

Existing Conditions of Potential Atglen Train Station Technical Memorandum

Prepared by the Chester County Planning Commission

June 30, 2011

Introduction

The planning and construction of a passenger rail station in Atglen Borough, Chester County is one part of an initiative to extend SEPTA commuter service on the Paoli-Thorndale line, formerly known as the SEPTA R5 line, approximately 12 miles west of its current terminus in Thorndale, Caln Township.

This report is prepared in anticipation of a technical study in the Delaware Valley Regional Planning Commission's (DVRPC) Fiscal Year 2012 Work Program for development of a station concept for a passenger rail station in Atglen Borough. The scope of this memorandum, therefore, is to summarize existing conditions and outline station requirements for the benefit of Atglen Borough, the Chester County Planning Commission, SEPTA, and the prospective consultant team of the FY12 DVRPC Work Program study.

The memorandum is organized and presented as follows:

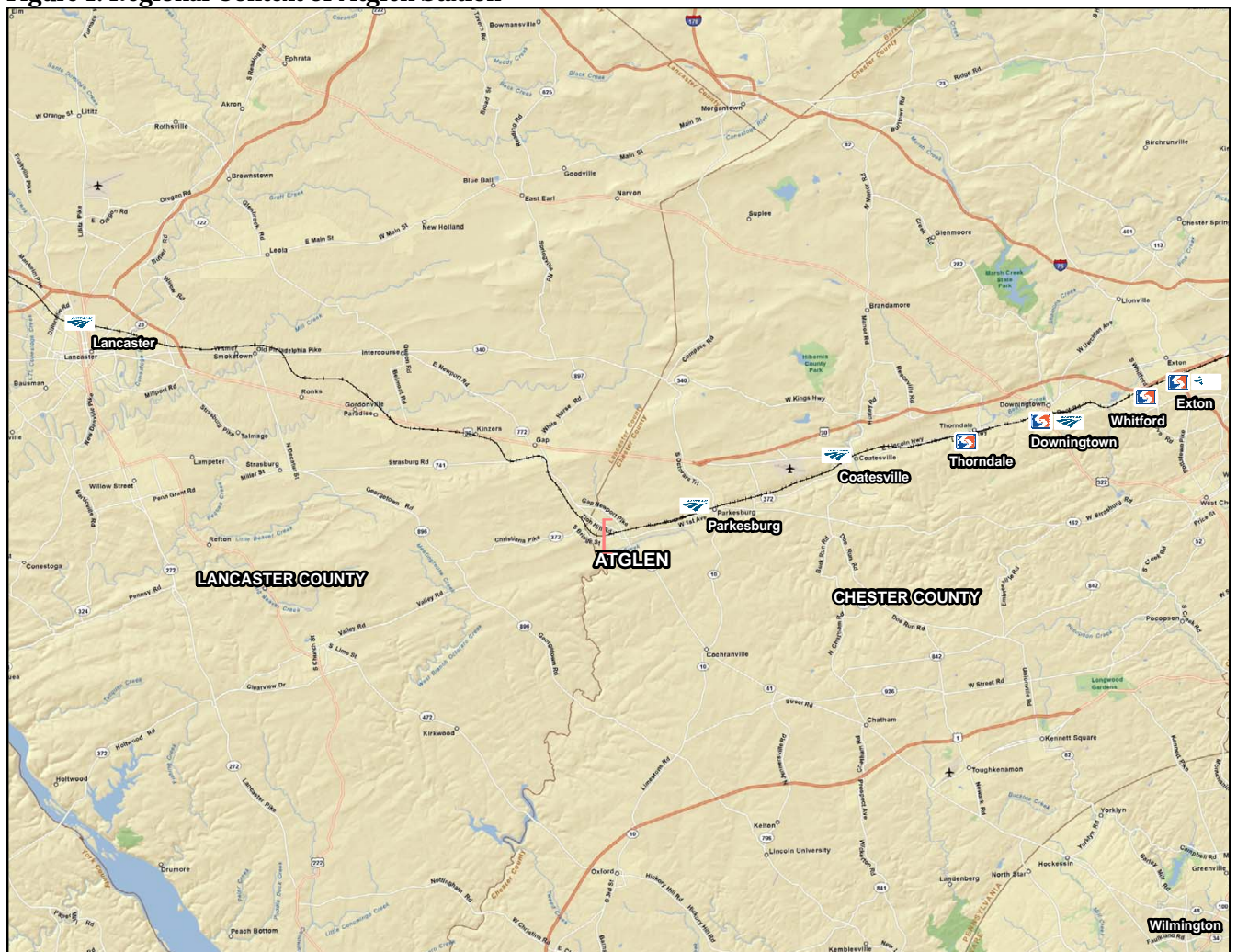
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Regional Context

The Borough of Atglen is located at approximately milepost 47 on Amtrak's Keystone Corridor between Philadelphia and Harrisburg. Suburban Station in Center City Philadelphia is located 47 track miles to the east of Atglen; Harrisburg is 57 track miles to the west. The proposed station is located approximately 12 track miles west of Thorndale (MP 35), the current terminus of SEPTA commuter rail service on the Paoli-Thorndale line.

From a highway context, Atglen Borough is located along PA Route 41, a major arterial roadway that connects US Route 30 to US Route 1, Interstate 95, and the Port of Wilmington, Delaware, which is located 25 miles south of Atglen.

Figure 1: Regional Context of Atglen Station



Historical Context¹

Atglen Borough, formerly known as Penningtonville, was serviced by the Philadelphia & Columbia Railroad upon the completion of the railroad in 1834. The topography of Chester and Lancaster counties situated Atglen as the final station within the Chester Valley before turning north and transitioning into Lancaster County via Christiana and Gap.

The strategic location of Atglen Station was bolstered in 1905, when the Pennsylvania Railroad constructed the Atglen & Susquehanna Branch (also known as the Low-Grade Line) which traversed Lancaster County to the Susquehanna River. The two railroads ran parallel through Atglen and connected in Parkesburg at Park Interlocking via a structured duckunder. In 1905 the Pennsylvania Railroad also constructed a new passenger station in Atglen, as pictured in Figure 2.

Passenger service to Atglen ended in 1952. The passenger rail station was demolished in 1965. Lancaster station to the west and the Parkesburg and Coatesville stations to the east with inter-city passenger service are continued to be served by Amtrak inter-city rail service. SEPTA passenger service was extended beyond Downingtown to Coatesville and Parkesburg in 1991; however, service was terminated in 1995 due to low ridership and high operating costs. Freight service on the Atglen & Susquehanna Branch terminated in 1988; the tracks of this line were removed in 1990. Figure 3 displays the existing conditions of site, showing Amtrak's two primary tracks only remain in service in Atglen.

In 2010-2011, Amtrak will be replacing the historic catenary lines along the old Atglen & Susquehanna Branch right-of-way with new transmission lines funded from the America's Recovery and Reinvestment Act (ARRA). From this upgrade various historic markers and/or kiosks will be erected along this corridor telling the story of the old Atglen & Susquehanna Branch freight line. One such kiosk is to be set in Atglen Borough at the proposed station site where the old freight line was once located. The kiosk will be further discussed in the Station Requirements section of this report.

¹ Historical context primarily summarized from *Triumph II: Philadelphia to Harrisburg 1828-1998* by David Messer, 1999

Figure 2: Atglen Station, 1909



Source: Chester County Historical Society, West Chester, PA

Figure 3: Atglen Station Site, 2011



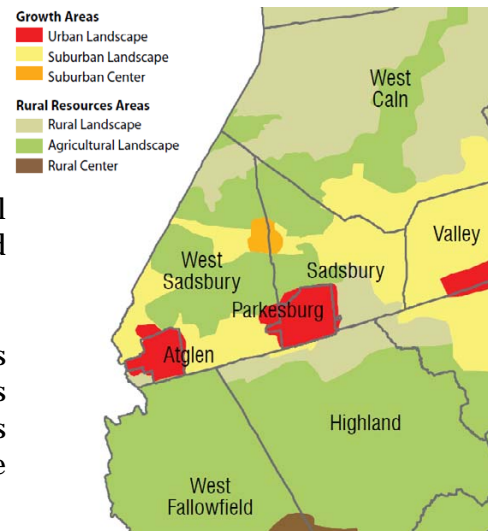
Comprehensive Planning Context

The restoration of rail service and construction of a new passenger rail station in Atglen is supported by comprehensive plans at the regional, county, multi-municipal, and municipal levels. A brief description of each relevant plan is included:

Connections 2035: Delaware Valley Regional Planning Commission (DVRPC)

Atglen Borough is defined as a “growth suburb” in the plan’s designation of planning areas and centers. Parkesburg Borough is defined as a “rural center.” The surrounding municipalities are defined as “rural area.”

The Paoli-Thorndale line extension to Atglen is listed as a major regional transit project in DVRPC’s 2035 Long Range Plan, *Connections*. The project is listed for \$56.9 million of construction funds for the 2010-2015 timeframe.



Lancaster County Growth Management and Long Range Transportation Plans

Lancaster County’s Growth Management Plan identifies the Christiana-Gap urban growth area, which includes Christiana Borough and portions of Salisbury and Sadsbury townships.

Within Lancaster County’ Long Range Transportation Plan, a proposed Amtrak station in Paradise Township is listed within the Plan’s “Unfunded Projects/Needs” section.

Landscapes2: Chester County Comprehensive Plan

Chester County’s livable landscapes map identifies the borough of Atglen as “urban.” The area surrounding Atglen Borough is designated as composite of suburban, rural, and agricultural landscapes.

As a policy-plan, specific transportation projects are not identified; however, the Route 30/Amtrak Keystone corridor is identified as a “multi-modal transportation corridor,” which is defined as prioritized corridors for transportation investment.

Octorara Regional Comprehensive Plan (Chester County), 2004

Source: Chester County Planning Commissions, *Landscapes2*

This multi-municipal comprehensive plan includes the townships of Highland, Londonderry, West Fallowfield, and the boroughs of Atglen and Parkesburg. References to the restoration of passenger rail service include:

- The economic development objective calls to “strengthen the role of Parkesburg and Atglen as multi-purpose, people-oriented small town centers for the Region.”
- Action 8.63 suggests a Feasibility Study to extend the SEPTA Paoli-Thorndale line to Parkesburg and Atglen as a high priority.

The plan identifies growth area categories within Atglen as small town center and urban residential. The proposed station site is within both of these future land use categories.

Octoraro Region Joint Strategic Comprehensive Plan (Lancaster County), 2004

This multi-municipal comprehensive plan, includes the townships of Bart, Colerain, and Sadsbury and the Borough of Christiana. As Atglen's "sister" Borough to the west, Christiana has some of the same growth management strategies and possible non-motorized linkages to the proposed station site via Zion Hill Road. There is no mention of Christiana's train station as it related to passenger rail service, but there is mention of enhancements to the Atglen-Susquehanna Trail in Bart and Sadsbury townships along the old freight line located south of the existing active rail-lines.

