

CROSSOVER

BRIDGE AHEAD IMPASSABLE:
Why It's So Hard to Pedal or Walk Across the Delaware River

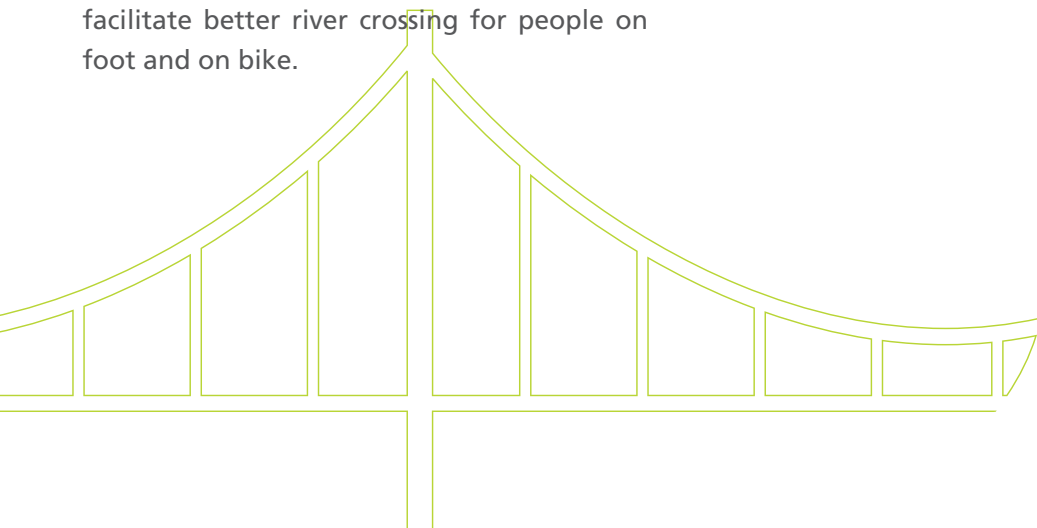
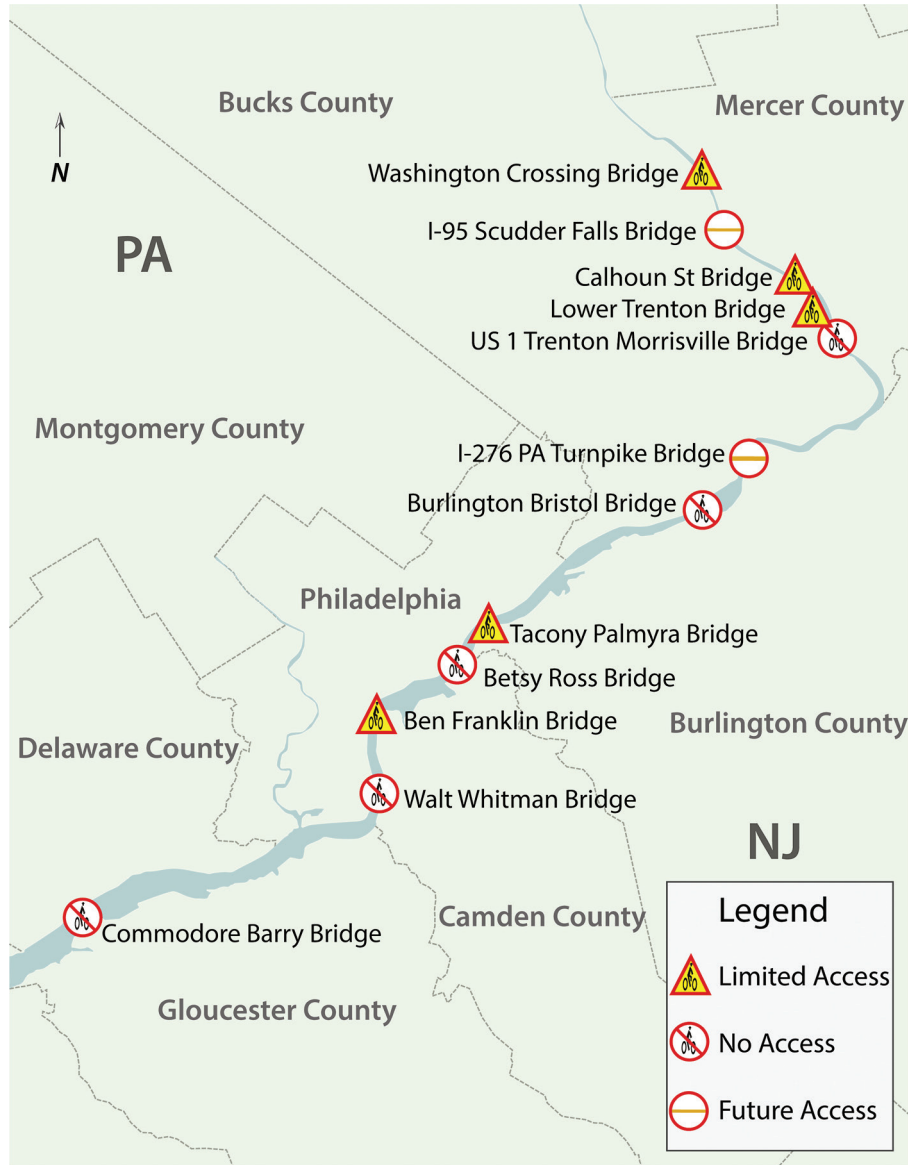




