

On July 15th, the TAG was presented with results from the first set of model results of the 2040 CLRP and the Rail Interline and North-South Yellow Line Strategies.



Overview of Presentation

- Review of MWCOG Constrained Long Range Plan (CLRP)
- Definition of Alternatives
 - Max CLRP
 - Interline Connection Option 1
 - New North-South Yellow Line 10th St. SW/NW
 - New North-South Yellow Line 2nd St. SE/NE
- Impact on Ridership and Capacity
- Preliminary Evaluation



Washington Metropolitan Area Transit Authority




REVIEW OF MWCOC CONSTRAINED LONG RANGE PLAN (CLRP)

07/15/2010

Regional Transit System Plan

3



Washington Metropolitan Area Transit Authority

Base of Comparison: 2040 CLRP*

(*MWCOG 2030 CLRP Modeled with 2040 Land Use)

- District of Columbia
 - Anacostia Streetcar Phase I
 - K Street Busway
- Maryland
 - Corridor Cities Transitway, Shady Grove to COMSAT
 - Purple line, Bethesda to New Carrollton
 - University Boulevard Bus Enhancements
 - Veirs Mill Road Bus Enhancements
- Virginia
 - Cherry Hill VRE Station
 - Crystal City Potomac Yard Busway
 - Dulles Corridor Rapid Transit (to Loudoun County)
 - I-495 HOT Lane Transit Service
 - Potomac Yard Metrorail Station
 - Potomac Yard Transitway
 - Columbia Pike Streetcar

07/15/2010 Regional Transit System Plan 4

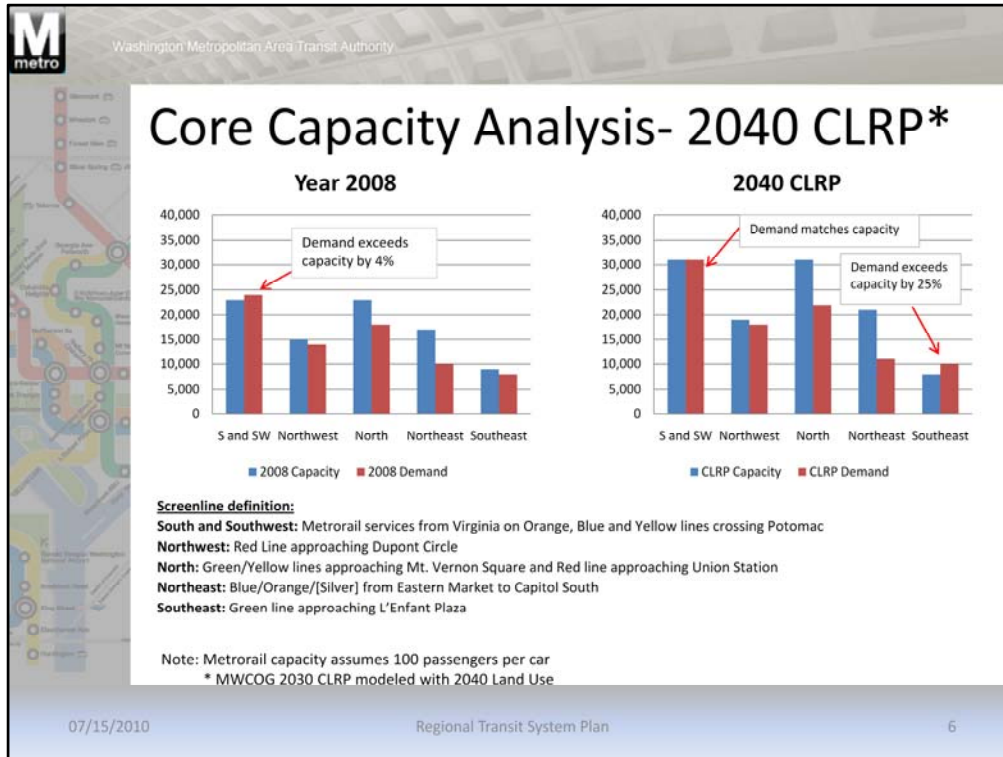
The projects above were included in the modeled 2030 CLRP with 2040 Land Use projections.



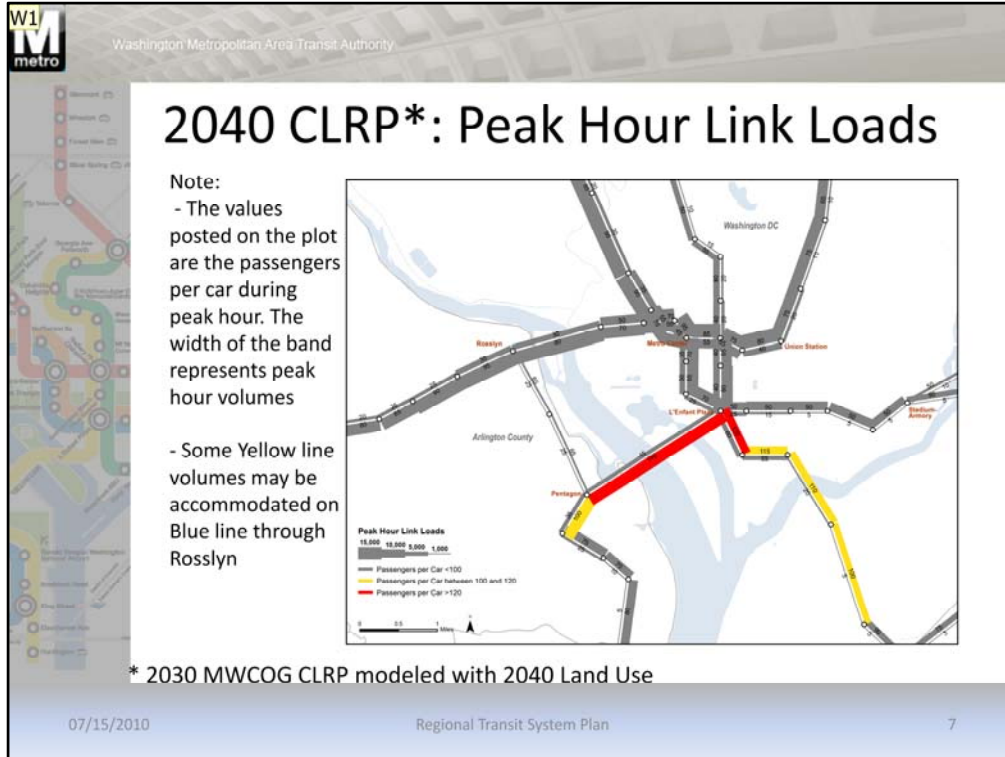
Modeled 2008 and 2040 CLRP* Transit Boardings

Ridership Summary by Operator	2008 Modeled Weekday Boardings	2040 CLRP Modeled Weekday Boardings - Alt M1	Growth % from 2008 to 2040
Metrorail	786,000	1,041,000	32%
Commuter Rail	43,000	52,000	21%
Metrobus - District of Columbia	239,000	289,000	21%
Metrobus - Maryland	138,000	166,000	20%
Metrobus - Virginia	84,000	101,000	20%
New Premium Transit	0	69,000	--
Other Bus Operators	136,000	193,000	42%
TOTAL TRANSIT BOARDINGS	1,425,000	1,911,000	34%

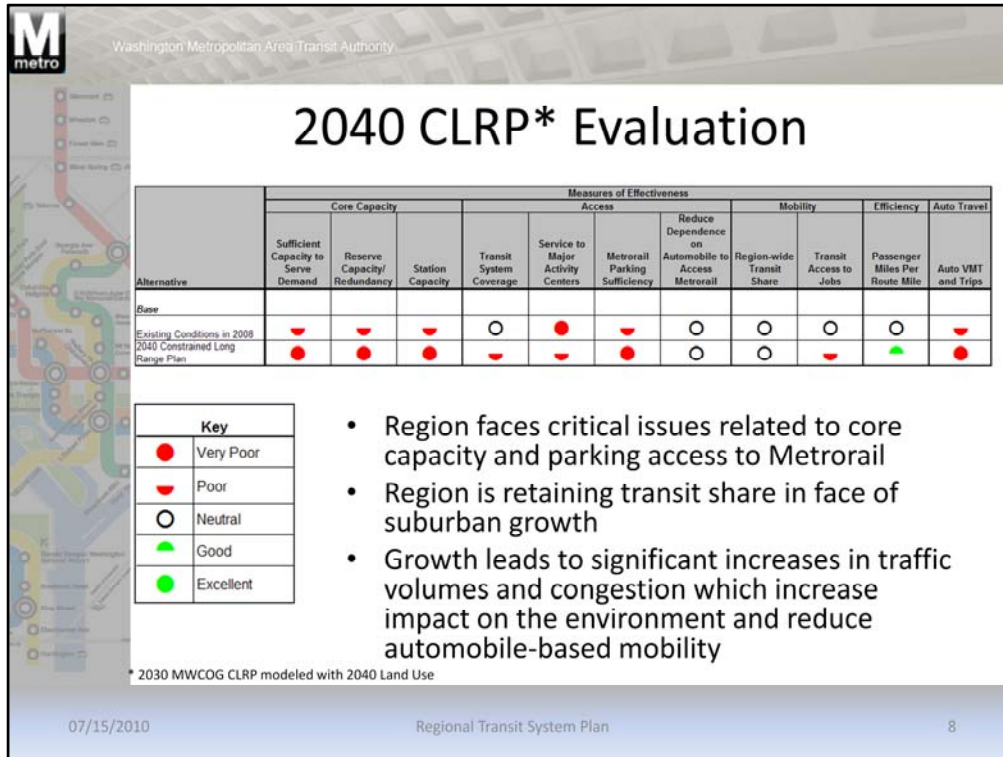
* MWCOG 2030 CLRP modeled with 2040 Land Use



The charts above show the demand and capacity changes on the Metrorail Lines between 2008 and 2040.



