality's population. A municipality with a larger population may also be eligible for a larger allocation of federal Community Development Block Grant funds, he said.

Stolinas said he would not have been surprised if the Census had showed that the county's population had gone up by 5,000 from 2000 to 2010.

He said it was in mid- to late 2008 that the Bradford County Office of Community Planning & Grants began to see evidence of a population increase, due to the gas industry.

Stolinas noted that, based on the U.S. Census count, South Creek Township's population decreased from 1,261 in 2000 to 1,128 in 2010, a 10.5 percent drop, and he said that Wells Township's population decreased over that decade from 1,278 to 814, a 36.3 percent drop. Moreover, he said that the Wells Township's decrease followed a 27 percent increase in the township's population from 1970 to 2000.

"To see the numbers for Wells and South Creek townships - where there appeared to be significant decreases in population (from 2000 to 2010) - is an indication that something is just not right," Stolinas said.

Some municipalities in Bradford County saw an increase in their U.S. Census count over the last decade, he said. Overton Township's population, for example, increased by 32 percent from 2000 to 2010, which may have been the largest increase in the county, he said. North Towanda Township's population increased by 22 percent over the last decade, while Rome Borough's population increased by 15 percent from 2000 to 2010, Stolinas said.

"It looks as though Wells Township had the biggest loss" in the county over the last decade, he said.

"I think it is safe to call the (2010 Census) numbers preliminary since some municipalities may decide to challenge the figures," Stolinas said.

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# Troy mobility study progresses

*BY ERIC HRIN (Staff Writer)*

*Published: April 27, 2011*

TROY - The Troy Mobility Plan study continues to move ahead.

The mobility plan is meant to address traffic issues in the borough. Gannett Fleming Inc. is assisting with the study.

"We have a steering committee meeting (regarding the study) scheduled this Thursday morning at C&N Bank," said Brian Funkhouser, with Gannett Fleming. "I will be sharing the results of the community survey and we will together be discussing an initial first cut of study recommendations."

According to the community survey results, the top five "high importance" concerns, in descending order, are traffic congestion downtown, the ability to safely cross the street downtown, enforcement of traffic laws such as speeding, narrow lane widths downtown, and safe walking routes to area schools.

When asked for comment, Funkhouser said, "I believe much of the borough's transportation problems can be addressed through improvements to the signalized intersection. This would involve both changes to the signal's operation, as well as the dimensions of the traffic lanes that approach the intersection."

He continued, "No one wants to give up parking spaces, but this is one of the first communities I've worked in where there seems to be an acceptance of a need to do something with on-street parking to improve the bottleneck that is downtown Troy. On-street parking is important from the standpoint of serving downtown businesses, but also in providing a buffer between pedestrians and busy travel lanes."

"Changes here will have a substantial impact on traffic congestion, as well as safety for motorists and pedestrians. People need to feel safe in walking downtown. By clearly marking crosswalks and adding such features as pedestrian countdown signals, we can give the pedestrian a greater measure of safety."

Funkhouser also provided some of the responses received from the public. Here is a sampling of non-attributed comments:

- "Traffic needs to be stopped to allow buses out of King Street. Time it takes for ALL buses to depart is seven minutes."

- "Exiting East Main Street or the Dollar General Parking lot onto Route 6. The traffic is always heavy and makes merging difficult and dangerous."



- "Cannot turn left from 14 onto 6. HORRIBLE! Need a red light!!!"
- "There should be one less parking space on Canton Street - near Vinnie's for turning left right from Route 6 on West Main Street."
- "The intersection of Canton Street and Elmira Street is a concern. With the increase in gas truck traffic, there is also a feeling of decreasing safety at the intersections."
- "I believe the most critical issue for pedestrians, bicyclists, drivers and residents is to clean the main routes through Troy of dirt and cinders. There is a noxious pall enveloping most of the residential area, kicked up by the abnormal number of large trucks that service the shale gas industry. The winter accumulation of de-icing detritus needs much more frequent removal so that it does not reside in our lungs, eyes and living rooms."

## **Troy to vote on school closures, tax increase**

*BY ERIC HRIN (Staff Writer)*

*Published: May 11, 2011*

TROY - The Troy Area School Board will vote at its next meeting on "Option 5," which calls for the closure of Mosherville Elementary School and Troy Elementary Center East (TECE) as the board struggles to stay financially afloat in the wake of massive cuts to public education proposed by the governor.

During a budget, finance, and transportation committee meeting Tuesday, the committee made the recommendation to place Option 5 on the agenda for the board's next regular meeting. In addition, this option calls for a 2.93 mil tax increase and the furloughing of nine district employees. District superintendent W. Charles Young said this includes administrators, teachers, and support staff, but he didn't elaborate about who specifically would be affected. District business manager Kirsten Bagley said the closures of both schools under Option 5 saves about \$1 million. The board is working to make up a \$2.3 million shortfall in the 2011-12 budget and balance the spending plan by May 17. In total, the governor's budget does away with \$1.5 billion in total education funding, according to a Times-Tribune report.

Also under Option 5, the remaining schools would be realigned the following way with these grades: W.R. Croman Elementary School, K-2; Troy Middle School, 3-6; and Troy High School, 7-12.

As the committee discussed the option, board member Darren Roy expressed several things he wanted to see. He said the board needs to limit bus times to an hour and keep class sizes, especially in the lower grades, as low as possible, preferably 20 students or less per class. As for

the ultimate fate of Mosherville Elementary School, he suggested it possibly be donated to Wells Township for \$1 in the future.

Board member Michael Olsyn said the board needs to think in terms of four years, rather than one year, as the budget situation is a four-year problem, being that the governor is in office for at least four years. The closures of the schools would be considered temporary, Young said, and in response to a question from board president Todd Curren, he noted that hearings would be required to officially close them.

Board member Dan Martin said he wanted to make sure the transition resulting from Option 5 would be as stress-free and easy as possible for students, adding that he hoped everyone could work together to get through it. He thanked district staff and parents and told people to "keep pounding" legislators with their concerns about the budget situation.

According to Bagley, the 2.93 mil tax increase would cause the tax bill of a house with an assessed value of \$50,000 to go up by \$146.66 a year. Curren, meanwhile, suggested the board "revisit the tax increase next year if there's any change in state funding." Board member Mike Olsyn responded, "I don't think we'll ever be able to revisit the tax increase from this point forward because our base is going to be whatever we taxed last year."

Between 30-40 people attended the committee meeting and the work session that followed. One veteran teacher at TECE, Sheryl Angove, said after the meeting that "it's hard to see our school closed after me being there so many years, but you can also understand the hand that they've been dealt and we all have to kind of just do what we need to do."

Another teacher at TECE, Aubrey Carrington, said, "I think that it's a very sad decision. I understand the budgetary reasons for it, but I would hate to see class sizes increase. We already have over 20 kids in kindergarten right now, and the thought of having any more than that is quite frightening."

One parent, Mindy Austin, said, "I just think it's truly sad. I don't want class sizes to get any bigger. I like the small size they have now. They get a lot more attention. My son loves school. He's excited about going. I think if there's more kids in school, he won't be as interested."

# House demolished in Troy

*BY ERIC HRIN (Staff Writer)*

*Published: July 31, 2011*



Review Photo/ERIC HRIN Bristol Excavating recently tore down a house on Canton Street in Troy.

TROY - Something is missing on Canton Street in Troy.

To make way for a planned municipal parking lot, a house at the former Bob and Ina Schucker property has been torn down.

Bristol Excavating of Troy recently demolished the house.

The company had the low bid for the work at \$16,400.

According to Krystle Bristol with Bristol Excavating, the work started Wednesday and went smoothly. She is also a Troy Borough Council member.

An excavator and a bulldozer were used, and the work started at 6 p.m., she said. She said they wanted to demolish the home when there wasn't a lot of traffic.

Bristol said it still isn't known when the asphalt would be put down for the parking lot.

# Troy mobility recommendations revealed

BY ERIC HRIN (Staff Writer)

Published: August 19, 2011



*Submitted photo Brian Funkhouser, project manager with Gannett Fleming, looks over materials for the Troy Mobility Plan in preparation for the upcoming open house on the plan recommendations.*

TROY -- The project manager for the Troy Mobility Plan study said he encourages the public to attend the second open house for the plan at 6 p.m. on Thursday, Aug. 25 at the Troy High School cafeteria in Troy.

Brian Funkhouser, project manager with Gannett Fleming of Camp Hill, the company carrying out the study for the plan, will be the main speaker and he will present the recommendations or "improvement options" to address safety and mobility and traffic congestion in downtown Troy. The public is invited. A formal presentation begins at 6:30 p.m.

He said people should attend to see what's being proposed and indicate their opinions. "I think for the borough's elected officials, they want an idea of how strongly residents feel about what's being proposed," he said. "As a planner, I like to be able to come back to the elected officials and say in some tangible way, this is how strongly people felt about recommendation A and recommendation B, and that sort of thing."

Funkhouser said there will be display boards of the options and he will provide the formal 20-minute presentation.

