



# NATIONAL CAPITAL REGION

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## TRANSPORTATION PLANNING BOARD

### MEMORANDUM

**TO:** TPB Technical Committee

**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:** January 30, 2015

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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*.

On January 15, 2015, FTA approved MWCOC's grant revision request (submitted October 28, 2014), which amended project component scopes and budgets for the grant. This has enabled final design and manufacture to proceed to complete the projects of the grant.

#### 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 first “after” report is due in December 2015, with the final “after” report due in 2018.

**Grant Implementation Summary**

The four years 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 December 31, 2014, approximately \$22.5 million of the grant, or 38%, has been expended. With eighteen months 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, \$7.1 million for construction of the City of Alexandria’s Crystal City-Potomac Yard (CCPY) Transitway, \$2.7 million for PRTC’s Computer-Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system, and \$2.0 million for DDOT’s corridor projects.

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

	To date	2015	2016
Actual / Anticipated Expenditure (\$ millions)	\$ 22.5	\$ 23.3	\$ 13.0
Annual Share of Total Grant Expenditures	n/a	40%	22%
Cumulative Share of Total Grant Expenditures	38%	78%	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>US 1 Transitway (City of Alexandria):</b> The opening of the CCPY Transitway took place on August 23 and the Metroway bus service connecting Alexandria and Old Town started.</li> <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 enabled other agencies to finalize the procurement, installation, operating costs, and maintenance that will be handled by each agency.</li> <li>• <b>14th Street to K Street and Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT):</b> Installation was completed for uninterruptable power supply (UPS) for traffic signals.</li> <li>• <b>DC Corridor Projects (DDOT):</b> RTPI sign installation started in December.</li> </ul>
Future Schedule (through June 30, 2016)	
2015	<ul style="list-style-type: none"> <li>• <b>Addison Road (WMATA):</b> Bus stop improvements were completed in 2013. RTPI signs are being installed with testing to take place through spring 2015.</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 in spring 2015, following completion of design activities and contract awards.</li> <li>• <b>VA 7 (Leesburg Pike) Bus Priority Improvements (WMATA):</b> TSP pilot location scheduled to be installed and tested in March, followed by wayside equipment installation along the corridor. Operational testing to take place throughout the summer.</li> <li>• <b>16th Street and Wisconsin Avenue Bus Priority Improvements (DDOT):</b> Bus stop improvements are nearly complete. Installation of TSP and queue jumps will follow.</li> <li>• <b>Georgia Avenue Bus Priority Improvements (DDOT):</b> Bus lane construction is scheduled to start in April and be largely complete by the end of the year.</li> <li>• <b>Van Dorn-Pentagon Rapid Bus (City of Alexandria):</b> Construction of bus stop improvements and queue jump lanes to take place.</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>DC Corridor Projects (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**

On January 15, 2015, the FTA communicated that the MWCOG Grant Revision request submitted on October 28, 2014, was approved. With the approval, several projects proposed in the original TIGER grant application that are no longer viable have been replaced with revised scopes of work.

- i. The TIGER Grant will now fund the final engineering and initial 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, the scope of the project has changed to fund pedestrian canopies and revised circulation improvements.
- iii. In Maryland, funds have been reprogrammed to support the construction of the Takoma Langley Crossroads Transit Center.
- iv. In the District, the number of TSP locations were reduced in the downtown core, while the number of locations on 16<sup>th</sup> Street, Georgia Avenue and Wisconsin Avenue were increased to expand the effectiveness of the effort.

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

Eight 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.