Bicycling is increasingly being viewed as a legitimate and important transportation option for people travelling between Pennsylvania and New Jersey. Whether for commuting or recreational purposes, by itself or combined with mass transit, regional planners are emphasizing bicycle access on both sides of the Delaware. This emphasis extends to pedestrian access as well, as the same infrastructure typically supports both modes of travel.

The bridges spanning the Delaware are critical links between growing bicycle networks in Pennsylvania and New Jersey. Bridge access for pedestrians and bicycles is required to fulfill the promise of our investments in these networks. Bicycle access on key bridges will fill significant gaps in regional bicycle trail networks and provide millions of people with the ability to enjoy both sides of the Delaware River.

This report from the Bicycle Coalition of Greater Philadelphia focuses on access on twelve bridges, from Washington Crossing Bridge in the north to Commodore Barry Bridge in the south. Five of the twelve bridges allow access, although that access is limited. Seven bridges prohibit all bicycle and pedestrian crossings. Two upcoming bridge expansion projects are considering including bicycle and pedestrian pathways on new bridge structures. Following the bridge profiles, we provide recommendations for what can be done to each bridge to facilitate better river crossing for people on foot and on bike.



BRIDGES WITH ACCESS



These bridges provide vital links between New Jersey and Southeast Pennsylvania. Although they allow foot and bicycle access, that allowance is limited in places by unresponsive or nonexistent snow removal, restricted hours, or the prohibition of riding on the walkways.

The Benjamin Franklin Bridge stands as the only connection between Camden and Philadelphia that does not require bicyclists to pay a toll. This bridge provides breathtaking views of the Delaware River and the Philadelphia skyline, and is an underappreciated destination in itself. It is also the only Delaware River Bridge where bicyclists are permitted to ride their bikes across.



HOPEWELL TOWNSHIP, NJ ← TO → UPPER MAKEFIELD TOWNSHIP, PA

WASHINGTON CROSSING

ACCESS

Pedestrians/Bikes Allowed:	Yes; Bikes must be walked
Surface of Path:	Wooden planks with iron joints
Width of Pathway:	Narrow
Signage:	Directional signage
Access Hours:	24 hours
Snow Removal:	Yes; Shovel & Ice melt
Connection to Bike Path:	Yes; D&R Canal Trail/Delaware & Lehigh Trail/ BicyclePA Route S
Nearest Rail Station:	Yardley

SECURITY

Lighting:	Yes
Call Boxes:	No
Security Cameras:	Yes
Security Patrol:	Manned 24 hours/day

Authority: Delaware River Joint Toll Bridge Commission

BRIDGES WITH ACCESS



 RIDING 
PROHIBITED
WALK BIKES ON FOOTWALK

TRENTON, NJ ← TO → MORRISVILLE, PA

CALHOUN STREET

ACCESS

Pedestrians/Bikes Allowed:	Yes; Bikes must be walked
Surface of Path:	Wooden planks with iron joints
Width of Pathway:	6-8 Feet
Signage:	Directional signage
Access Hours:	24 hours
Snow Removal:	Yes; Shovel & Ice melt
Connection to Bike Path:	Yes
Nearest Rail Station:	Trenton

SECURITY

Lighting:	Yes
Call Boxes:	No
Security Cameras:	Yes
Security Patrol:	Manned 24 hours/day

