

## **I. PROJECT LOCATION AND EXISTING CONDITIONS**

### **A. Study Area**

The Delaware Department of Transportation (DelDOT), in cooperation with the Federal Highway Administration (FHWA), is proposing a new bridge crossing over the Christina River in south Wilmington, Delaware and improving the roadway network along the Riverfront. The study area is located in both the City of Wilmington and New Castle County, Delaware. The study area limits are bound by the Norfolk-Southern railroad and the I-495/US 13 interchange to the south, I-95 and the National Railroad Passenger Corporation (Amtrak) Northeast Corridor rail line to the west, Martin Luther King Jr. Boulevard to the north, and State Route (SR) 9 and freight railroad tracks to the east. Historically, the Amtrak Northeast Corridor has separated the downtown Wilmington city grid from the industrial uses along the Christina River. Refer to **Figure 1** for a general map of the study area.

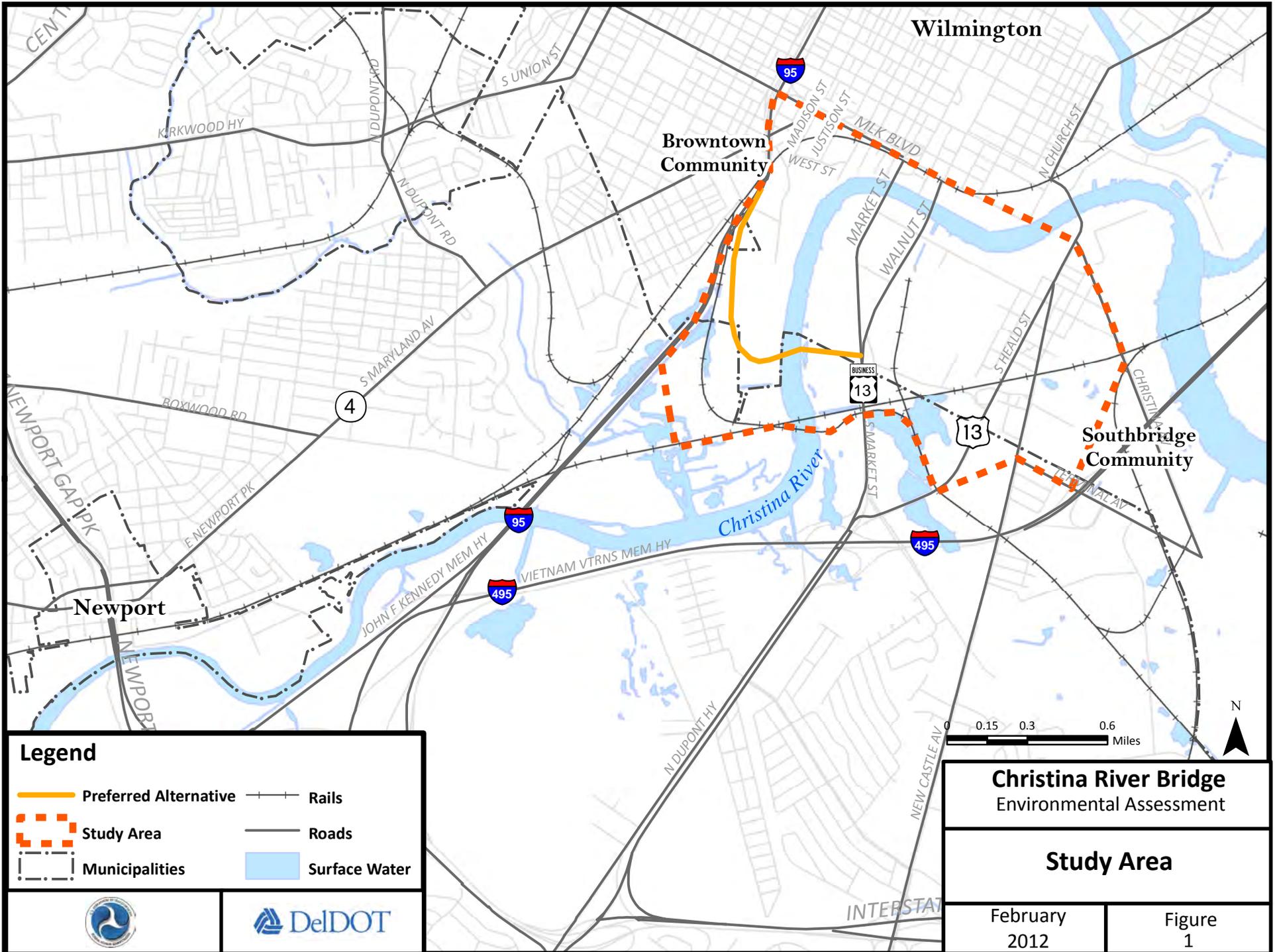
### **B. Background**

#### **1. Project History**

In 1992 in response to growing concerns over the future of Wilmington's Riverfront, the Governor of Delaware signed Executive Order 109 creating the Task Force on the Future of the Brandywine and Christina Rivers. In 1994, the Task Force presented *A Vision for the Rivers*, which included a list of recommendations for improvements along the Wilmington Riverfront. In 1995, the State General Assembly created the Riverfront Development Corporation (RDC) to oversee the economic redevelopment along the Christina River. Since its inception, the RDC has worked to transform the Riverfront from brownfields and declining industrial uses to a redeveloped multi-use area that includes residential, commercial, entertainment, and arts venues.

A 2005 US Congressional earmark in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Item 3883, requested by Senator Thomas Carper, provided \$20 million for "Wilmington Riverfront Access and Street Grid Redesign", giving priority to developing Riverfront transportation access in the list of statewide transportation improvements. The Christina River crossing first appeared in DelDOT's 2008-2013 *Capital Transportation Program* (CTP), which proposed a two-lane river crossing with bicycle/pedestrian (bike/ped) facilities connecting redevelopment on the east and west banks of the river. The project is listed in the current 2012-2017 CTP, approved October 20, 2011. Wilmington Area Planning Council (WILMAPCO) included the bridge project in their current FY 2011-2014 *Transportation Improvement Program* (TIP) and 2040 Regional Transportation Plan (RTP) federally approved in March 2011.

