

Appendix G

TRANSPORTATION and CIRCULATION SYSTEM INVENTORY

Introduction

The Transportation and Circulation System Inventory provides an assessment of the Township road network as it existed in 2004 including the location, ownership, and condition of roadways. As development and redevelopment occur, combined with growth in the surrounding region, increases in traffic volumes and changes in traffic patterns must be monitored to mitigate congestion and safety conditions while maintaining the scenic character of the Township and standard of living for our residents. Documentation and study of the existing conditions including safety, traffic volumes, and function of the Township roadways allows for the development of strategies to address future transportation and circulation needs.

Planning for transportation and circulation needs provides the opportunity to maintain a safe and efficient transportation system that is sensitive to the dominant residential character of the Township while providing an effective roadways system that manages traffic volumes of commuters traveling through the Township on critical arterial roadways. This Inventory is a culmination of findings of the Chester County Planning Commission and the preliminary findings (drafted in 2001) prepared by a consultant.

Circulation System

East Goshen Township is particularly dependent upon the roadway network for commuting to work, shopping and recreation. Land use patterns and the low density character of the Township make residents dependent upon the automobile.

There are approximately 18 miles of roadway in the Township that are owned and maintained by the Pennsylvania Department of Transportation (PennDOT), in addition to the more than 67 miles of roadway that are owned and maintained by the Township. All 85-plus miles of roadway are regulated by PennDOT.

The Township is comprised of a diverse network of suburban residential curvilinear streets, coupled with older narrow, winding country cartways, some bounded by tree masses and steep banks, and high traffic major thoroughfares connecting the Township with major roadways (Route 202 and Route 3) and employment centers (Great Valley, Philadelphia). The remaining rural quality of the older roadways has helped to maintain a rustic character in portions of the Township, while newer development has added more uniform suburban-scale street networks to the land use pattern of the Township. The network was not designed to support high volumes of traffic nor high rates of speed, but to serve a residential-based community. However, continued development in the region combined with commuter travel characteristics has resulted in increasing congestion on the existing major thoroughfares in the Township, particularly Paoli Pike, Route 352, and Boot Road, and has further created significant increases in non-local traffic on local residential streets.

Route 352 (North Chester Road) is the primary north-south roadway in the southern portion of the Township, where it splits into a dual north access route with Boot Road. These two north-south routes provide access links to Route 202, Route 30 (Lancaster Pike), and Route 3 (West Chester Pike) which integrate the Township in the regional network with access to primary employment centers in the Great Valley, King of Prussia, and Montgomery County to the north and east, and Philadelphia and Delaware County to the south and east.

The primary east-west roadway is Paoli Pike, which provides another access to Route 202 but also is the primary route for residents and commuters to West Chester and to the developing areas along Route 30. Another critical east-west roadway for the West Chester Region is West Chester Pike (Route 3), which carries the highest volume of traffic within the Township. This roadway has a significant impact to the southwest portion of the Township and is a critical element in the development of land use and transit policies in that portion of the Township.

A majority of the traffic patterns within the Township are oriented toward West Chester and the village of Paoli to the east. Traffic data indicate that this is becoming more diffuse as commuters whose employment is found in areas north and east of the Township dilute this dominance. Employment and regional shopping facilities are accessible from the Township along these primary thoroughfares. The diversity in commuting patterns is placing an increasing demand on those roads that provide links to the north and west.

The 1992 Township Plan recognized the problem of congestion and provided a series of recommendations to establish a balance between providing safe and efficient circulation and protecting the scenic resources of the Township. A 1997 Long Range Transportation Study conducted by the West Chester Regional Planning Commission identified congestion and lack of roadway capacity as critical problems across the region, and identified a series of recommendations for improvements in the Region, including several needed improvements in East Goshen Township. The objective of relieving roadway congestion remains valid in the 2004 Comprehensive Plan update.

In addition, problems of “cut-through” traffic, utilizing local residential streets to bypass difficult or backed up intersections, resulted in the establishment of a Township traffic calming program to examine in detail specific neighborhood traffic problems and devise physical or sign-related responses to these problems. This program is operated by the Township Local Traffic Advisory Committee, with final approval on all implementing measures by the Board of Supervisors.

Modes of Transportation

The 2000 Census indicated that 89% of Township residents relied on automobiles for travel to work (84% alone, 5% in a carpool) while only 4% used public transportation. These figures are very similar to those of the 1990 Census; however, the mean travel time to work has increased 16% from 24.9 to 29 minutes between 1990 and 2000. This trend could be caused by several factors: an increase in traffic congestion, that residents are acquiring jobs that are further from the Township, or people from more remote locations are moving into the Township while continuing to work at their previous location, resulting in generally longer commuting distances.

An important statistic from the 2000 Census is that the percentage of people working at home in the Township increased from 2.8% to 5.1%. The 2000 figure for Chester County was 4.9%. The increasing number of residents working at home is a positive factor from a transportation standpoint, resulting in fewer commuter trips on the roadway. However, such “home occupations” may also result in an increase in deliveries depending on the nature of the home business. The existing Township Zoning Ordinance limits deliveries for home occupations to one visit per day, and limits the size of delivery vehicles.

Bus Service – Public transportation service in the Township is minimal. There are 2 bus routes operated by the Southeastern Pennsylvania Public Transit Agency (SEPTA) within the Township.

- **Route 314** accesses the Goshen Corporate Park and runs along Boot Road and Paoli Pike with additional access points at QVC and the Brandywine Airport.

- **Route 104** operated along West Chester Pike and links to West Chester University at the western end of the route and the 69th Street Terminal at the eastern end.

Train Service – The nearest train stations for SEPTA are located in Elwyn (R3 line) and Malvern and Paoli (R5, the primary Main Line regional rail route). Amtrak service also operates on the R5 rail line, with stations at Exton and Paoli.

Pedestrian Facilities – Pedestrian facilities are limited in East Goshen Township. The Township, like other suburban townships in the surrounding region, experienced a boom of residential growth in the 1970s and 1980s. In an effort to preserve the rural character in the midst of this time of growth, the Township did not require new development to provide sidewalks or other pedestrian facilities. As a result, it is necessary for Township residents to access surrounding commercial and institutional (parks, library) facilities via an automobile.

