Chapter 8

Transportation and Circulation Plan

Introduction

The relationship between the use of land and its impacts on the circulation network is an important element in the comprehensive planning effort. A community's quality of life is highly dependent on the efficient use of land as well as effectiveness of its circulation network. In order for a network to adequately serve adjacent land uses, it must be regularly evaluated as new development or redevelopment occurs. Different land uses require different road characteristics, and addressing future transportation needs is dependent on a sound understanding of the current network.

Existing and proposed development areas must be considered when making future road programming decisions. In turn, future development patterns should not adversely affect the circulation system. It is necessary to follow appropriate design standards, improve existing roads and manage access so the road network will be capable of performing its intended function. Municipal and individual land use decisions are strongly influenced by existing or proposed circulation systems, while at the same time these same land use decisions can affect the circulation systems and the functions which the roads are expected to perform.

The circulation system within a community has an important influence on the type and location of development which occurs. The location of residential, commercial, and industrial uses can influence the function or classification of roads, their design and their condition. In addition to influencing the character of the community by influencing land uses, the perception of a community can be influenced by the circulation system itself. A municipality with relatively narrow winding roads abutting agricultural and wooded areas will often be perceived as having a rural character, while a municipality with high traffic volumes, unsynchronized signalization, and delays at intersections could be perceived as gridlocked. In areas where development has occurred which does not respect the limitations of the circulation system, the perception can be one of poor planning and frustration.

The transportation system will function properly only when each community has adequate access to the system. The identification of problem areas throughout a region's transportation network, as well as a logical land use plan that enables residents to make fewer vehicle trips are key components to a joint comprehensive plan.

Transportation Goal:

Goal: To achieve a safe, efficient, multi-modal, and cost-effective regional circulation system that will enhance pedestrian and bicycle movement; ease vehicular travel within the municipalities; minimize adverse impacts on residential neighborhoods; enhance the safety, mobility and livability of road corridors in the Region; and relieve congestion.

Objectives:

- Work with PennDOT and developers to ensure local roads and intersections remain safe and able to accommodate current and projected traffic volumes.
- Encourage business developments to share controlled ingress and egress to adjacent major roads such as PA Routes 12, 73, and 662 as well as local collector roads.
- Identify and set priorities for projects which are appropriate for inclusion on Berks County's Long Range Transportation Plan and the Transportation Improvement Program.
- Promote future development of greenways and trails that will further walking, bicycling and other alternative transportation modes.
- Address Route 12 and Route 73 congestion issues, including bridges and road infrastructure.
- Facilitate movement through the Region and into and out of the Region's communities.
- Plan for safe and accessible routes of travel for pedestrians, bicyclists, individuals with disabilities, the elderly, and those without automobiles.
- Manage access along the Region's roads.
- Improve the efficiency of traffic flow and the safety of the Region's roads and their intersections.
- Establish the responsibilities of developers for transportation improvements.

- Establish design standards for roads and driveways and for building setbacks within the Region based on functional classification and need for future road improvements.

- Emphasize the need for PennDOT and the Reading Area Transportation Study (RATS), to support the recommendations of this Joint Comprehensive Plan with regard to needed improvements of state transportation facilities.

- Establish a mechanism to require traffic impact studies for industrial, commercial, and residential developments.

- Improve pedestrian safety in the Region by developing, improving and expanding the sidewalk system in residential areas.

- Address impacts of land uses and new development on major road corridors in the Region.

- Preserve the scenic, historic, and cultural road corridors in the Region.

- Enhance streetscapes along road corridors in the villages.

- Mitigate impacts of non-residential traffic on residential neighborhoods.

- Identify opportunities to interconnect roads and walkways, provide alternative traffic routes, and facilitate emergency access when new developments are under construction.

- Ensure that roads in agricultural areas may continue to accommodate agriculturally related vehicles and tractors.

- Consider alignment and shoulder improvements to improve safety along PA Route 12 near Woodland Road.

IMPORTANCE OF TRANSPORTATION

Transportation affects the daily lives of most people. It is important to understand the impact of transportation needs on an area. One aspect of transportation needs is travel to and from work. The U.S. Census provides information that can be used to determine the circulation needs of a community. The following chart shows the methods used for commuting to work for the Region's labor force 16 years and older in 2000.

TABLE 8.1: COMMUTING TO WORK - 2000

	Alsace Township		Oley Township		Ruscombmanor Township	
	Number	Percent	Number	Percent	Number	Percent
Workers 16 years and over	1,921	100%	1804	100%	2,029	100%
Drove alone to work	1,736	90.4%	1526	84.6%	1,735	85.5%
Carpooled	131	6.8%	134	7.4%	205	10.1%
Public Transportation (including taxicabs)	7	.4%	0	0	4	.2%
Walked to work	4	.2%	51	2.8%	14	.7%
Other means	0	0	12	.7%	10	.5%
Worked at home	43	2.2%	81	4.5%	61	3.0%
Mean travel time to work (minutes)	19.5		23.3		22.1	

Source: U.S. Census Bureau

As the table above reflects, of Alsace Township's labor force, 16 years and older, 1,736 (90.4%) drove alone to work, another 131 (6.8%) carpooled. Public Transportation was taken by 7 people or .4%, while another 4 walked to work. Oley and Ruscombmanor had similar numbers with 1,526 (84.6%) and 1,735 (85.5%) traveling alone to work. Oley Township had 7.4 percent carpooling and Ruscombmanor Township had 10.1%. The mean travel time to work was 19.5 minutes for Alsace Township, 23.3 for Oley and 22.1 for Ruscombmanor. All were less compared to Pennsylvania at 25.2 minutes and the National mean travel time to work, 25.5 minutes.