People will be given the chance to make comments and ask questions and they will be able to fill out a survey, he noted. The survey will be available in hard copy form at the open house and also can be found on the Troy Mobility Plan website, which is [www.troymobility.com](http://www.troymobility.com). The recommendations were developed by the borough, the study steering committee made up of community members, and Gannett-Fleming, he said.

Here are the 14 suggested improvement options:

- Upgrade the traffic signal at the intersection of U.S. 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 signaling 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.

More details about the options will be presented at the open house.

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# Mobility plan open house held in Troy

*BY ERIC HRIN (Staff Writer)*

*Published: August 31, 2011*

TROY -- The second open house for the Troy Mobility Plan study was held recently in Troy with about 25 people attending, said a project manager for the study.

"The study report will be revised, based on the comments we heard at the open house," said Brian Funkhouser, project manager with Gannett Fleming of Camp Hill, the company carrying out the study for the plan. He said attendance was down some from the open house that was held back in March, which he said is typical.

He added, "We will be scheduling a study steering committee meeting to review a summary of public reaction to the study proposals and refine a draft final report for the council's endorsement. Our plan is to have a final report prepared and endorsed before the end of September. We continue to receive comments on the study improvement options at our study website, at [www.troymobility.com](http://www.troymobility.com). I would encourage your readers to check out the website, and offer any additional input for the steering committee's consideration."

At the open house, Funkhouser was the main speaker and he presented the recommendations or "improvement options" to address safety and mobility and traffic congestion in downtown Troy. Funkhouser made the following comments on the open house:

- "I think the strongest reaction came to the proposed extension of High Street to Porter Road. The school district has had to make some difficult decisions over the past several months, and identifying \$4.6 million to build a new road and bridge hasn't been one of them. While one person said it was 'a screwball idea,' we do see a need for the borough to have a more developed roadway network, so when there's an incident such as a crash or maintenance work being performed on part of the roadway network (especially Elmira Street), that the entire borough isn't negatively affected. In all fairness, it's a long-term recommendation that might deserve a second look as conditions continue to change over time."

He continued, "A majority of the study recommendations, though, are grounded in reality with the understanding that we are operating in a very constrained funding environment. Harrisburg doesn't have the money, and neither does Washington. Most municipalities like Troy struggle just to fill potholes and keep the snow plowed in the wintertime. That's why we have emphasized improving the borough's operations (i.e., traffic signals) as the most cost-effective way for improving safety and mobility. We can't build expensive bypasses, but we can introduce new technologies that can improve the performance of our roadways and intersections and give us the most bang for our buck."

-- "Probably the main recommendation to come out of the study process is the upgrade of the traffic signal downtown. The signal has not been upgraded in over five years, which is a long time in the life of a traffic signal. Traffic patterns have changed dramatically in Troy over the past several years, and the traffic signal now poses as a bottleneck. We are proposing upgrades to

the signal that would include pedestrian countdown signals, emergency vehicle pre-emption, and what we call 'dynamic maximum' capability, where the signal would adjust its timing on its own, based on traffic conditions. Right now there is too much wasted 'green time,' and a new traffic signal would go a long way towards addressing the frustration factors currently in getting through town. The Borough has taken steps to position itself for grant money that is available for funding an improvement here."

-- "The study does not recommend any changes as far as removing on-street parking spaces. I had several who made a point of saying they would not walk from the new off-street parking lot (at the Schucker property) to destinations downtown. In addition to addressing traffic congestion, people want to be able to walk safely through Troy, especially at the intersections downtown. Encouraging pedestrians to cross at the marked crosswalks, where movements are being controlled by a traffic signal, will provide the best margins for pedestrian safety. The countdown signals should also be helpful, especially for seniors who may not be sure how much time they have to safely cross the street."

He continued, "We have since learned too that the Federal Highway Administration has scrapped its requirement for municipalities like Troy to replace outdated signs and such by certain dates. The Borough has been replacing its signing as its inventory wears out, but this is an unfunded federal mandate that has now gone away. That should ease the financial burden on the Borough somewhat."

-- "Earlier in the year, several folks told us that street lighting was poor along Elmira Street. Penelec has done some work in the interim, changing the mercury vapor lights to high pressure sodium vapor. I have asked the public to weigh in on whether the change went far enough. One individual told me though that the borough needs 'only shielded lights...not the maximum security prison orange that light up the sky.'"

An invitation to the first open house noted why the study is being conducted: "Troy is a significant destination for many types of travelers, including shoppers, workers, tourists, and shippers. Recent developments including the Marcellus Shale play will affect the performance of our transportation system. This study aims to identify and correct the area's existing transportation deficiencies while preserving the area's best qualities and making it an even better place in which to live, work, and play."

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## **Appendix C - Meeting Summaries**





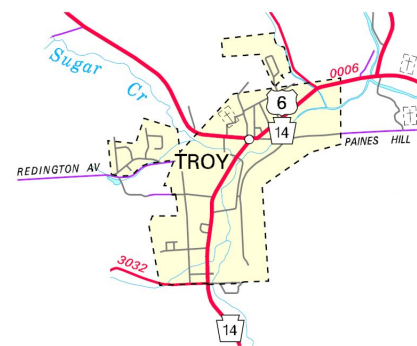
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Troy Mobility Plan  
**Meeting Summary**  
C&N Bank Conference Room  
November 17, 2010 | 10:00 AM

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## Background/Overview

Members of the Troy Mobility Study steering committee and consulting team participated in a field tour of Troy Borough and subsequent kick-off meeting on Wednesday, November 17, 2010. The purpose of the tour was to introduce the consultant team to the most significant transportation issues in the study area. The kick-off meeting successfully launched the planning study through a discussion of study success factors and steering committee members' expectations. Binders were distributed to committee members containing a map of the borough, an agenda, a scope of work and schedule, and a worksheet to indicate known sources of project data.



Summarized below are the major issues identified on the tour, the principal points of discussion during the meeting, and additional points of direction from the steering committee.

## Field View Notes and Comments

Seven members of the consulting team and study steering committee participated in a 75-minute field view of the borough. The following notes and observations were made during the course of the tour:

### Safety

- Every borough along US 6 (including Troy) has been affected by natural gas extraction activities.
- Portions of US 6 have been designated by PennDOT as aggressive driving areas.
- There are instances of motorists traveling at high speeds entering Troy from the west. The road is posted at 25 mph, however motorists have been clocked as high as 50 mph.
- Motorists do not always stop for pedestrians in crosswalks.
- Sight distance is an issue for motorists pulling out onto US 6 from the Dollar General store and from Martha Lloyd. On-street parking appears to interfere with sight distance



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in front of the Dollar General store and in front of C&N Bank. Sight distance is also a concern at the intersection of PA 14 with Redington Avenue. Access management is an issue here (and along US 6 east of town), and the borough does not have an access management ordinance in place.

- The borough does have ordinances in place related to sidewalks, but does not offer financial support to home owners by way of low-interest loans for sidewalk repairs/installation.
- The area in front of C&N Bank, where US 6 curves and several roadways intersect, is a high crash location.
- The Pennsylvania State Police provide police protection for Troy Township.



### **Lane Assignment**

- Some of the travel lanes through the borough are characterized by narrow lane widths. Officers confirmed instances of side mirrors of parked vehicles being clipped off.
- Some westbound motorists illegally use the parking places along US 6 in downtown Troy as a turning lane.
- King Street is one way southbound and accommodates school traffic. Both schools dismiss simultaneously, which creates backups of student vehicles and school buses along King Street. There are crossing guards posted to facilitate the safe movement of pedestrians at the intersection of King Street and US 6, although not many pedestrians have been observed.

### **Parking**

- Parking appears to be scarce. The borough has acquired a property just north of the intersection of PA 14 and Redington Avenue to develop into a municipal parking lot for short- and long-term parking needs.
- Delivery trucks often double park downtown, creating additional congestion problems.

### **Operations**

- Field view participants questioned the possible need for a traffic signal or a left turn lane at the intersection of US 6 and PA 14 North. A signal may help the performance of the intersection and create a needed break in flow for traffic heading west into the borough.



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- A short guide rail allows motorists to cut the corner of the intersection at US 6 and PA 14 North.
  - Left turns by southbound motorists on PA 14 onto US 6 in Troy Township can cause traffic congestion, although the intersection is not necessarily viewed as a bottleneck.
  - Outdated and faded signs were observed along High Street and King Street.
  - There are drainage issues on King Street.
  - Timing of the traffic signal downtown may need to be fine-tuned, as there is much wasted “green time.”

## Plan Success Factors

Committee members brainstormed a list of success factors that should guide the course of the study process. The list included:

- **A Plan to Obtain Funding Sources:** The borough is limited in its ability to fund improvements to its transportation system without outside help from grants, CDBG, TIP dollars, or other outside sources. The resulting implementation plan will need to identify sources of funding for the borough to consider in moving forward.
- **Involvement by Troy Township:** The neighboring township completely surrounds Troy Borough. As such, transportation issues within the borough directly affect the businesses and residents of Troy Township. Supervisors have been contacted and will be participating in the study. The participation of residents from areas outside of the borough will also be important.
- **Ability to Implement Quickly:** Members highlighted the need for the borough to be able to move forward on “quick hits” to attract positive public attention and establish momentum for the entire implementation plan.
- **Community Cooperation:** This involves more than coordination with neighboring Troy Township. This also includes other stakeholders, including PennDOT, the school district, and the business community, including those involved in the Marcellus Shale play.
- **Addressing Traffic Problems:** The borough faces many issues involving traffic, ranging from overall travel demand, operational needs, and lane widths, among others.

