CHAPTER 8

CIRCULATION PLAN

INTRODUCTION

The goal for circulation is to achieve a safe and efficient regional circulation system which 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 within the region, and relieve congestion. Objectives for circulation are as follows:

Objectives:

- Coordinate land use and road improvement policies to maintain the integrity of existing and future roadways and support the reduction of vehicular trips.
- Preserve and improve the capacity of the existing roads within the area as future development occurs through cooperative efforts with developers and PennDOT as applicable.
- Monitor impacts on roadway capacity from new development and require developers to address projected increased traffic volumes in the road system by improving the existing system.
- Support the development of the Schuylkill Valley Metro system.
- Work to accomplish completion of the Route 422 By-pass from the Pottstown By-pass to the West Shore Bypass in the most efficient and cost effective manner.
- Promote coordinated access management programs along the road corridors within the area, to minimize the number of access points to the road system.
- Establish coordinated design, performance and signage standards for regional road corridors.
- Preserve the scenic road corridors within the region.
- Improve and expand bus and paratransit service in the region to connect residential areas, employment areas, commercial areas, and community facilities.

- Work with BARTA to enhance its bus system to attract riders.
- Provide maintenance of the existing road system as necessary.
- Work with State, County, and other municipal officials to address areas of traffic concern within and adjoining the region.
- Develop, expand, and link pedestrian and bicycle systems, including sidewalks, shared bikeways, paved shoulders, trails and greenways.
- Plan for a system of roads within future growth areas and existing developed areas to provide for convenient local circulation and access to primary routes of travel, such as consideration of a connection between Route 562 and Route 422 and linkages between subdivisions.
- Address existing deficiencies and safety concerns in the circulation system with landowners, PennDOT and developers as appropriate.
- Implement means of relieving congestion on area roadways, particularly Route 422, such as increased use of public transportation, improved traffic management and signalization policies, and relationships of workplaces and residence-serving businesses with residences.
- Improve intersections and turning movements along Routes 562, 662, and 422.
- Facilitate pedestrian and bicycle access to community facilities, including schools and recreation facilities.
- Develop policies to discourage the use of streets in residential areas as shortcuts for externally generated through traffic.
- Improve the safety of Route 422.
- Examine opportunities for transit-oriented development near stations of the Schuylkill Valley Metro.
- Expand multi-modal facilities in the region.
- Eliminate excess signage and traffic distractions.
- Work with businesses to implement congestion management strategies.

Future Functional Classification of Roadways

The future roadway classification is as follows:

Expressway/Major Arterials include: U.S. Route 422

Minor Arterials include: Route 82, Gibraltar Road (from Route 422 to the southern boundary of Exeter Township), East Neversink Road (from the West Shore Bypass to Route 422), Old Swede Road (Route 662), Boyertown Pike (Route 562), and Shelbourne Road.

Major Collectors include: Butter Lane, Bingaman Street, Five Points Road, Limekiln Road, Oley Turnpike Road, Gibraltar Road (from Shelbourne Road to Route 422), East Neversink Road (from the West Shore Bypass to Painted Sky Road, Painted Sky Road, Lorane Road, Lincoln Road, West Neversink Road (from Route 422 to East Neversink Road), Daniel Boone Road, River Bridge Road, Old Airport Road, Blacksmith Road, Monocacy Creek Road, Weavertown Road and Pine Forge Road.

Minor Collectors include: Wegman Road, Dautrich Road, Church Lane, Schoffers Road, Rugby Road, Stonetown Road, Pineland Road, Daniel Boone Road, Old Tulpehocken Road, Red Lane, Fairview Chapel Road, Weavertown Lane, Toll Gate Road, Monocacy Hill Road, Hill Road, Amity Park Road, Russel Avenue and Morlatton Drive.

Local Access Roads include: all other roads.