Since the reliance on the automobile is so strong in the Region, it is very important that transportation and circulation issues are addressed.

Addressing transportation issues has three critical benefits:

- It increases the quality of life for the residents by facilitating circulation and making travel safer.

- Attractiveness of the Region as a destination and place of work or residence can be enhanced if congestion is mitigated; and, the level of service and visual attractiveness of area roads are maintained.

- PA Route 12, PA Route 73, and PA Route 662 are considered the main economic growth corridors of the Region. Providing a well maintained transportation system is necessary to support optimum economic development.

COMPOSITION OF THE CIRCULATION NETWORK

Township and State road mileage for Alsace, Oley and Ruscombmanor Townships are listed below in Table 8.2.

TABLE 8.2: ROAD MILES

ALSACE, OLEY AND RUSCOMBMANOR TOWNSHIPS

Township	State Miles	Township Miles	Total Miles
Alsace	15.41	27.28	42.69
Oley	19.10	50.73	69.83
Ruscombmanor	15.35	35.42	50.77

A few of the State Roads travel through multiple municipalities in the Region. PA Route 73 and PA Route 662 travel through both Ruscombmanor and Oley Townships. PA Route 12 travels through Ruscombmanor and Alsace Townships.

Important Transportation Corridors

PA Route 12, PA Route 73 and PA Route 662 are the most important corridors in the Region.

PA Route 12 (Pricetown Road) is the major north/south corridor in the Region. The road provides access to US Routes 222 and 422, Allentown and Kutztown to the north, and Lancaster to the south. PA Route 73 and PA Route 662 are the main east/west corridors through the Region providing linkages to PA Routes 100 and 61, as well as US Route 422.

EXISTING ROADWAY CLASSIFICATION

How a particular highway is used determines the function that it serves in the system. Highway and roadway classification are based on analysis of the volume of traffic using the facility, the type of trip provided, the length of the trip, and the speed of the trip.

The principal arterial system consists of a commercial road network of continuous routes having the following characteristics:

- Serve the corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.

- Provides connections to all, or nearly all, urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over.

- Provide an integrated network without stub connections except where unusual geographies of traffic flow conditions dictate otherwise (e.g., internal boundary connections and connections to coastal cities).

  – Principal Arterial System – The principal arterial system is stratified into the following two subsystems:

    Interstate System - The interstate system consists of all presently designated routes of the Interstate System located outside small urban and urbanized areas.

    Other Principal Arterial System - This system consists of all non-Interstate principal arterial highways located outside small urban and urbanized areas.

  - Minor Arterial System - The minor arterial system should, in conjunction with the principal arterial system, form a network having the following characteristics:

    - Link cities and towns (and other generators, such as a major resort area, that

are capable of attracting travel over similarly long distances) and form an integrated network providing interstate and inter-county service.

- Be spaced at such intervals, consistent with population density, so that all developed areas are within a reasonable distance of an arterial highway.

- Provide service to corridors with trip lengths and travel density greater than those predominately served by rural collector or local systems. Minor arterial highways therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

Collector Road System – The collector routes carry local traffic between minor streets and arterials and provide land access service and traffic circulation in residential neighborhoods, commercial and industrial areas.

Local Road System - The local road should have the following characteristics: (1) Serve primarily to provide access to adjacent land; and (2) Provide service to travel over relatively short distances as compared with collector roads or other highway systems. Local roads will, of course, constitute the rural mileage not classified as part of the principal arterial highway, minor arterial, or collector road systems.

HIGHWAY FUNCTIONAL CLASSIFICATIONS AND RECOMMENDED DESIGN FEATURES

Classification	General Provisions	Right-of-Way Width (ft.)	Cartway Width
Interstate Expressway	55+ MPH Limited Access No Parking Noise Barrier/Buffer (where required)	Minimum 120; however, may be wider based on local conditions and design	Minimum four 12' wide travel lanes with 10' wide shoulders capable of supporting heavy vehicles
Arterial (Principal and Minor)	35-65 MPH Some access controls to and from adjacent development. Encourage use of reverse and side street frontage and parallel access road. No Parking	80	48-52 feet; 12' wide travel lanes with shoulders in rural area and curbing in urban areas
Collector (Major and Minor)	25-35 MPH Some access controls to and from adjacent development. Parking permitted on one or both sides.	60	34-40 feet; 12' wide travel lanes with stabilized shoulders or curbing; 8' wide lanes provided for parking.
Local	15-35 MPH No access control to and from adjacent development. Parking permitted on one or both sides.	53	28-34 feet with stabilized shoulders or curbing; cartway widths can be reduced based on interior traffic patterns.