In spite of this fact, efforts have been taken or are underway to promote pedestrian circulation in the community, where the existing pattern and future development make it possible. Hershey’s Mill, for example, provides a footpath through most of the development and provides a direct connection to commercial facilities in the Village Square Shopping Center (Genuardi’s).

In terms of recreational pedestrian facilities, East Goshen Township does have several miles of community walking and running trails. Connections have been installed from Linda Vista Drive and Taylor Avenue to the East Goshen Park. A trail has been constructed through the Applebrook Park that connects the Blacksmith Shop at East Boot Road and North Chester Road to the East Goshen Park on Paoli Pike. The portion of East Goshen Township Park north of Paoli Pike provides a one-mile loop of walking and running paths. The newer portion of the park, south of Paoli Pike and adjacent to Applebrook Golf Club and Line Road will provide another one-mile loop of walking and running trails. In addition, the Township, in conjunction with the developer of the Applebrook Golf Club, is committed to providing a trail along Line Road between Paoli Pike and East Boot Road which would provide a connection between the Golf Club, Bryn Mawr Rehabilitation Center, East Goshen Park, the Chester Valley soccer fields, and adjacent residential properties.

In a Township survey (2001), Township residents were asked, “How likely is it that anyone in your household would use a trail system?” 60% of those surveyed responded with *very* or *somewhat likely*. Of that 60% that answered positively, 97% said they would use the trail system for walking or jogging and 51% said they would use the trail for biking. More important than the positive response to the concept of a community-wide trail system and the identification of preferred activities, 50% of respondents said they would be willing to contribute at least \$5.00 a year in Township expense towards the construction and maintenance of trail facilities (almost 20% of that 50% said they would contribute \$20.00 a year). Recommendations for the expansion of trail facilities are discussed in Chapter 8, Transportation and Circulation System Plan.

Bicycle Facilities – Current facilities are limited to the actively used trails along Paoli Pike in the East Goshen Township Park, on both sides of the roadway. These trails are available for walking, running, non-motorized biking and rollerblading by Township residents.

Roadway Functional Classification

Determining the functional classification of roadways assists in the prioritization of road improvements and maintenance in respect to traffic volumes, adjacent land use, design, and the function and intent of roadways. Road functional classification is based on the analysis of average traffic volumes, existing

roadways design, relationship to other roads, perceived average trip length, directness of route between major traffic generators, and whether the roadways serve an access or mobility function. Roadways are designated as expressways, major arterials, minor arterials, collectors, local, or private roads. Map G-1 displays the functional classification established by the 1992 Comprehensive Plan. A general description of the classifications and the roadways within each category are as follows:

Expressways: These limited access roadways serve the heaviest volumes of traffic and have limited access to allow for higher speeds. Average daily trips range between 10,000 and 100,000. Expressways serve higher average trip lengths focusing on regional and interstate traffic. Expressways facilitate truck transport by providing the optimum conditions for truck traffic.

- Route 202 is a limited access expressway in the northwestern portion of the Township with a primary access point at Boot Road (which is in West Goshen Township).

Major Arterials: These roads serve heavy volumes of traffic generally ranging between 10,000 and 40,000 trips per day. They provide a high degree of mobility, but offer more access than expressways. Major arterials link urban centers and usually consist of more than two lanes. The major arterials in the Township are as follows:

- Route 352 (North Chester Road) is a two-lane road connecting with Route 30 in East Whiteland Township and Route 3 (West Chester Pike) in Westtown Township.
- Paoli Pike is primarily a two-lane road connecting at an interchange with Route 202 in West Goshen Township and West Chester Borough, and continues east to an intersection with Route 30 in Tredyffrin Township in the major commercial-residential growth center at Paoli. A small section of Paoli Pike between Route 352 (North Chester Road) and Boot Road has a third middle turning lane, while another small section between Airport Road and Ellis Lane has a four-lane configuration.
- Boot Road is a two-lane roadway with a middle turning lane north of Wilson Road up to the Route 202 interchange. It intersects with Route 352 (North Chester Road) at its southern terminus but continues north and west as far as the southern boundary of Downingtown Borough, ending at an intersection with Route 322.
- Route 3 (West Chester Pike) is a four-lane divided highway with turning lanes at most intersections. Although Route 3 crosses only a small portion of southwestern East Goshen Township, it is an important regional roadway connecting the Township to the Blue Route (Interstate 476) and Philadelphia to the southeast and West Chester Borough to the west.

Minor Arterials: Arterials of this type also emphasize mobility and serve to link urban and rural centers, but their focus is more regional. They provide for traffic ranging from 5,000 to 15,000 trips per day with higher access than principal arterials, but still have some access control. There are two minor arterials in the Township:

- East Strasburg Road is a two-lane road connecting from Dutton Mill Road to West Chester Pike in West Goshen Township.
- Greenhill Road is a two-lane road that serves primarily as a link between Boot Road and North Chester Road in the northern portion of the Township. It continues west to link up to Phoenixville Pike in West Goshen Township.

Collectors: A major collector links residential and commercial areas by "collecting" traffic from residential areas and moving it to arterials. This road classification accommodates traffic averaging 3,000 to 8,000 trips per day. There are twelve Township roads classified as collectors. They include:

- Ellis Lane, which connects Paoli Pike with East Strasburg Road and Route 3 (West Chester Pike), and provides the primary access for the East High School/Fugett Middle School campus.
- Airport Road, which is the primary access for the Brandywine Business Center, the QVC Studio Park, the Goshen Corporate Park West, and Brandywine Airport, connects Greenhill Road and Paoli Pike.
- Westtown Way, which provides a connection from Route 3 (West Chester Pike) to the Westtown Road-Route 202 interchange.
- Reservoir Road, which connects Paoli Pike with East Strasburg Road and Route 3 (West Chester Pike).
- East Boot Road, which links Route 352 (North Chester Road) with Sugartown Road in Willistown Township.
- Wilson Drive, a primary link between Boot Road, Airport Road, and the QVC Studio Park.
- Manley Road, which connects Route 3 (West Chester Pike) with Dutton Mill Road.
- Dutton Mill Road, which serves to connect East Strasburg Road with Sugartown Road in the village of Sugartown in Willistown Township, and also with Route 3 (West Chester Pike) in Willistown Township.
- Line Road, which connects with Dutton Mill Road at its southern terminus and intersects with Paoli Pike before terminating at Forest Lane.
- Forest Lane, which is a primary link between Route 352 (North Chester Road) and Line Road, but continues east to a terminus at Sugartown Road in Willistown Township.
- Morstein Road, which is link between King Road (in East Whiteland Township) and Boot Road in West Goshen Township.

