



National Capital Region
Transportation Planning Board

Measuring Progress Towards Regional Goals

TPB Technical Committee
Item 10
April 1, 2011

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Background

- Regional transportation goals based on the **TPB Vision** and **COG's Region Forward**
- Examples of transportation **performance measures** that can be used to evaluate CLRP performance and regional priorities
- Performance measures quantified using the **2010 CLRP**
- Presentation to **Priorities Plan Scoping Task Force** on Feb 16, 2011 (attached) and Apr 20, 2011

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Performance Measures

Measures presented to the **Tech Committee** and **TPB** in **Nov 2010** and additional measures presented to the **Tech Committee** and **Priorities Plan Scoping Task Force** in **Feb 2011**, including the following:

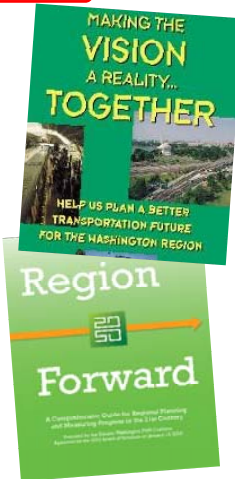
- Population & employment growth
- VMT, VMT per capita
- New lane miles, Lane miles of congestion
- Peak hour Metrorail passenger loads
- Growth in truck trips
- Accessibility to jobs
- Emissions of: VOC, NOx, CO₂
- Traffic fatalities: motorized, bicycle, pedestrian
- Rail transit & bus stop coverage in Activity Centers
- Street block density

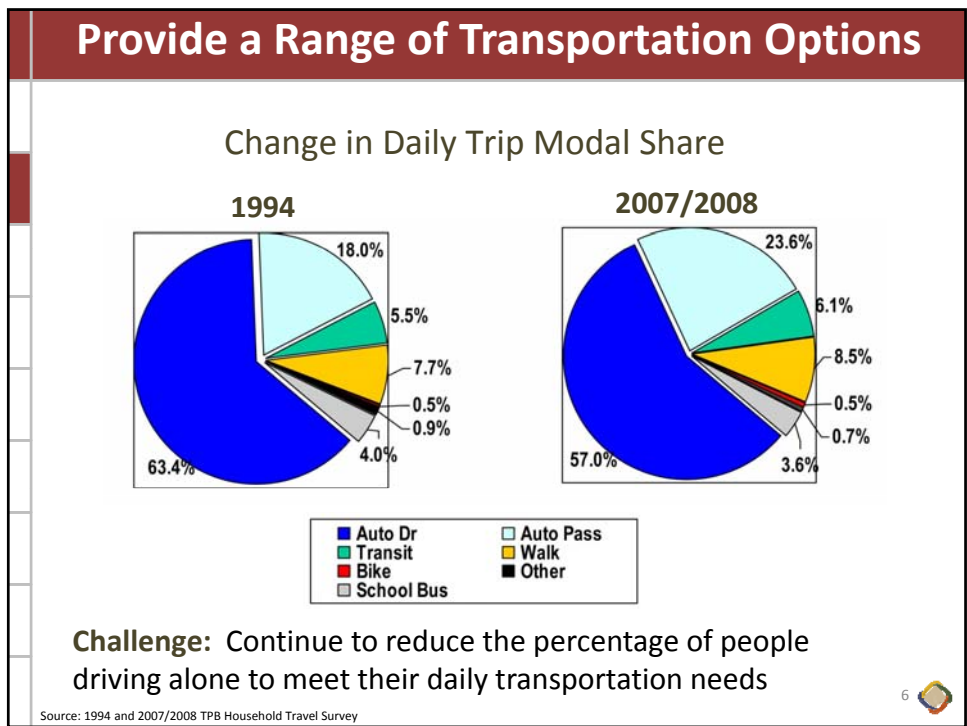
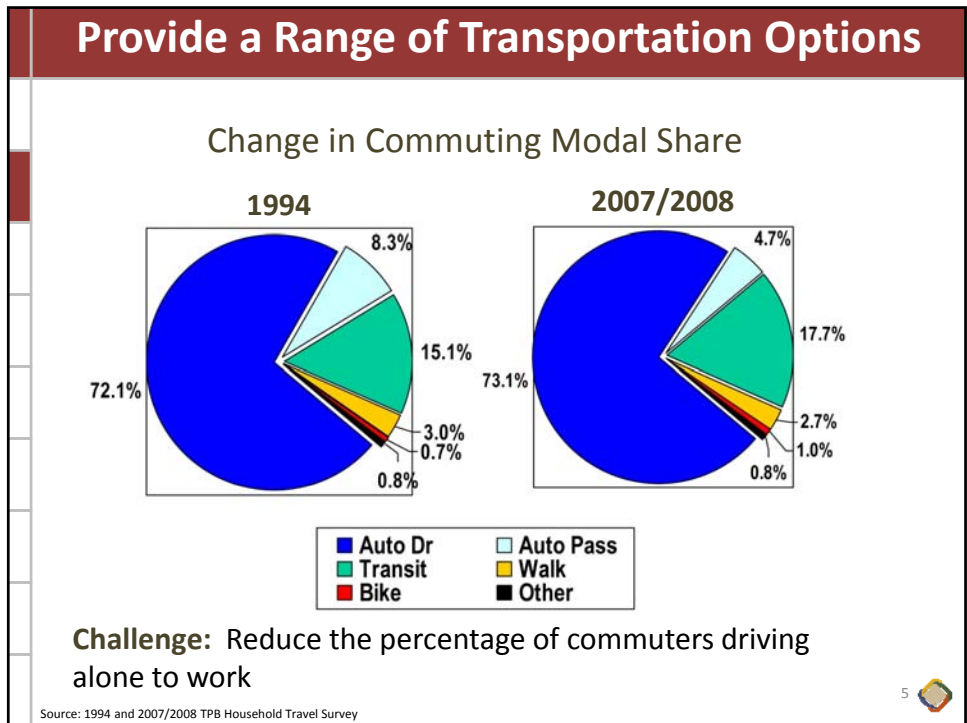