Atglen Borough Comprehensive Plan, 2000

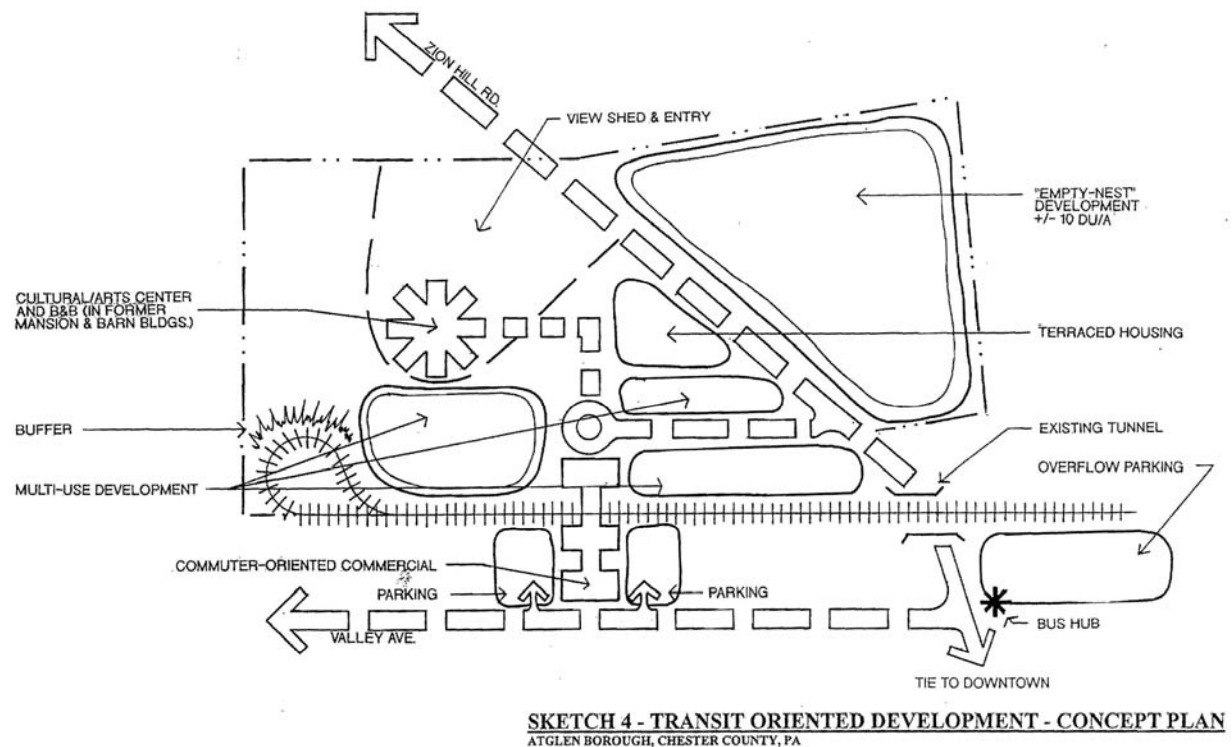
Atglen Borough's Comprehensive Plan, which is the Borough's vision document that assists in developing strategies for growth and development over the next twenty years, listed reexamining a feasibility study for a train station in the Borough as an objective under the public transit Goal. Also a transit oriented development (TOD) overlay zone for the area north of the railroad is examined under the Opportunity Site Development/Redevelopment Strategy section of the Plan. A concept plan, as shown in Figure 4, displays options on how to develop the TOD zone.

Atglen Borough Main Street Plan, 2001

The Borough of Atglen Main Street Plan focuses on the four-prong approach of the National Trust for Historic Preservation's Main Street Center, including organization, promotion, economic restructuring, and design. The Main Street Plan was adopted as an amendment to the Comprehensive Plan and established a specific plan of action for the main street corridor. Phase three of this plan called for a potential train station to be developed with adjacent parking.

Atglen Borough Urban Revitalization Plan Update, 2010

The latest planning document to be amended to the Comprehensive Plan is the Borough's update of its Revitalization Plan. The original revitalization plan, which was adopted in 2002, identified projects for funding opportunities through the Department of Community and Development Community Revitalization Program (CRP). Since the old plan needed to be updated, the Borough identified new projects. Action 32 of the plan lists Atglen Train Station as a high priority for the Borough.

Figure 4: Train Station Concept, Atglen Borough Comprehensive Plan (2000)

Source: Atglen Borough Comprehensive Plan, 2000

Previous Rail Extension Studies

Two previous technical studies have evaluated the extension of SEPTA rail service to Atglen:

Stone Consulting & Design Study, 2005

This study, funded by Coatesville City, was the first technical report that evaluated the potential of extending the Paoli-Thorndale line beyond its terminus in Thorndale. The study recommended stations at Coatesville, Parkesburg, and Atglen, identified weaknesses in SEPTA's prior service to Coatesville and Parkesburg, provided infrastructure cost estimates, and recommended additional technical evaluation including a ridership analysis, more detailed cost estimates, and a funding implementation plan.

Needs and Opportunities for the R5 Extension West of Thorndale, DVRPC, 2007

At the request of Chester County, DVRPC staff conducted a technical evaluation of the extension of SEPTA's Paoli-Thorndale line (formerly known as the SEPTA R5) to stations at Coatesville, Parkesburg, and Atglen. The report estimated ridership for the project, identified capital and operating expenses, and defined policy alternatives for advancing the project.

Ridership for the Paoli-Thorndale Extension project was estimated to a 2020 horizon year for the entire project using DVRPC projections adopted in 2002. The report estimated 456 daily trips (or 228 new riders) would use the rail extension. Based on existing parking constraints, DVRPC identified the need for 178 additional parking spaces between the Coatesville, Parkesburg, and Atglen stations to accommodate the estimated ridership.

Within the technical study, DVRPC identified the Amtrak-owned parcel north of the railroad right-of-way – the site of the former passenger rail station—as the location for the proposed Atglen station.

Figure 5: Atglen Station Site as shown in 2007 DVRPC Study



Source: Delaware Valley Regional Planning Commission, 2007, *Needs and Opportunities for the R5 Extension West of Thorndale*. Page 22

Updated Ridership Estimates

In 2007, DVRPC adopted and released new population and employment projections for Chester County. These figures were not used in the DVRPC's 2007 Study. Lancaster County projections for 2010, 2020, and 2030 were adopted in 2006 and incorporated into the original ridership estimates. Therefore, it is appropriate to consider the updated DVRPC population projections, which factor the latest trends in demographics and anticipated land development.

Keeping all other parameters in DVRPC's methodology consistent, the estimated ridership for the Paoli-Thorndale Extension project increases as presented in Figure 6. Ridership estimates using the same methodology were calculated to a horizon year of 2030, to better reflect the project's anticipated schedule. Based on these calculations, the 2030 estimated ridership of 550 trips (or 275 riders) is used henceforth for the planning of the Extension Project. Allocation of ridership and parking demand is addressed in subsequent sections of the memorandum.

Figure 6: Estimated Ridership for Paoli-Thorndale Extension – Coatesville, Parkesburg, and Atglen

Adopted Year	Horizon Year	Study Area Projected Population	Ridership Estimate (Total trips for Extension)
2002	2020	168,226	456
2007	2020	187,586	496
2007	2030	204,330	550

Source: Delaware Valley Regional Planning Commission, 2002, 2007; Chester County Planning Commission calculations, 2011

Related Projects to the Paoli-Thorndale Extension

Implementation of the Paoli-Thorndale Extension is reliant upon the completion of various sub-projects, which are outlined in DVRPC's 2007 Needs and Opportunities Study. Three project elements have advanced since 2007, which merit updating:

Park Interlocking (MP 46.3)

As part of their improvements to the Keystone Corridor that included concrete ties and upgraded interlocking, Amtrak installed a new interlocking between Parkesburg and Atglen which is still referred to as Park Interlocking. (The cross-over capabilities of the former Park interlocking have been retired, leaving only access to the Parkesburg Industrial Siding.) As noted by previous technical studies, an interlocking capable of efficiently turning SEPTA trains was identified as a critically-needed infrastructure improvement for the potential Paoli-Thorndale Extension project.

Coatesville Station

In 2010, a design charette was undertaken by PennDOT, with support from Coatesville City and Chester County, to identify a preferred improvement concept for the Coatesville Train Station. Following the charette, \$15 million in funding was programmed on the regional transportation improvement program (TIP) for station improvements. Currently, the project stakeholders are working through preliminary engineering for the station improvements.

Silverliner V Regional Rail Car Acquisition

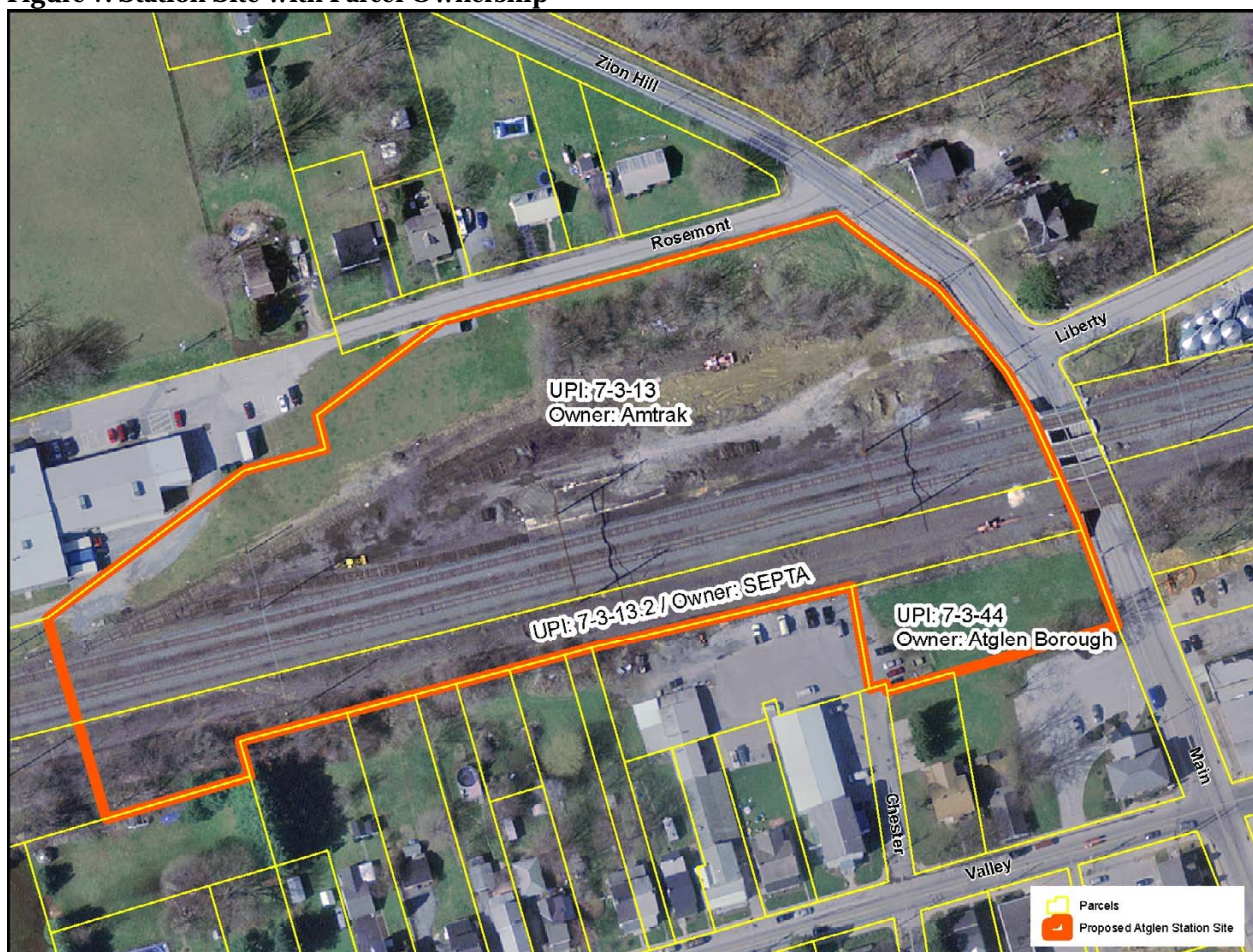
SEPTA is in the midst of acquiring 120 new Silverliner V regional cars to replace existing Silverliner II and III rail cars. Upon full procurement of the rail cars, SEPTA will have sufficient rolling stock for the operation of the Paoli-Thorndale Extension.

Proposed Station Site

Based on the local planning context, previous plans, and existing land use, this memorandum continues to identify the Amtrak-owned parcel to the north of the active Amtrak tracks and fronting Rosemont Ave as a critical parcel. This parcel is approximately 154,000 square feet (3.5 acres) and was the location of the former Atglen passenger station, as shown in Figure 7.

Additionally, two parcels south of the active railroad tracks are identified: the SEPTA-owned former Atglen & Susquehanna right-of-way (approximately 52,000 square feet) and the northern half of the Borough-owned parcel (approximately 20,000 square feet of the parcel's 50,000 square feet total area).

Figure 7: Station Site with Parcel Ownership



Source: Chester County Planning Commission, 2011.