Local: Local roads focus on access and often help to define the Township’s unique character. Roads in neighborhoods, subdivisions, and serving farms and estates are considered local and provide direct access. They are intended for very short distance travel and usually do not carry through trips. A majority of the roads and lanes within the Township fall under this category. All roads not otherwise noted are local roads.

Private: There are a number of private roadways within the Township. Most of the private roadways are within the Hershey’s Mill Village development. New private roads are maintained by the developments in which they are located, usually by a homeowners association. Current ordinance standards require private roads to be constructed to public street standards, with documentation regarding the maintenance, repair and use of private roads required to be submitted for review and approval of a subdivision/land development plan.

Traffic Volumes

Map G-2 displays average daily traffic volumes for roadways within the Township in addition to major traffic movements from traffic counts. Daily traffic volumes include both actual daily counts recorded by automatic tube counts and estimated volumes compiled by an established process. Traffic count data from the West Chester Regional Planning Commission Long Range Transportation Study is actual traffic data counted by an agency staff member and represents peak hour figures¹. The figures shown on the map are selected movements from the larger data to display primary trends throughout the Township. The actual study should be consulted for additional information.

It is evident that Route 3 (West Chester Pike) is the most traveled roadway in the Township because of its function and connectivity, with trip volumes of over 27,000 trips per day. However, West Chester Pike is

¹ A majority of the existing traffic counts for the Study were completed in 1995, while others were compiled between 1998 and 2000. Where applicable, counts were updated to 2000 values by using a growth factor of 2 percent per year (from West Chester Regional Planning Commission Long Range Transportation Study).

also a four lane divided highway, with turning lanes at major intersections, so this roadway is capable of operating at reasonable congestion levels. However, traffic volumes on Route 352 (North Chester Road) and Boot Road are at a high enough level as to spark serious congestion problems during peak periods, which is exacerbated at critical intersections where commuter traffic is added to these roadways. Paoli Pike also has some congestion problems, but the level of severity is generally not as high since critical links along the roadway have been upgraded. Volumes along collector roads in the Township are generally consistent with that roadway classification, but may produce problems where these roads provide multiple access points for residential developments and residential lots abutting these roads, which is the case along Greenhill Road and East Strasburg Road. The remainder of the roads within the Township experience substantially lower traffic volumes that are appropriate for local roads.

Traffic Movements

Nearly every intersection in the Township was counted for the West Chester Regional Planning Commission Long Range Transportation Study (1997)¹. It is not necessary to discuss every movement; however, there are several individual counts and movements that are important to examine in greater detail because they represent either a potential problem, trend, or pattern. The counts described by these numbers are for the evening (4-6 PM) peak hours.

Boot Road

As a result of the connection this roadway provides to Route 202 in West Goshen Township, and the small roadway profile of the existing roadway, every major intersection counted and analyzed displayed a level of high congestion, primarily from eastbound movements entering onto this roadway from employment centers along the Airport Road corridor.

Paoli Pike

Paoli Pike is a more static roadway in terms of traffic growth. This is primarily due to the relatively longer distance for commuters to travel from the Township to get to Route 202. However, there remain critical intersection congestion points during the PM peak especially at points of substandard geometric configurations relative to traffic volumes, or at points of high peak volumes, such as at Airport Road.

Route 352 (North Chester Road)

The primary connections for this roadway are for local residents, since the majority of the roadway links occur at other residential areas within the Township and in adjacent townships. Where this roadway develops traffic congestion problems is at intersections with tight configurations (such as at Paoli Pike) or at locations such as at Route 3 (West Chester Pike) where significantly higher volume roadways create a significant delay period on Route 352. The congestion from the East Strasburg Road intersection routinely backs up to Boot Road during the PM peak.

Route 3 (West Chester Pike)

Travel volumes counted directionally indicate only a slightly higher volume of traffic moving westbound versus eastbound. The volumes are higher on this roadway than on every intersecting road, creating significant backups on these intersecting roads during the PM peak. Of particular note for is the intersection of Westtown Way, where a signalized intersection resulting from poor geometrics creates significant backups on Route 3 whenever the signal switches over to Westtown Way.

Level of Service

Traffic congestion and safety are the two primary determinants in measuring the effectiveness of a roadway system. Congestion generally results when traffic volumes exceed the design capacity of a

roadway or when high volumes on conflicting movements occur at an intersection. Level of Service (LOS) analysis is a method developed by transportation engineers to “grade” how well an intersection functions. Traffic volumes, roadway capacity, number of lanes, configuration, and type of signalization are several factors that determine LOS. Level of Service is expressed in six designations that are analogous to a scholastic grading system, with “A” meaning excellent and “F” meaning failure. Table G-1 explains these designations more specifically.

Table G-1: Level of Service (LOS) Categories

“A”	Little or no delay for travelers / 40 percent or more reserve capacity.
“B”	Short traffic delays / 30-40 percent reserve capacity.
“C”	Average traffic delays / 20-30 percent reserve capacity.
“D”	Long traffic delays / 10-20 percent reserve capacity.
“E”	Intersection approaching failure condition with very long delays / less than 10 percent reserve capacity.
“F”	Intersection in failure condition with extremely long traffic delays / no reserve capacity (intersection already at or above capacity).

Source: *Circulation Handbook*, Chester County Planning Commission, 1994.