Roads are classified on the Transportation Map. The following is the list of each existing type of functional classification in the Region based on the Penn Dot criteria:

Arterials: PA Route 73, PA Route 662

Collectors: PA Route 12 (Pricetown Road), PA Route 662, Laurel Road, Blankenbiller Road, Spies Church Road, Friedensburg Road, Main Street, Water Street, Covered Bridge Road, Limekiln Pike, Skyline Drive

Local Roads: all other roads

TRAFFIC VOLUMES

Traffic volumes are determined through traffic counts taken at specific locations within a transportation corridor. The volume is usually portrayed in terms of annual average daily traffic (AADT). This represents the average count for a 24 hour period, factoring in any fluctuations due to the day of the week or month of the year. The AADT is an important factor that, in conjunction with the previous factors outlined, helps in determining the functional classification of a road.

Information available on traffic volumes is important in determining the potential for capacity problems. Roads that are not used for the purpose for which they are intended can experience capacity problems. This is particularly evident in areas experiencing a significant amount of new development without concurrent upgrades to the transportation corridors. Capacity problems become particularly evident when the number of lanes is reduced and traffic is funneled from a roadway with a higher number of lanes to one with a lower number of lanes.

In addition to the increased development in the Region, capacity on the Region's roads is also heavily influenced by traffic originating outside the area. Roads most likely to experience capacity problems are PA Route 12, PA Route 73 and PA Route 662, because these roads are carrying traffic to Township locations as well as regional traffic at increasingly higher volumes. Traffic volumes are beginning to increase on other roads throughout the Townships as well.

There are several factors contributing to the traffic impact in the Region. There is regional traffic, which includes trucks, tourists, and commuters going to Philadelphia, New Jersey and Montgomery County employment centers, local traffic patronizing businesses in Oley, Alsace and Ruscombmanor as well as, residents of outlying areas using PA Route 12 as an alternative route to Reading area, avoiding the much congested US Route 222 corridor.

Highest average daily traffic volume in the Region is Route 12 at the western end in Alsace Township, at 18,486. Several sections of PA Route 12 have high volume with AADT counts west of PA Route 73 of 15,999 and in between that location and the western end with counts of 14,872. PA Route 73 also has significant AADT counts of 15,362 and 14,660 through the Village of Oley.

AADT numbers for selected roads can be found on Figure 8.1, the Transportation Plan Map.

Roadway Conditions

An inventory of roadway conditions is necessary in order to identify problems within the circulation system and to address these problems as appropriate. Roadway conditions are generally evaluated from four perspectives.

- Safety
- Access
- Interchanges
- Corridor Segments

Safety

Safety concerns are evident at those locations within the circulation system that may pose hazards due to poor road alignment, limited sight distance, design, or structural problems, lack of road shoulders or obstacles near the roadway. These all create hazardous conditions, which can slow traffic and cause congestion and potentially lead to accidents.

Pavement conditions affect travel costs with respect to operation, delay and accidents. Vehicle operation is affected by excessive wear on tires and suspensions misalignments due to uneven road surfaces or worn edges of roadway. Delays occur when drivers have to slow down for potholes or uneven surfaces. Accidents can be caused by all of the above.

Access Management

Access management problems are situations where conflicts between mobility and access are, or will be, intense and result in congestion and safety problems. Access management problems typically occur on roads serving high volumes, high speed traffic, and abutting intense trip generating uses. An example of an access management problem would be where commercial development occurs on a road and the mobility of traffic is adversely affected by the increase in driveways from adjacent land to the road on which the land fronts. As the number of driveways increases, the safety and efficiency of the road can decrease. Access management will be an increasing concern on the roads in the Region in the future. The biggest concern in the area is PA Route 12 (Pricetown Road). Access management has been an issue in the past and continues to plaque the Region with increased businesses along the corridor and increased traffic along the Route.

Corridor Segments

Corridor segment problems are usually found in more densely developed areas when congestion, access and safety issues are all present. Corridor segment problems can include those roads that may possess maintenance issues or exhibit structural problems.

The PA Route 12 corridor is the most heavily traveled road in the Region and intersects with PA Route 73 and PA Route 662. There are other corridor segments of concern along PA Route 12: Skyline Drive, Woodside Avenue, Mt. Laurel Road, Elizabeth Avenue, Antietam Road, and Oley Furnace Road. These are areas of concern for safety and congestion.

ALTERNATIVE FORMS OF TRANSPORTATION

In a plan for circulation, it is necessary to not only address vehicular traffic but multi-modal facilities such as bicycle-pedestrian, transit-pedestrian, and bicycle-transit opportunities.

Bus Service

There are no fixed routes that serve the planning Region. Long distance, inter-city bus service is provided by Capital Trailways and Bieber Tourways. Capital Trailways provides daily service from Reading to Philadelphia with a direct route and a route with stops depending on the time of departure. A route between Reading and Lebanon and Harrisburg via U.S. 422 is also available with service to Allentown and Pottsville. Bieber Buses provide service between Kutztown and Reading, plus offer routes to Atlantic City and New York.

Berks Area Reading Transit Authority (BARTA) provides a traditional fixed route service operating in the urban area of Berks County as well as a special services division that provides demand-response services to elderly and handicapped citizens throughout the county.