## Data Sources

Gannett Fleming Project Manager Brian Funkhouser noted that the agenda of the next steering committee meeting will be to review a draft transportation profile of Troy Borough. In



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developing this, the consulting team will be drawing from a variety of data, including state and federal sources. These include the U.S. Census and data from PennDOT's management systems. The consulting team will also be conducting personal interviews with area stakeholders such as the school district and PennDOT. A focus group session will be held with area seniors and with the business community. Also, traffic engineers from the consulting team will be performing traffic counts and turning movement counts as well as conducting a safety audit and walkability audit of the borough's main thoroughfares: US 6 and PA 14.

Brian facilitated a discussion with committee members on the availability of other sources of data that could be tapped in developing a transportation profile:

- It was noted that **Martha Lloyd** did a study a few years ago regarding traffic and circulation.
- **EMTA** transportation may have studies available regarding the Troy area.
- The **school district** did a study a few years ago before it constructed a new parking lot.
- The borough participated in the development of a **joint comprehensive plan** a few years ago. A related **streetscape study** was also conducted. Dan Close will provide copies to the consulting team for review.
- **Marketing studies** of the area have been done by the Daily Review and/or Wiggle.
- The Troy Township Planning Commission is presently working on developing a **Subdivision and Land Development** ordinance.
- It was noted that a **direct mail invitation** could be used to generate interest in an upcoming study public open house. Bradford County Planning has data available for use as part of this.
- Other potential stakeholders include the Troy Hospital Auxiliary and the area Chamber of Commerce. The consulting team in fact will be presenting to the chamber during its meeting on January 5, 2011.

## **Attendees/Contact Information**

A listing of study steering committee members and their contact information is shown in the following table:



Contact	Representing	E-mail	Present
Rick Biery	NTRPDC	<a href="mailto:biery@northerntier.org">biery@northerntier.org</a>	X
Dave Blair	Troy Area School District	<a href="mailto:dblair@troyareasd.org">dblair@troyareasd.org</a>	X
Todd Boyles		<a href="mailto:tboyles@marthalloyd.org">tboyles@marthalloyd.org</a>	
Dan Close	Troy Borough	<a href="mailto:Danclose@epix.net">Danclose@epix.net</a>	X
Staci Covey	Guthrie	<a href="mailto:Covey_staci@guthrie.org">Covey_staci@guthrie.org</a>	X
Jennifer Cummings		<a href="mailto:jcumings@oakhillvener.com">jcumings@oakhillvener.com</a>	X
Brian Funkhouser	Gannett Fleming	<a href="mailto:bfunkhouser@gfnet.com">bfunkhouser@gfnet.com</a>	X
Will Holmes	C&N Bank	<a href="mailto:williamH@cnbankpa.com">williamH@cnbankpa.com</a>	X
Rick Hoover		<a href="mailto:rhoov@mydoitbest.com">rhoov@mydoitbest.com</a>	X
Robert Ives		<a href="mailto:Bives16947@epix.net">Bives16947@epix.net</a>	
Don Jenkins	Troy Township	<a href="mailto:troytwp@epix.net">troytwp@epix.net</a>	
Chris King	PennDOT 3-0	<a href="mailto:chrking@state.pa.us">chrking@state.pa.us</a>	
Dennis Lebo	Gannett Fleming	<a href="mailto:dlebo@gfnet.com">dlebo@gfnet.com</a>	X
Bill Miller	Martha Lloyd	<a href="mailto:bmiller@marthalloyd.org">bmiller@marthalloyd.org</a>	
Ray Stolinas	Bradford County	<a href="mailto:stolinasr@mail.bradfordco.org">stolinasr@mail.bradfordco.org</a>	X
Roy Vargson		<a href="mailto:Troy01@epix.net">Troy01@epix.net</a>	
Jamie Weis		<a href="mailto:jhweis@epix.net">jhweis@epix.net</a>	X
Chief Kyle Wisel	Troy Borough Police	<a href="mailto:tbpd@epix.net">tbpd@epix.net</a>	X
Chuck Young	Troy Area School District	<a href="mailto:cyoung@troyareasd.org">cyoung@troyareasd.org</a>	

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Troy Mobility Plan  
**Meeting Summary**  
C&N Bank Conference Room  
January 28, 2011 | 10:00 AM

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## **Background/Overview**

Members of the Troy Mobility Study steering committee met to discuss review comments on drafts of several study materials. These included: a draft discussion paper that profiled the borough's existing transportation trends and issues, and a transmittal letter and draft community survey. All three pieces had been provided to steering committee members a week prior to the meeting. The discussion paper reflected the results of field work conducted by the study team planners and traffic engineers, as well as outreach to the borough chamber of commerce, emergency responders, fire and police, and PennDOT.<sup>1</sup>

There were three primary meeting objectives, including: 1) a review of the draft discussion paper, 2) a review of a draft community survey, and 3) development of a public participation strategy for the study's first public open house.

Summarized below are the major issues identified.

## **Review Comments and Follow-ups**

### **Draft Discussion Paper: Background and Existing Conditions**

- While official numbers from the 2010 Census are not yet available, the study should acknowledge numbers of the area's migratory population. It was suggested that perhaps Tony Ventello of the Central Bradford Progress Authority may have some more information concerning this. The Penn State Cooperative Extension is another potential source.
- The study team was also encouraged to check with the school district on enrollments. The team in fact will be meeting with the school district prior to the study open house.
- There have been a number of changes made in the naming of several borough streets since PennDOT last published its Type 5B map of the borough. Changes include:
  - Fall Brook Road (east of PA 14) to Eureka Drive
  - Willow Street to Railroad Street

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<sup>1</sup> Additional outreach has been scheduled with the school district and the residents of Paul Reynolds Apartments.

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- Fenner Drive to Taylor Street
  - Center Street to Fenner Avenue

The study team will contact PennDOT's Bureau of Planning and Research to make them aware of these changes.

- Traffic volumes as shown in the draft discussion paper are not seasonally adjusted. It was noted that, after a period of slight decline, that traffic volumes have increased in recent years, along with a corresponding increase in both reportable and non-reportable crashes.
- It was noted that there are presently 67 windmills operating as part of AES' energy project. A planned Phase 2 will add an additional 57 mills, mainly in Tioga County.
- The word "bypass" should be removed from the discussion paper, as well as from the community survey, in favor of "local reliever route(s)."
- It was noted that there are 52 county-owned bridges in Bradford County. Two of them are in Troy Borough. There were several changes noted to the bridge list. The PennDOT Bridge Management System (BMS) listing of >20' bridges in the borough shows seven, with the borough owning bridges on: Prospect, Willow, Redington, Ballard, and Eureka, and the County owning structures on East Main Street and Railroad Street. A summary of the condition of these bridges will be added to the report.
- It was noted that the parking by the video store by the corner of Exchange Street and West Main Street is a bad situation. Parking may need to be addressed at that location.
- The intersection of Ballard Street and West Main Street/US 6 is also a potential trouble spot. Water trucks are using Ballard Street to gain access to the Borough's well and the intersection does not allow proper turns for these big trucks.

## **Community Survey**

There were a few comments on the draft community survey and transmittal letter, including:

- Dan Close's phone number on the transmittal letter should read 297-2966. A note should also be added to the fine print that the borough has made a financial contribution to the study.
- On Question 3.s., Center Street should be added parenthetically to Fenner Avenue to avoid any potential confusion.
- On Question 3.v., the word "bypass" should be replaced by the words "reliever route."
- It was suggested that the study team include a sheet of "FAQ's" that would accompany the planned community survey. Suggested topics to be included in this piece could include:
  - Potential signalization of US 6 and PA 14 North



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- Potential for actuation of existing downtown signal
  - The limitations raised by the concept of a Troy Bypass on a new alignment
  - The role of local reliever routes between US 6 and PA 14 (and from US 6 to US 6)
  - Mid-block crosswalks downtown
  - Lane widths and on-street parking issues downtown
  - Safety issues at the intersection of Elmira Street and East Main Street.

### **Public Open House**

The study team will work with the administration of the Troy Area School District in establishing a date, time and venue for the study's first open house. The open house will tentatively be scheduled to run from 6:00 to 8:30 p.m., with a formal presentation scheduled around 6:30. Display boards would also be prepared, outlining study issues and concerns.

The community survey will be finalized and mailed to every property owner within the borough prior to the open house. The survey is intended to not only elicit feedback on study issues, but also to alert the public of the opportunity to participate in the open house. Members of the steering committee were encouraged to plan on attending the open house and be available to help answer any questions raised by the public. The Bradford County Office of Planning and Grants has provided the study team with an Excel file of the records needed to complete the mailing.