For non-signalized intersections with stop signs, it is not uncommon for the controlled movements (those forced to stop) to be at LOS “D” or “E” during the peak hour. A LOS of “D” was determined to be acceptable as a part of the Regional Long Range Transportation Study, and therefore a LOS of “E” or “F” is unacceptable. There are only a few movements within East Goshen Township found to be at level “E” or “F”. At such intersections, through movements and right turn movements on the uncontrolled approaches to the intersection tend to function well, while the efficiency of uncontrolled left turns and all controlled movements depends on how heavy volumes are on the uncontrolled movements. Low volumes on the uncontrolled movements result in relatively unconstrained turns and movements from the intersection approaches controlled by stop signs. High volumes on the uncontrolled movements, on the other hand, result in very short “gaps” through which opposing left turns or controlled movements can pass, resulting in longer wait times and poorer level of service. In other words, it can be difficult to cross or turn onto a higher level roadway from lower order side roads. Levels of service were generated for each of the intersection traffic counts completed for the Regional Long Range Transportation Study. Those intersections experiencing an unacceptable level of service are displayed on Map G-2.

Boot Road

Similar to the discussion on traffic volumes above, the amount of traffic on Boot Road causes problems at intersections with other roadways. The following intersections were analyzed as part of the Regional Long Range Transportation Study (intersection improvements since the study are noted):

- **Route 202 Interchange** – The interchange has a LOS of “F” for movements in either direction in the PM peak hour, which is a result of a short signal cycle for the on-ramps but delays from a 3-way cycle configuration.
- **Greenhill Road** – The current configuration at this intersection includes a signal, left-turn lane on Greenhill and additional lanes and left-turn lane with dedicated signal on Boot Road. However, significant delays continue due to longer than necessary cycles on Greenhill Road, resulting in a LOS of “F”.
- **Wilson Drive** – This intersection experienced a LOS of “D” for movements in either direction in the PM peak hour. Recent adjustments include a double left-turn lane from Wilson Drive to Boot Road north, with dedicated signal.

- **Paoli Pike** – This intersection has left-turn lanes and dedicated signals in all directions, with an additional right-turn lane on westbound Paoli Pike. Under this configuration, the intersection has a LOS of “F” due to the odd intersection angle. The Paoli Pike corridor is currently being studied in coordination with Willistown and West Goshen Townships.
- **Route 352 (North Chester Road)** – This intersection was signalized in all directions in 2002. The intersection had a LOS of “D” following the improvements made during 2001-2002, but maintains a Y-configuration. The change of flow should improve this intersection, thus upgrading the LOS from “F”. The additional signal should further improve the LOS at this intersection.

Paoli Pike

The volume/capacity problems along Paoli Pike are not as serious as those on Boot Road since many of the intersections evaluated in the Regional Long Range Transportation Study have since been improved with turn lanes and signals. However, congestion does occur during PM peak hours. The following intersections were evaluated in 1997 and again in 2003:

- **Airport Road** – The current configuration of this signalized intersection greatly improves traffic flow during the PM peak hour, but the T-intersection still limits the ability of Airport Road to efficiently disperse during the peak period. Under the current configuration, the eastbound approach operates at a LOS of “C” during the AM peak hour and “A” during the PM peak hour, the westbound approach operates at a LOS of “B” during both peak hours, and the southbound approach operates at a LOS of “C” during the AM peak hour and “D” during the PM peak hour, based on the 2003 traffic study. This intersection is within 500 feet of another critical intersection, discussed next.
- **Ellis Lane** – This is another T-intersection with Paoli Pike. This intersection is signalized, with a dedicated signal for the left-turn movement on Paoli Pike. Based on the 2003 traffic study, the intersection’s northbound approach suffers high congestion problems during the AM peak hour due to the location adjacent the East High School/Fugett Middle School campus at the southeast corner of the intersection, with the AM peak hour rating a LOS of “F”, while during the PM peak hour the LOS is “B”. This intersection otherwise suffers few problems, with LOS ratings no lower than “B” on the approaches on Paoli Pike. An adjustment in the signal timing during the peak period could reduce congestion, but generally this is a temporary problem.
- **Route 352 (North Chester Road)** – Prior to 2003, this intersection was the smallest of the two arterials in the Township. The configuration recently completed includes an expansion of all parts of the intersection to include separate left and right turn lanes and changes in the signal timing. Based on this change, the LOS is expected to improve to “D”.

In addition, the following intersections evaluated in the 2003 Traffic Study warrant some comment:

- **Reservoir Road** – The current configuration of this signalized intersection includes dedicated left turns on Paoli Pike. The primary limitations to traffic flow occur on Reservoir Road, which rated an LOS of “F” during the AM peak hour and a “D” during the PM peak hour. An adjustment to the signal indicator to allow additional time for traffic on the northbound approach would rectify this congestion at minimal effect to the Paoli Pike approaches.
- **Boot Road** – This signalized intersection has separate left and right turn lanes on all approaches except for the southbound approach, with dedicated signals for all left turns. The approaches on Paoli Pike generally operate within an acceptable LOS of “C” (“D” for the eastbound approach during the AM peak hour). The southbound approach on Boot Road operates at a LOS of “F” during the AM peak hour and “E” during the PM peak hour, while the northbound approach has a

LOS of “D” during both peak hours. The 2003 Traffic Study indicates that a dedicated through lane on the southbound approach would alleviate congestion problems during peak hours.

- **Line Road** – This unsignalized intersection displays most of the problems on Line Road, where the northbound approach operates at a LOS of “D” during the AM peak hour and “E” during the PM peak hour, while the southbound approach operates at a LOS of “F” during the AM peak hour and “E” during the PM peak hour. The Traffic Study includes a proposal to construct left turn lanes at all approaches to this intersection, with signalization when the conditions meet warrants.

Accident Information

Roadway safety is an important factor that can be measured in part by accident data. While accidents may be caused by a variety of factors, a number of accidents at a single location is an indicator that problems exist with the physical characteristics of a roadway or intersection. Accident data for this Inventory was provided by the Westtown-East Goshen Regional Police Department. PennDOT also keeps records of accident data in a summary format by location of the reported accident collected over a period of years. Reported accidents include only those that involve injuries, fatalities, or excessive property damage and therefore the actual number of accidents that have occurred may be higher. Map G-3 displays accident data for East Goshen Township for the years 1996 through 2000 (data reported by PennDOT).

