Priority Bus Transit in the National Capital Region
TPB's TIGER Grant Opportunity

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Why Should Priority Buses be a Priority for this Region?

We have a successful, integrated transit system:

- Metrorail
- Commuter Rail
- Numerous regional and local bus systems which are critical for expanding the reach of fixed guideway services

Yet quality bus service faces many obstacles:

- Traffic congestion
- Overcrowding
- Schedule adherence
- Service reliability

Why Priority Bus for the Washington Region?

- Bus prioritization strategies can:
  - Increase bus operating speeds
  - Reduce travel time variability
- Increasing bus speeds can greatly reduce operating costs, which can provide for increase service levels.
- The perception of a "new transit system" will:
  - Raise the perceived level of service for bus passengers
  - Provide increased levels of mobility across the region

How Does Bus Priority Save Benefit Operators?

	Before Priority Treatments		After, keeping headway the same		After, keeping buses the same	
Route Distance	5	miles	5	miles	5	miles
Headway	10	minutes	10	minutes	6.67	minutes
Avg. Speed	10	mph	15	mph	15	mph
Round Trip Time	1	hour	0.67	hour	0.67	hour
Buses Needed	6.0	buses	4.0	buses	6.0	buses

- Increasing the bus speed by **50%** results in:
  - **33%** reduction in operating costs and capital needs, or
  - **33%** reduction in headway with same operating costs.

What Are The Opportunities For Priority

Bus Stops

Cause of Delay	Primary Solution	Low-Investment Option	High-Investment Option
Payment	Off-board payment	SmarTrip	
Use of front door only	Multi-door boarding	SmarTrip / trust	Full-service curbside boarding stations
Wheelchair lift operation	Level boarding	Low-floor buses	

Running-Way

Cause of Delay	Primary Solution	Low-Investment Option	High-Investment Option
Traffic Signals	Transit Priority	Active or Passive Transit Signal Priority	
Traffic Queues	Remove Cars from Bus ROW	Bus Lanes and Queue Jumpers	Graded Separated ROW
Delay caused by illegal traffic movements, parking, etc.	Education, Enforcement	Bus-mounted Enforcement Cameras	
Right turns blocked by pedestrians	Remove Cars from Bus ROW	Far-side bus stops	

Seizing the TIGER Opportunity

The American Recovery and Reinvestment Act provides a real regional opportunity.

Although $50 billion in transportation funding is mostly formula funding, **$1.5 billion is in *competitive* grants for capital projects** that:

- Provide long-term economic benefit, livability, sustainability, safety, and state of good repair
- Can to be completed by 2012
- Request between $20m-$300m in total grant size
- Have significant impact on the Nation, metropolitan area, or region
- Maximize job creation and short-term economic benefit

A 1st step toward a full regional priority bus network

Timeline for Grant Application

July 15   TPB approval of TIGER Grant package components

August 1   Deadline for project data submission and determination final package

September 4   Review and approval of TIGER grant application by TPB Steering Committee

September 15   Grant submission deadline

Regional Package of Projects

Multimodal menu of services and infrastructure improvements that allow for a more convenient door-to-door trip, by increasing mobility through priority bus transit and improving intermodal and non-motorized access to transit

1. **K Street Transitway**
2. **A collection of priority bus corridors and services**
3. A **bike-sharing system**
4. Improvements to **two Metrorail stations** and the creation of **one new transit center**
5. **Existing and planned managed (HOV/HOT) lanes**
6. Additional **bus priority treatments across two Potomac River crossings** and along three arterials
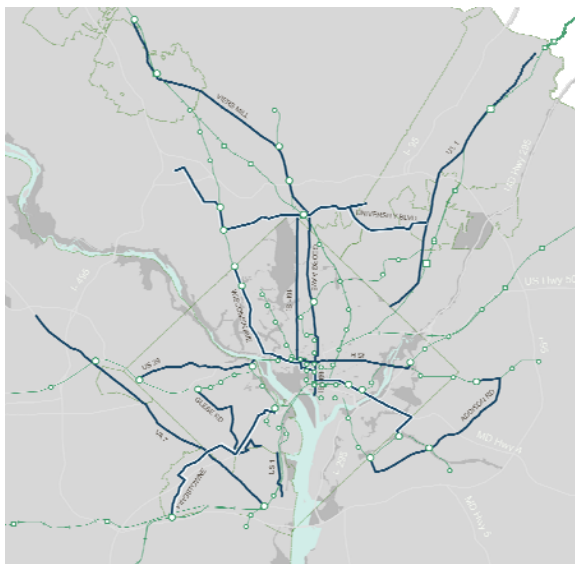
K Street Transitway

