



Urban Design + Planning

Bucks County Waterfront Revitalization Plan

Existing Conditions Memorandum

To: Bob White, Director
Redevelopment Authority of the County of Bucks

From: Jane Dembner, HNTB

Date: June 25, 2004

Subject: Summary of Existing Conditions—Transportation

This technical memorandum provides an overview of the existing transportation system in the Bucks County Waterfront Revitalization study area. This is one of several background memos supporting the Bucks County Waterfront Revitalization Plan. The purpose of the study is to provide for improved access to the riverfront and to promote targeted economic development in the study area. The study area includes portions of the following municipalities: Bensalem Township, Bristol Borough, Bristol Township, Falls Township, Morrisville Borough, and Tullytown Borough.

Background

Transportation has played a strong role in shaping the communities along the Delaware River in Bucks County, and will continue to do so. The combination of interstate and US highways, freight and commuter rail, and shipping and boating facilities contributed to the area's industrial identity. Those same resources give the communities in Lower Bucks County a high degree of accessibility from surrounding areas, and provide important opportunities to enhance, diversify, and change that identity. This memorandum summarizes the nature and condition of transportation facilities in the Bucks County Waterfront Study Area, based on existing studies and available information.

Road Classification and Traffic Analysis

The Study Area is served by a wide spectrum of road types, as shown in Table 1. US 13, the northern boundary of the study area, changes classification as it passes through Tullytown. Table 2 shows the Average Daily Traffic (ADT) Volumes on the Arterial portion of US 13 for 2001.

Table 3 shows the results of the traffic analysis conducted for the recently completed US 13 Revitalization Plan. Three intersections (Beaver Dam Road, Cedar/Walnut Avenue, and Bensalem Boulevard) operate at a LOS E or worse during both the morning and evening peak travel periods, and are highlighted in Table 3. LOS E is considered to be a significantly degraded, albeit still operable, level of service, while LOS F is considered "failing." Heavy volume on US 13 and cross-streets, as well as high turn volumes, are the primary causes of delay at these intersections.

Table 1. Study Area Road Classification

Classification	Road	
Expressway	I-276 (Pennsylvania Turnpike)	
	I-95	
	US 13 (North of Levittown Parkway)	
	PA 63 (Woodhaven Rd)	
Arterial-Principal	US 13 (South of Levittown Parkway)	
	PA 132 (Street Road)	
	PA 413 (New Rodgers Road)	
Arterial-Minor	Hulmeville Road	
	Bensalem Boulevard	
	Bath Road	
	Edgely Road	
	Levittown Parkway	
Collector	Mill Road	Cedar Avenue
	Tennis Avenue	Newportville Road
	Gravel Pike	Beaver Dam Road
	Haunted Lane	Green Lane

Source: US Route 13 Revitalization Plan

Note: All roads listed above are under the jurisdiction of PENNDOT, with the exception of I-276, which is governed by the Pennsylvania Turnpike Commission.

Table 2: Average Daily Traffic on US Route 13 (2001)

Traffic Count Location	2001 ADT
US 13 Between Tennis Avenue and Woodhaven Mall	21,000
US 13 Between Station Avenue and School Lane	15,000
US 13 Between Bensalem Boulevard and Neshaminy Creek	23,000
US 13 Between Newportville Road and New Rodgers Road	15,000
US 13 Between Bristol Commerce Park and Bath Road	31,000
US 13 Between Beaver Dam Road and Green Lane	33,000
US 13 Between PA Turnpike and Edgely Road	24,000
US 13 Between Haines Road and Levittown Shopping Center	23,000

Source: US Route 13 Revitalization Plan

Table 3: Peak Hour Signalized Intersection Level of Service (LOS)