Proposed Road Improvements

Proposed road improvements are shown on the Circulation Plan and listed below. The municipalities will need to review these with the Reading Area Transportation Study and PennDOT in conjunction with the Route 422, Section 31S Corridor Study Alternatives Analysis which contains a number of candidate Short-Term, Medium-Term, and Long-Term Improvements to the Route 422 Corridor in Exeter and Amity Townships. Projects acceptable to the municipalities should be prioritized and programmed.

Route 422 Intersection Improvements - Eastbound

- Widen Rt. 422 and 47th Street at the intersection to provide right turning lane;
- Widen Rt. 422 and Lincoln Drive at the intersection to provide right turning lane;

- Widen Rt. 422 and Cardinal Drive at the intersection to lengthen existing right turning lane;

- Widen Rt. 422 and Fairview Chapel Road at the intersection to provide right turning lane;

- Eliminate access to Rt. 422 from Donna Drive due to sight distance problems;

- Improve Rt. 422 and Red Lane intersection to enhance sight distance;

- Improve Rt. 422 and S. Baumstown Road intersection to address alignment and sight distance problems. The intersection should also be widened to provide a right turning lane. In addition, S. Baumstown should be posted right turn only from Rt. 422 eastbound.

- Widen Rt. 422 and Riga Lane at the intersection to provide right turning lane for trucks serving the industrial facilities in this area;

- Widen Rt. 422 and Hill Avenue at the intersection to provide right turning lane;

- Improve the intersection of Routes 422 and 662 eastbound to provide for a left turning lane.

- Improve Rt. 422 and River Bridge Road intersection by installing a traffic signal eastbound.

- Improve sight distance at Stonersville Road and Rt. 422

Route 422 Intersection Improvements – Westbound

- Post no left turn on River Bridge Road and direct traffic to left turn on Maplewood Avenue.

- Improve Rt. 422 and River Bridge Road intersection by installing a traffic signal westbound.

- Routes 422 and 662 intersection, where pavement markings should be revised to provide a separate right turn lane for westbound traffic. This can be done within the existing cartway;

- Widen Rt. 422 and Maplewood Avenue at the intersection to provide right turning lane;

- Widen Rt. 422 and Old Airport Road at the westbound intersection to provide a left turning lane;

- Improve Rt. 422 and Monocacy Hill Road to address alignment and sight distance;

- Widen Rt. 422 and Daniel Boone Road at the westbound intersection to provide for a left turning lane;

- Widen Routes 422 and 82 at the westbound intersection to provide fro a left turning lane;

- Improve Rt. 422 and Pineland Road westbound intersection to provide a jug handle for traffic making right turns;

- Eliminate access to Rt. 422 from Hartline Avenue due to sight distance and inadequate shoulders and rights-of way;

- Eliminate access to Rt. 422 from Virginia Avenue due to sight distance and inadequate shoulders and rights-of way;

- Eliminate access to Rt. 422 from Fairmont Avenue due to sight distance and inadequate shoulders and rights-of way;

- Widen Rt. 422 and Lincoln Drive at the intersection to provide right turning lane;

Proposed Roads

Construction of a road segment facilitating access between Rt. 562 in St. Lawrence Borough and Business Route 422 in Exeter Township. The proposed road segment would connect Rt. 562 via Elm Street with a bridge over Antietam Creek to Dunham Drive and from Dunham Drive to Gibraltar Road. The alignment and construction in both the Borough and Township is being coordinated between Exeter and St. Lawrence. Completion of such a road segment will provide an alternative route to Shelborne Road, St. Lawrence Avenue, Prospect Street and Bingaman Street. Thereby, alleviating congestion on some of the local roads.

Parallel access roads should also be explored connecting Pineland and Daniel Boone Roads, South Baumstown Road and Rt. 422, South Baumstown Road and Riga Lane, Red Lane and Fairfield Chapel Road, Shelbourne Square Sopping Center and Loraine Road, Orchard Place and Wisteria Avenue, Woodland Avenue and Parkview Road, and 37th Street and Parkview Road. Thus providing an alternative to congested Rt. 422 and to

attract local traffic on routes on the fringe of developed areas. Their purpose would be to link subdivisions together and to the existing area circulation system and provide a more extensive road system throughout developed areas.