Rail Service

There is no freight rail service or passenger rail service in the Region. The Norfolk Southern owns and operates the majority of railroad lines in the County. The majority of the activity occurs in the City of Reading with the line going from Harrisburg through Reading to Philadelphia.

The Reading Blue Mountain and Northern Railroad provides short line service to shippers on the Schuylkill Secondary Line that goes between Temple and Hamburg. Additional short line services run to northeastern Pennsylvania, Kutztown and Topton, and Pottstown to Boyertown.

AMTRAK has a commuter rail terminal in downtown Lancaster, Philadelphia and Harrisburg, both within a one to one and one-half hour drive.

Airport Services

The nearest airport is the Reading Regional Airport approximately ten miles away. There are three charter services based at Reading. Additionally, there are Corporate and other general aviation aircraft operating out of the airport.

The nearest passenger, commuter, and charter air service are located between 55 and 65 miles away. They are Lehigh Valley International Airport (ABE), Philadelphia International Airport (PHL), and Harrisburg International Airport (MDT).

Two private airports are close to the planning region. Grimes Airport has a 2860 foot turf runway and is located in Bethel Township, north of Interstate 78. It provides fuel, minor maintenance, radio, and hangar facilities. Kutztown Airport is located east of the region in Maxatawny Township and includes a 2,068 foot turf runway and a 1,938 paved runway. Services provided are radio, fuel, maintenance and hangar facilities. The airport is the local center for sailplane activities in the County.

Pedestrian/Bike Facilities

Pedestrian and Bike Facilities are somewhat limited in the Region. The Village of Oley has sidewalks along Main Street and adjoining streets. There are no current trails or greenway locations in place in the Region but the Berks County Greenway, Park, and Recreation Plan of 2007 shows potential local connections through Alsace and Oley with limited connectivity between Fleetwood and Ruscombmanor.

Transportation Actions:

A. Update zoning ordinances as necessary.

1. Include access management standards in zoning and/or subdivision and land development ordinances as determined by the Townships:

a. Establish access location standards

b. Establish access point separation requirements

c. Require access to streets of lower functional classification

d. Require internal road systems

e. Require coordinated/shared ingress and egress

f. Require interconnection of properties, including access, parking, loading

g. Establish separations from intersections

h. Require coordinated traffic movements

i. Require acceleration and deceleration lanes where appropriate

j. Require left and right turn lanes where appropriate

k. Refine design standards for intersections, driveways, internal circulation, and parking lot design

l. Minimize entrances to roads

m. Prohibit inappropriate turning movements

n. Consider signalization of high volume driveways

o. Refine location, size, and design requirements for billboards and signs.

2. While particularly crucial along the PA Route 73 and PA Route 12 Corridors, access should be managed along all roads within the Region.

3. In mixed use areas, where pedestrian activity can be higher, discourage curb cuts over sidewalks to limit pedestrian/vehicular conflict.

B. Update subdivision and land development ordinances as necessary.

1. Establish appropriate design standards for each functional classification of road. Safe, buffered, and sufficiently set back bike and pedestrian lanes can be included in the cross-sections with consideration given to the Pennsylvania Statewide Bicycle and Pedestrian Master Plan and Guide for the Development of Bicycle Facilities by American Association of State Highway and Transportation Officials (AASHTO). Bike and pedestrian lanes may be required on those roads deemed appropriate by the municipality.

2. Require traffic impact studies for proposed developments. Such studies require analysis of existing circulation conditions, the impact of proposed

development and resulting circulation conditions and the need for traffic improvements to adequately support the development.

3. Establish appropriate standards for driveway design and access to streets for access management. Coordinate with zoning ordinance design standards and access management provisions. Plans should be reviewed for access management concerns.

4. Require developers to recognize existing and planned trails and to provide new trails. Standards for trails can be included in the Ordinances. Sufficient rights-of-way and easements may be required during the review process.

5. Require developers to provide pedestrian paths and sidewalks to enhance foot traffic.

6. Request right-of-way dedication along existing roadways to meet design standards.

7. Require necessary roadway improvements along the frontage of developments.

8. Review setback and building location policies along major road corridors to refine regulations that will facilitate future road improvements.

C. Consider the adoption of Official Maps designating proposed public facilities, streets, intersection and road improvements, bike paths, and trails.

D. Monitor and regulate development in and around the airport to promote its economic development potential, while ensuring safety.

E. Implement the Capital Improvements Programs recommended by this plan.

F. Establish pedestrian pathway improvement programs to enhance foot traffic in the Region, as well as provision of trails to provide improved access to schools, local shopping areas, community facilities, and employment opportunities. ADA requirements should be complied with.

G. Work with PennDOT to ensure adequate maintenance of roads with substantial volumes of truck and school bus traffic as well as automobile traffic.

H. Consider the adoption of Transportation Impact Fee ordinances to be used by the Townships individually or jointly and require land developers to address needed transportation improvements in the Region.

I. Work with PennDOT and BCPC to establish appropriate speed limits, reducing them as necessary, in developed areas.

J Prepare multi-year programs for street maintenance and improvement.

K. Develop access management plans in cooperation with PennDOT to address access to major roads and access design standards. Encourage cooperative efforts of landowners to manage and share access.