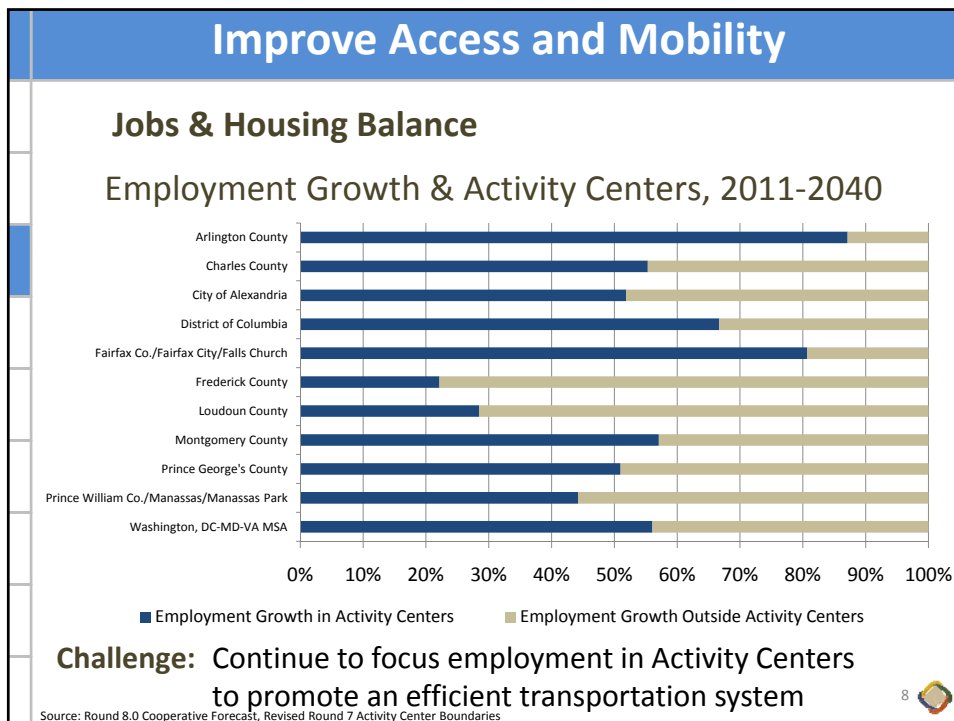
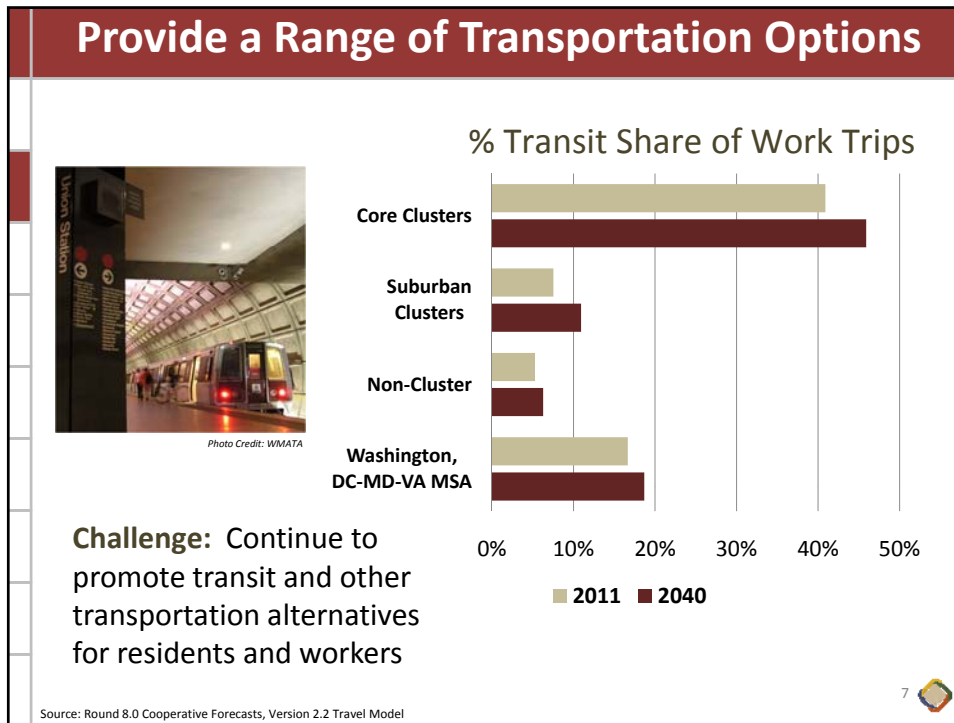
Regional Transportation Goals

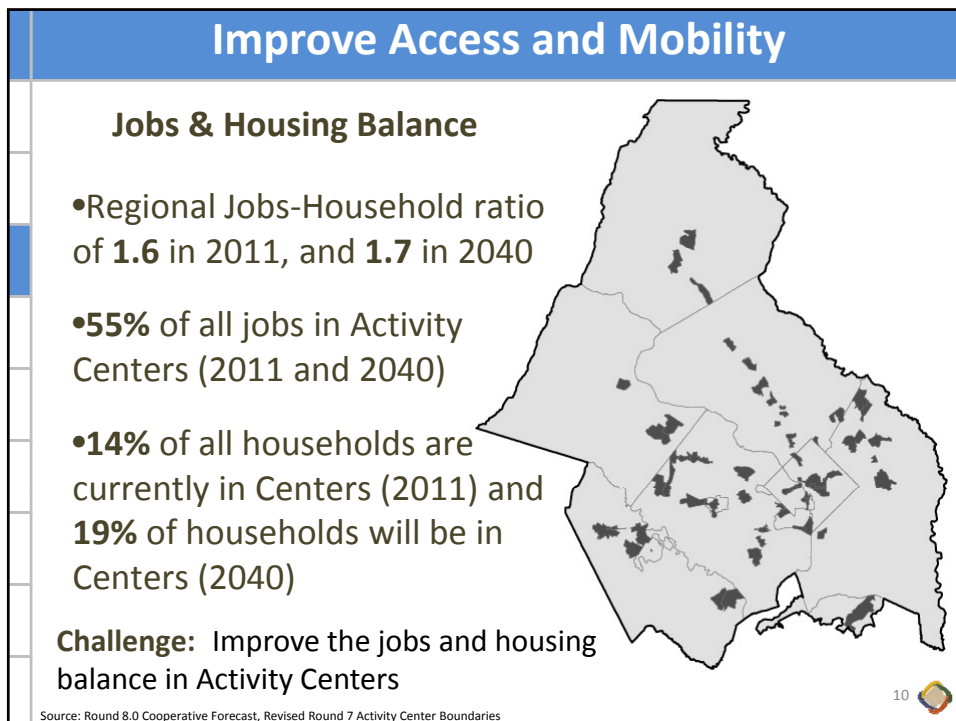
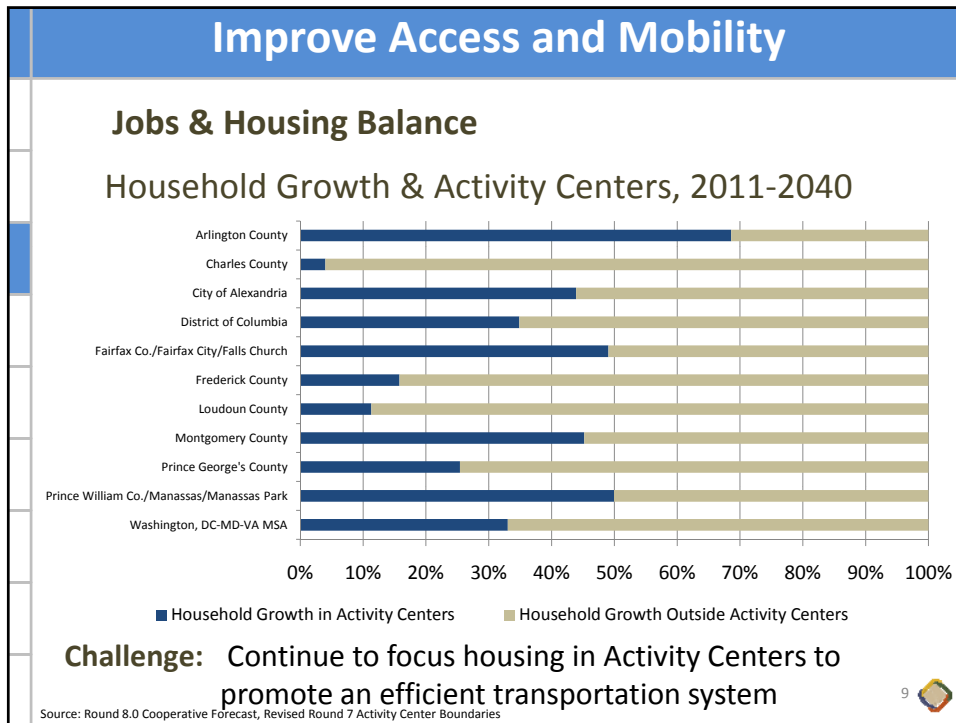
Based on the TPB Vision and COG's Region Forward