The South Wilmington Special Area Management Plan (SAMP) sponsored by the Delaware Department of Natural Resources and Environmental Control (DNREC) seeks to improve the quality of life and opportunities for the Southbridge neighborhood. Southbridge is a disadvantaged neighborhood within the project study area surrounded by a highly industrial area and suffers from low employment, high through- and truck- traffic, and insufficient infrastructure. The South Wilmington Neighborhood Plan (June 2006), Walkable Community Workshop (September 2006), Southbridge Circulation Study (September 2008), and South Wilmington Signage Study (May 2009) all focused on redeveloping the Southbridge Community and improving community mobility and system linkage to the developing Riverfront. Completing the project would support and enhance all future actions and projects that may develop out of these initiatives.



**Legend**

 Preferred Alternative	 Rails
 Study Area	 Roads
 Municipalities	 Surface Water



**Christina River Bridge**  
Environmental Assessment

**Study Area**

February  
2012

Figure  
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## 2. Navigation on the Christina River

Historically, the Christina River has served as a navigation and industrial route for local inhabitants. The wide, meandering channel, and access to the Delaware River provided an ideal route for transportation between coastal and interior points. Native Americans used the river as a roadway for trade between settlements in the Piedmont region of southeastern Pennsylvania and coastal inhabitants, as well as a seasonal migration route. Fort Christina was established at a strategic trade position near the Delaware and Christina Rivers in 1638 near the foot of present day Seventh Street in the City of Wilmington. Production and export of flour, gunpowder, and cloth developed along the banks of the Christina River and Brandywine Creek in the eighteenth and nineteenth centuries. As it developed, Wilmington became a significant port for the import of overseas goods in demand by the local populace. The local shipbuilding industry took advantage of the wide channel, deep riverside port, and available stands of forest to build numerous vessels for coastal and overseas trade. The Christina River was used for heavy industries and a port through the first half of the twentieth century, but these uses have since declined. Remnants of these industries are still present along the banks of the River.

Today, the Christina River is primarily used for recreation. The river-dependent land uses along the Riverfront have been replaced with multi-family residential, commercial, and small-scale industrial uses. This redevelopment trend is further supported by the long range comprehensive plans for the City of Wilmington and Town of Newport, Delaware, which both emphasize redevelopment of the Christina River as a scenic and recreational river, not as an industrial or shipping channel.

The navigational channel currently limits use to small craft. The federal navigation channel is 200 feet wide, with some bridges limiting horizontal clearance to 62 feet. The channel depth is 5.5 feet upstream of the Market Street Bridge, and 11 feet downstream of the Market Street Bridge. Refer to **Chapter III, Section B.1.a** and **Appendix A** for additional details on navigation on the Christina River.