The graphic above shows the peak hour passenger loads on Metrorail trains in 2040. The gray color represents fewer than 100 passengers per car; yellow indicates between 100 and 120 passengers per car and the red represents over 120 passengers per rail car.



The chart above shows the Measures of Effectiveness between existing conditions in 2008 and 2040 CLRP.



Washington Metropolitan Area Transit Authority




DEFINITION OF ALTERNATIVES

07/15/2010

Regional Transit System Plan

9



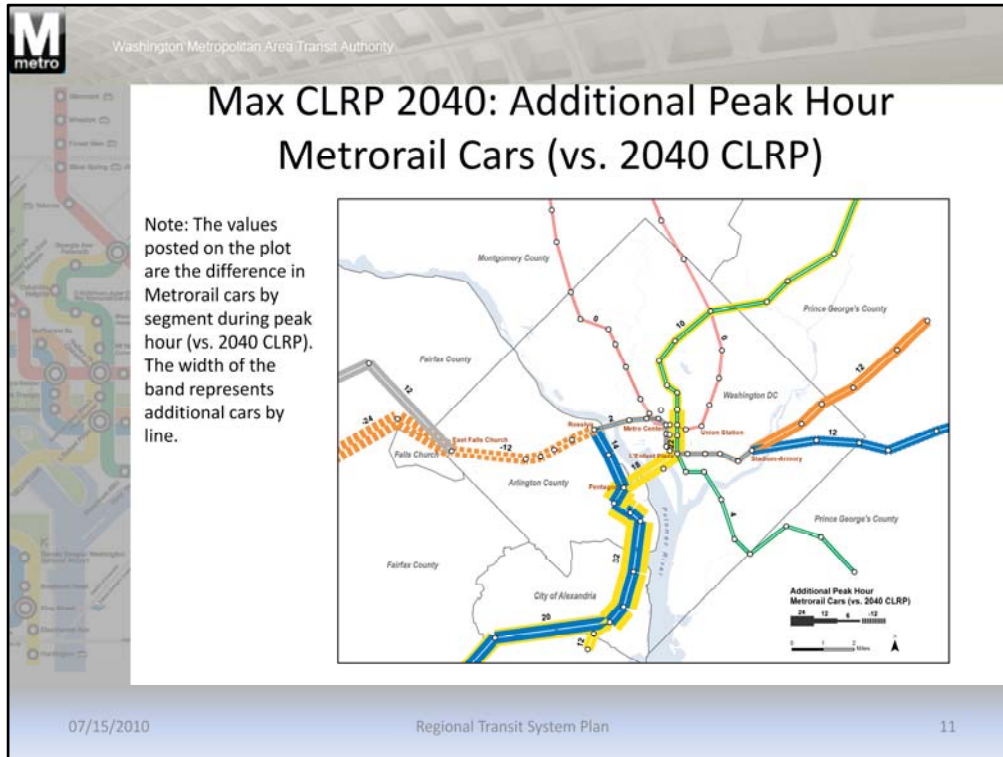
Washington Metropolitan Area Transit Authority

Max CLRP 2040


- Address 2040 CLRP Issues related to Capacity by:
 - Achieve 6 minute system wide headway (vs. 7 minute in CLRP)
 - Increase train frequencies to maximum supported by the infrastructure
 - Reallocate Orange/Silver/Blue line train frequencies to serve demand
- Improve system understandability by eliminating multiple destinations for single color train
 - Extend Silver line trains to Largo & route all Orange line trains to New Carrollton
 - Revise Blue line split via 14th street bridge to Yellow line

07/15/2010 Regional Transit System Plan 10

The above slide provides the assumptions incorporated into the modeling exercise for the Max CLRP 2040 baseline.



The graphic above shows the additional peak hour rail cars needed using the Max 2040 CLRP, compared to that used in the 2040 CLRP case. The colors represent each Metrorail Line (i.e. Green, Yellow, Orange, Red, Blue and Silver).



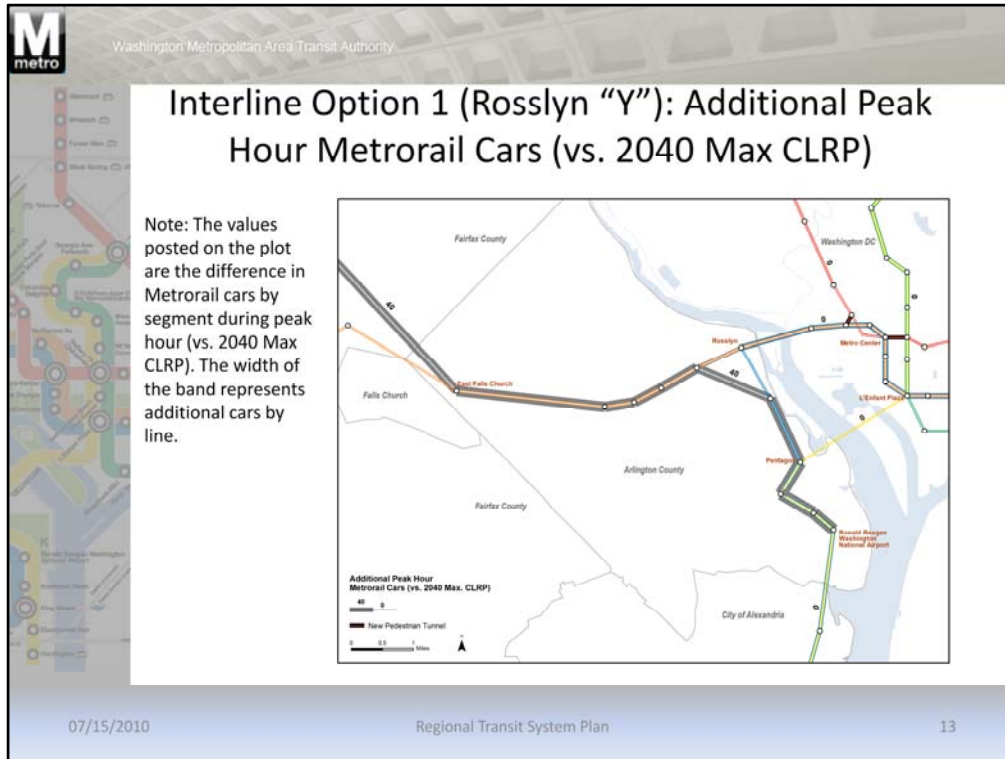
Washington Metropolitan Area Transit Authority

Interline Option 1 (Rosslyn “Y”)


- Identical to Max CLRP with additional line between Dulles International Airport and Reagan National Airport
- Requires new track connection between Courthouse and Arlington Cemetery
- New service has frequency of 5 trains/hour
- New pedestrian tunnels at:
 - Farragut North – Farragut West
 - Metro Center – Gallery Place

07/15/2010 Regional Transit System Plan 12

The characteristics and assumptions of the Interline Option 1, or “Rosslyn “Y””, is described above.



The graphic above shows the additional peak hour rail cars under the Interline Option 1 (Rosslyn "Y").



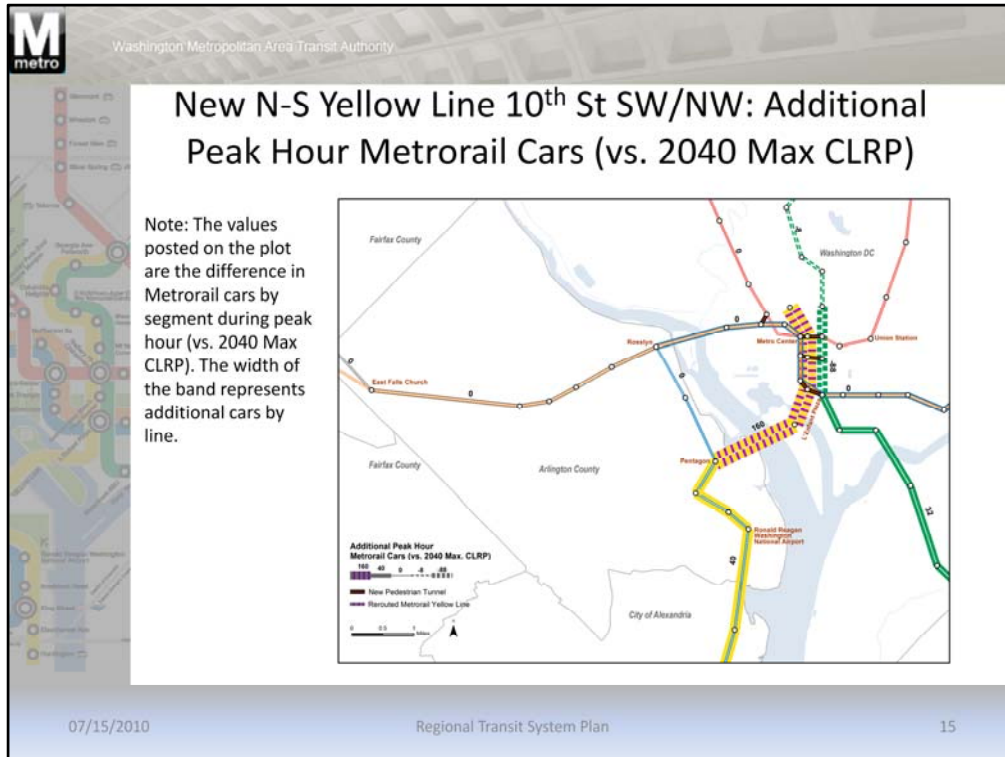
Washington Metropolitan Area Transit Authority

New N-S Yellow Line 10th St SW/NW


- Relocate Yellow line to 10th St SW/NW with new stations at:
 - East Potomac Park
 - Banneker Park
 - Museum of Natural History
 - City Center
 - Thomas Circle
- Increase frequencies on:
 - Relocated Yellow line from Franconia-Springfield: 10 trains/hr (from 5 trains/hr in Max CLRP)
 - Green line: 15 trains/hr (from 11 trains/hr in Max CLRP)
- Pedestrian Tunnels:
 - Farragut West - Farragut North
 - Metro Center - City Center
 - City Center - Gallery Place
 - Federal Triangle - Museum of Natural History
 - Museum of Natural History – Archives
 - Smithsonian - Banneker Park
 - Banneker Park - L'Enfant Plaza

07/15/2010 Regional Transit System Plan 14

The characteristics and assumptions of the New North-South Yellow Line on 10th Street, SW/NW is described above.



