

# FY07 Off-Peak Yellow Line Service Improvements

Increase off-peak rail service in the District of Columbia by extending Yellow Line to Fort Totten

- Weekdays (midday and evening)
- Weekends (Saturday and Sunday – all timeframes)
- 18-month District of Columbia reimbursable project beginning January 2007
- Expense

Operating	\$4.5 M	(for 18 months)
Capital	\$1.25M	<b>(signal work, signs, and maps)</b>
Total	\$5.75M	

Recommend Committee approve increased off-peak rail service. Cost of project will be included as a Reimbursable Project in the FY07 Proposed Budget

# FY07 Off-Peak Yellow Line Service Improvements



PRESENTATION SLIDE

# FY07 Off-Peak Red Line Service Improvements

Increase off-peak rail service on Red Line by eliminating turnbacks at Grosvenor and operating all trains to Shady Grove

- Weekdays (midday only)
- Weekends (Saturday and Sunday – all timeframes)
- To begin January 2007
- 18-month Maryland reimbursable project beginning January 2007
- Expense

Operating	\$2.25 M
Capital	\$ 0 M

Recommend Committee approve increased off-peak rail service. Cost of project will be included as a Reimbursable Project in the FY07 Proposed Budget

# FY07 Off-Peak Red Line Service Improvements

Increase off-peak rail service on Red Line by eliminating turnbacks at Grosvenor and operating all trains to Shady Grove



PRESENTATION SLIDE

**Request for Board Approval for FY07 Off-Peak Service Improvements  
Executive Summary**

**Background**

Responding to local community interests we, with the assistance of the local jurisdictions, have developed strategies to increase rail service using the current rail fleet. Two service improvement proposals are presented that would not require additional car requirements and could be implemented January 2007.

**Yellow Line to Fort Totten or Greenbelt**

Yellow Line extension in the off-peak increases service to the Mid-City Green Line stations. It would address community concerns of “not frequent enough” service; the rapid development and increased ridership in the Columbia Heights, U Street and Petworth neighborhoods; and the interest to support transit-dependent and urban lifestyles. The Mid-City Green Line 2005 weekday, Saturday and Sunday ridership is shown in the table below.

Station	Weekday	Saturday	Sunday
Shaw-Howard Univ	7,900	4,900	2,600
U Street-Cardozo	10,100	8,000	4,200
Columbia Heights	13,900	10,000	7,200
Georgia Avenue	8,600	5,600	3,400
Fort Totten	<u>12,900</u>	<u>6,700</u>	<u>4,000</u>
Total	54,400	35,200	21,400

This extension increases service by extending the Yellow Line in the off-peak<sup>1</sup> hours to Fort Totten or Greenbelt. For example, the majority of the off-peak service is at 12-minute intervals, with this proposal the service increases to 6 minutes. During the other periods when service is operated at 15 or 20-minute intervals, the service would increase to 7 ½ or 10 minutes. The Yellow Line extension to Fort Totten could begin as early as January 2007. The following table (refer to the Attachment for more details) shows the annual operating and capital costs for the extension to Fort Totten. The operating costs include car mileage, propulsion and operator expenses. The one-time capital costs include signal work, station signage and maps.

	Fort Totten	Greenbelt
Annual Operating Cost	\$3.00M	\$6.00M
One-Time Capital Cost	\$1.25M	\$1.25M
Total	\$4.25M	\$7.25M

**RECOMMENDATION**

**Yellow Line to Fort Totten – Off-Peak**

Recommend approval of a six-month demonstration District of Columbia Reimbursable project to extend the Yellow Line extension to Fort Totten in the off-peak. The projected operating expense of \$4.5M for this 18-month demonstration project and a one time capital expense of \$1.25M shall be borne by the District of Columbia with no increase in subsidy to the non-sponsoring jurisdictions.

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<sup>1</sup> Weekdays: 9:30 AM to 3:30 PM and 6:30 PM until closing  
Weekends: All timeframes on Saturday and Sunday

### Red Line Turn backs

Eliminating the Red Line turnbacks in the off-peak would address community, the State of Maryland, and Montgomery County concerns of “not frequent enough” service and the future development of the areas north of the Grosvenor rail station. Additional parking garages have been built to accommodate increased ridership and there are plans for more development and additional parking. Overall, ridership has continued to grow weekdays and Saturdays as shown in the table below.