## C. Existing and Proposed Development

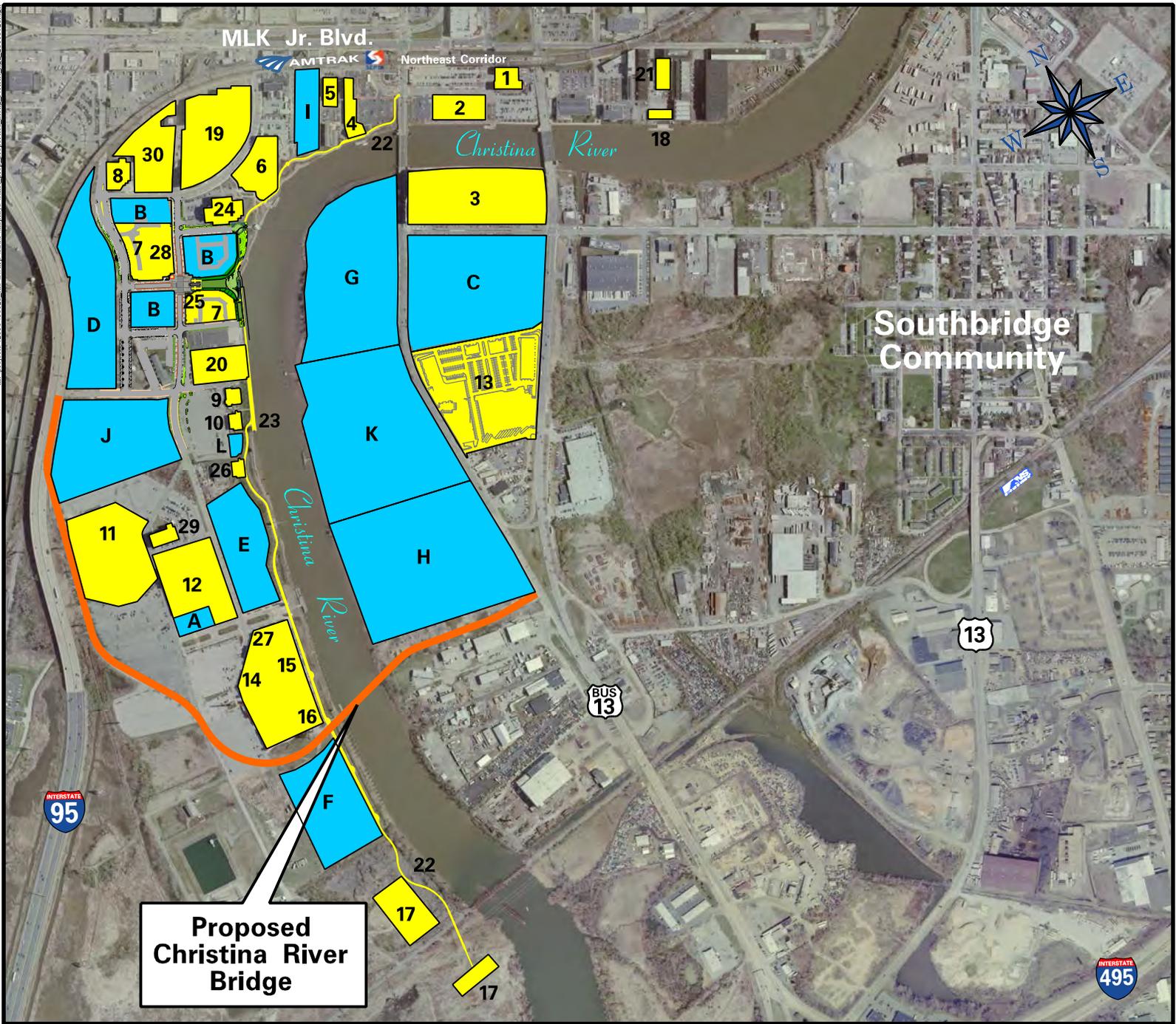
### 1. Existing Development

Since 1996, the Wilmington Riverfront has undergone extensive redevelopment under the direction of the RDC. **Figure 2** shows the completed redevelopment projects and the proposed development parcels. The redevelopment on the western shore of the River includes the Judy Johnson Field at the Daniel S. Frawley Stadium, the Chase Center which holds conventions and special events, the Shipyard Shops, and Justison Landing a large residential complex.