The graphic above shows the additional peak hour rail cars under the New N-S Yellow Line 10th Street, SW/NW Strategy.



M
metro

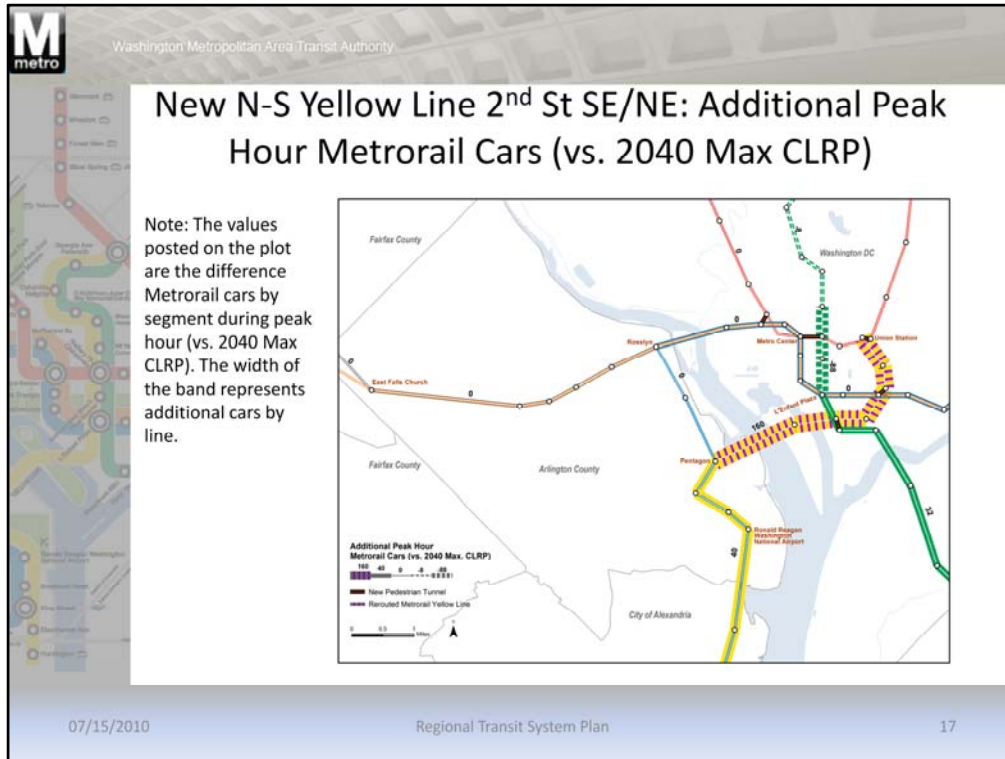
Washington Metropolitan Area Transit Authority

New N-S Yellow Line 2nd St SE/NE

- Relocate Yellow line to 2nd St SE/NE with new stations at:
 - East Potomac Park
 - 3rd and Eye St SW
 - South Capitol and Eye Street
 - 2nd and D Street SE
 - 2nd Street and Constitution Avenue
 - Massachusetts Avenue and North Capitol Street
- Increase frequencies on:
 - Relocated Yellow line from Franconia-Springfield: 10 trains/hr (from 5 trains/hr in Max CLRP)
 - Green line: 15 trains/hr (from 11 trains/hr in Max CLRP)
- Pedestrian Tunnels:
 - Farragut West - Farragut North
 - Metro Center - Gallery Place
 - 3rd and Eye St SW - Waterfront
 - 2nd and D Street SE – Capitol South
 - Massachusetts Avenue and North Capitol Street - Union Station

07/15/2010 Regional Transit System Plan 16

The characteristics and assumptions of the New North-South Yellow Line on 2nd Street, SE/NE is described above.



The graphic above shows the additional peak hour rail cars under the New N-S Yellow Line 2nd Street, SE/NE Strategy. Again, additional cars are shown next to each line compared to the 2040 Max CLRP base case.