According to the Westtown-East Goshen Regional Police Department, there were two roadway intersections that had a high incidence of accidents. One is the intersection of Route 352 (North Chester Road) and Boot Road, which had 21 reported accidents in 2000 prior to the intersection becoming signalized. The other is the intersection of Boot Road and Paoli Pike, with 15 reported accidents in 2000.

Accident data provided by PennDOT from 1996 through 2000 indicate that there were 499 reported accidents in the Township during the 5-year period. Of those accidents, over 67% occurred in dry conditions (surface pavement), and almost 74% occurred under no adverse weather conditions. A vast majority of accidents, 68% occurred during daylight hours. In addition, the highest occurrence of accidents was on Fridays (98 reported accidents, or 19.6%), and the time period most likely to experience accidents was from 4-7 p.m. (121 reported accidents, or 24.2%). The highest occurrence of accidents in a month was December (59 reported accidents, or 11.8%).

Data further indicate that about 52% of reported accidents resulted in injury as well as property damage to the vehicle(s) involved, with a total of 17 major injuries and 3 fatalities.

Roadway and Bridge Conditions

The roadways within East Goshen Township are generally in good condition as identified during field surveys in 2002 for this Inventory. A few of the Township’s roadways have narrow cartways, limited shoulders, and a winding and rolling nature, including portions of Route 352 (North Chester Road) north of Paoli Pike. This situation creates limited sight distances along some road segments and intersections in addition to sharp curves and poor intersection alignments. Additional features include steep adjacent terrain, steep grades, heavy vegetation near shoulders, and structures close to roads that can affect traffic safety, yet are fundamental to the scenic character and aesthetic value of East Goshen Township. Many of the residential subdivisions contrast to the older established roadways in their construction and design, thus ensuring traffic safety but do not contribute the same scenic attributes.

Road maintenance on Township roads is carried out by the East Goshen Township road crew with facilities just south of the Township Building on Paoli Pike. The Director of Public Works oversees the

Township road maintenance crew and is in charge of maintaining and carrying out the Township’s multiple year road improvement program and maintaining Township roads. The road improvement program involves the scheduling of improvements based on several criteria, including need, severity of hazard and budgetary limitations. The roadmaster conducts a comprehensive survey of all Township roads each year. This survey identifies hazardous road conditions for each segment of roadway owned and operated by the Township.

There are a number of small bridges in East Goshen Township, including five municipal, one County, and nine State Bridges according to 1997 PennDOT data. The County-maintained bridge is on Dutton Mill Road which spans Ridley Creek. This bridge is posted for one lane of traffic and a weight limit of 12 tons. Two municipal bridges are too small for two travel lanes, one on Reservoir Road built in 1920, and the other on Westtown Way built in 1916. There are many additional culverts throughout the Township which, in a few cases, can be problematic due to poor maintenance or inadequate capacity. However, all bridges and some culverts are inspected by the State on an annual basis.

Capital Improvements

The PennDOT 12 Year Program is a capital improvements program that identifies transportation improvement projects recommended by Chester County legislators, municipalities, and planning commissions. This listing of recommendations is submitted to PennDOT as the Chester County Highway Improvements Inventory. PennDOT submits these recommendations to the State Transportation Commission every even-numbered year. The Commission adopts a list of projects after a public review process. This list includes project descriptions, estimated costs, and phasing for the next twelve years. Table G-2 represents information from the adopted 2003 PennDOT Twelve Year program and recommendations from the Chester County Highway Improvements Inventory. The phasing of engineering, right-of-way, and construction of each project is listed as recommended by the Chester County Planning Commission and the adopted PennDOT program. The adopted 12-Year Program included only the Closed Loop traffic signal system for East Goshen Township.

**Table G-2: PennDOT Twelve Year Program - 2003
Proposed Projects in East Goshen Township**

Project	Improvement Type	PennDOT Phasing (years)	
		Engineering	Construction
Township Closed Loop System	Congestion Reduction	1-4	1-4
*PA 352 at Boot Road (1)	Widen and Realign	1-4	1-4
*PA 352 at Paoli Pike(2)	Channelize	1-4	1-4
*Paoli Pike Bikeway	Bicycle/Pedestrian	5-8	5-8
**Dutton Mill Bridge over Ridley Creek	Replacement	9-12	9-12
***Paoli Pike: Boot Rd to 5 Points Rd	Capacity Improvements	5-8	9-12
***Boot Road/Greenhill Road	Capacity Improvements	5-8	9-12
***Paoli Pike/Boot Road	Capacity Improvements	5-8	9-12
***Boot Rd: Paoli Pike to Wilson Road	Capacity Improvements	1-4	5-8

Source: 2003 PennDOT Twelve Year Transportation Program, 2001 Chester County Highway Improvements Inventory.

*Recommended by Chester County Highway Improvements Inventory but not included in the PennDOT 12 Year Program

**Non-State Bridge projects typically are not funded by the PennDOT.

***Projects that were not prioritized by Chester County for inclusion in the PennDOT 12-Year Program but are included in the Chester County Highway Improvements Inventory.

(1) PennDOT completed work at this intersection in 2003.

(2) East Goshen Township undertook and completed this project in 2004 via its Capital Improvements Plan.

Traffic Calming

In public workshops held in 2000 and 2001, residents from several neighborhoods expressed interest in implementing traffic calming measures to address problems of “cut-through” traffic or speeding vehicles. These neighborhoods, and the primary reason for considering traffic calming, are:

- Grand Oak/Bittersweet (local speeding)
- Vista Farms (cut-through traffic)
- Highland/Taylor (cut-through traffic)
- Wentworth (cut-through traffic)
- Pin Oak/Marydell (local speeding)
- Bowtree (local speeding)
- Clocktower (local speeding)

In response to these requests, the Township created the Local Traffic Advisory Committee (LTAC) in 2001 to review and make recommendations on requests for traffic calming measures, such as speed humps. The procedure followed by the LTAC is consistent with the guidelines set forth in PennDOT’s Traffic Calming Handbook, and it requires that at least 70% of the property owners in the effected area support the proposed traffic calming measure.

