

## CHAPTER 5

# TRANSPORTATION AND CIRCULATION INVENTORY AND PLAN

The transportation and circulation system available to residents and businesses is an important factor in the quality of life for Elverson residents. As development pressure in the region is expected to continue, maintaining and improving the ability to move around the community in a safe manner through a variety of transportation options, or a multi-modal network, is critical.

A balanced multi-modal network meets user needs and improves the sustainability of the transportation network and the Borough overall. This chapter describes the existing transportation and circulation system and recommendations to address the needs of the system within the following framework:

- Inventory
  - Land Use Patterns
  - Commuting Patterns
  - Modes of Travel
    - Roadways
    - Bicycle and Pedestrian Circulation
    - Public Transportation
  - Improvement Process
- Planning Implications
- Recommendations
- Links



# Inventory

Elverson Borough is well connected to major highway corridors, as briefly discussed in Chapter 1 and shown on Figure 5-1. There are three main traffic routes located in Elverson: PA Route 23 (Main Street), PA Route 82 (Chestnut Street) and PA Route 401 (Conestoga Road). The Pennsylvania Turnpike, Interstate 176, and routes 10 and 345 are located in close proximity to the Borough.

Figure 5-1: Regional Setting

SR 2082

## Land Use Patterns

The area of present-day Elverson was founded in the mid-1700s as a wayside hamlet along an early regional roadway - Route 23. The area developed into a thriving rural village that provided services to the surrounding agricultural community. Present-day Route 82 was routed through the village in 1832, bringing significantly more traffic. The anticipation and arrival of the Wilmington and Reading Railroad (later known as the Wilmington and Northern Railroad) in 1870 spurred new businesses that solidified the town as a regional center in northwestern Chester County.

Source: CCPC, 2013.

Development in Elverson was minimal during much of the 1900s, despite the opening of the Pennsylvania Turnpike and its interchange in nearby Morgantown by 1950 and the opening of Interstate 176 in 1963, which more directly connected the area to Reading. Throughout this period, the Borough retained a core of historic buildings with mixed uses, focused on the Route 23/Route 82 intersection, surrounded by scattered residences and agricultural uses. Active use of the rail line ended in 1981.

As with much of southeastern Pennsylvania, both commercial and residential development was very strong in the 1990s. Residential development radiated out from the Borough's core, and new commercial uses developed along Route 23. Growth along Route 82, particularly to the north of Elverson, has been less substantial, in part due to the 1987 closure of a section of Route 82 between Elverson and Birdsboro. Currently Route 82 extends from Route 23 to the south, leaving the road section to the north as North Chestnut Street.

While not as densely developed as other boroughs in Chester County, Elverson has the pedestrian orientation and grid-pattern of a historic village. As a community with a diversity of amenities and access to major roadways - all in a largely rural setting - it is anticipated that the Borough will continue to be a place that attracts growth.



Sidewalks line Route 23 through much of Elverson.

It is also anticipated that the surrounding region will experience continued growth, particularly in relation to access to the Pennsylvania Turnpike and Interstate 176. Growth in the surrounding area will bring an increasing number of travelers through Elverson, in addition to the growth generated within the Borough. This growth will put pressure on the existing transportation system, requiring an on-going focus on multi-modal options and safety to maintain the effectiveness of the transportation system.

## Commuting Patterns

According to the U.S. Census Bureau, 410 Elverson residents indicated they were employed in 2010. Figure 5-2 identifies the work location of these Elverson residents. Approximately half of Elverson residents are employed within Chester County, with a significant percentage employed in Berks County. A moderate number of residents work in Pottstown as well (represented in the Philadelphia and Suburbs category).

**Figure 5-2: Place of Employment for Elverson Residents 2010**  
Percent of Residents Commuting to Each Destination

Destination (Work Location)	2010	
	Number	Percent
Chester County	203	49.5
Berks County	95	23.2
Philadelphia and Suburbs*	61	14.9
Lancaster County	32	7.8
Other **	19	4.6
Total	410	100

\*Philadelphia, Delaware, Montgomery, and Bucks counties. \*\* Other consists of other states and other PA counties. Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics.

Figure 5-3 identifies the place of residence for the people who work in Elverson (at locations such as Whitford Corporation, Twin Valley Elementary Center, Hopewell Manor, and other smaller employers). Just under half of the people who work in Elverson live within Chester County, with a substantial percentage of workers commuting from Philadelphia and its adjacent counties. Less than 14 percent of the workers in Elverson are coming from Lancaster and Berks Counties. This distribution indicates that a majority of workers are commuting to Elverson from the south and east. The data, which reflect 2010, indicate that there were 515 people who worked in Elverson, versus 410 Elverson residents who were employed.