Authority: Delaware River Joint Toll Bridge Commission

LOWER TRENTON

ACCESS

Pedestrians/Bikes Allowed:	Yes; Bikes must be walked
Surface of Path:	Wooden planks with iron joints
Width of Pathway:	Wide
Signage:	Directional signage
Access Hours:	24 hours
Snow Removal:	Yes; Shovel & Ice melt
Connection to Bike Path:	Yes; D&R Canal Trail & Delaware & Lehigh Trail
Nearest Rail Station:	Trenton

SECURITY

Lighting:	Yes
Call Boxes:	No
Security Cameras:	Yes
Security Patrol:	Manned 24 hours/day

Authority: Delaware River Port Authority

BRIDGES WITH ACCESS



PALMYRA, NJ ← TO → TACONY, PHILADELPHIA, PA

TACONY PALMYRA

ACCESS

Pedestrians/Bikes Allowed:	Yes; Bikes must be walked
Surface of Path:	Concrete
Width of Pathway:	Narrow; 4 feet
Signage:	Directional signage
Access Hours:	24 hours
Snow Removal:	Dependent on availability of maintenance crew
Connection to Bike Path:	Yes
Nearest Rail Station:	Palmyra (River Line) Station

SECURITY

Lighting:	Yes
Call Boxes:	No
Security Cameras:	Yes
Security Patrol:	24 hr Bridge Police

Authority: Burlington County Bridge Commission

CAMDEN, NJ ← TO → PHILADELPHIA, PA

BENJAMIN FRANKLIN

ACCESS

Pedestrians/Bikes Allowed:	Yes
Surface of Path:	Concrete
Width of Pathway:	Wide (NJ approach narrow)
Signage:	Lacks directional signage
Access Hours:	Spring/Summer: 6am - 9pm Fall/Winter: 6am - 8 pm
Snow Removal:	NONE
Ramp/Approach:	NJ side: 3-story staircase with steep bike ramp
Connection to Bike Path:	Unclear how bicyclists should connect to bike lanes in Philadelphia or Camden
Nearest Rail Station:	5th St (SEPTA), City Hall (PATCO)

SECURITY

Lighting:	Yes
Call Boxes:	No
Security Cameras:	Yes
Security Patrol:	No

Authority: Delaware River Joint Toll Bridge Commission

BRIDGES WITH NO ACCESS



TRENTON, NJ ← TO → MORRISVILLE, PA

ROUTE 1 FREEWAY

This bridge is a twelve-span, simply supported composite steel girder and concrete deck structure.

There are three southbound lanes and two northbound lanes.

Pedestrians and cyclists are not permitted to cross.

Authority: Delaware River Joint Toll Bridge Commission



BURLINGTON, NJ ← TO → BRISTOL, PA

BURLINGTON BRISTOL

The Burlington County Bridge Commission once provided an escort service across the bridge for pedestrians and cyclists. However, as of the writing of this report, the escort service is not being offered.

Authority: Burlington County Bridge Commission



PENNSAUKEN, NJ ← TO → PHILADELPHIA, PA

BETSY ROSS

This continuous truss bridge has 8 lanes of motor-vehicle traffic crossing the Delaware on an asphalt surface.

Pedestrians and cyclists are not permitted to cross.

Authority: Delaware River Port Authority

BRIDGES WITH NO ACCESS



GLOUCESTER CITY, NJ ← TO → **PHILADELPHIA, PA**

WALT WHITMAN

The Walt Whitman Bridge is currently undergoing redecking but this project is considered a missed opportunity as a pedestrian/ bicycle path was not included in the construction plans. The bridge is a vital link for commuters and tourists and could have been a popular bicycle route between Southern New Jersey and Pennsylvania.

Authority: Delaware River Port Authority



BRIDGEPORT, NJ ← TO → **CHESTER, PA**

COMMODORE BARRY

This cantilever bridge has 5 lanes of traffic and is the southernmost crossing point for travellers between Pennsylvania and New Jersey.

Pedestrians and cyclists are not permitted to cross.

