

# Streetcar Overview

**TPB Access for All (AFA)**

**Advisory Committee**

**April 22, 2010**

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**District of Columbia Department of Transportation**

## **Overview:**

- Planning Process
- Why Streetcars? Why Now?
- System Plan

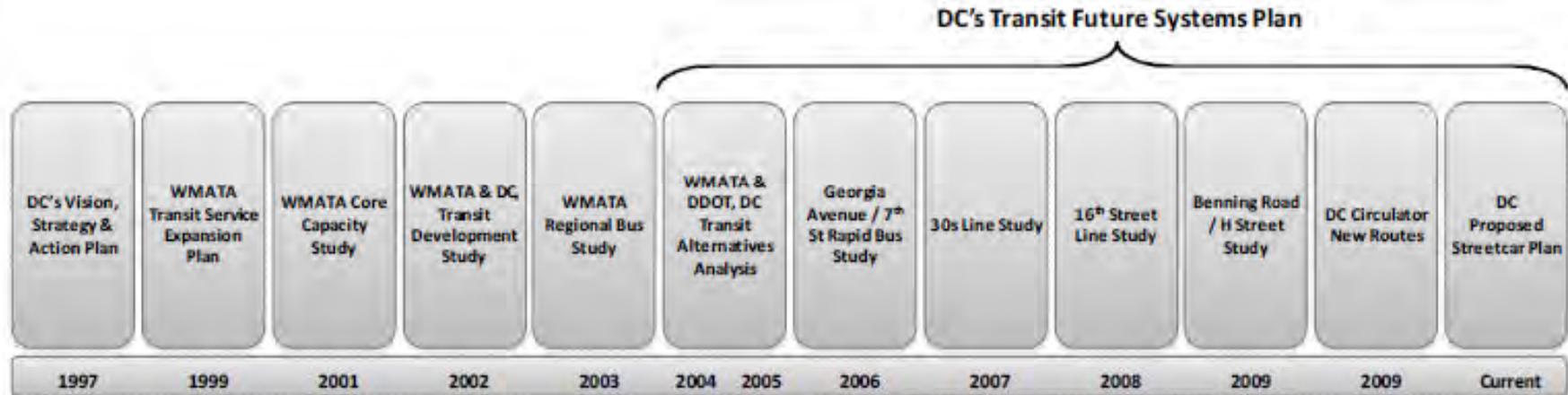
## **Current Projects:**

- Schedule
- Current Projects In-Depth

## **Key Decisions:**

- Funding
- Wires
- Vehicles

# Planning Process



- 1997** The District's *Vision, Strategy, and Action Plan* recommended intra-city connections between the radial WMATA rail lines by designating ten corridors for transit improvements that would connect District neighborhoods and help support community economic development initiatives.
- 1999** WMATA's *Transit Service Expansion Plan* advanced five corridors for further study.
- 2001** WMATA's *Core Capacity Study* identified system-wide rail improvements that will allow the system to accommodate estimated future ridership.
- 2002** DC/WMATA's *Transit Development Study* considered each of the previously-identified corridors for surface rail transit and recommended four priority corridors for implementation.
- 2003** WMATA's *Regional Bus Study* identified bus improvements to serve inside previously-designated corridor and to aid in District circulation and Metrorail system capacity relief.
- 2004-09** DC/WMATA's District of Columbia's *Transit Future Systems Plan* refined a city-wide system plan of enhanced, multi-modal surface transit on designated corridors.

# DC's Transit Improvements Alternatives Analysis 2010

## Purpose:

- To guide infrastructure investments that
  - create/reinforce vibrant & stable neighborhoods,
  - rebuild retail corridors,
  - attract new jobs to the city,
  - & promote sustainable development patterns

## Need:

- Accommodate increasing population & employment growth
- Provide enhanced mobility by improving transit travel times, access to transit, and reliability
- Support economic development
- Address gaps in Metrorail coverage & core capacity



# What are Streetcars?



- Modern streetcars are smooth, quiet, and air-conditioned
- Mostly operate in existing transportation right of ways with mixed traffic
- Powered electrically by overhead wires
  - Can travel short distances without wires to protect viewsheds
- Stations with small shelters spaced every ¼- to ½-mile
- Possible off-board fare collection system

# Why Streetcars?

- Add capacity to the District's transit network
- Stimulate economic development and retail growth in areas not served by Metrorail
- Connect District neighborhoods & retail corridor

## Environmentally Friendly

- Powered electrically, no street-level emissions
- Provides an alternative to driving



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# Why Streetcars now?