**Figure 5-3: Place of Residence for Elverson Workers 2010**  
Percent of Residents Commuting to Each Destination

Destination (Place of Residence)	2010	
	Number	Percent
Chester County	235	45.6
Philadelphia and Suburbs*	120	23.3
Other **	89	17.3
Lancaster County	36	7.0
Berks County	35	6.8
Total	515	100

\*Philadelphia, Delaware, Montgomery, and Bucks counties. \*\* Other consists of both other states and other PA counties. Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics.

With limited alternative options for commuting to work, the vast majority of Borough residents indicate that they drive alone to work. Figure 5-4 indicates what mode of transportation workers use in their daily commute, with Borough residents being more dependent on single occupancy vehicles than Chester County overall but more likely to bicycle or walk to work, as reported through the American Community Survey.<sup>1</sup>

**Figure 5-4: Means of Travel to Work**

	Percent of Workers				
	Drove Alone	Carpooled	Public Transit	Other*	Work at Home
<b>Elverson</b>	<b>84.4</b>	<b>4.9</b>	<b>0.5</b>	<b>6.1</b>	<b>4.1</b>
Chester County	81.4	7.3	2.6	3.2	5.5

\* Other Category includes walking, bicycle, taxicab, and motorcycle.  
 Source: US Census Bureau, American Community Survey 2007 – 2011 Averages.

Figure 5-5 presents the travel time to work for Elverson residents and Chester County residents in comparison. The mean travel time to work for Elverson residents is 29.3 minutes, which is comparable to the County average (27.7).

**Figure 5-5: Travel Time to Work**

	Mean Travel Time	Percent of Commuters				
		< 15 minutes	15 – 29 minutes	30 – 44 minutes	45 – 59 minutes	>60 minutes
<b>Elverson</b>	<b>29.3</b>	<b>28%</b>	<b>23%</b>	<b>22%</b>	<b>15%</b>	<b>12%</b>
Chester County	27.7	25%	33%	22%	10%	10%

Source: US Census Bureau, American Community Survey 2007 – 2011 Averages.

## Modes of Travel

In addition to the roadway system, which is the Borough’s predominant transportation mode, trails, sidewalks, and limited public transit are available in the Borough. Each of these modes needs to be viewed in a comprehensive and interrelated manner for the network to function efficiently and safely. An individual focus on each transportation mode, with consideration of their interrelationships, will lead to improved safety and increased effectiveness. Details follow on these modes of travel: roadways, bicycle and pedestrian, and public transit.

### Roadways

#### Ownership

In total, there are just over ten miles of public or homeowners’ association owned roadways in Elverson. There are approximately 3.7



*The sidewalk network is relatively complete within the core of the Borough.*

<sup>1</sup> The American Community Survey is an ongoing effort of the U.S. Census Bureau, a statistical survey that samples a small percentage of the population every year. Data from the American Community Survey are estimates based upon annual sampling of the population. The decennial census no longer provides detailed population and housing data as it did in the past. American Community Survey data is averaged over a five year period to account for the limited sample size in smaller areas such as Elverson Borough.

miles of State-owned and maintained roads within the Borough (routes 23, 401, and 82), while Borough-owned roads make up approximately 4.7 miles of the road network. With the exception of South Pine Street, all roads within Summerfield are owned and maintained by the homeowners association (2.0 miles).

**Traffic Volumes**

There are three major transportation corridors within Elverson: routes 23, 401, and 82. Figure 5-6 depicts the Average Daily Traffic volume (ADT) on these roadways based on 2012 data.

Route 23 serves as an east-west corridor and connects to the Pennsylvania Turnpike, Interstate 176, and Route 10 to the west. Route 23 carries the highest volume of traffic in the Borough, with 8,134 ADT west of the Route 23/Route 82 intersection and 6,198 ADT to the east. Further west, Route 23 has an ADT of 18,165, indicative of the volume of traffic served by the PA Turnpike.

Route 401 also has large volumes of traffic, with 2,310 east of the Route 401/Route 82 intersection and 6,402 to the west. Traffic volumes on Route 82/North Chestnut Street are less substantial and decrease as the roadway travels north. Route 82 has an ADT of 4,813 south of the Route 401/Route 82 intersection and an ADT of 1,632 north of that intersection. North of Route 23, the volume on North Chestnut Street decreases to 720 ADT.

Overall, there is a general increase in volumes west of Route 82, indicating a substantive change in the function of the roadways as they approach the PA Turnpike.

