National Capital Region Transportation Planning Board

Measuring Progress Toward Meeting Regional Goals

COG Planning Directors
Technical Advisory Committee
April 15, 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**
- Initial presentation on performance measures to **Priorities Plan Scoping Task Force** on Feb 16, 2011

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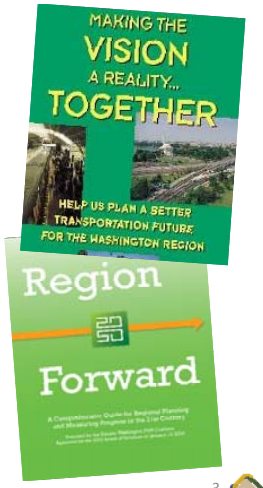
Regional Transportation Goals

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
7. Enhance environmental quality, protect human health and improve energy efficiency
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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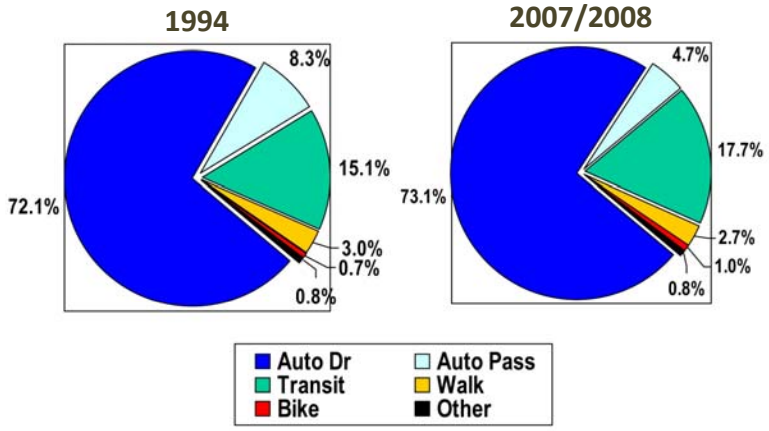
Provide a Range of Transportation Options

Change in Commuting Modal Share



Challenge: Reduce the percentage of commuters driving alone to work

Source: 1994 and 2007/2008 TPB Household Travel Survey

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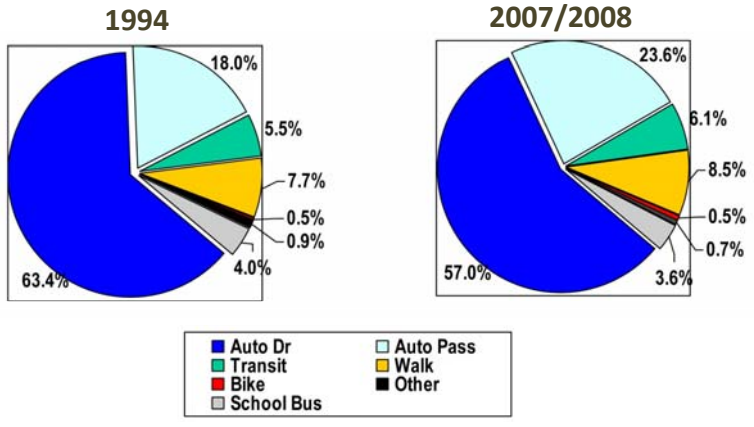
Provide a Range of Transportation Options

Change in Daily Trip Modal Share



Challenge: Continue to reduce the percentage of people driving alone to meet their daily transportation needs

Source: 1994 and 2007/2008 TPB Household Travel Survey

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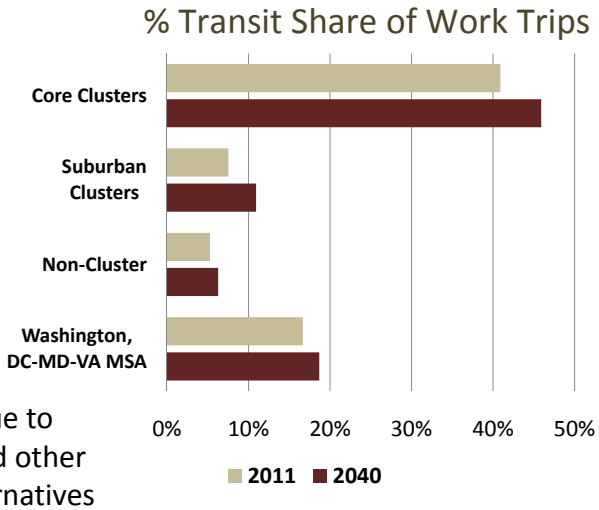
Provide a Range of Transportation Options

