

## **ITEM 12 - Information**

June 19, 2013

Briefing on the Implementation of the TPB Regional Priority Bus Project under the Transportation Investments Generating Economic Recovery (TIGER) Program

### **Staff**

**Recommendation:** Receive briefing on the current status of the TPB Regional Priority Bus Project,

**Issues:** None

**Background:** The TIGER grant agreement was signed on December 14, 2010. It includes \$58.8 million in capital funding (100% Federal) for 16 project components. There are five implementing organizations: the City of Alexandria, the District Department of Transportation (DDOT), the Maryland Department of Transportation (MDOT), The Potomac and Rappahannock Transportation Commission (PRTC), and the Washington Metropolitan Area Transit Authority (WMATA).



# TIGER Grant for Priority Bus Transit in the National Capital Region

Transportation Planning Board  
June 13, 2013

## Project Implementation Update

Eric Randall  
Department of Transportation Planning



## TIGER Grant for Priority Bus Transit in the National Capital Region

- The region's USDOT Transportation Investments Generating Economic Recovery (TIGER) Grant Agreement was signed on December 14, 2010.
  - \$58.8 million in capital funding (100% Federal) for priority bus transit improvements.
  - Five implementing organizations (project owners): City of Alexandria, DDOT, MDOT, PRTC, and WMATA

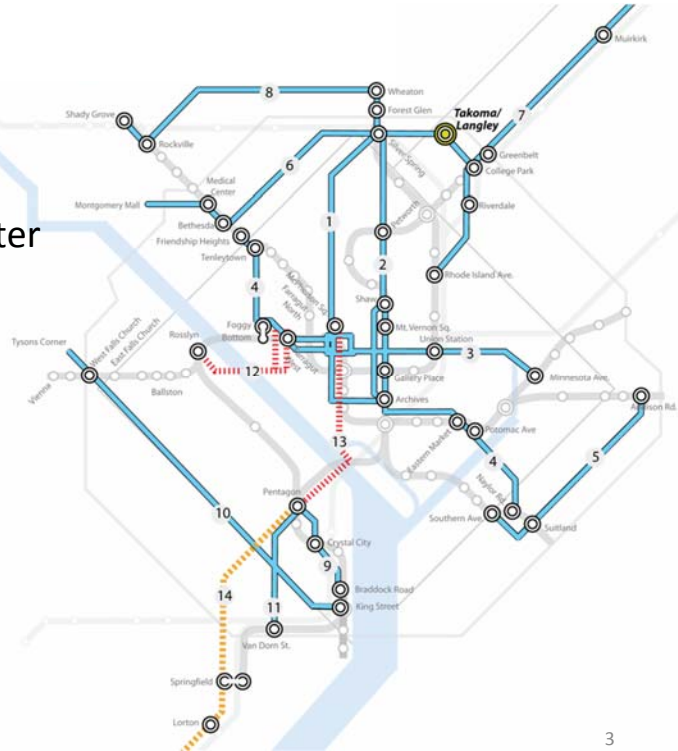


## TIGER Grant for Priority Bus Transit in the National Capital Region

### Grant projects include:

- PRTC Buses and ITS
- US-1 (VA) / Potomac Yard Transitway (*Alexandria*)
- Takoma/Langley Transit Center (*MDOT*)
- Bus Corridor Priority Treatments (*DDOT, WMATA, MDOT, Alexandria*)
- Franconia-Springfield and Pentagon station improvements (*WMATA*)

■ Projects to be complete by September 30, 2016.



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## TIGER Grant for Priority Bus Transit in the National Capital Region

- Administered in accordance with Federal Transit Administration (FTA) grant requirements, as well as special requirements of the American Recovery and Reinvestment Act (ARRA) and the TIGER Grant Program.
- TPB staff/consultants coordinate Project Management
  - Monthly meetings with FTA, their Project Management Oversight Consultant (PMOC), and the five Project Owners.
  - Other project partners participate quarterly: Fairfax County, Prince George's County, Montgomery County, Virginia DOT.
- The TPB is also carrying out Performance Monitoring
  - Three sets of reports required: Before, One Year After, Two Years After.
  - Detailed data collection on ridership, travel time, safety.



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Potomac and Rappahannock  
Transportation Commission

## Potomac and Rappahannock Transportation Commission (PRTC)

- 13 replacement buses delivered in 2012.
- Computer-Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system in final design. (*est. completion in June 2014*)



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## City of Alexandria

- US 1 (VA) Transitway (*Dec. 2013*)
  - Dedicated travel lanes for bus in median of US-1.
    - Construction should be nearly complete by end of 2013.
  - New “Metroway” BRT service planned for implementation in Spring 2014.
    - Connecting Braddock Road station, Potomac Yard, Crystal City, and the Pentagon City station.
- Corridor Enhancements on Van Dorn – Pentagon (*Mar. 2014*)
  - Queue jumps and bus stops.
  - Transit Signal Priority (TSP) procurement.