1. Provide a comprehensive range of transportation options
2. Improve access and mobility
3. Prioritize maintenance and preservation of the existing system
4. Maximize system effectiveness through management and operations
5. Improve safety of all transportation modes and facilities
6. Promote transportation connections, walkability and mixed use development in activity centers
7. Enhance environmental quality, protect human health and improve energy efficiency
8. Contribute to the reduction of regional climate change impacts









Improve Access and Mobility

Jobs & Housing Balance

Jobs to Household Ratio in Activity Centers

Activity Center	Jobs 2011	Households 2011	2011 Jobs to HH Ratio	Jobs 2040	Households 2040	2040 Jobs to HH Ratio	2011-2040 Ratio Change
DC Core	596,798	61,284	9.7	718,492	84,990	8.5	(1.3)
Mixed-Use Centers	342,578	85,126	4.0	467,970	134,022	3.5	(0.5)
Employment Centers	295,681	22,400	13.2	401,778	51,520	7.8	(5.4)
Suburban Employment Centers	482,617	86,057	5.6	737,925	154,578	4.8	(0.8)
Emerging Employment Centers	85,337	28,375	3.0	152,610	67,491	2.3	(0.7)
All Activity Centers	1,803,010	283,241	6.4	2,478,775	492,601	5.0	(1.3)

Challenge: Improve the jobs and housing balance in Activity Centers

Source: Round 8.0 Cooperative Forecast, Revised Round 7 Activity Center Boundaries

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Prioritize Maintenance & Preservation

The bridges in Northern Virginia are fairly well maintained, as compared to statewide trends...


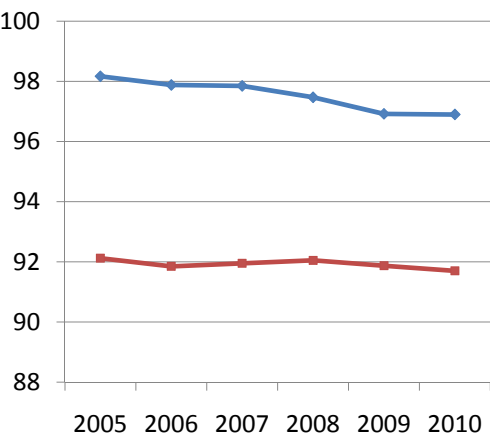


Photo Credit: Doug Kerr

*Data from MD and DC will also be collected.

Bridge Conditions

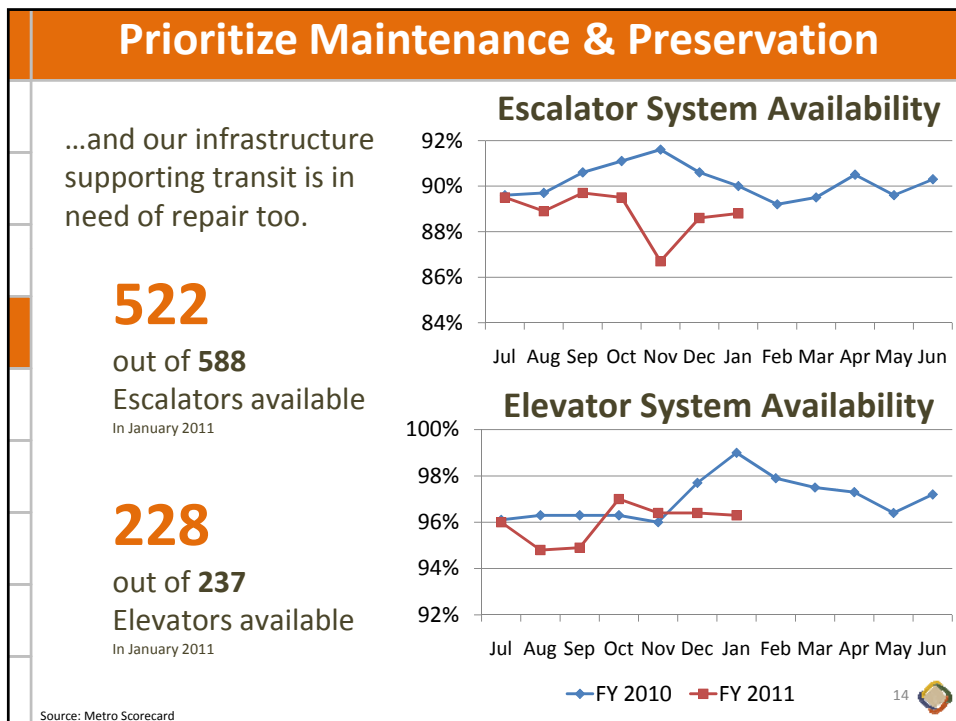
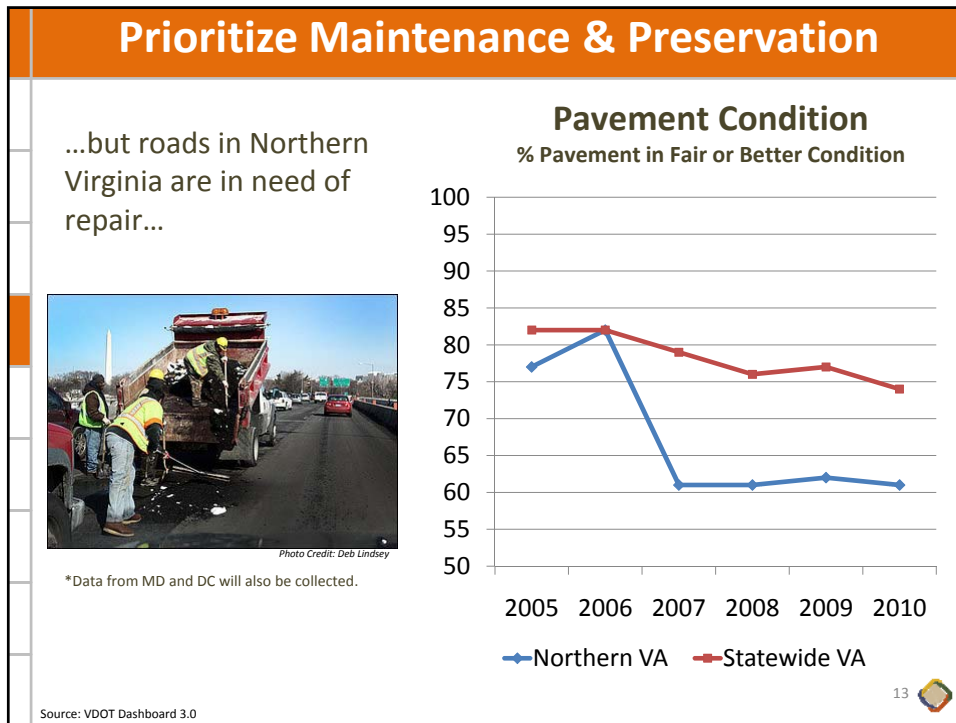
% Non-Deficient

