

## **ITEM 9 - Information**

June 18, 2014

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 Board was briefed on this project at its June 19, 2013 meeting. 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).





# NATIONAL CAPITAL REGION

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## TRANSPORTATION PLANNING BOARD

### MEMORANDUM

**TO:** Transportation Planning Board

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

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

**DATE:** June 12, 2014

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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 (USDOT) announced a competitive TIGER Discretionary Grant Program of \$1.5 billion as part of the American Recovery and Reinvestment Act (ARRA). USDOT received 1,400 applications totaling nearly \$60 billion in requested funding, from which 51 awards were made, including an award to the TPB for \$58.8 million for capital improvements to support priority bus transit in the National Capital Region. 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 [www.dot.gov/tiger/](http://www.dot.gov/tiger/).

On December 14, 2010, the U.S. Secretary of Transportation, Ray LaHood, came to COG to sign the TIGER grant agreement. Five recipient “Project Owners” are implementing the projects funded by the grant: the City of Alexandria, Virginia; the District of Columbia 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). COG is administering the grant as the administrative agent for the TPB. This complex and multimodal project involves roadway managers, technology personnel, and transit operations staff from five agencies in implementing 16 component projects. The TIGER grant is a reimbursable project and the federal funds expire on September 30, 2016; all work should be completed by the end of June 2016 to ensure timely disbursement of the funds to the agencies.

The TIGER grant is helping to pay for the infrastructure needed to provide more efficient bus service along three transit corridors in Maryland, four in Virginia, and six in the District of Columbia. The efficiency of the corridors is being 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.

**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 project management and performance monitoring of the implementation of the grant. The TPB has hired a contractor to assist with the grant administration and reporting. 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), 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 “after” report will be due in 2018.

**Grant Implementation Summary**

The three years and five months since the signing of the grant agreement have primarily been spent carrying out detailed design work for the construction projects and the several key technology procurements.

As of May 30, 2014, approximately \$17.6 million of the grant, or 30%, has been expended. With just over two years left for grant work to take place, FTA is scrutinizing the progress of the TIGER grant. The major expenditures to date have been \$5.1 million for 13 replacement buses for PRTC, \$6.2 million for construction of the City of Alexandria’s Crystal City-Potomac Yard (CCPY) Transitway, \$2.3 million for PRTC’s Computer-Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system, and \$1.8 million for DDOT’s corridor projects.

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

	To date	Rest of 2014	2015	2016
Actual / Anticipated Expenditure (\$ millions)	\$ 17.6	\$ 12.1	\$ 20.7	\$ 8.5
Annual Share of Total Grant Expenditures	n/a	21%	35%	14%
Cumulative Share of Total Grant Expenditures	30%	50%	86%	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.