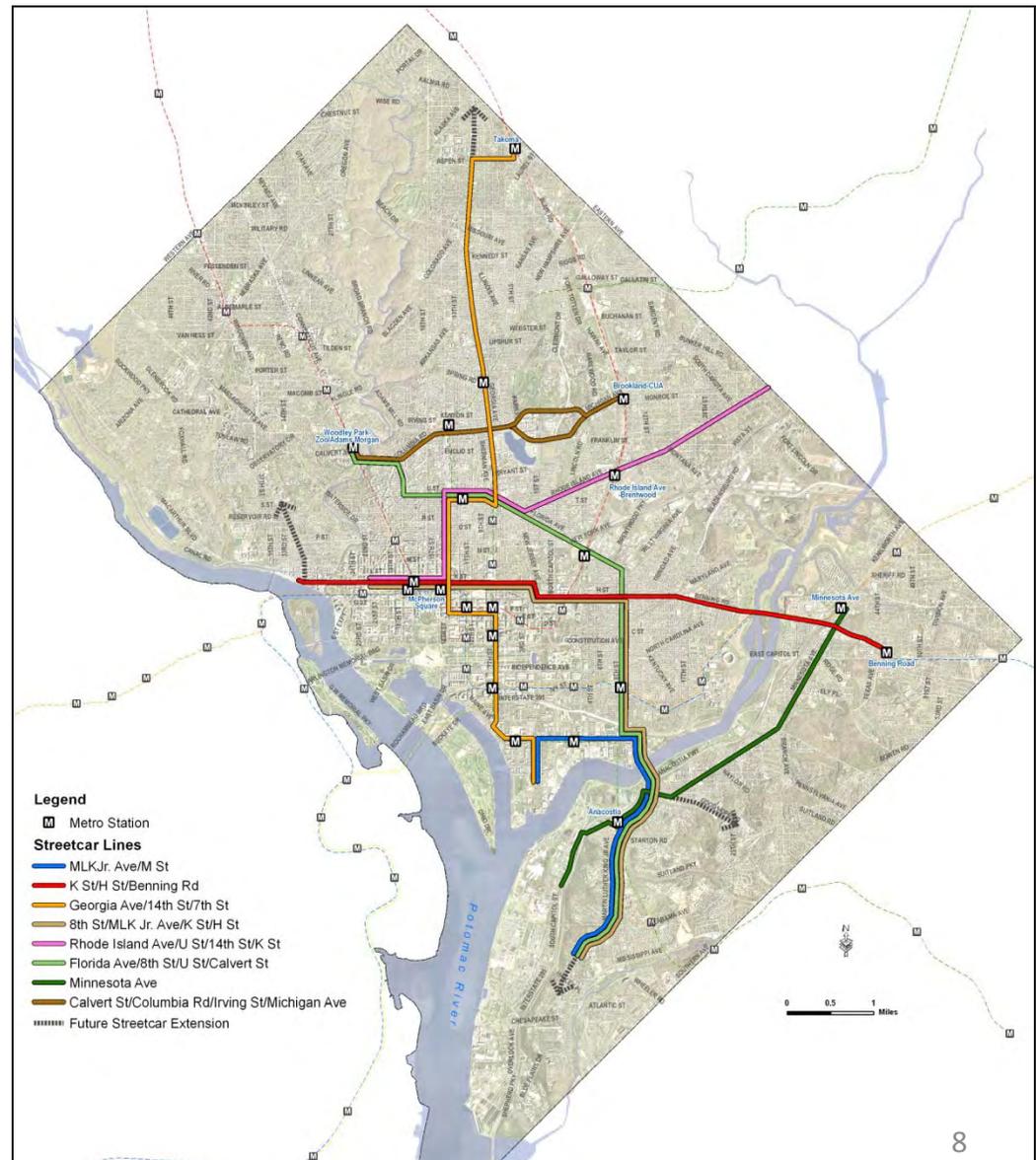
- New transit investments needed to keep up with population and job growth
- Metrorail crowding will be “unmanageable” by 2013
- Strong Council/community support



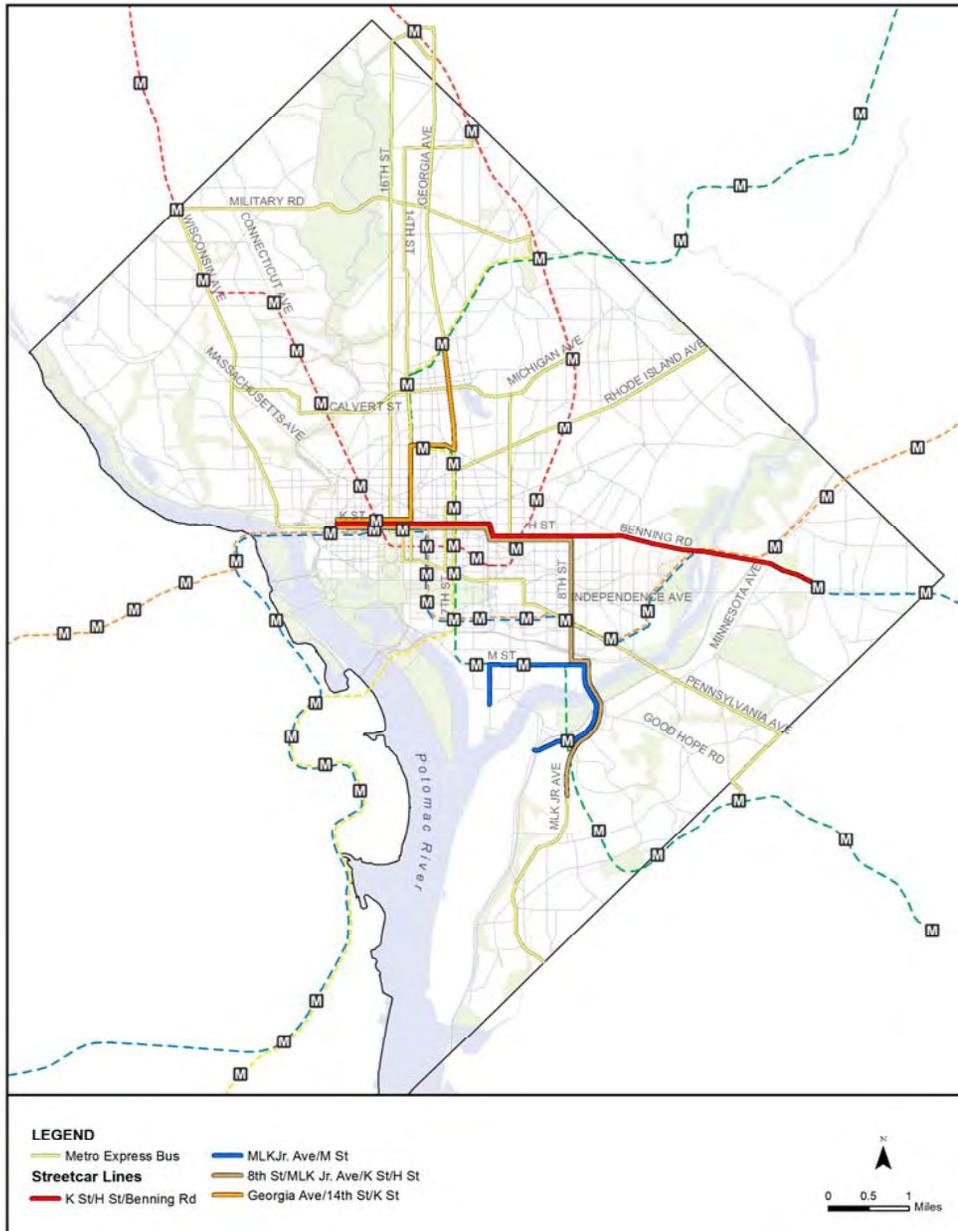
- Obama administration and Congress committed to rail transportation
- Unprecedented opportunity for federal participation through stimulus funding
- Once-in-a-generation infrastructure investments happening throughout the District