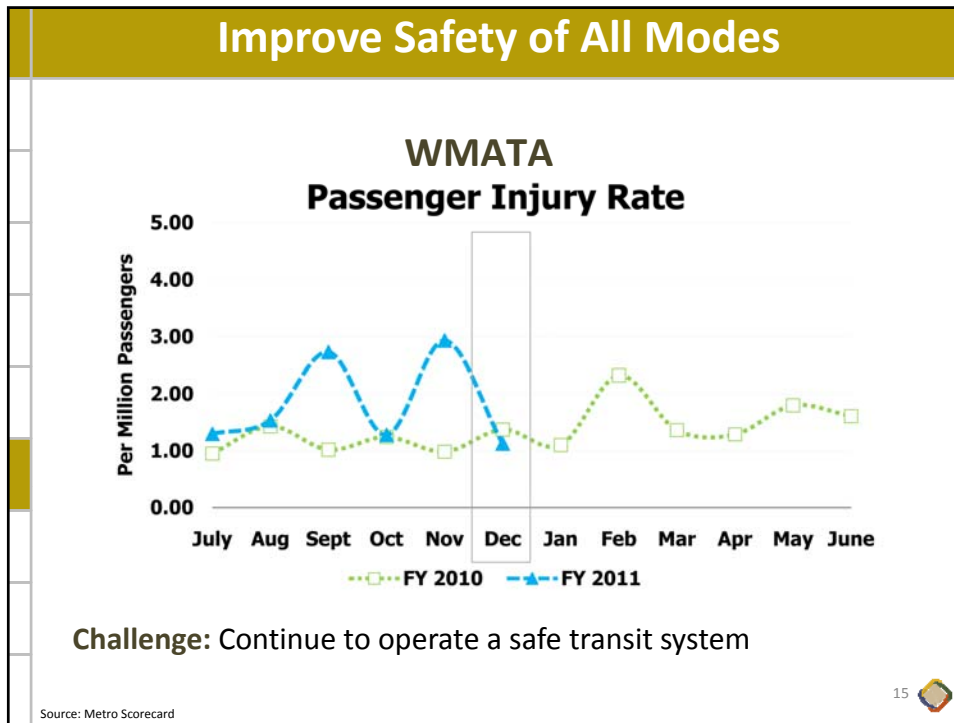


Year	Northern VA (%)	Statewide VA (%)
2005	98.2	92.2
2006	97.8	91.8
2007	97.8	92.0
2008	97.4	92.2
2009	97.0	91.8
2010	97.0	91.5

Source: VDOT Dashboard 3.0

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Promote Accessibility between Activity Centers

Average number of other Activity Centers accessible within 45 minutes of a given Activity Center by Transit and Highway

	2011		2040		Change	
	HWY	TRN	HWY	TRN	HWY	TRN
DC Core	25	18	21	18	-4	0
Mixed Use	17	14	14	15	-3	1
Employment	14	9	10	9	-4	0
Suburban Emp.	9	4	7	5	-2	1
Emerging Emp.	6	2	4	3	-2	1