“Since 1996, the Riverfront has received over \$850 million of investment from public and private sources. Simultaneously, the Riverfront has generated revenue streams for city, county, and state governments, as well as being an economic engine for job growth” (*The Fiscal and Economic Impact of the Wilmington Riverfront*, University of Delaware’s Center for Applied Demography and Survey Research, April 2007).

### 2. Proposed Development

According to RDC’s plans, additional redevelopment projects along the Christina Riverfront are planned to be completed between 2015 and 2035, with the majority of projects to be completed by 2015. The proposed development parcels are shown on **Figure 2**.



**Proposed Christina River Bridge**

**Existing Development**

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| <ul style="list-style-type: none"> <li>1 Amtrak Station</li> <li>2 Tubman-Garrett Riverfront Park</li> <li>3 Residences at Christina Landing</li> <li>4 Harry's Seafood Grill / Riverfront Market</li> <li>5 Delaware Theater Company</li> <li>6 Barclay's / Firestone</li> <li>7 Justison Landing</li> <li>8 Delaware Center for the Contemporary Arts</li> <li>9 Joe's Crab Shack</li> <li>10 Iron Hill Brewery &amp; Restaurant</li> <li>11 Frawley Stadium &amp; Delaware Sports Hall of Fame</li> </ul> | <ul style="list-style-type: none"> <li>12 Chase Center on the Riverfront</li> <li>13 ShopRite</li> <li>14 Shipyard Center</li> <li>15 Timothy's Restaurant / Molly's Old Fashioned Ice Cream</li> <li>16 Wilmington Rowing Center</li> <li>17 Russell W. Peterson Urban Wildlife Refuge / Dupont Environmental Education Center</li> <li>18 Wilmington Youth Rowing Assoc.</li> <li>19 Cosi / The Goddard School / Crescent Dental / Barclay's</li> <li>20 Delaware Children's Museum</li> </ul> | <ul style="list-style-type: none"> <li>21 Opera Delaware Studio / City Theater Co.</li> <li>22 Riverwalk</li> <li>23 Public Docks</li> <li>24 AAA Mid-Atlantic Travel Center</li> <li>25 Kooma</li> <li>26 Big Fish Grill</li> <li>27 Planet Fitness</li> <li>28 Veritas Wine &amp; Spirits / Currie Hair, Skin &amp; Nails</li> <li>29 Office Building</li> <li>30 Star Development</li> </ul> |
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**Proposed Development**

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|---|--|
| <ul style="list-style-type: none"> <li>A Westin</li> <li>B Justison Landing Expansion</li> <li>C Christina Crossing</li> <li>D Penn Cinema</li> <li>E Shipyard Shops North</li> <li>F Shipyard Shops South</li> </ul> | <ul style="list-style-type: none"> <li>G Office Campus</li> <li>H Southbank</li> <li>I Tatnall Lot</li> <li>J Delmarva South (Phase 2)</li> <li>K Southbank Central</li> <li>L Restaurant</li> </ul> |
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<b>CHRISTINA RIVER BRIDGE PROJECT</b>		
<b>Existing And Proposed Development Along The Christina Riverfront In Wilmington, De.</b>		
Not To Scale	February, 2012	Figure 2

As **Figure 2** shows, nearly every parcel on the west bank and south/east bank in the Riverfront development area has either been redeveloped or is planned for redevelopment. When the redevelopment is complete:

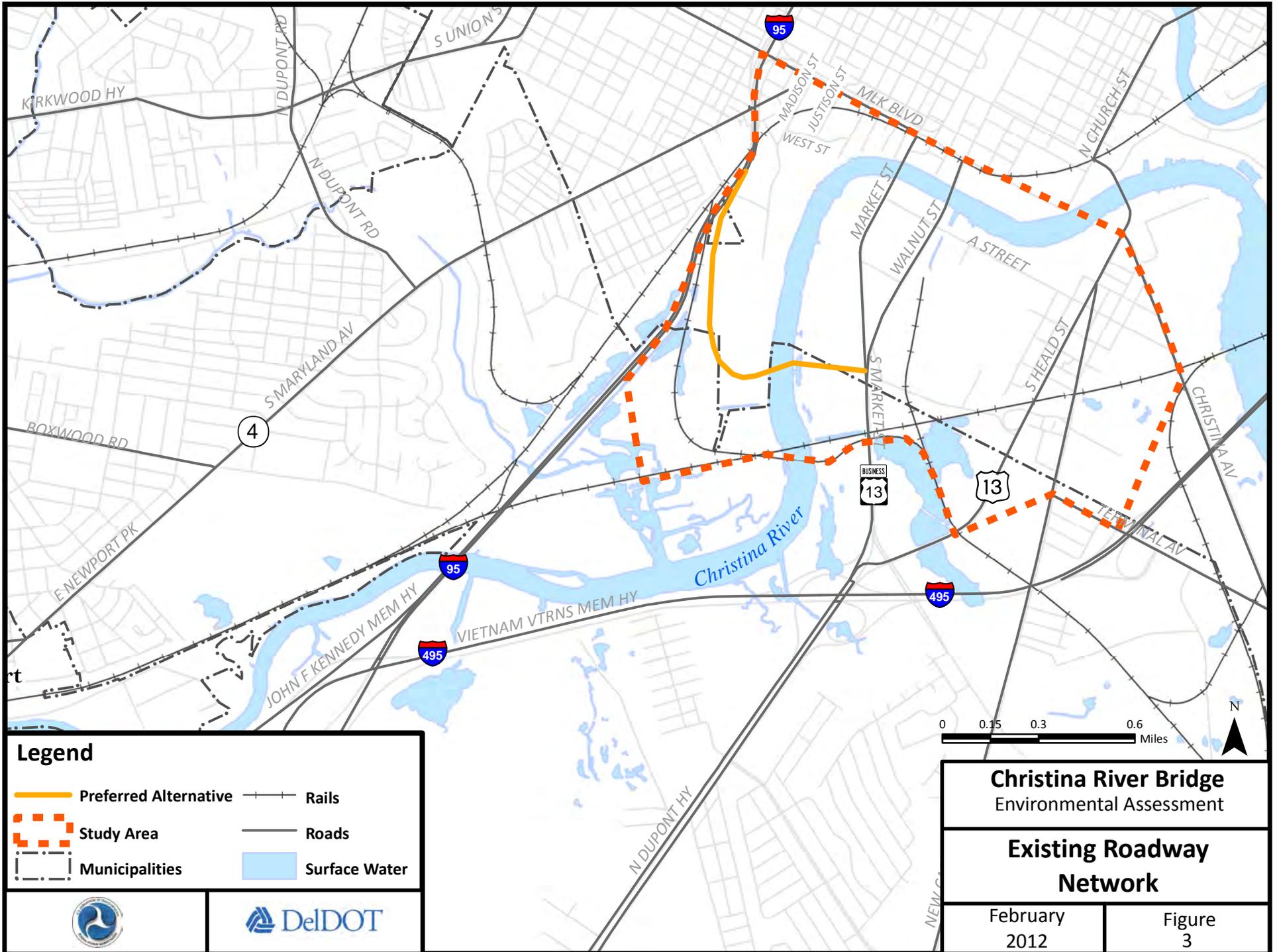
- Redevelopment totals include: 1,924 housing units, 200 hotel rooms, and 3,670,000 square feet of office, commercial, and convention center space;
- Economic activity in the area is expected to generate approximately 4,000 jobs in the arts and entertainment, retail, food services, financial, and construction sectors; and
- Entire Riverfront development area is expected to generate up to 72,000 daily trips, 4,700 AM peak hour trips and 8,600 PM peak hour trips.

#### **D. Existing Roadway Network**

**Figure 3** shows the existing roadway network in the region around the project study area. The existing roadway network on the west side of the Christina River has been reconstructed to serve the new redevelopments. Access to the west side is available primarily from Martin Luther King Jr. Boulevard at Madison Street, Justison Street, and West Street. Madison Street, Justison Street and West Street are two-lane, two-way local roads. These three streets all intersect with Martin Luther King (MLK) Boulevard within a distance of 1,000 feet, effectively concentrating all access to and from the west side Riverfront at a single point. These streets cannot be widened from two lanes due to the width restrictions at the existing Amtrak bridges. All north-south roadways on the west side end at the Shipyard Shops.