Intersection with US 13	Existing LOS	
	AM	PM
Red Lion Road	A	C
Tennis Avenue	B	C
Poquessing Avenue	A	A
Woodhaven Mall Entrance	A	B
Woodhaven Road Eastbound Ramp	B	C
Woodhaven Road Westbound Ramp	B	D
Hulmeville Road	A	C
Station Avenue	B	C
Street Road Eastbound Ramp	B	C
Street Road Westbound Ramp	C	C
Bensalem Boulevard	E	F
Cedar Avenue/Walnut Avenue	E	E
Newportville Road	B	D
Bristol Commerce Park	A	B
Bath Road	B	C
Beaver Dam Road	E	F
Edgely Road	B	B
Haines Road	A	A
Levittown Shopping Center	A	A
Levittown Parkway	B	B

Source: US Route 13 Revitalization Plan

US Route 13 Revitalization Plan Recommendations

The US Route 13 Revitalization Plan study looked at an 11-mile stretch of US 13, from Poquessing Creek to Levittown Parkway. The study evaluated a number of transportation improvement alternatives for feasibility, effectiveness in addressing the adverse conditions, and sensitivity to the adjacent land use. These alternatives include:

- Traffic Calming Initiatives
- Streetscape Amenities to Improve Aesthetics
- Enhanced Mobility Choices
- Intersection Geometry Improvements
- Access Management

The study also made land use and beautification recommendations for the municipalities covered by the relevant portion of US 13, including Bensalem, Bristol Township, Bristol Borough, and Tullytown. Specific recommendations for the municipalities include:

- Tullytown: A new Levittown Train Station, with commuter amenities, including retail space.
- Bristol Township: New development in the area north of the PA Turnpike, on the east side of US 13. This area shows promise for mixed use development (offices, restaurants, hotels, and entertainment).
- Bristol Township: Transit-Oriented Development at the Croydon Train Station. This would include pedestrian access improvements.

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Bristol Borough: Revitalization of US 13 from Bath Road to Beaver Dam Road, including streetscaping, new traffic signals, and mixed use development geared toward a pedestrian environment.

Bensalem: A possible senior housing complex at US 13 and Woodhaven Road, combined with parking improvements along US 13.

The study also includes a series of projects with immediate, short-term, and long-term implementation timeframes. The report provides conceptual urban design drawings for many of these projects.

Commuter Rail Transportation

SEPTA’s R-7 Line provides commuter (heavy) rail service in the study area is. The R-7 Line operates between Trenton, NJ and Chestnut Hill in Philadelphia, and serves five stations in the study area: Levittown, Bristol, Croydon, Eddington, and Cornwells Heights. Table 4 shows the station locations and parking facility capacities.

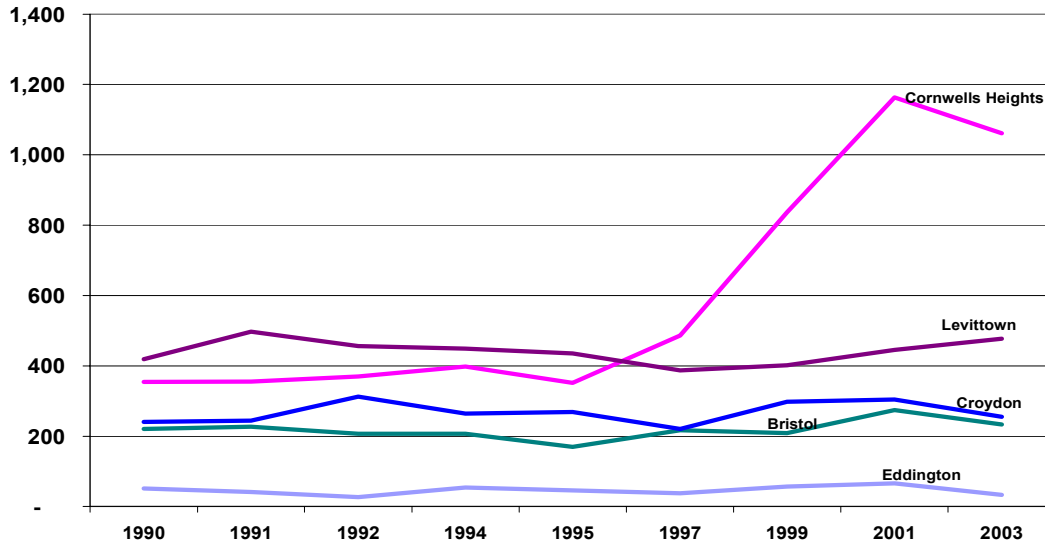
Table 4: Parking Facilities at R-7 Stations, Study Area