Improvements to Existing Areas of Concern

The future Transportation Map shows additional roadway concerns, including right-of-way preservation issues, pedestrian enhancement issues, access management issues and transit oriented development areas. Each municipality should continue to work toward improvement of these areas through multi-year transportation planning.

Cooperation Among Municipalities

While some road improvements will be handled on an individual municipality basis, cooperation of municipalities will be important, particularly along the major roadways, where the impacts of traffic have created congestion and can affect the quality of life in all municipalities. Of particularly regional importance are the Rt. 422, Business Route 422 and the Route 562 and 662 corridors.

Consideration should be given to forming a regional transportation authority. The authority could facilitate looking at all aspects of transportation, including transit, on a regional basis.

Scenic Roads

Scenic roads are an important element within the circulation system within the St. Lawrence, Exeter and Amity area and maintenance of a system of scenic roads is encouraged. The Future Land Use Plan proposes concentrating most future growth in areas where development has already occurred, and proposes substantial agricultural and open space areas, and this will help maintain the scenic road system. In Rural Conservation and Rural Preservation areas, developers will be encouraged to incorporate natural features and resources into an open space system within developments which do occur, and to site homes with consideration of the natural features and resources.

The municipalities should discuss whether it would be appropriate to adopt scenic road overlay zoning along scenic roads. Within such overlay areas, greater setbacks along the roads could be required, additional landscaping and screening requirements could be established, and design standards for siting of buildings could be established in order to minimize visual impacts of any development.

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

US 422 Bypass

The Steering Committee took a position during the development of this plan that it supports the development of a bypass of the current Route 422 through both Exeter and Amity Townships. In taking this position, the Committee did not identify a specific location for the corridor but identified the need to address congestion and safety in the long term.

PennDOT has prepared scenarios for partial bypasses within Exeter Township. The next step will be to pursue prioritization and funding of the bypass project with the Reading Area Transportation Study and PennDOT.

Schuylkill Valley Metro

After much debate, the Steering Committee also took a position on the location of the proposed Schuylkill Valley Metro stations in the Village of Douglasville and at the Lincoln Corporate Center in Exeter Township. The Committee felt that the proposed locations were not consistent with its proposed vision of the region and because: (i) the development of a station in the Village of Douglasville would have a negative impact on existing viable businesses in the Village, the historical character of the Village as well as a number of historical buildings located in the Village; (ii) the location of the Village does not lend itself to the effective and efficient flow of traffic and based on the existing location of Route 422 could have an impact on safety along the corridor; (iii) the population to support a proposed station lives to the north of Route 422 and the current alignment of the road does support a safe and convenient flow of pedestrians to and from the proposed station; (iv) the area adjacent to the proposed location at the Lincoln Corporate Center has been developed thus impacting the future expansion of the station or additional parking that may be required to support the station; and finally, (v) pedestrian access to this site is also impacted by the current road network and the lack of sidewalks and/or trails in the area.

The Committee recommended to the Berks County Planning Commission that consideration be given to a site north of the Borough of Birdsboro, along Route 82 and accessed from the Birdsboro Bridge in place of the proposed locations in Douglasville and at the Lincoln Corporate Center. The site was formerly a freight terminal along the Reading Railroad right-of-way. The Committee believes that this site provides the best location for the development of a Schuylkill Valley Metro station for the following reasons: (i) the site contains an existing station building; (ii) there is ample room for the development of parking associated with the station; (iii) ridership can be drawn from a larger geographic area, specifically Birdsboro and Robeson and Union Townships; (iv) pedestrian access to the site could be easily achieved for residents of the Borough, where sidewalks are in place; (v) the impacts from traffic generated by use of the station would

be minimized; and finally, (vi) the area lends itself to any future expansion that may be needed to support the station.

Mass Transit

Congestion on Route 422 is a major concern, particularly with traffic volumes expected to increase in the Region. Incremental steps can be taken to improve conditions along this road. One of those incremental actions is encouraging the development of the Schuylkill Valley Metro and the enhancement of the BARTA bus system.