### **Adjournment**

There being no further business, Brian thanked everyone for attending and declared the meeting adjourned at 11:15.

### **Attendees/Contact Information**

A listing of study steering committee members and their contact information is shown in the following table:

<b>Contact</b>	<b>Representing</b>	<b>E-mail</b>	<b>Present</b>
Rick Biery	NTRPDC	<a href="mailto:biery@northerntier.org">biery@northerntier.org</a>	X
Dave Blair	Troy Area School District	<a href="mailto:dblair@troyareasd.org">dblair@troyareasd.org</a>	X



Contact	Representing	E-mail	Present
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Dan Close	Troy Borough	<a href="mailto:Danclose@epix.net">Danclose@epix.net</a>	X
Staci Covey	Guthrie	<a href="mailto:Covey_staci@guthrie.org">Covey_staci@guthrie.org</a>	X
Jennifer Cummings		<a href="mailto:jcumings@oakhillveneer.com">jcumings@oakhillveneer.com</a>	
Brian Funkhouser	Gannett Fleming	<a href="mailto:bfunkhouser@gfnet.com">bfunkhouser@gfnet.com</a>	X
Jackie Hickok	Martha Lloyd	<a href="mailto:jhickok@marthalloyd.org">jhickok@marthalloyd.org</a>	X
Will Holmes	C&N Bank	<a href="mailto:williamH@cnbankpa.com">williamH@cnbankpa.com</a>	X
Rick Hoover		<a href="mailto:rhoov@mydoitbest.com">rhoov@mydoitbest.com</a>	
Robert Ives		<a href="mailto:Bives16947@epix.net">Bives16947@epix.net</a>	
Don Jenkins	Troy Township	<a href="mailto:troytwp@epix.net">troytwp@epix.net</a>	
Chris King	PennDOT 3-0	<a href="mailto:chriking@state.pa.us">chriking@state.pa.us</a>	
Dennis Lebo	Gannett Fleming	<a href="mailto:dlebo@gfnet.com">dlebo@gfnet.com</a>	X
Bill Miller	Martha Lloyd	<a href="mailto:bmiller@marthalloyd.org">bmiller@marthalloyd.org</a>	
Ray Stolas	Bradford County	<a href="mailto:stolasr@mail.bradfordco.org">stolasr@mail.bradfordco.org</a>	X
Roy Vargson		<a href="mailto:Troy01@epix.net">Troy01@epix.net</a>	
Jamie Weis		<a href="mailto:jhweis@epix.net">jhweis@epix.net</a>	X
Chief Kyle Wisel	Troy Borough Police	<a href="mailto:tbpd@epix.net">tbpd@epix.net</a>	
Chuck Young	Troy Area School District	<a href="mailto:cyoung@troyareasd.org">cyoung@troyareasd.org</a>	

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Troy Mobility Plan  
**Meeting Summary**  
C&N Bank Conference Room  
April 28, 2011 | 10:00 AM

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## **Background/Overview**

Members of the Troy Mobility Study steering committee met on the morning of April 28, 2011. There were three primary meeting objectives, including: 1) a review of the results of the March 2 public open house, 2) discussion on the results of the community survey, and 3) initial discussion on a first draft of study recommendations.

Brian Funkhouser led committee members in a discussion of the open house and community survey. The following is a summary of some of the highlights of that discussion:

- There were 244 responses to the survey, which was originally mailed to 655 property owners. This represents a return rate of over 37 percent. This return rate is statistically significant, and is within a +/- 5 percent confidence interval, given the sample size.
- Sixty-seven percent of survey respondents live within Troy Borough; and an additional 12 percent were from Troy Township.
- A greater share of seniors, or those over the age of 65, completed the community survey (34 percent), compared to an actual percentage of only 19.8 percent<sup>1</sup>, attesting to the high level of interest seniors have in the community's transportation issues.
- The most significant issues, according to survey respondents, are: 1) traffic congestion downtown, 2) the ability to safely cross the street downtown, 3) enforcement of traffic laws such as speeding, 4) narrow lane widths downtown, and 5) safe walking routes to area schools.
- Brian noted a willingness from some in the community to sacrifice on-street parking to improve the performance of the signalized intersection downtown. He noted others who said they would not be willing to walk the distance of the Schucker property to a destination as far away as Vinnie's.

## **Review of Draft Study Recommendations**

Brian referenced a worksheet handout summarizing the draft study recommendations. He noted that the recommendations are not in any priority order, and that they reflect a starting

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<sup>1</sup> Source: American Community Survey

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point for further development. The recommendations are merely proposals at this point, to be further developed based on concurrence from the committee. Comments and discussion items on the recommendations were as noted below.

**1. Upgrade the signal at US 6 and PA 14 in downtown Troy.**

- This would include video detection, countdown pedestrian signal heads, and possible “dynamic maximum” capability, which would allow the signal controller to continually adjust the maximum green time in response to changes in traffic demand.
- The committee agreed that this should be a high priority, and completed over the near-term.

**2. Eliminate targeted on-street parking spaces in the downtown.**

- This would be performed in association with the improvements outlined in the above recommendation. For example, the removal of several on-street parking spaces on Canton Street would allow for the lengthening of the right-hand turn lane, which provides additional capacity for the dominant move at the intersection.

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

- The committee indicated its agreement.
- Additionally, in order to improve parking enforcement, it was noted that there should be signs indicating two-hour parking.

**4. Eliminate the crosswalk at Center Street.**

- Pedestrians should be encouraged to use the crosswalk at the signalized intersection.

**5. Enforce “No Parking” areas, such as in front of Vinnie’s on PA 14.**

**6. Install a speed sign on US 6 in the vicinity of the Martha Lloyd campus**

- Speeding has always been a concern by the Martha Lloyd campus.
- PennDOT has a variable message sign that it loans out to municipalities.

**7. Coordinate with the Troy School District in possibly providing support in directing traffic during times of school dismissal**

- Local police can help direct traffic, as opposed to a crossing guard.
- The school should also consider other concepts, such as staggering times of school dismissal.
- An extension of High Street to Porter was also discussed as a potential, long-term action item to consider.

**8. Consider realigning East Main Street to intersect US 6 just east of C&N Bank.**

- Two options were brought forward, including a realignment of East Main Street to intersect with US 6 east of C&N Bank. A second alternative would redesign the existing intersection with changes in traffic circulation.



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- It was stressed that any alternative that is chosen must improve safety and be customer-friendly.
  - Gannett will return to the committee with CADD drawings of the proposed alternatives. Individual meetings will also be held in the interim with representatives of the various interests, including C&N Bank, Dollar General, and the borough.

**9. Consider a DO NOT BLOCK THE BOX-style pavement marking at the Troy Community Hospital emergency room driveway entrance.**

- This would be a low-cost, temporary fix, in light of the hospital's planned relocation in 2-3 years.



**10. Evaluate warrants for signalization at US 6 and PA 14 North.**

- Troy Township would need to agree to maintain any future signal.
- Signalization could cost anywhere from \$120,000 - \$140,000.

**11. Upgrade borough sidewalks to provide continuity, ADA compliance, and generally good condition.**

- This has been an ongoing issue along Troy's state and local roadways.
- The borough planning commission could be tasked with identifying a network of priority bicycle/pedestrian routes through the community to be improved.
- Troy is not an entitlement community, but CDBG funds could be available in low- to moderate-income areas.
- Community ordinance currently requires 60 days for property owners to address needed improvements to sidewalks that are in poor condition.

**12. Provide improved lighting as needed.**

- Lighting is presently dim in some places, but available. Penelec is in the process of switching some of the heads out.

**13. Develop a formal 5-year Capital Improvement Program (CIP).**

- There were no comments on this draft item. The CIP could be developed by the planning commission with public support for consideration by the borough council.

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

- Sample ordinances and handbooks are available from PennDOT.

**15. Address sight distance issues at the McDonald's entrance.**

- If warranted, a new signal at US 6 and PA 14 North may help provide gaps for left-turning traffic.

Other issues in particular that were raised by the public were also discussed by the steering committee, yet no formal recommendations are being brought forward. These include:



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### **Troy Bypass/Reliever Routes**

- Committee members agreed with public sentiment that, since existing roadways can already be used to bypass Troy Borough (e.g., Mud Creek Rd; Porter Rd) yet do not have adequate pavement conditions for trucks, they should not be recommended to be signed or promoted as formal bypass routes.

### **Lack of pedestrian crosswalk along Canton Street south of the intersection of US 6/PA14**

- It is recommended that this not be included as a formal study recommendation.
- It is generally preferred to have all pedestrians cross at a controlled point where traffic will be stopped (e.g., the signalized intersection).
- Mid-block crossings tend to provide that 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 formal mid-block crosswalk.

Additional recommendations that should be included in the study's implementation plan include the following:

### **Address the off-set center line on Canton Street south of Redington Avenue**

- This was raised as an issue by the public during the open house
- Committee members noted that there probably would not be any objections from the public to addressing this.