As of 2004, there are seven traffic calming improvements slated for installation or already completed. Both improvements are speed humps to be installed near the north and south ends of Waterford Road in the Charter Chase subdivision, while there are five speed humps to be installed in the Waterview subdivision.

Scenic Roads

The East Goshen Township Open Space, Recreation and Environmental Resources Plan (1993) identifies a series of scenic resources including scenic roads and vistas from roadways. Three scenic resources including landscapes, roads, and vistas are discussed in the document. To date, scenic roadways exist only in the capacity of this document; there are no maps, strategies, regulations, or policies that have been officially adopted by the Township to protect these roadways. Planning for scenic roads is an integral part of maintaining the character of a community. However, the very elements that make a road scenic are often characteristics that detract from the safety of a roadway. For this reason, planning for scenic roadways must be done carefully, with some give and take allowed to maintain both the scenic quality of a road while providing for appropriate traffic volumes and an acceptable measure of safety.

Identified as scenic roads in the Open Space, Recreation and Environmental Resources Plan are the following:

- Paoli Pike (Chester Road/Route 352 to Line Road)
- Line Road (Forest Lane to Dutton Mill Road)
- East Boot Road (Chester Road/Route 352 to Line Road)
- East Strasburg Road (Christine Lane to Willistown Township border)
- Manley Road (Walnut Hill Road to Hill Street, and Edith Lane to Dutton Mill Road)
- Dutton Mill Road (Manley Road to East Strasburg Road)
- Hershey Mill Road (East Whiteland Township border to Greenhill Road)
- Tanglewood Drive (Hershey Mill Road to Candytuft Lane)
- Morstein Road (Barkway Lane to East Whiteland Township border)

- Reservoir Road (Bramble Lane to West Chester Pike/Route 3)

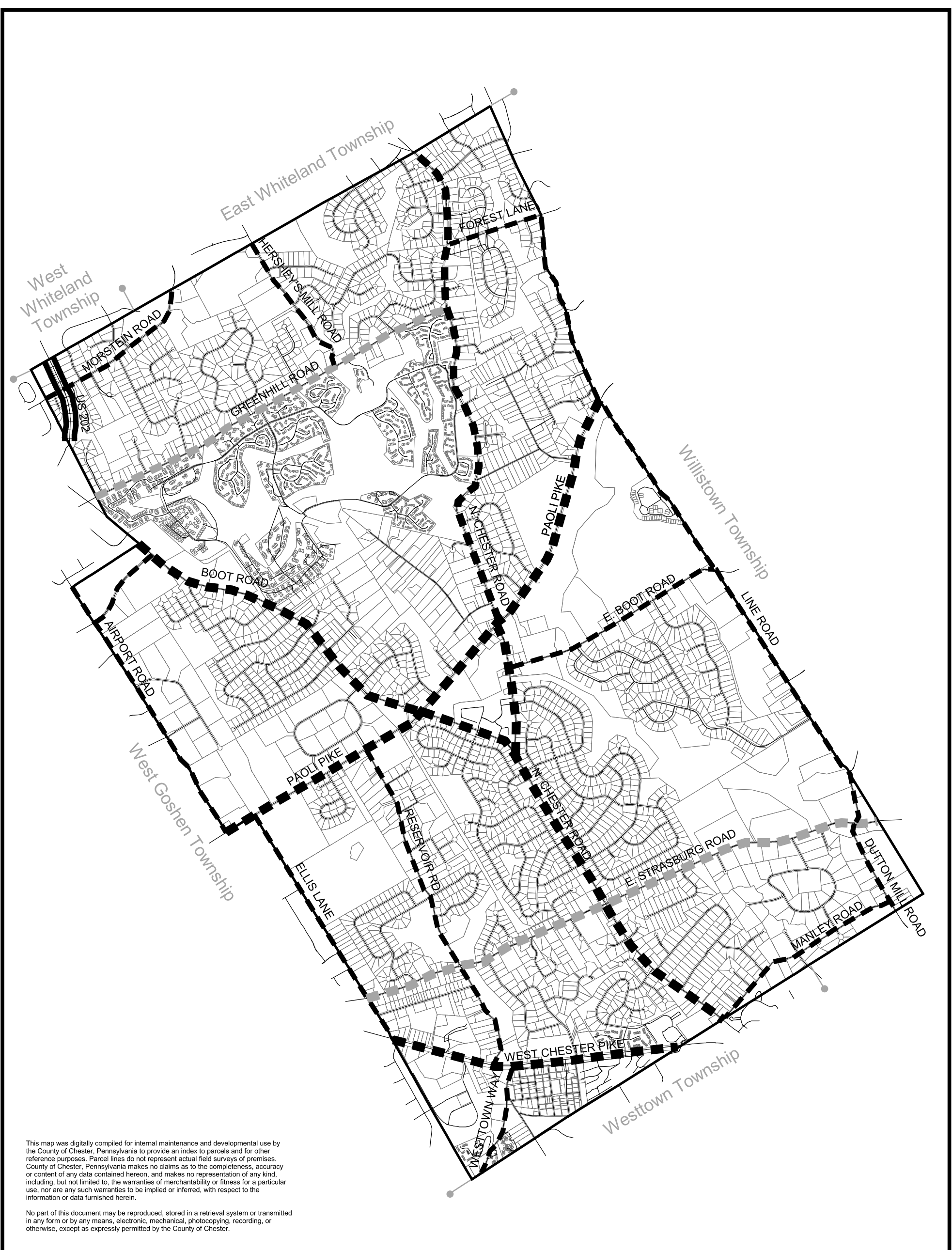
These roads are described in further detail in Appendix E, Historic and Cultural Resources Inventory.