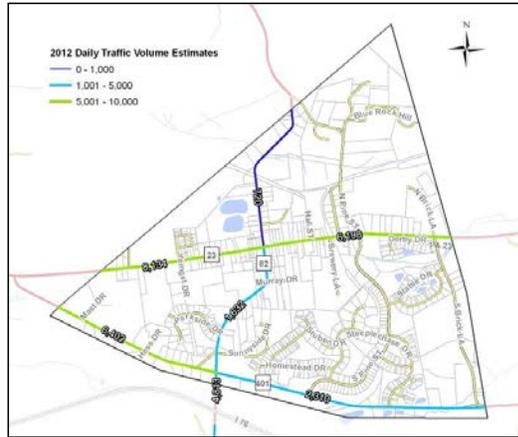
**Functional Classification**

Roadways can function in different manners, serving varying traffic volumes, trip lengths and purposes, and accommodating varying traffic speeds. The roadway functional classification system is a method of categorizing roadways by their planned purpose to accommodate varying volumes and types (vehicular, bicycle, and pedestrian) of traffic. A general depiction of different functional classes is provided in Figure 5-7.

The relationship between accessibility and mobility is a key aspect of roadway functional classification. Accessibility refers to the ease of entering or exiting a roadway from adjacent properties. Mobility refers to the ability of the road to move traffic. They have an inverse relationship - the more efficiently a road can move traffic, the less efficiently it provides access to adjacent properties, and vice versa.

Roadway functional classification and access/mobility are useful in 1) establishing roadway design standards, 2) developing access management strategies, and 3) prioritizing improvements. Figure 5-8 depicts the roadway functional classification of

Figure 5-6: Traffic Volumes



Source: PennDOT, 2012.

Figure 5-7: Functional Classification



Source: CCPC, 2013.

Elverson roadways as identified by the Chester County Planning Commission, which includes minor arterials (Route 23), major collectors (Route 82 and Route 401), and minor collectors (North Chestnut Street). Elverson's Zoning Ordinance defines various types of streets: commercial, collector, industrial, local access, major, and residential. The Subdivision and Land Development Ordinance (§ 617) describes a different set of street types: arterial, collector, marginal access, service (alleys), and minor. Further detail on functional classification standards and design criteria are included in Appendix C.

### Roadway Characteristics

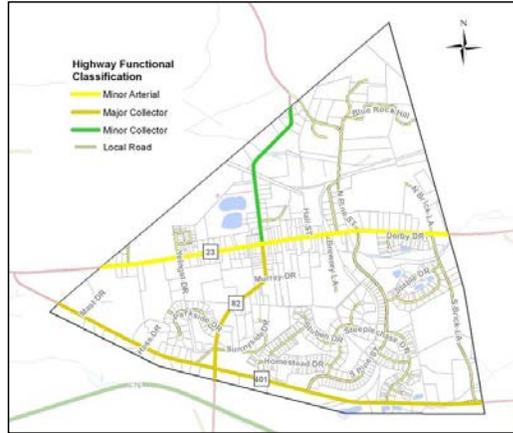
Roadway characteristics, or the roadway context, refer to the features that define the roadway for users, and are related to traffic volumes and functional classification. These include lane width, parking lanes, shoulder width, bike lanes, median, posted speed, operating speed, access density, roadside development, physical traffic calming measures, and other features. These features should be consistent with the type of experience they are creating for users to encourage appropriate speeds and improve safety for all users.

Context sensitive design is closely related to roadway characteristics, as it maximizes the integration of the roadway into the surrounding environment and community, while providing for the road user's needs in a manner which is fiscally feasible (*Smart Transportation Guidebook*, PennDOT, 2008). Context sensitive design is accomplished through integration of a project into the setting through careful planning and tailoring designs to the project's specific circumstances. It provides a safer experience for users, minimizes the need for future retrofitting, and ensures that the overall network has the appropriate level of connectivity.

Roadway characteristics have recently been modified on Route 23 with the Main Street Streetscape Project, which utilized a context sensitive design approach. Funded by the Chester County Community Revitalization Program, the project created on-street parking, bump-outs, curbing, sidewalks, gateway treatments, and crosswalks in an effort to reduce speed and improve safety and aesthetics. These changes, which were completed from 2010 – 2012, also improved sight distances at the 23/82 intersection.

Despite these improvements, the Comprehensive Plan Taskforce noted that traffic speeds remain too fast for the village context along Route 23. The posted speed limit is 35 mph, but much of the traffic travels at higher speeds. In a survey completed by the Delaware Valley Regional Planning Commission (DVRPC) in March 2011 (during the streetscape project), the average speed of vehicles heading east on Route 23 (between the municipal boundary and Route 82), was generally in the 40 – 46 mph range over the course of a day. In the same location, but heading west, the average speed

Figure 5-8: CCPC Functional Classification



Source: CCPC, 2013.



A view of the recent improvements created with the Main Street Streetscape project, including crosswalks, a bump-out, and on-street parking.

of vehicles was generally 35 – 42 mph over the course of a day. Individual speeds were noted to be as high as in the 60 mph range. These speeds are of concern for all users of the Route 23 corridor.

In addition to speeding along Route 23, sight distance and elevation at the intersection of Brick Lane and Route 401 are also of concern. The topography of the area limits the sight distance for drivers moving through this intersection.

