

Upper Dauphin and Perry Counties

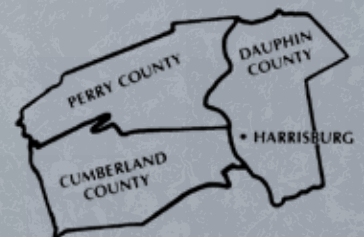
Park and Ride Project



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Harrisburg Area Transportation Study

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Upper Dauphin and Perry Counties

Park and Ride Project

1. Introduction

a. Project Overview and History

The purpose of this project is to meet existing and future demand for park and ride facilities for daily commuters in upper Dauphin and Perry Counties, Pennsylvania. The project seeks to identify one or more locations for new and/or expanded park and ride facilities in upper Dauphin and Perry Counties to serve commuters utilizing Route 11/15, Route 22/322, Route 147, and Route 34 predominantly to access the metropolitan Harrisburg area.

b. Park and Ride Facilities

A park and ride facility is generally defined as “a collection point for travelers to transfer between the auto mode and transit (bus or rail), or between the single occupant vehicle (SOV) and other higher occupancy vehicle (vanpool or carpool) modes.”¹

In this context, the project assessed opportunities for facilities which would either (1) not be served by public transit² but support carpool and vanpool transit options (“park and pool” facilities) or (2) those which could be served by existing transit services provided by Capital Area Transit (CAT)³. CAT is the Harrisburg metropolitan region’s provider of mass transportation services, including CAT bus service, CAT trolley service, and transit services for the elderly and disabled.

Because park and ride lots provide the opportunity for travelers to shift from a single occupied vehicle to higher occupancy modes, they offer many benefits that include:

- 1 American Association of State Highway and Transportation Officials (AASHTO), 2004. Guide for Park and Ride Facilities, 2nd Edition.
- 2 Public transit is defined as passenger transportation service available, for compensation, to the general public on a regular basis. Public transit generally uses vehicles that transport more than one person (e.g. van, bus or rail car) over a route or set of routes following defined travel schedules and fixed points of interchange.
- 3 CAT does not currently serve Perry County. Since no plans or agreements are in place to expand public transit, facilities considered in Perry County are considered in this project as “park and pool” facilities. However, the conceptual design of all facilities in the project has been completed to accommodate ingress and egress of transit bus vehicles in the event that public transit services could serve the location in the future.

- Costs savings for drivers due to less fuel consumed on a per-person basis;
- Potential decrease in traffic congestion;
- Potential improvement in air quality; and
- A more efficient use of public investment at the local, state, and federal levels

A major component of the project is the identification of the problems (needs) at existing park and ride locations (e.g., not enough parking at the Millerstown location), and the opportunities for new locations. Project needs were developed to provide guidance on alternatives development, screening, and selection.

Alternatives development and screening was based on: (1) the applicable design criteria; (2) site location criteria based on project purpose and needs; (3) preliminary engineering; and (4) avoidance of potential adverse environmental impacts.

c. Project Participants

This project was conducted by staff from the Harrisburg Area Transportation Study (HATS), the metropolitan planning agency responsible for planning and programming transportation projects in Cumberland, Dauphin, and Perry Counties. HATS staff were assisted by a project advisory committee (PAC) and a consulting team from Gannett Fleming, Inc.

The PAC was comprised of representatives from CAT, the Pennsylvania Department of Transportation (PennDOT), Commuter Services of Pennsylvania, the Federal Highway Administration (FHWA), and representatives from Dauphin and Perry Counties.

The PAC members were:

Drew Ames	HATS Planning Staff
Mike Kmiecinski	HATS Planning Staff
Jim Bullock	Tri-County Regional Planning Commission
Brandy Heilman	Commuter Services of Pennsylvania
Jim Hoffer	Capital Area Transit
Bill Jones	Capital Area Transit
Skip Memmi	Dauphin County Community and Economic Development and HATS
Carey Mullins	PennDOT District 8-0
Steve Naylor	Perry County Board of Commissioners and the Tri-County Regional Planning Commission
Walt Panko	PennDOT Central Office

Robert Rhoades	Tri-County Regional Planning Commission
Jesse Sabitsky	PennDOT District 8-0
Ben Scott	Northern Dauphin Revitalization Project, Inc.
Robert Sharar	Tri-County Regional Planning Commission
Dennis Sloand	PennDOT District 8-0
Chuck Trapp	PennDOT District 8-0
Jim Turner	Perry County Planning Commission and HATS
Greg Vaughn	PennDOT District 8-0
Jon Crum	Federal Highway Administration

The PAC met approximately every three months during the process to assist in identifying needs, developing candidate sites, and screening alternatives. Additionally, the PAC was responsible for selecting and recommending a consultant (following PennDOT's procedures outlined in PennDOT *Procedures for the Administration of Consultant Agreements, Publication 93-C.*), which they did without HATS staff input. The HATS coordinating committee approved the selection of the recommended consultant and authorized the consultant to work on this project.

d. Regulatory Context:

Linking Planning & the National Environmental Policy Act

This project is a multimodal, systems-level, sub-area transportation planning project performed as per Title 23 of the U.S. Code of Federal Regulations (CFR) (23 CFR§ 450.318) conducted as part of the responsibilities of HATS. The project is being conducted to link transportation planning and compliance with the National Environmental Policy Act (NEPA) by considering, during project planning, the elements of the project development process that have normally occurred after a project is programmed on the transportation improvement program (TIP).

The benefits of linking transportation planning and environmental considerations⁴ necessary under the NEPA legislation at the earliest stage possible, as accomplished here, include:

- *Relationship-building benefits:* By enhancing inter-agency participation and coordination efforts and procedures, transportation planning agencies can establish more positive working relationships with resource agencies and the public.

4 FHWA Planning & Environment: Linkages Implementation Resource, September 2008
http://www.fhwa.dot.gov/hep/pel/pelrpt_final.pdf

- *Process efficiency benefits:* Improvements to interagency relationships may help to resolve differences on key issues as transportation programs and projects move from planning to design and implementation. Conducting some analysis at the planning stage can reduce duplication of work, leading to reductions in costs and time requirements, thus moving through the project development process faster and with fewer issues.
- *On-the-ground outcome benefits:* When transportation agencies conduct planning activities equipped with information about environmental resource considerations and in coordination with resource agencies and the public, they are better able to conceive transportation programs and projects that serve the community's transportation needs more effectively.

In Appendix A of the regulations governing statewide and municipal planning (23 CFR 450), the FHWA has stated:

The FHWA and the FTA (Federal Transit Administration) will give deference to decisions resulting from the transportation planning process if the FHWA and FTA determine that the planning process is consistent with the “3-C” planning principles⁵ and when the planning study process, alternatives considered, and resulting decisions have a rational basis that is thoroughly documented and vetted through the applicable public involvement processes.

The NEPA requires that the FHWA and the FTA be able to stand behind the overall soundness and credibility of analyses conducted and decisions made during the transportation planning process if they are incorporated into a NEPA document.

The documentation for this project follows the conventions of documentation performed during environmental analysis under NEPA — following both guidance from FHWA and PennDOT — but is not subject to federal review under NEPA as per 23 CFR § 450.336. The intent of this project is to perform transportation planning with consideration of the NEPA requirements for project development to give the project a “head start” in the project development process before the engineering and construction phases are programmed on the TIP.

The project will result in the identification of one or more individual projects, which will be processed as categorical exclusions (CEs) for the NEPA analysis portion of project development. Park and ride facilities qualify as “transportation corridor fringe parking facilities” in the list of actions meeting the criteria for CEs in the FHWA/FTA regulations implementing NEPA (23 CFR 771.117.d.4).

⁵ Comprehensive, cooperative and continuous

2. Existing Conditions

a. Project Area

The project area encompasses all of Perry County, a portion of Cumberland County along Route 944, and a portion of Dauphin County to include Middle Paxton and Rush Townships and the municipalities north of them.

b. Overview of Current Commuting Patterns

The need for park and ride lots to serve upper Dauphin and Perry Counties is well-established. A 2007 feasibility study⁶ of park and ride facilities in the Millerstown and Newport areas stated that:

- According to the 2000 census, Perry County had the highest percentage of its labor force (68%) traveling outside the county to work.
- Most workers traveling out of Perry County to work commute to the Harrisburg-Carlisle metro area.
- According to the 2000 census, Perry County had the third highest percentage of its labor force (15.2%) traveling in car pools. Juniata County, immediately north, had the highest percentage (19.3%).

The latest demographic estimates available from the U.S Census Bureau for 2006 through 2008 support those findings. Commuters from Perry County had higher rates of carpooling and out-of-county travel to jobs and longer commute times in comparison to workers in Dauphin County and all of Pennsylvania. However, many residents of upper Dauphin County commute to the metropolitan Harrisburg area in the southern portion of the county. Therefore, commuting statistics and trends for the upper Dauphin County area are thought to closely align with those of Perry County commuters.

Figure 1 – Commuter Statistics

Demographic	Perry County	Dauphin County	Pennsylvania
Commuters driving alone	76%	78%	77%
Commuters carpooling	15%	11%	10%
Employment outside county of residence	69%	22%	30%
Commuter travel time to work			
30-34 minutes	19%	9%	12%
35-44 minutes	14%	5%	7%
45-59 minutes	17%	4%	8%
60 or more minutes	8%	4%	8%

Source: U.S. Census Bureau, 2006-2008 American Community Survey 3-Year Estimates

6 PennDOT, March 2007. SR 0022/SR 0322 Perry County PA, Park-and-Ride Feasibility Study (Millerstown and Newport).

The latest analysis of Commuter Services of Pennsylvania's database (people who have signed up for the carpool/vanpool ride matching or emergency ride home from work services) confirm the findings from the Census 2000 and 2006-2008 data and show that commuter interactions in upper Dauphin County mirror those in Perry County. Route 22/322 and, to a lesser extent, Route 11/15 carry the bulk of north-south commuters through our region. Sections of both highways are identified in the HATS congestion management process as priorities for improving congestion. In upper Dauphin County, Route 209, Route 147, and Route 225 carry the majority of commuters south to jobs in the Harrisburg metro area. The area of the Clarks Ferry Bridge, where Route 147 and Route 22/322 converge, is a very popular park and ride location.

To further define commuter trends and movements, Commuter Services of Pennsylvania conducted an informal survey of park and ride lots in the project area. The survey was performed through voluntary completion of a written survey provided to users in the following locations:

- Dauphin County: Route 22/322 park and ride: (6 responses)
- Millerstown Area: Informal lot along Route 22/322 (1 response)
- Cumberland County: Informal lot along Route 114 (1 response)
- Route 11/15/Route 104 park and ride: (1 response)
- Clarks Ferry Bridge: Informal lot: (11 responses)
- Newport Route 22/322 park and ride: (19 responses)

A total of 39 people completed the surveys.

Results of the survey provided the following findings:

- The average length of the commute to the park and rides is approximately 9.5 miles and the average length to the destination is 34 miles
- Of the three park and rides that had more than one response, the Newport park and ride had the highest mileage to final destination with an average of 41 miles and the mileage to the park and ride was an average of 11 miles; the Clarks Ferry Bridge park and ride had an average final destination of 32 miles and the mileage to the park and ride was an average of 13 miles; and the Dauphin County Route 22/322 park and ride had the lowest mileage to the final destination with an average of 23 miles and the mileage to the park and ride was an average of 3 miles.

- Approximately 85 percent of the commuters that utilize the park and rides use car pooling as their means of transportation, while approximately eight percent use transit and eight percent use another mode of transportation.

Reasons stated for using the park and rides were:

- Location near highways
- Convenient location for carpool members
- Safe and secure location
- Access to transit
- Proximity to other locals

When asked how far they would be willing to travel to change park and rides to a better one, approximately 42 percent would only travel up to two miles away from where they are parking now, 18 percent would travel up to three miles, 21 percent would travel up to five miles, three percent would travel up to ten miles, and 16 percent are not willing to travel any farther. However, when asked if they would use a farther site if their park and ride would close due to safety, 50 percent would use a further park and ride site, 42 percent claim they would not use a further park and ride site, and eight percent are unknown. The reason most stated by commuter for not using a park and ride that would be further away is the inconvenience.

c. Overview of Existing Transit Service (CAT and Fullington)

CAT provides bus service to upper Dauphin County from Elizabethville to Harrisburg in the morning and back to Elizabethville in the evening via their CAT Route 23 service. The route features stops in Elizabethville, Millersburg, Halifax, Clarks Ferry (at the unofficial park and ride lot), Dauphin (at the official park and ride lot), and six stops in Harrisburg. The bus from Elizabethville leaves at 6:05 am and arrives at its first Harrisburg stop at 7:05 am on weekdays. A second bus on the same route starts in Millersburg at 6:22 am and arrives at its first Harrisburg stop at 7:15 am on weekdays.

Fullington Trailways provides daily, private bus service between State College and Harrisburg. Within the project area, Fullington Trailways serves (dependent upon rider demand) the Millerstown and Newport areas of Perry County. If riders have pre-purchased tickets, buses will stop along the Route 322 corridor in these areas to collect passengers at a predetermined location. Fullington Trailways does not travel off of Route 322 through the project area.

d. Existing Park and Ride Facilities (Formal and Informal)

The following ten park and ride lots are currently located within the project area (See Appendix A for a map of these sites and inventory sheets with specific information on each lot). The PAC reviewed each of these sites to determine existing usage, conditions, site deficiencies, and recommendations concerning inclusion in the current project.

(1) Route 11/15 & Route 104 Park and Ride

This lot is a formal park and ride facility, paved and in good condition. It is a poor candidate for bus service due to space constraints.

(2) Route 11/15 Newport Exit Park and Ride

This lot is a formal lot, paved and in excellent condition with good lighting. It is a very attractive lot, but very underused. It has 51 spaces, but only four or five cars were present on the day it was surveyed. Two reasons for the lack of cars emerged from discussion among the PAC: (1) the lot is not very visible from the highway; and (2) its location is not a logical stopping point for commuters — a location nearer to Route 34 would be better.

(3) Route 22/322 Newport Park and Ride

This formal park and ride lot is large and well-maintained. It is consistently full to overflowing. A feasibility study from 2007 recommended expanding this lot to accommodate the existing demand. This project will revisit the recommendations from the 2007 study.

(4) Route 22/322 Watts Informal Park and Ride

There were no particular comments on this location from the PAC, except to note that the location is very good in terms of access to Route 22/322 but space is a limiting factor.

(5) Route 22/322 & Route 11/15 Informal Park and Ride

This is no longer a functional park and ride lot. Members of the PAC indicated that the nearby Red Rabbit restaurant is being used as an informal park and ride lot.

(6) Clarks Ferry Bridge/Route 147 Park and Ride

This location is very popular and nearly always full. PennDOT discourages the use of this location as a park and ride lot due to safety concerns — access to the

site is uncontrolled, has poor sightlines, and other safety concerns. This location is served by CAT Route 23. The PAC feels that an alternate location 1-2 miles north on Route 147 would serve commuters' needs better than the current location.

(7) Dauphin Route 22/322 Park and Ride

This location is not easily visible from Route 22/322, nor does it have very visible signs. The lot is in excellent condition and is in a good location. Presently, CAT is following-up on the process of using dedicated transportation enhancements funding to install better signs (and possibly shelters and trash receptacles) to make this lot easier to find.

(8) Route 22/322 Millerstown Informal Park and Ride

This location is generally in high demand, but there is not a lot of room for vehicles, and the shoulder of a major road is not as safe as a dedicated lot. The parking lot for the nearby swimming pool is also used by commuters as an unofficial park and ride lot. Alternatives to this lot were examined in the 2007 feasibility study that also investigated the Newport lot. The PAC recommended that the project revisit the alternatives discussed in the 2007 study.

(9) Elizabethville Wal-Mart Park and Ride

This location is in excellent condition, has good signs, is well-used, and supported by the Wal-Mart manager.

(10) Unofficial Route 114 Park and Ride (2 lots)

PennDOT recently investigated this location and found that busses could have trouble moving through the site. Additionally, there is a new traffic signal to be installed south of this location that could affect whether or not commuters find the site desirable. Further investigation is required.

3. Purpose and Need

The FHWA⁷ states, “the purpose and need section ... is one of the most important and should therefore be clear and well documented. The purpose and need drives the development of the range of alternatives. Some of the common needs include transportation demand, safety, legislative direction, urban transportation plan consistency, modal interrelationships, system linkage, and the condition of an existing facility.”

Furthermore, “... a study ‘purpose and need’ establishes the problems that must be addressed in the analysis; serves as the basis for the development of project goals, objectives, and evaluation measures; and provides a framework for determining which alternatives should be considered as reasonable options in a given corridor. More fundamentally, the statement of purpose and need serves to articulate — and justify — why an agency is proposing to spend potentially large amounts of taxpayer’s money to study and implement a project that may cause significant environmental impacts, and why these impacts are acceptable.”

a. Purpose

The purpose of this project is to meet the existing and future demand for park and ride facilities for commuters in upper Dauphin and Perry Counties primarily traveling to the metropolitan Harrisburg region.

b. Needs

Four clear, specific needs emerged from the demographic data analysis and the inventory of park and ride locations:

- The Clarks Ferry Bridge is in high demand as a park and ride location, but the site suffers from poor safety and security.
- A park and ride facility in the Millerstown area is in high demand, but existing locations are informal without amenities and with safety and security concerns. Parking is on the shoulder of Route 22/322 and can only accommodate 20 or so vehicles.
- The existing Newport park and ride facility is usually at capacity with people often parking in unofficial overflow areas. More parking is needed at this location.
- Demand exists for park and ride locations in areas that do not currently have them. Two examples are in Millersburg and Penn Township near the Route 11/15 and Route 22/322 interchange. Demand is also noted in the Halifax area, and near the intersection of Route 850 and Route 34 in Perry County.