Washington Metropolitan Area Transit Authority

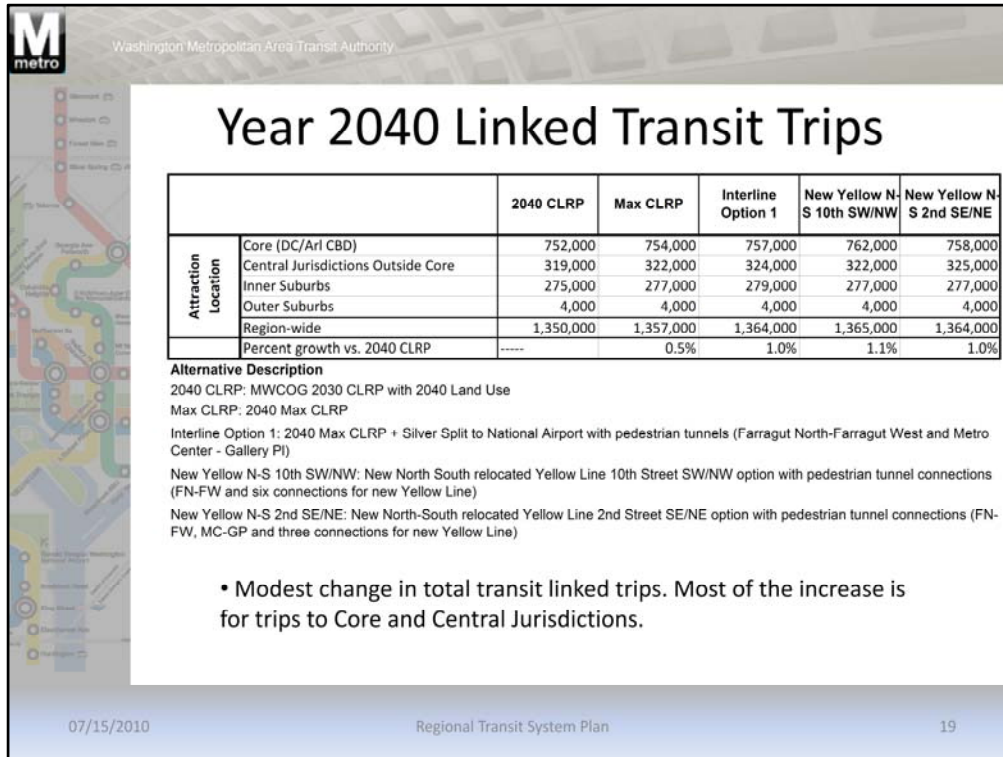


IMPACT ON RIDERSHIP AND CAPACITY

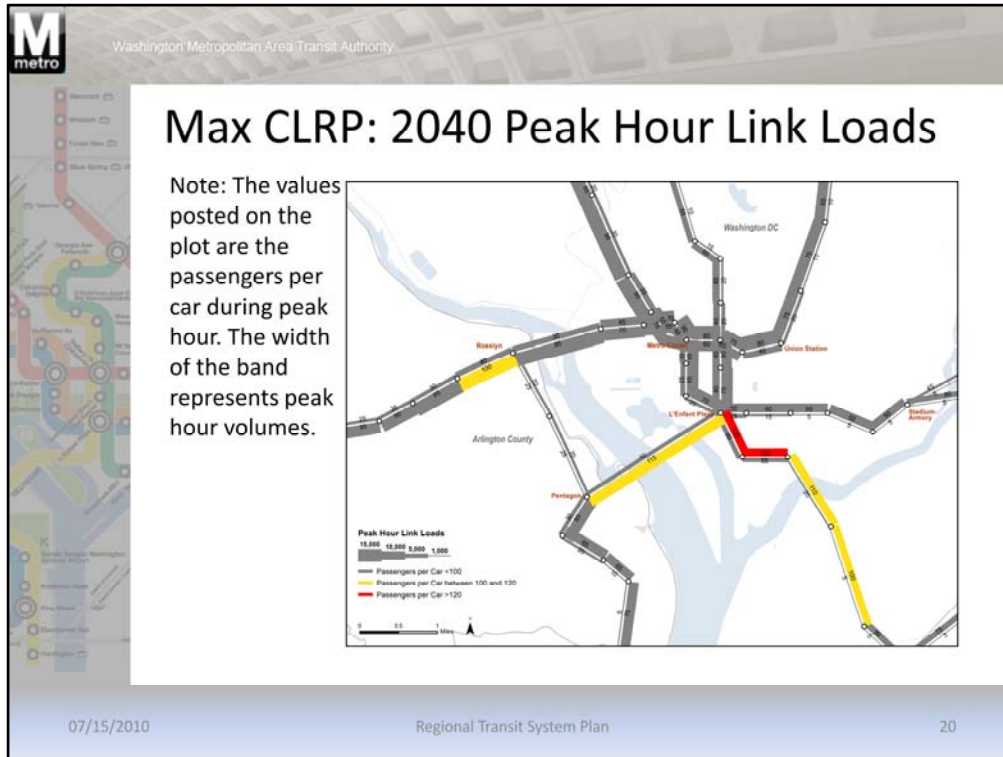
07/15/2010

Regional Transit System Plan

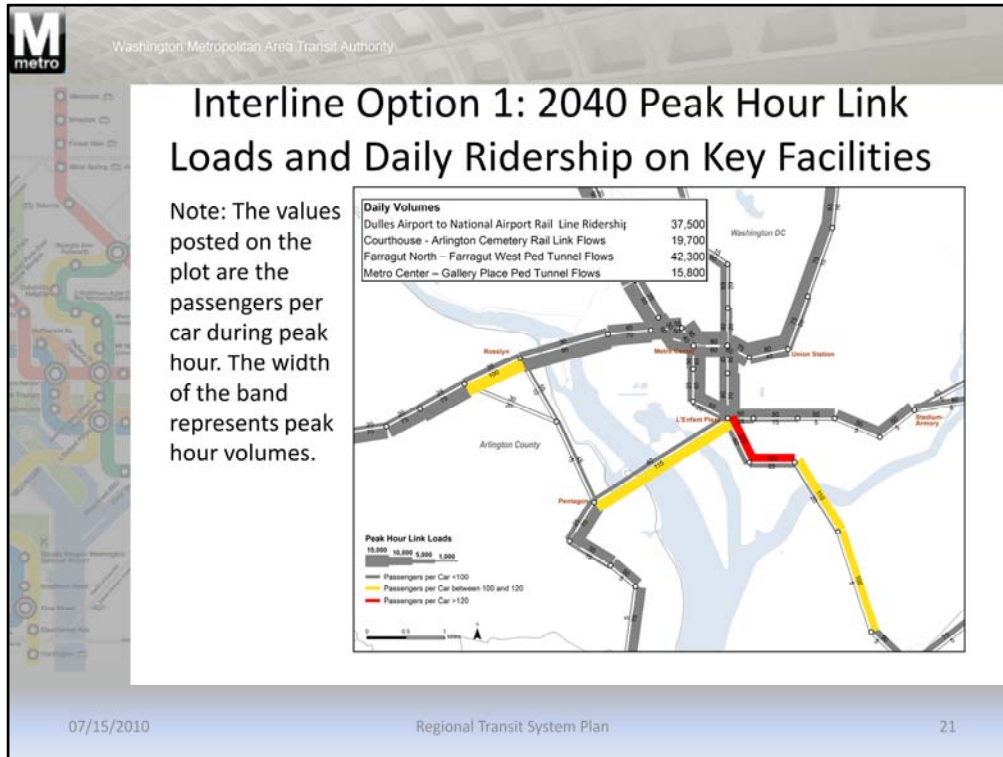
18



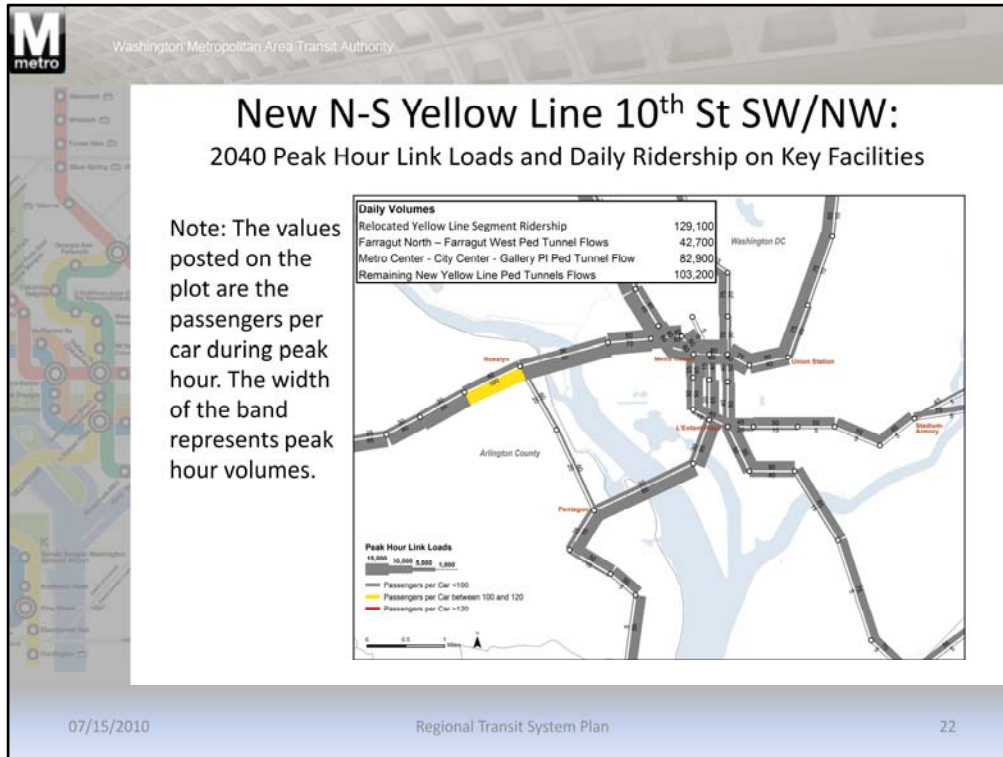
The model results of the aforementioned strategies create a modest change in the total linked transit trips according to the chart above.



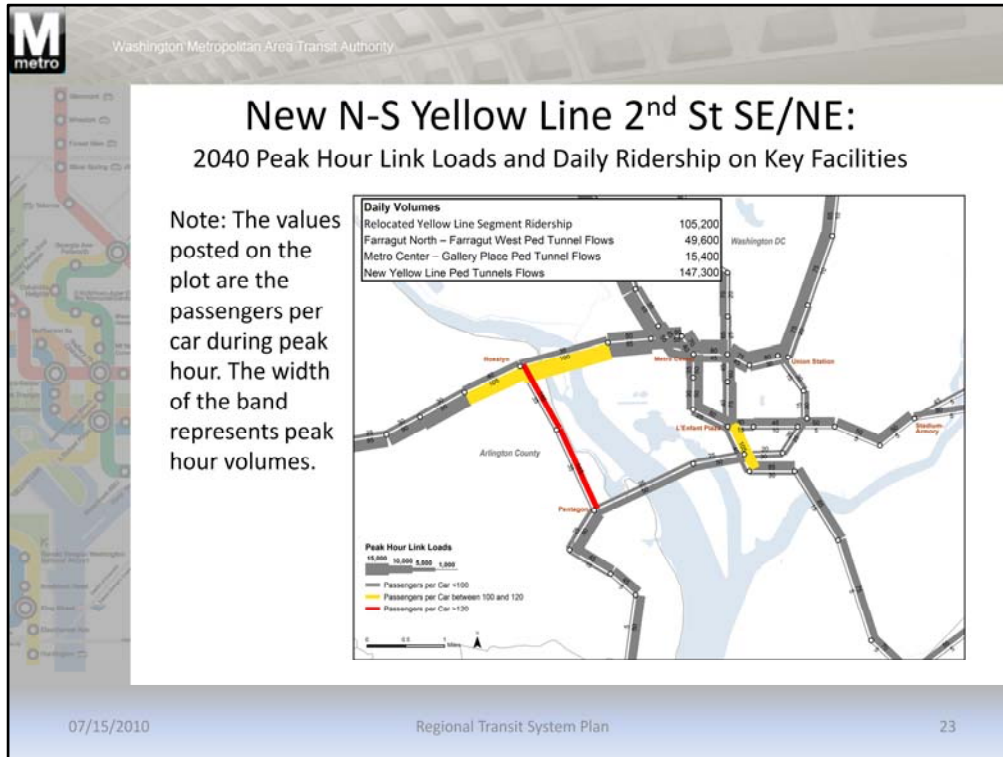
The graphic above shows the peak hour link loads on Metrorail trains in 2040. The gray color represents fewer than 100 passengers per car; yellow indicates between 100 and 120 passengers per car and the red represents over 120 passengers per rail car.



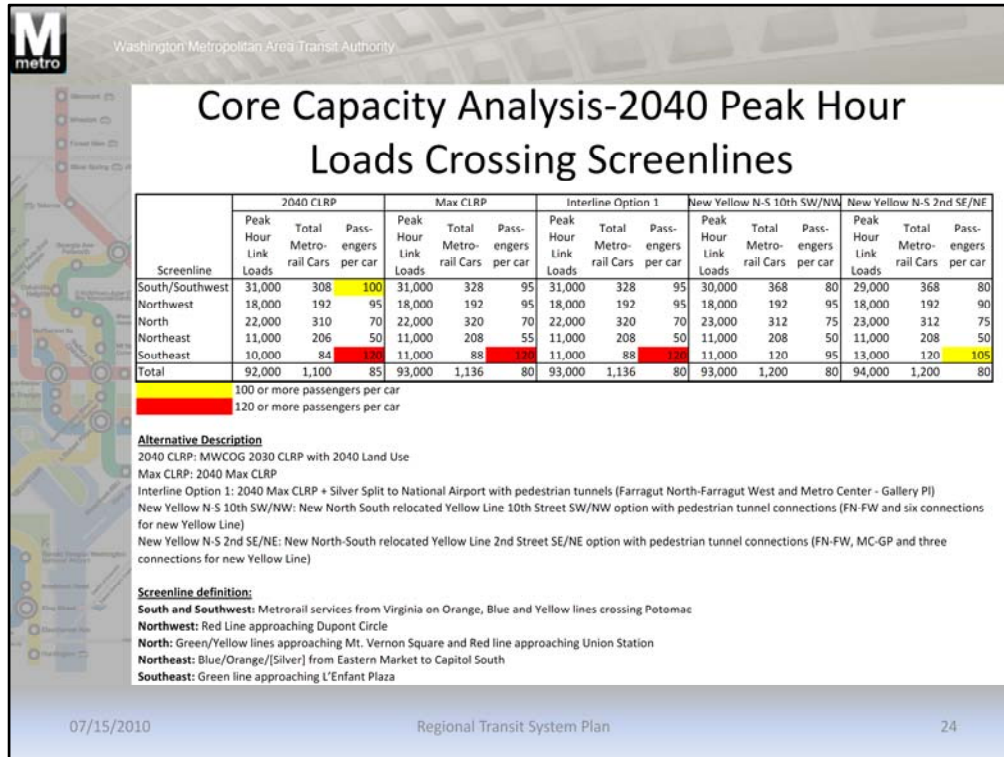
The graphic above shows the peak hour link loads on Metrorail cars and daily ridership at several locations in 2040. The gray color represents fewer than 100 passengers per car; yellow indicates between 100 and 120 passengers per car and the red represents over 120 passengers per rail car.



