Construction Efficiency and Constraining Factors
Construction Efficiency and Constraining Factors

PURPOSE:
Overview of how to increase time available in the trackway for system renewal, improve production efficiency levels while maintaining contract schedules.

DESCRIPTION:
Conveys the capital improvement program from 2011 to 2016 detailing the components associated with improving productivity:

- Projected expenditures in terms of the value that will require track rights.
- Key projects requiring access
- Resource requirements
- Detail project plan by line
- Track access considerations
- Line segment block outage scheduling efficiency
- Customer support

FUNDING IMPACT:
None

RECOMMENDATION:
Implement a strategy that consolidates work from many functional groups into weekend single tracking or shut-down events.
Construction Efficiency and Constraining Factors

Customer Service and Operations Committee

June 9, 2011
Background

- Customer Service, Operations and Safety Committee
  October 22, 2009
  - Columbus Day Holiday Weekend – Rail Service Suspension

- Customer Service & Operations Committee
  January 13, 2011
  - Scheduled Rail Disruptions for 2011

- Customer Service & Operations Committee
  March 10, 2011
  - Operational Access Per Hour
Purpose

• Increase time available in the trackway for system renewal

• Improve production efficiency levels

• Keep the project schedules on “track”

• Meeting capital program schedules
FY2011 - FY2016 Capital Program

FY2011- FY2016 Cumulative Expenditures

- CIP Projects Req. Track Rights
- CIP Projects Not Req. Track Rights

- $2,998M
- $2,117M
- $5,115M

FY2011-FY2016
### Key Projects Requiring Track Access

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<th>Project Name</th>
<th>FY10</th>
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<th>FY12</th>
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- **Dupont Circle to Silver Spring**: Nov 2013
- **Stadium Armory to National Airport**: July 2014
- **West Falls Church to Dulles Airport**: Dec 2013
- **Silver Line - Phase I**: Oct 2012
## Work Requiring Track Time

<table>
<thead>
<tr>
<th>Project Scopes of Work</th>
<th>Red Line</th>
<th>Orange/Blue Line</th>
<th>NTSB Projects</th>
<th>Capital Rehabilitation (Force Account)</th>
<th>Green/Yellow Line</th>
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Resource Requirements

• Management Support – staff currently in place or authorized for hire
  – WMATA Staff
  – Consultant Staff

• Project Implementation – contracts currently in place
  – Rehabilitation and renovation contracts
  – JOC task order contracts
  – Capital force accounts

• Track Access – the final piece that is required
  – Daily Early Outs
  – Weekend Single Tracking
  – Weekend Shut-Downs
  – Daytime Off-Peak
Detail Planning for Red Line

[Map of Red Line stations and routes, with details for specific years and stations listed.]

- A 260+00 Tenley Town AU
- A 201+60 Ven Ness UDC
- A 168+40 Cleveland Park
- A 131+00 Woodley Park
- A 068+40 Dupont Circle
- A 041+33 Farragut North
- A 000+00 Metro Center
- B 015+00 Gallery Place
- B 034+70 Judiciary Square
- B 069+08 Union Station
- B 104+07 New York Ave
- B 162+20 Rhode Island Ave
- B 207+73 Brookland CUA
- B 278+76 Fort Totten

[Key and other details related to the map and station information.]
Current Track Access

- **Black-Out Dates** (No service disruptions)
  - Cherry Blossom Festival
  - July 4th
  - Thanksgiving Weekend
  - Demonstrations and Select Events
  - Christmas and New Years

- **Non-Revenue**
  - Sunday through Thursday - 1:00 am to 4:00 am
  - Friday and Saturday - 4:00 am to 6:00 am

- **Early-Outs**
  - Sunday through Thursday - 8:00/10:00 pm to 4:00 am
  - Only one single tracking event per route
  - When single tracking, headways not to exceed 25 minutes
Track Access Considerations

- **Early Closing System Wide (Fri/Sat)**
  - Not Desired by Region or Customers
  - Net Gains for Capital Efforts
  - Net Gains for Maintenance Efforts
  - Resource Impacts Internally to Sustain

- **Partial Line Early Close**
  - Not Desired by Region or Customers
  - Communication & Logistics Issues for Customers
  - Net Gains for Capital Efforts
  - Net Gains for Maintenance Efforts
  - Resource Impacts Internally to Sustain
### NTSB Track Circuit Module Replacement

#### Scheduling Variance by Outage Type, Red-Line Sample

<table>
<thead>
<tr>
<th>Outage Type</th>
<th>Qtr 3 2011</th>
<th>Qtr 4 2011</th>
<th>Qtr 1 2012</th>
<th>Qtr 2 2012</th>
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**Note:** Use of the 55-80 hour track outage scheme will reduce the track circuit installation schedule by up to 91 weeks.
Plan Going Forward

• Increase productivity through more track time with:
  – More frequent rail service suspensions
  – Combined single tracking with suspension of rail service

• Strategy
  – Consolidate work from many functional groups into weekend single tracking or major service suspension events
  – Apply as many work crews as safely possible to areas out of service, and work all hours available
Major Rail Construction Weekends Through December 2012

• **Holiday Weekends**
  - Labor Day 2011 - Telegraph Road - Guarded #8’s
  - Columbus Day 2011 - U-Street - Guarded #8’s
  - Veterans Day 2011 - Navy Yard and Anacostia - Guarded #8’s
  - Martin Luther King 2012 - Federal Center - Guarded #8’s
  - Presidents Day 2012 - Clarendon - Guarded #8’s
  - Memorial Day 2012 - College Park & Prince Georges Plaza - Guarded #8’s
• On-Going Work

  – Red Line – NTSB, Capital/Line Rehabilitation
    o Train Control Modules & Line Segment Contract 2011 & 2012

  – Orange Line – NTSB, Capital/Line Rehabilitation, System Expansion
    o Line Segment Contract 2011 & 2012
    o Dulles extension 2011 & 2012

  – Blue Line – NTSB, Capital/Line Rehabilitation
    o Line Segment Contract 2011 & 2012

  – Green/Yellow Line – NTSB, Capital Rehabilitation
Planned Single Tracking

- **Weekend Single Tracking Events through December 2012**
  - **Red Line** – 2 out of every 3 weekends
    - Line Rehabilitation Contract
    - Farragut North
    - NTSB
    - Capital Rehabilitation
    - Neutral Host
  - **Orange/Blue Line** – 2 out of every 3 weekends
    - Line Rehabilitation Contract
    - Dulles Extension
    - Capital Rehabilitation
    - Neutral Host
  - **Green/Yellow Line**
    - Capital Rehabilitation
    - Neutral Host
**Customer notification begins at least one month in advance**

- Multiple news releases, media briefings, web site postings
- Direct customer outreach
  - eAlerts
  - Twitter
- Stakeholder, business community involvement
  - Notification to over 200 community groups, BIDs
  - Briefings for impacted BIDs, groups
  - Weekly email for government stakeholders
Customer Notification and Support

- Advance notification in the system
  - Station and onboard announcements
  - PIDS
  - Take-ones
  - Station signage, banners

- Added customer notification closer to the event
  - Paid advertising
  - Call Center automated voice response recording

- On site assistance during the work
  - Shuttle buses
  - Metro Information Persons
  - Police Support