Photo Credit: WMATA



Challenge: Continue to promote transit and other transportation alternatives for residents and workers

Source: Round 8.0 Cooperative Forecasts, Version 2.2 Travel Model

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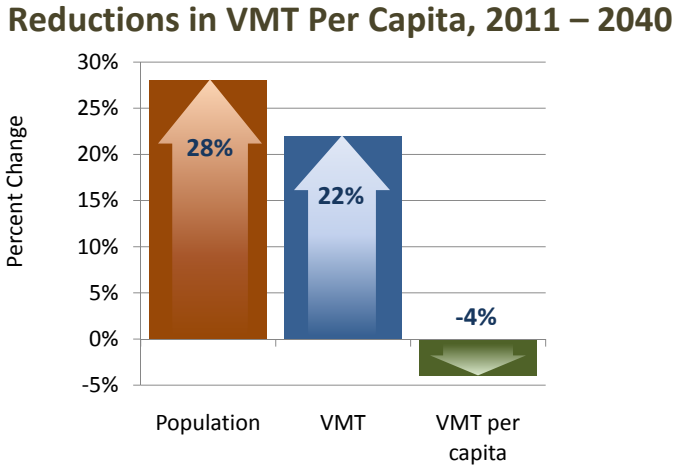
Provide a Range of Transportation Options



Challenge: Further reduce VMT per capita by shifting more short trips to non-auto modes

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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

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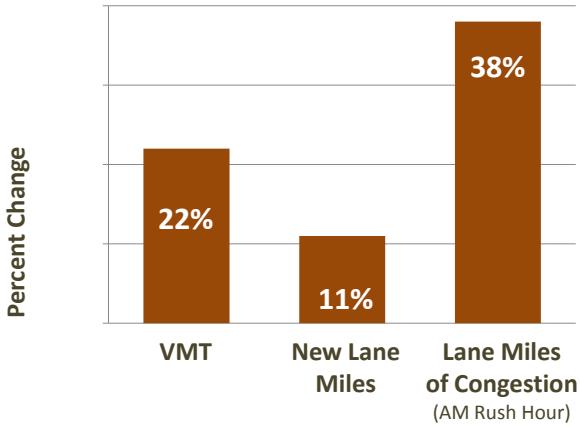
Improve Access and Mobility

Increase in AM Rush Hour Congestion Experienced by Cars, Trucks and Buses, 2011-2040



Challenge: Mitigate negative impacts of unpredictable travel times on quality of life and the economy by reducing congestion

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Improve Access and Mobility

Peak Hour Metrorail Passenger Loads, 2011 – 2040

Line	2011	2040 with 50% 8-car	2040 w/ 100% 8-car
Red			
Blue			
Orange/Dulles			
Yellow			
Green			

Satisfactory (<100 people per car)
Congested (100-120 people per car)
Highly Congested (>120 people per car)

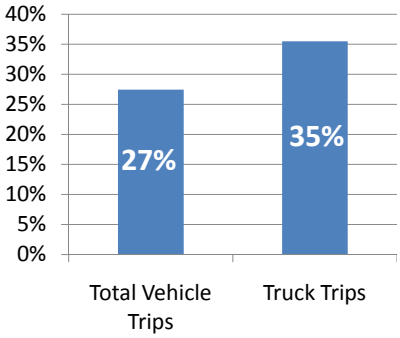
Source: WMATA Regional Transit Plan, In Progress

Challenge: Identify funding and management strategies to eliminate projected Metrorail capacity constraints