⁷ FHWA Project Development:NEPA Documentation.
<http://www.environment.fhwa.dot.gov/projdev/docueis.asp>

4. Potential Park and Ride Locations

a. Site Selection Criteria and Considerations

PennDOT Design Manual 1C (DM-1C), Chapter 4, Section 4.12E, “Park and Ride Facilities” describes park and rides as “fringe area parking facilities that can provide relatively inexpensive contribution to air quality and mobility improvements.”

DM-1C, Section 4.12.E identifies eight factors that should be considered during park and ride lot site selection, including:

- Proximity to existing informal park and ride activity sites, such as parking on shoulders or on leveled areas.
- Access to primary arterials or freeways serving the corridor. Interchanges may provide space for park and ride lots.
- Security and potential to minimize vandalism and theft.
- Location relative to residential areas and major activity centers that generate a significant number of trips and can provide auxiliary services such as dining, ticket services, etc.
- Ability to alleviate congestion because of location relative to major activity centers and traffic bottlenecks.
- Ability to serve as an intermodal transfer point because of location relative to existing transit service and major activity centers.
- Accessibility and circulation potential of the site for entering and exiting transit vehicles.
- Future expansion potential of the site.

Other considerations for identifying candidate park and ride locations included:

- Joint value opportunities – potential for community or economic benefits for both users and adjacent facilities/businesses.
- Conceptual development costs and land use effect – e.g. use of a developed site versus use of an undeveloped “green” site.

Using these criteria, their knowledge of commuter patterns, and understanding of local land use patterns and the transportation network of the project area, the PAC sought to identify an initial set of candidate locations for park and ride facilities.

(1) Clarks Ferry Bridge

The initial discussions with the PAC focused on the problems associated with the Clarks Ferry Bridge informal park and ride lot and identification of suitable alternatives. The group assessed potential sites north of the bridge on the east side of the river, but two problems continually frustrated the group's efforts to find an acceptable site: (1) there is little room between the river and the steep hillside on Route 147 for more than the road and railroad right of way, and (2) the belief that commuters coming from across the river on their way to Harrisburg will be unlikely to turn away from Harrisburg (i.e. back-track) to go to a park and ride facility. Consequently the discussion moved to sites that would either capture commuters before they cross the bridge or provide a park and ride facility further south toward Harrisburg.

(2) Millersburg and Halifax

The group then discussed locations in Millersburg and Halifax that could serve people coming from upper Dauphin County. A Millersburg location along Pine Street at the municipal building had been previously considered, but the group expressed some concern that CAT busses would have trouble maneuvering in the lot. The group examined four potential sites in Halifax Borough and Halifax Township. The group felt that the best location for a lot serving commuters from upper Dauphin County is before Route 147 and Route 225 split.

(3) Newport and Millerstown

The Newport and Millerstown park and ride lots in Perry County were already studied in a previous feasibility study conducted by PennDOT in 2007. This project will incorporate those results and determine what is necessary to address the needs already identified at those locations. Of particular concern is the proposal to create a park and ride lot adjacent to the community park and pool in Millerstown. Of concern during the initial screening was that FHWA may not allow sharing the park and ride facility with those using the park, and FHWA would certainly not allow the park to close the park and ride or take over its use during certain events. The conceptual engineering took that concern into account.

(4) Upper Perry County

The group examined two locations along Route 850 and Route 34 in Perry County. These locations could serve as a suitable facility for commuters heading over the mountain on Route 34 to either continue to Carlisle or take Route 944 east toward the Harrisburg area.

(5) Upper Cumberland County

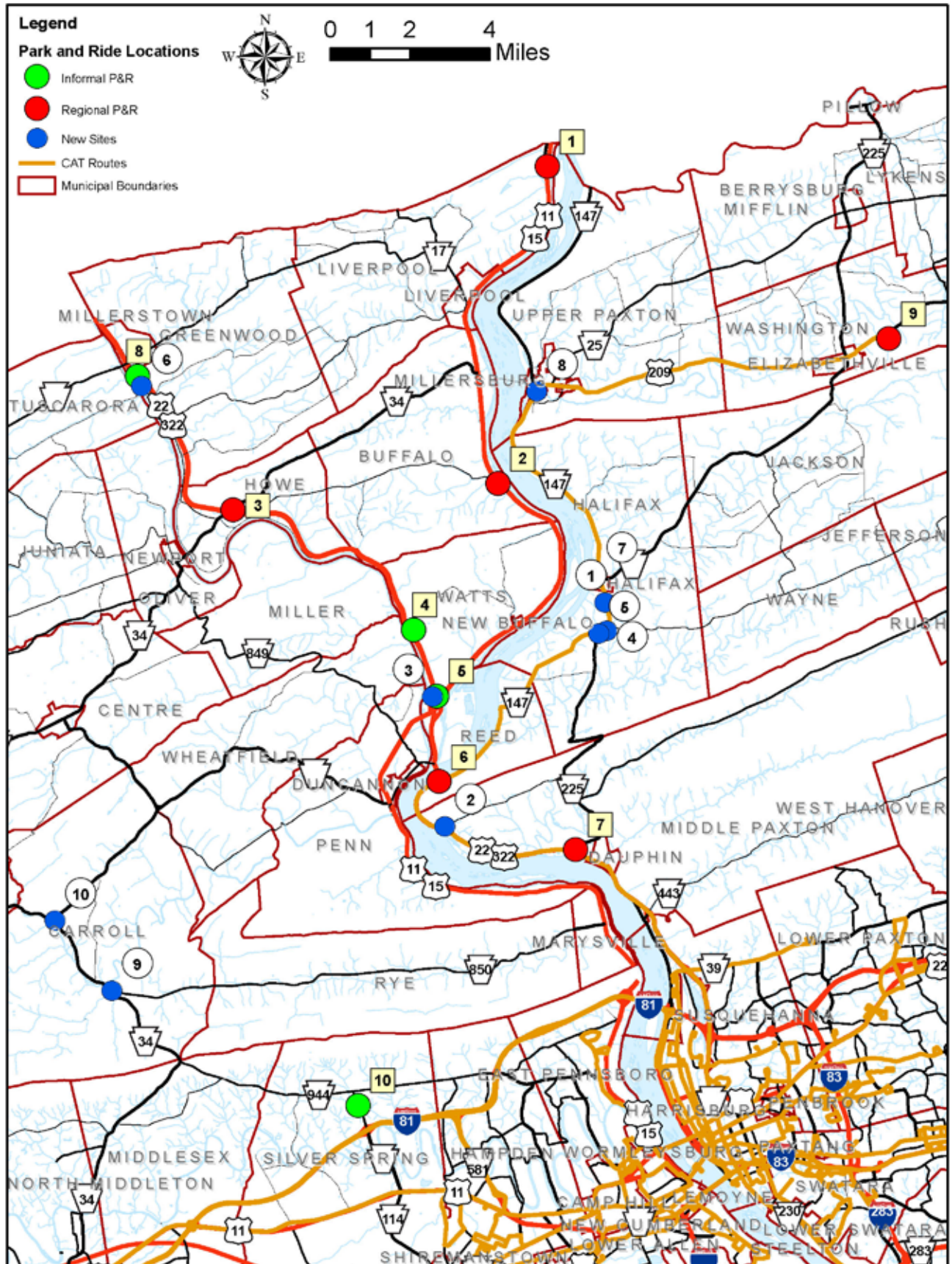
To address commuters using Route 850 and Route 34, the PAC considered potential sites in upper Cumberland County which could serve commuters destined for Harrisburg from Perry County. An existing informal park and ride site along Route 114 was identified as a candidate. The PAC agreed that little work would be needed to turn the informal park and ride lot near the intersection of Route 114 and Route 944 into a formal facility and that such a lot would continue to attract Perry County commuters bound for the Harrisburg area. It was also noted that the site could be served via existing CAT transit routes.

b. Candidate Park and Ride Facility Locations

In response to the project needs and the site location criteria considered, the following 14 candidate park and ride facility locations were identified by the PAC (see figure 2):

- Site 1: Halifax School
- Site 2: General Area of Route 22/322 and Route 325 Interchange
- Site 2A: Alternate Site for General Area of
Route 22/322 and Route 325 Interchange
- Site 3: Amity Hall Inn
- Site 4: Vacant Site next to Sheetz
- Site 5: Halifax Fire House
- Site 6: Millerstown Community Pool
- Site 7: Vacant Building in Halifax
- Site 8: Millersburg Municipal Building
- Site 9: Village Square Shopping Center
- Site 10: Route 34 and Landisburg Road
- Site 11: Former Ford Dealership in Halifax
- Site 12: Vacant Former Fuel Tank Site
- Site 13: Parcel adjacent to existing Newport Park and Ride Facility
- Site 14: Unofficial Route 114 Park and Ride Lot

Figure 2 – Park and Ride Locations



In April 2010, the PAC held a technical meeting to review each site, including preliminary engineering and environmental considerations. The objective of the meeting was to narrow the list of candidate sites down to a more manageable number of alternatives for additional engineering and environmental analysis. The intent was to retain at least one candidate site in each of the project focus areas (Clarks Ferry Bridge, Millersburg/Halifax, Newport/Millerstown, Upper Perry and Upper Cumberland) for additional consideration.

Each site was discussed individually and the attendees noted pros and cons of each site⁸. At the end of the discussion, a consensus was reached as to whether each site would be retained for further analysis or dismissed. Through these discussions, eight preliminary site alternatives were recommended to be retained for further engineering and environmental analysis. A summary of the information reviewed by the PAC and the results of their deliberations are provided as Table X.

Note: During this meeting, an additional candidate site was identified along Wisconsin Avenue and Pine Street in Millersburg as an alternative to the Millersburg Municipal Building parking lot. This site is approximately 0.3 miles south of Route 209 (State Street) which is used by CAT for its Route 23 service between Elizabethville and Harrisburg. The 15.8 acre site is the location of the former Johnson-Baille shoe factory, which was housed in the approximately 70,000 square-foot building existing on the property. The property includes a large, unused parking area which could accommodate park and ride use. However, this site is included in the Pennsylvania Keystone Opportunity Zone (KOZ) program. This program provides economic incentives and tax benefits to encourage the reuse of abandoned, unused, underutilized land and buildings. By encouraging the re-establishment of business use, the community realizes additional job opportunities for residents. The ultimate goal of the program is to induce spin-off taxable economic activity outside the designated zone. Because use of this site as a park and ride facility would already be tax exempt, not create any additional employment opportunities and have minimal capacity for inducing other economic development in Millersburg, this site was dismissed from further consideration as not consistent with community land use and economic development objectives.

⁸ For each of the 14 candidate sites, a rough approximation of the number of potential parking spaces was identified based primarily on the space available. These approximations did not consider ingress and egress of vehicles, site topography, stormwater maintenance, or other engineering criteria.

Figure 3 – Summary of 14 Candidate Park and Ride Facility Locations

Description	Comments	Acres	Approx # of Spaces	Environmental Resources		Pros	Cons	Disposition
				PNDI	Resources			
Site 1: Halifax School								
Halifax High School, former P&R site, now used by school. Dauphin Co.	Constructed as part of Route 22/322 upgrade using Federal funds.	1.01	40	No known impact	Farmland soils	Already built. Good location for commuters. Addresses need in Halifax area	Currently owned and used by school. Unlikely to be converted back for P&R only use.	Dismissed primarily because school has development plans that would impact lot's viability.
Site 2: General Area of Route 22/322 and Route 325 Interchange								
Small residential site at interchange. Dauphin Co.	Potential alternate location for informal Clarks Ferry Bridge P&R. Property may be for sale.	0.61	60	No known impact	Hydric soils Farmland soils Forest block	Addresses need for site to replace Clarks Ferry Bridge site. On existing CAT transit route 23. Good access.	Small parcel. Site is located at the top of a steep slope.	Dismissed due to slope and size limitations.
Site 2A: Alternate Site for General Area of Route 22/322 and Route 325 Interchange								
Larger site, formerly commercial hotel, at interchange. Dauphin Co.	Potential alternate location for informal Clarks Ferry Bridge P&R. Property may be for sale.	3.05	125	No known impact	Hydric soils Farmland soils Forest block Historic resources Archaeology resources	Addresses need for site to replace Clarks Ferry Bridge site. On existing CAT transit route 23. Relatively large size. Good access.	Parcel oddly shaped. Possible issues with slope. Appears property is for sale, but may include lands beyond those needed for P&R	Retained
Site 3: Amity Hall Inn								
Former inn (built 1828); vacant for approx. 20 years. North of Route 22/322 and Route 11/15 interchange Perry Co.	Potential alternate location for informal Clarks Ferry Bridge P&R.	2.03	60	No known impact	Hydric soils Farmland soils Forest block Floodplain	Addresses need for site to replace Clarks Ferry Bridge site. Good access	Poor visibility could affect useage and present safety concerns.	Dismissed due to anticipated unavailability of parcel and visibility & safety concerns.
Site 4: Vacant Site next to Sheetz.								
Vacant lot in commercial area along Route 147/225 in Halifax Dauphin Co	Adjacent to existing Sheetz convenience store; thought to be former miniature golf facility.	1.64	60	No known impact	Farmland soils	Good location for Upper Dauphin Co commuters. Convenient access to commercial amenities. Brownfield site On existing CAT transit route 23. Addresses need in Halifax area	Would possibly require awkward left turn in and out for buses on morning transit route	Retained

Description	Comments	Acres	Approx # of Spaces	Environmental Resources		Pros	Cons	Disposition
				PNDI	Resources			
Site 5: Halifax Fire House								
Halifax Fire Department Station 29 along Route 147 Dauphin Co.	Existing parking lot. Good candidate for maintenance partnership	5.44	73	No known impact	Hydric soils Farmland soils Forest block Wetland Historic resources	Good location for commuters from upper Dauphin Co. On existing CAT transit route 23. Easy bus access for morning transit route. Addresses need in Halifax area	Site has inadequate area for bus to maneuver; requires additional paving. Parking would not be adjacent to bus stop location, requiring patrons to walk across property. Potential safety/access concerns during emergency response activities (fire equipment and medical helicopter landing area).	Retained
Site 6: Millerstown Community Pool								
Millerstown Community Park and Pool off of Route 22/322 at Millerstown interchange Perry Co.	Previously studied as potential P&R facility Near an existing informal P&R lot	10.73	105	PFBC ¹ concern with 3 mussel species.	Hydric soils Farmland soils Floodplains Wetlands	Near existing informal P&R lot. Possible shared use with community pool/Juniata River Water Trail. Addresses need in Millerstown area	Shared use may be a concern if Federal funds used for construction. Section 4(f) evaluation would be necessary.	Retained
Site 7: Vacant Building in Halifax								
Parking lot at vacant commercial building at corner of Route 147 and Armstrong St. Dauphin Co.	Currently used as informal P&R lot Currently served by CAT as a bus stop	2.93	40	PFBC concern with 3 mussel species	Floodplains	Currently informal P&R lot on CAT transit route 23 Easy bus movements Addresses need in Halifax area	Acquisition would be costly. Development as a P&R (tax-exempt) would reduce taxable commercial property in borough	Dismissed as a P&R lot at the site not the highest and best use. Continue role as informal P&R/CAT stop.
Site 8: Millersburg Municipal Building								
Southeast corner of Route 147 & Pine Street Dauphin Co.	Municipally-owned site	0.42	15	DCNR ² concern with 1 plant species PFBC concern with 1 mussel species	Floodplains Stream TMDL ³ Historic resources	Centrally located along existing CAT transit route 23 Addresses need in Millersburg area	Very small site; limited parking potential Difficult bus maneuvers Patrons would need to cross Route 147 in morning to board bus	Dismissed because of awkward bus movements, concern for pedestrian safety and small size of lot.

Notes:

- 1 Pennsylvania Fish and Boat Commission (PFBC)
- 2 Pennsylvania Department of Conservation and Natural Resources
- 3 Total maximum daily load (TMDL): A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.