Station	Weekday	Saturday	Sunday
Grosvenor	10,900	4,600	3,300
Rockville	8,500	3,900	2,300
Shady Grove	26,700	11,600	7,600
Twinbrook	9,000	3,800	2,700
White Flint	<u>7,400</u>	<u>3,100</u>	<u>2,000</u>
Total	62,500	27,000	17,900

This project increases service by extending the Red Line in the off-peak<sup>2</sup> hours to Shady Grove and Glenmont by eliminating the turnbacks at Grosvenor and Silver Spring and would benefit the ridership north of the turnbacks. For example, the majority of the off-peak service is at 12 minute intervals north of the turnbacks (Grosvenor to Shady Grove or Silver Spring to Glenmont). This proposal increases the service from 12 minutes to 6 minutes. During the other periods when service is operated at 15 minute intervals north of the turn- backs, the service would increase to 7 ½ minutes. The elimination of the turnbacks would begin as early as January 2007. The following table (refer to the Attachment for more details) shows the annual operating costs for the elimination of the turnbacks. The operating costs include car mileage, propulsion and operator expenses. There is no capital cost for this project since there are no changes in service maps and there are train routes to Shady Grove and Glenmont.

	Grosvenor	Silver Spring
Annual Operating Cost	\$1.5M	\$1.2M
One-Time Capital Cost	\$ 0M	\$ 0M
Total	\$1.5M	\$1.2M

### Recommendation

Eliminate Grosvenor Turnback – Off-Peak.

Recommend approval a six-month demonstration Maryland Reimbursable project to eliminate the Grosvenor turnback in the off-peak. The projected expense of \$2.25M for a 18-month demonstration project shall be borne by Maryland with no increase in subsidy to the non-sponsoring jurisdictions.

### Attachments

Elimination of Red Line Turnbacks Service Options and Preliminary Cost Estimate.  
Increase Rail Service to the Mid City Green Line Stations.  
Letter from the District of Columbia Council to the Mayor.

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<sup>2</sup> Weekdays: 9:30 AM to 3:30 PM  
Weekends: All timeframes on Saturday and Sunday

<b>Service Concept</b>	<b>Annual Operating Cost</b>	<b>1 Time Capital Cost</b>	<b>Benefits</b>
Shady Grove Off-Peak	\$1.5M	None. Rail cars are available.	Increased service to stations north of Grosvenor - Stathmore.
Silver Spring Off-Peak	\$1.2 M	None. Rail cars are available.	Increased service to stations north of Silver Spring.
Shady Grove Peak	\$3.0 M	Need 36 Rail cars (\$90M or allocate from new car delivery).	Increased service to stations north of Grosvenor - Stathmore.
Silver Spring Peak	\$2.4M	Need 28 Rail cars (\$70M or allocate from new car delivery).	Increased service to stations north of Silver Spring.



# Washington Metropolitan Area Transit Authority

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## Increase Rail Service to the Mid City Green Line Stations



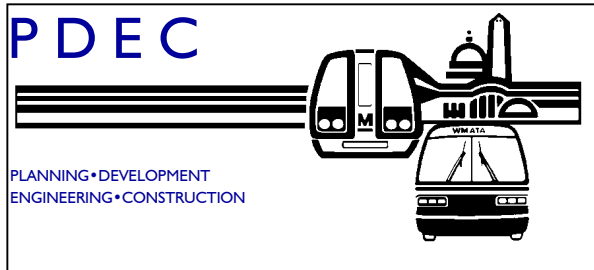
*Presented to the Board of Directors:*

Planning and Development Committee

*by*

Planning, Development, Engineering & Construction

March 2, 2006







# I. Purpose

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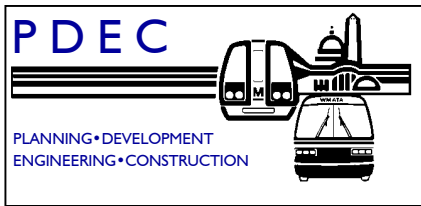
To update the Planning and Development Committee on the studies staff performed to determine the feasibility of increasing rail service to the Mid City Green Line Stations.