The graphic above shows the peak hour link loads on Metrorail cars and daily ridership at several locations in 2040 with the new North-South Yellow Line on 10th Street, SW/NW. The gray color represents fewer than 100 passengers per car; yellow indicates between 100 and 120 passengers per car and the red represents over 120 passengers per rail car.



The graphic above shows the peak hour link loads on Metrorail cars and daily ridership at several locations in 2040 with the new North-South Yellow Line on 2nd Street, SE/NE. The gray color represents fewer than 100 passengers per car; yellow indicates between 100 and 120 passengers per car and the red represents over 120 passengers per rail car.



The graphic above shows the peak hour loads crossing screenlines for the 2040 CLRP and Max CLRP and the three strategies: Interline Option 1; New Yellow Line N-S on 10th Street; and New Yellow Line N-S on 2nd Street.



Washington Metropolitan Area Transit Authority

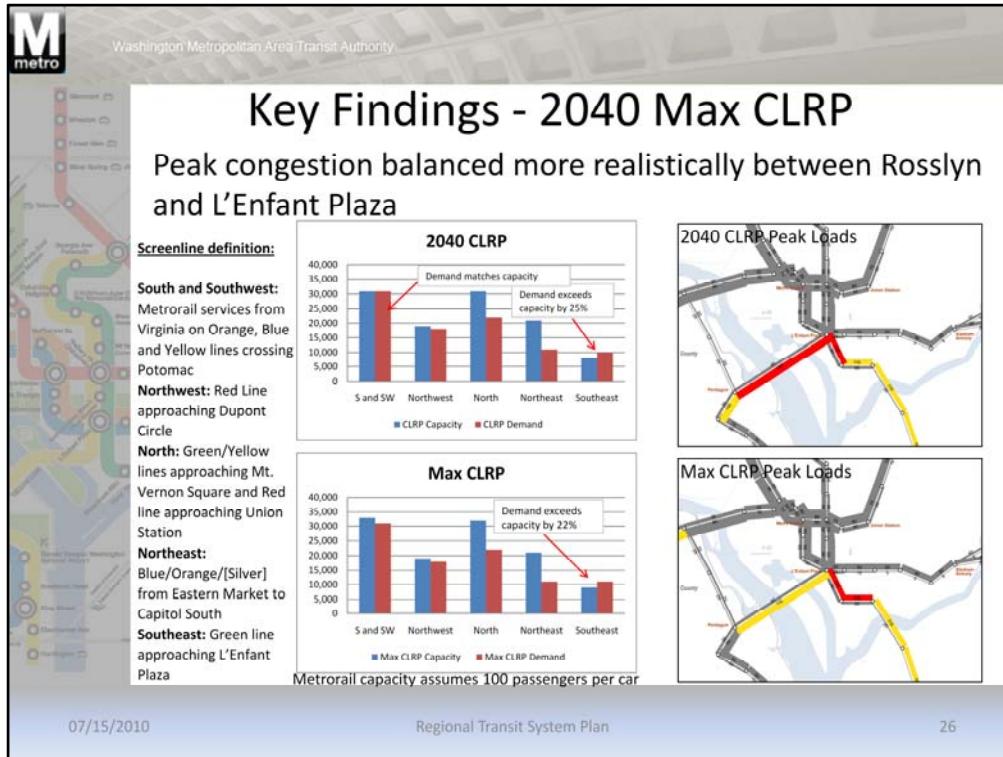


PRELIMINARY EVALUATION


07/15/2010


Regional Transit System Plan

25



The slide above provides a synopsis of some of the key findings associated with the modeled 2040 Max CLRP.


Washington Metropolitan Area Transit Authority



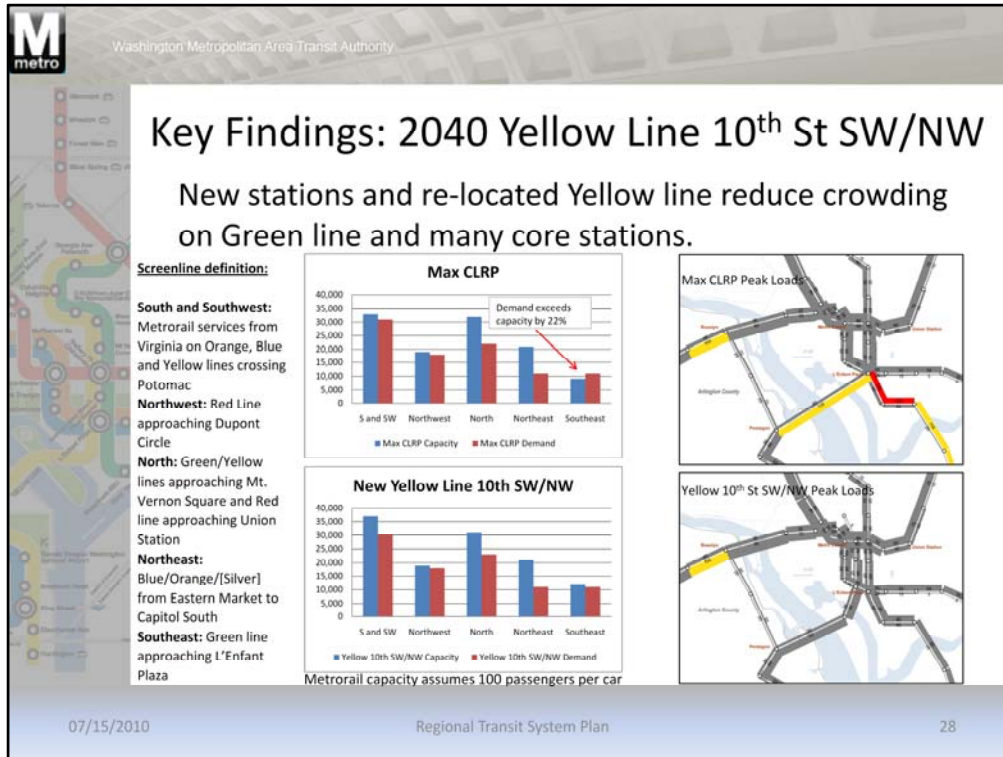
Key Findings: 2040 Interline Option 1 (Rosslyn "Y")

- Better intra-Virginia service via airport-to-airport Silver Line
- Loads on new rail line do not justify 8-car trains.

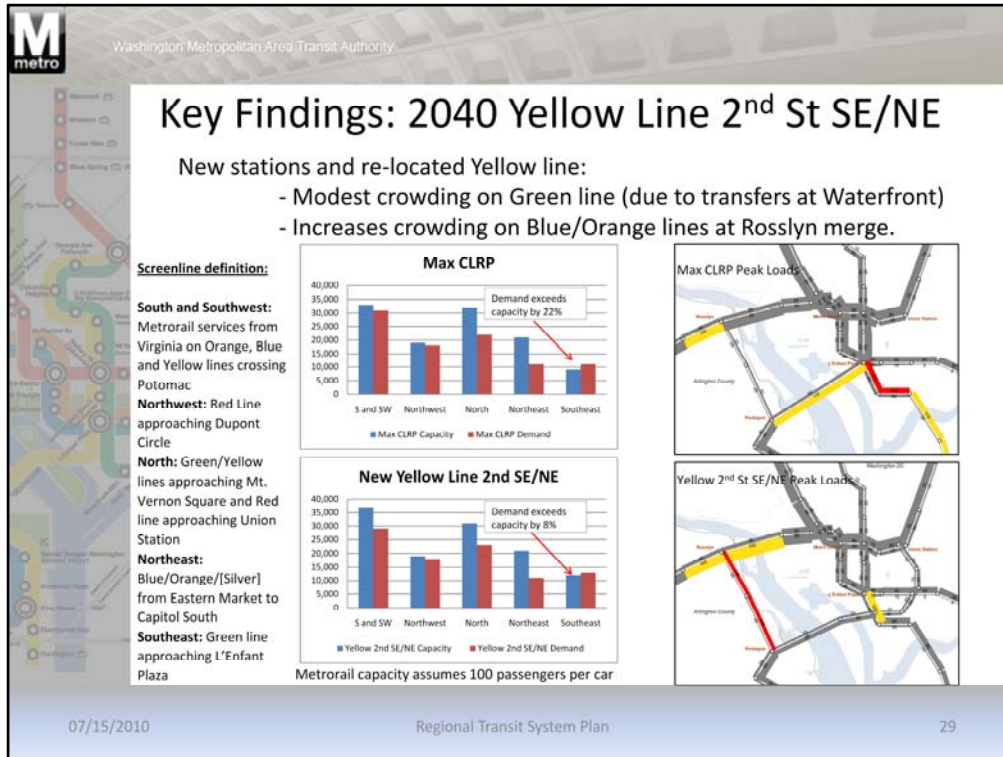
Key differences due to Interline Option 1 (vs. Max CLRP)	2040 Max CLRP	Interline Option 1 (Rosslyn "Y")
Number of Metrorail cars during peak hour:		
<i>Arlington Cemetery to Courthouse</i>	----	40
<i>Clarendon to Courthouse</i>	160	200
<i>Courthouse to Rosslyn</i>	160	160
Passengers per car (during peak hour):		
<i>Arlington Cemetery to Courthouse</i>	----	30
<i>Clarendon to Courthouse</i>	95	76
<i>Courthouse to Rosslyn</i>	102	98
Silver Line Dulles - National New Users (vs. Max CLRP)	----	17,500
Pedestrian Tunnel Daily Flows:		
<i>Farragut North - Farragut West</i>	----	42,300
<i>Metro Center - Gallery Place</i>	----	15,800
Station Boarding/Alighting		
<i>Farragut West</i>	41,000	44,000
<i>Metro Center</i>	29,000	32,000

07/15/2010
Regional Transit System Plan
27


The slide above provides a synopsis of the findings associated with the modeled 2040 Interline Option 1 (Rosslyn "Y").