Description	Comments	Acres	Approx # of Spaces	Environmental Resources		Pros	Cons	Disposition
				PNDI	Resources			
Site 9: Village Square Shopping Center								
Existing shopping center in Shermans Dale near intersection of Route 34 and Route 850 Perry Co.	Would serve commuters using Route 34 and Route 850	10.05	195	PFBC concern with 2 mussel species	Floodplain	Good location for Perry Co. commuters Precedent for other successful P&R facilities at shopping centers Potentially easy maintenance agreement Little to no new construction required Addresses need in Route 850/Route 34 area	Concerns with existing traffic levels and safety at intersection of Route 850 and Route 34	Retained
Site 10: Route 34 and Landisburg Road								
Rural location at intersection of two major commuter routes Perry Co.	Would serve commuters on both Route 850 and Route 34	1.02	60	DCNR concern with 1 plant species PFBC concern with 2 mussel species	Hydric soils Farmland soils Floodplains	Would serve two major commuter routes Addresses need in Route 850/Route 34 area	Site is privately owned Small lot Safety concerns at intersection Not centrally located	Dismissed due to small size
Site 11: Former Ford Dealership in Halifax								
Former Engle Ford auto dealership along Route 147 Dauphin Co.	Site is currently vacant Good location with large size	4.92	304	PFBC concern with 3 mussel species	None	On existing CAT transit route 23 Large size lot with easy access Partially addresses need in Millersburg area Addresses need in Halifax area	Potentially expensive commercial property	Dismissed because a P&R facility would not be the highest and best use of property
Site 12: Vacant Former Fuel Tank Site								
Former Exxon Inglenook petroleum bulk storage terminal along Route 147 Dauphin Co.	Potential alternate location for informal Clarks Ferry Bridge P&R. Property currently vacant	1.12	106	No known impact	Floodplains Hazardous materials	Addresses need for site to replace Clarks Ferry Bridge site. On existing CAT transit route 23	Commuters unlikely to travel north from Clarks Ferry when destined to the south Small site Awkward bus movements, especially in morning commute	Retained

Description	Comments	Acres	Approx # of Spaces	Environmental		Pros	Cons	Disposition
				PNDI	Resources			
Site 13: Parcel adjacent to existing Newport Park and Ride facility								
Along Route 22/322 and Route 34 interchange Perry Co.	Previously studied as potential P&R facility expansion Existing P&R facility is typically near capacity Access for transit service to Harrisburg via Fullington Trailways	3.30	195	No known impact	Farmland soils Agricultural security area Historic resources	Logical expansion of successful lot Large size for expansion Addresses need in Newport area	None	Retained
Site 14: Unofficial Route 114 Park and Ride lot								
Near the Interstate 81 and Route 114 interchange Cumberland Co.	Site is out of project area, but could serve Perry County commuters destined to Carlisle or Harrisburg	0.74	90	No known impact	Hydric soils Forest block	Current significant use as informal P&R lot Could easily be served by CAT Within existing PennDOT right-of-way Addresses need in Route 850/Route 34 area	Site along existing right-of-way has limited depth and narrow footprint Safety concerns regarding separation of lot from travel lanes	Retained

From the 14 candidate park and ride facility locations, the following eight locations were identified as preliminary site alternatives to be retained and carried forward for additional consideration:

- Site 2A: Alternate Site for General Area of Route 22/322 and Route 325 Interchange
- Site 4: Vacant Site next to Sheetz
- Site 5: Halifax Fire House
- Site 6: Millerstown Community Pool
- Site 9: Village Square Shopping Center
- Site 12: Vacant Former Fuel Tank Site
- Site 13: Parcel adjacent to existing Newport Park and Ride Facility
- Site 14: Unofficial Route 114 Park and Ride Lot

5. Park and Ride Analysis Methodology

Additional engineering and environmental analysis was completed for the eight preliminary site alternatives to further document and consider the relative merits of each site.

a. Planning and NEPA Framework

The alternatives development and screening task incorporates all the steps necessary to: (1) identify potential park and ride lot sites, (2) collect data to help evaluate the sites for suitability (e.g., analyzing transportation and environmental factors at each site); (3) screen the sites, choosing the best two or three locations; (4) conduct preliminary engineering to design the park and ride locations; and (5) conduct final screening to select the preferred alternative or alternatives.

The project team used PennDOT Smart Transportation principles during alternatives development, and conducted alternatives development and screening in accordance with the following guidance⁹:

1. Identifying and studying alternatives to a proposal is the key to the NEPA process's objective of finding transportation solutions that help preserve and protect the value of environmental and community resources.
2. Evaluation of alternatives should present the proposed action and all the alternatives in comparative form, to define the issues and provide a clear basis for choice among the options. In its regulations implementing NEPA, the Council on Environmental Quality (CEQ) calls the alternatives analysis section the "heart of the EIS", and require that agencies shall:
 - Rigorously explore and objectively evaluate all reasonable alternatives and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
 - Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
 - Include reasonable alternatives not within the jurisdiction of the lead agency.
 - Include the alternative of no action.
 - Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the

⁹ FHWA Project Development:NEPA and Transportation Decisionmaking: <http://www.environment.fhwa.dot.gov/projdev/tdmalts.asp>

final statement unless another law prohibits the expression of such a preference.

- Include appropriate mitigation measures not already included in the proposed action or alternatives (40 CFR 1502.14).
3. [A]ll reasonable alternatives should be discussed at a comparable level of detail...Although the “no-build alternative” (which might include short-term minor activities, like safety upgrading and maintenance projects) might not seem reasonable, it must always be included in the analysis. It can serve two purposes. First, it may be a reasonable alternative, especially for situations where the impacts are great and the need is relatively minor. More often, the no-build serves as a baseline against which the other alternatives can be compared.
 4. The alternative analysis should be able to give a clear indication of why the particular range of alternatives were developed, through what process, with what kind of public and agency input. Just as important is examining why alternatives have been eliminated from consideration during the NEPA process (through the use of what criteria, at what point in the process, and what parties were involved in establishing the criteria for assessing alternatives and measures of effectiveness).
 5. It is important to be candid about the rationale for generating, evaluating, and eliminating alternatives. Being as specific as possible is also essential — if an alternative is eliminated from further consideration because it “does not meet the purpose and need,” there should be adequate explanation of how or why it doesn’t meet the purpose and need.

b. Site Design Criteria

Engineering evaluation of the eight preliminary site alternatives was developed in accordance with the guidelines found in PennDOT’s DM-1C and AASHTO’s “Guide for Park and Ride Facilities, 2nd Edition (2004)”.

Analysis of the eight preliminary site alternatives was accomplished by considering the design criteria listed in DM-1C Section 4.12.E and shown below that are applicable.

- Facility Development Policy
- Development and operating costs
- Transit service availability
- Staged construction potential

- Environmental sensitivity of the site
- Site availability
- Site visibility
- Projected demand
- Site accessibility

Consideration was also given to cost and availability of right of way at each specific location. Furthermore, DM-1C, Section 4.12.E, describes the following design objectives that should be incorporated into the development of park and ride projects:

- Formulate design for safety and efficiency.
- Develop design in cooperation with local agencies including transit operating authorities (if applicable).
- Have design features comply with PennDOT's design standards and specifications.
- Investigate and incorporate operating policies, local requirements, and zoning regulations as appropriate.
- Incorporate all applicable Federal regulations, including Americans with Disabilities Act (ADA) requirements, as required.

c. Engineering Considerations

In addition to PennDOT design criteria and objectives listed above, the following engineering considerations were completed to more fully evaluate the feasibility of the preliminary site alternatives to adequately provide a location suitable for a successful park and ride facility:

(1) Site design

Several aspects of park and ride lots were considered in designing an appropriate layout at each site. Existing park and ride lots in the area were referenced to ensure the conceptual designs for this project were consistent. Geometry, sight distance, and topography were all considered in selecting appropriate locations.

Geometry of the site included ensuring there was adequate area for traffic to enter, exit, and flow through the lot. The computer program Autoturn¹⁰ was utilized to model the path and tracking for buses and passenger vehicles. Both morning and evening patterns were considered as the bus would be making different move-

¹⁰ AutoTURN is a CAD-based program that simulates tire tracking and sweep paths during low speed turning maneuvers of highway vehicles, including passenger vehicles and transit buses.

ments. Entrances were designed to be wide enough so that vehicles could safely enter without conflicting with exiting traffic. Aisles were designed to be at least 24 feet wide providing enough area for vehicles to maneuver in and out of the parking spaces. Consideration was given to the location of where the buses would pick up and drop off passengers. Parking spaces were designed at 20 feet long and 9 feet wide. Finally, the buses had to be able to turnaround within the lot if necessary. Some sites did not have appropriate accommodations, but one could be added as a part of construction. These turnaround areas were included in the conceptual drawings and estimates.

Sight distance was considered to ensure that lot users and buses will be able to safely enter and exit the site. Sight distance can be limited by horizontal curvature, vertical curvature and other obstructions such as vegetation, buildings, signs, etc. Locations that lacked proper sight distance were noted and used in the dismissal of alternatives. Sight distance can be mitigated by installing a signal; however, this is generally undesirable from a construction, maintenance, and operating cost standpoint.

Other components of a well designed parking lot were accounted for after selecting the appropriate locations. These components included sight/noise buffering, stormwater management, parking lot lighting, drainage, and right-of-way acquisition. A description of how each component was considered is included here.

Stormwater management was considered at each location. Several of the locations are already paved and the park and ride lot construction would include simply repaving them. At other locations, the addition of pavement would be necessary to create the park and ride lot, thus producing excess runoff of rainwater. An attempt was made to contact the township in which each site is located to determine if there is an existing stormwater ordinance. It was determined that each township has a stormwater ordinance and each is available at its respective township offices.

Conceptual stormwater basins were placed on the site plans to represent the potential locations and sizes of appropriate basins if required to best satisfy local stormwater requirements.

Lighting of each lot was estimated using assumptions that resembled the lighting layout at similar park and ride lots. These assumptions included that the fixtures would be a single 250-watt high-pressure sodium cut-off luminaire set at a 27-foot mounting height. It was also assumed there would be a 1.0-foot-candle minimum measurement. As with the existing lots, the light poles would be located on one side of the spaces, with a 3-foot setback from end of the space. Based on

existing park and ride lots within the region, poles were spaced between 100 and 125 feet apart.

Because proposed pavement will likely be placed with as little disturbance to existing grading as possible at many of the sites, surface water was assumed to follow similar runoff patterns. At sites with stormwater management considerations, pipes and inlets were expected to empty into a detention basin.

In locations immediately adjacent to residential property, a buffering area was considered. The purpose of the buffering area is to reduce sight and noise impacts to the adjacent properties. The buffering area could be a constructed berm, a vegetated screen, or both.

All of the sites would require some form of right-of-way acquisition to construct a park and ride lot. Some parcels seemed to be more appropriate because of the size of the lot and the estimated cost of attaining the land. Some of the locations would require purchasing a large plot of land but the size of the lot would be considerably smaller. This fact makes them less desirable than other parcels in which the lot may take up more of the parcel because it is smaller.

(2) Access

The first step in sizing an appropriate driveway and/or bus turnaround was to simulate the bus that would be using the park and ride lots. To better accommodate these buses, CAT provided dimensions and descriptions of the proposed bus that will be incorporated into their fleet and service the lots within the next five years (MCI Commuter Coach model D4500). These buses are expected to be larger than the current buses and therefore needed to be modeled using turning movement software. After the simulated bus was created, its turning path entering and exiting the property was modeled. At some locations, the bus would need to enter the lot and complete a turnaround before exiting because of limited available space for a separate entrance and exit. The largest path it would need to access the park and ride lot and turn around was evaluated. The access driveways were widened as necessary to allow for the buses and a turnaround area designated if needed.

Visibility of the park and ride lot from the main artery was also considered in choosing locations for each lot. For commuters, the lots need to be highly visible to develop usage and to maintain safety. Since commuters will be accessing the lots during early morning and/or late evening hours, they may not feel safe within secluded parking areas, especially if there are few other cars or other individuals present.

(3) Parking capacity

A minimum of 50 parking spaces was the objective. The site capacities were developed along the lines of similar park and ride locations within the Tri-County region. Sizing of the spaces was done within the requirements of AASHTO's *A Policy on Geometric Design of Highways and Streets*, 2004 edition, Chapter 4 Cross Section Elements, Park-and-Ride Facilities – Design. Space sizing was determined to be nine (9) feet wide by twenty (20) feet long. These parameters were used to layout, and incorporate the spaces available in each lot.

(4) Traffic

Existing traffic volumes and truck percentages at or near each site were developed using average daily traffic (ADT) volumes obtained from the PennDOT iTMS service¹¹. Peak hour data for each location was derived using the corresponding K factor¹² provided with the ADT volumes.

Site traffic at each of the proposed locations was determined based on the total number of dedicated park and ride parking spaces. In order to provide a conservative estimate, it was assumed that inbound site trips would equal the number of available parking spaces during the AM peak hour and outbound traffic would equal the number of available parking spaces during the PM peak hour.

Due to the nature of park and ride facilities, commuters leave their vehicles to utilize a carpool or bus service. As this occurs, fewer drivers are expected to commute between the parking lot and work, than between the parking lot and home. To provide a reasonable estimate of these volumes, trips oriented between work locations and the proposed park and ride lots were calculated based on AM and PM directional distributions published in the Institute of Transportation Engineers (ITE) *Trip Generation Handbook, 8th Ed.* for Park and Ride Lots with Bus Service (ITE Land Use Code 090). Occupied spaces were selected as the independent variable and all spaces were assumed to be occupied. Accordingly, the following was assumed for trips oriented to/from work:

- During the AM peak hour, trips exiting the park and ride lot equal 31 percent of the total parking spaces.
- During the PM peak hour, trips entering the park and ride lot equal 28 percent of the total parking spaces.

11 HATS Park and Ride Lots Conceptual Studies-Traffic Analysis Memorandum-Cumberland, Dauphin, and Perry Counties, Dawood Engineering, Inc., June 24, 2010.

12 K factor is the percentage of daily traffic occurring during the peak hour.

- Based on these percentages, site trips exiting the park and ride lot during the AM peak hour (oriented to work) were calculated as 31 percent of the total number of parking spaces.
- Site trips entering the park and ride lot during the PM peak hour (oriented from work) were calculated as 28 percent of the total parking spaces.
- Site trips entering the park and ride lots during the AM peak hour and site trips exiting the lots during the PM peak hour were assumed to equal the total number of available parking spaces.

(5) Utilities

On June 10, 2010, a PA One Call¹³ investigation and field visual inspection was completed to document utilities present at the eight preliminary alternative sites. Utilities lines as observed are shown on plans and mapping.

d. Environmental Considerations

Environmental resources were analyzed via geographic information system (GIS) application developed by the Tri-County Regional Planning Commission to help identify and assess environmental features and impacts. This application is designed to facilitate determining potential impacts to environmental resources from transportation projects in accordance with the NEPA legislation as part of the HATS process of linking planning and NEPA. Additional, readily-available GIS and database information from federal and state resource agencies was also reviewed to identify important environmental resources and potential issues associated with the eight preliminary alternative sites.

To support biodiversity conservation and sustainability, coordination with the Pennsylvania Natural Diversity Inventory (PNDI) was conducted and implemented in a manner consistent with the requirements of the Pennsylvania Department of Environmental Protection (DEP)¹⁴. Coordination with the PNDI facilitates the avoidance and minimization of impacts to endangered and threatened and special concern species and resources, (i.e. plant and animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants) and unique geologic features) in the Commonwealth of Pennsylvania.

13 PA One Call---Utilities and contractors doing business in Pennsylvania are required to comply with the provisions set forth in the Underground Utility Line Protection Act (Act 287 as amended by Act 121). The purpose of the PA One Call system is to prevent damage to underground facilities by promoting safety through a communications network of designers, excavators, and facility owners.

14 Pennsylvania Natural Heritage Program. Pennsylvania Natural Diversity Inventory (PNDI). <http://www.naturalheritage.state.pa.us/>

The environmental resources that were reviewed consisted of:

- Surface waters and floodplains
- Wetlands
- Threatened and Endangered Species
- Geological Hazards
- Important Soils
- Socioeconomic Considerations
- Potentially Hazardous Materials/Sites
- Cultural Resources

(1) Surface Waters and Floodplains

Surface waters provide a range of uses such as habitat for fauna and flora, and quality-of-life amenities including scenic qualities and recreation. They were identified using data from Pennsylvania Fish and Boat Commission (PFBC) and the DEP.

Federal protection of floodplains is afforded by Executive Order (EO) 11988, “Floodplain Management,” and by implementation of federal regulations under 44 CFR 9.00. These regulations direct federal agencies to undertake actions to avoid impacts on floodplain areas by structures built in flood-prone areas. In accordance with these federal directives, the FHWA also enacted federal-aid policy guidance and regulations under 23 CFR 650. The Federal Emergency Management Agency (FEMA) has primary responsibility for identifying flood-prone areas.

(2) Wetlands

A wetland is an area of land whose soil is saturated with moisture either permanently or seasonally. Such areas may also be covered partially or completely by shallow pools of water. Wetlands include swamps, marshes, and bogs, among others. Wetlands are considered the most biologically diverse of all ecosystems.

Wetlands were identified using National Wetlands Inventory (NWI) mapping¹⁵. The NWI is a program administered by the U.S. Fish and Wildlife Service (USFWS) for mapping and classifying wetlands resources in the United States.

EO 11990 (Protection of Wetlands) directs federal agencies to avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative to construction or the Proposed Action consists of all practicable measures to minimize harm to wetlands, which may result from its use.

¹⁵ U.S. Fish and Wildlife Service (USFWS). National Wetlands Inventory (NWI). <http://www.fws.gov/wetlands/Data/Mapper.html>

Section 404 of the Clean Water Act (CWA) of 1977 (PL 95-217) authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill material into Waters of the U.S., including wetlands. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987).

(3) Threatened and Endangered Species

There are species in the state that receive state and federal protection to help repair previous damage to populations and attempt to return a species population to self-sustaining levels. Other species receive state protection if the limits of their distribution ranges are in Pennsylvania or if populations can exist only in a specific but uncommon habitat in Pennsylvania.

The Endangered Species Act (ESA), as amended, provides protection for those species that are listed as endangered or threatened under the ESA. The ESA grants the USFWS and the National Marine Fishery Service (NMFS) prime responsibility in administering the species designations and protections granted under the Act. Endangered means that a species is in danger of extinction throughout all or a significant portion of its range. Threatened means that a species is likely to become endangered in the foreseeable future.

A PNDI environmental review was performed to identify occurrences of threatened or endangered at the selected sites. A PNDI web site inquiry review generates on-line search results detailing the potential impacts of a project on ecological resources of special concern. Four government agencies have jurisdiction over the protection of these resources covered by the PNDI review:

- USFWS: Federally-listed, proposed and candidate species under the federal ESA.
- Pennsylvania Game Commission (PGC): State-listed, proposed and candidate threatened or endangered birds and mammals.
- PFBC: State-listed, proposed and candidate threatened or endangered fish, reptiles, amphibians and aquatic organisms.
- Pennsylvania Department of Conservation and Natural Resources (DCNR): State-listed, proposed and candidate threatened or endangered plants.

(4) Geological hazards

Karst topography is a landscape shaped by the dissolution of a layer or layers of soluble bedrock, usually carbonate rock such as limestone or dolomite. Many karst regions display distinctive surface features, with sinkholes being the most common. It is of utmost importance that construction projects in known karst topography be extremely sensitive to the potential impacts that may occur and that all possible precautions are taken to prevent or reduce those impacts.

Geological hazards were identified using information obtained from the Pennsylvania Bureau of Topographic and Geological Survey and the DCNR¹⁶. Geological hazards consist of sink holes, karst topography, and slopes.