L. Encourage landowners to cooperate with PennDOT and the municipalities in the redesign of existing strip development areas to manage access and improve streetscapes.

M. Coordinate utility and road improvements so that utilities are constructed before road improvements are made.

N. Require property owners to keep street rights-of-way available for required improvements and pedestrian systems.

O. Work together as a Region with the County, Legislators, and PennDOT to list needed transportation improvements on the Berks County's Long Range Transportation Plan and the Transportation Improvement Program.

P. Work with transportation organizations and agencies providing services to seniors to facilitate mobility of seniors by determining desired destinations and means of providing access to those destinations.

Q. Establish consistent road signage policies.

Reading Area Transportation Study (RATS)

The Reading Area Transportation Study (RATS), the Metropolitan Planning Organization (MPO) for Berks County, was created in 1964 through a legal agreement between the City of Reading, Berks County, and the Pennsylvania Department of Highways (now the Pennsylvania Department of Transportation). According to the Federal-Aid Highway Act of 1962, any urban area with a population of more than fifty thousand people must

maintain a continuing, comprehensive and cooperative ("3C") transportation planning process consistent with the comprehensively planned development of the urbanized area in order to be eligible to receive Federal funding for transportation projects. RATS enables Berks County to be eligible to receive state and federal funding for highway and transit system capital improvements and operations.

An area was delineated as the Reading urban area in accordance with the U.S. Bureau of Census boundaries for the Reading urbanized area and the identified area became the subject of continuous transportation planning which has proceeded from 1964 to date. In 1992, in response to both the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Clean Air Act Amendments (CAAA) of 1990, the study area was expanded to cover all of Berks County. This encompasses 864 square miles and includes 74 municipalities that have a 2000 Census population of 373,638. Additionally, the 2000 Census indicated that the Reading urbanized area contained a population of 240,264. On July 8, 2002, the Reading MPO was officially designated as a Transportation Management Area (TMA) and is therefore subject to additional planning regulations. This special designation applies to MPOs with an urbanized area of greater than 200,000.

There are two committees that comprise RATS: the Coordinating Committee and the Technical Committee. The Technical Committee is responsible for reviewing items brought before the group and recommending actions to the Coordinating Committee. The Coordinating Committee is the policy body that formally adopts items reviewed by the Technical Committee. The role of the MPO is to promote transportation plans, programs, projects and policies that are consistent with current federal transportation planning legislation and the Clean Air Act. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) is the current planning legislation. The transportation planning staff of the Berks County Planning Commission serves as the technical staff to RATS.

RATS recognizes the interconnection between transportation and land use issues. The Berks County Planning Commission works closely with local governments throughout Berks County on land use planning issues. However, under Pennsylvania law, implementation of land use policies is the responsibility of local governments therefore RATS has no authority over local land use planning or zoning.

The Berks County Planning Commission is the lead agency for the Region's Metropolitan Planning Organization, RATS. As the lead agency, the BCPC performs all tasks associated with the Unified Planning Work Program (UPWP). This includes Clean Air Act requirements, development of the PennDOT Twelve Year Program for Berks County, Transportation Enhancements, functional classification updates, and traffic volume counts.

Recommended Road Improvements

Intersection Improvements, Realignment, and Widening Projects

The following transportation improvements in the Region should be included in future transportation capital improvement budgets, as well as the PennDOT Twelve-Year Program where applicable. These intersections or roads have been identified as having one or more of the following characteristics: poor sight distance; bad alignment; lack of proper signage or signalization; insufficient width; and / or lack of turning lanes.

Recommended improvement projects for the transportation system for the Region are listed below. All proposed intersection improvements on State roads require PennDOT Highway Occupancy Permits. Note that inclusion of these intersections in this plan does not commit the Townships financially or legally to these projects.

Suggested Intersection Improvements / Signalization

1. PA Route 12 and Elizabeth Avenue – Sight distance
2. PA Route 12 and Skyline Drive – Alignment; Sight Distance
3. PA Route 12 and Antietam Road – Turning Lane; Sight Distance
4. PA Route 12 and Mt Laurel Road – Sight Distance
5. PA Route 12 and PA Route 73 – Turning Lane
6. PA Route 12 and PA Route 662 – Turning Lanes
7. PA Route 12 and Oley Furnace Road – Sight Distance
8. PA Route 12 and Orchard Road – Alignment
9. PA Route 73 and PA Route 662 (west) – Alignment
10. PA Route 73 and Friedensburg Road – Turning Lane
11. PA Route 73 and Main Street – Alignment; Sight Distance
12. PA Route 73 and PA Route 662 (east)- Alignment; Signalization
13. PA Route 662 and Oley Turnpike Road – Sight Distance
14. Friedensburg Road and Limekiln Road (Five Points) – Alignment

LONG RANGE PLANNING

The recent increase in proposed development in all three Townships will undoubtedly impact the transportation system in the Region. Therefore, it is important to discuss long range transportation recommendations to mitigate the implications of increased development. This section will present a vision for the future transportation network in the Region, including strategies for priority corridors, which were identified as the most critical to the Region in terms of a functioning transportation system.