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



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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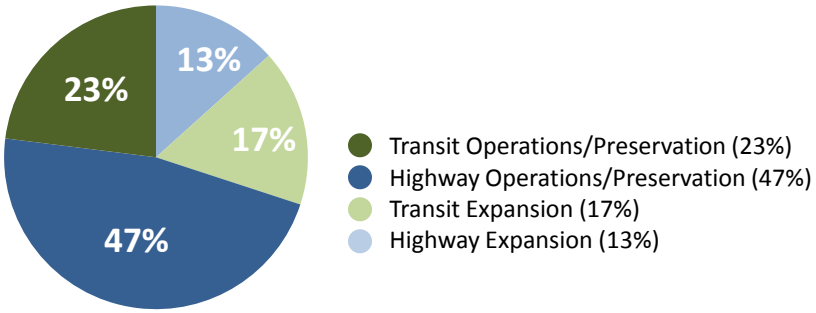
Prioritize Maintenance & Preservation

CLRP Projected Expenditures, 2011 – 2040



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

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Prioritize Maintenance & Preservation

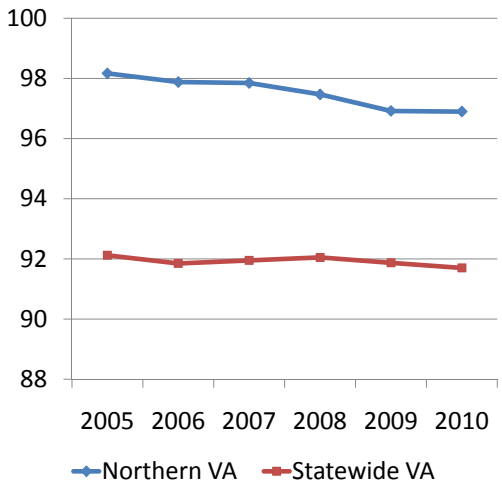
The bridges in Northern Virginia are fairly well maintained, as compared to statewide trends…

Photo Credit: Doug Kerr

*Data from MD and DC will also be collected.

Bridge Conditions

% Non-Deficient



Source: VDOT Dashboard 3.0

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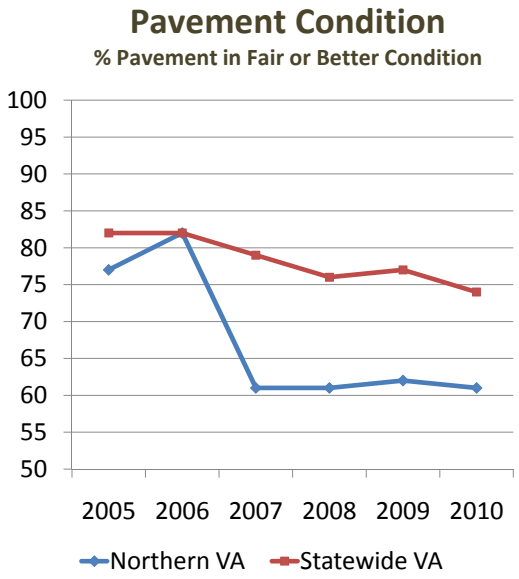
Prioritize Maintenance & Preservation

…but roads in Northern Virginia are in need of repair…

Photo Credit: Deb Lindsey

*Data from MD and DC will also be collected.



Source: VDOT Dashboard 3.0

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Prioritize Maintenance & Preservation

…and our infrastructure supporting transit is in need of repair too.

522

out of **588**

Escalators available

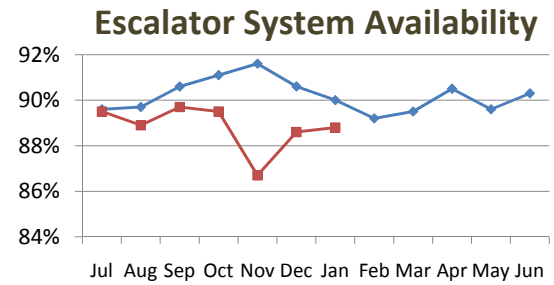
In January 2011

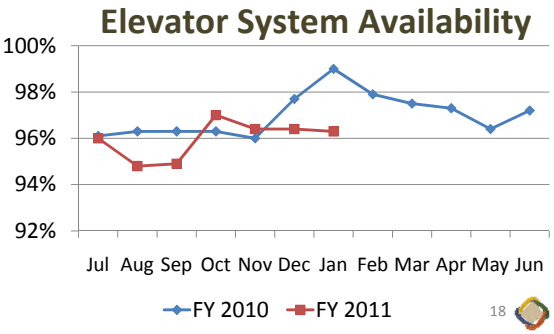
228

out of **237**

Elevators available

In January 2011





Source: Metro Scorecard

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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