Challenge: Increase accessibility to and from Activity Centers

Source: Round 8.0 Cooperative Forecasts, Version 2.2 Travel Model

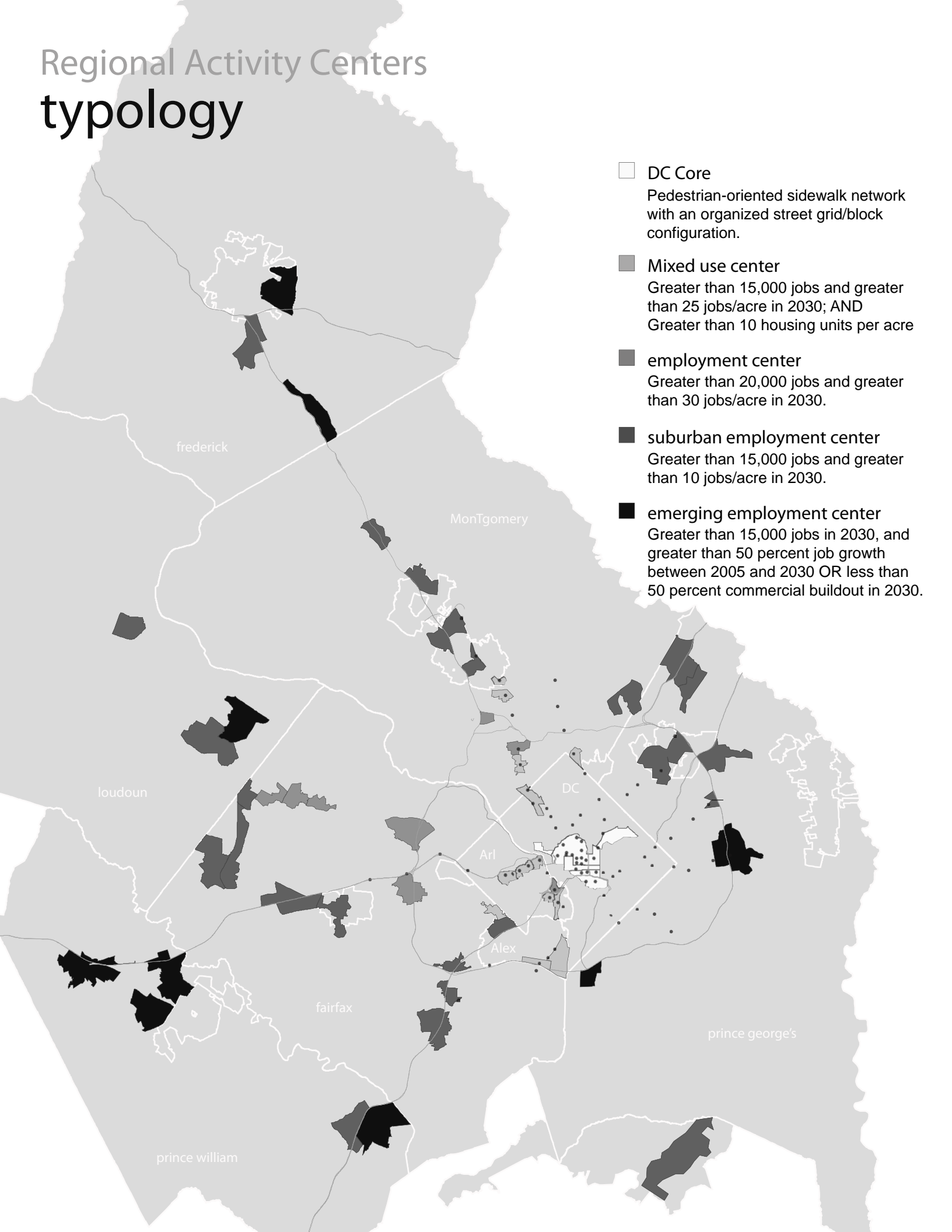
Next Steps

- Present on additional performance measures to the Priorities Plan Task Force on Apr 20
- Complete performance analysis of the 2010 CLRP
- Develop expanded 2010 CLRP “Brochure”




Alternative formats of this document and all meeting materials are available upon request. Contact Rex Hodgson at (202) 962-3275, TDD (202) 962-3213 or rhodgson@mwkog.org and allow 7 days for preparation of the materials.

Regional Activity Centers typology



- DC Core**
Pedestrian-oriented sidewalk network with an organized street grid/block configuration.
- Mixed use center**
Greater than 15,000 jobs and greater than 25 jobs/acre in 2030; AND Greater than 10 housing units per acre
- employment center**
Greater than 20,000 jobs and greater than 30 jobs/acre in 2030.
- suburban employment center**
Greater than 15,000 jobs and greater than 10 jobs/acre in 2030.
- emerging employment center**
Greater than 15,000 jobs in 2030, and greater than 50 percent job growth between 2005 and 2030 OR less than 50 percent commercial buildout in 2030.




Background	
	<ul style="list-style-type: none">• Regional transportation goals based on the TPB Vision and COG's Region Forward• Examples of transportation performance measures• Performance measures quantified using 2010 CLRP
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Regional Transportation Goals

Based on the TPB Vision and COG's Region Forward

1. Provide a comprehensive range of transportation options
2. Improve access and mobility
3. Prioritize maintenance and preservation of the existing system
4. Maximize system effectiveness through management and operations
5. Improve safety of all transportation modes and facilities
6. Promote transportation connections, walkability and mixed use development in activity centers
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8. Contribute to the reduction of regional climate change impacts



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Provide a Range of Transportation Options


Commute Mode Share, 2009

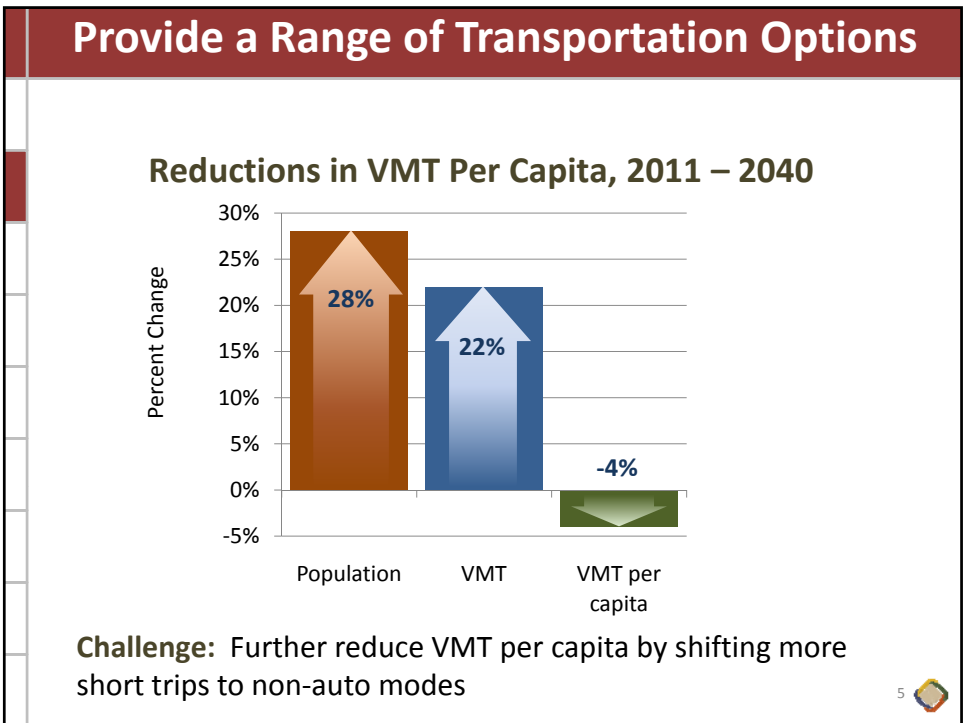
D.C. region is 3rd lowest for % Drive Alone

Metropolitan Statistical Areas	Total Workers	% Drove Alone	% Carpool	% Transit	% Bike or Walk	% Work at Home
New York-Northern New Jersey-Long Island, NY-NJ-PA	8,719,316	50.4%	7.4%	30.3%	6.5%	3.7%
Los Angeles-Long Beach-Santa Ana, CA	5,816,255	73.5%	11.4%	6.1%	3.4%	4.4%
Chicago-Naperville-Joliet, IL-IN-WI	4,422,844	70.9%	9.1%	11.5%	3.6%	3.8%
Dallas-Fort Worth-Arlington, TX	2,945,976	80.1%	11.4%	1.6%	1.5%	4.0%
Washington-Arlington-Alexandria, DC-VA-MD-WV	2,795,375	66.2%	11.1%	13.9%	3.5%	4.4%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,751,491	73.3%	8.9%	9.2%	4.3%	3.5%
San Francisco-Oakland-Fremont, CA	2,056,454	62.3%	10.4%	14.5%	5.7%	5.5%