Highest Priority Corridor - PA Route 12 / Pricetown Road

PA Route 12 in Alsace and Ruscombmanor Townships is the corridor most in need of future upgrades. This corridor contains the highest volumes of traffic in the planning region and is the principal access road to the City of Reading. It bisects the one of the Region's largest growth area, where future residential, commercial, and village development is expected. This impending development will increase traffic in the corridor, and eventually surpass the highway's carrying capacity. Access management is a critical issue along this corridor.

Highest Priority Corridor- PA Route 73

PA Route 73, with some of the highest traffic volumes, is the principal east/west route and the main transportation corridor in the Region. The highest density of development will occur along this corridor, including the Villages of Oley and Pleasantville. The high rates of development in suburban townships in Montgomery County, as well as Maidencreek, Amity and Douglass Townships in Berks County will result in increased traffic along PA Route 73. This plan does not recommend intensive development throughout the entire corridor, which would result in traffic flow problems.

High Priority Corridor- PA Route 662

PA Route 662, though not currently experiencing substantial traffic problems, is a key corridor in the Region. PA Route 662 is the primary route from the Region to the Borough of Fleetwood and Amity Township, which could receive higher traffic volumes if drivers seek alternate routes to US Routes 222 and 422.

High Priority Corridor - Friedensburg Road

The portion of Friedensburg Road from PA Route 73 to New Hope Boulevard should be monitored due to the presence of the schools and the impending residential developments. Access management, turning lanes, and /or road widening in sections are options that should be considered.

Long Range Strategies

The corridors identified are State owned and maintained with State and Federal funding. It is critical that the Townships continue communications with PennDOT and RATS, to discuss future planning and upgrades. Reactionary spot improvements will not suffice, and will ultimately lead to a poorly functioning transportation system. The Townships, PennDOT, and RATS need to agree on a vision for these corridors and plan accordingly to accommodate future development. Some of the improvements and concepts recommended by this Plan include the following:

- Road Widening: add travel and turning lanes to improve traffic flow. The Townships should include provisions for right-of-way preservation in their subdivision ordinances and develop standard design criteria to ensure seamless road corridors between Townships.

- Traffic Signal coordination: new traffic signals should be located at least one-half mile apart. The cycle lengths of each light should be coordinated to allow for smooth traffic flow along the corridor. Signals with self-adjusting timing mechanisms can optimize flow at intersections. Higher density and village development should occur near signalized intersections, to lessen the need for additional signals.

- Access management: An effective transportation system cannot allow unlimited land access. Every additional driveway and street intersection introduces traffic and reduces the road's ability to move traffic safely and efficiently. Especially within the growth areas, it is imperative to limit the access points, particularly along PA Route 12 and PA Route 73. This applies to Township collector roads as well. The Townships must discourage subdivision along the frontages of main transportation corridors to lessen points of access. PennDOT has developed guidelines for municipalities to use when formulating their own access management regulations. The Townships should coordinate with PennDOT to develop access management regulations to include in their respective ordinances.

- Act 209 Traffic Impact Fee: Steps required to establish and implement a traffic impact ordinance are shown in Table 8.3.

- Mass transit: The Townships, BCPC, and BARTA should discuss the feasibility of extending service out PA Route 12 to at least the Breezy Corners area.

Access Management

Access management is a concern for all of the roads in the Region, but particularly along PA Route 12 and PA Routes 73. The Townships should consider working with PennDOT to develop a joint access management plan for the area.

The major elements in access management include the following:

- Driveway design standards
- Access management regulations, in coordination with PennDOT.
- Limited number of road entrances

- Traffic Impact Analysis where development is proposed
- Left and right turn lanes constructed at road and driveway intersections
- Installation of medians
- Adequate parking lot/internal circulation design in developments
- Shared access to properties
- Interconnection of properties developed along roads
- Improved intersection design/spacing
- Signals at high volume driveways
- Control of access
- Direct new development access to roads with traffic signals.
- Prohibition of inappropriate turning movements

Transportation Development Districts

The Transportation Partnership Act (Act 47 of 1985 as amended) allows municipalities to create Transportation Development Districts to assist in the financing of transportation facilities and services including roads, railroads, and public transit systems. If municipalities propose a district, property owners who represent more than fifty percent of the assessed valuation in a proposed district must be in favor of the district. The creation of the Transportation Development District allows municipalities to impose assessments upon benefited properties in the District to construct transportation improvements. The needs for such districts along PA Route 73 and PA Route 12 should be monitored.

Congestion Management System Strategies

Congestion management system strategies have been used by some communities to reduce traffic. The major elements are:

- Creation of transportation management associations in which municipalities work with local businesses to identify measures to reduce travel demand. These may include:

  -- reducing vehicle concentrations at peak periods by staggering work hours;

  -- encouraging commuting by carpool and public transit rather than by single occupancy vehicles;

-- eliminating unnecessary commutes;

-- funding informal paratransit/vanpool operations.

With the potential for more commercial and residential development in the Region, the appropriateness of these strategies should be reviewed. The Transportation Plan Map includes Annual Average Daily Traffic (AADT) numbers for major road segments in the Region. High traffic volume areas, such as the PA Route 12 and PA Route 73 corridors, are most in need of congestion management techniques.