(5) Important Soils

Prime farmland, as defined by the Natural Resources Conservation Service (NRCS), is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas even if it contains the above characteristics.

The Farmland Protection Policy Act (FPPA) was passed to minimize the amount of land irreversibly converted from farmland because of federal actions.

The NRCS of the U.S. Department of Agriculture (USDA) has mapped and classified soils for Cumberland, Dauphin, and Perry counties into major soil associations. The resulting soil surveys were used to determine the types of soils in the sites.

(6) Socioeconomic Considerations

Socioeconomic considerations analyzed as part of the project methodology included land use, community facilities and services, public recreation facilities and lands, and environmental justice.

Land use was identified using data from Tri-County Regional Planning Commission based on each of the county's comprehensive plans, the Cumberland County Conservation District, the Dauphin County Conservation District, and the Perry County Conservation District.

Recreation areas were identified using data from Cumberland County Planning Department, the DCNR, and the PGC. For federally aided transportation

¹⁶ Bureau of Topographic and Geologic Survey. Department of Conservation and Natural Resources. 2007 http://www.pasda.psu.edu/uci/MetadataDisplay.aspx?entry=PASDA&file=DCNR_PAKarst.xml&dataset=3073

projects, public parks, and recreational properties are afforded consideration and protection. Section 4(f) of the USDOT Act of 1966 grants special protection to public parks and recreational areas and wildlife and waterfowl refuges; it applies only to projects undertaken by the USDOT. Section 4(f) precludes the use of these types of properties unless there is no feasible and prudent alternative to the use of such land, and such projects include all possible planning to minimize harm to these lands.

EO 12898 on Environmental Justice requires federal agencies to identify and address disproportionately high and adverse impacts of their programs, policies, and activities on minority and low-income populations. EO 12898 was enacted to ensure fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal programs and policies. The U.S. Census Bureau is the source of the data used in the analysis. The data consists of minority and low income populations identified at the block group level.

(7) Potentially Hazardous Materials/Sites

The Resource Conservation and Recovery Act (RCRA) regulates how wastes should be managed to avoid potential threats to human health and the environment and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is designed to remedy threats to human health and the environment from unexpected releases and historical mistakes in hazardous waste management. Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

The purposes of the assessment were to identify areas of known or potential environmental impacts to soil and groundwater and to evaluate the possible effect of these locations on development of the alternatives. A secondary purpose of the assessment was to obtain information for the design phase of the project to guide future subsurface explorations to specific areas with potential or known soil and groundwater contamination.

The potentially hazardous materials/sites data consist of brownfields, captive hazardous waste operations, commercial hazardous waste operations, municipal

waste operations, storage tanks, air emissions plants, and the EPA hazardous waste data, which consists of RCRA and CERCLA sites¹⁷.

The Pennsylvania DEP is the state source of the data and the EPA is the federal source of data used in the analysis.

(8) Cultural Resources

The consideration of cultural resources involved both (1) historic standing structures, site and districts and (2) archaeological resources.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires that federal actions be reviewed for their impact on potentially significant historic resources. The term historic includes architectural and archeological resources. A significant historic resource is one that is either listed or determined eligible for listing on the National Register of Historic Places (NRHP).

Section 110 of NHPA outlines the review criteria for historic properties determined to be National Historic Landmarks – an elevated designation that indicates the property is of national importance – and that may be adversely affected by a federal action.

The Pennsylvania Historical and Museum Commission (PHMC) is the source of the data used in the identification of cultural resources. The PHMC's Cultural Resources GIS (CRGIS) is a map-based inventory of the historic and archaeological sites and surveys stored in the files of the Bureau for Historic Preservation (BHP) and was used to identify historic and archaeological sites near the selected sites¹⁸.

e. Field Visits

Field reviews, in the form of visual surveys and site overview walks, were conducted at each of the eight preliminary alternative sites by representatives of the project team on May 3, 2010. The field reviews were performed to: identify engineering and topographic constraints; to verify GIS identified environmental features, concerns, and potential impacts for the natural, socioeconomic, and cultural resources at each of the sites; and to identify potential unmapped environmental features or concerns.

The field visits in no way indicate a willingness to purchase property for use in a park and ride lot. All of the field visits for this phase of the park and ride project are for conceptual engineering purposes only. Any decision to acquire

¹⁷ EPA. http://www.epa.gov/enviro/geo_data.html

¹⁸ Pennsylvania Historical and Museum Commission (PHMC). Cultural Resources Geographic Information System (CRGIS). <http://www.portal.state.pa.us/portal/server.pt/community/crgis/3802>

right-of-way for any park and ride lot will be made later in the project development process. PennDOT will follow all applicable laws and regulations when considering the acquisition of any right-of-way.

Photo 1.

Site 2A: Alternate Site for General Area of Route 22/322 and Route 325 Interchange:

The project team met with Mr. Frank Malinzak, owner of the Le Ellen Motel just off of Route 22/322 North (1189 Old State Road, Dauphin, PA 17018). The property sits on two parcels divided from north to south. The owner's residence is on the western parcel and the motel is on the eastern parcel. The total acreage is approximately 11 acres. The southern section of the property is mildly graded and vegetated with grass immediately behind the house and motel (see photo 1), while the northern portion becomes gradually steeper and forested. Residential properties along Griffith Lane line the western boundary. Mr. Malinzak noted that parallel to Old State Road to the east of the property, a drainage channel has been cut to relieve the property of low lying water. At the time of the field visit, the property was listed for sale by NAI Commercial-Industrial Realty Co.



Looking northeast from the edge of the former hotel building

Site 4: Vacant Lot next to Sheetz: The project team inspected the vacant lot adjacent to Sheetz (south of the site) in Halifax along Route 225 (Peters Mountain Road). Other adjacent properties include Susquehanna Bank (north), a Shell gas station (across Route 225), Sisters Coffeehouse (across Route 225), and Patton Tires (across Route 225). At the time of the visit, the paved lot appeared to have been patched with an overlay at the location of a removed structure. The lot is mildly graded from the back, eastern edge of pavement to the front. The eastern boundary separates the lot from residential areas and is buffered by hedges and trees. The project team measured an approximate site distance of 495 feet from the northern most driveway looking to the north beyond a crest along Peters Mountain Road (see photo 2). No other potential site distance issues were noted.

Photo 2.



Looking southwest from the eastern edge of the property

Photo 3.



Looking north from Route 147

Site 5 Halifax Fire House: The project team visited the site of the Halifax Fire Station and met with Mr. Jeff Warfel, a volunteer at the station. Mr. Warfel indicated that parking along the immediate perimeter of the station is restricted to use by members of the fire company, however, about 20 spaces along the outside northwestern boundary of the paved lot are reserved for carpooling (see photo 3). He indicated that the fire company has charged a small fee for their use and may still do so. He also indicated that the area in front of the station garage doors (south of the building) is needed for helicopter

landings. Mr. Warfel noted that currently only one event is held at the fire hall parking area, a July 4th picnic for members only.

The parking area is very flat along the length of the lot from south to north. It was noted that the entrance to the lot is narrow and may restrict bus turning movements. Along the western and northern boundaries, dense trees and brush line the perimeter. An existing stormwater basin lies just to the west of the paved back portion of the lot. There are small business and residential properties adjacent to the site or across S. River Road opposite the entrance.

Photo 4.



Near south access, looking north

Site 6 Millerstown Community Pool: The Millerstown Community Pool parking area adjoins the local Lion's Club parking area. The relatively flat gravel and deteriorating bituminous parking area extends along the eastern bank of the Juniata River. It appears that recreational boaters use this lot frequently on weekends and holidays. It was noted that several parked vehicles may have been those of carpoolers already using the site (see photo 4). There are two access drives to the site. The northern access drive is steep and serpentine along its decline from the parkway into the parking area. The project team

observed that it is likely unsuitable for future bus turning movements. The access drive to the south appears adequate. A small flea market is located just to the south of the site. There are no other properties immediately adjacent to the site.

Photo 5.

Site 9: Village Square Shopping Center: It was observed that the shopping center parking lot was just about full during the noon hour. The shopping center complex includes a grocery store, Dollar General, US Post Office, and a pharmacy. Separate bank and restaurant buildings also occupy the footprint of the lot. To the northwest of the complex is a graded but unpaved parking area that is mildly sloped near the existing lot, but falls off vertically along its northern boundary (see photo 5).



Looking north along western edge of building

During the field visit, the project team spoke with Rena Brunner, a co-owner of the complex. Ms. Brunner indicated that she would not be comfortable if existing parking spaces were lost to park and ride users. She also indicated that areas for park and ride users would probably be leased.

Site 12: Vacant Former Fuel Tank Site: The former fuel tank site along the northbound lanes of Route 147 (South River Road) is a fenced and gated area just north of a bridge carrying the roadway across Powell Creek (see photo 6). The lot is flatly graded and narrow in shape. It is bound by the creek (south), Norfolk Southern Railroad tracks (east), the roadway (west) and building foundations of the old tank loading area (north). There are several single family dwellings on the western side of Route 147 across from the site. The project team observed that there is a lengthy horizontal curve along the roadway to the north and a tangent section to the south.



Looking north across site, Route 147 parallel to the west

During the field visit, workers were observed setting up to conduct regular soil or ground water sample testing. A mild gas/petroleum odor emanating from the site was evident.

Site 13: Parcel adjacent to the existing Newport Park and Ride Facility: The existing park and ride facility at Newport along Route 34 (Red Hill Road) was observed to be near capacity during the field visit and the pavement within the facility is in good condition. There are currently spaces for motorcycles, handicapped parking, and there is a bus loading area. The parking area is equipped with standard PennDOT luminaires. There is an existing stormwater management basin located at the southwest end of the site. The project team further noted that

Photo 7.



Looking northeast from the southeast corner of the existing facility

sight distance may be improved for exiting vehicles turning onto Red Hill Road if the southernmost drive was used to leave the site.

The field visit confirmed that open space adjacent to the site is available for possible expansion to the northeast. This area is grassed and relatively flat beyond the existing pavement edge line for about 120 feet before a steep drop-off toward vegetated low lying areas (see photo 7).

Photo 8.



Looking south along Route 114

Site 14: Route 114 Unofficial Park and Ride Lot: The project team visited two nearly adjacent sites along the northbound lane of Route 114 within PennDOT right of way that are currently being used by carpoolers. Both sites are narrow, mildly sloped gravel lots with vegetated cut slope embankment along the back edges. There are no residences or businesses in the immediate vicinity of the two locations. Route 114 is posted at 45 mph through this corridor. The northern lot along Route 114 (see photo 8) was determined to be the most advantageous for consideration as a formal park and ride facility.

6. Detailed Evaluations of Preliminary Site Alternatives

The purpose of the detailed evaluation of the eight preliminary site alternatives was to narrow the range of park and ride sites being considered from eight to three or four. This screening was performed following conceptual engineering studies and environmental analysis completed by the project team. As mentioned in prior sections of this report, the conceptual studies consisted of a field view, an environmental overview, conceptual site layout, and traffic studies. The project team analyzed and compared each of the eight sites with respect to DM-1C criteria, potential environmental impacts, and engineering design criteria. The findings were summarized and then presented to the PAC at a meeting at the CAT office on June 14, 2010. Like the screening of the fourteen candidate locations, each site was discussed individually and a consensus was reached as to whether each site would be recommended for advancement or dismissed. The following briefly describes each site and how it meets DM-1C criteria, its potential environmental impacts, and how it meets engineering criteria. Conceptual plans for each of the eight sites are located in **Appendix B**.

Figure 4 – Summary of Detailed Evaluation for Preliminary Site Alternatives

<i>Criteria</i>	<i>Evaluation</i>
Site 2A: Alternate Site for General Area of Route 22/322 and Route 325 Interchange	
DM-1C Evaluation	
Facility Development Policy	Identify Property Ownership and Usage: The two parcels are currently owned privately (Frank Malinzak). They are currently for sale. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and Middle Paxton Township for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Middle Paxton Township and/or CAT.
Transit Service Availability	The site is currently on the CAT transit route 23.
Staged Construction Potential	The site is not located directly off of Route 22/322 and will not impact a significant amount of traffic. Mobilization and staging of materials could be set up at PennDOT's maintenance facility, located on the west side of Route 22/322.
Traffic Study and Access Analysis	Minor impacts to traffic and access are expected. No signal or turning lanes are recommended. See traffic summary.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT) reduction. Assume savings of 45 vehicles per day (1/2 of parking capacity) x 2 trips x 10 miles from Harrisburg = 900 miles per day.
Site Availability and ROW Considerations	The parcels are available immediately for sale.
Site Visibility	Below Route 22/322 mainline. Daytime visibility may not be ideal.
Conceptual Design Elements	
Parking lot size and geometry	Maximum use of the flat, low lying southern portion of the property was critical in determining the conceptual layout. CAT prefers bus movements to the outside of the lot to reduce sharp turning radii at entrance and exits. The conceptual design will fit 90 parking spaces.

Criteria	Evaluation
Stormwater management and drainage	A SWM basin is recommended as a BMP measure along Old State Road near the northeast access drive as shown on the conceptual plan. Refer to Middle Paxton Township ordinance. The channel north of the conceptual parking lot boundary must be maintained.
Lighting	Space light poles at approximately 110'. Use 6 poles.
Utilities	PA One Call number is 20101602257. No apparent underground utilities are within the footprint. Overhead electric lines run parallel to Old State Road and are adjacent to the proposed Park and Ride Location.
Screening and buffers	The southern edge of the conceptual lot runs parallel to Griffith lane and residential properties. It would be 10-15 feet below the residences, but it is recommended that the slope be landscaped with trees and plantings to reduce light and noise impacts to the neighborhood.
Environmental Considerations	
Surface Waters and Floodplains	There is an existing drainage ditch in the field with surface water flowing at times. There are no FEMA floodplains on this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	The site is underlain by prime farmland soils and coordination with the NRCS would be needed if the site is recommended for further development.
Land Use and Zoning	Existing land use is categorized as vacant. Existing zoning is categorized as commercial.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	1.1 percent of the population living in the census tract 024800 block group 4 in which the site is located are considered a minority race. 2.2 percent of the households living in the census tract 024800 block group 4 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	The Le-Ellen Motel is situated on this site; however, the motel is ineligible for listing on the NRHP ¹ .
Archaeology Survey Sites	Pennsylvania archaeologists investigated the Dauphin Tannery Site by Phase 3 Archaeological Survey during the reconstruction of Route 322 ² . Further review may be necessary if the site is recommended for further development.
Site 4: Vacant Site Next to Sheetz	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The property is currently owned privately (William Hale), however it is within commercial zoning. PennDOT will not pay for Right of Way that is in excess of value. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and the Borough of Halifax for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Halifax and/or CAT.
Transit Service Availability	The site is currently on the CAT transit route 23.
Staged Construction Potential	Minimal grading and transport of materials is expected. Short term traffic setups along Route 225 are expected at the entrance and exit of the site.
Traffic Study and Access Analysis	Minor impacts to traffic and access are expected. No signal or turning lanes are recommended. See traffic summary.

- 1 Pennsylvania Historical and Museum Commission (PHMC). Cultural Resources Geographic Information System (CRGIS).
<http://www.portal.state.pa.us/portal/server.pt/community/crgis/3802>
- 2 Pennsylvania Historical and Museum Commission (PHMC). Cultural Resources Geographic Information System (CRGIS).
<http://www.portal.state.pa.us/portal/server.pt/community/crgis/3802>

Criteria	Evaluation
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT reduction). Assume savings of 43 (approximately ½ of the number of parking spaces) vehicles per day x 2 trips x 22 miles between Halifax and Harrisburg = 1892 miles per day.
Site Availability/ROW Considerations	The parcels are available immediately for sale.
Site Visibility	Very good in both directions. The site is just off of Route 225 and is at grade.
Conceptual Design Elements	
Parking lot Size/Geometry	The intent of the conceptual design was to maximize use of the existing paved and gravel lot. Paving at the back of the lot was limited due to an anticipated graded berm. Bus movements are expected to be along the back of the lot to improve the angle of ingress/egress from/to Route 225. Sidewalk extending to the property limits of the adjacent Sheetz store is recommended. The conceptual lot will fit 85 parking spaces.
Stormwater Management/Drainage	The project would consist of minimal increases of impervious surfaces. However, channeled drainage along curb or within storm pipes may necessitate delayed release of discharge to meet the capacity of existing storm systems. A stormwater basin could be placed within the flat grassed portion of the parcel southwest of the proposed parking area. Refer to Halifax stormwater management ordinances.
Lighting	Space light poles at approximately 110'. Use 5 poles.
Utilities	PA One Call number is 20101602265. Verizon reported underground lines near the site. Overhead electric lines run parallel to Peters Mountain Road and are adjacent to the proposed Park and Ride Location.
Screening/Buffer	A vegetated berm along the southern and southeastern boundaries of the property is recommended for design to protect nearby residences from sight and noise impacts.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters at this site. There are no FEMA floodplains on this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	There are no prime farmland soils on the site.
Land Use and Zoning	Existing land use is categorized as vacant. Existing zoning is categorized as commercial.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	1.0 percent of the population living in the census tract 024700 block group 2 in which the site is located are considered a minority race. 3.9 percent of the households living in the census tract 024700 block group 2 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.
Site 5: Halifax Fire House	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The property is currently owned by the Halifax Fire Department. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and the Halifax Fire Department for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Halifax and/or CAT.
Transit Service Availability	The site is currently on the CAT transit route 23.