Regional Transportation Issues

The West Chester Regional Planning Commission has developed several planning studies for use and implementation by member municipalities. One such study, the Long Range Transportation Study (1997) evaluated roadways and intersections in the Region and made a series of 22 recommended improvements for highways, local road links, and intersections in the Region in order to address deficiencies in services. A Functional Classification Study was completed and adopted by the Regional Planning Commission in 1994. This study compared the existing functional classifications of roadways within the Region versus the existing service characteristics and traffic flows, and provided a set of recommended changes to existing classifications so as to address discrepancies between the classification and existing service, and to address inconsistencies between municipalities concerning shared roadway corridors. The Commission awarded a contract in January 2004 for a Circulation Impact Needs Assessment for the northern and southern tier of the Greater West Chester Regional Area, including expansion of the Route 202/322 interchange. This Assessment will include the development of alternative implementation options, and an analysis of the pros and cons of each option, as well as specific land use issues involved with each alternative.

The Regional Planning Commission has functioned as a joint study group to attempt to bring more uniformity to the planning and development process across the Region, and to address issues of shared impact. Future transportation issues of concern to the West Chester Region should address continued and new deficiencies in the Region's transportation network, and how to coordinate effective development policies to pool resources for alternative transportation methods. Of particular concern are traffic impacts from pass-through traffic (commuter traffic that cuts across townships on the way to major employment and commercial retail centers); providing a balanced multi-modal transportation system, with regard to transit; and developing a coordinated pedestrian/bicycle trail network for the recreation and transportation purposes of the Region's residents.

In 2002, the Township initiated a multi-municipal corridor study in coordination with West Goshen Township and Willistown Township. The focus of this ongoing study is the Paoli Pike corridor from Cedar Hollow Road in Willistown Township to Five Points Road in West Goshen Township, and addresses issues such as the timing of signals.



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MAP G-1

East Goshen Township

Comprehensive Plan

June 2005



2000 0 2000 Feet

Data Source: Municipal Border, Parcels - Chester County Bureau of Land Records, 1999; Roadways - Chester County Bureau of Land Records, 2002; Functional Classification - East Goshen Township Comprehensive Plan, 2002.

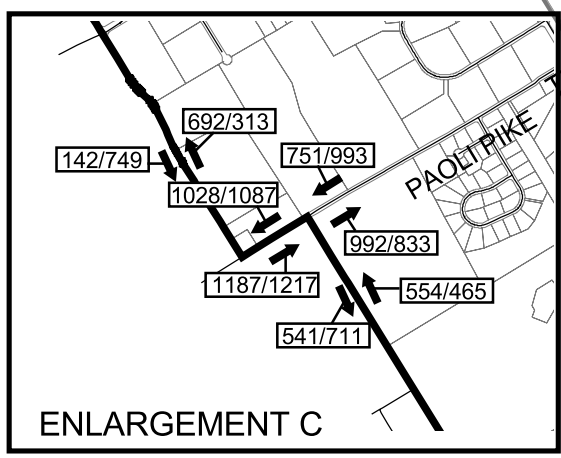
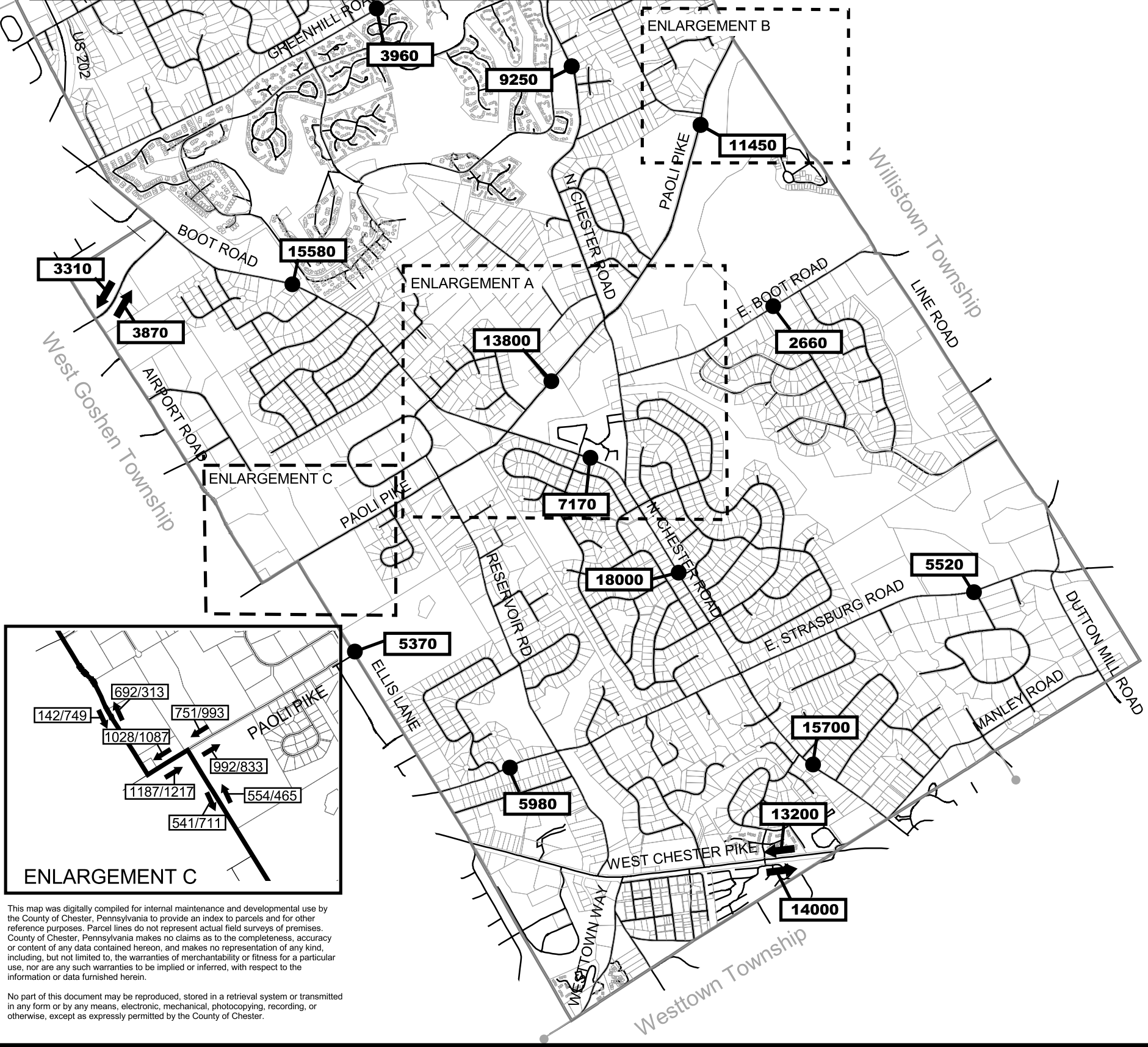
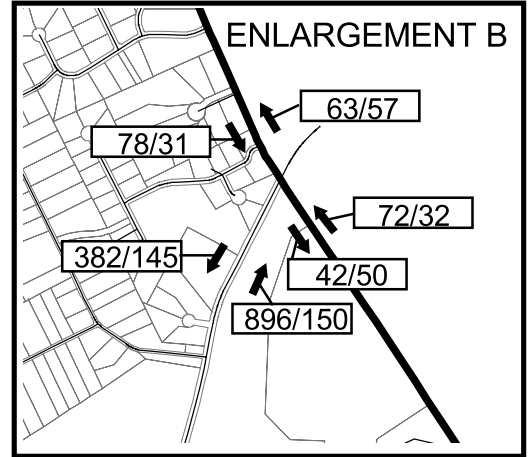
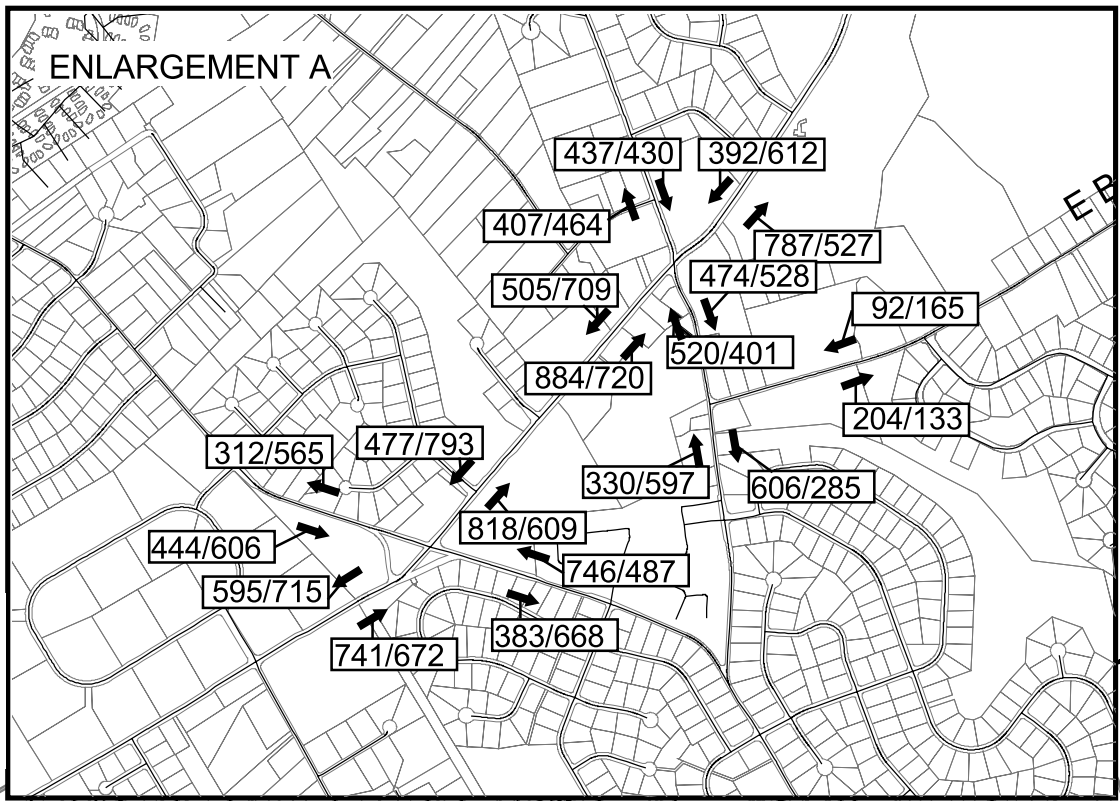
Current Functional Classification Map