Impact Fees and Negotiated Financial Contributions

The Municipalities Planning Code allows municipalities to assess a traffic impact fee provided they have adopted a traffic impact fee ordinance. With a traffic impact fee system in place, a municipality can collect fees to finance improvements to the road system.

The Municipalities Planning Code indicates that when municipalities have prepared a multi-municipal plan, to allow for the provision of transportation capital improvements in a cooperative manner, the municipalities may cooperate to enact joint transportation impact fee ordinances.

In municipalities where traffic impact fee systems are not in place, financial contributions from developers for road improvements should be negotiated. Developer-financed road improvements at existing intersections and along road segments could correct current deficiencies and mitigate traffic increases associated with new development. Table 8.3 identifies the steps involved in setting up and implementing an impact fee ordinance.

TABLE 8.3
SUMMARY OF THE STEPS FOR IMPLEMENTING
TRAFFIC IMPACT FEE ORDINANCE

Task	**Responsible Entity**
1. Establish Transportation Service Area and appoint an advisory committee. *Note: Committee must be at least 7 members, can be the entire Planning Commission, with ad hoc members if necessary to meet the 40% builder/realtor requirement. Other than this, the committee cannot contain municipal officials or employees.*	**Governing Body**
2. Public Notice of Intent to implement a Traffic Impact Fee Ordinance. *Note: This allows for fees to start being collected and starts an 18 month clock, by which time the Ordinance must be adopted.*	**Governing Body**
3. Committee oversees preparation of Land Use Assumptions plan, holds public hearing, forwards to Governing Body for adoption.	**Impact Fee Advisory Committee**
4. Committee oversees preparation of Roadway Sufficiency Analysis and forwards to Governing Body for approval.	**Impact Fee Advisory Committee**
5. Committee oversees preparation of Capital Improvements Plan, holds public hearing, forwards to Governing Body for approval.	**Impact Fee Advisory Committee**
6. Impact Fee Ordinance text developed and Ordinance adopted.	**Governing Body**

Shoulder Improvements

Developers should be required to improve shoulders along the frontages of the tracts they develop. In addition, the municipalities should improve the shoulders along existing Township roads where appropriate. Shoulders should be wide enough to accommodate bicycles and pedestrians in accordance with the guidelines in the Statewide Bicycle and Pedestrian Master Plan. The Township's ordinances currently mandate these actions, and should continue to do so.

Gateways

Formal gateways should be considered at the entrances to the Region and Villages of Oley and Pricetown along the major highways. A gateway is an entrance corridor that defines the arrival point as a destination. Gateway planning addresses the arrangement of the landscape to create a visual experience that establishes a sense of arrival at the destination and provides a positive image of the destination. The Townships can work with property owners to enhance these gateways. Consistent road corridor overlay zoning could be adopted along the major roadways.

The primary gateways to the Region include both ends of PA Route 73 and PA Route 662, and PA Route 12. Gateway enhancement opportunities also exist at the entrances to the Villages of Oley, Pricetown, and Pleasantville. At these gateways, the Townships can work with property owners to enhance commercial areas through coordinated landscaping, signage, lighting, street furniture, paving materials, site improvement design, building facades, and window displays. When infill, redevelopment, or new development occurs, developers should be required to comply with performance and design standards that would address these elements. When new parking facilities are constructed, they should be landscaped, buffered, and located to the side or rear of buildings.

Signage should be minimal, and appropriate to the character of the Townships.

Property owners should be encouraged to maintain and improve properties, particularly those that may have negative impacts on surrounding properties. In places where the rear of commercial properties face or abut residential properties, the appearance of the commercial properties and their impact on the residences should be mitigated.

Scenic Roads

Scenic roads are an important element in the circulation system within the Region and should be maintained. Scenic roads include roadways that offer picturesque views of the surrounding countryside, or offer a pleasant drive under a canopy of trees. The Townships should decide whether it would be appropriate to adopt scenic road overlay

zoning along scenic roads. Within such overlay areas, greater setbacks along the roads may be required, additional landscaping and screening requirements may be established, and design standards for siting of buildings may be established in order to minimize visual impacts of any development.

Discouraging intensive development along the scenic roads also has another benefit. It can lessen traffic volumes and driveway intersections along roads, which are typically not suited for intensive traffic volumes.

Bicycle/Pedestrian Circulation

The Townships should incorporate bicycle and pedestrian improvements into the transportation planning process. The Community Facilities Plan recommends that the Townships strengthen their zoning and subdivision ordinances to ensure that bicyclists and pedestrians are accommodated in the transportation system. As roads are maintained and improved, design requirements for pedestrian and bicycle access should be addressed, such as the provision of bike lanes, sidewalks, and appropriate curb radii at intersections. Limiting radii at intersections to the minimum necessary to allow safe traffic flow can make intersections more pedestrian and bicycle friendly. According to the U.S. Department of Transportation, a curb radius measurement of zero to ten feet is safest for pedestrians. Pedestrian crossings at street intersections, particularly along the trail routes, should be facilitated by crosswalks, stop signs, and pedestrian islands. Gaps in the sidewalk system (where feasible) should be eliminated. New developments, particularly within Designated Growth Areas, should have sidewalks. Access to community facilities and commercial areas in the Region should be enhanced through expanded and repaired sidewalks and greenways and by establishing crosswalks. Streetscape amenities such as benches, trash receptacles, information signs, and landscaping should be provided in the villages where appropriate.