## II. Background

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- Councilmember Graham, a WMATA Board member; Scott Pomeroy, representing the Mid-City business association; and ANC 1B have proposed extending the Yellow Line to their neighborhood;
- At the November 9<sup>th</sup> WMATA Town Hall Meeting the following statements were made by the public concerning increased service to the Mid-City Green Line stations:
  - Green Line train service during the mid-day, late night, and weekend periods is not frequent enough,
  - The Columbia Heights, U Street, and Petworth neighborhoods are all experiencing rapid development and Metrorail capacity should be expanded to keep pace with development,
  - Metrorail service should be frequent enough to support transit-dependent, urban lifestyles, not just commuting.
- In response, WMATA staff studied the feasibility of increasing rail service to the U St., Columbia Heights and Georgia Ave. neighborhoods at the Mid-City Green Line stations.

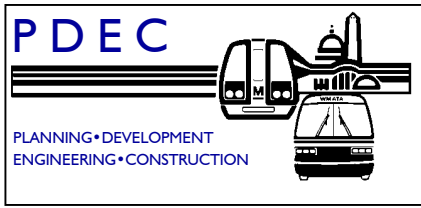


# III. Current Green Line Ridership

- Scheduled headways for the Yellow and Green Lines are as follows:
  - Weekday Peak Hours (6-9:30am & 3:30-7pm) have 6 minute headways (10 trains per hour)
  - Weekday Mid-day and Evening have 12 minute headways (5 trains per hour)
  - Saturday has a 12 minute headway mid-day and a 15 minute evening headway (5 & 4 trains per hour, respectively)
  - Sunday has a 15 minute headway (4 trains per hour)
  - Late Night (all days after 9:30 pm) has a 20 minute headway (3 trains per hour)
- Where two lines serve a station (i.e. Mt. Vernon Square/Convention Center) the headways are halved and the number of trains per hour is doubled.

## Average Ridership Profile for November, 2005

Station	Avg. Peak Weekday	Avg. Off-Peak Weekday	Total Weekday	Avg. Saturday	Avg. Sunday
Shaw/Howard	4,800	3,100	7,900	4,900	2,600
U St.	6,100	4,000	10,100	8,000	4,200
Columbia Heights	8,900	5,000	13,900	10,000	7,200
Ga. Ave.	5,600	3,000	8,600	5,600	3,400
Ft. Totten	9,000	3,900	12,900	6,700	4,000
<b>Total (Shaw – Ft. Totten)</b>	<b>34,400</b>	<b>19,000</b>	<b>53,400</b>	<b>35,200</b>	<b>21,400</b>



# IV. Service Improvement Concepts Off-Peak Periods

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- Increasing service during the peak periods would require a significant capital investment as discussed later in this presentation;
- Meanwhile, there are four concepts that offer additional service to the U St., Columbia Heights and Ga. Ave. neighborhoods during the off-peak periods only.

## Service Concepts

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|--|--|
| <b>I. Increase Green Line Service Levels</b>               | Increase off peak service to 6 minute headways (i.e. 10 trains/hour).  |
| <b>II. Extend Yellow Line Service to Greenbelt</b>         | Extend Yellow Line service north of Mt. Vernon Square to Greenbelt during non-peak periods & weekends.         |
| <b>III. Extend Yellow Line Service to Ft. Totten</b>       | Extend Yellow Line service north of Mt. Vernon Square to Fort Totten during non-peak periods & weekends.       |
| <b>IV. Extend Yellow Line Service to Ga. Ave./Petworth</b> | Extend Yellow Line service north of Mt. Vernon Square to Ga. Ave./Petworth during non-peak periods & weekends. |