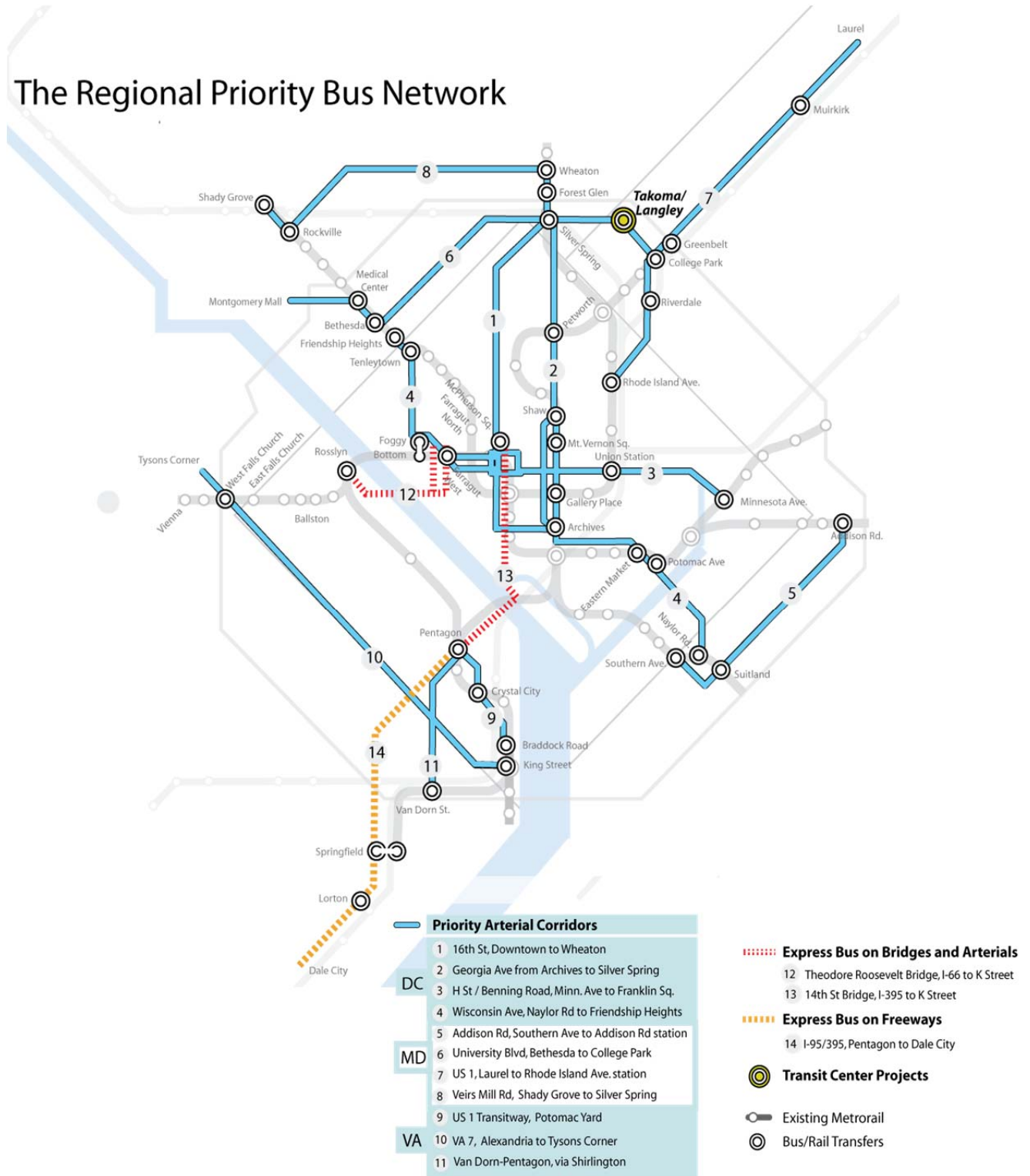
The TSP technology is scheduled to initially be installed and tested on VA 7 (Leesburg Pike) in March 2015, by WMATA in close coordination with VDOT and the local jurisdictions. WMATA has procured the TSP technology for the Metrobus fleet and is procuring the wayside equipment for the VA 7 project. The system will subsequently be tested in the District and in Maryland, with their respective, different wayside traffic signal technologies. DDOT is in the process of procuring the wayside technology for traffic signals in the District, with options for Maryland and the City of Alexandria. 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.

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 (As Revised January 15, 2015)
1	<b>16th Street Bus Priority Improvements (DDOT): \$1,292,317</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 31 intersections.
2	<b>Georgia Avenue Bus Priority Improvements (DDOT): \$5,442,000</b> Improvements include a short bus-only lane that will be constructed on Georgia Avenue to alleviate current bus delays. Additionally, improvements include transit signal priority, bus stop improvements, queue jumps, and real time passenger information (RTPI) displays will be installed.
3	<b>H Street/Benning Road Bus Priority Improvements (DDOT): \$434,000</b> This project will implement RTPI displays and install security cameras at select locations.
4	<b>Wisconsin Avenue Bus Priority Improvements (DDOT): \$1,490,000</b> Capital improvements include transit signal priority and RTPI displays deployed to a number of express service stop locations.
5	<b>Addison Road Improvements (WMATA): \$2140,000</b> This is a WMATA priority bus corridor that connects the Addison Road and Southern Avenue Metrorail stations. The project includes the replacement of bus shelters along with installation of real-time passenger information displays at select locations.
6	<b>University Boulevard Bus Priority Improvements (MDOT): \$235,864</b> Planned improvements include installation of RTPI displays and a series of bus stop enhancements along the corridor.
7	<b>US1 Bus Priority Improvements (MDOT): \$476,250</b> Improvements include queue jump lanes and transit signal priority.
8	<b>Veirs Mill Bus Priority Improvements (MDOT): \$98,479</b> Improvements include 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): \$1,084,000</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 transit signal priority at up to 25 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.
12	<b>Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT): \$1,703,683</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.

#	Project Components (As Revised January 15, 2015)
13	<p><b>14th Street to K Street Bus Priority Improvements (DDOT): \$2,729,190</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): \$9,770,550</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 security 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): \$13,309,287</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.</p>