Safe Routes to School

This program is designed to work with school districts and pedestrian and bicycle safety advocates to make physical improvements that promote safe walking and biking passages to schools. Collectively, these efforts would save on school busing costs and promote a healthy lifestyle for children. In addition, some funding may be used for pedestrian education efforts. Examples of these types of improvements include sidewalks, crosswalks, bike lanes or trails, traffic diversion improvements, curb extensions, traffic circles, and raised median islands.

Traffic Calming

As development in the Region occurs and traffic volumes increase, residential streets and roads will have more traffic. Means of dealing with this additional volume include road improvements, providing increased opportunities for pedestrian and bicycle traffic, supporting efforts to increase automobile occupancy rates, and managing access. If these steps are not sufficient, the Townships may consider traffic calming techniques.

The purpose of traffic calming is to manage movement through an area in a way that is compatible with the nearby land uses. Streets should be safe for local drivers, and traffic should not adversely affect the quality of life of residents.

The general methods of traffic calming include the following:

- Active speed reduction (constructing barriers to traffic movements)
- Passive speed reduction (installation of signage)
- Streetside design (landscaping that changes the appearance of the area and driver attitudes)
- Regional planning efforts that direct external traffic to other routes
- Opportunities for use of alternative modes (mass transportation, pedestrian, bicycle)

1. *Active Speed Reduction (constructing barriers)*

    a. Speed humps and speed tables are raised areas in the street surface that extend across the width of the street. Speed humps present liability and are also annoying to local residents. Speed tables, which are really raised pedestrian crosswalks, may be more successful. They are most appropriate in areas with substantial pedestrian traffic.

    b. Changes in roadway surface may include rumble strips, milling, and special roadway surfaces. These techniques can increase noise in areas and raise objections from area residents.

    c. Intersection diverters may involve a barrier placed across an intersection, typically to alter travel plans, such as permitting right turns only, to make travel through a neighborhood more indirect.

    d. Channelization may involve provision of pedestrian refuge areas, providing protected parking bays through landscaped islands, altering motor vehicle traffic movements, and restricting movements at intersections by narrowing the space available for vehicular movement.

The active controls require changes in driver behavior. Although active methods convey that the street is not just for through traffic, such methods are costly, and can be viewed negatively by some.

2. *Passive Methods of Control*

   a. Traffic signs saying “Do Not Enter”, “Stop”, “Not a Through Street”, “Local Access Only”, “No Trucks”, or signs establishing speed limits, indicating one-way street, or prohibiting turns.

   b. Traffic signals.

   c. Pavement markings, including crosswalks, edgelines, and use of different materials for pedestrian crosswalks.

   d. Permitting on-street parking.

   e. Speed watch.

These methods have lower costs and can apply to only certain times of the day, if appropriate; however, signs are often ignored and enforcement is necessary.

The main emphasis should on the passive traffic calming techniques. Active traffic calming techniques should be used only if passive techniques are not successful due to their cost and the inconvenience of their construction.

Prior to implementing any traffic calming program, it is necessary to identify the specific problems to be addressed; identify and evaluate the alternative techniques and their drawbacks, benefits, and cost; to identify alternative traffic patterns that could result from implementation of the techniques and the effects of those patterns on other streets and neighborhoods; and to involve residents in the evaluation and selection of techniques. Such techniques should not detract from the character or visual quality of a neighborhood.

Capital Improvements Planning

Capital Improvements planning should be considered for programmed transportation improvements. Capital improvements planning includes financial analysis of past trends in the community, present conditions, and a projection of the community's revenues and expenditures, debt limit, and tax rates, to determine what the financial capabilities of the municipality are. It also includes a capital improvements program which establishes a system of priorities. The final element is the capital budget which lists the schedule of

improvements over a 5-year period on the basis of the community's financial capacity and availability of grant money.

In the capital improvements program, capital expenditures are separated from Operational expenditures. Operational expenditures are those for administration, payroll, employee benefits, maintenance and similar functions, and are short term. Capital expenditures are for assets which have a substantial value compared to the total municipal budget and are expected to provide service for a number of years. The construction of a road is an example of a capital expenditure.

The capital improvements program schedules the purchase of capital items in a systematic manner rather than allocating a large amount of money for all expenditures in one year. Based on the assessment of future needs, future expenditures are planned so that the municipality can anticipate major expenditures prior to the budget year. The program is based on identified capital needs, goals for capital acquisitions, and a priority list of all proposed capital expenditures.

A time frame is established for the capital improvements program. Five-year programs are typical. Every year the schedule for capital improvements must be revised and updated as necessary, based on the current municipal priorities. For each project included in the program, estimated costs must be established and a budget prepared.

Benefits of capital improvements programs include the following:

- It ensures that projects will be based upon the ability to pay and upon a schedule of priorities determined in advance.
- It helps ensure that capital improvements are viewed comprehensively and in the best public interest of the municipality as a whole.
- It promotes financial stability by scheduling projects at the proper intervals.
- It avoids severe changes in the tax structure by the proper scheduling of projects and facilitates the best allocation of community resources.