### **Turning radii at the intersection of US 6 and Ballard**

- This intersection experiences heavy use by water trucks
- In the past, trucks served the stock barn.
- It was agreed that potential improvements there should be investigated.

### **Address signing and roadway markings**

- These include the signs identified as part of the safety audit. The borough must also have a plan in place by January 2012 to replace outdated signs in accordance with FHWA mandates.

Brian encouraged committee members to contact him with any additional recommendations. He noted that the consulting team will be working closely with the borough and its partners over the coming weeks to further develop each one of the recommendations for incorporation into a study Implementation Plan.

A follow-up meeting will be scheduled with the committee to review a final draft set of recommendations before they are released for public review and comment.



There being no further business, Brian thanked everyone for attending and declared the meeting adjourned at 11:30.

## Attendees/Contact Information

A listing of study steering committee members and their contact information is shown in the following table:

Contact	Representing	E-mail	Present
Dave Blair	Troy Area School District	<a href="mailto:dblair@troyareasd.org">dblair@troyareasd.org</a>	X
Todd Boyles		<a href="mailto:tboyles@marthalloyd.org">tboyles@marthalloyd.org</a>	
Dan Close	Troy Borough	<a href="mailto:Danclose@epix.net">Danclose@epix.net</a>	X
Staci Covey	Guthrie	<a href="mailto:Covey_staci@guthrie.org">Covey_staci@guthrie.org</a>	X
Jennifer Cummings		<a href="mailto:jcumings@oakhillvener.com">jcumings@oakhillvener.com</a>	
Brian Funkhouser	Gannett Fleming	<a href="mailto:bfunkhouser@gfnet.com">bfunkhouser@gfnet.com</a>	X
Jackie Hickok	Martha Lloyd	<a href="mailto:jhickok@marthalloyd.org">jhickok@marthalloyd.org</a>	
Will Holmes	C&N Bank	<a href="mailto:williamH@cnbankpa.com">williamH@cnbankpa.com</a>	X
Rick Hoover		<a href="mailto:rhoov@mydoitbest.com">rhoov@mydoitbest.com</a>	X
Robert Ives		<a href="mailto:Bives16947@epix.net">Bives16947@epix.net</a>	
Don Jenkins	Troy Township	<a href="mailto:troytwp@epix.net">troytwp@epix.net</a>	
Chris King	PennDOT 3-0	<a href="mailto:chriking@state.pa.us">chriking@state.pa.us</a>	X
Bill Miller	Martha Lloyd	<a href="mailto:bmiller@marthalloyd.org">bmiller@marthalloyd.org</a>	
Ray Stolinas	Bradford County	<a href="mailto:stolinasr@mail.bradfordco.org">stolinasr@mail.bradfordco.org</a>	
Roy Vargson		<a href="mailto:Troy01@epix.net">Troy01@epix.net</a>	
Jamie Weis	Troy Planning Commission	<a href="mailto:jhweis@epix.net">jhweis@epix.net</a>	
Matt Williams	NTRPDC	<a href="mailto:williams@northerntier.org">williams@northerntier.org</a>	X
Chief Kyle Wisel	Troy Borough Police	<a href="mailto:tbpd@epix.net">tbpd@epix.net</a>	X
Chuck Young	Troy Area School District	<a href="mailto:cyoung@troyareasd.org">cyoung@troyareasd.org</a>	





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**Please Note:** *The above meeting synopsis represents the major discussion points and agreements. Should anyone have any additions, modifications, or corrections, please submit them via e-mail to Brian Funkhouser at [bfunkhouser@gfnet.com](mailto:bfunkhouser@gfnet.com) five working days of the date of the issuance of this meeting summary. Should no additions be received within ten working days, this summary will stand as official and duly incorporated into the project files.*

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Troy Mobility Plan  
**Meeting Summary**  
C&N Bank Conference Room  
July 21, 2011 | 10:00 AM

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## **Background/Overview**

Members of the Troy Mobility Study steering committee met on the morning of July 21, 2011. The primary purpose of the meeting was to review a more fully developed set of draft study improvement options. (A meeting package had been prepared and distributed to steering committee members prior to the meeting.)

A copy of the meeting package was also provided to members of borough council during their July 19 meeting for review and comment.

Comments and discussion items on the recommendations were as noted below.

## **Review of Draft Study Recommendations**

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

- It was noted that the proposed loss of nine on-street parking spaces related to this improvement option would be a “huge” detriment to the community. The loss of such spaces may serve to increase vehicular speeds through the downtown and compromise pedestrian safety. The pharmacy would be particularly affected.
- The committee believed that, while broken rear view mirrors are currently a problem, the loss of on-street parking would be much worse.
- A separate proposal as part of an ARLE grant application would see a second traffic signal controlling the intersection of Elmira Street and Fenner Drive. This would allow the intersection to clear and would keep the existing crosswalk. This crosswalk is used by students walking to school and to the Dollar General store.
- The committee agreed that this should be a high priority, and completed over the near-term, with on-street parking spaces preserved.

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

- It was agreed that any conceptual drawings should not be shared during the public open house. If the proposal should succeed in being placed on the region’s 2013 TIP program, it will be subject to advanced engineering study and analysis.
- For now, steering committee members agree that access needs to be better managed into the Dollar General store, and that the geometry of the intersection needs to be improved to better accommodate cars, trucks and pedestrians.



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

- The improvement option would eliminate the need for east-bound buses to enter the school district campus from Fenner Drive. It was noted that there will be a greater number of buses now coming from the east and north, with fewer buses going through town as a result of transfers being made at the school itself.
- The proposed improvement option would be 475 feet in length, from the end of High Street to Porter Road.
- Committee members indicated that this should be considered as a “Medium” priority, as opposed to “Low.”
- Recent school consolidation will see more buses coming into Troy.

**D. Coordinate with the Troy School District in providing support in directing traffic during times of school dismissal.**

- It was noted that the school buses serve grades K-12, and that staggering of dismissal times was not a viable option.
- More clarification was requested on Title 67 of the Pennsylvania Code with regard to what the school district is actually permitted to do.

**E. Install a portable speed monitor trailer temporarily to improve compliance with posted speed limits.**

- Speeding has always been a concern by the Martha Lloyd campus.
- PennDOT has a variable message sign that it loans out to municipalities.
- PennDOT District 3-0 will examine crash data there.
- Rumble strips on US 6 were suggested as a possible improvement option, but this does not appear to be permitted, according to PennDOT’s Traffic Engineering Manual, Publication 46.

**F. Install a new traffic sign to preserve access into the Troy Community Hospital emergency room driveway entrance.**

- No comments received.

**G. Evaluate warrants for signaling the intersection of US 6 and PA 14 North.**

- It was noted that the township has not made any financial commitment towards this improvement option.
- It was questioned whether the Northern Tier RPO would allow the placement of a traffic signal project on the TIP (there is precedence in Montrose). Troy Township receives approximately \$98,000 as part of its annual Liquid Fuels allocation. The township has over 35 miles of locally-owned roadway to maintain.
- The Troy Township supervisors next meet on August 8.

**H. The borough’s street committee should continue addressing outdated signs.**

- No comments received.



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- I. Add pavement marking lines to designate on-street parking spaces.**
- No comments received.
  - Demolition of the Schucker property to provide additional off-street parking is planned for July 28.
- J. Inventory and upgrade borough sidewalks to provide continuity, ADA compliance, and an acceptable condition.**
- No comments received.
- K. Provide improved street lighting along US 6/Elmira Street.**
- Lighting is presently dim in some places, but available. Penelec is in the process of switching some from mercury vapor to high-pressure sodium. East Main Street has already been completed.
  - Brian will contact Jody Place at Penelec (570) 265-1222 for more details.
- L. Develop a formal 5-year Capital Improvement Program (CIP).**
- There were no comments on this draft item.
- M. Incorporate access management provisions into the subdivision and land development ordinance.**
- No comments received.
- N. Address turning radii at the intersection of US 6 and Ballard Street.**
- No comments received.

It was suggested that, after today's meeting, the improvement options be presented in priority order.

## **Other Study Considerations**

Other issues in particular that were raised by the public were also discussed by the steering committee, yet no formal recommendations are being brought forward. These include:

### **Troy Bypass/Reliever Routes**

- Committee members agreed with public sentiment that, since existing roadways can already be used to bypass Troy Borough (e.g., Mud Creek Rd; Porter Rd) yet do not have adequate pavement conditions for trucks, they should not be recommended to be signed or promoted as formal bypass routes.
- The geometry of the intersection of Mud Creek Road and US 6 is also awkward for trucks and buses to negotiate.

### **Lack of pedestrian crosswalk along Canton Street south of the intersection of US 6/PA14**

- It is recommended that this not be included as a formal study recommendation.



- It is generally preferred to have all pedestrians cross at a controlled point where traffic will be stopped (e.g., the signalized intersection).
- Mid-block crossings tend to provide that 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 formal mid-block crosswalk.

Brian encouraged committee members to contact him with any additional recommendations. He noted that the consulting team will be working closely with the borough and the school district in scheduling a public open house for sometime in mid-August. The project team will use e-mail addresses collected as part of the first public open house in inviting participants to the meeting. The project website will also be updated to reflect this.