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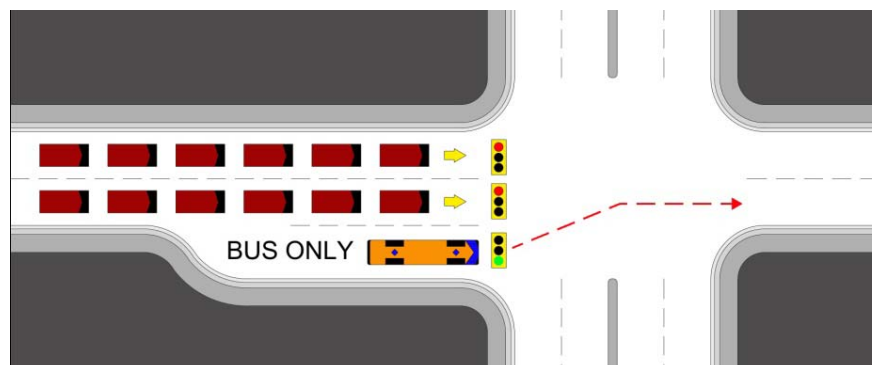
# Potomac Yard Transitway



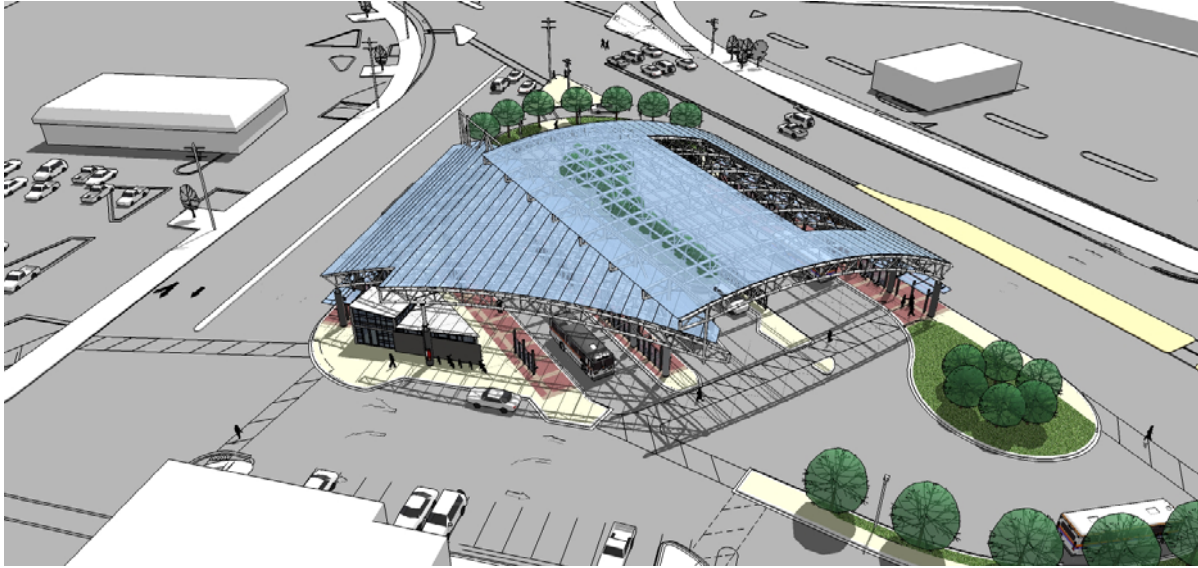
## Maryland Department of Transportation (MDOT)

Bus Corridor Enhancements on University Boulevard, US 1 (MD), and Veirs Mill Road (Sep. 2016)

- Transit Signal Priority (TSP) and Real Time Passenger Information (RTPI) installation
- Bus stop improvements
- Queue jumps



## Takoma - Langley Transit Center *(Oct. 2015)* (New Hampshire and University Boulevard)



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## District Department of Transportation (DDOT)