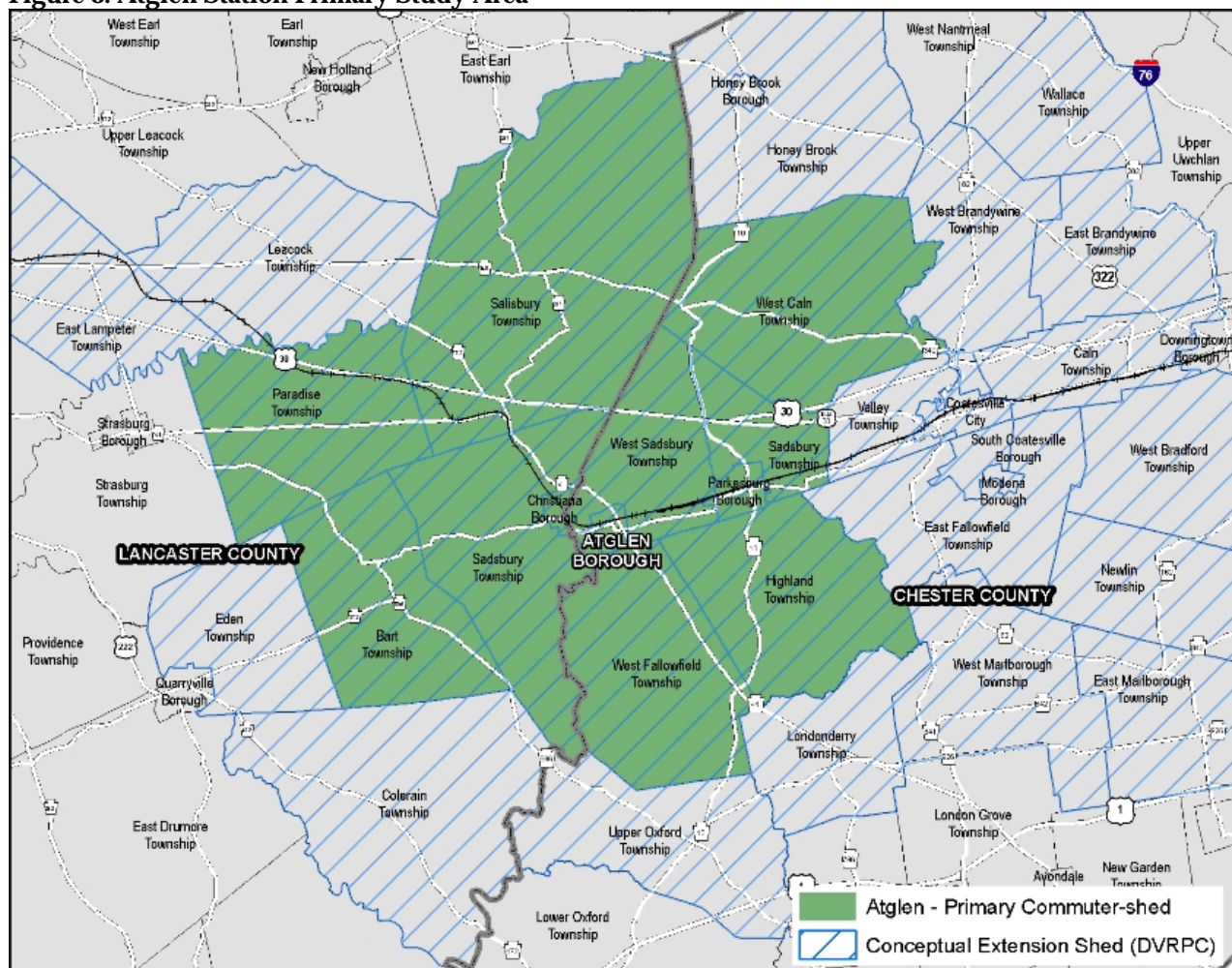
Study Area Profile

Primary Study Area

A primary Study Area, or commuter-shed area, was established for the Atglen Station as the focus for evaluation of the transportation network and Study Area demographics. This area is defined as the primary area that will utilize the Atglen Station, as displayed in Figure 8.

The Study Area was established by referencing license plate surveys that were conducted at the Thorndale, Downingtown, Whitford, and Exton stations as part of DVRPC’s Paoli-Thorndale Extension study. Within this study, DVRPC defined a “conceptual extension shed” for the entire Extension Project. The primary commuter-shed area for the Atglen Station is defined more narrowly than DVRPC’s extension shed to focus on the municipalities that will principally generate ridership to the Atglen Station. Despite the proposal of a station in Parkesburg, the Study Area was defined concentrically to include Parkesburg Borough, Sadsbury Township, and West Caln Township because prior license plate survey on the Paoli-Thorndale line reveal a concentric distribution.

Figure 8: Atglen Station Primary Study Area



Transportation Network

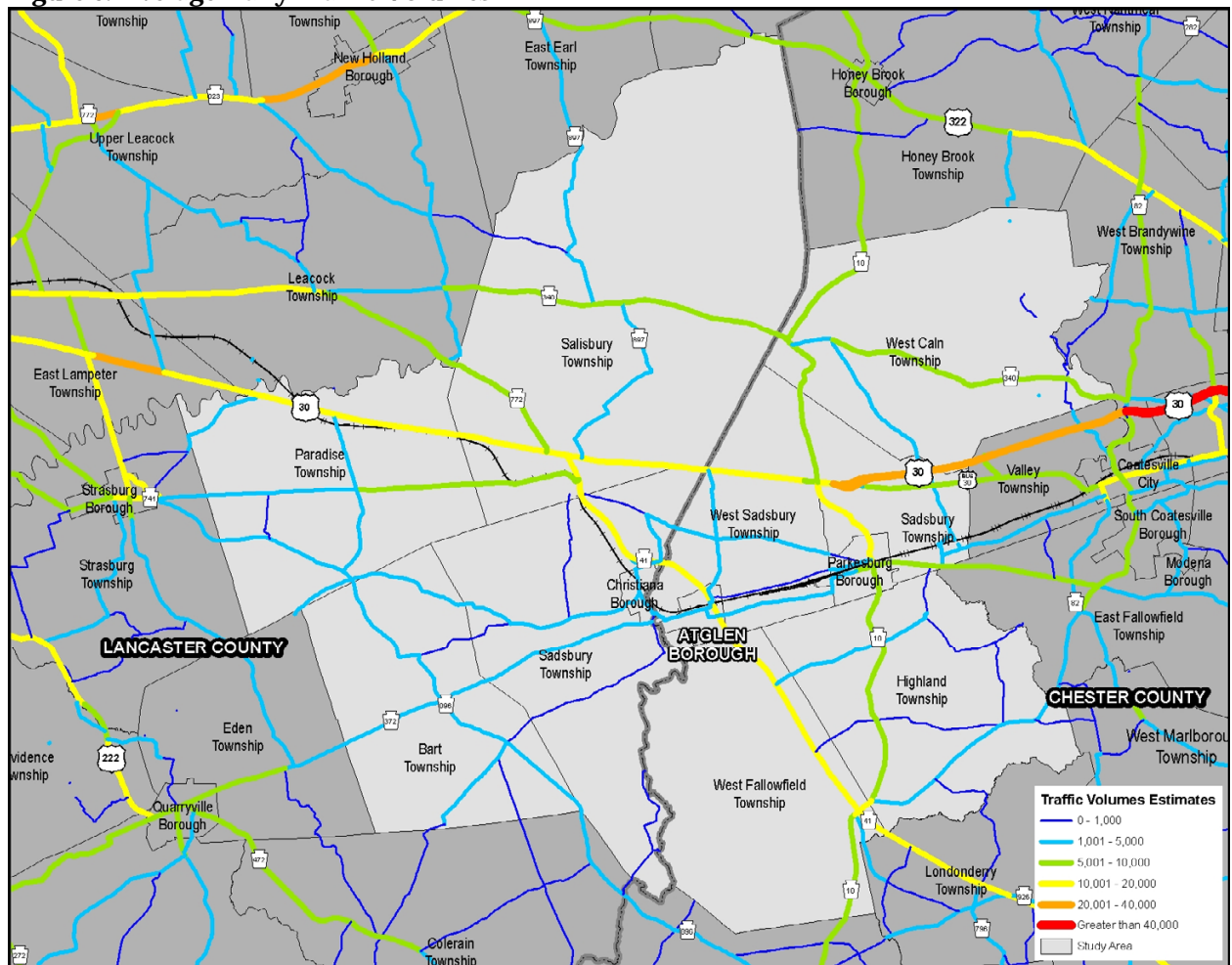
The transportation network of the Study Area is principally comprised of the regional highway network and Amtrak's Keystone Corridor rail line. There are limited existing bus transit routes, bicycle, and pedestrian amenities. A more detailed description of each mode is outlined:

Roadways

US Route 30 and PA Route 41 are the predominant arterial roadways within the Study Area, as displayed on Figure 9. US Route 30 traverses east-west connecting Lancaster County, US 222, and PA 283 to Chester County and points east, US 322, US 202, and PA 100. The roadway is a two-lane, signalized facility from PA Route 10 to the west. East of PA 10, US Route 30 splits to a four-lane expressway, while Business Route 30 continues as a two-lane arterial into Coatesville. Average daily traffic volumes on Route 30 within the Study Area generally range between 17,000 and 23,000 vehicles per day.

PA Route 41 is a two-lane arterial that connects to US 30 in the village of Gap (Salisbury Township) and links to Wilmington, Delaware, US 1, and I-95. Within the immediate vicinity of Atglen Borough, Route 41 is grade-separated with Liberty Street/Swan Road and Amtrak's Keystone Line. South of the bridge overpass, Route 41 intersects Route 372 (Lower Valley Road) at a signalized intersection. Average daily traffic volumes on Route 41 range from 17,000 near Gap to 10,000 within West Fallowfield Township.

As displayed in Figure 9, other roadways that provide local circulation to Atglen Borough and the station area include PA Route 372 (Lower Valley Road), Upper Valley Road, Zion Hill Road/Main Street, and Swan Road/Liberty Street.

Figure 9: Average Daily Traffic Volumes

Source: PennDOT, 2009

Public Transportation

Three bus routes and Amtrak's Keystone Service provide public transportation to the Study Area. Amtrak service is the only public transportation service that completely traverses the Study Area.

Amtrak Keystone Service (Parkesburg)

Amtrak's Keystone Service provides 15 roundtrips between Philadelphia and Harrisburg. Parkesburg station is served by 10 weekday trips to Philadelphia and 9 weekday trips to Harrisburg. On the weekends, 7 trips are provided to Philadelphia and 6 trips to Harrisburg. Travel time to both Harrisburg and Philadelphia is approximately 60 minutes from the Parkesburg station.

Coatesville Link: Transportation Management Association of Chester County

The Coatesville Link, operated by the Transportation Management Association of Chester County (TMACC), operates 13 weekday roundtrips and 12 Saturday roundtrips between Parkesburg and Coatesville.

Red Rose Transit – Route 14

Red Rose Transit's Route 14 bus route provides five roundtrips on weekdays and Saturdays on Route 30 between the village of Kinzer in Paradise Township (Slaymaker Hill Road) and the City of Lancaster. The service entails two AM peak trips, one mid-day trip, and two PM peak trips. No Sunday service is provided.

Red Rose Transit – Route 13

Red Rose Transit's Route 13 bus route provides eight roundtrips on PA 340 between the village of Compass (PA 10) in West Caln Township and the City of Lancaster. Service is provided at roughly 75 minute headways. Three round-trips are provided on Saturdays. No Sunday service is provided.