# IV. Service Improvement Concepts Analysis, Off-Peak

	<b>Service Concepts</b>	<b>Capital Cost (millions)</b>	<b>Annual Operating Cost (millions)</b>	<b>Benefits in addition to more service to the Mid-City Green Line Stations</b>	<b>Operational Risks</b>
<b>I.</b>	<b>Increase Green Line Service Levels</b>	\$0.00	\$10	Increased service to the northern and southern ends of the Green Line as well as the Anacostia waterfront	None
<b>II.</b>	<b>Extend Yellow Line Service to Greenbelt</b>	\$1.00	\$5	Increased service to the northern end of the Green Line and additional Yellow Line connectivity to the Red Line	None
<b>III.</b>	<b>Extend Yellow Line Service to Ft. Totten</b>	\$1.25	\$3	Additional Yellow Line connectivity to the Red Line	Mitigated with the capital investment
<b>IV.</b>	<b>Extend Yellow Line Service to Ga. Ave./Petworth</b>	\$2.40	\$2	None	Mitigated with the capital investment

- The above capital costs are Rough Order of Magnitude (ROM) engineering estimates based on conceptual design; the Operations and Maintenance costs similarly are ROM estimates based on a limited operations planning analysis.



# V. Service Improvement Concepts, Peak Periods

- Four concepts offer additional service to the U St., Columbia Heights and Ga. Ave. neighborhoods during peak periods only.

## Service Concepts

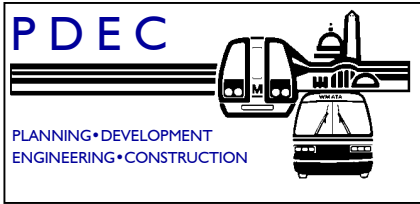
- |  |   |
|--|---|
| <b>I. Increase Green Line Service Levels</b>               | Convert Green Line service to 3 minute headways during the peak periods (comparable to Red Line service). |
| <b>II. Extend Yellow Line Service to Greenbelt</b>         | Extend Yellow Line peak period service north of Mt. Vernon Square to Greenbelt.                           |
| <b>III. Extend Yellow Line Service to Ft. Totten</b>       | Extend Yellow Line peak period service north of Mt. Vernon Square to Fort Totten.                         |
| <b>IV. Extend Yellow Line Service to Ga. Ave./Petworth</b> | Extend Yellow Line peak period service north of Mt. Vernon Square to Ga. Ave./Petworth.                   |



# V. Service Improvement Concepts Analysis, Peak Periods

	<b>Service Concepts</b>	<b>Capital Cost (millions)</b>	<b>Annual Operating Cost (millions)</b>	<b>Benefits in addition to more service to the Mid-City Green Line Stations</b>	<b>Operational Risks</b>
<b>I.</b>	<b>Increase Green Line Service Levels</b>	\$350	\$10	Increased service to the northern and southern ends of the Green Line as well as the Anacostia waterfront	None
<b>II.</b>	<b>Extend Yellow Line Service to Greenbelt</b>	\$200	\$5	Increased service to the northern end of the Green Line and additional Yellow Line connectivity to the Red Line	None
<b>III.</b>	<b>Extend Yellow Line Service to Ft. Totten</b>	\$150	\$3	Additional Yellow Line connectivity to the Red Line	Mitigated with the capital investment
<b>IV.</b>	<b>Extend Yellow Line Service to Ga. Ave./Petworth</b>	\$375	\$2	None	Mitigated with the capital investment

- The above capital costs are Rough Order of Magnitude (ROM) engineering estimates based on conceptual design; the Operations and Maintenance costs similarly are ROM estimates based on a limited operations planning analysis.



# VI. Service Improvement Concepts Capital Investments

	<b>Service Concepts</b>	<b>Capital Investments Off Peak</b>	<b>Capital Investments Peak</b>
<b>I.</b>	<b>Increase Green Line Service Levels</b>	None	Purchase 120 Rail cars Upgrades to rail yard(s)
<b>II.</b>	<b>Extend Yellow Line Service to Greenbelt</b>	New signage and maps	Purchase 60 Rail cars Upgrades to rail yard(s) New signage and maps
<b>III.</b>	<b>Extend Yellow Line Service to Ft. Totten</b>	Revise wayside signals New signage and maps	Purchase 30 Rail cars Upgrades to rail yard(s) Cut & Cover Turnback tunnel New signage and maps
<b>IV.</b>	<b>Extend Yellow Line Service to Ga. Ave./Petworth</b>	Overhaul wayside signals New signage and maps	Purchase 20 Rail cars Mined Turnback tunnel New signage and maps

- Increases in operating costs are driven by an increase in the number of operator hours, increased electricity usage and increased maintenance of rail vehicles.