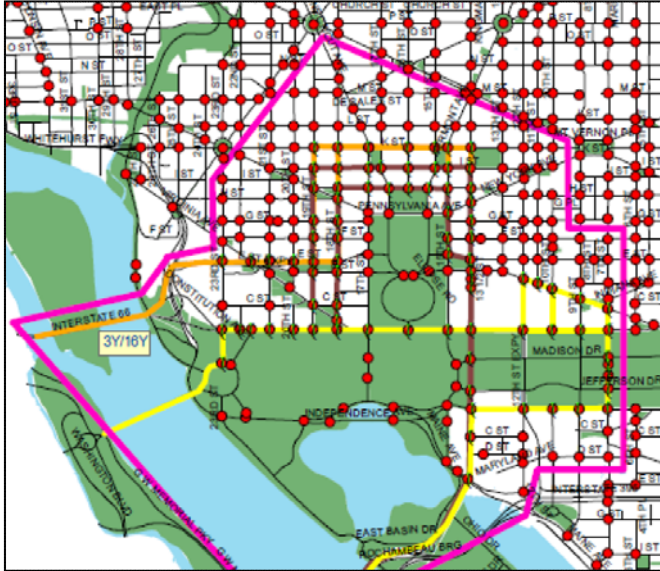
### Bus Corridor Enhancements *(Oct. 2015)*

- 16th Street
  - Transit Signal Priority (TSP) and Real Time Passenger Information (RTPI) and bus stop improvements
- H Street/Benning Road
  - RTPI and Security Cameras
- Wisconsin Avenue
  - TSP and RTPI
- Georgia Avenue
  - Bus-Only lane (near Howard University)
  - RTPI and bus stop improvements





## Signal Optimization & Prioritization TR Bridge and 14th Street Bridge to K Street



- 121 signals to be optimized
- 71 signals to be both optimized and have TSP installed
- Uninterruptable Power Supply (UPS) installation at 30 sites

(Oct. 2015)

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## Washington Metropolitan Area Transit Authority (WMATA)

- Bus Station Improvements at Pentagon and Franconia-Springfield Stations (Sep. 2016)
  - Working with DoD on pedestrian access treatments and proposed Hayes Street lot (on Army-Navy Drive).
  - Coordinating with Fairfax County's plans for an extension of Frontier Drive at Franconia-Springfield.
- VA 7 (Leesburg Pike) Corridor Enhancements (Oct. 2015)
  - Transit Signal Priority (TSP) installation.
  - Real Time Passenger Information (RTPI) signage.
- Addison Road bus stop improvements (Oct. 2015)

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# TIGER – Transit Signal Priority (TSP) on Bus Corridors



## What is TSP?

Modification of traffic signal timing to benefit transit vehicles operating along a roadway. TSP green phase for buses can be: extended, early/advanced, or inserted in cycle.

### Proposed TSP Locations (77 total)

- 16<sup>th</sup> Street (6)
- Georgia Avenue (4)
- Wisconsin Avenue (5)
- University Blvd (20)
- US 1 - MD (7)
- Van Dorn / Beauregard (8)
- VA-7 / Leesburg Pike (27)

- Procurement led by WMATA, with input from regional agencies.
- WMATA will procure onboard equipment for its buses.
- Road agencies will procure wayside equipment compatible with their traffic signal systems.

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# TIGER – Real Time Passenger Information (RTPI)