# The Future Streetcar Network

- 37 miles of Streetcar lines
- Constructed in 3 phases based on:
  - System connectivity
  - Ridership potential
  - Location of Operations & Maintenance facilities
  - Manageable size

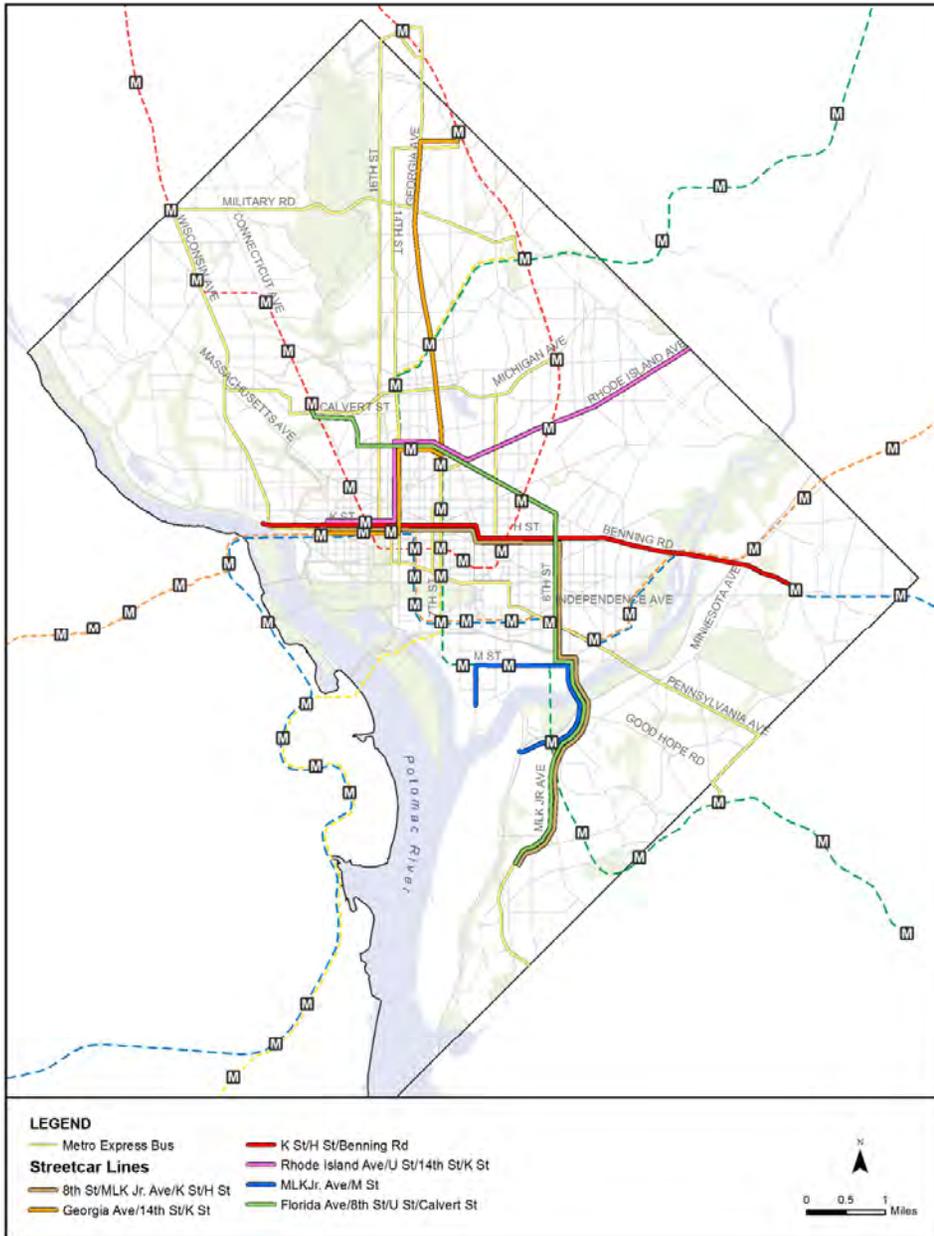


# Streetcar Phase 1



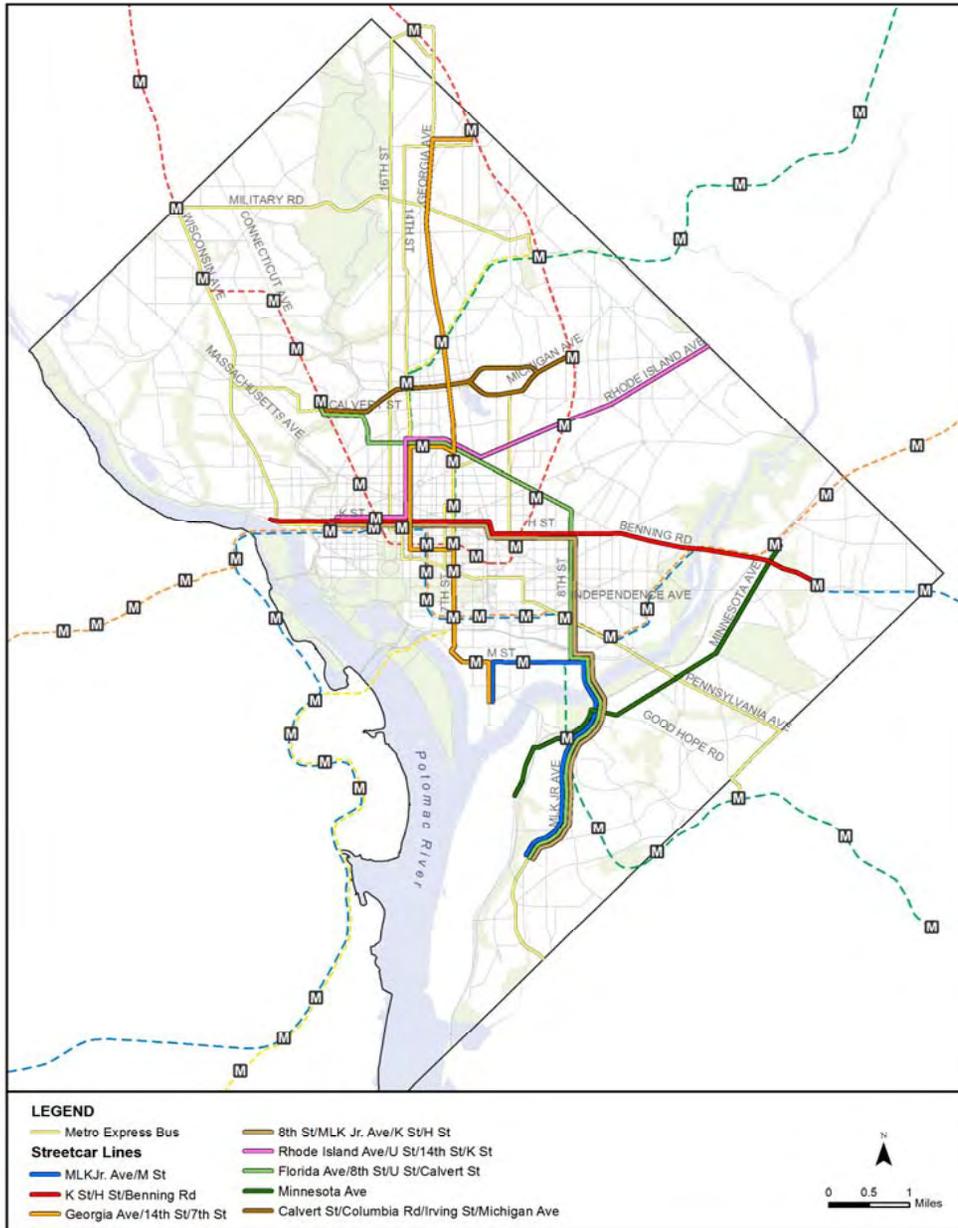
- Miles: 12.45
- Vehicles: 51
- Cost:
  - Vehicles/Track/Infrastructure: \$498M
  - Maintenance/Storage facilities: \$85.9M
- Ridership/Mile: 38,000
- Wards: 1, 2, 5, 6, 7, 8

# Streetcar Phase 2



- Miles: 11.6
- Vehicles: 39
- Cost:
  - Vehicles/Track/Infrastructure: \$464M
  - Maintenance/Storage facilities: \$20.9M
- Ridership/Mile: 25,000
- Wards: 1, 4, 5, 6, 8

# Streetcar Phase 3



- Miles: 10.5
- Vehicles: 37
- Cost:
  - Vehicles/Track/Infrastructure: \$420M
  - Maintenance/Storage facilities: \$36.8M
- Ridership/Mile: 6,000
- Wards: 1, 2, 5, 6, 8

In-Depth

# **CURRENT PROJECTS**

# Streetcar Initial Projects

## Planning:

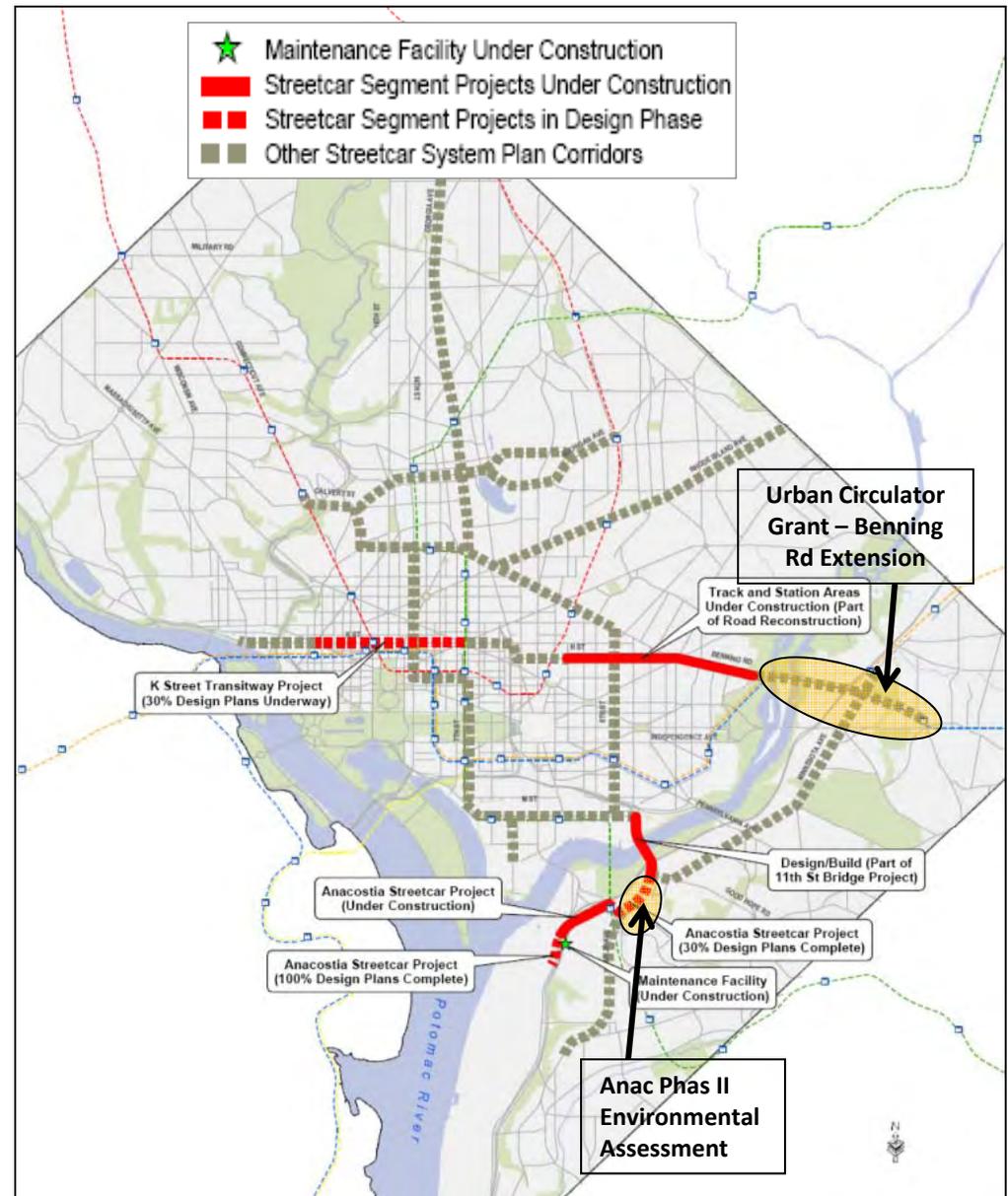
- Benning Rd extension environmental
  - Urban Circulator grant submitted
- Anacostia Phase II environmental
- K St Transitway environmental