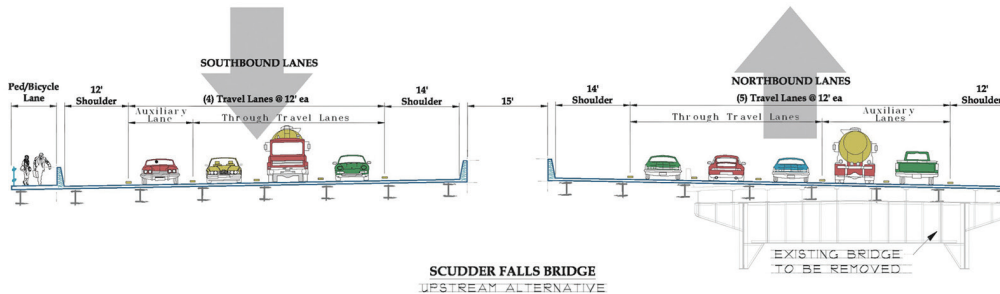
Authority: Delaware River Port Authority



BRIDGES WITH FUTURE ACCESS



EWING TOWNSHIP, NJ ← TO → LOWER MAKEFIELD TOWNSHIP, PA



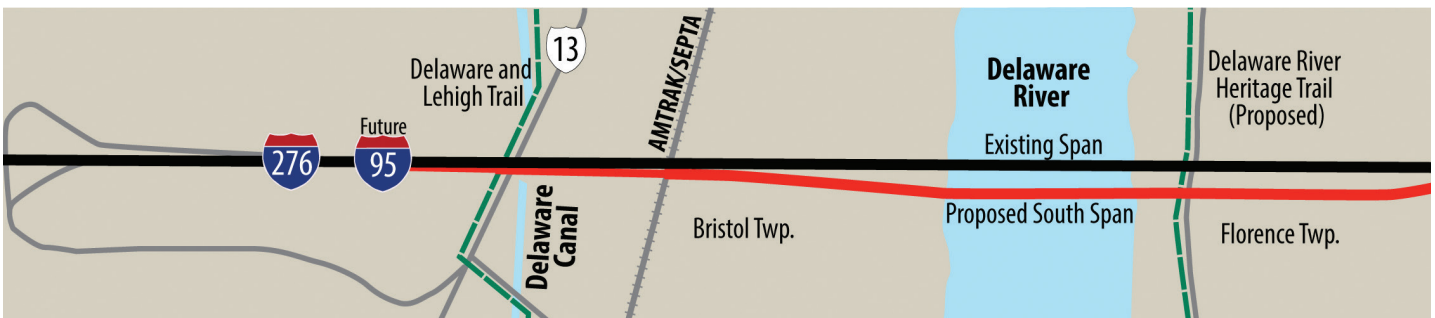
SCUDDER FALLS/I-95 BRIDGE

The existing conditions of the Scudder Falls/I-95 Bridge do not allow access to either pedestrians or cyclists. However, the Delaware River Joint Toll Bridge Commission is preparing for the \$322 million Scudder Falls Improvement Project and construction is expected to begin in 2014.¹ In addition to the inside widening of

I-95, a pedestrian/bicycle path will be built on the southbound side as part of the bridge’s reconstruction. This pedestrian/bike path will serve as a necessary link between the Delaware and Lehigh Heritage Trail and the Delaware and Raritan Canal Path.

Authority: Delaware River Joint Toll Bridge Commission

BRISTOL, PA ← TO → FLORENCE, NJ



276 TURNPIKE/I-95

The PA Turnpike/I-95 Interchange Project seeks to connect the Pennsylvania Turnpike and Interstate 95 in Bucks County. The project will widen the bridge and build a parallel span to divide opposing traffic. In 2002, a coalition of advocacy group campaigned for the inclusion of a bicycle and pedestrian path during the project’s environmental impact statement public comment period. While a pedestrian/bike path was not

identified as a need in the project description, a response letter from the Federal Highway Administration has left the door open for the possible inclusion of a pathway on one of the bridges provided certain conditions are met.² This will be the last phase of the Interchange project and construction will not begin until sometime after 2020.³

Authority: Pennsylvania Turnpike Commission

¹Delaware River Joint Toll Bridge Commission. (n.d.). Scudder Falls Bridge Preferred Alternatives. Retrieved March 13, 2013, from Scudder Falls Bridge: <http://scudderfallsbridge.com/preferred.htm>

³PA Turnpike / I-95 Interchange Project : Stages. (n.d.). Retrieved March 13, 2013, from PA Turnpike / I-95 Interchange Project Online: <http://www.paturnpikei95.com/stages.htm>

²Federal Highway Administration. (n.d.). Attachment B - ROD Bicycle and Pedestrian Letter. Retrieved March 13, 2013, from PA Turnpike / I-95 Interchange Project: Selected Alternative: http://www.paturnpikei95.com/pdf/ROD_attachB.pdf