If passenger rail service to the area is developed, a multi-modal facility should be established at the train station, to accommodate and facilitate pedestrian, bus, automobile and bicycle traffic. An objective will be to develop and then expand service rail service while encouraging BARTA to provide service to the proposed station. Elements in trying to develop and expand service will be well-located stops, attractive and safe stops with shelters and connections to the transit hub in Reading. The proposed trail system is designed to provide connections to public transit routes, pedestrian and bicycle routes to stops, and bicycle racks and safe shelter for bicycles.

As additional development occurs within the area, consideration should be given to addressing expanded routes throughout the area and provide greater access to the BARTA system. The expansion of routes could be planned in conjunction with the municipalities, BARTA, and area businesses. The Region should work with BARTA to encourage BARTA to provide adequate connections of the villages and borough via bus routes serving major residential, employment and retail areas, with cooperation with and support from the local business community.

The Transportation Plan shows a proposed Circulator Route, which would connect the proposed train station with a route along Route 422, Route 622, Route 562 and Shelborne Road with a connection to the Borough. If this would not be a regular BARTA route, then a system of mini-buses should run along Route 422 to connect the communities. Circulator access is also shown to the residential area in southern Exeter Township, the industrial areas along Lincoln Road and the Exeter High School and Middle School complex.

Additional transit service to the region is important to serve older residents who do not move freely throughout the Region, to provide access to such facilities as the Reading Hospital.

Providing park and ride systems should be encouraged. In the future, it may be appropriate to plan for a transit hub in Exeter, or where sufficient land would be available along Route 422 if land could not be secured in the Township. The Future Traffic Circulation Map identifies Park and Ride Facilities near the intersection of Route 422 and

Business Route 422, near Lincoln Road and Route 422, at the intersection of Route 82 and Route 422 and near the intersection of Route 662 and Route 422 in Douglasville. The use of carpooling throughout the area should be encouraged. Businesses within the area could take the lead in encouraging employees to carpool. Pedestrian access should be provided from Park and Ride facilities to Circulator stops.

Road and access road design in the future should consider accommodating potential bus traffic. As infill, redevelopment and development occur in the area where bus service is likely, provision should be made for pull-offs, stops and shelters and pedestrian access to the stops and shelters.

Access Management

Access management will be a concern along all roads within the area, but particularly along Route 422 and Route 662, and the collector road system. The municipalities should consider working with PennDOT to develop an access management plan for the area.

The major elements in access management include the following:

- Driveway design standards
- Reduce number of road entrances
- Traffic Impact Analysis where development is proposed
- Left turn lanes and right turn lanes constructed at road and driveway intersections
- Install medians
- Adequate parking lot/internal circulation design in developments
- Shared access to properties
- Interconnect properties developed along roads
- Improve intersection design/spacing
- Signalized high volume driveways
- Control of access
- Direct development access roads to signalized driveways
- Prohibit 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. Roads, railroads, and public transit are eligible. If municipalities propose a district, property owners who represent more than 50 percent of the assessed valuation within 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 within the District to construct transportation improvements.

While the Transportation Development District approach may not be appropriate at the present time, the appropriateness of it along Route 422 in Exeter and Routes 422 and 662 in Amity Township, and in the area of St. Lawrence Avenue and Route 562 in St. Lawrence Borough should be monitored.

Congestion Management System Strategies

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

- Employee trip reduction plans to increase average vehicle occupancy
- Creation of transportation management associations in which municipalities work with local business community in identifying travel demand reduction measures such as:
  - -- 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 para-transit/vanpool operations; and
  - -- hiring a transportation coordinator to organize transportation alternatives.

As increased commercial and industrial development occurs in the Region, the appropriateness of these strategies should be reviewed.