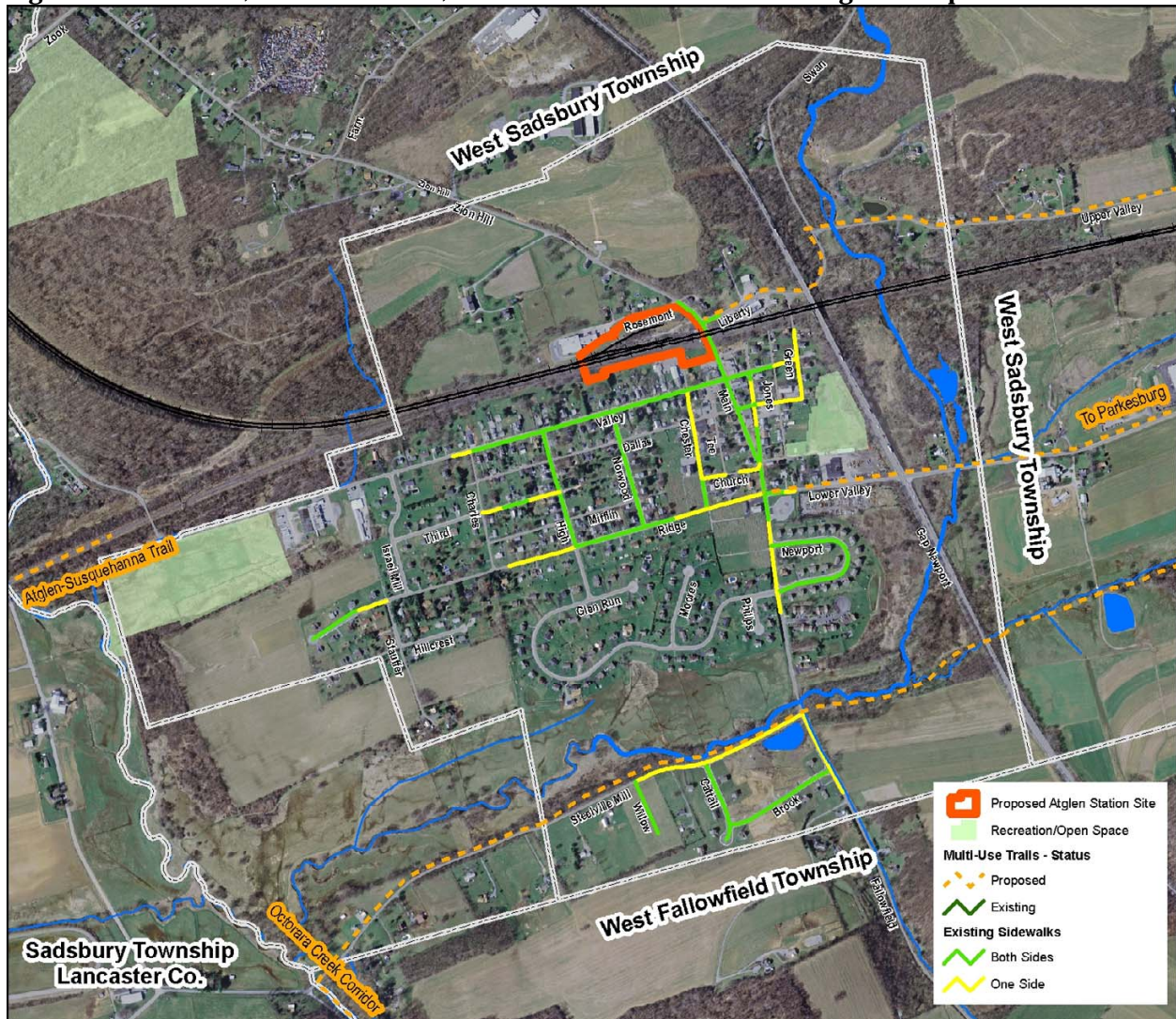
Bicycle and Pedestrian

Existing and proposed bicycle and pedestrian facilities are displayed in Figure 10. Sidewalks are generally prevalent within Atglen Borough and connect to the station site along Zion Hill Road. Atglen Borough's zoning and subdivision and land development ordinances require sidewalks within residential, commercial, and institutional land developments. The closest existing trails in proximity to the station site are located in Wolf's Hollow County Park in West Fallowfield Township.

The Octorara Regional Comprehensive Plan (Chester County) identifies four proposed multi-use corridors: Upper Valley Road, PA 372/Lower Valley Road, Steelville Road/Valley Creek, and a corridor following the Octoraro Creek. These trail corridors are consistent with Chester County's *Linking Landscapes* plan, which identifies the Chester Valley and Octoraro corridors as regional recreation corridors.

Lancaster County's Open Space and Recreation plan, *Greenspaces*, identifies the former Atglen & Susquehanna (Low Grade) rail corridor as a proposed trail connecting to Atglen Borough.

Figure 10: Sidewalks, Multi-use Trails, and Recreation Resources: Existing and Proposed



Source: Chester County Planning Commission, 2011.

Demographics

This section of the report examines population, housing, and socio-economic demographic characteristics in Atglen and surrounding municipalities.

Population Trends:

Analyzing past population trends provides an understanding of the amount of growth a community has experienced and when this growth has occurred. This information, in turn, can provide insight into development patterns, housing types and changes in land use, which are part of the community’s character. Figure 11 shows the population trends for Atglen, the Study Area, and Chester and Lancaster counties from 1980 to 2010.

Figure 11: Population Trends, Atglen and Study Area

Municipality	1980	1990	2000	2010	% Change 1980-2010	% Change 2000-2010
Atglen	669	825	1,217	1,406	110.2	15.5
Study Area	32,373	37,648	42,142	47,715	47.4	13.2
Chester County	316,660	376,396	433,501	489,886	54.7	15.1
Lancaster County	362,346	422,822	470,658	519,445	43.4	10.4

Source: U.S. Census Bureau

Population Projections:

Population projections are forecasts of the future population which extend population trends into the future. Population projections anticipate future growth and are important for determining and planning for projects such as this feasibility study. Projections created by DVRPC and Lancaster County Planning Commission (LCPC) were used to generate a range of populations for Atglen and the Study Area to the year 2030, as shown in Figure 12.

Figure 12: Population Projections (2010-2030)

Municipality	2000 Population (Actual)	ACS 05-09 Population	2010 Population (Actual)	2010 Population Projection	2020 Population Projection	2030 Population Projection
Atglen	1,217	1,130	1,406	1,443	1,614	1,766
Study Area	42,142	45,636	47,715	47,554	52,398	56,824
Chester County	433,501	486,301	489,886	505,095	557,623	605,271
Lancaster County	470,658	498,918	519,445	509,720	548,979	585,489

Source: U.S. Census Bureau, 2011; Delaware Valley Regional Planning Commission, 2007; Lancaster County Planning Commission, 2002

Housing Type:

Figure 13 shows the types of housing units in Atglen Borough and provides a comparison to the surrounding municipalities and counties. The Study Area has a higher percentage of single-family detached units and mobile homes/other and a lower percentage of single-family attached units and multi-family units in comparison to Atglen and the two counties.

Figure 13: Housing Type, Atglen and Study Area

Municipality	Housing Units	Single-Family Detached		Single-Family Attached*		Multi-Family Units**		Mobile Homes & Other	
		#	%	#	%	#	%	#	%
Atglen	422	272	64.4	64	15.2	86	20.4	0	0.0
Study Area	15,210	11,243	73.9	1,317	8.7	1,145	7.5	1,505	9.9
Chester County	183,168	114,017	62.2	30,735	16.8	33,196	18.1	5,220	2.9
Lancaster County	193,957	110,147	56.8	37,979	19.6	36,948	19.0	8,883	4.6

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

* Includes twins and townhouses, ** Includes all other attached housing.

Housing Occupancy and Tenure:

Housing occupancy and tenure (Figure 14) shows the proportion of ownership-occupied housing and renter-occupied housing. Tenure is used to help examine whether there is housing ownership diversity in a community. Vacancy rates indicate the percentage of housing units that are vacant, and are used to examine stability and housing demand in a municipality.

The ACS estimates show that the Study Area has 15,210 housing units. Of these units, 14,580 (95.9 percent) were occupied and 630 (4.1 percent) were vacant. Of the occupied units, 81 percent were owner-occupied and 19 percent were renter-occupied. The Study Area's owner-occupancy rates are higher than rates in Atglen and the two counties, while renter-occupancy is lower.

The vacancy rate for the Study Area measures-up well with the two counties' rates. Having some properties vacant is desirable as it allows mobility and housing choice within the community. The optimum vacancy rate for the Philadelphia area, as established by the Delaware Valley Regional Planning Commission, is 4 percent. The Study Area's vacancy rate is only slightly above optimum levels and does not indicate a problem in the local housing market.

Figure 14: Housing Occupancy and Tenure, Atglen and Study Area

Municipality	Housing Units	Occupied Units		Vacant Units		Owner-Occupied Units		Renter-Occupied Units	
		#	%	#	%	#	%	#	%
Atglen	422	396	93.8	26	6.2	293	74.0	103	26.0
Study Area	15,210	14,580	95.9	630	4.1	11,805	81.0	2,775	19.0
Chester County	183,168	175,312	95.7	7,856	4.3	137,104	78.2	38,208	21.8
Lancaster County	193,957	186,301	96.1	7,656	3.9	131,410	70.5	54,891	29.5

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

Vehicles Available Per Household:

Figure 15 shows the amount of persons in Atglen and the Study Area with vehicles available within each household. The Study Area reported a higher percentage of households without access to a vehicle in comparison to Lancaster or Chester counties. The percentage of zero-car households was much higher in the Lancaster County portion of the Study Area (24%) than the Chester County portion (6%), which is likely explained by the concentration of Plain Sect families.

Figure 15: Vehicles Available Per Household, Atglen and Study Area

Municipality	No Vehicles		One Vehicle		Two + Vehicles	
	#	%	#	%	#	%
Atglen	21	5.3	104	26.3	271	68.4
Study Area	2,204	15.1	3,048	20.9	9,328	64.0
Chester County	8,073	4.6	46,634	26.6	120,605	68.8
Lancaster County	17,355	9.3	54,780	29.4	114,166	61.3

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

Income Levels:

Figure 16 presents information on income and poverty levels, as well as unemployment within Atglen, the Study Area and Chester and Lancaster Counties. This information assists in reflecting the Study Area's affluence and financial stability.

The median household income for the Study Area municipalities within Chester County are greater than the Study Area municipalities within Lancaster County. Chester County as a whole has the highest median household income of any county in Pennsylvania. Additionally, the poverty levels within the Study Area range from 2.5 to 30.9. Chester County has both the lowest and highest levels of poverty within the Study Area's municipalities (West Sadsbury and West Fallowfield, respectfully).

Figure 16: Income Levels, Atglen and Study Area

Municipality	Median Household Income	Percent Below Poverty Level	Percent Unemployed
Atglen	\$63,889	11.8	11.6
Highland	\$60,298	11.4	3.1
Parkesburg	\$61,574	7.7	2.2
Sadsbury	\$75,610	2.6	2.3
West Caln	\$75,219	3.6	4.7
West Fallowfield	\$56,778	30.9	4.2
West Sadsbury	\$60,982	2.5	3.5
Chester County	\$83,759	6.2	3.2
Bart	\$60,114	6.7	2.0
Christiana	\$44,306	12.9	2.3
Paradise	\$52,820	5.6	2.2
Sadsbury	\$56,583	14.2	1.3
Salisbury	\$59,758	7.3	2.0
Lancaster County	\$54,893	9.0	3.3

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

Education Attainment:

Analyzing the level of education attained by municipal residents helps to predict employment demand and can be related to the economic prosperity of the persons in the municipality. Figure 17 shows the educational levels of persons in Atglen and the Study Area. Generally, the Study Area population has less educational attainment than the countywide populations of Chester or Lancaster counties.