In addition to the consideration of roadway characteristics to evaluate and improve safety on existing roads, these characteristics should be carefully assessed in the design and construction and/or reconstruction of any roads.

### Condition and Maintenance

Borough officials and the public have noted roadway condition issues with Route 23, which are related to the stormwater management system. Located beneath the paved area of Route 23, the existing piping is in need of replacement due to the age of the system. To date, PennDOT has maintained that this system is the Borough's responsibility, while the Borough notes that PennDOT installed the system and the system lies entirely within the road right of way.

Maintenance of Borough-owned roadways is handled through annual contracts to outside providers. The Borough does not have staff or equipment for roadway maintenance.

### Roadway Safety

Safety is a critical factor with any roadway. While accidents may be caused by a variety of factors, a number of incidents at a single location is an indicator that problems exist with the physical characteristics of the roadway or intersection. Figure 5-9 displays locations of safety concerns based on PennDOT's crash data. The highest number of accidents has occurred at the following locations: routes 82/23, Pine Street/Route 23, routes 82/401, and routes 401/23 (located west of the Borough). These areas should be a priority for future transportation improvements.

### Parking

Parking for the public was identified as an issue during the first public meeting for the comprehensive plan update process. The streetscape project did create dedicated on-street parking along the north side of Route 23, but it is limited. Residents of the Borough noted that limited public parking may inhibit future business development within the Borough.

## Bicycle and Pedestrian Circulation

While a significant majority of Elverson residents drive to work, many trips within the Borough can currently be accommodated by foot or bicycle. The existing sidewalk network around the Borough is relatively complete (see Figure 5-10 as well as detailed mapping on Map 5-A within Appendix B). There are missing links between Livingood Park and Summerfield, as well as east of Pine Street. There is also little pedestrian connectivity between Twin Valley Elementary Center and the Borough

Figure 5-9: Priority Locations for Safety Improvements



Source: PennDOT Crash Data, 2012 and CCPC, 2013.

overall. Pedestrian facilities and amenities along Route 23 were improved as part of the recent streetscape improvements. Further improvements to the bicycle and pedestrian facilities, such as a complete network of sidewalks and connectivity to area trails and bikeways, would encourage additional use.

During the 2010 Revitalization Plan update, Elverson identified a vision to become a “Trail Town” by connecting to proposed regional trails (French Creek and Brandywine-Hibernia) and bicycle routes (PA Bike Route S) and providing appropriate commercial development. Elverson’s surrounding area is home to a number of recreational attractions including State Game Lands Number 43, French Creek State Park, Hopewell Furnace National Historic Site, and Warwick County Park. The Revitalization Plan identified a need to better connect to these resources and provide associated amenities and facilities within the Borough. Proposed connections to these heritage and recreation resources, as well as general pedestrian connectivity improvements throughout the Borough, were identified as the “Emerald Necklace” in the Revitalization Plan. These previously identified projects are discussed further under Improvement Process. Additional details on the park and recreation resources and potential connections to them are also provided in Chapter 8: Recreation and Open Space Plan.

There are no dedicated bike lanes in the Borough. PA Bike Route S is located on Route 23, which has a wide shoulder in most places but lacks proper bicycle facilities to accommodate bicyclists (such as a dedicated bicycle lane, complete coverage of “share the road” signage, or bicycle racks). The Chester County Planning Commission has identified the bikeability levels of certain roadways in Elverson, as shown on Figure 5-11. The majority of roadways are designated as average or above average for bicycling (including Route 23). Other roadways (such as most of Route 401) are identified as below average for bicycling - these routes are intended for riders with greater expertise. These classifications provide guidance on existing conditions, and do not assess where it might be most appropriate to locate a dedicated bicycle lane in the future.

Figure 5-10: Existing Sidewalks and Trails

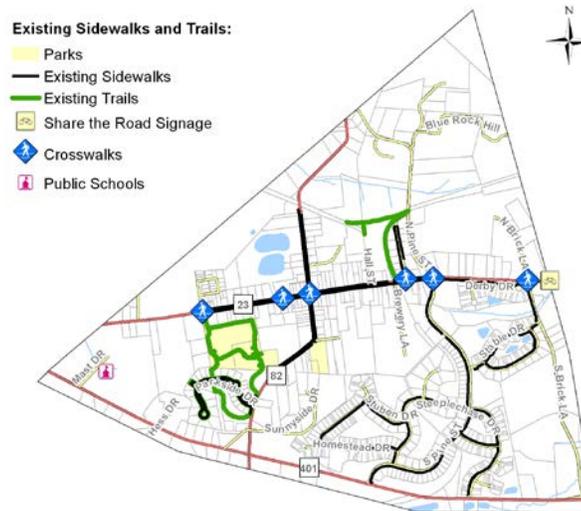
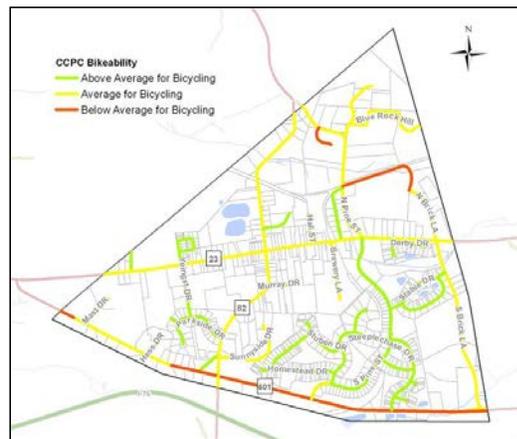