PUBLIC TRANSPORTATION

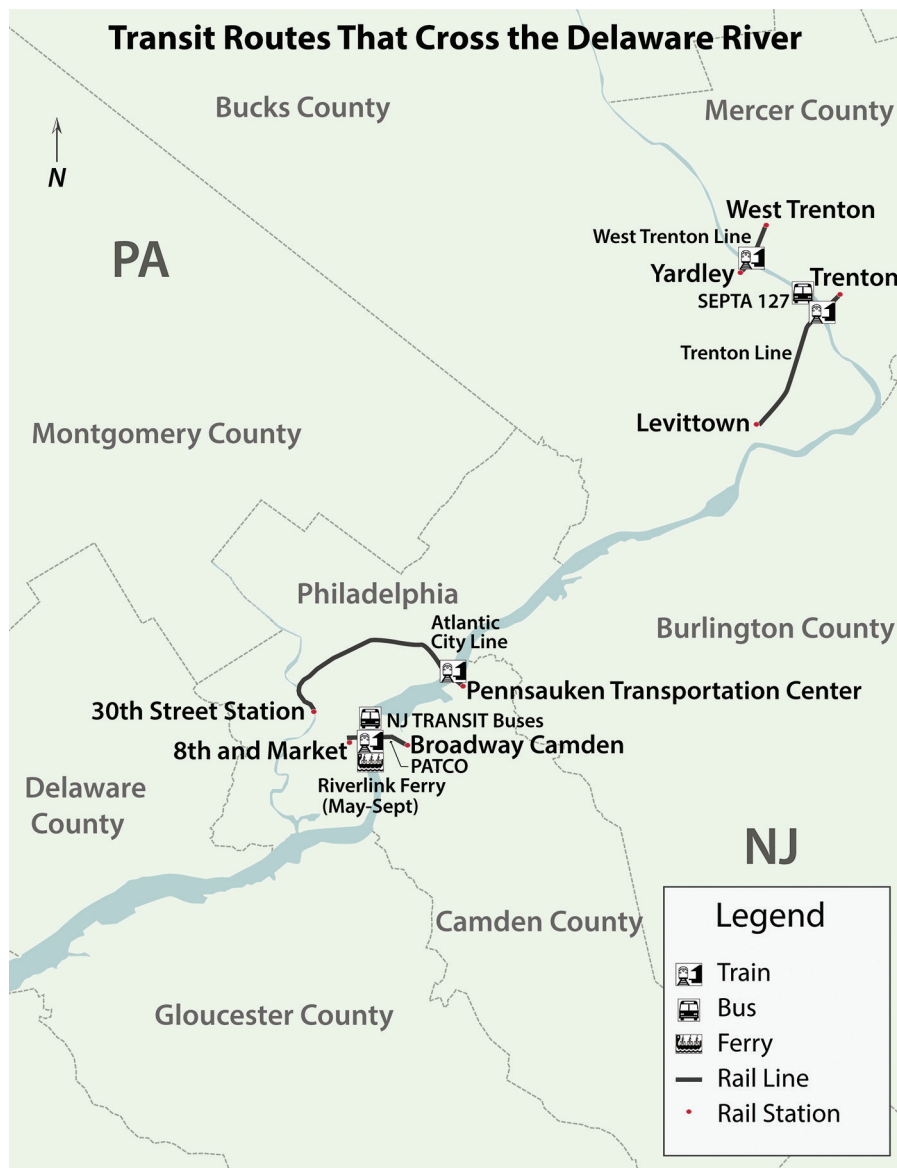


Bicycle access to transit provides some cross-river mobility. Regional bicycle access on transit is almost exclusively restricted, however, to Central Philadelphia and Camden, with some service in the Trenton - Levittown - Yardley area.

For most points between NJ and PA, transit riders have to connect via Central Philadelphia, Camden, or Trenton. These trips are substantial in length and should not be considered meaningful bicycle network connectors in of themselves.

This poor connectivity is also complicated by uncoordinated schedules, multiple fare instruments, and rush hour bike restrictions (on SEPTA trains). For example, traveling from Northeast Philadelphia to Pennsauken, NJ requires three transfers and up to three separate tickets.⁴ Regional transit providers have long recognized this ticketing problem but any kind of interagency ticketing will have to wait until all three agencies adopt smart card technology. (PATCO is the only regional provider that currently offers this technology)⁵.