Source: American Community Survey, 2005-2009

Challenge: Further reduce the percentage of commuters driving alone

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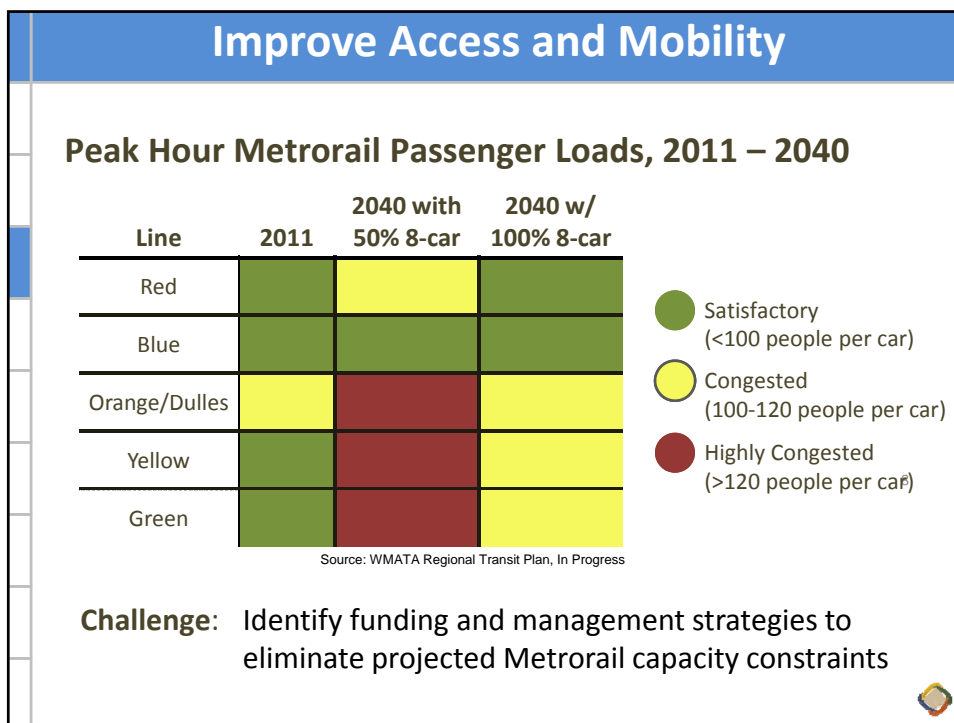
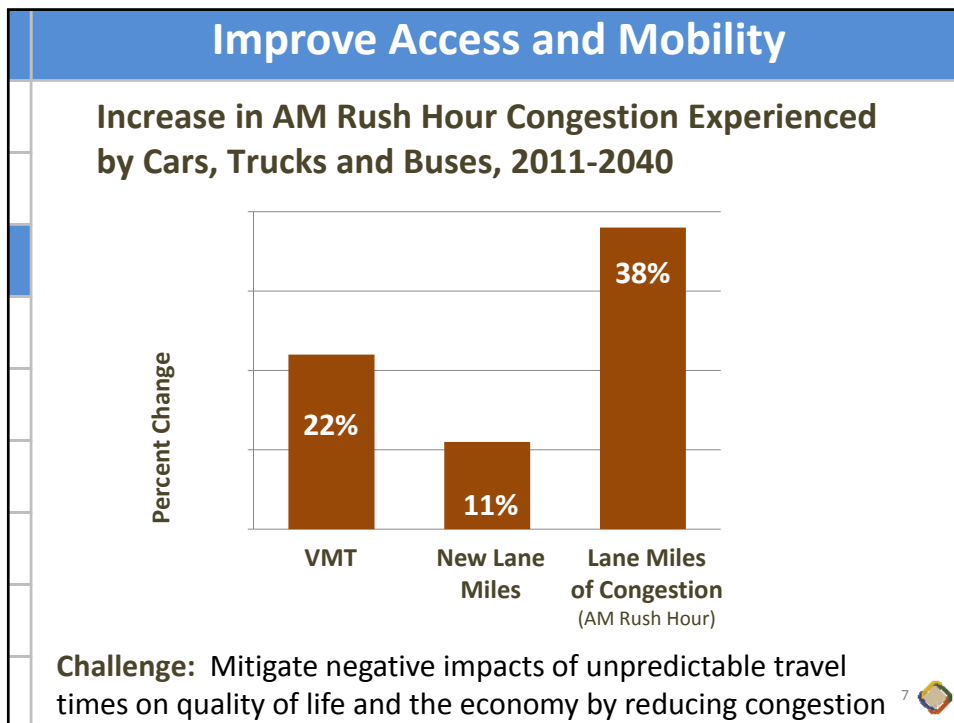


Provide a Range of Transportation Options

Progress in Implementing the TPB’s Bicycle and Pedestrian Plan

Facility Type (in miles)	Existing Facilities in 2010	Planned New Facilities & Upgrades in 2010 Bike-Ped Plan	Total Planned Network for 2040
Bicycle Lane	91	450	541
Shared-Use Path	543	630	1173
Total	634	1080	1714

Challenge: Accelerate the rate of construction for TPB’s Bike and Ped Plan, since at the current rate only 60% of the planned facilities will be built by 2040



Improve Access and Mobility

Total Value of Goods Movement by all modes in the Region
forecast to grow 88% by 2040

Growth in Truck Trips 2011 to 2040

Category	Growth Percentage
Total Vehicle Trips	27%
Truck Trips	35%

Challenge: Address the significant unmet freight transportation needs identified in the TPB Freight Plan

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Improve Access and Mobility

Access for People with Disabilities

Access to bus, rail and taxis has improved but challenges remain:


- Reliability of bus lifts and elevators
- Demand and cost of paratransit
- Many bus stops and sidewalks need improvements
 - About 40 % of the region’s 20,000 bus stops are not fully accessible

Challenge: Improve reliability, coverage and efficiency of transit services for people with disabilities

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Prioritize Maintenance & Preservation

Numerous national reports find that America's roads, bridges and rails are deteriorating because of deferred maintenance



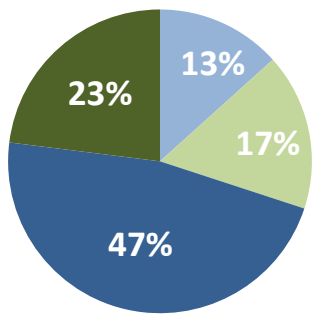
REPORT CARD	
2009 NATIONAL INFRASTRUCTURE CONDITIONS	
Roads	D-
Rail	C-
Bridges	C

Source: American Society of Civil Engineers

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Prioritize Maintenance & Preservation

CLRP Projected Expenditures, 2011 – 2040



- Transit Operations/Preservation (23%)
- Highway Operations/Preservation (47%)
- Transit Expansion (17%)
- Highway Expansion (13%)

Challenge: Identify sufficient revenues to adequately maintain and operate the existing system

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Maximize System Effectiveness

Managing Incidents

- Approximately 2,000 incidents with possible regional implications are reported each month
- MATOC is involved in 50-60 incidents per month
- MATOC benefit-cost ratio = 10:1

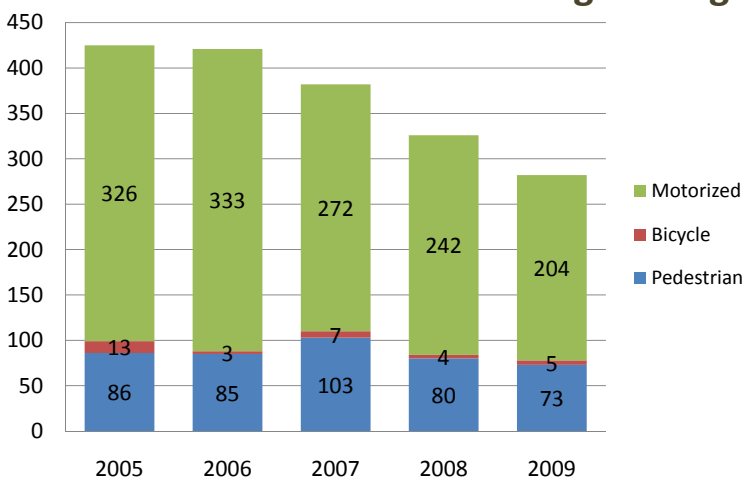



Challenge: Dedicate sufficient resources to manage incidents

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Improve Safety of All Modes

Traffic fatalities in the Washington Region



Year	Pedestrian	Bicycle	Motorized	Total
2005	86	13	326	425
2006	85	3	333	421
2007	103	7	272	382
2008	80	4	242	326
2009	73	5	204	282