## VII. Additional Option

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- In addition to the above concepts for increased peak service, the Board has been briefed on a concept for a revision to the operation of the Blue Line
- The revised operation would divert 5 Blue Line trains per peak hour of operation to Greenbelt increasing service to the Mid City Green line stations by 50%
- This revised operating plan improves Orange and Blue operation because the Rosslyn portal is currently exceeding design train throughput



## VIII. Summary

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- WMATA was requested to assess to possibility of extending Yellow Line Service to the Mid City Green Line Stations
- There are a range of concepts that achieve the desired service improvements
- Feedback received at two community meetings was positive and endorsed extending the Yellow Line to Ft. Totten in the off peak periods



# Next Steps

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- Obtain Budget Committee and Board approval to include the yellow line extension as a DC Reimbursable Project in the FY07 approved budget.
- Upon approval of the Board complete all preparation work for the demonstration project from July 1 thru December 2006
- Start passenger service by January 2007 for six months.



**PDEC**  
 PLANNING • DEVELOPMENT  
 ENGINEERING • CONSTRUCTION

JANUARY, 2005

# WMATA - METRORAIL SYSTEM MAP

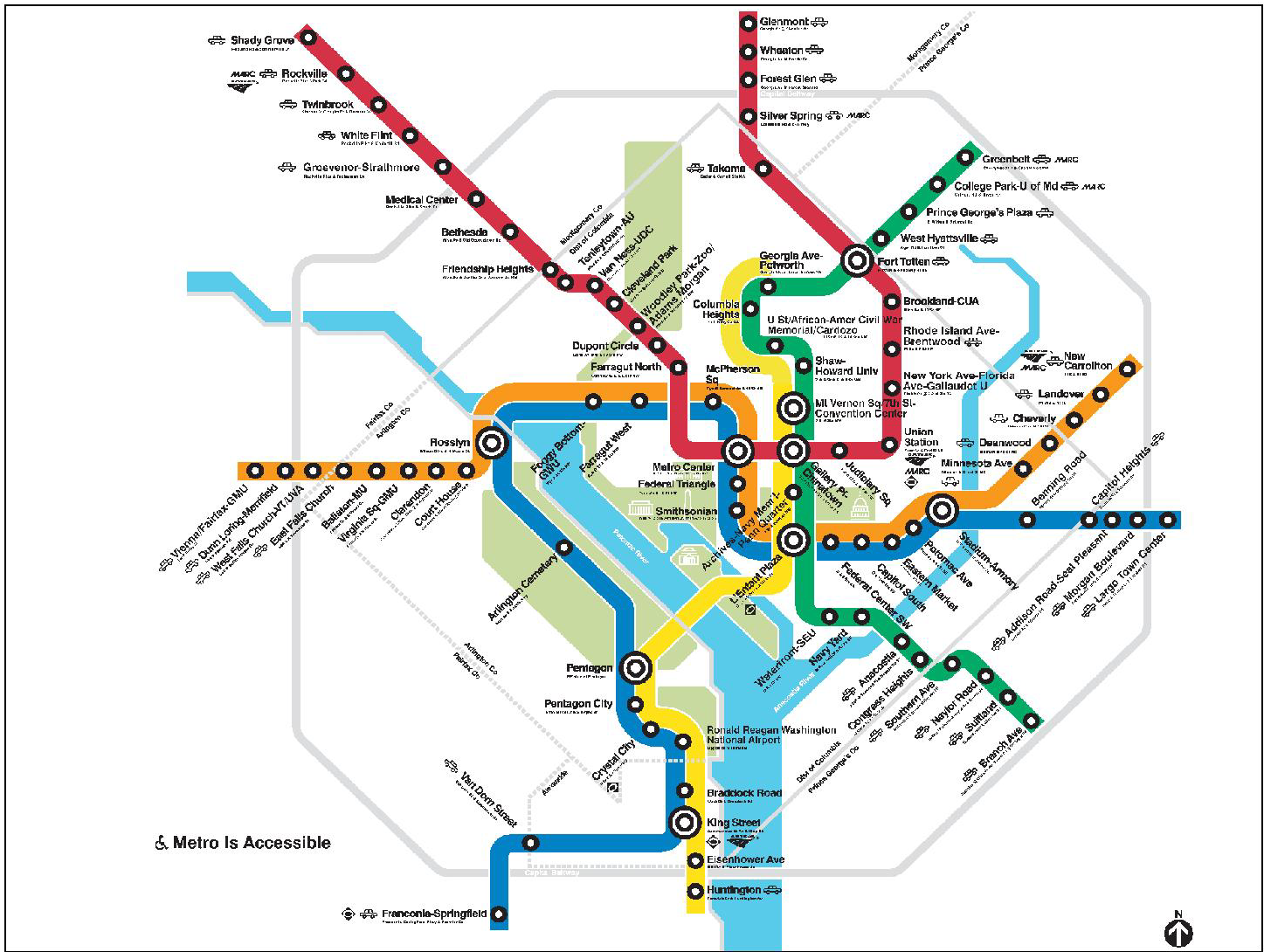
## CONCEPT II - YELLOW LINE SERVICE TO GREENBELT