## Design:

- H/Benning wires & OCS poles
- 11<sup>th</sup> Street Bridge tracks & OCS poles

## Construction:

- H /Benning tracks & station areas from 3<sup>rd</sup> to Oklahoma
- Anacostia Streetcar Initial Line Segment (AILS)



# H St/Benning Rd

## Project:

- 2 miles; 1,500 riders per day

## Current Status:

- Tracks @ Benning from 16<sup>th</sup> to Oklahoma: Complete
- Tracks @ H St : April 2011
- Starburst Intersection: May 2011

## Next Steps:

- Connect 3rd St NE to Union Station along H St
  - Tunnel under H St bridge to First St
  - Open WMATA passageway between First St & Union Station
- OCS poles and conduit along entire corridor
- Turnaround at Benning Rd & Oklahoma Ave

## Justification:

- Highest ridership bus corridor in DC
- Limited Metrorail access
- High potential for economic development.

## Schedule

- August 2010 – Complete Design
- January 2012 – Complete Construction
- March 2012 – Initiate Service

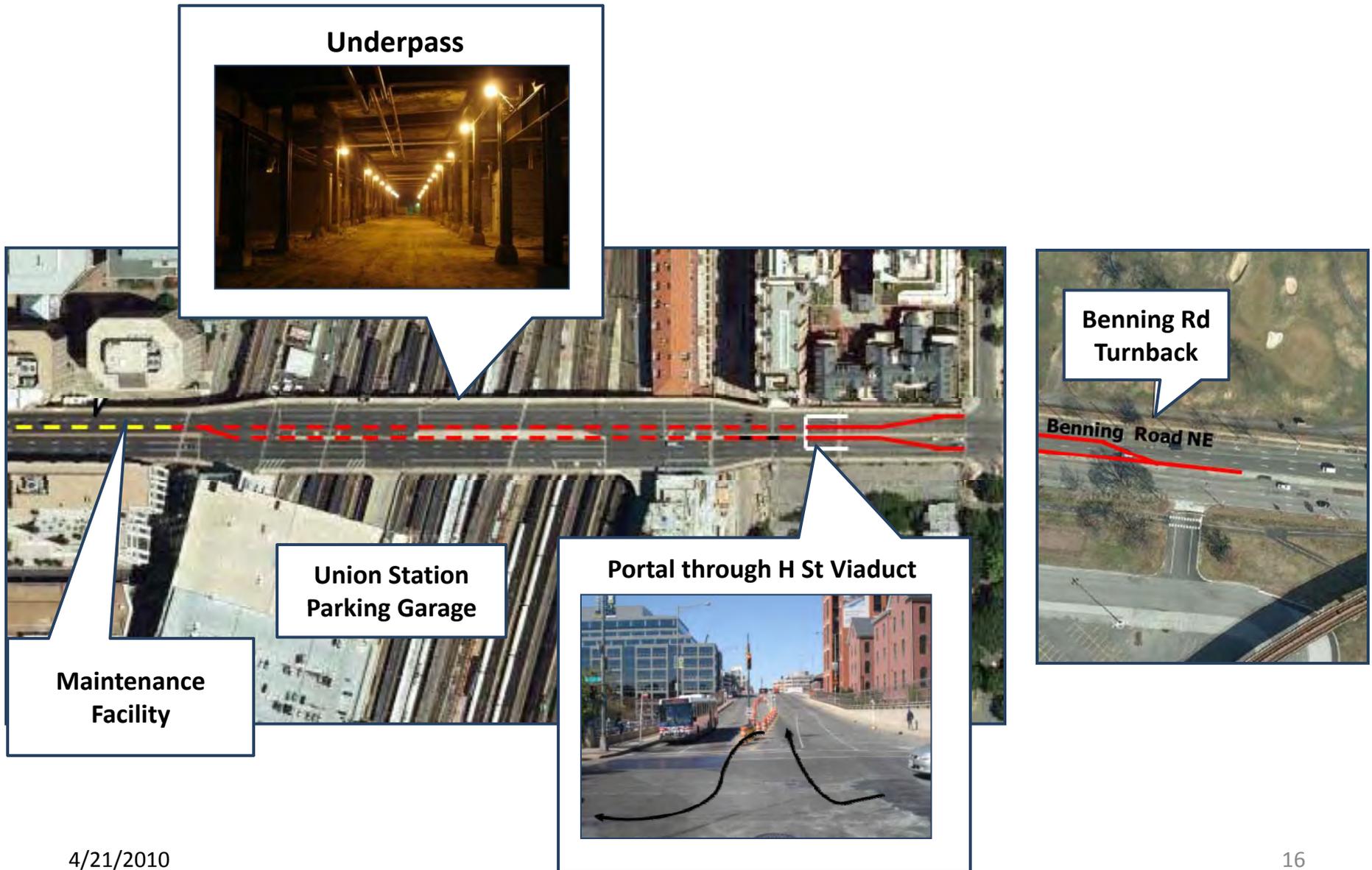


# H St/Benning Rd

Project Area



# H St/Benning Rd



# Benning Rd Extension

## Project:

- 1.95 miles, 4,300 riders
- Connects Benning Rd Metrorail Station to Union Station