Figure 5-11: Bikeability Classifications



Source: CCPC, 2013.

## Public Transportation

Elverson is served by Rover, a reservation based, countywide transportation service partially funded by the Pennsylvania State Lottery and the Chester County Board of Commissioners. The service operates on weekdays and on a limited basis on weekends. The service focuses on senior citizens, medical assistance card holders, and persons with disabilities, and fares for those riders are partially subsidized. Service to the general public is full fare and based on availability. The service is currently operating more than 70 shuttles daily throughout Chester County.

Elverson's closest rail station is Coatesville, 14 miles south of the Borough, which has Amtrak service. Downingtown's station, located 15 miles southeast, has both Amtrak and SEPTA service. Elverson residents also use the train stations located in Exton and Malvern.

## Improvement Process

Identification of desired transportation improvements is an on-going process, as development creates changes in traffic volumes and circulation patterns, priorities change, and improvements are achieved. Funding sources change over time, and communities must respond accordingly to move their projects forward. The path from a transportation need to a funded project, and then a completed project, is typically a long process. The first step should always be identifying the community's transportation needs.

In Chester County, a primary method of identifying transportation needs is the Chester County Planning Commission's Transportation Improvements Inventory (TII), a single inventory of identified transportation improvements submitted by all municipalities. The TII is updated biannually. The most recent TII (2013) did not include any projects for Elverson. The prior TII (2011) included a traffic signal at the intersection of routes 23/82. The TII encourages municipalities to plan for and prioritize their transportation needs and is the first step for a project to become listed on the Delaware Valley Regional Planning Commission's Transportation Improvements Program (TIP).

The TIP is the regionally agreed upon list of priority transportation projects, as required by federal law. The TIP must list all projects that intend to use federal funds, along with all non-federally funded projects that are regionally significant. Other state funded capital projects are also included. Projects include bicycle, pedestrian, freight related, and innovative air quality projects, as well as highway and public transit projects. The TIP is approved by the Pennsylvania legislature and Federal Highway Administration every other year, and was most recently adopted in 2012 to cover 2013 - 2016 (FY13 TIP). There are no Elverson projects on the FY13 TIP, indicating there are no federal funds for projects in Elverson. Figure 5-12 illustrates the transportation project programming process.



*This section of trail near Hopewell Manor was constructed by the developer.*

**Figure 5-12: Transportation Project Programming Process**



TII projects and other transportation needs await opportunities for funding through future TIPs or other means, such as municipal funding or agreements with developers. There is intense competition for transportation funding in the region as well as nationally, which reflects the inadequacy of transportation funding at all levels. In Chester County alone, 441 transportation projects are listed on the 2013 TII and competing for funding. Passage of the Pennsylvania transportation funding bill in late 2013 will assist in advancing projects, but the backlog of needs statewide is extensive. This trend is expected to continue under the current federal surface transportation law, MAP-21. Given this situation, funding outside of federal and state sources is important in achieving improvements to the transportation network. The recent streetscape improvement project along Route 23 was funded through Chester County’s Community Revitalization Program, administered by the Department of Community Development. Elverson Borough was also able to have a section of trail completed as part of the Hopewell Manor residential development.