What 2 lanes with passing option, 1.3-mile transitway, from 9th-23rd St NW

Why Increase multi-modal efficiency of a regionally significant corridor

Grant Request $95m

K St has been in the CLRP for nearly a decade


WMATA Priority Corridors and other Arterials

What Enhanced bus transit service along 12 existing bus corridors, including, for example, dedicated bus lanes, TSP, skip stop service, enhancing pedestrian access, real-time passenger information, and enhanced bus stops

Why Improve routes with highest regional ridership, and increase ridership and reliability

Grant Request $36m

Regional Bike-Sharing
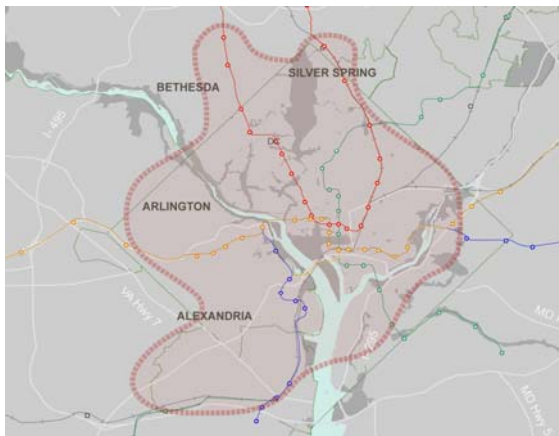
What Initial expansion of 1,600 bicycles at 160 bike stations in areas of DC, Alexandria, Arlington, Silver Spring and Bethesda, and potential other locations.

Why To extend the reach of public transit by providing a low-cost, convenient, door-to-door travel option

With DC's bike-sharing success, the time is right to expand regionally

Grant Request $10m

Regional Transit Centers
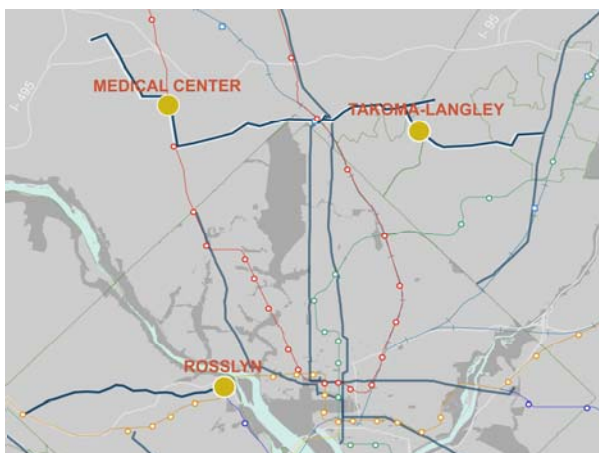
What (1) A new pedestrian tunnel at Medical Center station, (2) 3 high-speed elevators, a mezzanine, and emergency stairs at Rosslyn station, (3) Creation of the Takoma/ Langley Transit Center

Why To greatly improve safety and intermodal access to priority bus corridors

Grant Request $52.3m
Rosslyn=$10m
Takoma/Langley=$12.3m
Medical Center=$30m

Transit centers provide regional, intermodal connectivity
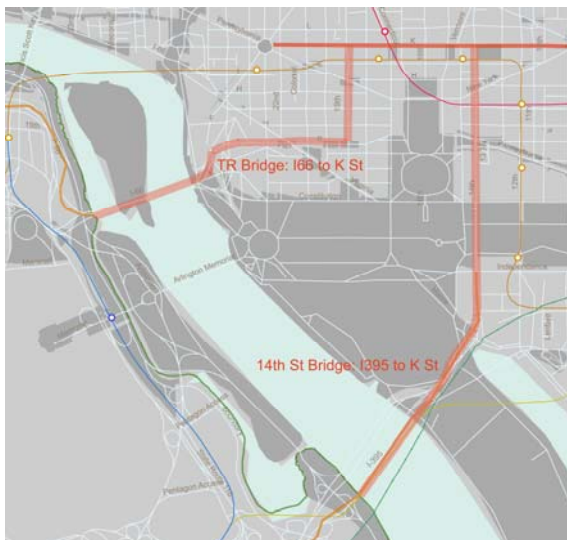
Rapid Buses on Managed Lanes

What A variety of facilities to enable priority bus transit along I-95/395 and I-66 managed lanes.