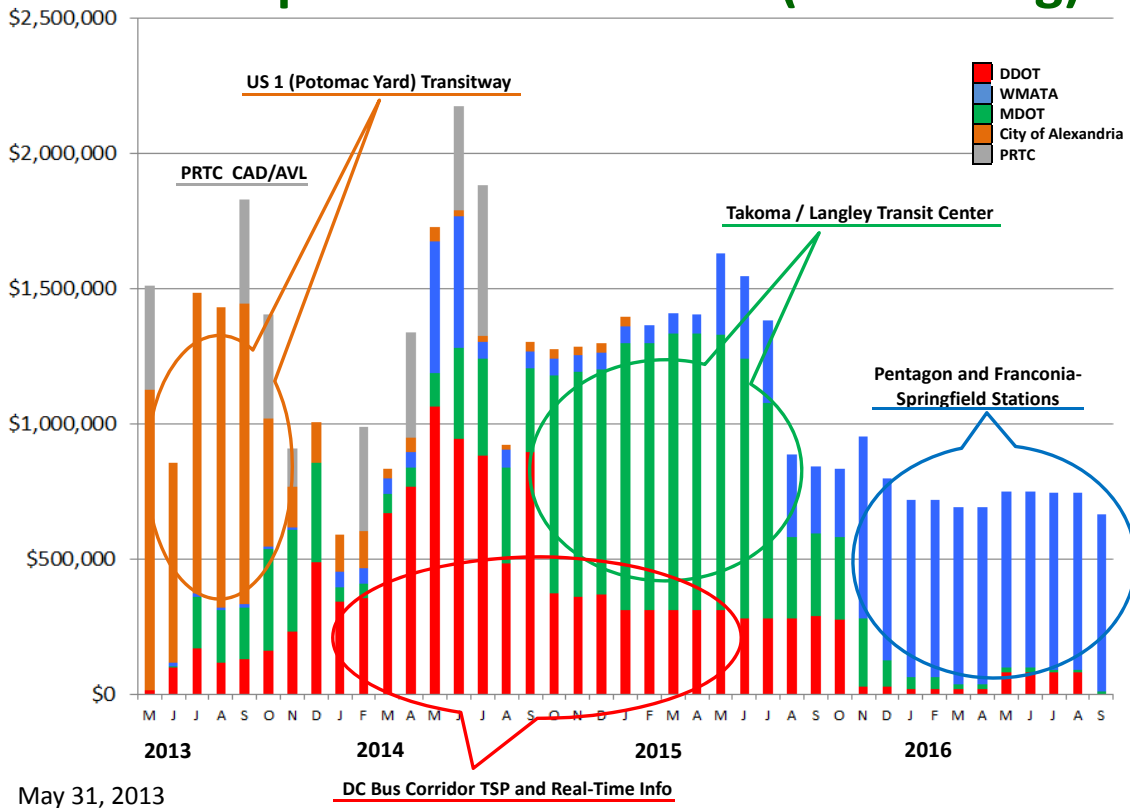


### Proposed Locations (225 signs total)

- 16<sup>th</sup> Street (30)
  - Georgia Avenue (25)
  - H St / Benning Rd (28)
  - Wisconsin Avenue (40)
  - Addison Road (14)
  - University Blvd (19)
  - Veirs Mill Road (25)
  - VA-7 / Leesburg Pike (31)
  - Pentagon and Franconia-Springfield Stations (13)
- WMATA awarded contract in May 2013.
  - Coordinating with road agencies, utility companies, and bus shelter contractors to install and electrify the bus shelters at proposed locations.

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# TIGER Expenditure Schedule (Remaining)



## TIGER Grant for Priority Bus Transit in the National Capital Region

### Project Implementation Issues:

#### 1. Coordination with other Projects

- Pentagon Transit Center bus bay improvements are dependent upon DoD's ability to develop a design for the Hayes Street Lot that is acceptable to FTA.
- Maryland corridor projects on University Blvd and Veirs Mill Road may be revised to accommodate Purple Line and other planned projects.
- Frontier Drive extension into Franconia-Springfield Station is in design; may impact the proposed project and/or schedule of bus bays and other improvements.

#### 2. Transit Signal Priority systems

- Successful compatibility testing across multiple wayside traffic signal systems is technologically challenging, and may experience delays.

#### 3. Office of Management and Budget (OMB) ARRA Waiver Request

- OMB has directed Federal agencies to accelerate the spending of remaining ARRA funds, and required waiver requests to continue spending past September 30, 2013.
- TPB's first waiver request (submitted July 2012) has been approved for \$28 million. A second waiver request for \$46 million (revised estimate of remaining funds unspent as of September 30, 2013) has been submitted.

# TIGER Grant for Priority Bus Transit in the National Capital Region

Questions?





## National Capital Region Transportation Planning Board

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### M E M O R A N D U M

**TO:** Transportation Planning Board

**FROM:** Eric Randall  
Department of Transportation Planning

**SUBJECT:** Update on the TPB Regional Priority Bus Project Grant under the Transportation Investments Generating Economic Recovery (TIGER) Program

**DATE:** June 13, 2013

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This memorandum provides an update on the status of the Transportation Investments Generating Economic Recovery (TIGER) grant awarded to the TPB in February 2010 for *Priority Bus Transit in the National Capital Region*.

#### **Background**

In September 2009, the U.S. Department of Transportation announced a competitive TIGER Discretionary Grant Program for \$1.5 billion as part of the American Recovery and Reinvestment Act (ARRA). USDOT received 1,400 applications totaling nearly \$60 billion from which 51 awards were made, including an award to the TPB for \$58.8 million for capital improvements in priority bus transit. The TIGER grant awarded to the TPB was the largest awarded to an MPO. Additional information on the TIGER Grant Program is available on the USDOT website at <http://www.dot.gov/tiger/>

On December 14, 2010, the U.S. Secretary of Transportation, Ray LaHood, came to COG to meet the regional partners and sign the TIGER grant agreement. The grant is being administered by COG as the administrative agent for the TPB and implemented by five recipient "Project Owners": the City of Alexandria, Virginia; District of Columbia Department of Transportation (DDOT); Maryland Department of Transportation (MDOT); Potomac and Rappahannock Transportation Commission (PRTC); and the Washington Metropolitan Area Transit Authority (WMATA). This complex and multimodal project involves roadway managers, technology personnel and transit operations staff from five agencies in implementing 16 component projects through 2016.