## Current Status:

- Submitted Urban Circulator Grant – February 2010

## Next Steps:

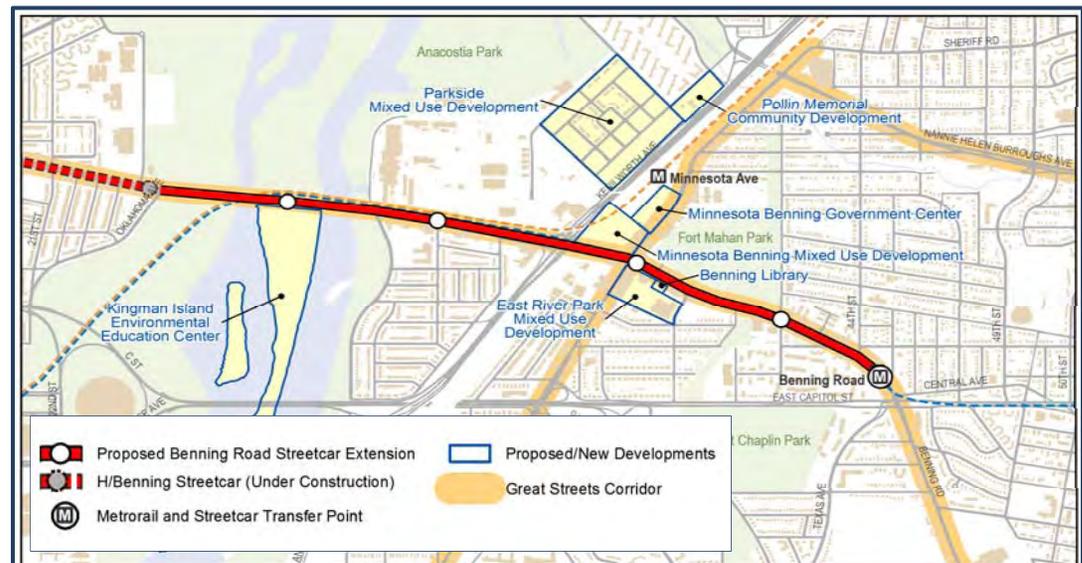
- Environmental analysis – Spring 2010

## Justification:

- Link struggling commercial districts along Benning Rd with emerging business district on H St NE
- Provide low-income residents with access to critical social services

## Schedule

- Spring 2010 – Environmental Analysis
- Spring 2011 – Design
- Fall 2011 - Construction



# Anacostia Initial Line Segment

## Project:

- .75 miles, 375 riders per day
- Connects Barry Farm & Navy Annex
- O&M Facility

## Current Status:

- Construction underway

## Next Steps:

- Phase II Environmental analysis – Spring 2010

## Justification:

- Initial line segment; will connect to MLK businesses & Benning Metro
- Critical OMF location east of the river

## Schedule:

- December 2010 – Complete construction
- March 2011 – Complete O&M Facility
- March 2012 – Initiate service



# 11<sup>th</sup> Street Bridge

## Project:

- Replace & reconfigure deteriorating bridges and ramps at the Anacostia River crossing near 11<sup>th</sup> Street SE
- Include streetcar tracks to accommodate future expansion of AILS across the Anacostia River

## Current Status:

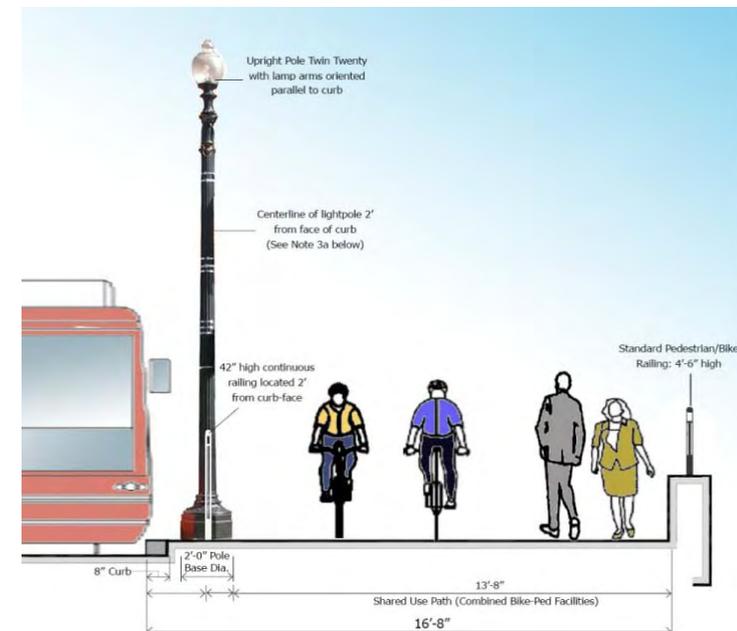
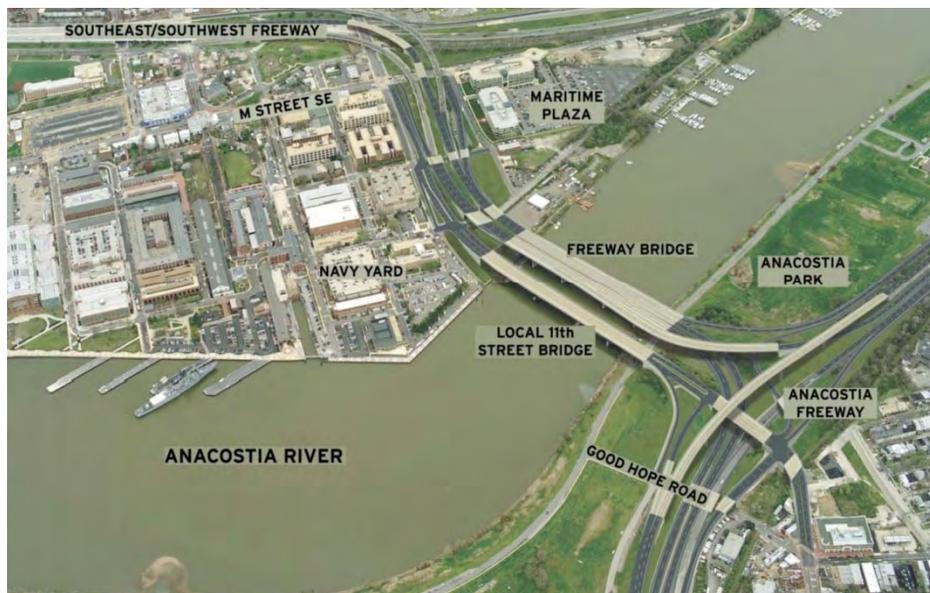
- Design & construction ongoing