Why To provide high quality transit options for commuters and relieve pressure on the Metrorail system

Grant Request $78m

Managed lanes can provide virtual right-of-way for transit vehicles

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Connections to K Street

What Priority bus treatments connecting managed lanes on I-95/395 & I-66 to the K Street Transitway

Why To allow seamless transit connections between suburban and downtown employment centers

Grant Request $7m

A Regional Multimodal System
A Pilot System for 2012

Priority Bus Components
- E Street Transitway
- Priority Arterial Corridors
- Metro Station Improvements and Transit Center Projects
- Express Bus on Freeways
- Express Bus on Bridges and Arterials
- Existing Metrorail
- Existing Commuter Rail
- Bus/Rail Transfers

Working toward a Regional BRT Network

Proposal to use stimulus funding to develop a pilot BRT project – a step towards demonstrating that BRT on a larger regional scale can really happen in the region.

- Existing Metrorail
- Existing Commuter Rail

Previously Proposed Transit
- Major CLRP Transit Projects
- RMAS Projects

Recommended BRT Network
- Buses Operating on Toll Lanes
- Buses Operating on General/Priority Lanes
- New BRT Station

Summary of Projects

Financial Summary
Current package total: $276 million
Additional funds being leveraged: $401 million, from local, state and federal sources
Percentage of TIGER funding for projects: 41%
(some project components will be further reduced or removed by August 1)

Facilities Summary
26 new **dedicated transit lane** miles in the region
92 new or improved **bus stops/stations**
99 intersections with new **transit signal priority**
2,100 new **parking spaces** at park-and-ride lots
11 dedicated bus/HOV **ramps**

Cost / Benefit Analysis of TIGER Package

Benefits of prioritized transit, and quantifiable units.

Benefit	Quantifiable Unit
Increased efficiency of people movement	Travel time savings ($/pax-hour* pax-hours per year)
Increased transit ridership	New riders per day, increased farebox recovery ($/year)
Mode shift away from less efficient/polluting modes (Car to bike or transit) (from parking removal as well)	Fuel savings ($/gallon/year fuel reduced), (VMT reduced)
Decreased GHG/criteria pollutant emissions (from faster bus movement as well)	$/tons/year GHG/criteria pollutants reduced
Economic benefit of connecting new riders to economic activity	# of new patrons and # of economic establishments connected (how to monetize?); retail sales; # of new businesses in the area- value of business, increased tax revenue (b/c of new infrastructure and more people)
Increase bike and pedestrian safety	Reduced conflicts
Increased transit access	accessibility by transit within 45 minutes of jobs/retail?
Increased transportation affordability (lower housing/transportation costs)	Housing/transportation costs per block group
Increased transit access for transit dependent communities and other disadvantaged populations	accessibility by transit within 45 minutes of jobs/retail?
Decreased infrastructure costs from increasing efficiency of current system	defrayed cost of new road capacity? (including avoided environmental mitigation costs)
Positive/neutral effect on water quality	amount of polluted runoff decrease from less cars and from averted new road capacity?

Cost / Benefit Analysis of TIGER Package

Data Required to Calculate Existing and New Rider Benefits

- Basics:
  - Route name, length, average trip length

- Existing conditions:
  - Current ridership, % peak ridership
  - Buses per hour, average speed, both peak and off-peak

- After improvements
  - Forecast ridership, % peak ridership
  - Average speed, peak and off-peak*
  - Sources of new trips: percent of new trips shifting from auto, metrorail (including % core), walk/bike, did not previously make trip, other bus route.

  *Assumes same number of buses before and after, with LOS increasing.

Regional Partners