The grant will provide the infrastructure for more efficient bus service along three transit corridors in Maryland, four in Virginia, and six in Washington, DC. The efficiency of the corridors will be improved by the investments in a bus transitway, replacement buses, bus-only lanes, queue jump lanes, transit signal priority (TSP) technology, traffic signal management technology, bus stop and station improvements, real-time passenger information (RTPI) technology, and other enhancements. The project also includes construction of a new transit center at Takoma-Langley and improvements at the Pentagon and Franconia-Springfield stations. The final grant expenditures on the project must take place by September 30, 2016.

### **Project Management**

The TIGER grant is being administered through the Federal Transit Administration (FTA). As the grantee, the TPB is responsible to the FTA for the project management and the performance monitoring required for the TIGER grant. To assist TPB staff with the grant administration and reporting, a contractor has been hired. TPB staff and contractors meet monthly with the five project owners and with the FTA and its Project Management Oversight Contractor (PMOC) to review implementation of the grant. Monthly, quarterly, and annual reports are submitted on grant management and financial administration (via the FTA’s TEAM system and per ARRA Section 1512 requirements), in addition to internal reports that provide TPB staff and project owners with consolidated progress information.

### **Performance Monitoring**

To assess the results of the projects, a set of comprehensive “before” and “after” performance monitoring reports is required. In 2012, TPB staff and consultants completed a set of detailed before reports on each of the 16 component projects, which will be followed by after reports to be completed both one year and two years following implementation, the last of which will be due in 2018.

### **Grant Implementation Summary**

As of May 31, 2013, approximately \$10 million of the grant, or 17%, has been expended. The primary expenditures to date have been \$5.1 million for 13 replacement buses for PRTC, \$2 million for construction of the City of Alexandria’s US-1 (Potomac Yard) Transitway, \$1 million for PRTC’s Computer-Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system, and \$850,000 for District DOT’s corridor projects. In addition, \$34 million of the grant is obligated in awarded contracts, primarily for construction of the Takoma-Langley Transit Center, the completion of the US-1 Transitway, and the procurement and installation of real-time passenger information at bus stations and stops across the region.

**Table: Actual / Anticipated Expenditures for the TIGER Priority Bus Transit Grant**

	<b>To date</b>	<b>Rest of 2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Actual/ Anticipated Expenditure (\$ millions)	\$ 10.0	\$ 9.6	\$ 16.0	\$ 15.4	\$ 7.8
Annual Percentage of Expenditures	n/a	16%	27%	26%	13%
Cumulative Percentage of Expenditures	17%	32%	61%	87%	100%

The following table provides a list of project accomplishments to date and the future schedule for major milestones and the completion of the component projects.