The slide above provides a synopsis of some of the key findings associated with the modeled 2040 New Yellow Line on 10th Street.



The slide above provides a synopsis of some of the key findings associated with the modeled 2040 New Yellow Line on 2nd Street.


Washington Metropolitan Area Transit Authority

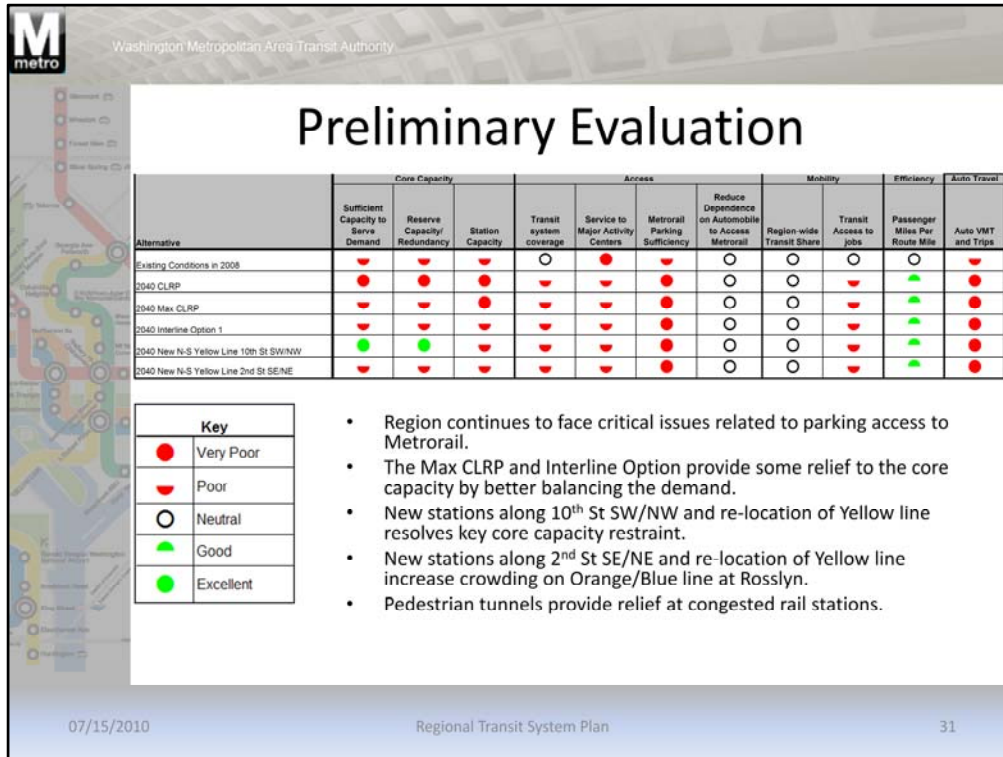
2040 New Yellow Lines: 10th St SW/NW vs. 2nd St SE/NE Alignment

	New Yellow N- S 10th SW/NW	New Yellow N- S 2nd SE/NE
Metro rail Boardings (Delta % vs. Max CLRP)	-1.3%	-0.8%
Metro rail Linked Trips (Delta % vs. Max CLRP)	1.5%	1.6%
Passengers per car (at screenline crossings):		
<i>South and Southwest</i>	80	80
<i>Northwest</i>	95	90
<i>North</i>	75	75
<i>Northeast</i>	50	50
<i>Southeast</i>	95	105


- 2nd St SE/NE Yellow line is not aligned well with travel demand resulting in greater demand on:
 - Blue line through Rosslyn
 - Green line via transfer at the Waterfront/SEU station

07/15/2010
Regional Transit System Plan
30

The slide above provides a comparison of the impact of both of the New Yellow Lines (10th and 2nd Streets) on Metro rail Boardings; Linked Trips; and Passengers Per car in 2040.



The chart above shows how each strategy performed according to the Measures of Effectiveness.




Washington Metropolitan Area Transit Authority

UPCOMING MODEL RUNS

07/15/2010 Regional Transit System Plan 32

Model runs of additional strategies will occur in the future.



Washington Metropolitan Area Transit Authority

Urban Design Modeling Strategy


Pedestrian Environment Factor (PEF)

The Pedestrian Environment Factor (PEF) is a measure of “walkability” designed to favor/penalize transit choices.

- PEF influences the decision for an individual to choose a drive or walk access transit trip, and the overall propensity for using transit;
- PEF Range is 0-300 (i.e. TAZs with PEF less than 75 include Anacostia, Vienna and Twinbrook);
- PEF for a TAZ is defined as the number of Census blocks per square miles of TAZ.

07/15/2010 Regional Transit System Plan 33

In order to determine the impact more walkability would have on increasing transit use, we will utilize the Pedestrian Environment Factor (PEF), which informs an individuals mode of access to a transit trip to model walkability.



Washington Metropolitan Area Transit Authority

Urban Design Modeling Strategy

How Do We Model “Walkability”?

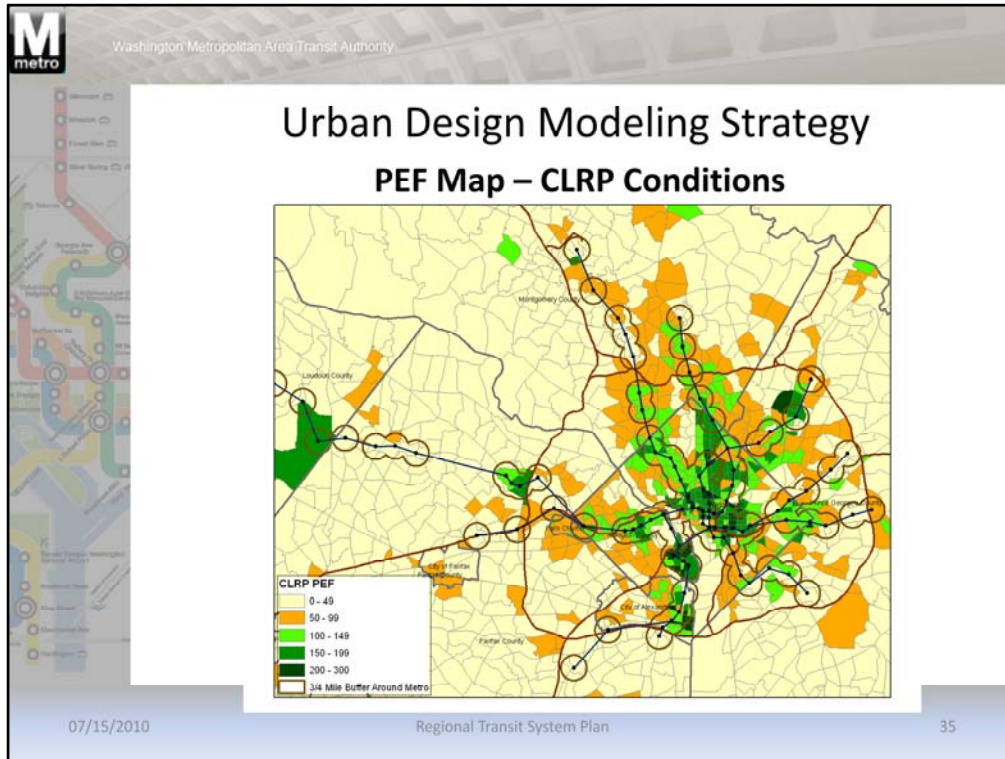
Identify TAZs within 3/4th mile of a Metrorail station with the potential for development;

Categorize the TAZs into two groups:

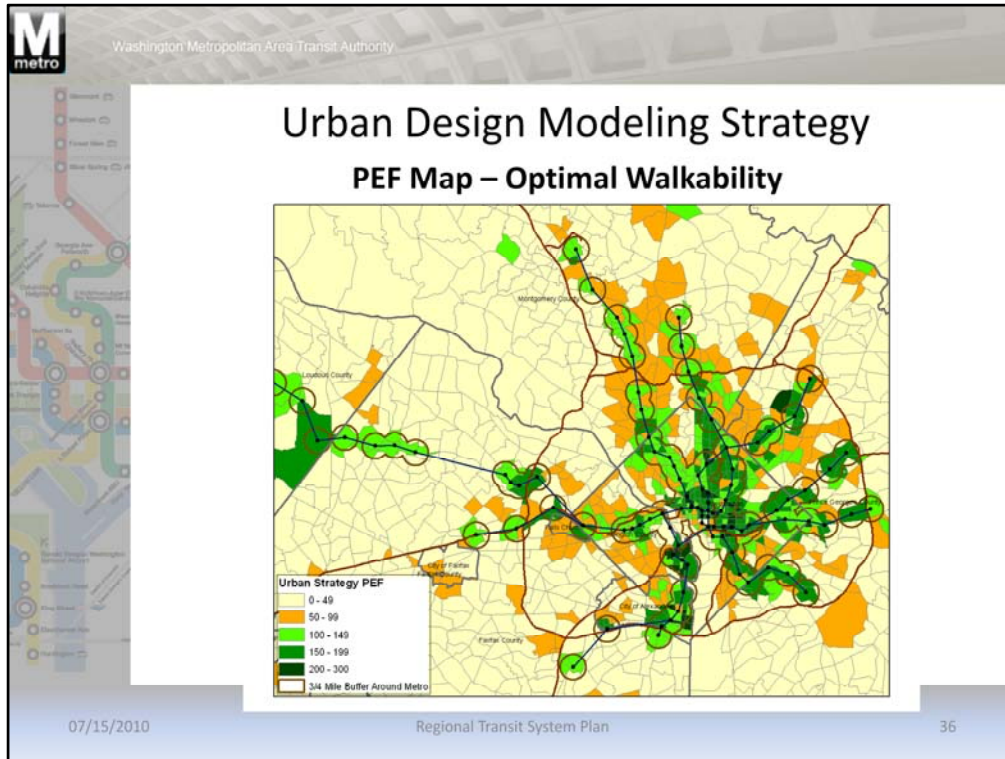
- Group 1** = TAZs inside or near the Capital Beltway with **PEF = 150+** (comparable to Clarendon or Ballston Stations):
 - High volume of walk access;
 - Development oriented towards transit access.
- Group 2** = TAZs outside the Capital Beltway with **PEF = 100-149** (comparable to Silver Spring or Greenbelt Stations):
 - High volume of drive access;
 - Low density development at transit stations.

07/15/2010 Regional Transit System Plan 34


The slide above explains the categories of “walkability” we have developed using the PEF. The Transportation Analysis Zones (TAZ’s) were separated into two categories: those inside or near the Capital Beltway (Group 1) and those TAZ’s outside the Capital Beltway. Typically, those stations with high walk access and transit oriented development tended to have high PEF’s and those with less walk access (i.e. no sidewalks or more drive access transit stations) had lower PEF’s.



The graphic above shows the existing PEF based on CLRP Conditions.



The graphic above shows the increase in PEF's if the pedestrian environment and walkability were enhanced around Metrorail stations.



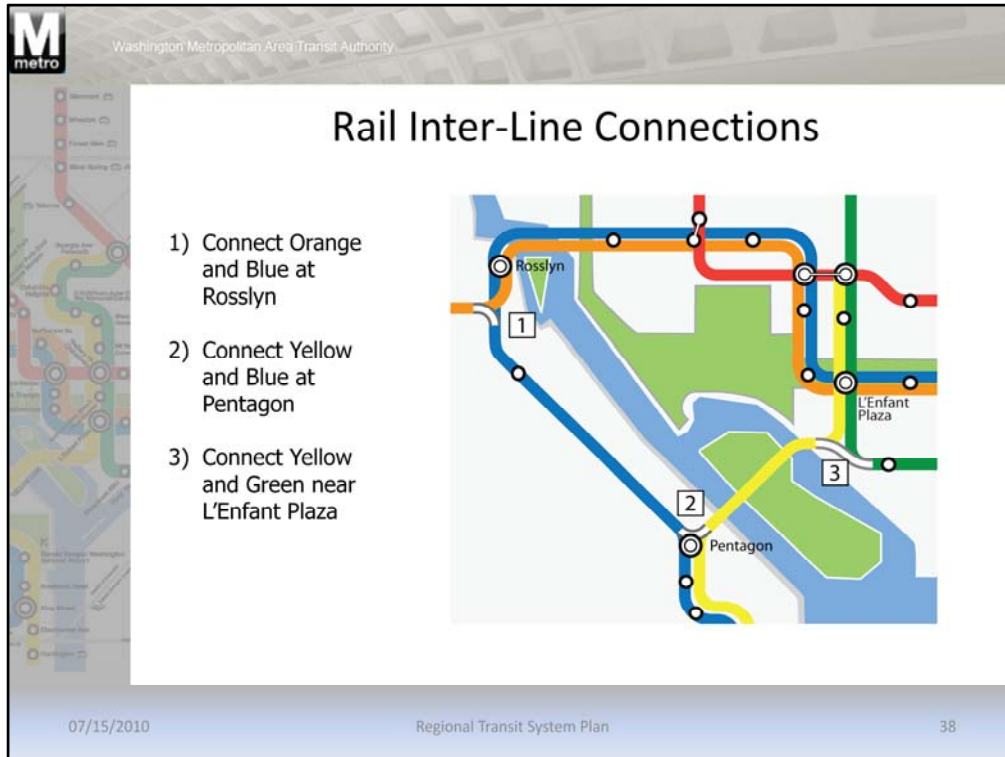
Washington Metropolitan Area Transit Authority

Parking Capacity Relief

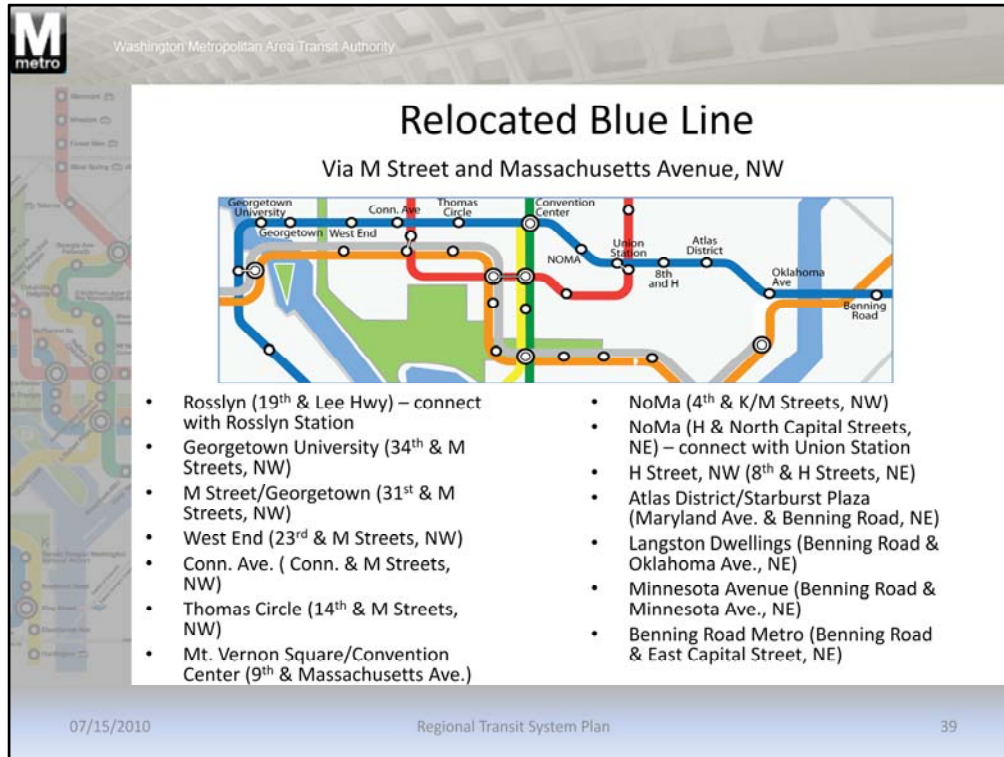
Metrorail Segment	2040 Metrорail Parking Utilization	Parking Remedy/Location
Red-Line-New York Avenue-Takoma	113%	Commercial Lots
Red-Line-Shady Grove-Grosvenor	94%	Urbana (South Lot) - MD 80 & I-270
Red Line - Silver Spring - Glenmont	123%	Burtonsville (US 29 & MD 198); Calvert County Fairgrounds
Green Line - Greenbelt - West Hyattsville	89%	Commercial Lots
Green Line - Waterfront-Congress Heights	102%	Equestrian Center (MD Rt. 4 & Water Street)
Green Line - Southern Avenue - Branch Avenue	126%	St. Charles Towne Ctr @ JC Penney and Dick's Sporting Goods (11110 Mall Circle); and behind JoAnn's (MD 301 & Smallwood Drive)
Yellow/Blue Line - Fran-Springfield, Van Dorn & Huntington	121%	Fredericksburg to Franconia Springfield Metro NEW; Prince William Pkwy (PRTC) NEW; Rte 610 & Rt 1 NEW; Lorton Park-and-Ride/Rte. 123; Lorton Park-and-Ride to Ft. Belvoir; to EPG or to DC
Orange Line- Vienna/Fairfax - West Falls Church	87%	Fairfax Corner; Stringfellow Road; Centreville at US 29/Lee Highway; Bull Run @ 234/Sudley Road; VA 234 Bypass @ US 29; Gainesville at US 29; and Haymarket @ US 15
Orange Line - East Falls Church Court- House	134%	Commercial Lots
Blue Line - Benning Road-Largo Town Center	133%	Harry S. Truman