TIGER Grant Project Accomplishments (as of May 30, 2014)	
2011	<ul style="list-style-type: none"> <li>• <b>US 1 Transitway (City of Alexandria):</b> Design-build contract for Section B of the Crystal City – Potomac Yard (CCPY) Transitway on US-1 awarded in November .</li> </ul>
2012	<ul style="list-style-type: none"> <li>• <b>PRTC Buses and ITS Technology (PRTC):</b> Computer-Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system contract awarded to Trapeze in May. Delivery of 13 buses from Gillig, Inc., taken between June and November.</li> <li>• <b>Georgia Avenue Bus Priority Improvements (DDOT):</b> Notice to proceed issued for design of exclusive bus lane. First public meeting for review of the bus lane design held in October.</li> <li>• <b>US 1 Transitway (City of Alexandria):</b> Construction began in July for relocation of auto traffic to a new set of northbound lanes.</li> </ul>
2013	<ul style="list-style-type: none"> <li>• <b>Takoma/Langley Transit Center (MDOT):</b> Maryland Transit Administration (MTA) finalized settlement with the remaining property owner in March.</li> <li>• <b>US 1 Transitway (City of Alexandria):</b> Construction began on the median bus lanes.</li> <li>• <b>Bus Corridor Priority Treatments (All):</b> WMATA awarded a contract in May for procurement of real-time passenger information (RTPI) on corridors in the District, Maryland, and Virginia.</li> <li>• <b>Bus Corridor Priority Treatments (All):</b> WMATA completed installation of its <i>Consolidated of on-board Auxiliary Bus Equipment</i> project on the Metrobus fleet, the first step in making the buses ready for Transit Signal Priority (TSP).</li> </ul>
2014 to date	<ul style="list-style-type: none"> <li>• <b>VA 7 (Leesburg Pike) Bus Priority Improvements (WMATA):</b> In March, WMATA awarded a contract for wayside equipment for TSP to be installed at traffic signals on VA 7 (Leesburg Pike). This initial procurement is enabling other agencies to finalize the procurement, installation, operating costs, and maintenance that will be handled by each agency.</li> </ul>
Future Schedule (through June 30, 2016)	
2014	<ul style="list-style-type: none"> <li>• <b>US 1 Transitway (City of Alexandria):</b> Opening of the CCPY Transitway is scheduled for August.</li> <li>• <b>Pentagon and Franconia-Springfield Station Improvements (WMATA):</b> Construction of pedestrian access, safety, and security improvements at the Pentagon station will begin this summer, following final agreement with the DoD. Franconia-Springfield station improvements will begin by the end of 2014, following completion of design activities and contract awards.</li> <li>• <b>14th Street to K Street and Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT):</b> Installation of uninterruptable power supply (UPS) for traffic signals.</li> <li>• <b>VA 7 (Leesburg Pike) Bus Priority Improvements (WMATA):</b> TSP installation to be completed and operational testing to begin.</li> </ul>
2015	<ul style="list-style-type: none"> <li>• <b>16th Street and Wisconsin Avenue Bus Priority Improvements (DDOT):</b> Installation of TSP and queue jump and bus stop improvements.</li> <li>• <b>Georgia Avenue Bus Priority Improvements (DDOT):</b> Bus lane scheduled to be completed by July 2015. Other queue jump and stop improvements to continue.</li> <li>• <b>Van Dorn-Pentagon Rapid Bus (City of Alexandria):</b> Construction of bus stop improvements and queue jump lanes.</li> <li>• <b>Addison Road (WMATA):</b> Completion of RTPI installation and bus stop improvements on the Addison Road corridor.</li> <li>• <b>14th Street to K Street and Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT):</b> Installation of TSP begins in the Downtown Core.</li> <li>• <b>Takoma/Langley Transit Center (MDOT):</b> Complete construction, with opening scheduled for October.</li> </ul>
2016	<ul style="list-style-type: none"> <li>• <b>Pentagon and Franconia-Springfield Station Improvements (WMATA):</b> Complete construction.</li> <li>• <b>16th Street, Wisconsin Avenue, and Georgia Avenue Bus Priority Improvements (DDOT):</b> Complete installation of TSP.</li> </ul>

## **Project Implementation Issues**

The TIGER grant period of performance ends on September 30, 2016, which given invoice processing time means all of the work to be reimbursed by the grant should be completed by the end of June 2016. Several project components are currently scheduled to be completed in early 2016, and may run near to this deadline.

### **1. FTA Approval for Project Revisions**

Three projects proposed in the original TIGER grant application are no longer viable, which will require revisions to the original application and ultimate approval by FTA and USDOT.

- i. 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. (\$1.5 million).
- ii. At the Franconia-Springfield station, WMATA is requesting the deletion of two circulation components of the project: a pedestrian bridge and a cell phone waiting area due to cost impacts significantly greater than the original estimates. (\$1.3 million).
- iii. In Montgomery County, planned improvements on University Boulevard and Veirs Mill Road are no longer feasible due to advancement of the planned Purple Line and other transit projects. (\$1.0 million).

It is anticipated these revision requests will be submitted by the end of June for a review process that takes several months. Any delay in approval of these project revisions could in turn lead to delay in construction of the revised projects.

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

Nine of the component projects involve the implementation of Transit Signal Priority (TSP) and construction of other improvements for bus service along key corridors across the region. The TSP technology procurement for the bus corridors is the most innovative portion of the TIGER grant; however it is proving to be the most challenging in achieving coordination among the multiple agencies and departments. Along with traffic signal optimization in the downtown core, timing traffic lights to detect and provide priority to buses is fundamental to improving the reliability of bus travel in the region. The goal of the TIGER grant is to enable multiple TSP demonstration projects across the region, opening the opportunity for widespread deployment of this technology in the region.