<b>TIGER Grant Project Accomplishments (as of May 31, 2013)</b>	
<b>2011</b>	<ul style="list-style-type: none"> <li>The City of Alexandria awarded a design-build contract for the US-1 Transitway in November.</li> </ul>
<b>2012</b>	<ul style="list-style-type: none"> <li>The PRTC Computer-Aided Dispatch and Automatic Vehicle Location system contract was awarded to Trapeze in May 2012.</li> <li>PRTC received delivery of 6 buses from Gillig, Inc., in June 2012 and the remaining 7 replacement buses in October/November 2012.</li> <li>In June, DDOT issued notice to proceed for the Georgia Avenue exclusive bus lane. The first public meeting for review of the Georgia Avenue busway design was held in October 2012.</li> <li>Construction began in July 2012 on the southern portion of the US-1 Transitway.</li> </ul>
<b>2013 to date</b>	<ul style="list-style-type: none"> <li>In March, the Maryland Transit Administration (MTA) finalized settlement with the property owner for land for the Takoma-Langley transit center. MTA began coordination of utility relocations and prepared to award the construction contract (expected in June).</li> <li>Construction of the US-1 Transitway continued. As of April 2013, the first four concrete pours were complete and the section of the Transitway between Swann and Custis Avenues is complete with the exception of the colored concrete pour.</li> <li>WMATA awarded a contract for procurement of real-time passenger information (RTPI) systems on May 9. This contract will support the procurement of RTPI displays on corridors in the District, Maryland, and Virginia.</li> </ul>
<b>Future Schedule (through September 30, 2016)</b>	
<b>Remainder of 2013</b>	<ul style="list-style-type: none"> <li>Complete bus shelter installation and electrification on District of Columbia bus corridors in preparation for RTPI installation.</li> <li>On-board bus equipment for transit signal priority (TSP) will be procured for the entire WMATA fleet.</li> <li>Award of the TSP contract for the wayside equipment at traffic signals is expected at the end of the year, which will enable participating agencies (DDOT, Maryland SHA, City of Alexandria, and WMATA) to finalize how procurement, installation, operating costs and maintenance will be handled by each project owner individually.</li> </ul>
<b>2014</b>	<ul style="list-style-type: none"> <li>Opening of the US-1 Transitway is scheduled for Spring 2014.</li> <li>Following final agreement with the Department of Defense regarding the Pentagon station work, construction would begin in 2014.</li> <li>Following completion of design, Franconia-Springfield station improvement contracts are scheduled to be awarded and work will begin in 2014.</li> <li>Complete construction of rapid bus improvements on Van Dorn-Pentagon corridor.</li> <li>Complete bus corridor queue jump and stop improvements along the 16th Street, Georgia Avenue, and Wisconsin Avenue corridors, including the Georgia Avenue bus lane.</li> <li>Complete TSP installation on 16th Street and Wisconsin Avenue by the end of the year.</li> <li>Begin Signal Optimization and TSP installation in the Downtown Core (between K Street NW and the Theodore Roosevelt and 14th Street Bridges).</li> <li>Install uninterruptable power supply (UPS) for traffic signals in the Theodore Roosevelt Bridge to K Street corridor and the 14th Street Bridge to K Street corridor.</li> </ul>
<b>2015</b>	<ul style="list-style-type: none"> <li>Completion of RTPI installation and bus stop improvements on the Addison Road corridor.</li> <li>Completion and opening of the Takoma-Langley transit center.</li> <li>Completion of TSP and RTPI installation on VA-7 (Leesburg Pike).</li> </ul>
<b>2016</b>	<ul style="list-style-type: none"> <li>Completion of Pentagon Station improvements.</li> <li>Completion of Franconia-Springfield Station Improvements.</li> <li>Completion of construction of US-1 and Veirs Mill Road improvements, including queue jumps and transit signal priority (TSP) installation.</li> </ul>

## **Project Implementation Issues**

The TIGER grant period of performance ends on September 30, 2016. Several project components are currently scheduled to be completed in late 2015 or 2016, and may run near to this deadline for expiry of Federal funding.

### **1. Coordination with Other Projects**

Continued developments are impacting TIGER projects that are not scheduled to be completed until 2016. The planned improvements at the Pentagon Transit Center included the construction of additional bus bays; however, due to other projects that the Department of Defense (DoD) has carried out the original proposal cannot be undertaken. As an alternative, DoD has proposed construction of a bus station with eight bays in the Hayes Street Lot that lies between I-395 and Army-Navy Drive. This is now in the process of design, but would require subsequent approval from the FTA for accomplishment. In Montgomery County, planned improvements along University Boulevard (for the Purple Line) and on Veirs Mill Road may lead to changes in the TIGER projects for these corridors. In Fairfax County, selection of an alternative for an extension of Frontier Drive into the Franconia-Springfield Metrorail station is now complete, but has delayed the TIGER improvements for the station which are now in design.

### **2. Transit Signal Priority (TSP) Systems**

The TSP system will initially be installed and tested on VA-7 (Leesburg Pike) in 2014, by WMATA in close coordination with Virginia DOT and the partner jurisdictions. The system will subsequently be tested in the District and in Maryland, with their respective, different wayside traffic signal technologies. Successful compatibility testing across multiple wayside traffic signal systems is technologically challenging, and may experience delays that affect TSP projects planned for completion in 2016.

### **3. Office of Management and Budget (OMB) ARRA Waiver Request**

In September 2011, OMB directed Federal agencies to accelerate the spending of remaining ARRA funds, which include the USDOT's TIGER Grants. Federal agencies are required to submit waiver requests to OMB to continue expenditures after September 30, 2013. In July 2012, the TPB submitted an initial waiver request to the FTA for \$28 million, based on the estimate at that time of the TIGER funds that would not be spent by September 2013. In May 2013, TPB was notified that this request was approved by OMB and was provided the opportunity to submit a second waiver request to FTA. The TPB submitted a second waiver request increasing the grant expenditures forecast after September 30, 2013 to \$46 million. Approximately \$18 million of the TIGER grant could be affected if OMB declines this request and rescinds authorization for these funds.