## Justification:

- Improve mobility through separate new freeway and local connections
- Provide shared pedestrian/bicycle path and streetcar rails
- Include environmental investments

## Schedule:

- Summer 2013 – Complete construction



# K St Transitway

## Project:

- Reconfiguration of K St to accommodate multimodal travel
- Exclusive transitway within existing ROW

## Current Status:

- Environmental Assessment

## Justification:

- Pavement is in poor condition
- Service lanes are inefficient use of ROW & lead to severe congestion
- Opportunity to improve transit travel times & pedestrian safety

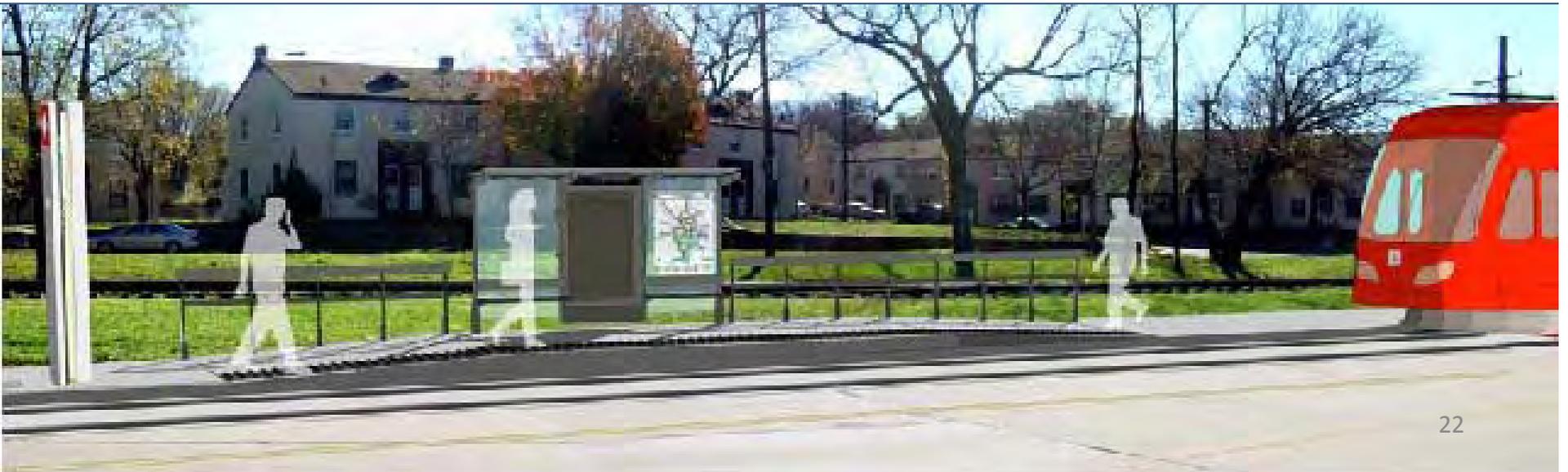


In-Depth

# **KEY DECISIONS**

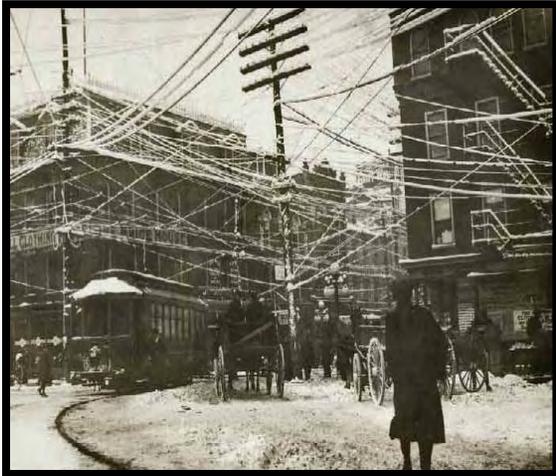
# Key Decisions

- Operating
- Funding
- Vehicles
- Legislative Affairs
- Coalition
- Governance



# Overhead Wires

Then...