Challenge: Reduce bike and pedestrian fatalities, as well as motorized fatalities

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Promote Accessibility of Activity Centers

	2011	2040
Regional Activity Centers	59	59
Metrorail Stations	86	98
Commuter Rail Stations	52	53
Regional Activity Centers with Rail Transit	31 with rail 25 Metrorail 15 Commuter Rail	37 with rail 31 Metrorail 15 Commuter Rail
Regional Activity Centers without Rail Transit	28	22
Rail Stations Not Located in Regional Activity Centers	73 37 Metrorail 36 Commuter Rail	76 39 Metrorail 37 Commuter Rail

Challenge: Seek opportunities for improving the match of rail transit and Activity Centers

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Promote Accessibility of Activity Centers

In 2011, most Activity Centers are served by bus transit, and about 2/3 have a high level of access to bus stops.

	within 1/4 mile of a bus stop
Centers with High Bus Stop Coverage (>75% Area)	38 (65%)
Centers with Medium Bus Stop Coverage (50%-75% Area)	9 (15%)
Centers with Low Bus Stop Coverage (<50% Area)	9 (15%)
Centers with No Bus Stop Coverage	3 (5%)
<i>(59 Activity Centers in Total)</i>	

Challenge: Increase bus stop coverage in the Activity Centers


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Promote Accessibility of Activity Centers

Higher Street Block Density Means Greater Walkability (# of blocks per sq. mile)


Street Block Density in Activity Centers

Activity Center Type	Street Block Density
DC Core	131
Mixed-Use Centers	104
Employment Centers	41
Suburban Employment Centers	25
Emerging Employment Centers	16




Within the **2.2 sq miles** of Downtown Alexandria there are **303 blocks**, resulting in a street block density of **137.7 blocks per sq mile**.

Challenge: Increase walkability in Activity Centers


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Promote Accessibility of Activity Centers


How Future Street Block Density Can Be Measured: Tysons Corner

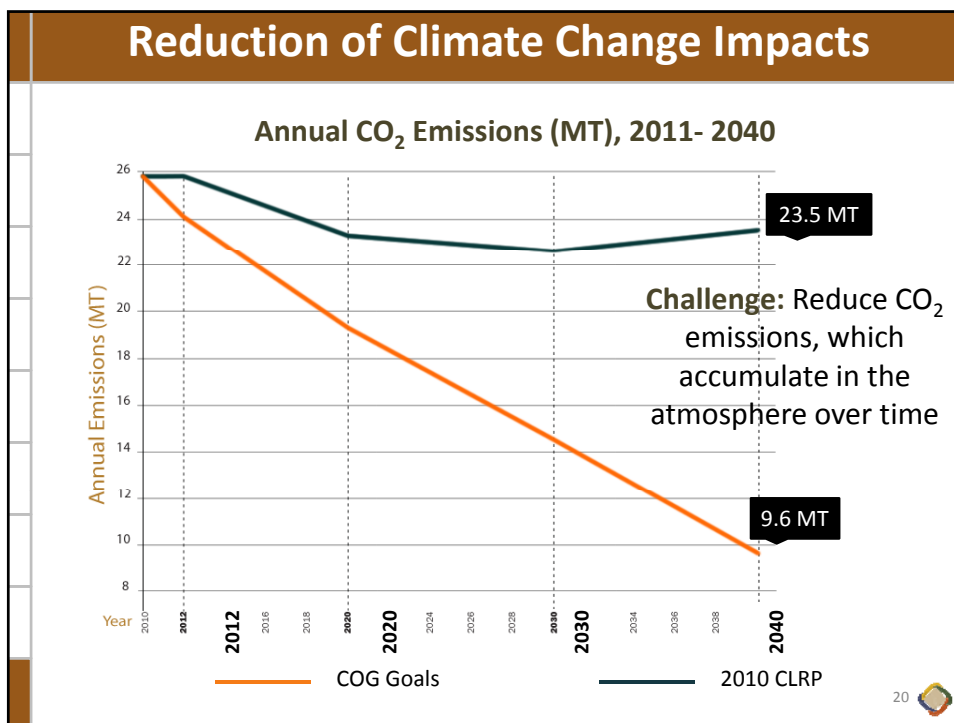
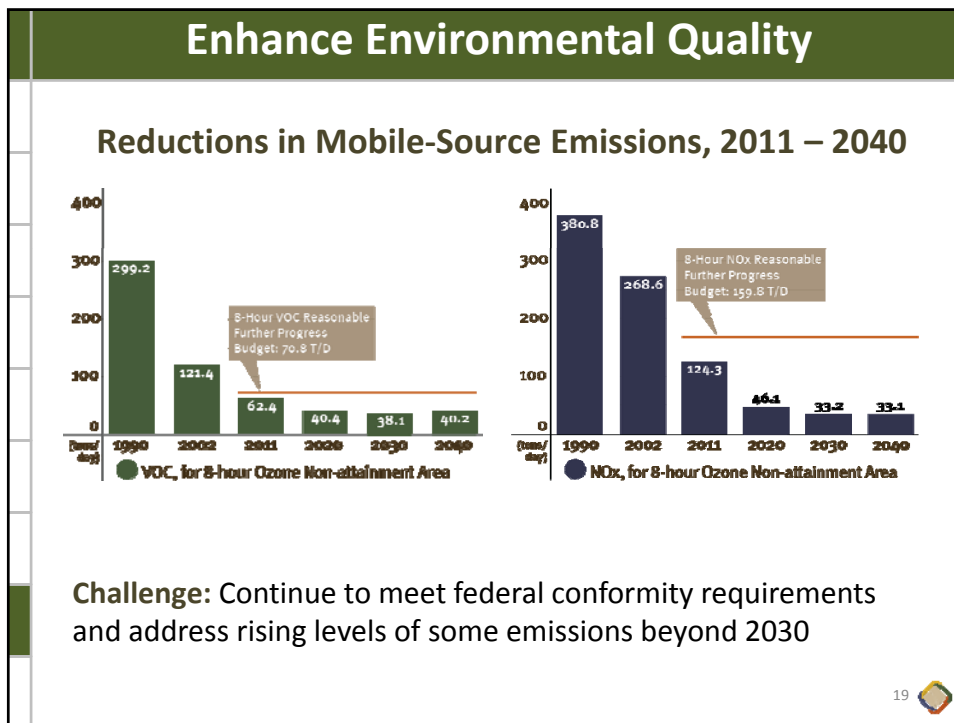


**2011 Street Block
Density: 45.3**




**2030 Street Block
Density: 96.1**

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Addressing the Challenges


- Many of the challenges cannot be met through transportation strategies alone but **will require supportive strategies** from other sectors such:
 - Land Use
 - Technology
 - Education & Enforcement

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Summary of Challenges


	Challenge	Types of Strategies Needed			
		Transportation	Land Use	Technology	Education & Enforcement
Provide a range of choices	Further reduce the percentage of commuters driving alone	●	●		
	Further reduce VMT per capita by shifting more short trips to non-auto modes	●	●		
	Accelerate the rate of construction for the TPB's Bike and Ped Plan	●	●		


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Summary of Challenges, cont.