Criteria	Evaluation
Staged Construction Potential	Grading, transport of materials and paving is expected. Short term traffic setups along Route 147 are expected at the entrance and exit of the site. Special coordination with the Fire Department would be necessary for access during emergencies.
Traffic Study and Access Analysis	Minor impacts to traffic and access are expected. No signal or turning lanes are recommended. See traffic summary.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT reduction). Assume savings of 20 vehicles per day x 2 trips x 22 miles between Halifax and Harrisburg = 880 miles per day.
Site Availability/ROW Considerations	The site is not available for sale.
Site Visibility	Very good in both directions. The site is just off of Route 147 and is at grade.
Conceptual Design Elements	
Parking lot Size/Geometry	The intent of the conceptual design was to maximize use of the existing paved lot. Bus movements are expected to take place at the front of the property utilizing a proposed bus turn around area that would need to be constructed. The conceptual lot will fit 38 parking spaces.
Stormwater Management/Drainage	The project would consist of minimal increases of impervious surfaces. The natural topography should be sufficient to drain the parking lot as it currently does. The existing stormwater basin near the back edge of the lot will likely be sufficient to accommodate minor increases to impervious services induced by the conceptual bus turnaround at the entrance. Refer to Halifax stormwater management ordinances for any additional stormwater requirements.
Lighting	Space light poles at approximately 110'. Use 3 poles.
Utilities	PA One Call number is 20101602272. Verizon reported underground lines near the site. Overhead electric lines run parallel to Route 147 and are adjacent to the proposed Park and Ride Location.
Screening/Buffer	Screening and buffering is not anticipated at this location.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters at this site. There are no FEMA floodplains on this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	There are no prime farmland soils on the site.
Hazardous Materials	Phase 1 Environmental Site Assessment may be necessary to determine any contamination issues for storage of oil and gas on-site.
Land Use and Zoning	Existing land use is categorized as public/semi public. Existing zoning is categorized as medium and high density residential.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	0.4 percent of the population living in the census tract 024800 block group 3 in which the site is located are considered a minority race. 6.5 percent of the households living in the census tract 024800 block group 3 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	The site is located along Legislative Route 1 Sycamore Allee (NRHP-listed) ¹ .
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.

¹ Pennsylvania Historical and Museum Commission (PHMC). Cultural Resources Geographic Information System (CRGIS).
<http://www.portal.state.pa.us/portal/server.pt/community/crgis/3802>

<i>Criteria</i>	<i>Evaluation</i>
Site 6: Millerstown Community Pool	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The property is currently owned by Millerstown Borough and is not currently for sale. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and the Millerstown Borough for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Millerstown Borough and/or CAT.
Transit Service Availability	Fullington Trailways currently makes one stop each way in Millerstown at the town square along the Route 22/322 route between Harrisburg and Lewistown.
Staged Construction Potential	Minimal grading and transport of materials is expected. Short term traffic setups along Route 22/322 are expected at the entrance and exit of the site.
Traffic Study and Access Analysis	Minor impacts to traffic and access are expected. No signal or turning lanes are recommended. See traffic summary.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT reduction). Assume savings of 30 vehicles per day x 2 trips x 29 miles between Halifax and Harrisburg = 1740 miles per day.
Site Availability/ROW Considerations	The parcels are not currently available for sale.
Site Visibility	Fair to moderate along W. Juniata Parkway southbound because the Community Pool lot is below the approach. In the northbound direction along W. Juniata Parkway, sightlines are closer to level providing good visibility; however, signing may be needed to direct traffic to the site location.
Conceptual Design Elements	
Parking lot Size/Geometry	The intent of the conceptual design was to maximize use of the existing paved and gravel lot footprint. Bus movements are expected to occur through the lot for access to/from Route 22/322. The conceptual lot will fit 54 parking spaces.
Stormwater Management/Drainage	The project would consist of minimal increases of impervious surfaces. However, channeled drainage along curb or within storm pipes may necessitate delayed release of discharge to meet the capacity of existing storm systems. Refer to Greenwood Township stormwater management ordinances.
Lighting	Space light poles at approximately 110'. Use 3 poles.
Utilities	PA One Call reference number is 20101602392. Century Link reported lines nearby. Overhead electric lines run parallel to West Juniata Parkway and are adjacent to the proposed Park and Ride Location.
Screening/Buffer	The Millerstown Community Pool sits relatively low along W. Juniata Parkway. There are no nearby residences. Screening and buffering is not anticipated at this location.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters on this site; however, the site is adjacent to the Juniata River. Park-and-Ride would not require a Chapter 105/Section 404 Water Obstructions and Encroachment Permit, so long as the site does not encroach within 50 feet of the Juniata River. Approximately 2 acres are in the 500-year floodplain and 6 acres are in the 100-year floodplain.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	Under the jurisdiction of the PFBC, there was potential impact to rare or protected freshwater mussel species; however, coordination with the PFBC concluded that all aspects of the project work will be carried out so that there will be no impact or only minimal impact to any body of water, indicating there will be no adverse impacts on freshwater mussels or any other rare or protected species under the PFBC jurisdiction.
Soils	The site is underlain by prime farmland soils and coordination with the NRCS would be needed if the site is recommended for further development.
Land Use and Zoning	Existing land use is categorized as vacant. Existing zoning is categorized as high and medium density residential.

Criteria	Evaluation
Recreation	The Juniata River Water Trail exists at this site. The Juniata River Water Trail is a component of the Pittsburgh to Harrisburg Main Line Canal Greenway, a 320-mile corridor of natural wonders, history, culture, and recreation following the path of the historic Main Line Canal. Managed by the non-profit Allegheny Ridge Corporation, the Greenway is Pennsylvania's federally-designated Millennium Legacy Trail. The Millerstown Community Pool is adjacent to the site. Additionally, the site is currently identified in the borough's recreation plan for a use different from a regional park and ride lot. More coordination with the borough is needed.
Environmental Justice	0.4 percent of the population living in the census tract 030100 block group 3 in which the site is located are considered a minority race. 6.5 percent of the households living in the census tract 030100 block group 3 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.
Site 9: Village Square Shopping Center	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The property is divided into 5 parcels privately owned by Robert L. and Rena F. Brunner and is not currently for sale. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and Carroll Township for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations. The shopping center parking lot is land locked. PennDOT will not purchase right of way without direct access.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Carroll Township and/or CAT.
Transit Service Availability	No transit service is currently available.
Staged Construction Potential	Earthwork activities will be required at the back of the conceptual lot. Construction may reduce some parking spaces within the existing footprint of the shopping center parking area.
Traffic Study and Access Analysis	No signal is warranted. A center turn lane currently exists at the shopping center along Route 34.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT reduction). Assuming an average savings of 28 vehicles per day (1/2 of the lot size) x 2 trips x 25 miles between Shermans Dale and Harrisburg = 1400 miles per day.
Site Availability	The owner is concerned about losing parking spaces within the front part of the lot. Additional parking is available only by grading and paving north of the shopping center. The parcels are not currently available for sale. A lease arrangement may need to be considered; however, a concern would be whether or not a lease agreement could be maintained exclusively for long term park and ride use.
Site Visibility	A dedicated park and ride lot graded and paved just to the north of the existing shopping center would not have direct access to Spring Road. Its visibility would be restricted by the existing bank building within the front lot and nearby residential trees and shrubbery. Signing notifying users is recommended.
Conceptual Design Elements	
Parking lot Size/Geometry	The conceptual design utilizes the existing mildly graded area just north of the storefront parking. The concept maintains use of existing access within the shopping center lot. The conceptual lot will fit 55 parking spaces.
Stormwater Management/Drainage	A SWM basin is recommended as a BMP measure along the northern boundary of the conceptual design. Refer to Carroll Township ordinance.
Lighting	Space light poles at approximately 110'. Use 3 poles along perimeter of expanded lot.

Criteria	Evaluation
Utilities	PA One Call reference number is 20101602368. No underground utilities were noted. Overhead electric lines run parallel to Spring Road and are approximately 200' from the conceptual park and ride location.
Screening/Buffer	Trees or plantings along the western boundary of the conceptual added lot are recommended to match existing residential screening perpendicular to Spring Road.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters at this site. Approximately a third of an acre is in the 500-year floodplain at this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were two occurrences on the site for mussel species, in which coordination with PFBC would have to be completed.
Soils	There are no prime farmland soils on the site.
Land Use and Zoning	Existing land use is categorized as commercial. Existing zoning is categorized commercial.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	1.0 percent of the population living in the census tract 030501 block group 4 in which the site is located are considered a minority race. 4.0 percent of the households living in the census tract 030501 block group 4 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.
Site 12: Vacant Former Fuel Tank Site	
DM-1C Evaluation	
Facility Development Policy	Identify Property Ownership and Usage: The property is currently owned by Esso Standard Oil Company of Pennsylvania. It is a former oil tank storage facility in conjunction with the Norfolk Southern railroad. It is currently abandoned. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and Reed Township for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Reed Township and/or CAT.
Transit Service Availability	The site is currently on the CAT transit route 23.
Staged Construction Potential	Widening of the Route 147 roadway template to accommodate recommended center turn lane will impact traffic along Route 147. Within the footprint of the existing site, minor grading and paving is expected for the conceptual design.
Traffic Study and Access Analysis	No signal is warranted for the site. A center left turn lane is recommended based on traffic data.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT reduction). Assuming an average savings of 29 vehicles per day (1/2 of the lot size) x 2 trips x 15 miles from Harrisburg = 840 miles per day.
Site Availability	The property is not currently available for sale.
Site Visibility	Fair to good. The conceptual design location is directly adjacent to the northbound lanes of Route 147 and is at grade. Southbound vehicles approaching the site from Halifax must negotiate a curve to their left to experience full visibility. The northbound approach is along a mild horizontal curve to the right just south of the proposed site.
Conceptual Design Elements	

Criteria	Evaluation
Parking lot Size/ Geometry	Maximum use of the flat narrow property that is currently paved was critical in determining the conceptual layout. Because CAT prefers exiting bus movements to be normal to traffic along Route 147, the number of spaces along the boundary with the railroad was restricted to accommodate turning movements. The conceptual design will fit 58 parking spaces.
Roadway	Traffic data supports a recommendation to add a center left turn lane for southbound traffic. Widening of the roadway will be limited by the existing single span bridge crossing Powell Creek along the southern boundary of the site.
Stormwater Management/ Drainage	The existing site would be repaved. No additional impervious surfaces will be added. Topography and boundary constraints do not support the construction of a stormwater management basin. No stormwater management BMPs are proposed.
Lighting	Space light poles at approximately 110-125'. Use 6 poles.
Utilities	PA One Call Reference Number is 20101602373. Verizon does report underground cable at this location. A gas line (Buckeye Partners) was observed near the site during utility reconnaissance. Also, overhead electric lines run parallel to South River Road and are adjacent to the proposed Park and Ride location.
Screening/Buffer	No screening or buffer is proposed.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters on this site. Approximately one acre is in the 500-year floodplain and one acre is in the 100-year floodplain at this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	The site is underlain by prime farmland soils and coordination with the NRCS is needed if the site is recommended for further development.
Hazardous Materials	Former Exxon petroleum bulk station/terminal (Inglenook Terminal #2025) closed in December 2007 when permits expired. Site appears to be in compliance with all Clean Air Act, Clean Water Act, and RCRA regulations through monitoring. However, may still be some risk involved in acquisition of site.
Land Use and Zoning	Existing land use is categorized as industrial. Existing zoning is categorized as high and medium density residential.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	1.0% of the population living in the census tract 024800 block group 4 in which the site is located are considered a minority race. 3.9% of the households living in the census tract 024800 block group 4 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.
Site 13: Parcel adjacent to existing Newport Park and Ride Facility	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The existing facility is within PennDOT R/W. Expansion would require obtaining right of way north of the existing lot from the parcel owned by Gail L. and Steven H. Zeigler. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and Howe Township for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Howe Township and/or CAT.
Transit Service Availability	The Newport lot is along the Fullington Trailways bus from State College to Harrisburg. The site is not currently served by CAT transit.

Criteria	Evaluation
Staged Construction Potential	Expansion of the facility would be towards the back of the existing lot. Minor earthwork is expected. Staging of activities would be expected outside the footprint of the existing parking area.
Traffic Study and Access Analysis	Minor impacts to traffic and access are expected. No signal or turning lanes are recommended.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT) reduction. Assume savings of 20 vehicles per day (1/2 of added parking capacity) x 2 trips x 28 miles from Harrisburg = 1120 miles per day.
Site Availability	The parcel to the north required for expansion is not currently for sale.
Site Visibility	Good in both directions. Drivers are also familiar with the location because of the existing facility.
Conceptual Design Elements	
Parking lot Size/Geometry	Maximum use of the existing mildly graded area to the north of the existing paved lot was the basis of the conceptual design of the expanded lot. The total site, incorporating the existing site and the proposed expansion and designed for transit bus access, will fit a total of 116 parking spaces. (The existing facility has 81 parking spaces).
Stormwater Management/Drainage	A SWM basin is recommended as a BMP measure behind the northern boundary of the conceptual parking lot because of increased impervious surface area. Refer to Howe Township ordinance.
Lighting	Space light poles at approximately 110-125'. Add 4 new poles.
Utilities	PA One Call Reference Number is 20101602378. Century Link (formerly Embarq) reports that their underground cable lines are nearby. Overhead electric lines run parallel to Red Hill road and are adjacent to the proposed Park and Ride location.
Screening/Buffer	No screening or buffer is currently at the site. No additional screening or buffer is proposed.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters on this site. There are no FEMA floodplains on this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	There are no prime farmland soils on the site.
Land Use and Zoning	Existing land use is vacant/wooded areas. Existing zoning is categorized as commercial.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	3.4 percent of the population living in the census tract 030200 block group 3 in which the site is located are considered a minority race. 2.4 percent of the households living in the census tract 030200 block group 3 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.
Site 14: Unofficial Route 114 Park and Ride Lot	
DM-1C Evaluation	
Facility Development Policy	Property Ownership and Usage: The existing "unofficial" park and ride lot is within PennDOT R/W. Identify Maintenance and Service Responsibilities: Agreements may be needed between PennDOT and Silver Spring Township for assuming maintenance responsibility (i.e.: mowing, snow removal, lighting) following construction of the facility. Assign Specific Liabilities Resulting from Park and Ride Operations. AASHTO recommends local legal counsel to assure compliance with all laws and regulations.
Development and Operating Costs	Funding resources would likely be obtained entirely from public sources. Operating costs would likely be the responsibility of Silver Spring Township and/or CAT.
Transit Service Availability	The site is not currently on a CAT bus route, but can be easily served via adjustments to existing CAT routes through the area.

Criteria	Evaluation
Staged Construction Potential	Minor impacts to traffic along Route 114 are expected. Most of the grading and paving work will be outside the existing northbound shoulder.
Traffic Study and Access Analysis	No signal is warranted for the site. A center left turn lane is recommended based on traffic data.
Air, Noise, and Vibration Quality	An official park and ride facility would likely result in a vehicle miles traveled (VMT) reduction. Assume savings of an additional 16 vehicles per day (1/2 of parking capacity of the conceptual official lot) x 2 trips x 10 miles from Harrisburg = 320 miles per day.
Site Availability	PennDOT Right of Way centerline offsets range between 140' and 160' to the east through the project area. The proposed lot would utilize or longitudinally extend the footprint of the existing unofficial lots within this wide section of the Route 114 corridor.
Site Visibility	Very good. The conceptual design is located directly adjacent to Route 114. The approaches in both northbound and southbound directions are on tangent or flat horizontal curves.
Conceptual Design Elements	
Parking lot Size/Geometry	Currently, there are two narrow lots that are utilized as unofficial parking areas along Route 114 north of the I-81 interchange. Maximum use of the northern most existing lot was the basis for the conceptual design. Because CAT prefers exiting bus movements to be normal to the direction of traffic, parking spaces were restricted to the back of the lot. Additionally, the cut slope along the back edge of the existing lot should be steepened to 2:1 to further accommodate bus turning movements and to maintain an adequate clear zone. The conceptual design utilizing the northern existing lot allows a total of 32 parking spaces, although PennDOT has indicated that grading and paving outside the limits of the existing footprint or use of both lots may be an option to increase capacity.
Roadway	Traffic data supports a recommendation to add a center left turn lane for southbound traffic.
Stormwater Management/Drainage	Minor increases of surface water runoff following construction would be expected due to rehabilitated pavement. Runoff from new pavement areas should be directed to the back of the lot along existing vegetated cut swales. A SWM basin is not recommended.
Lighting	Space light poles at approximately 110-125'. Add 5 poles.
Utilities	PA One Call Reference Number is 20101602379. Verizon and Comcast reported underground cable at this location. Overhead electric lines run parallel to Conodoguinet Parkway approximately 150 feet from the existing edge of pavement.
Screening/Buffer	The conceptual site would be located within existing right of way along the northbound travel lane. Cut slopes vegetated with trees and brush line the back of right of way limits. Audible levels are not expected to increase. No screening or buffers are proposed.
Environmental Considerations	
Surface Waters and Floodplains	There are no surface waters on this site. There are no FEMA floodplains on this site.
Wetlands	There are no NWI wetlands on this site.
Threatened and Endangered Species	According to the PNDI, there were no occurrences on the site for threatened or endangered species at this site.
Soils	There are no prime farmland soils on the site.
Land Use and Zoning	Existing land use is vacant/wooded areas. Existing zoning is categorized as rural residential.
Recreation	There are no recreation areas known to exist on or near the site.
Environmental Justice	2.2 percent of the population living in the census tract 011801 block group 4 in which the site is located are considered a minority race. 3.8 percent of the households living in the census tract 011801 block group 4 in which the site is located are living in poverty classified as having income below poverty line.
Historic Resources	According to the PHMC, there are no historical resources known to exist at this site.
Archaeology Survey Sites	According to the PHMC, there are no historic archaeological sites identified at this site.

7. Recommendations

Based on the preceding evaluation and discussion of the PAC, the following four preliminary site alternatives have been recommended for advancement to the PennDOT project development process, starting with preliminary design.

Site 2: Route 22/322 and Route 325 Interchange

This location is estimated to cost the most of all of the sites. The majority of the cost is related to the land acquisition needed to construct the lot. The site is located adjacent to the Route 22/322 and Route 325 interchange which makes it an ideal location for many businesses. Also, the plot of land is very large. Both of these facts explain why acquisition costs more. An estimated cost of construction is \$1,147,600. A breakdown of estimated costs can be found in Appendix C.

