

BUS RAPID TRANSIT (BRT) AN EVOLUTIONARY NOT REVOLUTIONARY CONCEPT

Presentation by
Potomac and Rappahannock Transportation Commission
to
SJR 122 Subcommittee
October 22, 2008

Presentation Aims

- PRTC description – who we are and how we “fit” in regional context
- Dissecting what BRT really is
- Describing how PRTC is implementing BRT

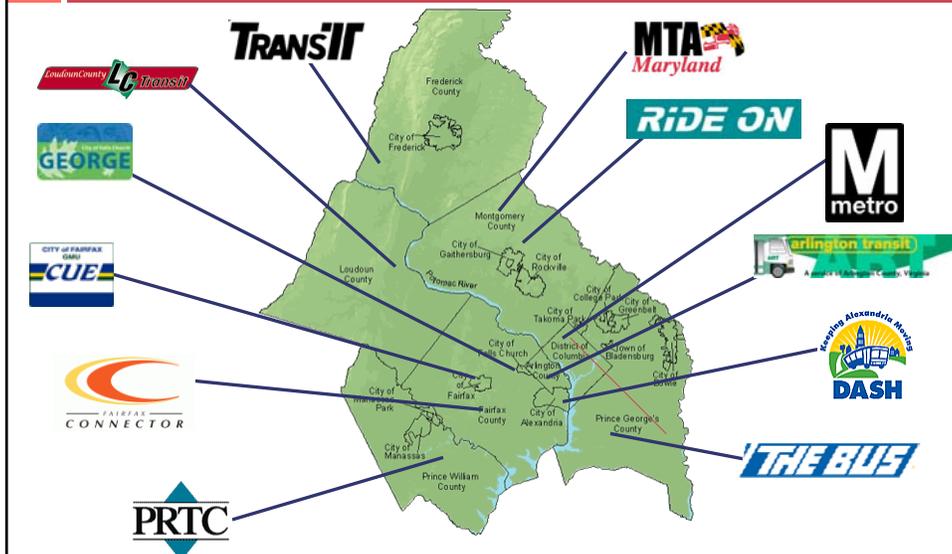
What is PRTC?

- Transportation district comprised of 5 local governments:
 - Prince William County
 - Stafford County
 - City of Manassas
 - City of Manassas Park
 - City of Fredericksburg



- Authorized under state law to plan and operate transit services for residents of member governments
- Provides express bus, local bus, ride-matching, and commuter rail services (the latter in cooperation with NVTC)

Regional Transit Providers



BRT Through the Eyes of an Illustrator



BRT – MORE THAN just the vehicles

- BRT is a set of system / service attributes, including:
 - Travel Time Advantage (over SOVs)
 - Reliability
 - High Frequency
 - Ease of Use
 - Safety and Security
 - Boarding / exiting accommodations (“stations”)
 - Attractive equipment
- These attributes can be realized in a variety of ways, costing more or less (a “continuum”)

Low Cost → High Cost Continuum

- Reliability is a good example of the “continuum”

Low End of Investment Continuum	High End of the Investment Continuum
• Exploit HOV / HOT Lanes	• Exclusive (dedicated) lanes
• Signal prioritization	• Grade separations
• Use of highway shoulders where possible	

- Level of investment needs to be “right-sized” for setting
 - Benefits highly correlated to amount of service provided and usage
 - Amount of service provided is a function of level of operating subsidy, which is principally a local government responsibility
 - Usage a function of development density, “cost” of driving, & comparative attractiveness of modal choices

Bigger / Longer is not necessarily better

45 foot coach bus

- Capacity: 57
- Cost: \$455,000
- **\$8,000/passenger**



60 foot articulated BRT bus

- Capacity: 62
- Cost: \$650,000 to \$850,000
- **\$10,000-\$14,000/passenger**



The level of capital investment must be such that the benefits over the life of the capital investment are commensurate with the costs over the life of the capital investment.

***PRTC's Approach to BRT:
Cost Commensurate With Benefit***



Travel Time Advantage

Idealized Solution:

- Barrier separated bus lanes

PRTC's Solution:

- Using existing HOV/HOT Lanes
- HOV-to-HOT conversion and new HOT on Beltway will make additional destinations faster via bus (Tysons, Merrifield, Shirlington, Belvoir, etc.)
- Plans to explore signal prioritization for buses beginning with the Route One corridor



Reliable

Idealized Solution:

- Real-time bus arrival information at stations, over PDA's/cell phones



PRTC's Solution:

- Buses equipped with AVL/GPS, but currently no predictive capability or real-time information transmittal capability
- Plan in place to enhance existing capabilities – to be implemented in stages
- Real-time information transmittal envisioned as principally PDA/cell phone-based, complemented by a limited number of station monitors at places where large numbers of riders board (e.g., Horner Road park-ride lot, Pentagon)

High Frequency

Idealized Solution:

- Buses no more than 15 minutes apart and more frequent in peak periods

PRTC's Solution:

- Expand service as market / ridership warrants
- Commuter services start as weekday, peak-period only, once every 45 minutes or so
- Some commuter routes are now as frequent as a bus every 8 minutes in the peak periods (e.g., Dale City to DC)
- Commuter routes (OmniRide and Metro Direct) have farebox recovery ratio of 40%; remaining 60% covered by subsidy
 - Federal / State – 48.2% of subsidy
 - Local – 51.8% of subsidy

Easy to Use

Idealized Solution:

- Off-bus fare payment

PRTC's Solution:

- SmarTrip smart card
- Easy to purchase riding privileges
 - Now: at the farebox, at ticket vending machines in Metrorail stations, PRTC Transit Center, commuter stores
 - Imminent: Via point-of-sale (POS) machines in neighborhood businesses (e.g., supermarkets) and governmental offices
 - Within next 12-18 months: automated credit card or banking account withdrawals via Web and phone with multiple pass options



Safe and Secure

Idealized Solution:

- ❑ Staffed transit stations
- ❑ Station and bus security cameras



PRTC's Solution:

- ❑ Commuter bus fleet equipped with cameras
- ❑ Very low accident rate and a history of minimal claims

Concluding Observations

- ❑ Many BRT-like attributes already present at low end of continuum
- ❑ Enhancements "on the drawing board"
 - ❑ Real-time passenger information
 - ❑ More destinations served via HOT lanes
 - ❑ SmartCard passes and more purchase locations/options
- ❑ Partnering with Prince William County, Manassas, and Manassas Park on "transit-oriented development" initiatives
- ❑ Potential for partnerships with neighboring transit providers for suburb-to-suburb commutes

