

ITEM 11 - Information

April 20, 2011

Briefing on Regional Bus Priority and Rapid Bus Projects

Staff

Recommendation: Receive briefing on the implementation of the major bus priority components funded under the TPB TIGER grant, and on other bus priority and rapid bus plans and projects throughout the region.

Issues: None

Background: At the January 19, 2011 meeting, the TPB received a briefing on the Metrobus Priority Corridor Network Evaluation study, which identified the locations and benefits in 2030 of running way improvements including transit signal priority and exclusive bus lanes on corridors in the region.

National Capital Region Transportation Planning Board

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MEMORANDUM

TO: Transportation Planning Board

FROM: Eric Randall
Senior Transportation Engineer

SUBJECT: Overview of Regional Bus Priority and Rapid Bus Projects

DATE: April 20, 2011

This memorandum provides an overview of bus priority and rapid bus projects taking place or under consideration in the Washington metropolitan region. The Transportation Planning Board (TPB) is active in a number of these projects, primarily through the Transportation Investments Generating Economic Recovery (TIGER) grant awarded to the TPB in February 2010 for *Priority Bus Projects in the National Capital Region*. Other activities are supported through TPB's Unified Planning Work Program (UPWP).

Background

At the January 19, 2011 TPB meeting, an overview of the WMATA Priority Corridor Network (PCN) Evaluation study was presented, which included the identification of running-way locations and benefits if bus priority treatments were implemented across 23 key corridors of the Metrobus network. WMATA is working closely with state and local DOTs to determine how some of these bus priority treatments can be implemented, in addition to the bus service changes introduced by WMATA. Work on some of the corridors has already begun, funded by the \$58.8 million TIGER grant.

Beyond the PCN corridor efforts and the TIGER grant, there are a number of other proposals for major rapid bus improvements in the region. These include the Montgomery County BRT study, to be released June 2011; rapid bus on the I-395 Capital Beltway HOT lanes in Virginia; and transit alternatives being considered for I-66 improvements in Virginia and for the I-270 Corridor in Maryland.

Why Rapid Bus and Bus Priority?

Over 650,000 bus boardings take place daily in the Washington metropolitan region (39% of all regional transit trips). There are multiple public providers of bus services in the region: WMATA Metrobus (67% of bus passenger boardings), Montgomery County Ride-On (15%), Fairfax Connector (5%), the DC Circulator, Alexandria DASH, Prince George's The Bus, PRTC and MTA Commuter Bus (2% each), and other local and commuter services (3%). Demand continues to grow as fuel prices increase, for local, commuter, and inter-city bus services, both public and private.

Rapid bus services and bus priority provide the Washington metropolitan region with the opportunity to improve current bus operations and provide customers with fast, high-quality transit services. Improved bus speeds and schedule reliability lead to increased ridership through the improved quality of service offered to customers and to cost savings through more efficient bus operation.

Effective and efficient implementation of rapid bus goes hand in hand with bus priority treatments. Effective bus priority requires implementation of complementary treatments by both bus operators and road/runningway managers. Bus operators can provide limited stop service, introduce all-door boarding & off-board fare collection, and use dedicated vehicles to offer premium service. To complement bus operations, runningway improvements are needed, including Transit Signal Priority (TSP), queue jumps, and bus-only lanes.

Implementing bus priority treatments requires considerable coordination among stakeholders, with requirements for bus operations integrated with runningway design and technology. The challenge for roadway managers is that there are trade-offs involved in developing bus priority treatments. Bus-only lanes, queue jumps, and improved bus stops or stations require dedicated roadway space, while transit signal priority takes time from current signal cycles and the competing needs of parallel and intersecting vehicle traffic and pedestrian crossings. Traffic engineers and bus operators must work together to evaluate and allocate the competing demands for roadway space and traffic flows, in accordance with the goals and requirements of each organization.