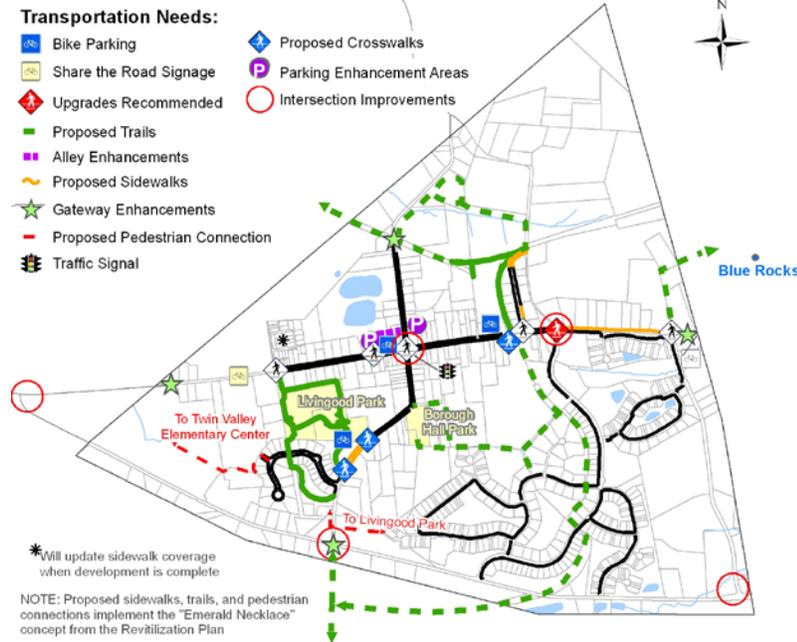
Several desired transportation improvements were identified during the 2010 update to the Borough’s Revitalization Plan. One was the traffic signal at routes 23/82. The recent streetscape improvements have improved sight distances at this intersection and the addition of a traffic signal is no longer as high of a priority. The other potential projects focus on trail and sidewalk connections (“Emerald Necklace”), traffic calming, streetscapes, and parking. All previously identified transportation needs are included on figures 5-13 and 5-14, and detailed mapping is included as Map 5-B within Appendix B. Additional background information on the previously identified needs and proposed improvements is provided in the Revitalization Plan.

**Figure 5-13: Previously Identified Transportation Needs**

Project	Description	Planning Document
Route 23/Route 82 Intersection	Signalization	TII, Revitalization Plan
Emerald Necklace	Trail Development & Sidewalk Connections	Revitalization Plan
Park Avenue, Route 82, Route 23	Streetscapes / Traffic Calming	Revitalization Plan
Gateway Enhancements - Route 23/Route 82	Traffic Calming	Revitalization Plan
Parking Enhancement Areas	Parking Improvements	Revitalization Plan

Source: Chester County Planning Commission TII, 2011; Elverson Borough Revitalization Plan, 2010.

**Figure 5-14**



# Planning Implications

## Roadways

Access points and speeding remain concerns along Route 23. Additional safety concerns are generally found at intersections within the Borough. Addressing these concerns in a manner that improves the overall multi-modal network is a focus.

## Bicycle and Pedestrian Circulation

Bicycle and pedestrian circulation is a strong point in Elverson due to the existing network. However, gaps in the network limit options for the Borough's residents. Filling in the gaps and completing the bicycle and pedestrian network is a primary focus.

## Public Transportation

Elverson's access to public transit is very limited. There are few options, with no significant improvements in the foreseeable future. Elverson should focus on ensuring residents are aware of the options that are available to them, primarily the Rover service and the SEPTA and Amtrak service on the rail line that parallels Route 30 to the south.

# Recommendations

The recommendations below focus on how to best maintain and enhance the transportation and circulation system in Elverson Borough and best implement the related goal and objectives (as detailed in Chapter 2). These recommendations address both current and future transportation needs for the Borough residents and visitors, while ensuring a transportation system that is sustainable for the future. Priorities for the implementation of these recommendations are established in Chapter 9, Implementation Strategies. Implementation of the recommendations identified below will help Elverson achieve its transportation and circulation goals to:

Ensure a safe and effective roadway system that is compatible with surrounding land uses.

Create a walkable and bikeable pedestrian-oriented community where sidewalks and trails safely connect community destinations.

## **5-1 Continue to coordinate at the regional level on transportation issues, particularly trail networks.**

The value of Elverson's trails is not limited to what it provides residents within the Borough, but includes the value added by potential links outside the Borough and the value added by the ability to attract visitors to Elverson. Coordination beyond the Borough boundaries is required to fully realize the value of an interconnected network of bicycle and pedestrian trails and sidewalks. Coordination on transportation issues should also take place regarding key transportation features and amenities beyond the Borough, such as the intersection of routes 23/401 to the west. Working with neighboring municipalities can increase the viability of issues for funding and allow for a more coordinated and comprehensive approach to improvements to the transportation network.

## **5-2 Seek out funding from traditional and non-traditional sources for transportation improvements.**

Given that transportation needs far outweigh available funds, it is imperative that the Borough become proactive in advocating for its projects and diligent in seeking funding from all available sources. In addition to the traditional federal and state sources, funding alternatives include developer required improvements through land development and transportation grants. Also, local advancement of projects with preliminary planning or engineering work can advance projects while seeking additional funds for final engineering and construction. Coordination with Chester County Planning Commission, PennDOT, and other appropriate agencies is critical to advancing priorities.

The DVRPC has published a comprehensive list of funding and implementation tools in their 2009 Municipal Resource Guide, and also maintains a webpage that

is updated regularly with newly announced grant and program opportunities ([www.dvrpc.org/Funding](http://www.dvrpc.org/Funding)).