In 2008 the Delaware Valley Regional Planning Commission conducted a study of rerouting existing bus routes over the Burlington Bristol, Tacony Palmyra, and Commodore Barry Bridges. The study found only one financially feasible route: extending SEPTA route 8 bus from the Frankford Transportation Center to the Palmyra NJ RiverLINE station. The study estimated the route would generate more than 1300 daily trips and would cost about \$6 per rider (round trip) to operate. There was no follow-up to the study.⁶



⁴Google Transit Directions - Pennsauken Light Rail Station to Harbison and Frankford Ave, Philadelphia. (n.d.). Retrieved March 13, 2013, from Google Maps: <http://goo.gl/maps/FBbhL>

⁶Delaware Valley Regional Planning Commission. (2008). Seamless Regional Transit Access.

⁵Delaware River Port Authority. (n.d.). Retrieved March 13, 2013, from PATCO Freedom Card: www.patcofreedomcard.org

FERRIES, SHUTTLES AND TAXIS



FERRY SERVICE

The Riverlink Ferry which provides seasonal ferry service between Penn's Landing in Philadelphia and the Camden Waterfront allows bicycles at no extra charge. It is anticipated that future Philadelphia Water Taxi Service will carry bikes but there are no current plans for a cross-river service at this time.⁷

SHUTTLE SERVICES

Some private companies and public agencies around the country have arranged special shuttle services to carry pedestrians and bicyclists over bridges. Here are some examples:

Since the 1970s, the California Department of Transportation has maintained scheduled shuttle services on bridges in the San Francisco Bay Area. These shuttles have been curtailed as public transportation options have increased and new paths have been retrofitted onto bridges. Only the peak hour Bay Bridge Shuttles remain, which exist due to rush hour restrictions on the region's Bay Area Rapid Transit trains.⁸

The Chesapeake Bay Bridge-Tunnel (VA) offers a bike shuttle service for \$12.⁹

The Chesapeake Bay Bridge (MD) refers cyclists to Kent Island Shuttle, a private shuttle service which charges \$30 and requires a 24 hour advance notice.¹⁰

Biller's Bikes in Havre De Grace, MD operated a reservation-only shuttle service on the Route 40 Hatem Bridge from 2006 to 2012 at a cost of \$10 a bike. This service was discontinued in the summer of 2012 when Harford County Transit Buses began scheduled bike-accessible bus service over the bridge to Perryville MD.¹¹



⁷Delaware River Waterfront Corporation. (2011). *Transforming Philadelphia's Waterfront - A Master Plan for the Central Delaware*. Philadelphia.

⁸Caltrans District 4 Bicycle Resources. (n.d.). Retrieved March 15, 2013, from Ca.gov: <http://www.dot.ca.gov/dist4/shuttle.htm>

⁹Virginia Department of Transportation. (n.d.). *Virginia DOT Bike Info*. Retrieved March 13, 2013, from Virginia DOT: <http://www.virginiadot.org/programs/bk-info.asp>

¹⁰Drive Over. (n.d.). Retrieved March 13, 2013, from Maryland Transportation Authority Bay Bridge (US50/301): http://www.baybridge.com/cms/index.php?option=com_content&task=view&id=50&Itemid

¹¹East Coast Greenway Alliance. (n.d.). *East Coast Greenway E-News - August 2012*. Retrieved March 15, 2013, from East Coast Greenway: http://www.greenway.org/enews/enews_082412.html#midatlantic



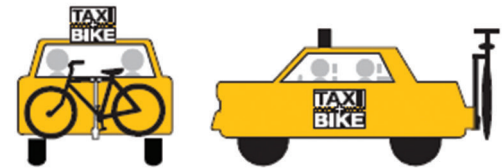
TAXI

Private taxi companies serve just about all Delaware River communities and in theory a taxi could carry a bicycle and passenger across a bridge. However, in practice websites and reliable information about taxi rates and policies are obsolete or difficult to obtain. Passengers are frequently at the mercy of the discretion of a driver or dispatcher when it comes to carrying bicycles or rides across state lines. Likely a passenger will have to remove at least one wheel to fit a bicycle in the taxi's trunk, as few or no taxis are equipped with bike racks. The best approach is frequently to call dispatch and ask if a cab could carry you and your bike.

One notable exception to poor bicycle-taxi accommodation is the city of Montreal. The city, in cooperation with the advocacy group Velo-Quebec, has fitted select taxis with bicycle racks and established a pickup procedure and fare tariff for carrying bikes on taxis (see right). This service makes it convenient for bicyclists to request a cab without worrying about the inconvenience of stuffing a bike in the trunk of the vehicle.