07/15/2010 Regional Transit System Plan 37

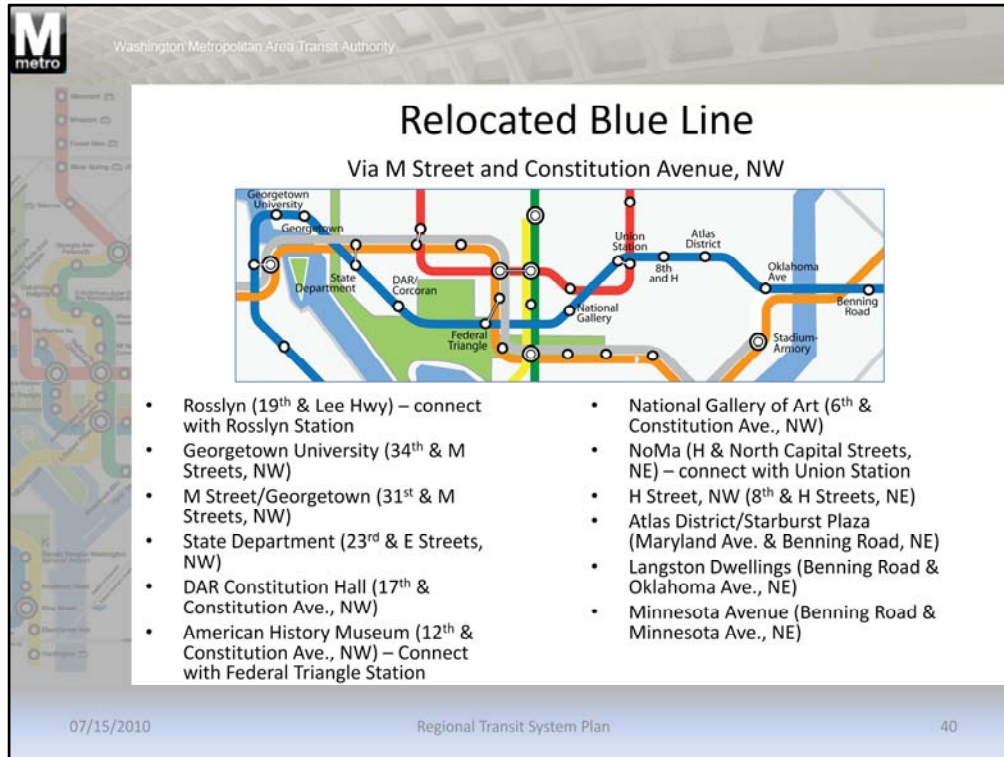
The Parking Capacity Relief Spreadsheet above shows the Metrорail Station parking utilization by line segment and some existing and potential parking lots where additional parking can be accommodated near the Metrорail Station. The Parking Capacity Relief Strategy will evaluate potential park-n-ride locations in the region and the potential for Metro-operated shuttle buses to service those parking lots.



The graphic above shows three locations where rail “interlining” (Definition: When different trains operate on the same route or line) can occur to relieve some of the pedestrian congestion at high transfer/ridership Metrorail Stations.



The graphic above shows potential stops along a relocated Blue Line which could serve those areas not currently easily accessible to Metrorail. This proposed alignment follows Massachusetts Avenue, NW, serving the NoMa Neighborhood in Northeast; Union Station and proceeding East along an alignment parallel with H Street/Benning Road, Northeast.



The graphic above shows potential stops along a relocated Blue Line which could serve those areas not currently easily accessible to Metrorail in near the National Mall. This proposed alignment follows M Street and Constitution Avenues, NW, serving the State Department; DAR Constitution Hall; the National Galleries; Union Station and proceeding East along an alignment parallel with H Street/Benning Road, Northeast.



Washington Metropolitan Area Transit Authority




PUBLIC ENGAGEMENT STRATEGY

07/15/2010

Regional Transit System Plan



41


Washington Metropolitan Area Transit Authority

RTSP Public Engagement Strategy

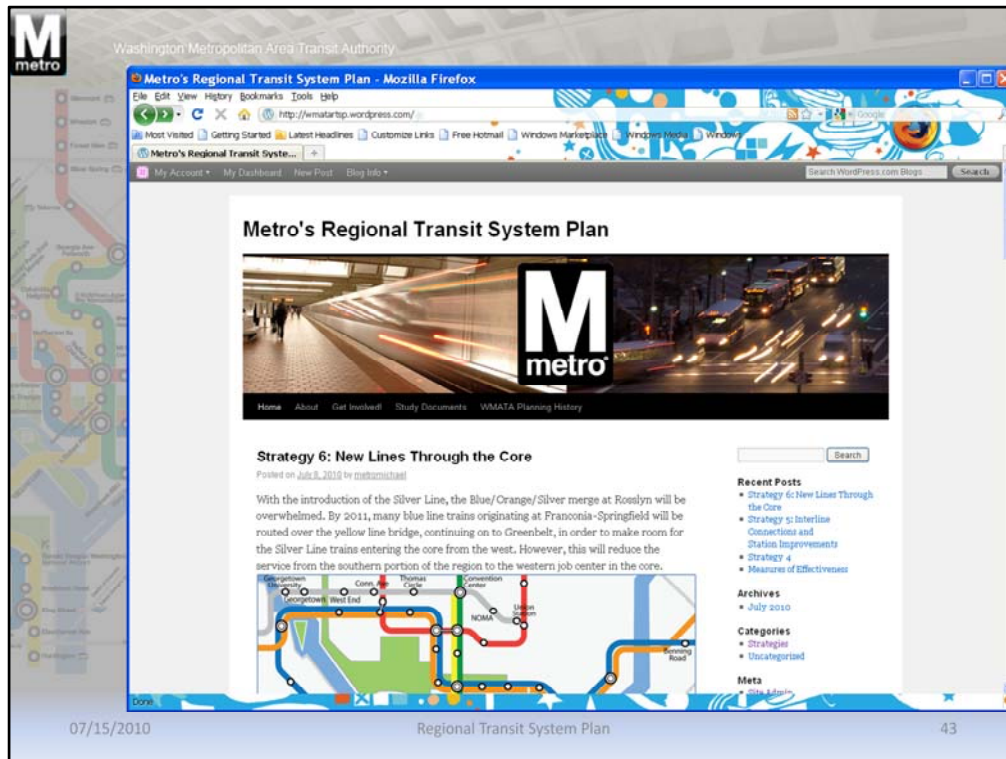
Public Engagement Tool-Kit

- Technical Advisory Group**
 - Advise RTSP Team on strategies and opportunities to effectively engage the public in all jurisdictions;
- RTSP Project Team**
 - Prepare RTSP presentations and project boards to convey key study products and information;
 - Send meeting notices to public; and
 - Notify elected officials and constituents of RTSP engagement opportunities.
- RTSP Website**
 - Portal for information exchange , transit discussions and project status updates;
- Public Meetings**
 - TAG-Hosted RTSP Meetings/briefings;
 - "Piggy-back" on already scheduled jurisdictional events/meetings;
 - WMATA-Hosted RTSP Public Meetings
- Media**
 - WMATA Press Release;
 - Local Radio;
 - Local Newspapers; and
 - Local Blogs/Community websites





07/15/2010
Regional Transit System Plan
42


The RTSP Team Members will utilize several methods in our Public Engagement “Tool-Kit”, to inform and educate stakeholders on the RTSP.



The graphic above shows a DRAFT screenshot of the proposed Office of Long Range Planning's Blog with information on the RTSP.

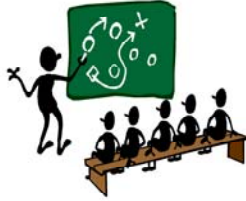


Washington Metropolitan Area Transit Authority



RTSP Public Engagement Strategy

Public Meeting Process: Non-WMATA Hosted Meetings




1. TAG Representative requests RTSP Briefing/Meeting or "Piggy-back" in jurisdiction;
2. WMATA GOVR briefing of local elected official (s) to advise of upcoming RTSP activity in jurisdiction;
3. Confirmation of meeting logistics (date, time, location) and notification to TAG Representative of RTSP attendance at meeting;
4. Title VI Requirement Clearance:
 - a. Windshield survey by RTSP Team Member at meeting and notation of general participant information.

07/15/2010

Regional Transit System Plan

44

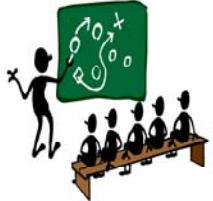
The slide above outlines the process by which Metro will engage the public in the respective TAG jurisdictions.



Washington Metropolitan Area Transit Authority

RTSP Public Engagement Strategy

Public Meeting Process: WMATA Hosted Meetings



- Propose week for series of public meetings in each jurisdiction (October):
 - District of Columbia;
 - Maryland; and
 - Virginia.
- Confirm meeting date(s) w/ TAG Representative (October 2010);
- WMTA GOVR notification/briefings of local elected officials (October 2010) & Media Notification;
- Confirm meeting logistics:
 - Mail invitation/Meeting Notice (Refer to Outreach Lists fro RTSP)
 - Local Radio;
 - Local Newspapers; and
 - Local blogs/Community websites.
- Title VI Requirement Clearance:
 - Advise CIVR of meeting to have CIVR representative in attendance.

07/15/2010

Regional Transit System Plan

45

The slide above outlines the process by which Metro will engage the public in Metro-hosted meetings and workshops.


M
metro

Washington Metropolitan Area Transit Authority

RTSP Public Engagement Strategy

Presentation & Board Outline

- Background: History of Metro System Plan
- RTSP: Purpose & People
- Current System Challenges: Population/Employment Trends
- Transit Mode Characteristics
- Strategies
- Recommended Scenarios
- How to Get/Stay Involved?



07/15/2010 Regional Transit System Plan 46

The slide above provides the proposed content of the project boards that will be developed for the RTSP public meetings and workshops.