Impact Fees and Negotiated Financial Contributions

The Municipalities Planning Code allows municipalities to assess a traffic impact fee provided municipalities 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. Exeter and Amity Townships currently have traffic impact fee systems and should determine whether other areas should be included. One possible district which should be investigated for future development is at the intersection of Route 82 and Route 422.

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

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.

Shoulder Improvements

Developers should be required to improve shoulders along the frontages of their tracts when they develop. In addition, the municipalities should take it upon themselves to improve shoulders along existing roads. Shoulders should be a minimum of 4 ft. wide, but should be the minimum width necessary to provide for trails in accordance with the guidelines in the Statewide Bicycle and Pedestrian Master Plan.

Gateways

Gateways should be considered at the entrances to the St. Lawrence, Exeter and Amity area, especially at the entrances to the Borough and the Townships along major roads. A gateway is an entrance corridor that defines the arrival point as a destination. Gateway planning concerns arranging the landscape and visual experiences to help create a sense of arrival at the destination and provide a positive image of the destination. The municipalities can work with property owners to enhance the entrances. Consistent road corridor overlay zoning could be adopted along the major roadways.

Along the length of Route 422 and at various points, municipalities can work with property owners to enhance commercial areas through coordinated landscaping, signage, lighting, street furniture, paving materials, design of site improvements, building facades and window displays. When infill, redevelopment or new development occurs,

developers could be required to comply with performance and design standards, which would require them to address these elements. When new parking facilities are constructed, they should be landscaped, buffered and placed to the side, or preferably the rear of buildings.

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

Property owners should be encouraged to maintain and improve properties, particularly those that may have negative impacts on surrounding properties. Where the rear of commercial properties face or abut residential properties, attention should be paid to the appearance of the commercial property and its impact on the residences.

Design guidelines addressing the following elements could also be applied within the Region:

- discouraging the use of drive-thru facilities
- encourage new development to be compatible with and integrated into existing streetscapes, by addressing:
  - -- Maintaining appropriate siting patterns, such as setbacks of buildings on lots
  - -- Respecting the massing (volume created by sections of the building) within the neighborhood
  - -- Using materials of similar appearance and texture to those on existing attractive buildings
  - -- Using similar architectural details as other buildings in the neighborhood
  - -- Utilizing similar numbers and spacing of windows and doors in the facade
  - -- Maintaining the scale and proportion of buildings near the building. Scale deals with the relationship of each building to other buildings in the area and proportion deals with the relationship of the height to the width of a building and with the relationship of each part to the whole.
  - -- Using similar roof shapes

-- Maintaining similar footprints of buildings and rooflines (matching facade masses with existing buildings)

-- Utilizing similar entry treatments to buildings

-- Using similar building heights

-- Having store fronts, upper facades, and cornices of commercial buildings compatible with existing buildings

-- Using colors which are harmonious throughout the area

The use of coverage, density, intensity and yard bonuses for architectural treatments, building design, amenities, street furniture, open spaces and desired parking designs could be considered. The intent of bonuses is to provide incentives to developers, not just regulation, to allow economic use of property.

Pedestrian Circulation

As streets are maintained and improved, walkability should be addressed, including the radii at intersections. Limiting radii at intersections to the minimum necessary to allow safe traffic flow can make intersections more pedestrian friendly. Pedestrian crossings at street intersections, particularly along the major trail routes within the area, should be facilitated through crosswalks, stop signs, pedestrian islands, limitation of cartway radii and the use of pedestrian buttons and cycles that signalize street intersections. Access to circulator and bus stops from park and ride areas and neighborhoods should be enhanced. Gaps in the sidewalk system such as those along St. Lawrence Avenue should also be addressed. Access to community facilities and commercial areas in the Borough and Villages should be enhanced through expanded and repaired sidewalks and establishing crosswalks. Streetscape amenities such as benches, trash receptacles, landscaping and lighting can be provided in the downtown portions of the villages and Borough as deemed appropriate.