Station Name	Levittown	Bristol	Croydon	Eddington	Cornwells Heights
Location	Bristol Pk & Levittown Pkwy	Garden & Beaver Sts	Bristol Pike & Cedar Avenue	Street & Dunks Ferry Roads	Station Ave Near Bristol Pk
Parking Spaces	382	294	84	0	1,916
Average Weekday Utilization Rate:	91%	50%	100%	-	60%
Ticket Office (TO) or Ticket Machine (M)	TO	-	-	-	TO
Other Information	-	-	-	Flag stop only	Direct access from I-95

Source: SEPTA

Figure 1 shows the average weekday boarding trends for the five study area stations. In general, ridership in the study area has remained stable for the last 13 years. The exception is the Cornwells Heights station, which experienced a rapid escalation in ridership between 1995 and 2003. This increased ridership is due to the large parking lot that opened in the late 1990s.

**Average Weekday Inbound Boardings
Study Area Stations- R7 (Trenton) Regional Rail**



Source: SEPTA

SEPTA Bus

SEPTA operates three bus transit routes along the US 13 corridor through the study limits, including Routes 127, 128, and 129.

Route 127. This bus operates from Trenton, NJ to the Neshaminy Mall via the Oxford Valley Mall. The bus traverses US 13 in the study limits at Levittown Parkway.

Route 128. This bus operates from Bristol to Oxford Valley Mall via Levittown. The bus follows US 13 from Levittown Parkway to Haines Road, crosses US 13 further south at Bath Road, and returns to US 13 from Newportville Road to Hulmeville Road.

Route 129. This bus operates from the Oxford Valley Mall to Torresdale in Philadelphia via the Franklin Mills Mall, Bensalem and Bristol. The bus crosses US 13 at Beaver Dam Road and Bath Road, then follows US 13 and Bath Road to the Bristol Commerce Shopping Center, and again from Woodhaven Road to the City of Philadelphia line at the Frankford Avenue and City Line loop.

In addition, the Bucks County Transportation Management Association (BCTMA), a non-profit that receives a portion of its funding from SEPTA, operates the *Street Road RUSH*, which provides service between SEPTA R-3 trains at Trevoise Station and locations along the Street Road Corridor in Bensalem, Lower Southampton, and Upper Southampton Townships.

Bicycle and Pedestrian Transportation Facilities

The *US Route 13 Revitalization Plan* provides some information on non-motorized transportation facilities in the study area. US 13 has sporadic sidewalk placement, with only rudimentary pedestrian signalization at major intersections.

Off-road and on-road bicycle facilities are also very limited along US 13. There are, however, a number of regional bicycle initiatives that inform about existing conditions and future plans. The Bicycle Coalition of Greater Philadelphia, for example, developed a Regional Bicycle Map that contains ratings for cycling conditions using a combination of traffic volumes, roadway geometry and

field observations. The cycling conditions in the *US Route 13 Revitalization Plan* area are summarized below.

Off-Road Trails. The only existing off-road trail is located within Bristol Borough from Green Lane to Bath Road between US 13 and Farragut Avenue.

Future Trails. A future trail is planned along the Delaware Canal from Morrisville Borough to the existing off road trail in Bristol Borough just south of US 13.

Bicycle Friendly On-Road Cycling Conditions. There are no sections of US 13 that are deemed bicycle friendly. Gravel Pike and Maple Beach Road have bicycle-friendly conditions.