## Background

- Local DC statute bans use of overhead wires to power streetcars within the L'Enfant areas
- 1889 Federal law allowed streetcars to operate only under certain conditions (e.g., powered by underground cables)
- Authority to amend this law transferred to the District with the passage of home rule

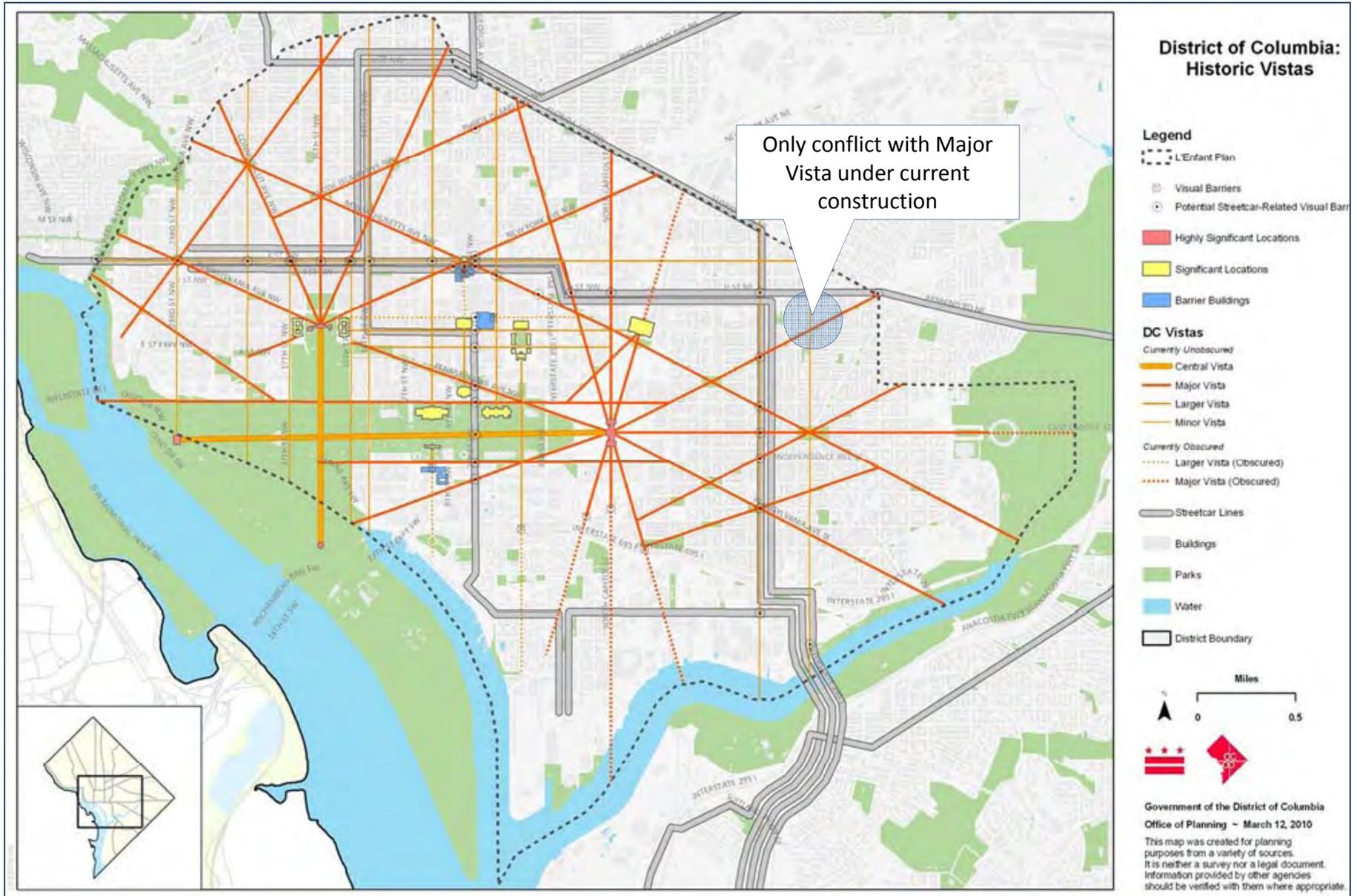
## Proposed Resolution

- Repeal overhead wire ban through FY2011 Budget Support Act
- Maintain ban on overhead wires across central & monumental viewsheds
- Partner with US manufacturer of streetcars to develop streetcar capable of operating without wires for short distances

...Now



# Overhead Wires



## Current Vehicles

- Bi-Directional TRIO 12 cars from INEKON
- Double doors & constant floor height for efficient boarding & alighting
- 40 year service life
- Carry 168 passengers per vehicle



TRIO TYPE 12 COLOR SCHEME AND GRAPHICS APPLICATION - D.C. Streetcar



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# Vehicles

## Fleet Requirements

Phase	Need	Own
Initial Projects		
Anacostia	3	3
H/Benning	6	0
Benning Extension	4-6	0
<b>Subtotal</b>	<b>13-15</b>	<b>3</b>
Phase 1	38	0
Phase 2	39	0
Phase 3	36	0
<b>Subtotal</b>	<b>113</b>	<b>0</b>
<b>Total</b>	<b>126</b>	<b>3</b>

**6 vehicles required in 18 months in order to open operations on H St/Benning Rd**

## Procurement Options

- Need 6 additional vehicles
- Current procurement vehicles available:
  - United Streetcar – Portland
  - Inekon – Seattle
- ***Committed to purchasing American-made vehicles***

## **Costs of full streetcar system:**

- \$1.5B (\$09) capital costs
- \$85M (\$09) annual operating costs

## **Funding strategy:**

- Federal New Starts funding (25%)
- Local government contribution (25%)
- Value capture funding
  - Benefit Assessment District w/ property tax assessments
- User fee funding
  - Farebox revenue
  - Possible parking fee for medium- to high-density properties within  $\frac{1}{4}$  mile of the system

# Benefit Assessment District

## The Goal:

- To create a sustainable funding source for transit improvements

## The Mechanics:

- Government agency partners with private sector property owners to create Benefit Assessment District
- District assesses higher tax rate or special assessment on properties within a defined distance of the fixed guideway or stations
- Rate or assessment is commensurate with and in exchange for the benefits received from the property's enhanced transit accessibility

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