Parking Programs in St. Lawrence

Adequacy of parking in the Borough should continue to be monitored. If it is determined by the Borough to increase the availability of parking in the future, a number of issues could be addressed with regards to parking in the Borough:

- There needs to be public/private cooperation

- Identification/Direction to Existing Facilities (such as the Borough building)

- Tenants utilize spaces designated for tenants. Tenants living above commercial uses should not park in front of the commercial uses.
- Maintain existing on-street parking
- Permit and encourage sharing of spaces by private parties
- Investigate use of fee-in-lieu of parking option

Berks Vision 2020

The Comprehensive Plan for Berks County lists several transportation priorities which would affect the Region:

Short Range -

US 422 East (Exeter Township) – provision of improved channelization and intersection controls. This will conserve capacity and improve safety until a new region connection can be provided in the corridor.

US 422 Jughandle at SR 2033 (Shelborne Road) – construct jughandle turning lane in southwest quadrant of intersection to reduce congestion and improve safety.

US 422/PA 662 –Intersection – provision of west bound right turn lane from US 422 to PA 662 and related improvements to eastbound US 422 at River Bridge Road. These will conserve capacity and improve safety until a new regional connection can be provided in this corridor.

PA 82 Bridge – replacement of posted structure crossing Schuylkill River. This bridge provides for important access between growth areas on both sides of the river and to the Borough of Birdsboro.

Intermediate Range -

The County initiated a study of US 422 to assess a range of transportation solutions to satisfy long-term safety and capacity. The results of the study recommended functional, cost-effective improvements to address transportation, community and environmental needs of the corridor. A decision has not been made on whether the corridor will receive operational improvements sufficient to address safety

and congestion concerns until such time funding becomes available to complete the remaining expressway link.

US 422/Neversink Road Interchange – reconstruct this partial interchange to provide full range of movements and provide safe, efficient access to surrounding growth areas.

PA 562 – minor widening and realignment with improvements at hazardous intersections from US 422 Business to PA 73

PA 662 – minor widening and realignment with improvements at hazardous intersections from US 422 to PA 562.

Long Range - No long range projects listed in the area

Traffic Calming

As development in the Region occurs, and traffic volumes increase, there can be increased traffic flow on residential streets. Means of dealing with traffic volumes discussed previously are road improvements, increased utilization of mass transit, internalized trips within the area, providing increased opportunities for pedestrian and bicycle traffic, supporting efforts to increase automobile occupancy rates and parking lot opportunities, and access management. If those steps are not completely successful, traffic calming techniques can be considered.

The purpose of traffic calming is to manage movement through an area in a way that is compatible with the land usage in the vicinity of the road. Two fundamental principles of traffic calming are that streets are not just for cars and that residents have rights. Streets should be safe for pedestrians and local drivers and traffic should not adversely affect the quality of life along the streets.

The general methods of traffic calming include:

- Active speed reduction (construct barriers to traffic movements)
- Passive speed reduction (installation of signage)
- Streetside design (landscaping changes the appearance of the area and driver attitudes)
- Regional planning efforts (external traffic directed to other routes)

- Opportunities for use of alternative modes (mass transportation, pedestrian, bicycle)

Regional planning efforts and opportunities to use alternative modes have been discussed. The methods available along local streets include active speed reduction, passive speed reduction and streetside design.

1. *Active Speed Reduction (Construct barriers)*

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

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

   c. Intersection Diverters - This could 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 - This could 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. While the active methods send the message that the street is not just for through traffic, the methods are costly, and likely to be viewed negatively by some of the local users of the streets.

2. *Passive Methods of Control*

   a. Traffic signs such as Do Not Enter, Stop, Not a Through Street, Local Access Only, No Trucks, or signs establishing speed limits, indicating one-way nature of 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 be applied to certain times of the day, if appropriate. However, signs are often ignored in usage, and enforcement is necessary.

3. *Changing Driver Attitudes Within Neighborhoods*

Building design, street trees, landscaping, street furniture, lighting, paving, and land use can change the driver's perception of a road as not just an area to drive, but as a shared space with pedestrians and other occupants of the area. The intent is to have the driver recognize the street as not just a wide-open roadway designed for benefit of a car, but as a place where residents of a neighborhood will also be using the street. Any designs for streets should be compatible with the character of the neighborhood. Landscaping should be easy to maintain and not affect clear sight triangles.