Despite the higher estimated cost, there are several attributes related to this site that make it ideal. The parcel is immediately available for purchase, at the time of this report. Construction could start as soon as design was complete, without any other right-of-way issues to resolve. Also, the lot would be located at the front of the parcel and where it is relatively flat. Minimal grading would be required to construct the lot. The location is close to Route 322 and access to the lot is from a local road. These two advantages, combined with the fact that there are minimal traffic sight distance issues, help add to the appeal of the site. Additionally, CAT has expressed interest in committing to the long-term maintenance of the lot (e.g. repaving and periodic restriping).

As this site would require a substantial commitment of resources, it is recommended that further analysis be conducted to identify potential park and ride facility locations in the Millersburg and Halifax areas (as noted in Section 8 of this report) prior to advancement of this recommendation. Additionally, development of this site must be conducted in concert with safety improvements needed to effectively close the existing informal Clarks Ferry site.

Site 6: Millerstown Community Pool

Estimated cost for converting a portion of the Millerstown Community Pool parking lot to a park and ride lot is \$344,400. Appendix C includes a breakdown of all associated costs. Engineering and construction costs are expected to be low at this location because the site requires minimal grading and paving. Despite the fact that very little paving is required, it accounts for the majority of the estimated cost. This point reinforces the fact that there are not many engineering or construction concerns associated with this location.

Site 13: Parcel adjacent to the existing Newport Park and Ride Facility

The main attraction of this site is the fact that it is an extension of an already established and heavily used site. Commuters frequently use the existing park and ride lot and this location would simply be an extension of that lot to create additional parking spaces. Also, PennDOT is in favor of assuming the responsibilities of deigning, constructing, and maintaining this site because their forces already maintain the site. These advantages to utilizing this location, combined with an estimated price of \$364,800, make it a desirable choice. A breakdown of estimated costs is located in Appendix C.

Site 14: Unofficial Route 114 Park and Ride Lot

This site offers several advantages that make it desirable for further development. First, the existing gravel lots are heavily used as park and ride lots now. Making the gravel lots into official park and ride lots would be upgrades that the current users would appreciate and encourage more commuters to utilize the location. Also, with the existing commuter base, almost no advertisement as a new park and ride lot would need to be done to attract commuters to use it.

The second advantage to this location is that PennDOT currently owns wide sections of right-of-way along Route 114. As a result, no additional land would need to be purchased, significantly cutting the cost to implement a park and ride lot. Because PennDOT owns the land already, the District could complete the design and construction in-house very quickly. This fact further reduces the estimated cost.

The estimated cost of construction for this location is \$427,800. Paving the lot would be the most expensive element at this location. An estimate of costs is attached in Appendix C

Due to relatively low project costs, lack of apparent engineering and environmental issues, and record of successful use by commuters, Site 13 and Site 14 are recommended for priority advancement. Each of these sites can be easily developed and long term ownership and maintenance arrangements are already apparent.

Sites 2 and 6, due to higher costs and potential environmental and operation and maintenance issues, are recommended for advancement with the understanding that project development of these sites may require greater resources to complete in comparison with Sites 13 and 14.

8. Next Steps

a. Project Development Process and Overall Funding

This park and ride project is programmed on the HATS 2011-2014 transportation improvement program (TIP) for \$100,000 of congestion management and air quality (CMAQ) funding. Following HATS approval of the conclusions resulting from the conceptual engineering (particularly in regards to the sites retained for more detailed study), PennDOT District 8-0 is prepared to take on this project as the project sponsor as it moves from conceptual to preliminary engineering.

The results of this project's conceptual engineering — particularly the environmental analysis, alternatives screening, and conceptual site designs — will be rolled into the preliminary engineering phase of the project, thereby streamlining project delivery. As the analysis indicates, there are a number of issues regarding right-of-way acquisition, operations, and maintenance of the four recommended park and ride locations that need further resolution during the preliminary engineering phase of the project. While it is possible that all four of the recommended sites will be constructed, it is equally possible that one or more are dismissed from consideration as the project progresses through the development process.

b. Further Candidate Park and Ride Initiatives

(1) Potential enhancements to existing, underutilized facilities

Two of the existing park and ride lots in the project area — the lot at the Newport exit of Route 11/15 and the Route 22/322 lot near Dauphin Borough — are both well-maintained and attractive lots that are not used to their fullest capacity. The Dauphin lot is served by CAT. The lot at the Newport exit of Route 11/15 is not served by CAT. Additional study is needed to understand why these lots are under-utilized and to determine how best to increase their use among commuters.

(2) Identification and analysis of potential new park and ride facilities in Millersburg and Halifax areas

The four suggested alternatives competently fulfill the project purpose and the first three of the four project needs. Unfortunately, the alternative sites evaluated for this project that would more directly serve the Halifax and Millersburg areas did not meet the criteria for viable park and ride lot locations.

A new park and ride project, using the same methodology as this one, is recommended for the Halifax and Millersburg areas. It is recommended that this analysis be completed and any potential sites be evaluated against the Site 2A (Route 22/322 and Route 325 interchange) recommendation of this project to evaluate overall effectiveness and cost-efficiency in serving upper Dauphin County commuters.

(3) Identification and analysis of potential park and ride facilities in other HATS communities

Similarly, the opportunity exists for more detailed studies of commuting patterns and park and ride demand for lower Dauphin County and Cumberland County.

(4) Evaluation of potential for Route 34/Sunnyside Drive park and ride facility as part of proposed PennDOT roadway improvements.

The ongoing Route 34/Sunnyside Drive project (see Figure 5) is proposing to update the intersection of those two roads on the mountainous border between Cumberland and Perry Counties. As this report is being prepared, HATS is working with PennDOT personnel to determine whether or not a park and ride lot can be included adjacent to the redesigned intersection. Currently PennDOT is determining to what extent a property adjacent to the intersection needs to be acquired. If the entire property needs to be acquired, then it would be possible to create a small park and ride lot in that location. The proposed lot would have easy and safe access in and out of both the lot and the intersection. HATS will continue to coordinate with PennDOT, Cumberland County, Perry County, the local municipalities, and the Cumberland/Perry Task Force as the Route 34/Sunnyside Drive project continues. If the PennDOT project is approved and funding is made available for adequate right-of-way acquisition which would accommodate development of a park and ride facility, it is recommended that HATS pursue such an opportunity in coordination with PennDOT and other stakeholders.

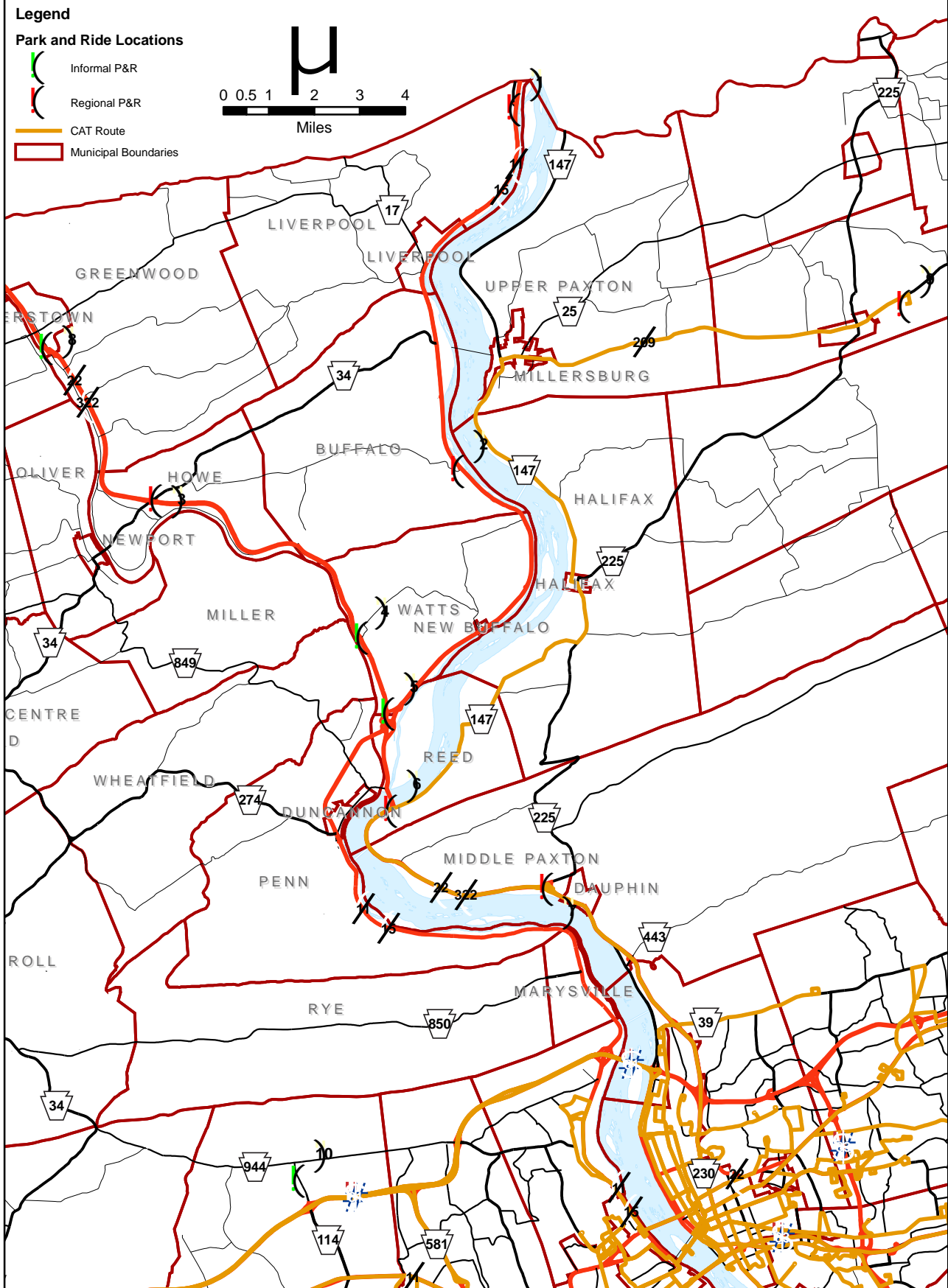
Figure 5 – Route 34 / Sunnyside Drive Project Location



Appendix A

Existing Park and Ride Facilities Inventory

Upper Dauphin and Eastern Perry Counties Park & Ride Project Study Area



Upper Dauphin and Perry Counties Park and Ride Project -- Existing Park and Ride Facilities

ID	LOT_NAME	TYPE	LOCATION
1	US-11/15 - Route 104 P&R	Reg P&R	Hwy 11/15 @ SR 104
2	US-11/15 - Newport Exit P&R	Reg P&R	Hwy 11/15 @ Meadow Grove Rd.
3	Newport P&R - US-22/322	Reg P&R	SR-34 @ US-22/322 Entrance
4	US-22/322 Watts Informal P&R	Informal P&R	US-22/322 @ Watts Exit
5	US-22/322 - US-11/15 Informal P&R	Informal P&R	US-11/15 @ US-22/322
6	Clarks Ferry Bridge - Route 147 P&R	Reg P&R	SR-147 @ US-22/322 entrance
7	Dauphin - Rt. 22/322 P&R	Reg P&R	Allegheny St. @ SR-225 Entrance
8	US-22/322 Millerstown Informal P&R	Informal P&R	US-22/322 @ SR-17
9	Elizabethville Wal-Mart P&R	Reg P&R	Wal-Mart on Kocher Ln and Route 209
10	Unofficial Route 114 P&R	Informal P&R	Route 114 between I-81 and Wertzville Road on NB side

ID #1
US-11/15 – Route 104 P&R



Park and Ride Location Inventory

Name/Location	US-11/15 – Newport Exit		ID #	2														
Date of survey:	5-26-09		Time:	12:00 PM														
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input checked="" type="checkbox"/> Formal <input type="checkbox"/> Informal															
Number of Spaces:	51	Percent Full	8%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Paved</td> <td><input checked="" type="checkbox"/> Striped</td> </tr> <tr> <td><input checked="" type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Sign(s)</td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input checked="" type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input checked="" type="checkbox"/> Paved	<input checked="" type="checkbox"/> Striped	<input checked="" type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input checked="" type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input checked="" type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Paved	<input checked="" type="checkbox"/> Striped																	
<input checked="" type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input checked="" type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input checked="" type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			Yes, state police															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions, clearly marked																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved, excellent condition																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, easy bus access																	
Who owns the location?	PennDOT																	
Who maintains the location?	PennDOT																	

Please attach photos of the location to this form.

ID #2
US-11/15 – Newport Exit



Park and Ride Location Inventory

Name/Location	Newport P&R – US-22/322		ID #	3
Date of survey:	5-21-09		Time:	2:55 PM
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input checked="" type="checkbox"/> Formal <input type="checkbox"/> Informal	
Number of Spaces:	81	Percent Full	80%	
Amenities:	<input checked="" type="checkbox"/> Paved <input checked="" type="checkbox"/> Lighting <input checked="" type="checkbox"/> Sign(s) <input type="checkbox"/> Newspaper vending <input checked="" type="checkbox"/> Handicapped Space(s) <input checked="" type="checkbox"/> Fence <input type="checkbox"/> Benches		<input checked="" type="checkbox"/> Striped <input type="checkbox"/> Shelter(s) <input type="checkbox"/> Telephone <input type="checkbox"/> Food or drink vending <input type="checkbox"/> Trashcans <input checked="" type="checkbox"/> Other: Bike racks <input type="checkbox"/> Other:	
Is the location regularly patrolled by local or state police?			Yes, state police	
Is there any charge for parking?			No	
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions, clearly marked			
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved, excellent condition			
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, easy bus access			
Who owns the location?	PennDOT			
Who maintains the location?	PennDOT			

Please attach photos of the location to this form.

ID #3
Newport P&R – US-22/322



Park and Ride Location Inventory

Name/Location	US-22/322 Watts Informal P&R		ID #	4														
Date of survey:	5-21-09		Time:	2:35 PM														
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input type="checkbox"/> Formal <input checked="" type="checkbox"/> Informal															
Number of Spaces:	10-12	Percent Full	20%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Paved</td> <td><input type="checkbox"/> Striped</td> </tr> <tr> <td><input type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input type="checkbox"/> Sign(s)</td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input checked="" type="checkbox"/> Paved	<input type="checkbox"/> Striped	<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Paved	<input type="checkbox"/> Striped																	
<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			No															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions, shoulder parking so cars must do U turn or find place to turn around when coming from opposite direction																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved, good condition																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, would be difficult for bus to access – not enough space																	
Who owns the location?	PennDOT ROW																	
Who maintains the location?	PennDOT																	

Please attach photos of the location to this form.



ID #4
US 22/322 Watts
Informal P&R



Park and Ride Location Inventory

Name/Location	US-22/322 – US-11/15 Informal P&R		ID #	5														
Date of survey:	5-26-09		Time:	11:50 AM														
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input type="checkbox"/> Formal <input checked="" type="checkbox"/> Informal															
Number of Spaces:	Unknown, ~50	Percent Full	0%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Paved</td> <td><input type="checkbox"/> Striped</td> </tr> <tr> <td><input type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input type="checkbox"/> Sign(s)</td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input checked="" type="checkbox"/> Paved	<input type="checkbox"/> Striped	<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Paved	<input type="checkbox"/> Striped																	
<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			No															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved/gravel, poor condition – entrance is currently blocked with gravel piles, no trespassing signs, dilapidated structure on site																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, would be easy for bus to access if properly marked																	
Who owns the location?	Unknown/Private																	
Who maintains the location?	Unknown/Private																	

Please attach photos of the location to this form.

ID #5

US-22/322 – US-11/15 Informal P&R



Park and Ride Location Inventory

Name/Location	Clarks Ferry Bridge – Route 147 P&R		ID #	6
Date of survey:	5-21-09		Time:	2:00 PM
Type:	<input type="checkbox"/> Carpool <input type="checkbox"/> Transit <input checked="" type="checkbox"/> Both		<input checked="" type="checkbox"/> Formal <input type="checkbox"/> Informal	
Number of Spaces:	39 (main) & 28	Percent Full	74% (main) & 46%	
Amenities:	<input checked="" type="checkbox"/> Paved (50%) <input checked="" type="checkbox"/> Striped (50%) <input checked="" type="checkbox"/> Lighting – <i>street lighting, not</i> <input type="checkbox"/> Shelter(s) <input type="checkbox"/> Sign(s) <i>meant for parking</i> <input type="checkbox"/> Telephone <input type="checkbox"/> Newspaper vending <input type="checkbox"/> Food or drink vending <input type="checkbox"/> Handicapped Space(s) <input type="checkbox"/> Trashcans <input type="checkbox"/> Fence <input type="checkbox"/> Other: <input type="checkbox"/> Benches <input type="checkbox"/> Other:			
Is the location regularly patrolled by local or state police?			No	
Is there any charge for parking?			No	
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions			
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or net):	Looks like the original P&R site became full so cars started parking across street in adjacent “lot” (makeshift roadside) both lots are partially paved/ partially gravel			
If the lot is currently served by transit, do buses have enough room to maneuver?	Easy for bus to access if pulling straight through main lot, secondary lot may be difficult for buses to access			
Who owns the location?	PennDOT – Not official/not endorsed by PennDOT			
Who maintains the location?	PennDOT			

Please attach photos of the location to this form.