Implementation of TIGER Grant for Bus Priority in the National Capital Region

On December 14, 2010, U.S. Transportation Secretary, Ray LaHood, and regional partners signed the grant agreement for the award of \$59 million in stimulus transportation funding. Twenty-six million dollars will go to implementation of bus priority treatments along priority corridors in the District of Columbia, Maryland, and Virginia. Improvements to these corridors include dedicated bus lanes, transit signal priority, limited stop service, enhanced pedestrian access, and real-time passenger information to increase bus ridership and reliability in these busy corridors. Nineteen million dollars will fund multimodal improvements for priority bus transit connecting portions of Northern Virginia with the District of Columbia, including Metrorail station access and new buses. Finally, twelve million dollars will be used for a new multimodal transit center in Prince George's County, Maryland, to improve safety and intermodal access for the many bus routes serving this location. (See Appendix following for TIGER project component details.)

The first of 42 project activities is complete: the installation of security cameras onboard 15 PRTC Buses. Construction and further technology components are now in several stages of design and procurement. On March 9, a TIGER grant implementation meeting brought together traffic engineers, planners, and bus operators to discuss opportunities for coordinating the technical specification and procurement of transit signal priority and real-time passenger information devices, as well as other design and installation work. Participants were from the five project sponsors: Alexandria, DDOT, MDOT, PRTC, WMATA, and from other agencies, including Virginia DOT and Prince George's, Montgomery, Fairfax, and Arlington Counties.

To assist with project management and the performance monitoring required for the TIGER grant, TPB staff and contractors have held several meetings with FTA representatives, and met on April 12 with the FTA's Project Management Oversight Contractor (PMOC) to review TIGER implementation. As an American Recovery and Reinvestment Act (ARRA, or the "stimulus" bill) project taking place in the nation's capital, it is anticipated the TPB's TIGER grant will receive a high-level of attention.

TPB Activities Supporting Bus Priority

The TPB continues to support studies in rapid bus and bus priority across the region, using UPWP funds from the core work program and the technical assistance program.

- September 2010 – The TPB Regional Bus Subcommittee (RBS), funded through the core work program (\$100,000 annually), brings together representatives of the bus operators in the region to promote regional communication and coordination of bus planning. The RBS presented an overview of local and regional transit services to the TPB in September 2010, which summarized the contribution of buses to regional travel.
- January 2011 – The TPB was updated on the progress of the WMATA Priority Corridor Network (PCN) Evaluation (technical assistance program: \$300,000 in FY 2009-10). The study evaluated the benefits of a complete network of bus priority measures across 23 Metrobus corridors, carrying more than 250,000 customers per day. WMATA is using the results of the evaluation to coordinate implementation efforts.
- March 2011 – The 2012 UPWP was approved at the March TPB meeting, which includes the Multimodal Coordination / Bus Hot Spots study (\$216,000 in technical assistance funds: \$30,000 from each DOT and \$126,000 from WMATA). Beginning in July, TPB, WMATA and State DOT staff will use this project to 1) identify the causes of slow bus speeds at each hot spot, 2) recommend and scope bus priority measures that will improve average bus speeds on the identified segments, and 3) quantify the anticipated capital costs and potential operating cost savings of recommended bus priority treatments.
- May 2011 – At the May 18 TPB meeting, the Regional Bus Subcommittee is scheduled to present a list of priority regional projects identified for bus services across the metropolitan area, including priority bus treatments. Priority areas include better ways of serving customers, connecting the region, solving bottlenecks and hot spots, and responding to federal relocation & BRAC.
- May 2011 – The TPB Technical Committee will receive a presentation on the Guidelines on Priority Bus Treatment (core work program: \$110,000 in FY 2010-11). The Guidelines are intended as a common reference for the region in support of WMATA PCN, TIGER, and other bus priority and/or BRT implementations. Developed in cooperation with regional traffic engineers and bus operators, the Guidelines document regional and national bus priority strategies and identify priority bus treatment feasibility, costs, and benefits.