Implementation

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

Primary Emphasis on Passive Techniques

Primary emphasis should be given to the passive traffic calming techniques. The use of active traffic calming techniques should be employed only if passive techniques are not successful because of the cost and inconvenience to residents.

Areas where more active traffic calming could be used would be on St. Lawrence Avenue and along the side-streets in the Village of Douglasville. Bumpouts could be considered at some street intersections. The bumpouts would physically protect parking and shorten the distance across the road for pedestrians.

Optimization of Traffic Signalization along Route 422

In order to increase system capacity and reduce intersection delays, traffic signal timing along Route 422 should be kept current.

Consideration should be given to implementing a closed loop system to enhance the operation of coordinated signalized intersections in the Route 422 corridor. Presently the signals in the Exeter could be coordinated with those in Amity Township. Currently there are several closed loop systems in operation within PennDOT District 5-0. The systems will require hardware (vehicle detectors) in the field as well as a computer, software and communication lines to a municipal office and to the PennDOT District Office. They will also require a consultant or employee trained to monitor the system. Although the system would allow for real time signal timing adjustments, PennDOT policy currently allows timing adjustments to be made only by PennDOT. This inhibits the ultimate effectiveness of the closed loop system; however as these systems become more prevalent, we expect that PennDOT will respond with a more effective policy.

Transportation Strategies

A set of priorities has been established to address specific issues within the region. Priorities have been identified as an immediate (1-2 years), short-term (3-5 years) and long term (5-10 years). The specific municipal body (i.e., Board of Supervisors/Borough Council or Planning Commission) responsible for the individual strategies have also been identified as well as the effective planning tool to implement the strategy.

Priorities

Immediate (1-2 years)	Implementation	Tool
Access Management Provisions	PC/BOS	ZO/SALDO
Capital Improvement Plans and Programs	BOS	CIP
Conservation Easements and Local Land Trusts	BOS/LLT	EP
Corridor Access Management Overlay District	PC/BOS	ZO
Official Maps	PC/BOS	OM
Residential Street Design	PC/BOS	ZO/SALDO
Site Analysis Plans	PC/BOS	SALDO
Slope Management	PC/BOS	ZO/SALDO
Traditional Neighborhood Development	PC/BOS	ZO/SALDO

Transit Design Standards	PC/BOS	ZO/SALDO
Transit Oriented Development	PC/BOS	ZO/SALDO
Vegetation Management	PC/BOS	ZO/SALDO
Traffic Calming Standards and Design	PC/BOS	ZO/SALDO

Short-term Strategies (3-5 years)

Park and Ride Programs	PC/BOS/PADOT	PRP
Pedestrian/Bikeway Facilities Design	PC/BOS	ZO/SALDO
Performance Zoning	PC/BOS	ZO
Right-of-Way Preservation	PC/BOS	ZO/SALDO
Riparian Buffers	PC/BOS	ZO/SALDO
Traffic Signal Systems	BOS/PADOT	
Village Protection Programs	PC/BOS	ZO/SALDO
Parallel Access Road Standards And Design	PC/BOS	ZO/SALDO/OM

Long-term (5-10 years)

Transfer of Development Rights	PC/BOS	ZO/SALDO
Parking Management Programs	PC/BOS	ZO
Traffic Impact Fee Ordinances	PC/BOS/IFAC	CIP
Trip Reduction Ordinances	PC/BOS	ZO

Implementation

PC – Planning Commission
BOS – Board of Supervisors
LLT – Local Land Trust
PADOT – Pennsylvania Department of Transportation
IFAC – Impact Fee Advisory Committee

Tool

ZO – Zoning Ordinance
SALDO – Subdivision and Land Development Ordinance
CIP – Capital Improvements Plan
EP – Easement Purchase
OM – Official Map
PRP – Park and Ride Program