ROADWAY INFORMATION

- Expressway
- Major Arterial
- Minor Arterial
- Collector Road
- Local or Private Road

ROADWAY INFORMATION

- Parcel Lines
- Municipal Border
- Roads
- Surrounding Municipal Boundaries



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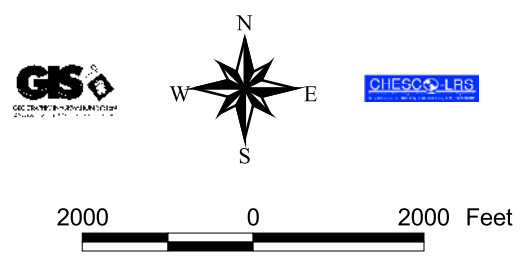
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MAP G-2

East Goshen Township

Comprehensive Plan

June 2005



Data Source: Municipal Border, Parcels - Chester County Bureau of Land Records, 1999; Roadways - Chester County Bureau of Land Records, 2002; Traffic Volumes - Orth Rogers, 2001; Chester County Planning Commission, 2003.

Traffic Volumes Map

- AADT
- AM Peak/PM Peak

BASE INFORMATION

- Parcel Lines
- Roads
- Municipal Border



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MAP G-3

East Goshen Township

Comprehensive Plan

June 2005



2000 0 2000 Feet

Data Source: Municipal Border, Parcels - Chester County Bureau of Land Records, 1999; Roadways - Chester County Bureau of Land Records, 2002; Summary Accident Data - PennDOT, 2003; Chester County Planning Commission, 2003.

Accident Map

MIDBLOCK ACCIDENTS (1996 - 2000)

• 1 - 6 ● 7 - 12 ● 13 - 18

INTERSECTION ACCIDENTS (1996 - 2000)

* 1 - 6 * 13 - 18
 + 7 - 12 + 19 - 24

BASE INFORMATION

□ Parcel Lines

∩ Roads

▭ Municipal Border

● Surrounding Municipal Boundaries