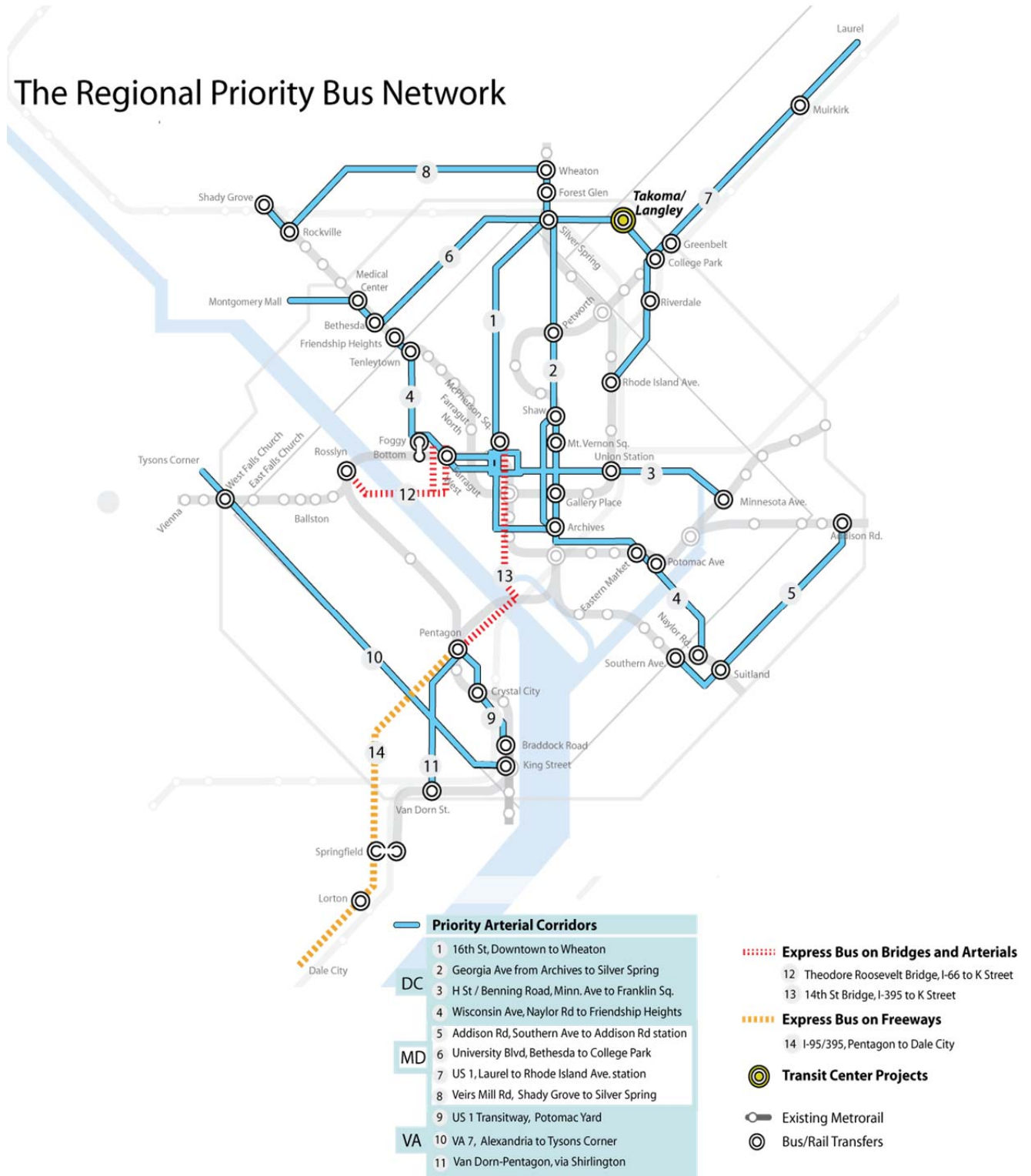
The TSP technology will initially be installed and tested on VA 7 (Leesburg Pike) in 2014 by WMATA in close coordination with VDOT and the local jurisdictions. WMATA is leading the procurement of the TSP technology, and has leveraged other bus technologies to provide for equipping the entire Metrobus fleet to use TSP. 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 the grant. (\$8.8 million).

Attached to this memorandum as an appendix are a map of the TIGER projects and detailed descriptions of each of the sixteen project components.

# APPENDIX: MAP AND DETAILS OF 16 COMPONENT PROJECTS OF THE TIGER GRANT

The map below shows the 16 component projects of the TIGER grant.

## The Regional Priority Bus Network





The 16 component projects of the TIGER Priority Bus Transit grant are as follows:

### 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>US1 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 and 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 real-time 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>