The current federal surface transportation law, MAP-21, changed several funding streams. Bicycle and pedestrian program funding is now addressed through the Transportation Alternatives Program (TAP). Projects eligible for funding through TAP include Safe Routes to School and Recreational Trail programs.

**5-3 Continue to ensure that maintenance of Borough-owned transportation facilities are addressed on an annual basis in the budget and through development of a capital improvements plan.**

Borough-owned transportation facilities are currently maintained through annual contracts with outside providers. While this system is adequate given the limited amount of Borough-owned facilities, it does not adequately provide for a long-term perspective on larger maintenance and improvement projects. A capital improvements plan (CIP) should be developed to focus attention on upcoming transportation needs and planning for the funding of improvements. This could be done in conjunction with a CIP for all Borough-owned facilities (see Community Facilities and Services recommendations.)

**5-4 Advance priority roadway, bicycle and pedestrian, and public transportation projects as identified in Map 5-B.**

The Borough had previously identified transportation needs (through the Revitalization Plan) and developed an additional listing of transportation needs through this Comprehensive Plan process. Map 5-B depicts all currently identified transportation needs, completion of which will provide Elverson with a multi-modal network that best serves the needs of residents, businesses, and visitors.

Needs include safety improvements, traffic calming, streetscaping, trail development, sidewalk connections, and access improvements. Figure 5-15 identifies all of these improvements, which are also depicted on Figure 5-14, as well as Map 5-B. These projects should be added to the Chester County TII at its next update (2015). The Revitalization Plan provides additional detail on several of these items, focused on gateways, bicycle and pedestrian connections, traffic calming, and parking.

**Figure 5-15: Transportation Needs\***

Project	Description
23/401; 23/82; 23/Pine St.; 401/Brick Lane; 401/82	Intersection improvements for safety & sight distance
23/82 Intersection	Signalization
Emerald Necklace (Trail & Pedestrian Connections)	Trail development & sidewalk connections
Route 23, Route 82, & Park Avenue	Streetscape improvements, crosswalks, sidewalks - traffic calming
Gateway Enhancements	At north/south & east/west entrances – signage & traffic calming
Parking Enhancement Areas	Parking improvements, alley enhancements, bike parking
Signage	Share the Road signage along Route 23

\*See Map 5-B for a depiction of these items.

**5-5 Work to decrease incidences of speeding on roadways.**

The Borough should coordinate with the State Police to target specific areas for speeding enforcement and consider using radar speed signs to alert travelers to their speed. The Borough could coordinate with neighboring municipalities to borrow mobile radar speed units for use in specific areas for limited periods of time, or consider purchasing its own mobile or mounted signs.

**5-6 Amend (or adopt) the Official Map to delineate the location of roadways, pedestrian and bicycle facilities, and public transportation amenities.**

Elverson developed an Official Map at one time, although it is unclear whether it was formally adopted. Regardless of adoption, since its development the map has become dated with the passage of time. The Official Map could be updated (or adopted) to delineate features such as needed bicycle and pedestrian trails and sidewalks, which would help to ensure these facilities are constructed in the locations they are needed. Map 5-B would be a key starting point to identifying features to depict on the Official Map.

**5-7 Review and amend regulatory documents to ensure roadway, sidewalk, and trail standards are current and context sensitive.**

Technical standards are always evolving, particularly in regard to sidewalks, bikeways, and trails, and guidelines for smart transportation and context sensitive design are also still developing. Periodic reviews of regulations will best position the Borough to achieve an effective multi-modal network as land uses change and developments are proposed.

More specifically, roadway functional classifications and design criteria have significantly evolved in the past decade with respect to the interaction of surrounding land uses and roadway design and characteristics. There is an increasing focus on the context of the roadway and the impact that context should have on design criteria. The Borough should change its roadway functional classification to match those depicted on Figure 5-8 and update the design criteria within the Zoning Ordinance and Subdivision and Land Development Ordinance to more closely mirror PennDOT and Chester County Planning Commission classifications and design criteria. Currently each ordinance notes slightly different classifications for roadways within the Borough. New standards that more closely match the different types of roadways within the Borough will allow the design standards to be more consistent with the roadway classification and context. Recommended classifications and design standards developed by the Chester County Planning Commission are included in Appendix C.

This recommendation also includes the need to review ordinance standards regarding trails and sidewalks to ensure that they remain current and in keeping with the Borough's vision of how these features should be constructed.

The context of the roadway is as important as its functional classification. Context sensitive design responds to corridor characteristics in an appropriate manner to create a safer travel corridor. The *Smart Transportation Guidebook*

(PennDOT and NJDOT, 2008) provides a wealth of information that may be applied to roadways with a focus on appropriate local context. Evaluating the context is important to moving forward with the appropriate design improvements for the community.