There being no further business, Brian thanked everyone for attending and declared the meeting adjourned at 11:45 AM.

### **Attendees/Contact Information**

A listing of study steering committee members and their contact information is shown in the following table:

Contact	Representing	E-mail	Present
Dave Blair	Troy Area S.D.	<a href="mailto:dblair@troyareasd.org">dblair@troyareasd.org</a>	X
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Jennifer Cummings		<a href="mailto:jcumings@oakhillveneer.com">jcumings@oakhillveneer.com</a>	
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**Please Note:** The above meeting synopsis represents the major discussion points and agreements. Should anyone have any additions, modifications, or corrections, please submit them via e-mail to Brian Funkhouser at [bfunkhouser@gfnet.com](mailto:bfunkhouser@gfnet.com) within five working days of the date of the issuance of this meeting summary. Should no additions be received within ten working days, this summary will stand as official and duly incorporated into the project files.

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## **Appendix D – Safety Audit Results**





# INTRODUCTION

Traffic-related evaluations include the following:

- Intersection evaluations at key intersections
- Roadway safety audit at key roadways.

The four intersections evaluated are the following:

1. US 6 and PA 14 South
2. US 6 and East Main Street
3. US 6 and King Street
4. US 6 and PA 14 North

In addition to these four intersections, the traffic signal at the Martha Lloyd Community Services campus is discussed.

Roadways studied for the safety audit include:

1. US 6
2. PA 14 South
3. East Main Street
4. Fallbrook Street
5. Prospect Street
6. Redington Avenue
7. High Street
8. Exchange Street
9. John Street
10. King Street
11. Paine Street
12. Railroad/Willow Streets

Intersection evaluations included performing turning movement counts at the study intersections during morning (6:00-9:00), midday (11:00-1:00), and evening (3:00-6:00) peak periods; using this data to perform a Synchro capacity analysis of the four intersections to determine their respective Levels of Service; and collecting and compiling field notes and photographs of existing conditions.

# STUDY INTERSECTIONS

## 1. Intersection 1: US 6 and PA 14 South

This intersection is the only study intersection that is signalized. It is a T-intersection with US 6 running east-west and PA 14 intersecting northbound. The signal is a pre-timed, three-phase operation with an eastbound/westbound phase, permitted/protected westbound left phase and a northbound phase. There is also a northbound overlap phase. The traffic signal permit obtained from PennDOT District 3-0 indicates that there is an all-pedestrian phase, however this did not appear to be functional.



PA 14 Northbound Approach

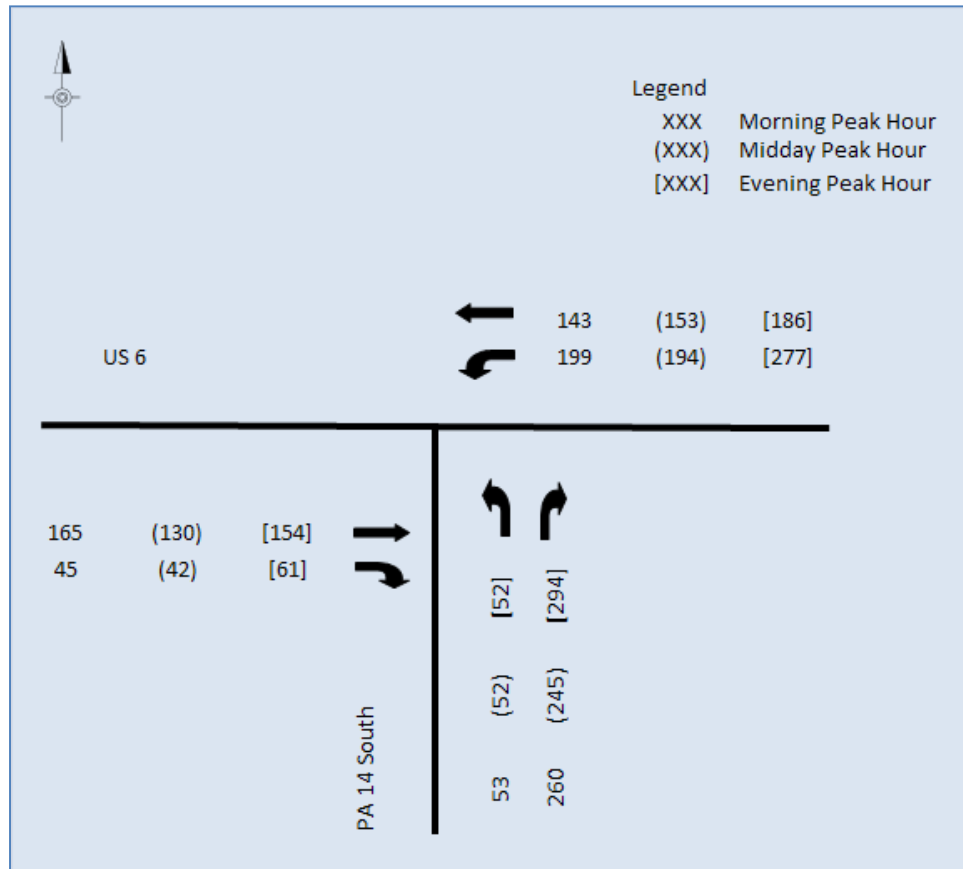


US 6 Eastbound Approach



US 6 Westbound Approach

The peak hour volumes and levels of service for this intersection are shown below:



Intersection 1 Peak Hour Volumes

There was significant queuing observed at this intersection. The northbound and westbound approaches both queued. When observed, the queuing tended to be of shorter durations by different directions. There was not an extensive standing queue by approach; one direction would queue and later in the peak period another direction would queue.



Queuing observed on the northbound approach

There was wasted green time noted during the peak period. After all traffic demand traveled through the intersection for an approach, there was unused green time remaining for that approach while other approaches were queued.

Both of these observations are characteristic of a pretimed traffic signal. Pretimed signals do not change the time given to a phase based on traffic demand, whereas actuated signals do. An actuated signal would be more efficient.

## 2. Intersection 2: US 6 and East Main Street

This intersection is unsignalized. It is a three-leg intersection. US 6 changes direction through the intersection. West of the intersection, it runs east-west and east of the intersection, it runs northeast-southwest. East Main Street intersects westbound. Due to the proximity of the Dollar General parking lot to this intersection, traffic was also counted as a fourth leg of the intersection.

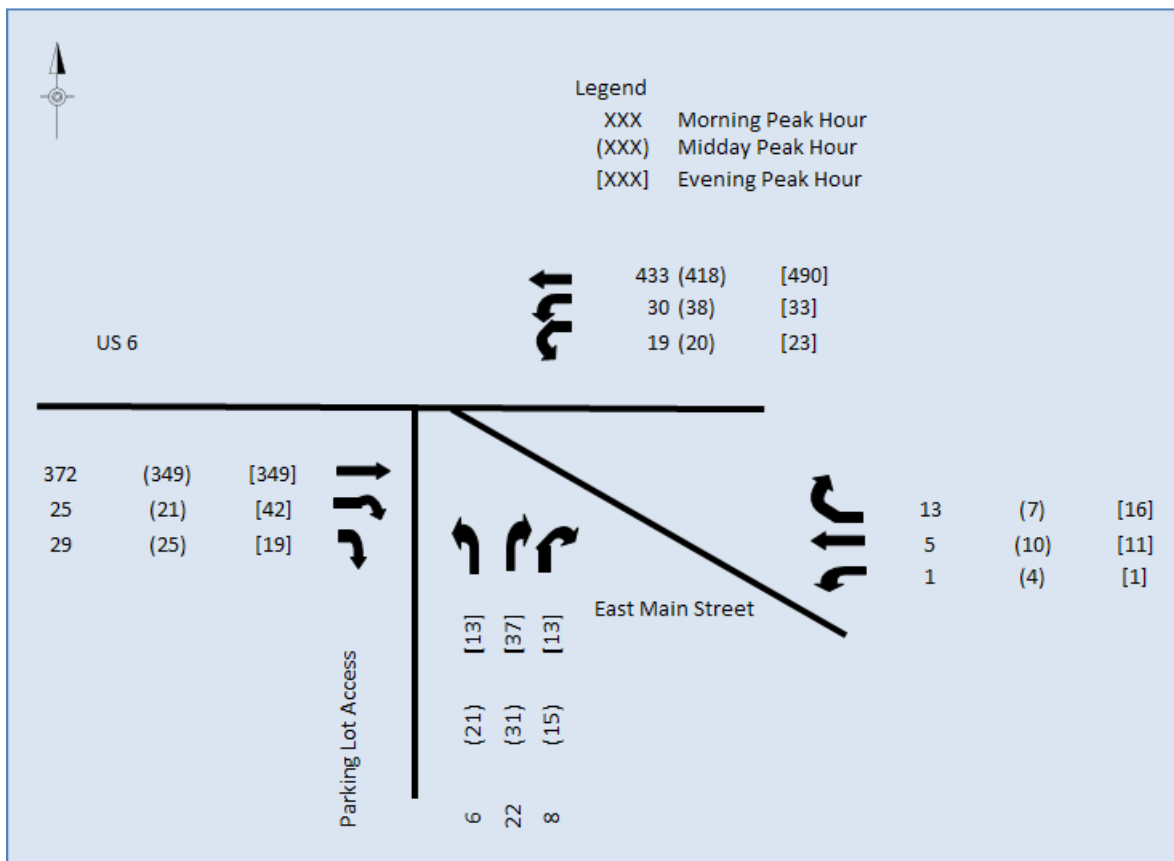


East Main Street Westbound Approach



Northbound Parking Lot Access Approach

The peak hour volumes and existing level of service for this intersection are shown below.