# WMATA - METRORAIL SYSTEM MAP

## CONCEPT III - YELLOW LINE SERVICE TO FORT TOTTEN

JANUARY, 2005



JANUARY, 2005

# WMATA - METRORAIL SYSTEM MAP

## CONCEPT IV - LINE SERVICE TO GEORGIA AVE.





♿ Metro Is Accessible



# WMATA - METRORAIL SYSTEM MAP

## CONCEPT I - BLUE LINE SERVICE TO GREENBELT

JANUARY, 2005

SUBJECT: FY07 OFF-PEAK SERVICE IMPROVEMENTS

PROPOSED  
RESOLUTION  
OF THE  
BOARD OF DIRECTORS  
OF THE  
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WHEREAS, The staff presented FY07 Rail Service Strategies for the Off-Peak Service Improvements to the April 20, 2006 Customer Service, Operations and Safety Committee; and

WHEREAS, On April 20, 2006, the Operations and Safety Committee approved the Off-Peak Service Improvements to Extend the Yellow Line to Fort Totten in the Off-Peak as an eighteen-month demonstration District of Columbia Reimbursable Project beginning with the January 2007 pick; and

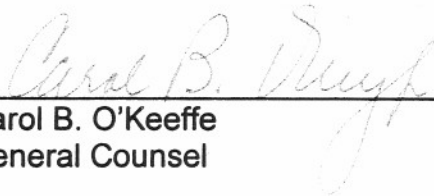
WHEREAS, On April 20, 2006, the Operations and Safety Committee approved the Off-Peak Service Improvements to Increase Service on the Red Line by Eliminating the Grosvenor Turnback in the Off-Peak as an eighteen-month demonstration Maryland Reimbursable Project beginning with the January 2007 pick; now, therefore be it

*RESOLVED*, That an eighteen-month demonstration District of Columbia Reimbursable Project to Extend the Yellow Line to Fort Totten in the Off-Peak beginning with the January 2007 pick be established; and be it further

*RESOLVED*, That an eighteen-month demonstration Maryland Reimbursable Project to Eliminate the Grosvenor Turnback in the Off-Peak beginning with the January 2007 pick be established; and be it finally

*RESOLVED*, That the first six months of costs of each such demonstration project are contained in the Proposed FY07 Budget with the remaining twelve months' costs to be placed in the proposed FY08 budget and shall be borne by the sponsoring jurisdictions with no increase in subsidy to the non-sponsoring jurisdictions.

Reviewed as to form and legal sufficiency,

  
\_\_\_\_\_  
Carol B. O'Keeffe  
General Counsel