**Take a taxi
with your
bicycle and
get around
the city with
ease!**



Keep it in your wallet

**PARTICIPATING
TAXI
COMPANIES**



TAXI DIAMOND MONTRÉAL
(514) 273-6331

TAXI UNION LONGUEUIL
(450) 679-6262

COOP TAXI LAVAL
(450) 688-8700

COOP DE TAXI DE
L'OUEST MÉTROPOLITAIN
(514) 636-6666

**Important : When you call, specified that
you will be transporting a bicycle**

RECOMMENDATIONS



Both sides of US 422 bridge originally looked like this (above). PennDOT added a cantilevered pathway to the west side of the bridge (below), allowing bicycle and pedestrian access.



Considering the state of the bridges across the Delaware, and the various methods available to accommodate bicycles and pedestrians or provide alternative solutions to accessibility, what can the Delaware Valley region do to improve bridge access?



RETROFITTING BRIDGES

Bridge retrofitting is one approach which offers real, but limited, opportunity to improve bridge access for bicycles and pedestrians. Title 23 United States Code section §217 requires that bridges being replaced using federal funds include safe accommodation for bicyclists:

“Bicycle transportation and pedestrian walkways (e) Bridges. In any case where a highway bridge deck being replaced or rehabilitated with Federal financial participation is located on a highway on which bicycles are permitted to operate at each end of such bridge, and the Secretary determines that the safe accommodation of bicycles can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations.”

While the language for requiring bicycle accommodation appears strong, it may not apply to Delaware River Bridges as they are toll-supported. Furthermore it can be argued that bicycles are not permitted on the highways at each end of the interstate bridges.

Retrofitting bridges can be an expensive venture, especially for bridges built in the mid-20th century when bridges were designed exclusively for highway traffic. Two methods of adding bicycle and pedestrian access limit expense by not requiring substantial modifications to the structure of the bridge.

One way is to cantilever a pathway onto the bridge. PennDOT connected the Schuylkill River Trail and the paths in Valley Forge National Park by building a narrow, fenced-in boardwalk over the bridge railing on US 422.

Another option is to suspend a bicycle/pedestrian pathway underneath the bridge structure. The Belle Isle Bridge in Richmond, VA is suspended under I-295. Tidal Delaware River bridges are over navigable water, though, so suspended pathways would have to be situated at or above the clearance height of the bridge.

RECOMMENDATIONS



RETROFITTING BRIDGES

Fortunately for our purposes, most bridges require a major overhaul approximately every 50 years. This provides an opportunity to include bicycle and pedestrian accommodations into the scope of that work.

Three bridges in our area of study are approaching middle age. In Delaware County the Commodore Barry Bridge was completed in 1974, replacing a ferry that provided bicycle and pedestrian access between Delaware and Gloucester Counties. Currently there are no plans to do any retrofitting or significant maintenance on this bridge.

The Betsy Ross Bridge, opened in 1976, is currently completing the engineering work for redecking. Unfortunately the work isn't scheduled to occur until 2025, but the delay allows plenty of time for the Delaware River Port Authority to reconsider bicycle and pedestrian improvements. The traffic volumes of this bridge have never met the capacity of the roadway and there may be an opportunity to explore non-motorized access. The bridge does have a service walkway and wide shoulders as well as ramp connections to local streets.

The third middle-aged bridge, the Burlington Bristol Bridge, is a drawbridge only about 23 feet wide from railing to railing. A 3-foot service walk is on the upstream side of the bridge. There are no near-term plans to replace or redeck the bridge, which was last rehabilitated in the early 1980s, but the size of the bridge diminishes the feasibility of a substantial retrofit to include bicycle and pedestrian access.



In the following two pages, we provide recommendations on short and long-term modifications to improve bicycle and pedestrian access. They are organized by bridge, with the responsible agency for each improvement identified in parentheses.