**5-8 Review regulatory documents for parking standards and amend as necessary to ensure parking requirements remain both appropriate and flexible.**

The Revitalization Plan noted that parking requirements could be reduced with the use of shared parking, while the Borough must maintain an awareness of the need for public parking for business uses.

In the past, guidelines from national organizations or widely used publications have been used as definitive standards for parking regulations, frequently resulting in more parking than necessary for a particular use. Parking standards should be specifically tailored to local conditions and allow for flexibility. Shared parking, where a public or private parking area is used jointly by two or more uses (such as an office and a place of worship), should be permitted when appropriate. Reserve or overflow parking should be permitted in appropriate locations. The Borough should remain open to flexible parking requirements. One resource for guidance would be *The Automobile at Rest: Toward Better Parking Policies in the Delaware Valley*, a 2008 publication of DVRPC and available online ([www.dvrpc.org](http://www.dvrpc.org)).

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**5-9 Review and amend regulatory documents to ensure they address traffic calming measures in association with subdivision and land development.**

The Borough's ordinances should specifically include language that addresses the installation of traffic calming measures when land development or a subdivision creates a need for such measures. The ordinances should note that the Borough is permitted to require traffic calming measures when warranted. See PennDOT's *Pennsylvania's Traffic Calming Handbook*, Publication 383 for more information

**5-10 Consider updates to access management regulations and coordinate with PennDOT regarding highway occupancy permits (HOPs) to plan for safe access points on area roadways.**

Multiple access points along roadways with heavy traffic can become problematic. Access management regulations can address the control of access points (driveways) onto a roadway to promote traffic flow, improve safety of pedestrians and motorists, and improve aesthetics by managing the location, quantity, type, and design of access points.

Existing access regulation is limited in both the Zoning Ordinance (§ 1114) and Subdivision and Land Development Ordinance (§ 617). The Borough should update the access management regulations, and ensure that all basic regulations are included. Minimum standards should include the following: general spacing between intersections, minimum distance between access points, parking lot separation and setbacks from cartways, and curb/buffer requirements. Access management standards may also include the following:

- Siting of access points dependent on road classification, function, and context
- Requiring interconnections between parking areas
- Defined access points
- Clear pavement markings
- Turn lanes
- Medians

For more information, see PennDOT's *Access Management Model Ordinances for Pennsylvania Municipalities Handbook*, Publication 574.

The Borough should continue to inform and coordinate with PennDOT concerning access points (including any proposed changes to access management regulations) so that the Borough's interests are properly considered in the design of access points. This is particularly important along the more heavily travelled roadways, including Route 23. Municipalities may adopt and apply more stringent access management requirements than those required by PennDOT for both state and local roads. When municipalities adopt updated access management regulations through local ordinances, communication with PennDOT concerning these local requirements is critical.

**5-11 Continue to improve pedestrian and bicyclist safety and connectivity throughout the Borough.**

In addition to the physical improvements noted on Map 5-B and in recommendation 5-4 (such as Share the Road signage, bike parking, and new and upgraded crosswalks), education can improve the safety of pedestrians and bicyclists in Elverson. Supporting drivers' education – particularly related to pedestrian crosswalks and sharing the road with bicyclists – across all age groups is a proactive measure to increase safety on the roadway for everyone. The Borough could use its existing public outreach methods to share drivers' education opportunities (such as those available through AAA), distribute basic information, and raise awareness.

**5-12 Continue to support public transportation.**

Although public transportation is limited in Elverson, the Borough should use its existing public outreach methods to ensure residents are aware of the public transit options that are available. These are primarily the Rover service and the Paoli-Thorndale rail line and those train stations most accessible to Elverson. One source for this information is the Ride Guide, a publication of the Chester County Planning Commission, available at [www.chescorideguide.org](http://www.chescorideguide.org). Available in print as well as online, the Ride Guide provides information and direction for transportation options in Chester County, covering rail, bus, taxi, and paratransit services. Additionally, major employers or the Borough could consult with the Transportation Management Association of Chester County (TMACC) to discuss alternatives to driving alone.

# Links

**Chester County Planning Commission – Transportation Services and the TII**

[www.chesco.org/planning/transportation](http://www.chesco.org/planning/transportation)

**DVRPC TIP**

[www.dvrpc.org/tip](http://www.dvrpc.org/tip)

**DVRPC Municipal Resource Guide and Funding Opportunities**

[www.dvrpc.org/Funding](http://www.dvrpc.org/Funding)

**PennDOT**

[www.dot.state.pa.us](http://www.dot.state.pa.us)

**Ride Guide**

[www.chescorideguide.org](http://www.chescorideguide.org)

**Rover**

[www.krapfscoaches.com/rover](http://www.krapfscoaches.com/rover)

**Smart Transportation Guidebook**

[www.smart-transportation.com/guidebook.html](http://www.smart-transportation.com/guidebook.html)

**TMACC**

[www.tmacc.org](http://www.tmacc.org)

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