ID #6
Clarks Ferry Bridge – Route 147 P&R



Park and Ride Location Inventory

Name/Location	Dauphin – Route 22/322 P&R		ID #	7														
Date of survey:	5-26-09		Time:	10:00 AM														
Type:	<input type="checkbox"/> Carpool <input type="checkbox"/> Transit <input checked="" type="checkbox"/> Both		<input checked="" type="checkbox"/> Formal <input type="checkbox"/> Informal															
Number of Spaces:	84	Percent Full	33%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Paved</td> <td><input checked="" type="checkbox"/> Striped</td> </tr> <tr> <td><input checked="" type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input type="checkbox"/> Sign(s) <i>*see note below*</i></td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input checked="" type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input checked="" type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input checked="" type="checkbox"/> Paved	<input checked="" type="checkbox"/> Striped	<input checked="" type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input type="checkbox"/> Sign(s) <i>*see note below*</i>	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input checked="" type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Paved	<input checked="" type="checkbox"/> Striped																	
<input checked="" type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input type="checkbox"/> Sign(s) <i>*see note below*</i>	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input checked="" type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			Yes, state police															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions <i>*Note: PennDOT suggested contacting the PA Sign Trust to get approval/direction for installing Transit-Oriented Directional Signing (TODS); CAT noted that they can pay for these signs.*</i>																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved, excellent condition																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Easy bus access																	
Who owns the location?	PennDOT																	
Who maintains the location?	PennDOT																	

Please attach photos of the location to this form.

ID #7
Dauphin – Route 22/322 P&R



Park and Ride Location Inventory

Name/Location	US-22/322 Millerstown Informal P&R		ID #	8														
Date of survey:	5-21-09		Time:	3:13 PM														
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input type="checkbox"/> Formal <input checked="" type="checkbox"/> Informal															
Number of Spaces:	20	Percent Full	50%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Paved</td> <td><input type="checkbox"/> Striped</td> </tr> <tr> <td><input type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input type="checkbox"/> Sign(s)</td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input type="checkbox"/> Paved	<input type="checkbox"/> Striped	<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input type="checkbox"/> Paved	<input type="checkbox"/> Striped																	
<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			No															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions, shoulder parking																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Gravel, small shoulder																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, would be difficult for bus to access – not enough space																	
Who owns the location?	PennDOT ROW																	
Who maintains the location?	PennDOT																	

Please attach photos of the location to this form.

ID #8

US-22/322 Millerstown Informal P&R



Park and Ride Location Inventory

Name/Location	Elizabethville Wal-Mart P&R		ID #	9														
Date of survey:	5-26-09		Time:	10:42 AM														
Type:	<input type="checkbox"/> Carpool <input type="checkbox"/> Transit <input checked="" type="checkbox"/> Both		<input checked="" type="checkbox"/> Formal <input type="checkbox"/> Informal															
Number of Spaces:	60+ /unlimited	Percent Full	<30%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Paved (50%)</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Striped (50%)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Lighting</td> <td style="border: none;"><input checked="" type="checkbox"/> Shelter(s) (Wal-Mart, across lot)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Sign(s)</td> <td style="border: none;"><input type="checkbox"/> Telephone</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Newspaper vending</td> <td style="border: none;"><input checked="" type="checkbox"/> Food or drink vending (Wal-Mart)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Handicapped Space(s)</td> <td style="border: none;"><input checked="" type="checkbox"/> Trashcans (Wal-Mart)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Fence</td> <td style="border: none;"><input checked="" type="checkbox"/> Other: Restrooms (Wal-Mart)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Benches</td> <td style="border: none;"><input type="checkbox"/> Other:</td> </tr> </table>				<input checked="" type="checkbox"/> Paved (50%)	<input checked="" type="checkbox"/> Striped (50%)	<input checked="" type="checkbox"/> Lighting	<input checked="" type="checkbox"/> Shelter(s) (Wal-Mart, across lot)	<input checked="" type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input checked="" type="checkbox"/> Food or drink vending (Wal-Mart)	<input type="checkbox"/> Handicapped Space(s)	<input checked="" type="checkbox"/> Trashcans (Wal-Mart)	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Other: Restrooms (Wal-Mart)	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Paved (50%)	<input checked="" type="checkbox"/> Striped (50%)																	
<input checked="" type="checkbox"/> Lighting	<input checked="" type="checkbox"/> Shelter(s) (Wal-Mart, across lot)																	
<input checked="" type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input checked="" type="checkbox"/> Food or drink vending (Wal-Mart)																	
<input type="checkbox"/> Handicapped Space(s)	<input checked="" type="checkbox"/> Trashcans (Wal-Mart)																	
<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Other: Restrooms (Wal-Mart)																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			N/A															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Paved, excellent condition, CAT P&R is left side of lot when facing Wal-Mart																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Easy for bus to access from side entrance of lot, can not enter through front entrance (cars only)																	
Who owns the location?	Wal-Mart																	
Who maintains the location?	Wal-Mart																	

Please attach photos of the location to this form.

ID #9
Elizabethville Wal-Mart P&R



Park and Ride Location Inventory

Name/Location	Unofficial Route 114 Informal P&R (2 lots)		ID #	10														
Date of survey:	5-21-09		Time:	1:26 PM														
Type:	<input checked="" type="checkbox"/> Carpool <input type="checkbox"/> Transit <input type="checkbox"/> Both		<input type="checkbox"/> Formal <input checked="" type="checkbox"/> Informal															
Number of Spaces:	20 & 43	Percent Full	70% & 14%															
Amenities:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Paved</td> <td><input type="checkbox"/> Striped</td> </tr> <tr> <td><input type="checkbox"/> Lighting</td> <td><input type="checkbox"/> Shelter(s)</td> </tr> <tr> <td><input type="checkbox"/> Sign(s)</td> <td><input type="checkbox"/> Telephone</td> </tr> <tr> <td><input type="checkbox"/> Newspaper vending</td> <td><input type="checkbox"/> Food or drink vending</td> </tr> <tr> <td><input type="checkbox"/> Handicapped Space(s)</td> <td><input type="checkbox"/> Trashcans</td> </tr> <tr> <td><input type="checkbox"/> Fence</td> <td><input type="checkbox"/> Other:</td> </tr> <tr> <td><input type="checkbox"/> Benches</td> <td><input type="checkbox"/> Other:</td> </tr> </table>				<input type="checkbox"/> Paved	<input type="checkbox"/> Striped	<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)	<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone	<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending	<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans	<input type="checkbox"/> Fence	<input type="checkbox"/> Other:	<input type="checkbox"/> Benches	<input type="checkbox"/> Other:
<input type="checkbox"/> Paved	<input type="checkbox"/> Striped																	
<input type="checkbox"/> Lighting	<input type="checkbox"/> Shelter(s)																	
<input type="checkbox"/> Sign(s)	<input type="checkbox"/> Telephone																	
<input type="checkbox"/> Newspaper vending	<input type="checkbox"/> Food or drink vending																	
<input type="checkbox"/> Handicapped Space(s)	<input type="checkbox"/> Trashcans																	
<input type="checkbox"/> Fence	<input type="checkbox"/> Other:																	
<input type="checkbox"/> Benches	<input type="checkbox"/> Other:																	
Is the location regularly patrolled by local or state police?			No															
Is there any charge for parking?			No															
Describe how easy or difficult access to the facility is for drivers:	Easy access from both directions, wide lots																	
Describe the overall condition (e.g., dirt, gravel, or paved surface; crowded or not):	Dirt/gravel																	
If the lot is currently served by transit, do buses have enough room to maneuver?	Not currently served by transit, would be easy for bus to access																	
Who owns the location?	PennDOT ROW																	
Who maintains the location?	PennDOT																	

Please attach photos of the location to this form.

ID #10
Unofficial Route 114 Informal P&R (2 lots)



Appendix B

Preliminary Site Alternatives Conceptual Design

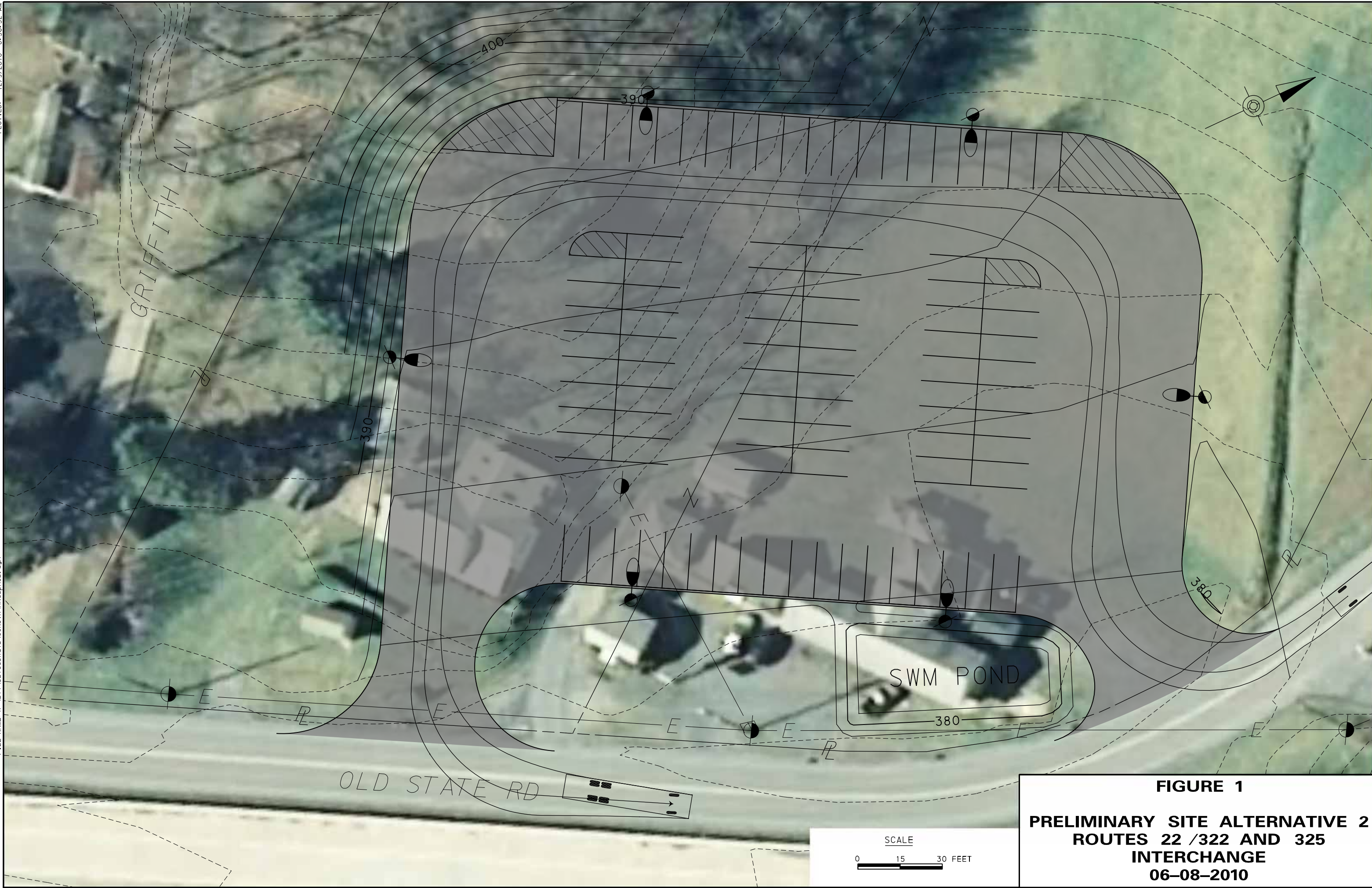


FIGURE 1
PRELIMINARY SITE ALTERNATIVE 2
ROUTES 22 /322 AND 325
INTERCHANGE
06-08-2010

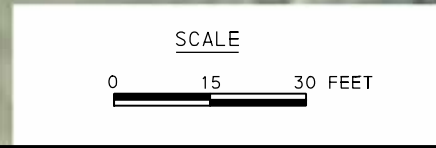
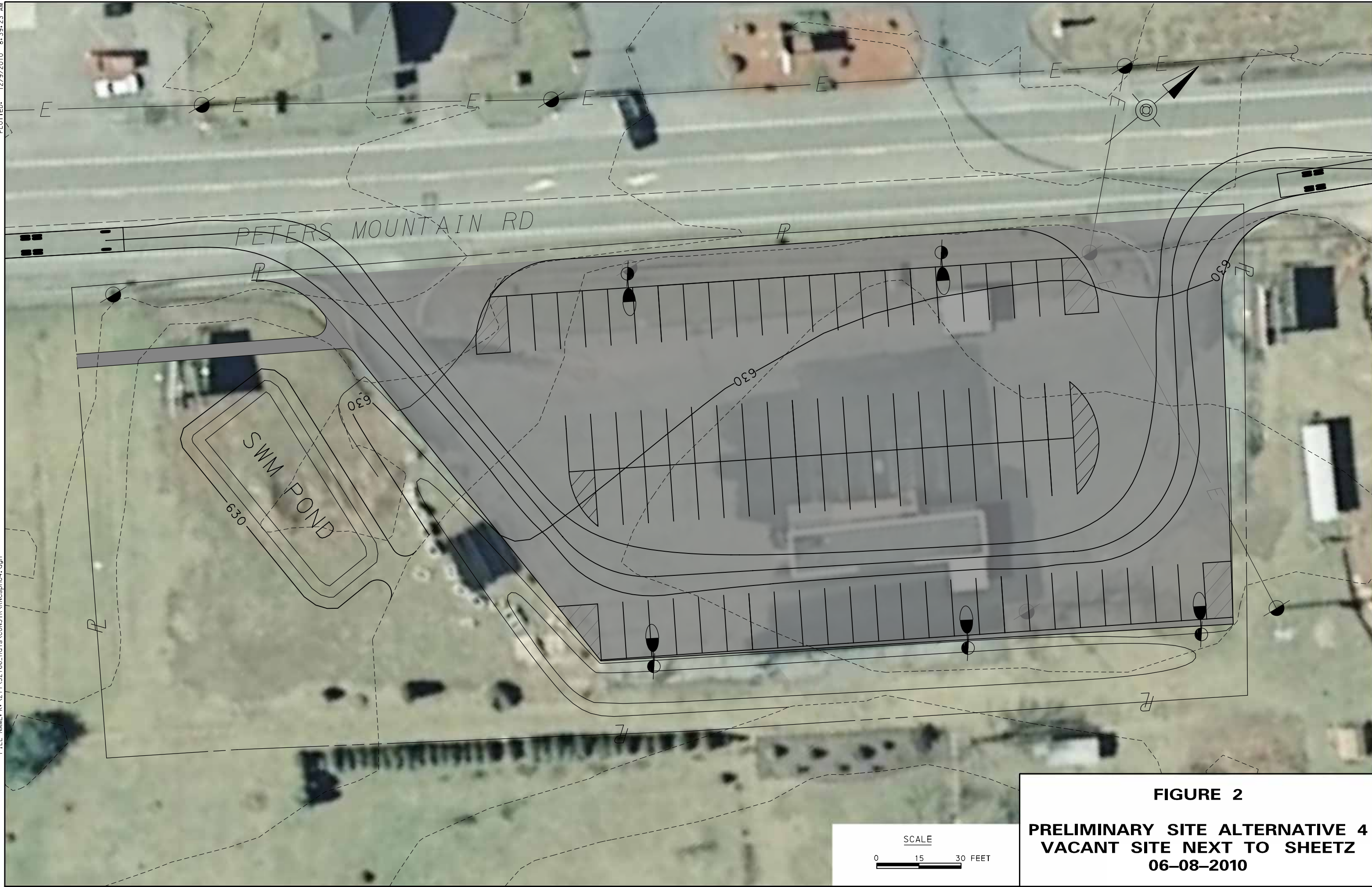
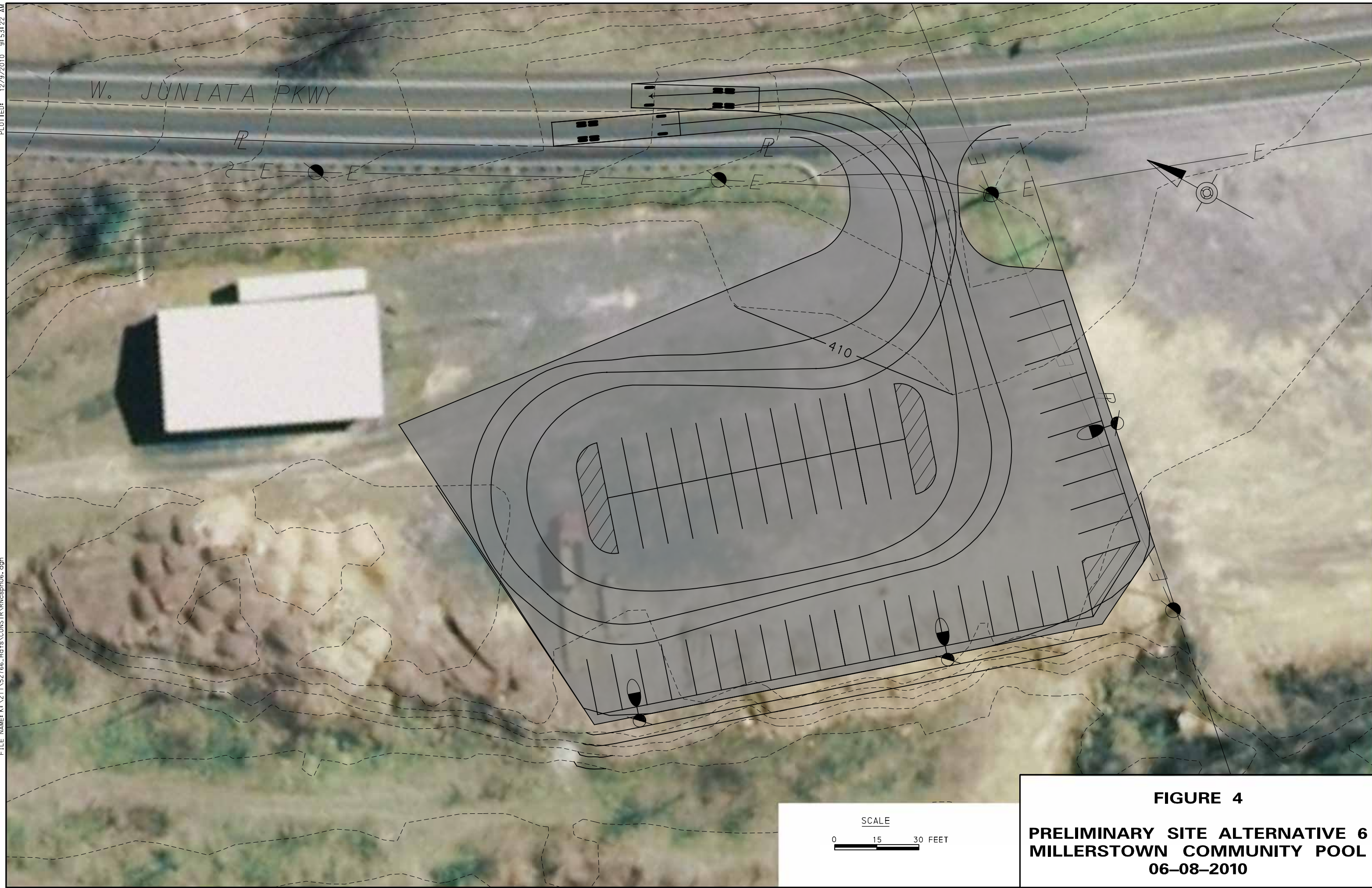