Average On-Road Cycling Conditions. The *US Route 13 Revitalization Plan* describes average cycling conditions as moderately suitable for on-road cycling. Cyclists with lesser skills and experience may find the conditions unfavorable. The two sections of US 13 that have average cycling conditions are located from the Philadelphia City Line to Woodhaven Road (PA 63) and Gravel Pike to Station Avenue, which are both located in Bensalem Township. There are a number of north-south roads that have average cycling conditions, including: Hulmeville Road (PA 513), Station Avenue, Cedar Avenue, Green Lane, Edgely Road, Bath Road, Beaver Dam Road, and Levittown Parkway.

Below Average On-Road Cycling Conditions. Below average cycling conditions are the least suitable for on-road cycling. Although riding on these may not be pleasant, they may provide a direct route between two points. Bensalem Boulevard and New Rodgers Road (PA 413) in Bristol Borough have below average cycling conditions.

The Pennsylvania Department of Transportation developed BicyclePA routes to provide bicyclists with a guide to some of the Commonwealth's highways and rail-trails. Few of these routes contain bike lanes or other facilities designed specifically for bicyclists. There are currently seven lettered routes that traverse the Commonwealth, of which only BicyclePA Route E traverses the Study Area.

Also known as the Pennsylvania segment of the East Coast Greenway, Route E connects Trenton, NJ and Wilmington, DE. In the Study Area, Route E runs along State Road from the Philadelphia City Line to Bath Road then extends north to Bristol-Oxford Valley Road. Ultimately, Route E will be shifted to off-road facilities as they are developed.

The East Coast Greenway is a multi-jurisdictional initiative that is developing the nation's first long-distance, city-to-city, multi-modal transportation corridor for cyclists, hikers, and other non-motorized users. The goal is to connect existing and planned trails that are locally owned and managed to form a continuous, safe, green route. The route will be at least 80 percent off-road, using waterfront esplanades, park paths, abandoned railroads, canal towpaths, and parkway corridors. The trail will stretch from Maine to Florida. The East Coast Greenway extends through the study area municipalities. The key to the segment of Greenway through the study area will be the development of the Delaware River Heritage Trail.

The Delaware River Heritage Trail (DRHT), which emerged from the Rails-to-Trails Conservancy, is to be a 50-mile non-motorized multi-use loop, located as close to the shores of the Delaware River as possible in Pennsylvania and New Jersey. When complete the loop will extend from Morrisville to Philadelphia and from Trenton to Palmyra in New Jersey, crossing the river via the Tacony-Palmyra and Calhoun Street Bridges.

PA Turnpike/I-95 Interchange Project

This project will connect the Pennsylvania Turnpike with I-95 at the current point of crossing of the two highways. The project will include three primary elements: a toll plaza, interchange, and Delaware River Bridge.

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The 18-lane toll plaza will be located between the Richlieu Road and Galloway Road overpasses, near Philadelphia Park Racetrack. Local improvements will include reconstruction of the US 1 bridge over I-276 and the widening/reconstruction of the Pennsylvania Turnpike overpasses that traverse Old Lincoln Highway and Street Road. The structures over Richlieu, Galloway, and Hulmeville Roads will be replaced.

The interchange itself will consist of a single loop, direct connections between the highways at the point-of-crossing. This configuration has less of a commercial and residential property displacement than the other alternatives. Other local improvements include widening/reconstruction of the I-276 bridges that traverse Neshaminy Creek, Mill Creek Durham Road, and PA 413, as well as the replacement of bridges over I-276 at Bensalem Road, New Falls Road, Bristol-Oxford Valley Road, and over I-95 at Ford Road.

The project will incorporate an additional Delaware River crossing to accommodate the forecasted traffic volumes on I-276. This new crossing will be a three-lane, single-direction bridge, built next to the existing bridge. The existing structure will be converted to a three-lane, single-directional bridge, carrying traffic in the opposite direction of the new bridge.

The projected completion year for the Toll Plaza and Interchange Elements is 2010. The anticipated completion year for the Bridge Element is 2015.