TIGER PROJECT COMPONENT DESCRIPTION

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

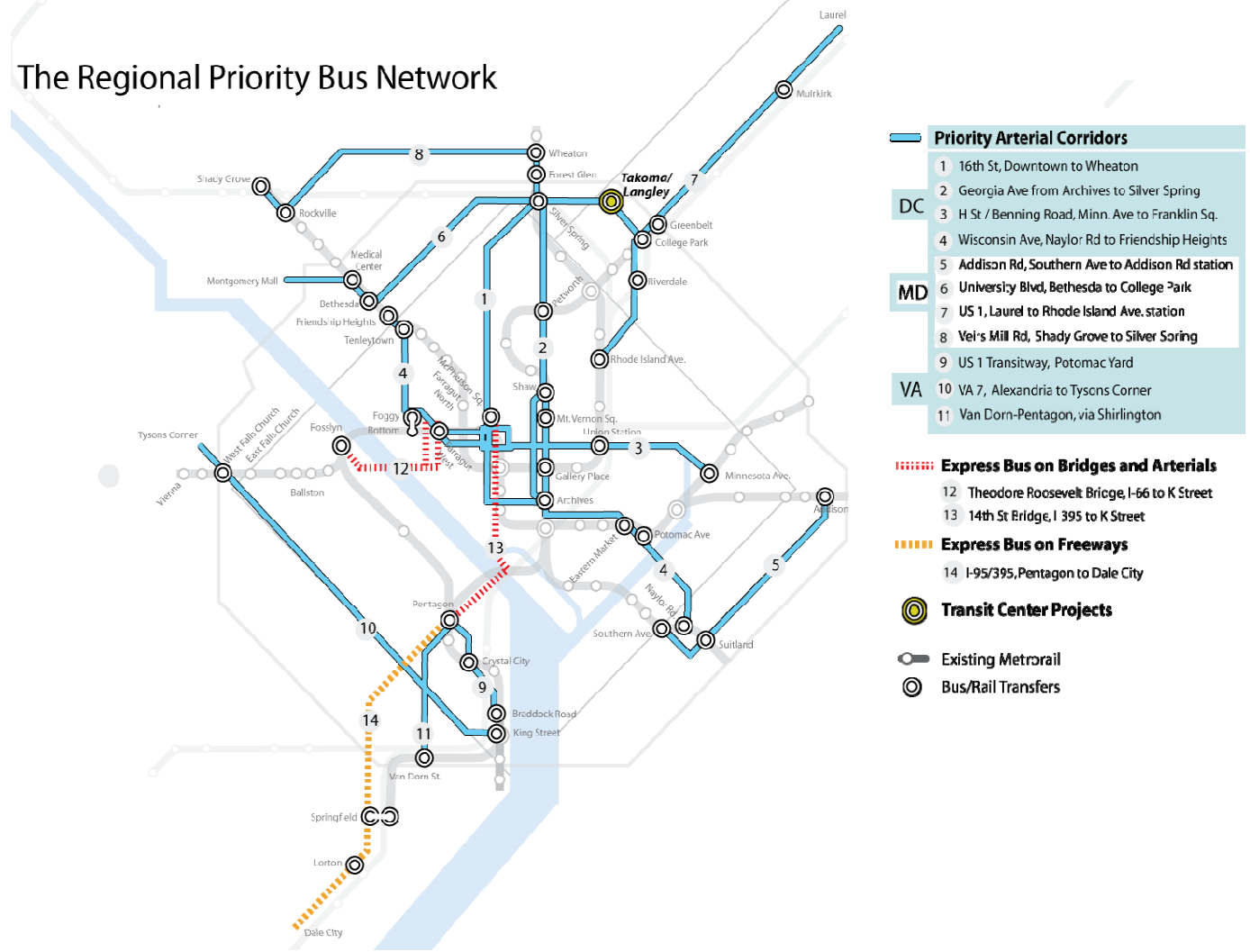


Table 1: Project Component Descriptions

#	Project Components (Lead Organization)
1	16th Street Bus Priority Improvements (DDOT): \$1,295,000 Capital improvements include a queue jump lane, real time passenger information displays at 17 stop locations, and transit signal priority/traffic system management (left turn phase for bus) at a number of intersections.
2	Georgia Avenue Bus Priority Improvements (DDOT): \$4,111,000 Improvements include completing TSP implementation at several intersections, bulb-outs, and nearly 30 stop locations enhanced with real time arrival technology. Additionally, a bus only lane will be constructed on Georgia Avenue for a short span to alleviate current exorbitant bus delays.
3	H Street/Benning Road Bus Priority Improvements (DDOT): \$415,000 This project will implement running way improvements along the existing corridor of a major local bus route, including a left turn phase for buses at a busy intersection, a queue jump lane, and real time arrival technology displays at 22 bus stop locations.

#	Project Components (Lead Organization)
4	Wisconsin Avenue Bus Priority Improvements (DDOT): \$745,000 A WMATA Priority Corridor with the highest ridership in the region, capital improvements include transit signal priority and/or traffic signal management at a number of intersections and real time arrival technology deployed to a number of express service stop locations.
5	Addison Road Improvements (WMATA): \$200,000 A WMATA priority corridor that connects the eastern ends of the Blue and Green Metrorail lines, bus shelters along the existing P12 bus route will be upgraded with NextBus real-time arrival prediction displays.
6	University Boulevard Bus Priority Improvements (MDOT): \$1,262,000 A WMATA Priority Corridor, improvements include four queue jump lanes, transit signal priority at around 20 intersections, and a number of bus stop enhancements, such as the deployment of NextBus technology.
7	U.S. Route 1 Bus Priority Improvements (MDOT): \$805,000 A WMATA Priority Corridor, capital improvements include queue jump lanes and transit signal priority at several intersections.
8	Veirs Mill Bus Priority Improvements (MDOT): \$265,000 A WMATA Priority Corridor that connects the commercial centers of Silver Spring and Rockville, capital improvements include a queue jump lane and NextBus real time bus arrival displays.