FIGURE 2
PRELIMINARY SITE ALTERNATIVE 4
VACANT SITE NEXT TO SHEETZ
06-08-2010



FIGURE 3
PRELIMINARY SITE ALTERNATIVE 5
HALIFAX FIRE HOUSE
06-08-2010



SCALE

0 15 30 FEET

FIGURE 4

**PRELIMINARY SITE ALTERNATIVE 6
MILLERSTOWN COMMUNITY POOL
06-08-2010**



FIGURE 5
PRELIMINARY SITE ALTERNATIVE 9
VILLAGE SQUARE
SHOPPING CENTER
06-08-2010



FIGURE 6

**PRELIMINARY SITE ALTERNATIVE 12
FORMER FUEL TANK SITE
06-08-2010**

SCALE

0 30 60 FEET

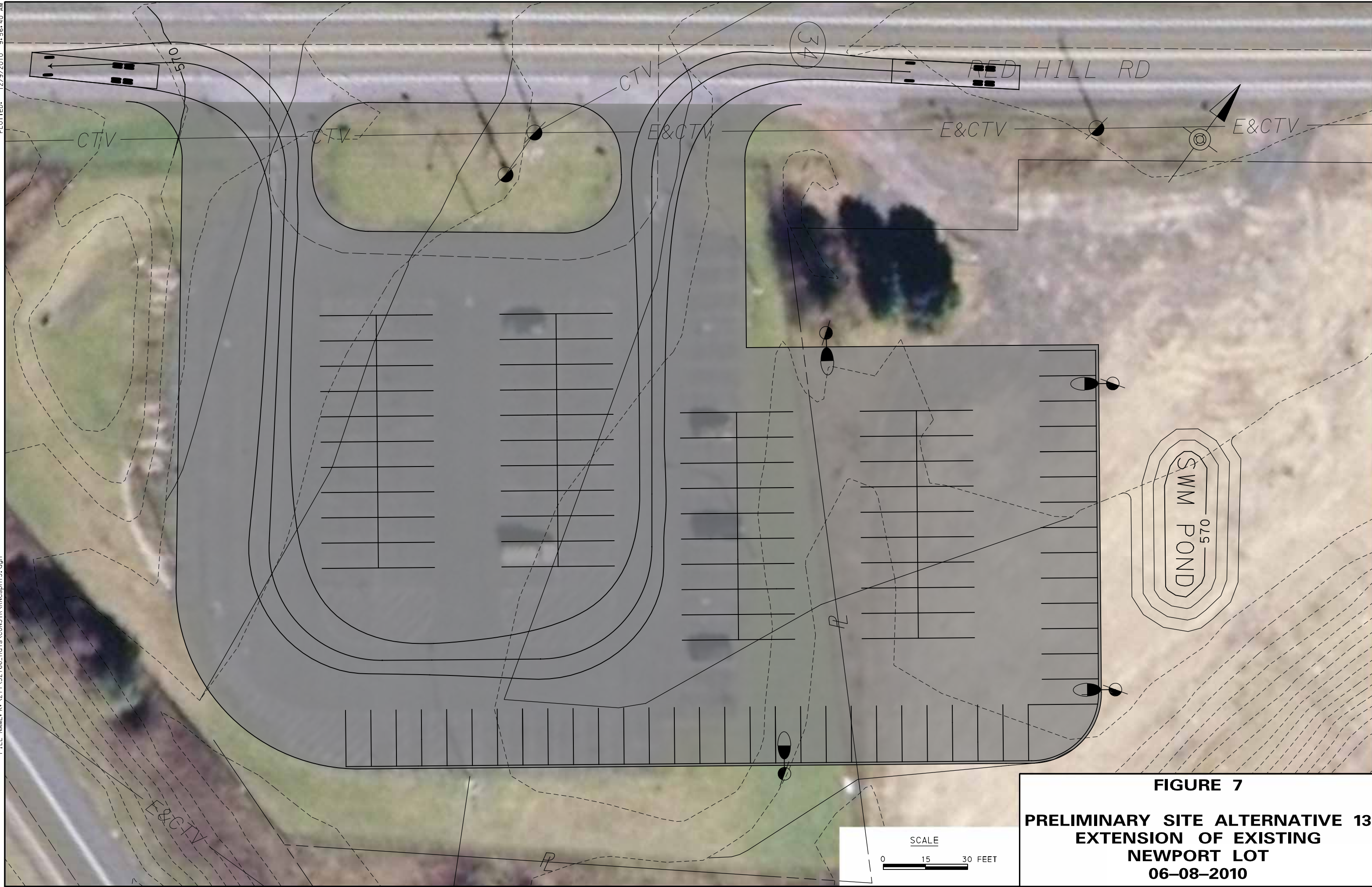


FIGURE 7
PRELIMINARY SITE ALTERNATIVE 13
EXTENSION OF EXISTING
NEWPORT LOT
06-08-2010



FIGURE 8
PRELIMINARY SITE ALTERNATIVE 14
ROUTE 114
06-08-2010

Appendix C

Preliminary Site Alternatives Conceptual Cost Estimates



Subject: HATS Park & Ride Lots

Job #: 52766

By: _____ **Date:** _____

Chkd By: _____ **Date:** _____

**Site No. 2/2A - Rt 322/Route 325 Interchange
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	4620	\$18.50/CY	\$85,470.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	490	\$18.50/CY	\$9,065.00
0204-0150	Class 4 Excavation	CY	160	\$25.50/CY	\$4,080.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	295	\$115.00/LF	\$33,925.00
0605-2710	Type C Concrete Top Unit and Grate	Set	3	\$1125.00/Set	\$3,375.00
0605-2730	Type M Concrete Top Unit and Grate	Set	1	\$965.00/Set	\$965.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	1015	\$26.00/LF	\$26,390.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	3090	\$0.60/LF	\$1,854.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	370	\$2.50/SY	\$925.00
	Drainage Basin Riser Structure	EACH	1	\$10000.00	\$10,000.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$38850.00	\$38,850.00
	Pavement	SY	5760	\$37.50/SY	\$216,000.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	LS	--	\$350000.00	\$350,000.00
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$791,399.00

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$39,569.95	\$39,569.95
	Mobilization (5%)			\$39,569.95	\$39,569.95
	Contingency (35%)			\$276,989.65	\$276,989.65
SUBTOTAL:					\$1,147,528.55

SAY: \$1,147,600



Subject: HATS Park & Ride Lots

Job #: 52766

By:

Date:

Chkd By:

Date:

**Site No. 4 - Vacant Lot Next to Sheetz
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	2990	\$18.50/CY	\$55,315.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	490	\$18.50/CY	\$9,065.00
0204-0150	Class 4 Excavation	CY	230	\$25.50/CY	\$5,865.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	430	\$115.00/LF	\$49,450.00
0605-2710	Type C Concrete Top Unit and Grate	Set	3	\$1125.00/Set	\$3,375.00
0605-2730	Type M Concrete Top Unit and Grate	Set	2	\$965.00/Set	\$1,930.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	825	\$26.00/LF	\$21,450.00
0676-0001	Cement Concrete Sidewalk	SY	60	\$115.00/SY	\$6,900.00
0964-0001	4" White Epoxy Pavement Markings	LF	2775	\$0.60/LF	\$1,665.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	370	\$2.50/SY	\$925.00
	Drainage Basin Riser Structure	EACH	1	\$10000.00	\$10,000.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$32980.00	\$32,980.00
	Pavement	SY	4490	\$37.50/SY	\$168,375.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	1.64	\$25000.00	\$40,943.18
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$418,738.18

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTOTAL ABOVE					
	E&S Control (5%)			\$20,936.91	\$20,936.91
	Mobilization (5%)			\$20,936.91	\$20,936.91
	Contingency (35%)			\$146,558.36	\$146,558.36
SUBTOTAL:					\$607,170.36

SAY: \$607,200



Subject: HATS Park & Ride Lots

Job #: 52766

By:

Date:

Chkd By:

Date:

**Site No. 5 - Halifax Fire Department
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	1020	\$18.50/CY	\$18,870.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	0	\$18.50/CY	\$0.00
0204-0150	Class 4 Excavation	CY	20	\$25.50/CY	\$510.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	30	\$115.00/LF	\$3,450.00
0605-2710	Type C Concrete Top Unit and Grate	Set	0	\$1125.00/Set	\$0.00
0605-2730	Type M Concrete Top Unit and Grate	Set	1	\$965.00/Set	\$965.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	0	\$26.00/LF	\$0.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	1100	\$0.60/LF	\$660.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	0	\$2.50/SY	\$0.00
	Drainage Basin Riser Structure	EACH	0	\$10000.00	\$0.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$24040.00	\$24,040.00
	Pavement	SY	1530	\$37.50/SY	\$57,375.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	0.00	\$610500.00	\$0.00
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$116,370.00

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$5,818.50	\$5,818.50
	Mobilization (5%)			\$5,818.50	\$5,818.50
	Contingency (35%)			\$40,729.50	\$40,729.50
SUBTOTAL:					\$168,736.50

SAY: \$168,800



Subject: HATS Park & Ride Lots

Job #: 52766

By:

Date:

Chkd By:

Date:

**Site No. 6 - Millerstown Community Pool
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	2440	\$18.50/CY	\$45,140.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	0	\$18.50/CY	\$0.00
0204-0150	Class 4 Excavation	CY	150	\$25.50/CY	\$3,825.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	280	\$115.00/LF	\$32,200.00
0605-2710	Type C Concrete Top Unit and Grate	Set	2	\$1125.00/Set	\$2,250.00
0605-2730	Type M Concrete Top Unit and Grate	Set	0	\$965.00/Set	\$0.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	760	\$26.00/LF	\$19,760.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	1900	\$0.60/LF	\$1,140.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	0	\$2.50/SY	\$0.00
	Drainage Basin Riser Structure	EACH	0	\$10000.00	\$0.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$24060.00	\$24,060.00
	Pavement	SY	3650	\$37.50/SY	\$136,875.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	0.00	\$33000.00	\$0.00
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$275,750.00

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$13,787.50	\$13,787.50
	Mobilization (5%)			\$13,787.50	\$13,787.50
	Contingency (35%)			\$96,512.50	\$96,512.50
SUBTOTAL:					\$399,837.50

SAY: \$399,900



Subject: HATS Park & Ride Lots

Job #: 52766

By:

Date:

Chkd By:

Date:

**Site No. 9 - Village Square Shopping Center
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	1530	\$18.50/CY	\$28,305.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	370	\$18.50/CY	\$6,845.00
0204-0150	Class 4 Excavation	CY	60	\$25.50/CY	\$1,530.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	115	\$115.00/LF	\$13,225.00
0605-2710	Type C Concrete Top Unit and Grate	Set	2	\$1125.00/Set	\$2,250.00
0605-2730	Type M Concrete Top Unit and Grate	Set	0	\$965.00/Set	\$0.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	0	\$26.00/LF	\$0.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	1790	\$0.60/LF	\$1,074.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	280	\$2.50/SY	\$700.00
	Drainage Basin Riser Structure	EACH	1	\$10000.00	\$10,000.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$23980.00	\$23,980.00
	Pavement	SY	2290	\$37.50/SY	\$85,875.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	0.79	\$33000.00	\$25,950.95
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$210,234.95

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$10,511.75	\$10,511.75
	Mobilization (5%)			\$10,511.75	\$10,511.75
	Contingency (35%)			\$73,582.23	\$73,582.23
SUBTOTAL:					\$304,840.67

SAY: \$304,900



Subject: HATS Park & Ride Lots

Job #: 52766

By:

Date:

Chkd By:

Date:

**Site No. 12 - Former Fuel Tank Site
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	0	\$18.50/CY	\$0.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	0	\$18.50/CY	\$0.00
0204-0150	Class 4 Excavation	CY	0	\$25.50/CY	\$0.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	0	\$115.00/LF	\$0.00
0605-2710	Type C Concrete Top Unit and Grate	Set	0	\$1125.00/Set	\$0.00
0605-2730	Type M Concrete Top Unit and Grate	Set	0	\$965.00/Set	\$0.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	1111	\$26.00/LF	\$28,886.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	2035	\$0.60/LF	\$1,221.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	0	\$2.50/SY	\$0.00
	Drainage Basin Riser Structure	EACH	0	\$10000.00	\$0.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$37230.00	\$37,230.00
	Pavement	SY	4290	\$37.50/SY	\$160,875.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	1.12	\$33000.00	\$37,001.14
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$275,713.14

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$13,785.66	\$13,785.66
	Mobilization (5%)			\$13,785.66	\$13,785.66
	Contingency (35%)			\$96,499.60	\$96,499.60
SUBTOTAL:					\$399,784.06

SAY: \$399,800



Subject: HATS Park & Ride Lots

Job #: 52766

By: _____ **Date:** _____

Chkd By: _____ **Date:** _____

**Site No. 13 - Extension of Existing Newport Lot
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	1430	\$18.50/CY	\$26,455.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	380	\$18.50/CY	\$7,030.00
0204-0150	Class 4 Excavation	CY	150	\$25.50/CY	\$3,825.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	286	\$115.00/LF	\$32,890.00
0605-2710	Type C Concrete Top Unit and Grate	Set	4	\$1125.00/Set	\$4,500.00
0605-2730	Type M Concrete Top Unit and Grate	Set	0	\$965.00/Set	\$0.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	420	\$26.00/LF	\$10,920.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	2230	\$0.60/LF	\$1,338.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	290	\$2.50/SY	\$725.00
	Drainage Basin Riser Structure	EACH	1	\$10000.00	\$10,000.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$17670.00	\$17,670.00
	Pavement	SY	2150	\$37.50/SY	\$80,625.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	1.37	\$33000.00	\$45,047.45
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$251,525.45

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$12,576.27	\$12,576.27
	Mobilization (5%)			\$12,576.27	\$12,576.27
	Contingency (35%)			\$88,033.91	\$88,033.91
SUBTOTAL:					\$364,711.90

SAY: \$364,800



Subject: HATS Park & Ride Lots

Job #: 52766

By: _____ **Date:** _____

Chkd By: _____ **Date:** _____

**Site No. 14 - Route 114
Parking Lot Estimate**

PENNDOT ITEM	DESCRIPTION	MEASURE	QTY	UNIT PRICE	TOTAL
0201-0001	Clearing and Grubbing	LS	--	\$2500.00	\$2,500.00
0203-0001	Class 1 Excavation	CY	2330	\$18.50/CY	\$43,105.00
0203-0001	Class 1 Excavation (For Drainage Basin)	CY	0	\$18.50/CY	\$0.00
0204-0150	Class 4 Excavation	CY	0	\$25.50/CY	\$0.00
0601-7325	24" Reinforced Concrete Pipe, Type B, 2'-1.5' Fill	LF	0	\$115.00/LF	\$0.00
0605-2710	Type C Concrete Top Unit and Grate	Set	0	\$1125.00/Set	\$0.00
0605-2730	Type M Concrete Top Unit and Grate	Set	0	\$965.00/Set	\$0.00
0624-0001	Right-of-Way Fence, Type 1	LF	0	\$36.00/LF	\$0.00
0630-0001	Plain Cement Concrete Curb	LF	0	\$26.00/LF	\$0.00
0676-0001	Cement Concrete Sidewalk	SY	0	\$115.00/SY	\$0.00
0964-0001	4" White Epoxy Pavement Markings	LF	1180	\$0.60/LF	\$708.00
	Drainage Basin (Seeding and Soil Supplements Only)	SY	0	\$2.50/SY	\$0.00
	Drainage Basin Riser Structure	EACH	0	\$10000.00	\$0.00
	Landscaping	LS	--	\$3000.00	\$3,000.00
	Lighting	LS	--	\$24140.00	\$24,140.00
	Pavement	SY	3490	\$37.50/SY	\$130,875.00
	Retaining Wall	SF	0	\$215.00/SF	\$0.00
	Right-of-Way Acquisition	AC	0.00	\$33000.00	\$0.00
	Utility Relocation	LS	--	\$5000.00	\$5,000.00
SUBTOTAL:					\$209,328.00

LUMP SUM ITEMS CALCULATED AS A PERCENTAGE OF SUBTATOAL ABOVE					
	E&S Control (5%)			\$10,466.40	\$10,466.40
	Mobilization (5%)			\$10,466.40	\$10,466.40
	Contingency (35%)			\$73,264.80	\$73,264.80
SUBTOTAL:					\$303,525.60

SAY: \$303,600