Figure 17: Highest Education Levels by Percent, Atglen and Study Area

Education Level	Atglen	Study Area	Chester	Lancaster
Less Than high School	14.6	23.9	7.9	18.1
High School	40.2	40.2	24.8	39.0
Some College/Associate Degree	20.5	18.0	20.4	19.6
Bachelor's Degree	16.8	11.8	28.7	15.6
Graduate/Professional Degree	7.9	5.4	18.1	7.6

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

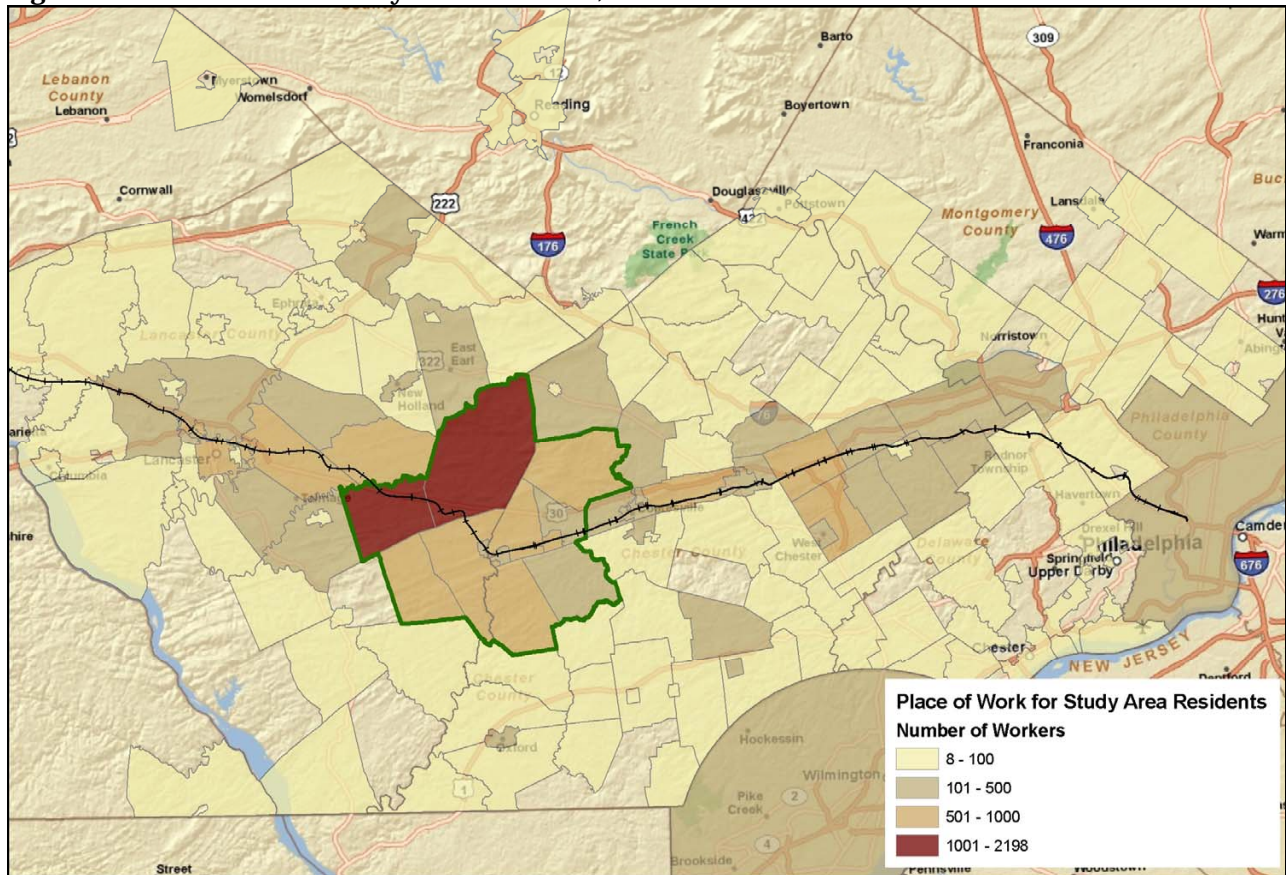
Journey to Work Characteristics

The American Community Survey (and the 2000 US Census) collects data on residents' journey (or commute) to work. This trip is of primary interest for transportation planning purposes due to the predominant influence on the traditional morning and evening peak hours.

Place of Work

Figure 18 displays the place of work for residents that lived in the Study Area. The map reveals predominant concentrations of workers: first, also working within the Study Area, and secondly, working along the US 30/Amtrak Keystone Corridor/SEPTA Paoli-Thorndale line.

With the interest of potential ridership traveling east, approximately 29% of Study Area residents worked within municipalities that intersected the extension of the Paoli-Thorndale line. This finding supports that the Paoli-Thorndale line runs concurrent to commute patterns for a significant percentage of the Study Area. It should be noted, however, that "last mile" connections between the train stations and the employment destinations would need to be improved to fully capture this potential.

Figure 18: Place of Work -- Study Area Residents, 2000

Source: U.S. Census Bureau, 2000; Census Transportation Planning Package (CTPP)

Means of Transportation

Similar to national trends, driving alone was the predominant mode of transportation for working residents of the Study Area, as displayed in Figure 19. However, the travel characteristics of the Study Area did reveal two anomalies in comparison to the countywide trends: first, the Study Area reported lower percentage of commuters driving alone; and subsequently, higher percentages of carpooling and working from home. Existing railroad ridership for the Study Area was estimated as 107 commuters or one percent of all commuters.

Figure 19: Means of Transportation to Work

Mode	Atglen		Study Area		Chester County		Lancaster County	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	518	100%	20,699	100%	244,160	100%	241,097	100%
Drove Alone	424	82%	14,570	70%	198,004	81%	189,760	79%
Carpooled	40	8%	3,121	15%	18,740	8%	23,222	10%
Railroad	0	0%	107	1%	4,261	2%	450	0%
Bus or trolley bus	10	2%	132	1%	1,724	1%	2,389	1%
Other Transit	0	0%	51	0%	448	0%	133	0%
Bicycle and Walked	26	5%	702	3%	6,247	3%	10,293	4%
Worked at Home	15	3%	1,547	7%	12,653	5%	11,933	5%
Other Means	3	1%	469	2%	2,083	1%	2,917	1%
Average Travel Time (min)	32.2	n/a	27.8	n/a	27.8	n/a	21.9	n/a

Source: U.S. Census Bureau, American Community Survey Estimates (2005-2009)

Station Site Profile

This section of the report provides an overview and analysis of the current existing land use patterns in Atglen Borough and the proposed station site. A brief summary and mapping of Atglen's zoning, environmental, recreational, and historic resource information relevant to the station site is also included in this section.

Station Site Land Use

The proposed train station site is located just north of the active Amtrak tracks fronting Rosemont Ave. The parcel, which is categorized as transportation, is owned by Amtrak and is 3.5 acres (154,000 square feet). South of the active railroad tracks, the station site includes two parcels: the SEPTA-owned former Atglen & Susquehanna right-of-way (approximately 52,000 square feet) and the northern half of the Borough-owned parcel (approximately 20,000 square feet of the parcel's 50,000 square feet total area). Figure 20 and Figure 21 display the existing conditions of the station site.

Figure 20: Station Site, with ¼ mile radius

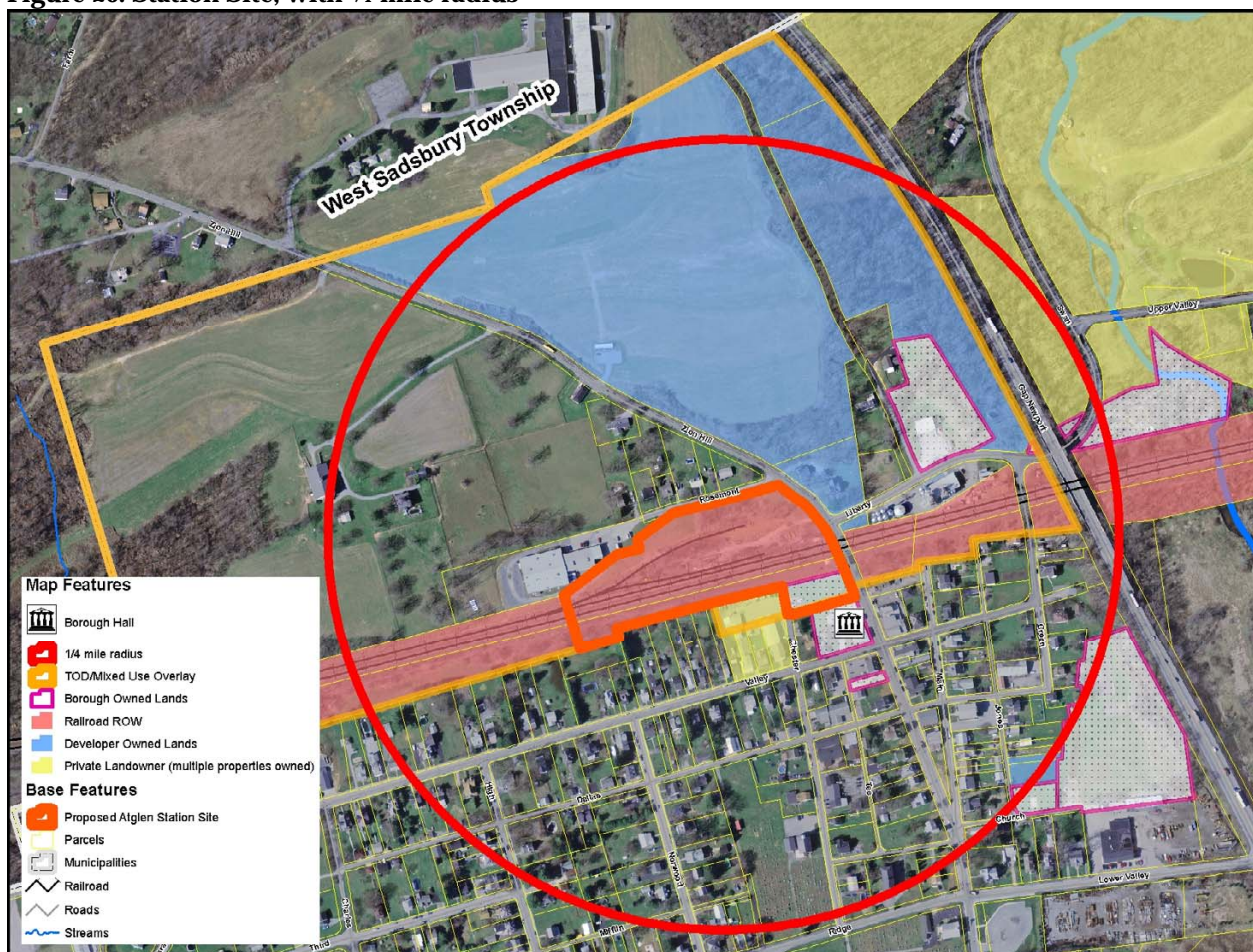


Figure 21: Station Site Photographs



South of the railroad tracks, looking west



South of the railroad tracks, looking south



North of the railroad tracks, looking west

Existing Land Use:

Atglen Borough has a diverse land use character containing a variety of uses and development patterns. The development pattern is predominately urban with higher and medium densities located in the central and western areas. From the core, more suburbanized medium and lower density development has occurred south of Ridge Avenue. Except for the commercial and limited industrial uses located throughout the Borough, the developed areas remain primarily residential.

In 2001, Atglen received County funds to revitalize Main Street with improvements to the streetscape. Main Street from the railroad tracks to Ridge Avenue is the Borough's main core or business district. Smaller scale commercial businesses and institutional uses exist along this corridor, as well as other locations within the Borough. Concentrations of industrial uses are located just north of the railroad tracts and along Valley Avenue. A large concentration of vacant land is also located within the Borough.

Figure 22 and Figure 23 illustrate existing land use patterns as they occurred in 2011. The Borough previously conducted a similar inventory as part of their 2000 Comprehensive Plan. Please note that the totals in land use are different due to the inclusion of road rights-of-way.

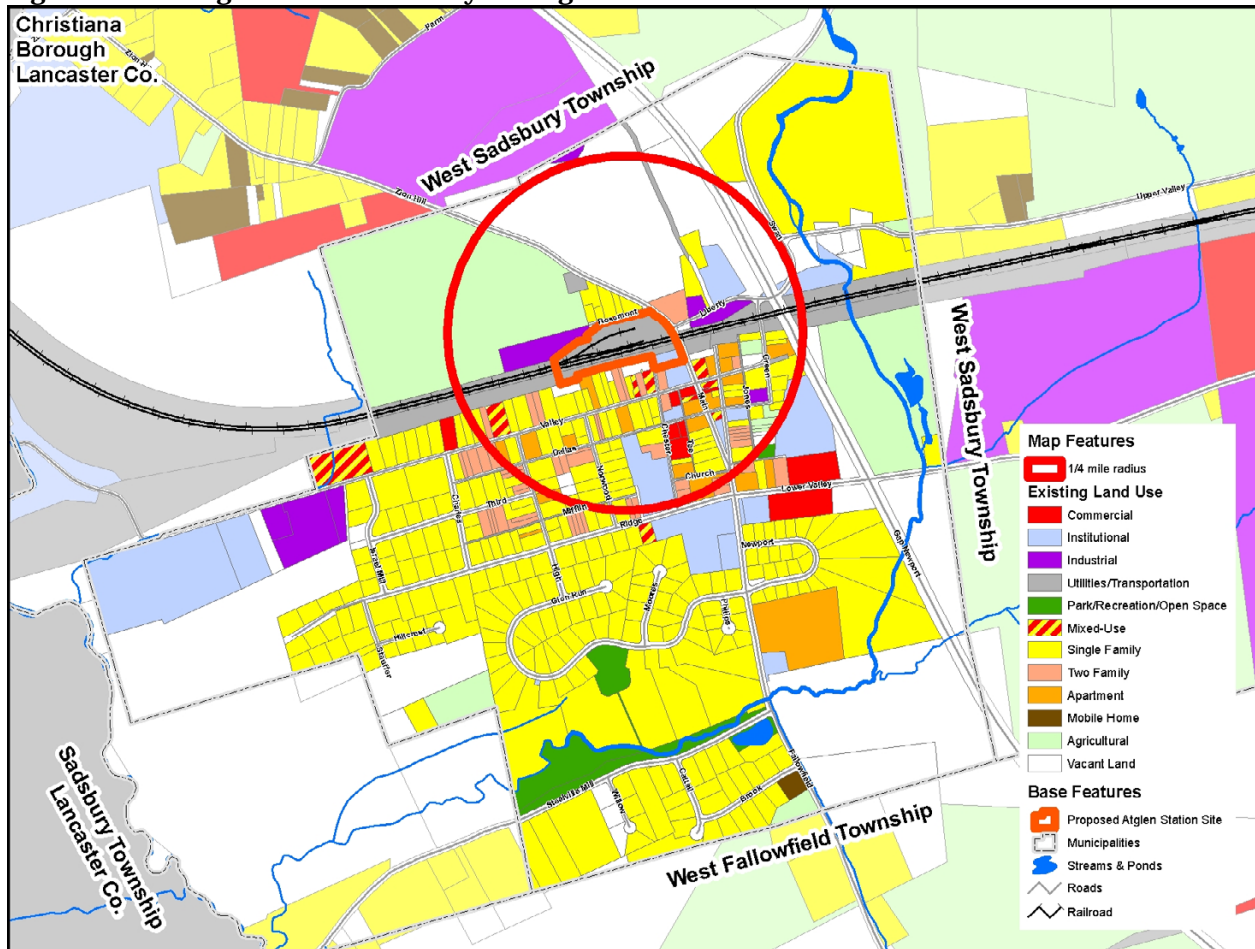
Figure 22: Existing Land Use Inventory for Atglen Borough