9	US 1 Transitway (City of Alexandria): \$8,500,000 A bus transitway in the median of US 1 within the city limits will provide exclusive right of way for buses.
10	VA 7 (Leesburg Pike) Bus Priority Improvements (WMATA): \$1,340,000 A WMATA Priority Corridor that connects the Cities of Alexandria and Falls Church with the commercial center of Tysons Corner, improvements include NextBus displays at several express service bus stops and transit signal priority at a number of intersections along the corridor.
11	Van Dorn-Pentagon Rapid Bus (City of Alexandria): \$670,000 The project will provide a new rapid bus service in the City of Alexandria from the Van Dorn Metrorail Station in the City of Alexandria to the Pentagon. It will incorporate limited stop service, signal prioritization, super stops, and queue jump lanes.
12	Theodore Roosevelt Bridge to K Street Bus Priority Improvements (DDOT): \$1,800,000 This major regional corridor will receive complimentary transit signal priority and bus mounted enforcement cameras along E Street, northbound 18th Street, and southbound 19th Street.
13	14th Street Bus Priority Improvements (DDOT): \$5,200,000 This project includes complimentary transit signal priority and bus mounted enforcement cameras along 14 th Street from the bridge to K Street.
14a	Pentagon -- Franconia Springfield Station Improvements (WMATA): \$9,930,000 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 displays.
14b	PRTC Buses and ITS Technology (PRTC): \$10,000,000 Project includes cameras outfitted on 15 buses, computer-aided dispatch and automatic vehicle location technology. Finally, this component includes the retirement of 13 buses, replacing them with state-of-the-art clean-fuel technology.
TC	Takoma/Langley Transit Center (MDOT): \$12,300,000 This transit center will be located at the intersection of University Boulevard and New Hampshire Avenue, consolidating all the bus stops at the intersection into one facility. Through new bus bays, pedestrian walkways, a full canopy, restrooms, lighting, and bus information, the transit center will provide a safe, attractive, comfortable and efficient facility for passengers and for bus transfer activities, and will also improve pedestrian safety, accessibility, and connections to bus services.