RECOMMENDATIONS

for Specific Delaware River Bridges



COMMODORE BARRY BRIDGE

- DRPA Police or service vehicles carry bicyclists and pedestrians with advance reservations. (DRPA)
- Conduct a study to determine feasibility of replacing the lightly-used center travel lane with a bicycle pedestrian facility. (DRPA, Delaware County Planning)
- Establish agreements between local taxi services to carry bicyclists and pedestrians between Chester and Bridgeport Borough. (DRPA, City of Chester, Borough of Bridgeport)

WALT WHITMAN BRIDGE

- DRPA Police or service vehicles carry bicyclists and pedestrians with advance reservations. (DRPA)
- Contract with local taxi companies to transport pedestrians and bicycles and establish formal taxi stands in South Philadelphia and Gloucester City. (City of Philadelphia, DRPA, Gloucester City)
- Establish a transit connection between South Philadelphia and Gloucester City. (SEPTA, NJ TRANSIT)

BETSY ROSS BRIDGE/PHILADELPHIA RIVER WARDS/ PENNSAUKEN

- Further study DVRPC recommendation to establish bus service between Pennsauken and the Frankford Transportation Center. (SEPTA, NJ TRANSIT)
- Study the inclusion of a bicycle and pedestrian facility on the bridge as part of the rehabilitation plan. (DRPA)

BEN FRANKLIN BRIDGE

The Delaware River Port Authority (DRPA) should make the following improvements:

- Replace the three-story stair tower on the Camden side of the bridge with an ADA accessible ramp. [Design work for the ramp has begun. Construction could begin in 2014 and will take about one year to complete.^{12]}
- Make the approaches to the bridge on both sides more welcoming and inviting with better signage and fencing.
- Develop a snow removal policy that opens the walkway as soon as possible during weather-related events.
- Provide longer hours beyond the current seasonal closing times of 8pm in the winter and 9pm in the summer.
- Upgrade security system to allow crossings after evening gate closure.
- Reconfigure entrance and exit routes to the south walkway on the Philadelphia side. (DRPA/City of Philadelphia)

¹²Nussbaum, P. (2012, October 19th). DRPA board shuffles leadership, approves changes. Retrieved March 13, 2013, from Philly.Com: http://articles.philly.com/2012-10-19/news/34557067_1_david-simon-insurance-and-public-welfare-new-jersey-board-members

RECOMMENDATIONS

for Specific Delaware River Bridges



TACONY PALMYRA BRIDGE

- Establish a bicycle and pedestrian-friendly approach to the bridge's westbound sidewalk on the Philadelphia side. (PennDOT/Philadelphia Streets Department/Burlington County Bridge Commission)
- Create an email alert system to notify sidewalk users of closures and alternate side openings. (Burlington County Bridge Commission)

BURLINGTON BRISTOL BRIDGE

- Re-establish the practice of police carrying bicyclists and pedestrians across the bridge with an advanced reservation. (Burlington County Bridge Commission)

PENNSYLVANIA TURNPIKE BRIDGE

- Include in the Interchange Project the proposed bicycle and pedestrian facility connecting to the Delaware and Lehigh Trail and the Delaware River Heritage Trail. (PA Turnpike Authority, NJ Turnpike Authority, Burlington)

LOWER TRENTON BRIDGE

- Allow bicyclists to ride across the bridge on its wide walkway. (DRJTBC)
- Improve connection to bike lanes on Warren Street. (NJ DOT, City of Trenton)

SCUDDER FALLS BRIDGE

- Build the bicycle and pedestrian pathway. (DRJTBC)

WASHINGTON CROSSING BRIDGE

- Consider wider walkway/bikeway in future bridge rehabilitation. (DRJTBC)

CONCLUSION

Bicycle and pedestrian access across the Delaware River is restricted to five out of twelve bridges and only one allows bicyclists to ride across. Transit service across the river is almost exclusively limited to Philadelphia-Camden lines and Bucks County-Trenton lines. Regional plans stress connectivity for bicycle and pedestrian travel, but investments in these networks cannot be fully recouped without bridges facilitating connections between the state networks.

This report outlines low-cost, short-term fixes that would expand bicycle and pedestrian access. Municipalities, Bridge Authorities, and New Jersey and Pennsylvania Departments of Transportation should explore these solutions while regional planning agencies incorporate bicycle and pedestrian improvements into upcoming bridge construction and rehabilitation projects.

The long-term investment in making Delaware bridges accessible to people travelling by bicycle and by foot will be repaid in improved waterfront access, greater economic development along each state's waterfronts and more robust connectivity between existing and developing bicycle and pedestrian networks in both states.

REPORT BY

John Boyle (*Research Director*) and Ashley McKean

Editorial guidance: Sarah Clark Stuart (*Policy Director*)

Editor: Nicholas Mirra (*Communications Coordinator*)

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