Land Use Categories	Acres	Percent of Total
Residential:	223.7	39.6
Single Family	198.6	35.2
Two Family	10.3	1.8
Apartment	14.2	2.5
Mobile Home	0.6	0.1
Commercial	6.0	1.1
Institutional	37.1	6.6
Industrial	10.3	1.8
Parks/Recreation/Open Space	11.0	1.9
Utilities/Transportation *	75.5	13.4
Mixed Use	4.9	0.9
Agricultural	66.3	11.7
Vacant Land	129.8	23.0
Total	564.6	100

Source: Chester County Planning Commission, 2011.

* Includes road rights-of-way in total.

Figure 23: Existing Land Use Inventory for Atglen



Source: Chester County Planning Commission, 2011.

Figure 24: Land Use for Train Station site (1/4 mile radius)

Land Use Categories	Acres	Percent of Total
Residential:	36.6	22.4
Single Family	23.4	14.3
Two Family	7.0	4.3
Apartment	6.2	3.8
Commercial	1.4	0.8
Institutional	13.5	8.3
Industrial	4.1	2.5
Parks/Recreation/Open Space	0.3	0.2
Utilities/Transportation *	23.4	14.3
Mixed Use	1.9	1.2
Agricultural	43.4	26.6
Vacant Land	38.8	23.7
Total	163.4	100

Source: Chester County Planning Commission, 2011.

* Does not include road rights-of-way.

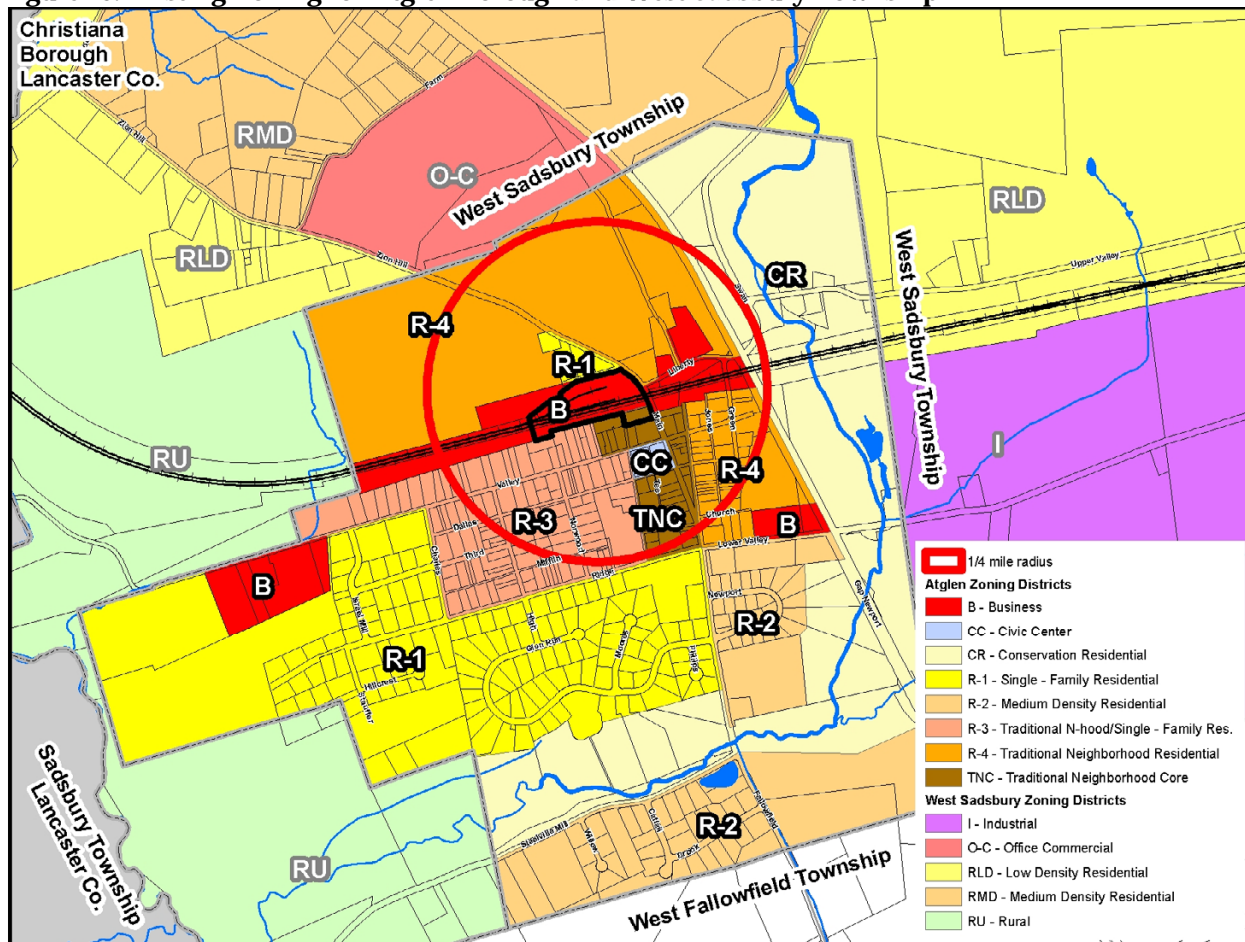
The highest land use total within the radius is agricultural followed closely by residential uses. The residential uses are located due north and east of the station site, as well as south of the railroad tracts. Light industrial uses are located west and east of the station site. Also the majority of Atglen's business district is within the radius to the south.

Existing Zoning

The purpose of this analysis is to provide an overview of the zoning districts located within Atglen, the station site and the adjacent township of West Sadsbury. Atglen's zoning ordinance was adopted November 2001 and has since been updated by three amendments in 2004, 2005, and 2006. The Borough contains a total of eight zoning districts, which includes: four residential districts, one residential/conservation district, one residential/commercial district, one commercial/industrial district and one institutional district. The zoning also contains a flood hazard, wetland/hydric soils, and Scenic overlay district that have little to no impact on the station site.

West Sadsbury Township contains a total of eight zoning districts, two of which are not shown on the figure below. The adjacent zoning districts bordering Atglen include: two residential districts, one rural district, one industrial district and one institutional/commercial district. The zoning districts of both Atglen and West Sadsbury are shown on Figure 25.

Figure 25: Existing Zoning for Atglen Borough and West Sadsbury Township



Source: Chester County Planning Commission, 2011.

Station Site Zoning

The Station site is located within the B-Business zoning district. The area surrounding the station site is zoned with both residential and commercial districts. While the station site is zoned Business, there is no permitted use within the district allowing for a train station. Adjacent districts, such as, CC-Civic Center and TNC-Traditional Neighborhood Core allow for transit station uses.

To give a generalized idea of the types of uses and densities permitted by zoning within 1/4 mile radius of the station site, the uses and area/bulk requirements of each district are summarized in Figure 24.

Figure 26: Atglen Zoning Districts: Area/Bulk Requirements

Zoning District	Uses Permitted by Right	Min. Lot Size
B- Business	Variety of Commercial, Industrial, Institutional, & Recreational	Article 16
CC- Civic Center	Variety of Municipal, Public, & Service Uses Transit Stops/Station Accessory Building Uses: Located within same lot as above uses	5,000 square feet 5,000 square feet Article 16
CR- Conservation Residential	Single Family Detached Public Parks/Recreation Areas Nature Preserves Agricultural Uses Accessory Building Uses: Located within same lot as above uses	1 acre Article 16 Article 16 1 Acre Article 16
R-1- Single Family Residential	Single Family Detached Agricultural Uses Public Parks/Recreation Areas Accessory Building Uses: Located within same lot as above uses	20,000 square feet 10 Acres Article 16 Article 16
R-3- Traditional Neighborhood/Single Family Residential	Single Family Detached ¹ Public Parks/Recreation Areas Municipal Facilities/Uses Accessory Building Uses: Located within same lot as above uses	10,000 square feet 15,000 square feet 15,000 square feet Article 16
R-4- Traditional Neighborhood Residential	Single Family Detached ² Single Family Semi-detached ³ Public Parks/Recreation Areas Municipal Facilities/Uses Accessory Building Uses: Located within same lot as above uses	8,000 square feet 6,000 square feet Article 16 Article 16 Article 16
TNC- Traditional Neighborhood Core	Single Family Detached ⁴ Single Family Semi-detached ⁵ Single Family Attached (Article 16) ⁶ Multi-family (Article 16) ⁷ Conversion Apartment (Article 16) Municipal Facilities/Uses Variety of Retail, Office, & Service Uses Mixed Use Buildings Transit Station	5,000 square feet 3,000 square feet 2,500 square feet 9,000 lot area/building 5,000 square feet 2,500 square feet N/A (Article 16) 2,500 square feet 2,500 square feet

Source: Atglen Borough Zoning Ordinance with amendments, 2006

¹ Max. density 4 units/acre., ² Max density 5 units/acre, ³ Max. density 6 units/acre, ⁴ Max. density 8 units/acre,

⁵ Max. density 10 units/acre, ⁶ Max. density 4 units or 100 ft. in length, ⁷ Max. density 8 units/building or 95 ft. in length.

Note: Districts may also permit special exception uses, conditional uses, and accessory uses which for purposes of brevity in this report are not displayed in this table. Consult the Borough zoning ordinance for more complete information about the specific uses permitted per zoning district. Types of zoning districts and uses correspond with the existing land use patterns in the Borough.

Development Potential

Atglen Borough has multiple properties located within the quarter mile radius owned by a private developer, the Borough and two private landowners that have excellent development potential due to the proximity to the station site. Several properties with potential for transit oriented or transit related developments, as previously displayed on Figure 20.

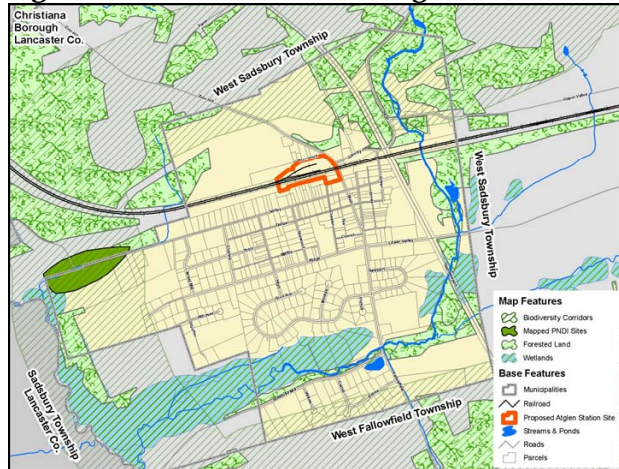
Environmental/Historic/Recreation Resource Profile:

A full profile of environmental, historic, and recreational resources in Atglen Borough and the station site was completed and found that the site does not contain significant environmental resources. The full profile of environmental resources is discussed below.