The possibility of a bicycle/pedestrian path along the new crossing was a special concern raised in the “Controversial Issues” section of the FHWA’s Record of Decision for the I-276/I-95 Interchange Project. This report states that while a bicycle/pedestrian path had some merit and was consistent with TEA-21 and FHWA objectives, a number of barriers required additional investigation. These factors included: PTC and NJTA prohibitions against bicycles and pedestrians on their facilities; the need to develop and install a fare collection system for access to PTC-operated facilities; additional special maintenance costs; and funding of potential special facilities. Because construction will not start on the Bridge until after 2012, there is time to provide the information necessary for FHWA and the sponsoring agencies to re-evaluate the incorporation of this multi-modal element.

PENNDOT's Transportation Improvement Program (TIP)

PENNDOT has included a number of study area projects in its Transportation Improvement Program. Table 5 lists those projects, along with a brief description and approximate total cost.

Other Considerations

Falls-Hamilton Bridge (Proposed)

The Falls-Hamilton Bridge was originally proposed in the 1970’s and later revisited in the 1980’s to connect Falls Township, PA with Hamilton Township, NJ. Finally, in late 2001 the Delaware River Joint Toll Bridge Commission (DRJTBC) published a Southern Crossings Study. In it the Commission stated that “the construction of a Falls-Hamilton Bridge is not justified based on the fact that it does not provide an acceptable level of service notwithstanding a sizeable financial investment as the highest cost option.” There was some public opposition to this decision from Morrisville Borough officials and others, but there are currently no plans to revisit the issue by the DRJTBC.

Burlington-Bristol Bridge Replacement

According to the Burlington County Bridge Commission, the agency that owns, operates and maintains the Burlington-Bristol Bridge, there are no plans for replacement, rehabilitation, or any alterations to the bridge span or approach alignments.

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Table 5: PENNDOT TIP Projects in the Waterfront Study Area

Project	Project Type	Project Description	Cost
East Coast Greenway	Transportation Enhancement		\$625K
Bristol: Levittown-Yardley Road	Highway Restoration	This project consists of restoration of the pavement and shoulder. It is part of the Preventative Maintenance Program for FY03.	\$13M
Old Rt 13 Improvement	Transportation Enhancement	Removal of rail tracks, installation of streetscape improvements, and construction of pedestrian trail along .5 mile segment.	\$750K
US 13 & PA Turnpike Interchange	Safety Improvement	Provide interim safety improvements with regard to truck traffic. Study potential for long term improvements.	\$600K
I-95/PA Turnpike Interchange	New Alignment	Discussed on pages 6-7	\$250M
NW I-95 SB: Neshaminy Creek to US 13	Highway Restoration	Construct noise walls on I-95 southbound between Neshaminy Creek and PA 13.	\$6.25M
TR 413: US 13 to Ford Road	New Alignment	Reconstruction of the PA 413/US 13 intersection with jughandles, widening to 5 lanes between US 13 and the I-95 Spur, and widening to 4 lanes between the I-95 Spur and Ford Road	\$8.6M
Park Ave at Neshaminy Creek	General Maintenance	Bridge repair	\$747K
State Road Elm to Neshaminy Creek	Highway Restoration	Correct stormwater/drainage problem.	\$2.2M
Falls Connector Trail	Transportation Enhancement	Construction of a 2.5 mile, 8-foot wide pedestrian/bicycle trail system providing a direct link between the residential communities of Levittown, Wheatsheaf, and several mobile home parks to the Falls Township Community Park and the Delaware Canal State Park Towpath. Pedestrian enhancements along the trail include pedestrian signals, educational push button signs, high-visibility pavement markings, and warning signs for motorists. A small bridge along Penn Valley Rd. over Martins Creek and a retaining wall along Mill Creek Rd. at the US 13 underpass will also be built as part of the project.	\$850K
Delaware Canal Pedestrian Path	Transportation Enhancement		\$18K
I-95/Street Road Interchange Study	Bridge Restoration	This interchange functions poorly - vehicles queue on the ramps, back-ups occur on I-95, and the signals are problematic. The project aims to study problems and determine appropriate solutions. Eventually replace bridge over I-95.	\$212K
Otter St Bridge at Otter Creek	Bridge Replacement	Bridge replacement at Otter Creek	\$600K