The road network on the west bank of the Riverfront area already experiences congestion due to its proximity to the I-95/Maryland Avenue interchange and other important radial commuter routes into the city (MLK Boulevard/SR 48, Maryland Avenue/SR 4, and Second Street). Although the west side of the Riverfront is located within a mile of I-95, there is no direct access from I-95 to the Riverfront. Regional traffic from southbound I-95 destined for the Riverfront must exit at Fourth Street and use the local roadway network (including MLK Boulevard) to reach their destination. From northbound I-95, the Maryland Avenue exit provides reasonably direct access to the Riverfront via MLK Boulevard, but recurring congestion on northbound I-95 results in long delays at the Maryland Avenue exit, with ramp volume on this exit approaching capacity during the AM peak hour. I-95 between the I-495 split and Fourth Street already operates at or near capacity during one or both peak hours. Up to 40 percent of riverfront traffic is projected to arrive at the site from northbound or southbound I-95. Currently, the Maryland Avenue and Fourth Street exits provide the only feasible access to the site from northbound and southbound I-95, respectively. While traffic volumes on I-95 are expected to grow beyond saturation, additional capacity may be available on I-495, south of the project site as well as on US 13 (Business). However, traffic destined for the west side Riverfront is unable to take advantage of this potential capacity, because even from the east, access to the Riverfront is currently only provided from Martin Luther King Boulevard. Secondary access to the west side Riverfront is provided from Beech Street, a two-lane road serving a mix of commercial uses, and intersects with Maryland Avenue on the west side of I-95.

Access to the parcels on the east side of the Christina River is provided from Market Street and Walnut Street (US 13 Business), which form a one-way pair along the entire length of the east side Riverfront. A Street provides an east-west connection between Market Street and Walnut Street. There is no border of the east side Riverfront, which is a cul-de-sac street providing access to nine businesses. Market Street and Walnut Street tie back together at James Court; US 13 Business and South Market Street continue two-way southbound for about one half mile before the US 13 interchange with I-495.



**Legend**

 Preferred Alternative	 Rails
 Study Area	 Roads
 Municipalities	 Surface Water



**Christina River Bridge  
Environmental Assessment**

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**Existing Roadway  
Network**

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February 2012	Figure 3
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There is no direct connection between the east and west banks of the Riverfront. All vehicular traffic between the east and west banks of the Riverfront must use MLK Boulevard and Second Street. As mentioned above, access to and egress from the west side Riverfront is effectively concentrated at one location.

## **E. Existing Transit Network**

The Wilmington Train Station within the Christina River Bridge project study area sits between the Christina River, the railroad, and French and Walnut Streets (refer to **Figure 2**). The Wilmington station serves as a major transit hub for connections to local bus, commuter bus, commuter rail, and intercity rail.

Amtrak and SEPTA operate trains on the Northeast Corridor alignment, which parallels I-95 along the western boundary of the project study area. Amtrak also operates Acela, a high-speed rail service between Washington DC and Boston, MA, on the Northeast Corridor alignment. These regional rail lines connect Wilmington with major population and employment centers throughout the Northeast.

The Wilmington train station also serves as a layover location for local buses which stage along Front Street between French and Orange Streets. Local buses operate outbound from Front Street to Walnut Street for destinations north and east of the city. Inbound buses to the train station operate through the Wilmington CBD to King Street, MLK Boulevard, and French Street. Commuter buses provide service to southern Delaware and New Jersey to/from the Wilmington station along South Market Street and Walnut Street via US 13 Business and I-495. Bus Route 32 is a rubber tire trolley service that operates from the Shipyard Shops along the west side of the Riverfront to the Wilmington CBD.

Wilmington train station is a multi-modal station generating vehicular, transit and pedestrian traffic in the project study area. The Amtrak Northeast Corridor and the Wilmington station connect major population and employment centers regionally to Wilmington. Also, the local and commuter bus networks rely heavily on the roadway network to serve this station and the surrounding Riverfront area. These multi-modal transit factors further add to the transportation uses on this constrained roadway network around the Riverfront.

## **F. Pedestrian and Bicycle Facilities**

The Riverwalk, on the north and west sides of the Christina River provides a pedestrian-friendly, 1.3-mile path between the Russell W. Peterson Wildlife Refuge on the south side and the Walnut Street bridge on the north side. (Refer to **Figure 2**.) Shared bicycle and pedestrian use is permitted. The Riverwalk also serves as part of the East Coast Greenway, a trail system connecting existing and proposed bike trails from Florida to Maine. South of Market Street, no pedestrian connection is available to cross the Christina River.

On the east side of the River, DeIDOT has recently completed ADA compliant sidewalk improvements on South Market Street, approximately 1,650 feet on each side (3,300 feet total) from A Street south through the Christina Landing Retail Center (refer to **Figure 2**.) There also exists approximately 640 feet of sidewalk on the west side of Walnut Street adjacent to the Christina Landing Retail Center.