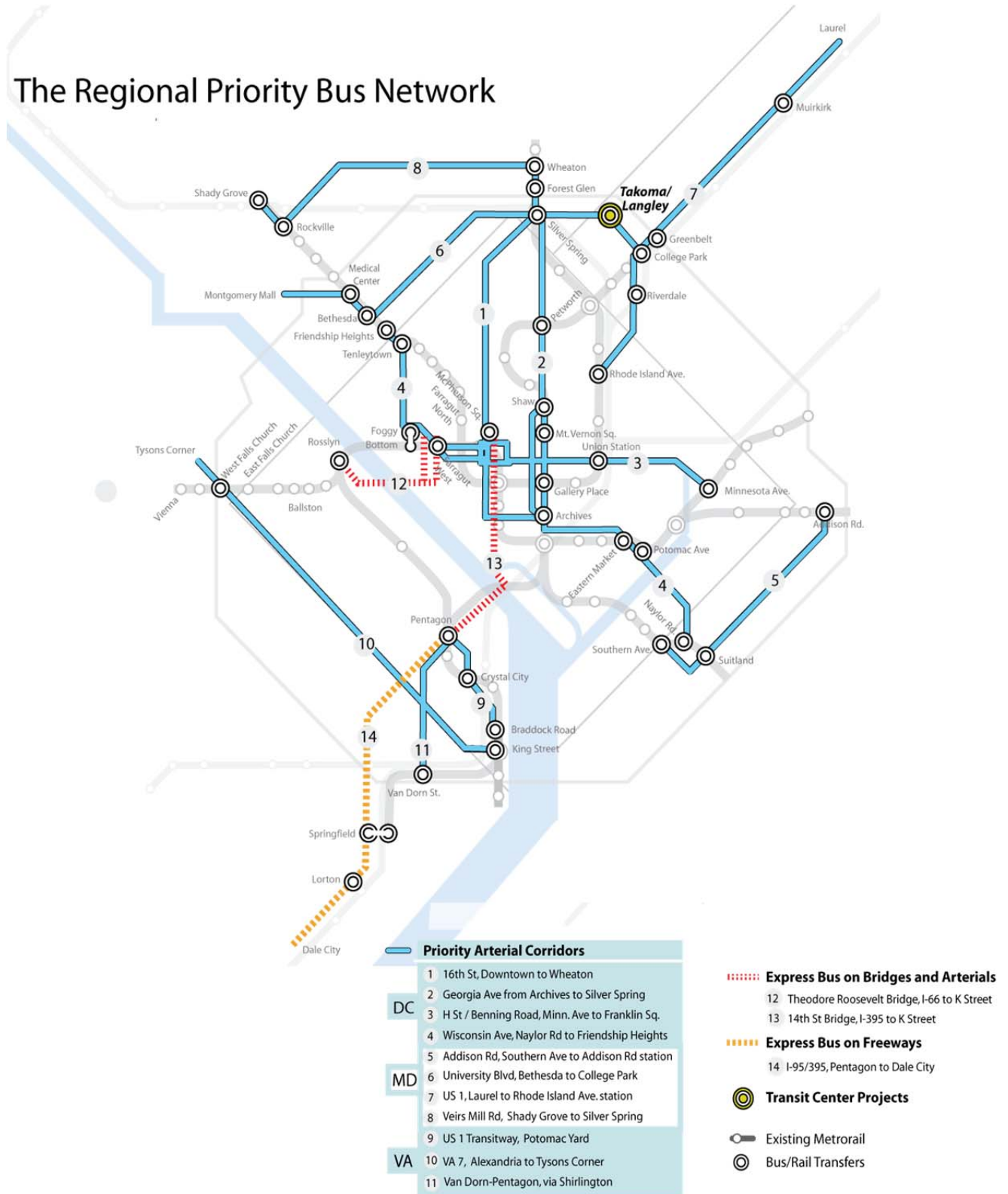
An appendix with a map of the TIGER projects, a detailed description of each of the sixteen project components, and the forecast rate of expenditures follow.



## Appendix - Map and Details of Component Projects

The map shows the geographic scope of the sixteen component projects of the TIGER grant, and is followed by a detailed description of each project component.