Biotic Resources

Biotic resources include plants, animals, and ecosystems such as forests and wetlands. Street trees and vegetated public lands are also a form of biotic resources which add to the quality of life in the Borough and can significantly improve real estate values for Borough residents. Figure 27 illustrates four different biotic resources: Biodiversity Corridors, Forested Lands, Pennsylvania Natural Diversity Inventory (PNDI) sites, and Wetlands. None of the four biotic resources impacts the station site.

Figure 27: Biotic Resources for Atglen

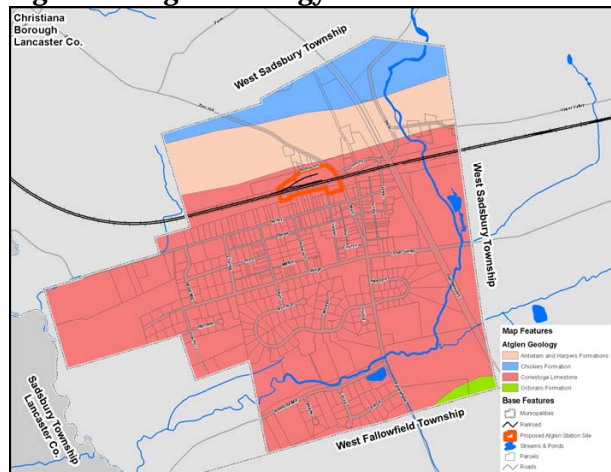


Source: Chester County Planning Commission, 2011.

Land Resources

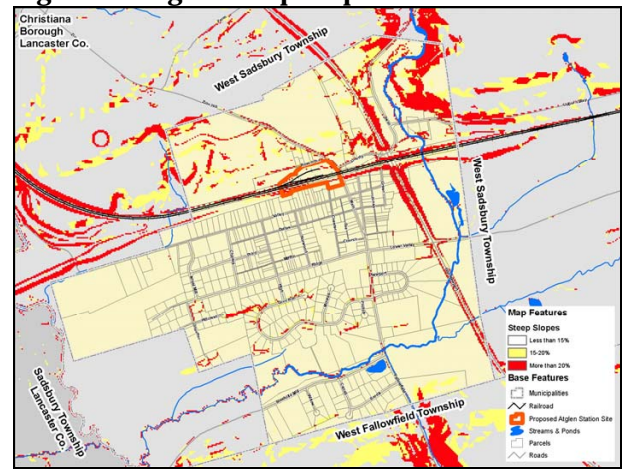
Land resources include underlying geology, the topography which is shaped by the natural weathering process, the soils which form at the surface and land development/protective lands. These resources are important when developing a feasibility study such as this but neither resource impacts the proposed station site. Figures 28-31 shown below illustrate the land resources.

Figure 28: Atglen Geology



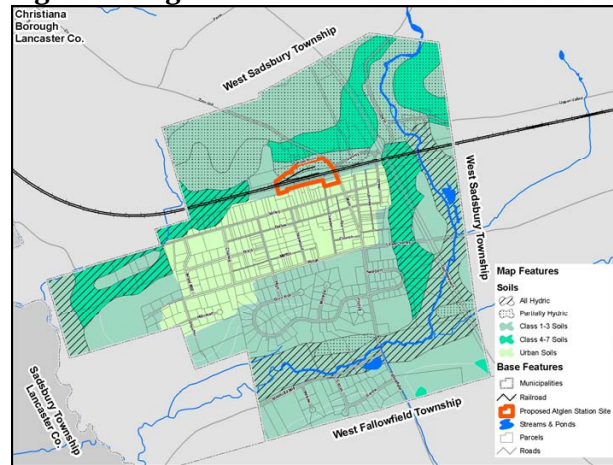
Source: Chester County Planning Commission, 2011.

Figure 29: Atglen Steep Slopes



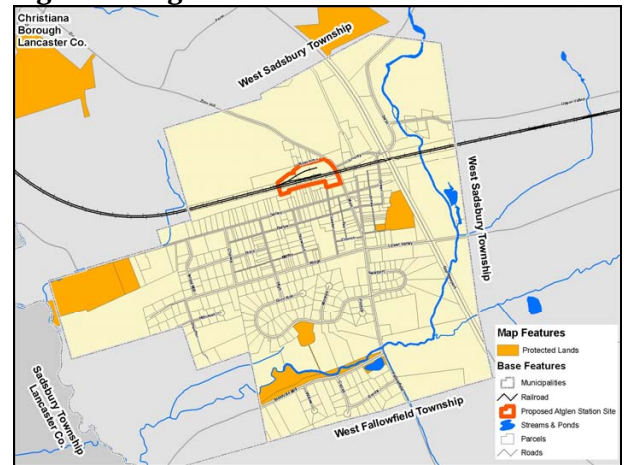
Source: Chester County Planning Commission, 2011

Figure 30: Atglen Soils



Source: Chester County Planning Commission, 2011

Figure 31: Atglen Protected Lands

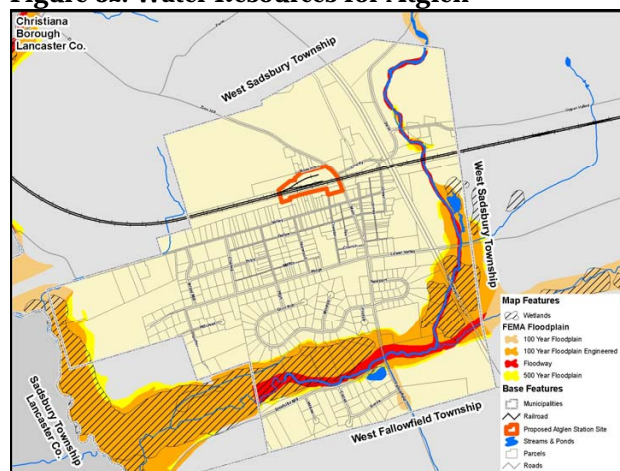


Source: Chester County Planning Commission, 2011

Hydrologic Resources

Water resources include surface water bodies such as streams and ponds, but also include subsurface groundwater, as well as storm water runoff that crosses the surface of the land and collects in desired and undesired areas. Water resources impact wildlife and the environment and are also a major financial and public safety concern. Insufficiently managed storm water runoff can result in erosion that can cause property damage; improperly maintained headwaters and floodplains can result in increased flood damage; and degraded surface and groundwater quality can drive up drinking water costs. The entire Borough is within the Susquehanna River Basin, which consists of the Octoraro Creek Watershed. The Borough is divided by three minor watersheds: Buck Run, Officers Run, and Valley Creek. Figure 32 illustrates the water resources located within Atglen, but no hydrologic resources impact the station site.

Figure 32: Water Resources for Atglen



Source: Chester County Planning Commission, 2011.

Historic & Cultural Resources

Historic preservation is an important element in the planning process because it protects and retains historic resources and provides an understanding of a community's past. Atglen has many structures located south of the railroad that are designated historic sites, however, the proposed station site does not include any historic resources.

In 2010-11, Amtrak will be replacing the historic centenary lines along the old Atglen & Susquehanna Branch right-of-way with new transmission lines funded from the America's Recovery and Reinvestment Act (ARRA). From this upgrade various historic markers and/or kiosks will be erected along this corridor telling the story of the old Atglen & Susquehanna Branch freight line. One such kiosk is to be set in Atglen Borough at the proposed station site where the old freight line was located. The kiosk will be further discussed in the Station Requirements section of this report.

Recreation Resources

Recreation resources include parks, trails, paths, and bike routes. All of these features should come together to create an interconnected network which extends throughout the Borough. Linking residential areas and the central business district with recreation facilities can improve the economy and quality-of-life within the Borough. Recreation facilities are also recognized by the medical community as tools for reversing the nationally-recognized epidemic of overweight and obesity, including childhood obesity. Recreation resources are described on page 14-15 and shown on Figure 10 of this report.

Existing Parking

There are few existing parking lots within Atglen Borough. Public parking is available at the Atglen Borough Hall; however, the capacity of this lot is approximately 15-20 spaces which is necessary to satisfy normal, institutional demands for the building. A small privately-owned lot exists along Main Street/Zion Hill Road immediately south of the railroad right-of-way. On-street parking is provided along Valley Avenue west of Main Street/Zion Hill Road.

Given the limitation of existing parking facilities within the station area, the accommodation of parking for the proposed train station concept must be defined and specified in subsequent technical efforts regarding the station design either within the station site or within newly proposed parking areas.

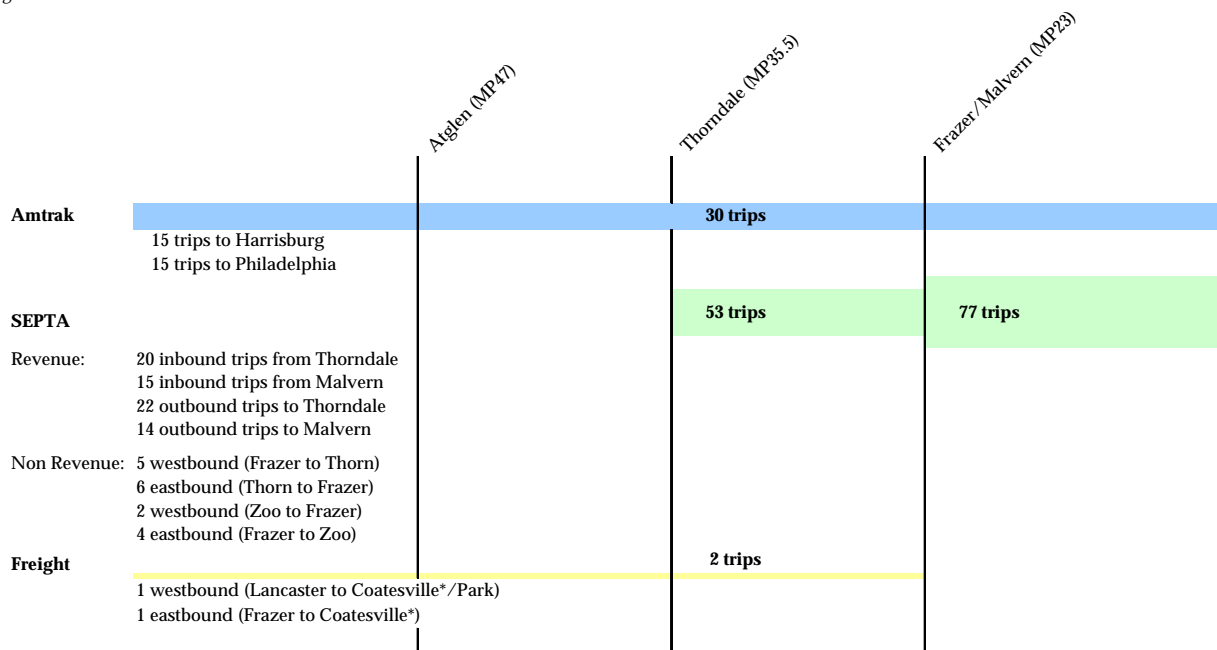
Rail Operations

Current operations

Current scheduled weekday rail service on the Keystone Line in the immediate Atglen station area is 30 Amtrak revenue trains (15 each direction between Harrisburg and Philadelphia) and on average one daily freight train between Lancaster and Coatesville (Mittal Steel) or Parkesburg (Parkesburg Industrial Siding). A second daily freight train, which would factor into operations for the Paoli-Thorndale Extension (but not Atglen), travels between Frazer interlocking (from Abrams Yard via Norfolk Southern’s Trenton Cut-Off) to Norfolk Southern’s Wilmington and Northern line at MP 39.2. Figure 33 displays the estimated daily, weekday operations on the Keystone Line between Atglen and Frazer.