Challenge	Types of Strategies Needed			
	Transportation	Land Use	Technology	Education & Enforcement
Improve Access & Mobility Mitigate negative impacts of unpredictable travel times on quality of life and the economy by reducing congestion Identify funding and management strategies to eliminate projected Metrorail capacity constraints Address the significant unmet freight transportation needs identified in the TPB Freight Plan Improve reliability, coverage and efficiency of transit services for people with disabilities	●	●	●	
	●			
	●			
	●	●	●	

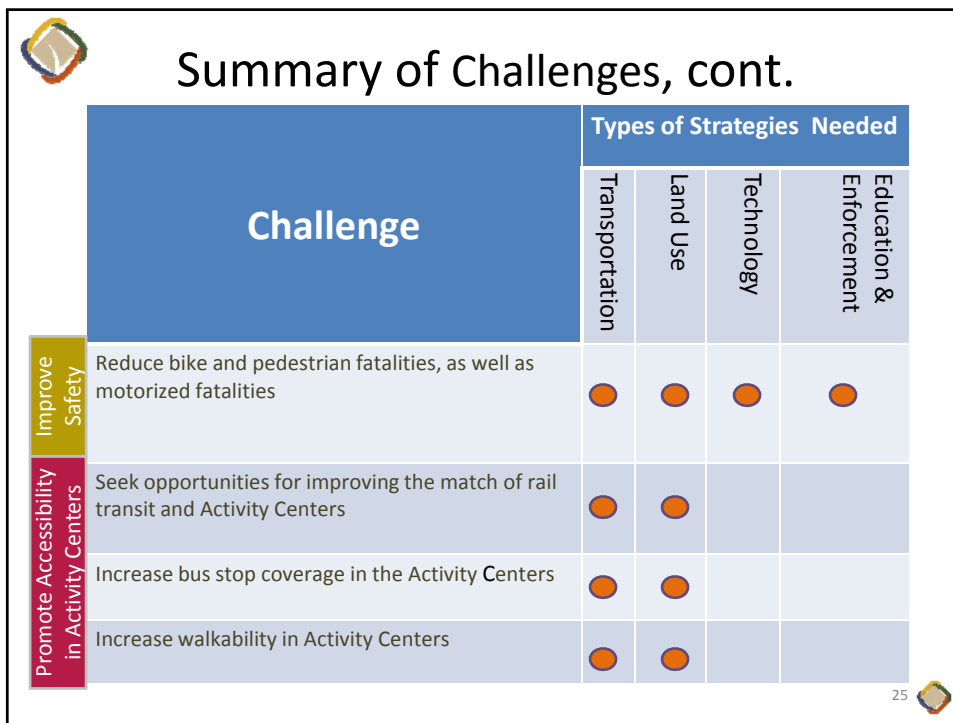
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Summary of Challenges, cont.

Challenge	Types of Strategies Needed			
	Transportation	Land Use	Technology	Education & Enforcement
Prioritize Maintenance and Preservation Identify sufficient revenues to adequately maintain and operate the existing system	●			
Maximize System Effectiveness Dedicate sufficient resources to manage incidents	●		●	●

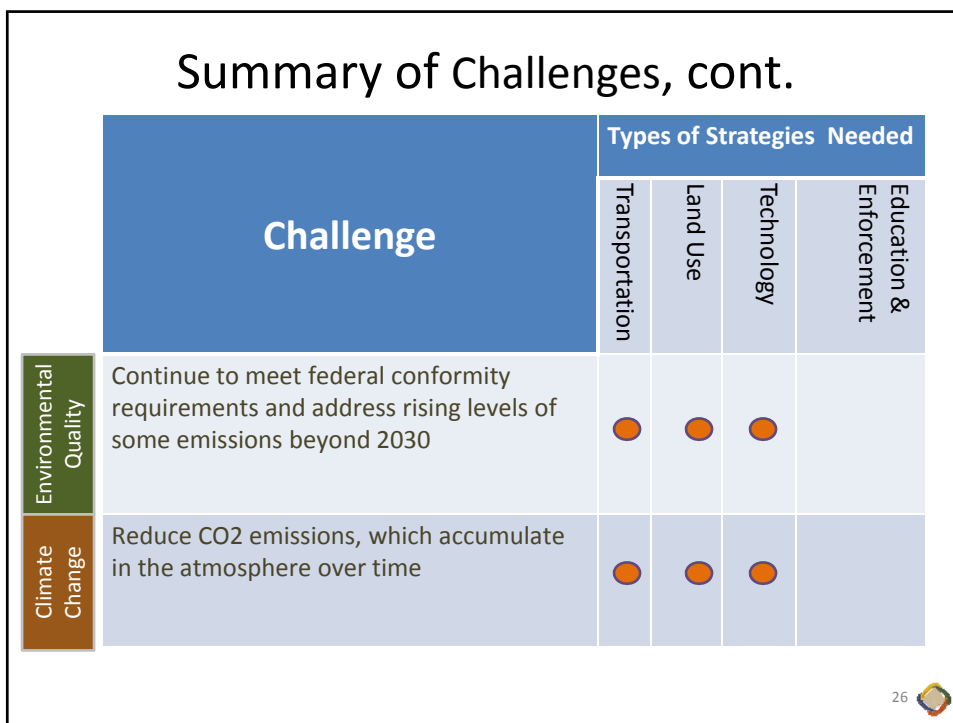




Summary of Challenges, cont.

Challenge	Types of Strategies Needed			
	Transportation	Land Use	Technology	Education & Enforcement
Improve Safety Reduce bike and pedestrian fatalities, as well as motorized fatalities	●	●	●	●
Promote Accessibility in Activity Centers Seek opportunities for improving the match of rail transit and Activity Centers	●	●		
Increase bus stop coverage in the Activity Centers	●	●		
Increase walkability in Activity Centers	●	●		

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Summary of Challenges, cont.

Challenge	Types of Strategies Needed			
	Transportation	Land Use	Technology	Education & Enforcement
Environmental Quality Continue to meet federal conformity requirements and address rising levels of some emissions beyond 2030	●	●	●	
Climate Change Reduce CO2 emissions, which accumulate in the atmosphere over time	●	●	●	

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Next Steps

- 2010 CLRP performance analysis to be completed in March
- Measures presented today show key challenges the region is facing
- These challenges should be considered when developing a Priorities Plan
- Priorities Plan “scenarios” can be examined with the same measures

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