### The Regional Priority Bus Network



## PROJECT COMPONENT DESCRIPTION

The sixteen approved components of the TIGER Priority Bus Transit project are as follows:

**Table 1: Project Component Descriptions**

#	Project Components
1	<b>16th Street Bus Priority Improvements (DDOT): \$932,317</b> Capital improvements include a queue jump lane, bus stop improvements, real time passenger information (RTPI) displays at up to 17 stop locations, and transit signal priority/traffic system management (left turn phase for bus) at five intersections.
2	<b>Georgia Avenue Bus Priority Improvements (DDOT): \$4,092,000</b> Improvements include a short bus-only lane that will be constructed on Georgia Avenue to alleviate current bus delays. Additionally, improvements include bus stop improvements, queue jumps, and real time passenger information (RTPI) displays at up to 30 stop locations.
3	<b>H Street/Benning Road Bus Priority Improvements (DDOT): \$434,000</b> This project will implement RTPI displays at up to 22 bus stop locations and install security cameras at select locations.
4	<b>Wisconsin Avenue Bus Priority Improvements (DDOT): \$745,000</b> Capital improvements include transit signal priority and/or traffic signal management at six intersections and RTPI displays deployed to a number of express service stop locations.
5	<b>Addison Road Improvements (WMATA): \$190,000</b> This is a WMATA priority bus corridor that connects the eastern ends of the Blue and Green Metrorail lines. The project includes the replacement of 10 bus shelters along the existing P12 bus route that will be upgraded with real-time passenger information displays at select locations.
6	<b>University Boulevard Bus Priority Improvements (MDOT): \$1,300,805</b> Planned improvements include four queue jump lanes, transit signal priority at up to 20 intersections, installation of RTPI displays and a series of bus stop enhancements along the corridor.
7	<b>U.S. Route 1 Bus Priority Improvements (MDOT): \$737,340</b> Improvements include queue jump lanes and transit signal priority at several intersections.
8	<b>Veirs Mill Bus Priority Improvements (MDOT): \$239,945</b> Improvements include a queue jump lane and deployment of RTPI displays.
9	<b>US 1 Transitway (City of Alexandria): \$8,202,500</b> A bus transitway in the median of US 1 within the city limits will provide exclusive right of way for buses.
10	<b>VA 7 (Leesburg Pike) Bus Priority Improvements (WMATA): \$1,273,000</b> A WMATA Priority Corridor that connects the Cities of Alexandria and Falls Church with the commercial center of Tysons Corner, the TIGER grant funds improvements that include RTPI displays at up to 31 express service bus stops and transit signal priority at up to 40 intersections along the corridor.
11	<b>Van Dorn-Pentagon Rapid Bus (City of Alexandria): \$646,550</b> The project will provide runningway improvements to support a future rapid bus service in the City of Alexandria from the Van Dorn Metrorail Station in the City of Alexandria to the Pentagon in Arlington County. TIGER funding will support signal prioritization technology, two super stops, and two queue jump lanes. These improvements will enhance transit service along three current bus routes in addition to a future new BRT route.

#	Project Components
12	<p><b>Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT): \$3,638,683</b>  Implementation of an integrated transit signal priority and traffic signal optimization system along E Street, northbound 18th Street, and southbound 19th Street. Additionally, uninterruptable power supply installation will take place at select traffic lights will prevent traffic signals outages following power interruptions.</p>
13	<p><b>14th Street to K Street Bus Priority Improvements (DDOT): \$3,249,190</b>  Implementation of an integrated transit signal priority and traffic signal optimization system along 14<sup>th</sup> Street from the bridge to K Street. Additionally, uninterruptable power supply installation will take place at select traffic lights.</p>
14a	<p><b>Pentagon -- Franconia Springfield Station Improvements (WMATA): \$9,430,000</b>  Station improvements at Pentagon Station and Franconia/Springfield Station, including bus bays, real time bus information, and traffic circulation/access/security improvements. Major technology improvements include a mobile web application for real-time bus information and bus information displays.</p>
14b	<p><b>PRTC Buses and ITS Technology (PRTC): \$9,650,000</b>  This component includes the replacement of 13 buses, with new vehicles using state-of-the-art clean-fuel technology. The project also includes cameras outfitted on 15 buses and the procurement of computer-aided dispatch and automatic vehicle location (CAD/AVL) technology.</p>
TC	<p><b>Takoma/Langley Transit Center (MDOT): \$11,841,790</b>  This transit center at the intersection of University Boulevard and New Hampshire Avenue will consolidate the bus stops at the intersection into one facility (although some existing bus stops will still remain in order to prevent requiring pedestrians to cross busy roads to their final destinations). The transit center will provide a safe, attractive, comfortable and efficient facility for passengers and improve pedestrian safety and accessibility and will be converted to accommodate the planned Purple Line.</p>