Figure 33: Average Daily Rail Trips: Amtrak Keystone Corridor/SEPTA Paoli-Thorndale Line

Atglen to Malvern

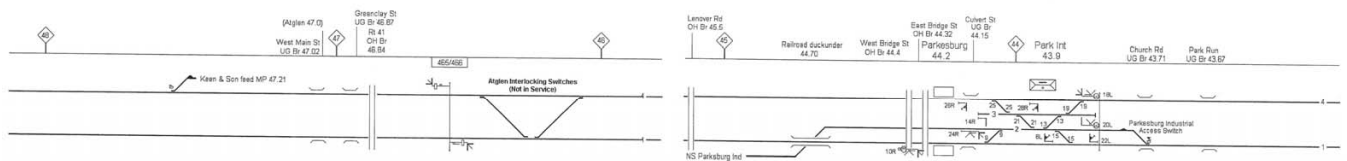


* - Turnout at MP 39.2 to access Norfolk Southern’s Wilmington and Northern line

Source: Chester County Planning Commission, 2011.

Existing rail configuration

The existing rail configuration through the Atglen area, as depicted by Figure 34, is a two track operation, with a one-way directional signal system. Amtrak, PennDOT, and SEPTA are currently working on a capital project to update the signalization to a two-way signal design.

Figure 34: Existing rail configuration

Source: Amtrak 2010 Track Diagram, 1/28/10

The closest interlocking to the east of the station site (MP 47) is the newly constructed Park interlocking (MP 46.3), a high-speed interlocking with cross-over capabilities between both main tracks. SEPTA staff noted that Park interlocking can accommodate a future turnout to enable service to the south-side station location. Immediately east of Park interlocking is the former Park interlocking (MP 43.9). The cross-over capabilities were retired, leaving only access to the active Parkesburg Industrial siding via a turnout from Track 1 and a rail duckunder. The next interlockings to the east are the Caln (MP 36.6) and Thorn (MP 35.0) at the current terminus of SEPTA rail service at the Thorndale station.

To the west of the station site, the closest interlocking is the Leamans interlocking (MP 56.7) with cross-over capabilities and access to the Strasburg Railroad.

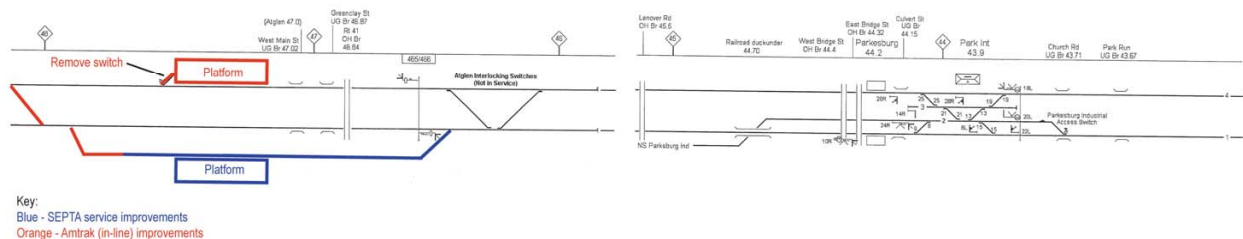
Station Requirements

The following station requirements are based on input from SEPTA, Atglen Borough, and the Chester County Planning Commission. These requirements are intended to give initial direction towards the station design, but should be evaluated and verified in the subsequent task of developing a recommended station plan.

Conceptual Rail and Station Configuration

Given the existing rail configuration and SEPTA ownership of the former Atglen-Susquehanna right-of-way, the conceptual rail configuration proposes a rail turnout be added to the Park interlocking and a rail siding approximately 4,500 feet in length be constructed from the interlocking to the Atglen station. Figure 35 displays this concept track design.

Figure 35: Conceptual Track and Station Arrangement



Source: Chester County Planning Commission, 2011; Amtrak 2010 Track Diagram, 1/28/10

As a terminus station using the rail station siding, all passenger boarding and alighting would occur at a newly-constructed station constructed along the siding to the south of the current main lines.

This track arrangement (with the infrastructure improvements proposed) would preclude the ability for Amtrak trains to serve the station via either main line. It should be noted that neither PennDOT nor Amtrak have been formally approached about their interest in serving Atglen station. Nevertheless, the conceptual track arrangement could accommodate in-line Amtrak service (as shown in Figure 35) as a future phase by the construction of a station platform north of the mainline (Track 4) and interlocking to the west of the proposed station.

Storage capacity

Through discussion with SEPTA staff, the track siding should permit the short-term storage of one six-car consist beyond (to the west) of the station platform as well as appropriate spacing between this consist and a consist serving the platform. Due to the proximity of the Frazer Yard, SEPTA staff has stated that long-term equipment storage is not needed or anticipated at the Atglen station area.

Platforms

In compliance with ADA requirements, a 500-foot high-level platform is required within the train station design.

Freight Bypass

Under the conceptual near-term alternative of a rail turnout and siding, freight train activity and station clearance would be unaltered on the main line tracks. The in-line station concept would provide the ability for freight trains to clear the station platforms using the present Track 1 main line, with cross-over movements at the proposed interlocking west of the station and the Park interlocking.

PennDOT and Amtrak have proposed to construct/reactivate the third track between Paoli and Atglen to provide higher speed passenger rail service and reduce conflicts between freight and passenger rail operations. Design of this project could be coordinated with the design to accommodate passenger service to Atglen.

Station Building

With Atglen Borough's rich railroad history, it is recommended that the station's conceptual design include a station building or waiting area that is historically-sensitive to the former Pennsylvania Railroad Atglen train station (see Figure 2). SEPTA staff recommended that a station design similar to the Fort Washington station on SEPTA's Lansdale-Doylestown line be considered.

Additionally, as noted with the historic resource inventory, the Amtrak ARRA project to replace transmission power lines along for the former Atglen & Susquehanna line will place several kiosks along the right-of-way explaining the rail line's historical significance. The station design should integrate the kiosk design, as appropriate and feasible.

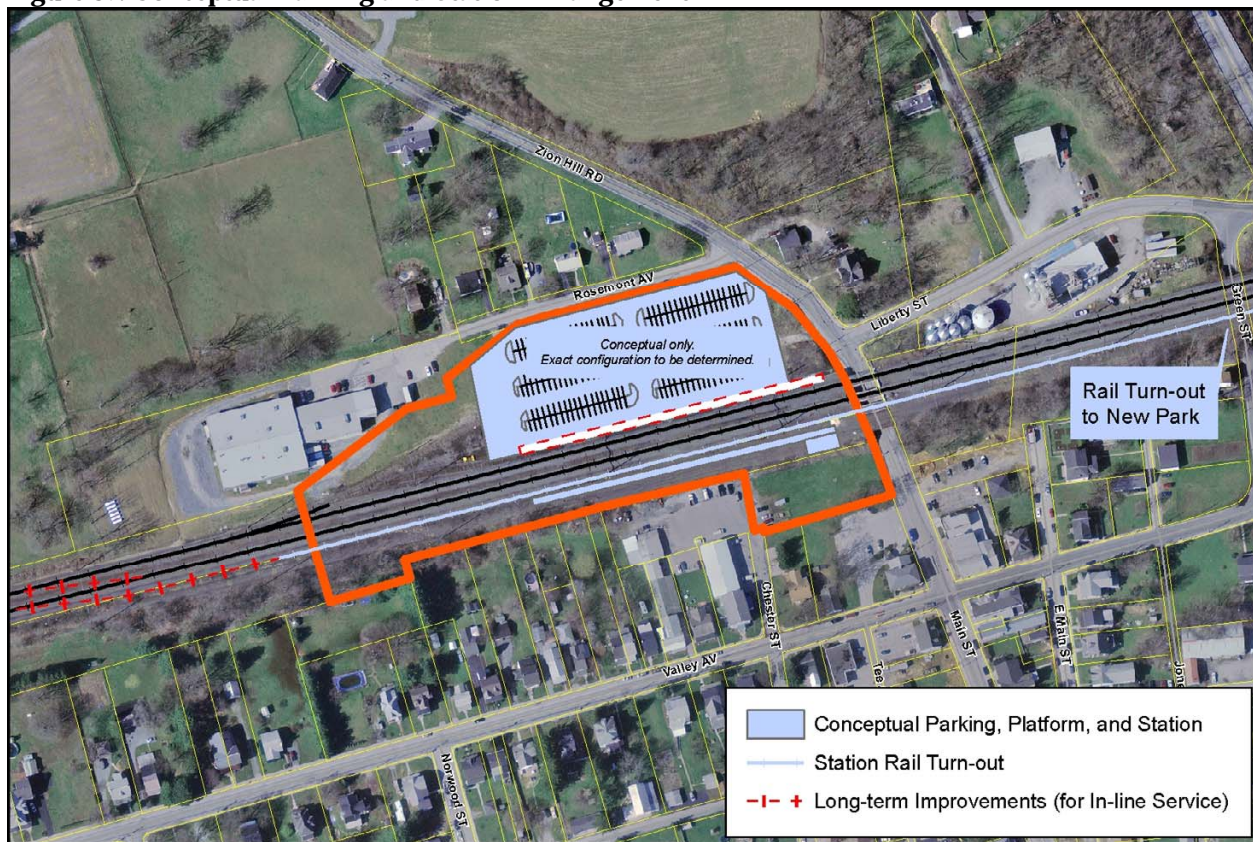
Station Parking Demand

The Chester County Planning Commission estimated parking supply and demand at the Coatesville, Parkesburg, and Atglen train stations by considering projected ridership for both SEPTA and Amtrak service and a 78% rider-to-parking space ratio. This preliminary analysis suggests the need for a minimum of approximately 100 - 110 parking spaces to satisfy the parking demand at the Atglen station. This calculation remains preliminary as it requires review by Atglen Borough, SEPTA, and Amtrak. Depending on the adjacent parking needs of Atglen's business district, anticipated ridership growth, and adjacent anticipated development, the parking design and supply on the site could be increased.

Figure 36: Estimated Parking Allocation at Paoli-Thorndale Extension Stations

Description	Factor	Value	Notes:
SEPTA Trips - Projected		550	DVRPC/Lancaster MPO Year 2030 Population (adopted 2007/2006)
SEPTA Boardings - Projected		275	
Amtrak Boardings - Projected	50%	143	Current Amtrak ridership (95) with 50% growth over next 20 years assumed: based conservatively on ridership growth at Parkesburg and Coatesville from 1999 (45 boardings) to 2009 (95 boardings; 111% growth) and trend of all five Chester County station from 1999 (275 boardings) to 2009 (541; 96% growth)
Total 2030 Projected Boardings		418	
Rider-to-parking space ratio:	78%		Same ratio as used by DVRPC in 2007 Study
TOTAL PARKING SPACES - NEEDED		326	
<u>Conceptual Parking Allocation:</u>			
Coatesville		100 - 125	Parking estimate reflects anticipated station concept
Parkesburg	50%	100 - 110	50% allocation of parking spaces (after subtracting Coatesville project) to Parkesburg station
Atglen	50%	100 - 110	50% allocation of parking spaces (after subtracting Coatesville project) to Atglen station

For illustrative purposes, Figure 37 presents a conceptual arrangement for the passenger station and parking, which places station parking on the Amtrak-owned parcel north of the tracks and a station building and platform on the south side of the main line.

Figure 37: Conceptual Parking and Station Arrangement

Drop-Off Area (Kiss 'n Ride) and Bus Transit Connection

Additionally, the station concept should include the design of a kiss 'n ride area for passenger drop-offs and pick-ups, as well as identified location for future bus service. At this time, it is anticipated that station would only be served by one bus route, most likely the Coatesville Link. However, the exact bus stop configuration must be further analyzed, including stop location and space for layover. Analysis for turning radii and layover space should be based on a 40' bus.

Access Plan

An access plan for vehicular, pedestrian, and bicycle modes will be developed as a component of the station concept plan. Figure 38 identifies five intersections that have the potential to be impacted by the passenger rail station. It is recommended that peak-hour turning-movement data be collected for these intersections and a level-of-service analysis be conducted, if warranted.

Additionally, the access plan should identify any improvements for walking and bicycling to access the station. It should be noted the sidewalk assessment (see Figure 10) showed that sidewalks are present on both sides of Zion Hill Road between the train station site and Main Street/Valley Avenue; therefore, significant pedestrian improvements are not anticipated. Bike

parking must be accommodated at the station, either as rack or secure lockers. Estimated demand for bike parking is approximately 5 – 15 spots.

Figure 38: Identified Critical Intersections



Next Steps

This memorandum includes the fundamental information necessary to proceed with a conceptual design of the Atglen train station, parking, and related amenities. The Chester County Planning Commission and Atglen Borough working in conjunction with the Delaware Valley Regional Planning Commission and SEPTA anticipate to release a Request for Proposals for station design work in 2011.