Intersection 2 Peak Hour Volumes

Pedestrian traffic was observed to be rather light; however, it was noted that most pedestrians crossing East Main Street would not use the existing crosswalk, perhaps due to the fact that it is not perpendicular to the approach. Pedestrians generally crossed twenty feet further up the road perpendicularly. The other two crosswalks were generally utilized.

The signalized intersection of US 6 and PA 14 South (Intersection 1), when red on US 6, would quickly queue through Intersection 2.

### 3. Intersection 3: US 6 and King Street

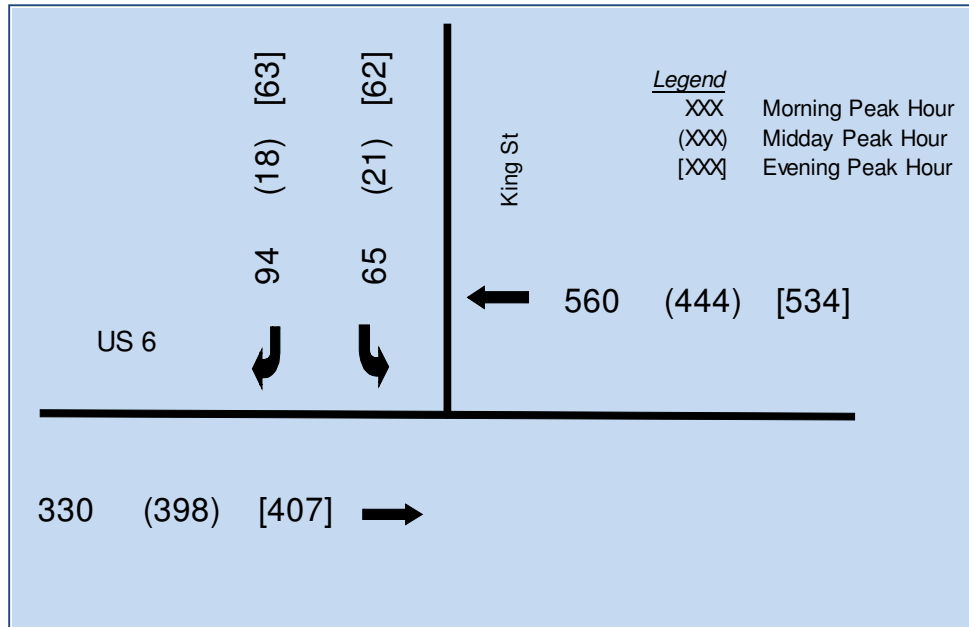
This intersection is presently unsignalized. It is a three leg intersection with US 6 running east-west and King Street intersecting southbound. King Street is one-way southbound and is the primary exit for school buses coming from the schools on High and King Streets.



Eastbound King Street Approach

The peak hour volumes for this intersection are shown below.





Intersection 3 Peak Hour Volumes

It was noted that buses exiting King Street in either direction would line up single-file despite the two-lane approach of King Street to the intersection.

Pedestrian traffic was rather limited; however, from 3:20-3:30 PM a crossing guard was present to aid about a dozen school children in crossing US 6.

## 4. Intersection 4: US 6 and PA 14 North

Intersection 4 is unsignalized. It is a T-intersection with US 6 running east-west and PA 14 intersecting southbound.



US 6 Eastbound Approach

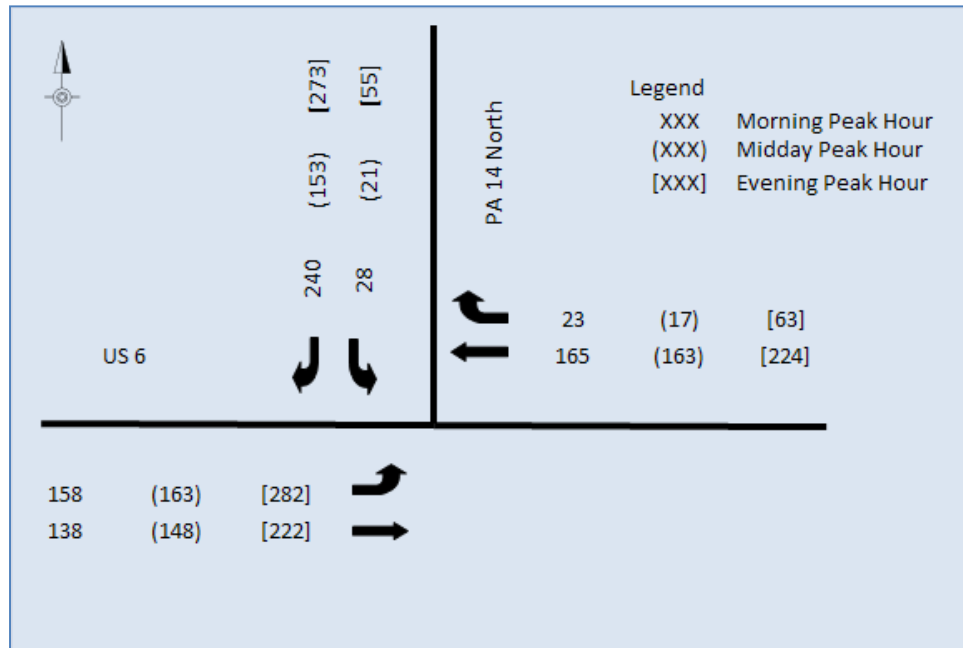


PA 14 Southbound Approach



US 6 Westbound Approach

The peak hour volumes and existing levels of service for this intersection are shown below.



Intersection 4 Peak Hour Volumes

## 5. Intersection 5: US 6 and Martha Lloyd Pedestrian Traffic

Intersection 5 is a pedestrian-actuated intersection intended to serve residents of the Martha Lloyd Community Services Campus. There is also a signal phase for a driveway for this campus where it intersects US 6. For the purposes of this study, the traffic signal permit for this intersection was obtained. No traffic data was obtained at this location.



US 6 Eastbound Approach (First Light)



US 6 Eastbound Approach (Second Light)



Private Drive Southbound Approach







US 6 Westbound Approach





Although no traffic data was obtained, this intersection appears to function well. The side street (driveway) approach appears to have low traffic volumes, and few pedestrians were observed crossing. Therefore, most of the green time goes to US 6.





# SAFETY AUDIT

## Pedestrian Facilities

Location	Photo	Existing Condition/Preferred Condition
SR 14, north of Canton Street		Pictured, crosswalk in school zone without proper signing.
		Crosswalks in school zones should be signed as per MUTCD.
SR 14, north of Canton Street		Crosswalk is not ADA compliant.
		Crosswalks must also be ADA compliant, to include curb ramps with detectable warning surfaces.
Redington Avenue, west of SR 14		Sidewalk is in poor condition.
		Replace sidewalk to allow for easier use by pedestrians.
Redington Avenue		Sidewalk grade is excessive.
		Confirm that sidewalk conforms to ADA standards











Location	Photo	Existing Condition/Preferred Condition
<p>Redington Avenue</p>		<p>Sidewalk is in poor condition.</p> <hr/> <p>Replace sidewalk to allow for easier use by pedestrians.</p>
<p>Prospect Street, south of Redington Ave, looking south</p>		<p>Sidewalk is in poor condition.</p> <hr/> <p>Replace sidewalk to allow for easier use by pedestrians.</p>
<p>Prospect Street, south of Weigester Street, looking south</p>		<p>Sidewalk is in poor condition.</p> <hr/> <p>Replace sidewalk to allow for easier use by pedestrians.</p>
<p>Prospect Street, south of Weigester Street, looking south</p>		<p>Sidewalk ends abruptly at both ends of bridge, forcing pedestrians to walk in traffic lanes.</p> <hr/> <p>As bridges require replacement, consider the needs of pedestrians.</p>





Location	Photo	Existing Condition/Preferred Condition
John Street, facing north		<p>No crosswalk markings are present at intersection; additionally, crosswalk ramps lack detectable warning surface.</p> <p>Provide crosswalk markings to connect the sidewalks through the intersection and upgrade to provide full ADA compliance.</p>
High Street		<p>Stairway is very steep. This condition is not ADA compliant. Additionally, this is part of a crosswalk and lacks markings.</p> <p>All crosswalks must be ADA compliant; therefore upgrade to provide ADA compliance.</p>
High Street at King Street		<p>No crosswalk is present at intersection; detectable warning surface is diagonal to intersection.</p> <p>Provide crosswalk markings. Detectable warning surface should line up with the crossing unless prohibited by site conditions.</p>
High Street east of King Street facing east		<p>Sidewalk is in poor condition.</p> <p>Replace sidewalk to allow for easier use by pedestrians.</p>




Location	Photo	Existing Condition/Preferred Condition
<p>Willow Street looking west</p>		<p>Sidewalk ends abruptly at both ends of bridge, forcing pedestrians to walk in traffic lanes.</p>
		<p>As bridges require replacement, consider the needs of pedestrians.</p>

## Signing Considerations





Location	Photo	Existing Condition/Preferred Condition
US 6		<p>Crosswalk signing is not longer MUTCD compliant.</p> <p>Per the 2009 MUTCD, school crossing signs should be fluorescent yellow-green. The sign assembly should include a downward-pointing arrow placard in lieu of the crosswalk markings.</p>
US 6 at King Street, looking south		<p>School sign is faded and in need of replacement.</p> <p>Replace School sign with retroreflective, MUTCD-compliant sign.</p>
Redington Avenue, west of SR 14		<p>Pictured signs are faded and lack nighttime visibility.</p> <p>Replace signs with new, retroreflective, MUTCD-compliant signing.</p>
Prospect Street, south of Label Lane, looking south		<p>Signing is not MUTCD-compliant and lacks times of school speed enforcement.</p> <p>Provide hours during which school zone speed limits are in effect.</p>

Location	Photo	Existing Condition/Preferred Condition
Prospect Street at Weigester Street		Street name signs and STOP sign are faded and lack visibility.
		Replace signs with retroreflective, MUTCD-compliant signage.
Prospect Street at Weigester Street		STOP sign is faded and in need of replacement.
		Replace STOP sign with new, MUTCD-compliant, retroreflective Stop sign.
Willow Street at SR 14		"School Days..." sign provides an ambiguous message mounted near a STOP sign
		Remove the "School Days..." sign.
Paine Street. looking north		School sign is faded and no school is nearby.
		Remove sign.





Location	Photo	Existing Condition/Preferred Condition
<p>East Main Street, east of Paine St, looking east</p>		<p>Sign lacks proper retroreflectivity.</p>
		<p>Upgrade to provide proper retroreflectivity.</p>
<p>East Main Street, east of Paine St, looking east</p>		<p>Break point on this sign post is too high.</p>
		<p>Replace sign post to provide correct breakaway features.</p>
<p>East Main Street, east of Paine St, looking west</p>		<p>Sign lacks proper retroreflectivity.</p>
		<p>Upgrade to provide proper retroreflectivity.</p>
<p>High Street at Center Street</p>		<p>DO NOT ENTER sign is very faded. This can lead to unfamiliar drivers driving the wrong direction down the street.</p>
		<p>Replace current sign with new, retroreflective sign.</p>





Location	Photo	Existing Condition/Preferred Condition
<p>Railroad Street looking south</p>		<p>Breakaway post is mounted too high.</p>
		<p>Replace sign post to provide correct breakaway features.</p>
<p>East Main Street, east of Paine St, looking east</p>		<p>No Parking Sign is not breakaway.</p>
		<p>Replace with break-away post.</p>
<p>Exchange Street, north of US 6, facing north</p>		<p>No Parking Sign is not breakaway and could cause errant vehicles undue harm; it is also faded.</p>
		<p>Upgrade sign. Also, replace sign post with break-away features.</p>




## Roadway Design and Condition

Location	Photo	Existing Condition/Preferred Condition
US 6, north of SR 4008, looking south		Uncontrolled, wide-open access along SR 6 is shown. Uncontrolled accesses can lead to driver confusion and unsafe conditions.
		The preferred option is to curb this roadway, allowing a few access points into the parking area.
Redington Avenue, west of Ballard Street		Deep ditch along roadside presents driving and pedestrian concerns.
		Consider a long-term upgrade to provide a closed drainage system.
Redington Avenue		Non-delineated guiderail with improper end treatments presents a fixed object hazard.
		Upgrade/replace guiderail with proper delineators and end treatments.
Redington Avenue		Bridge parapet lines up with roadway.
		Provide additional safety features, such as crash cushions, edge line, and additional delineation.



Location	Photo	Existing Condition/Preferred Condition
<p>Prospect Street, south of Redington Ave, looking south</p>		<p>Deep ditch along roadside presents driving and pedestrian concerns.</p> <p>Consider a long-term upgrade to provide a closed drainage system.</p>
<p>Fallbrook Street, West of Prospect Street, looking west</p>		<p>Turned-down end treatments are used adjacent to the roadway.</p> <p>Turned-down end treatments should not be used because they can cause vehicles to vault or flip.</p>
<p>Fallbrook Road</p>		<p>Pavement markings are faded.</p> <p>Upgrade pavement markings.</p>
<p>Prospect Street, north of Weigester Street, looking north</p>		<p>Guardrail is behind telephone pole; presents a fixed object hazard. Telephone pole is not breakaway.</p> <p>Guardrail should be installed in front of all roadside objects to direct errant vehicles from impacting roadside hazards that cannot be otherwise relocated.</p>

Location	Photo	Existing Condition/Preferred Condition
Railroad Street looking south		No Parking sign is located in roadway.
		Signs should not be mounted in roadway. In this case, install the sign in back of sidewalk, if right-of-way permits.
Railroad Street looking south		Telephone poles are located within roadway and present fixed object hazards to drivers.
		Relocate the poles out of the roadway.
East Main Street, west of Paine St, looking west		Turned-down end treatments are used adjacent to the roadway.
		Turned-down end treatments should not be used because they can cause vehicles to vault or flip.
East Main Street, east of Paine St, looking east		Plastic culvert is not buried deeply enough.
		When installing drainage culverts, provide a minimum of 6 inches of fill.

Location	Photo	Existing Condition/Preferred Condition
John Street at High Street		<p data-bbox="889 285 1414 352">Solid, single white centerline road striping is not compliant for bidirectional roadways.</p> <p data-bbox="889 489 1333 520">Replace with a double yellow centerline.</p>
Exchange Street, north of US 6, facing north		<p data-bbox="889 674 1382 705">Telephone poles are located within roadway.</p> <p data-bbox="889 825 1433 926">Relocate the poles out of the roadway, preferably behind curbing. At minimum, provide delineation on the poles.</p>
High Street facing east		<p data-bbox="889 1024 1386 1089">Median is not delineated and presents a fixed object hazard to errant vehicles.</p> <p data-bbox="889 1209 1433 1274">Provide a crash cushion. Also, provide delineation and centerline pavement markings.</p>



## **Appendix E – Acronyms & Definitions**

**AADT (Annual Average Daily Traffic)** – the total volume of traffic passing a point or segment of a highway facility in both directions for one year divided by the number of days in the year.

Normally, periodic daily traffic volumes are adjusted for hours of the day counted, days of the week, and seasons of the year to arrive at average annual daily traffic.

**Actuation** – initiation of a change in or extension of a traffic signal phase through the operation of any type of detector.

**ADA** – Americans with Disabilities Act

**Approach** – all lanes of traffic moving toward an intersection or a mid-block location from one direction, including any adjacent parking lane(s).

**Collector Highway** – a term denoting a highway that in rural areas connects small towns and local highways to arterial highways, and in urban areas provides land access and traffic circulation within residential, commercial, and business areas and connects local highways to the arterial highways.

**Controller Assembly** – a complete electrical device mounted in a cabinet for controlling the operation of a highway traffic signal.

**Crosswalk** – (a) that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or in the absence of curbs, from the edges of the traversable roadway, and in the absence of a sidewalk on one side of the roadway, the part of a roadway included within the extension of the lateral lines of the sidewalk at right angles to the center line; (b) any portion of a roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by pavement marking lines on the surface, which might be supplemented by contrasting pavement texture, style, or color.

**MPC** – Municipalities Planning Code

**MUTCD** – Manual on Uniform Traffic Control Devices

**NTRPDC** – Northern Tier Regional Planning and Development Commission

**Pedestrian** – a person on foot, in a wheelchair, on skates, or on a skateboard.

**PennDOT** – Pennsylvania Department of Transportation

**Preemption** – the transfer of normal operation of a traffic control signal to a special control mode of operation.

**Pretimed Operation** – a type of traffic control signal operation in which none of the signal phases function on the basis of actuation.

**Retroreflectivity** – a property of a surface that allows a large portion of the light coming from a point source to be returned directly back to a point near its origin.

**RPO** – Rural Planning Organization – In Bradford County, the Northern Tier Regional Planning and Development Commission functions as the RPO for

transportation planning purposes.

**Signing** – individual signs or a group of signs, not necessarily on the same support(s), that supplement one another in conveying information to road users.

**SR** – State Route – There are four state routes that traverse Troy Borough, including SR 0006 (US 6), SR 0014 (PA 14), SR 3032 (Fall Brook Road), and SR 4008 (Porter Road).

**SR** – Sufficiency Rating – a measure of bridge condition.

**VMT** – Vehicle Miles of Travel



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