MATOC
Metropolitan Area Transportation Operations Coordination

Challenge: Dedicate sufficient resources to manage incidents

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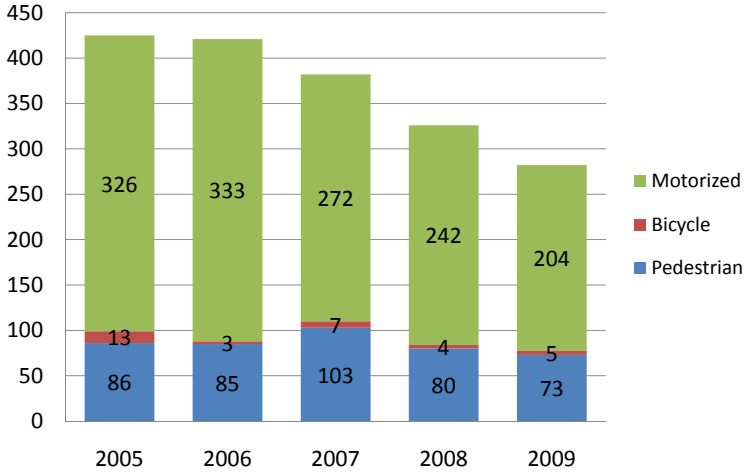
Improve Safety of All Modes

Traffic fatalities in the Washington Region



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

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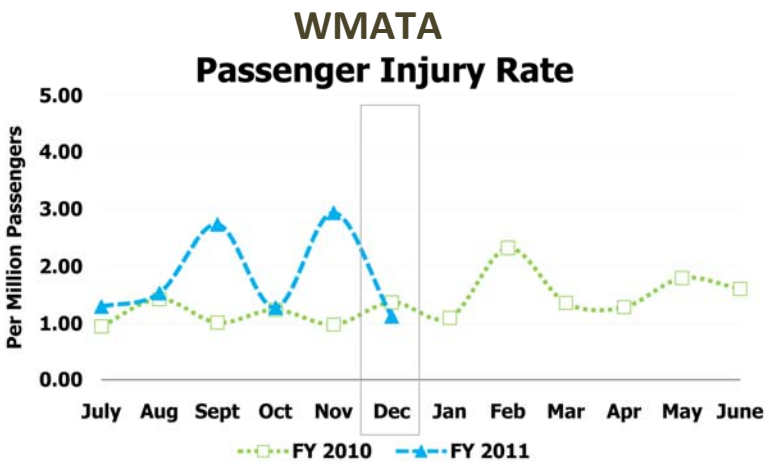
Improve Safety of All Modes



Challenge: Continue to operate a safe transit system

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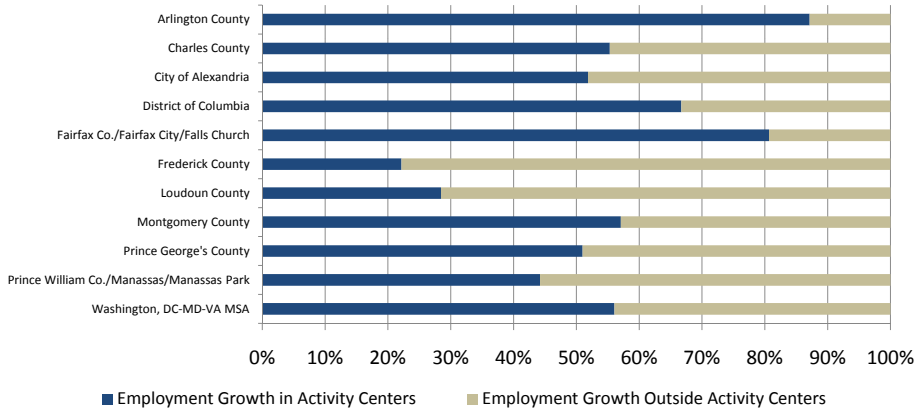
Source: Metro Scorecard

Promote Accessibility of Activity Centers

Jobs & Housing Balance

Employment Growth & Activity Centers, 2011-2040



Challenge: Continue to focus employment in Activity Centers to promote an efficient transportation system

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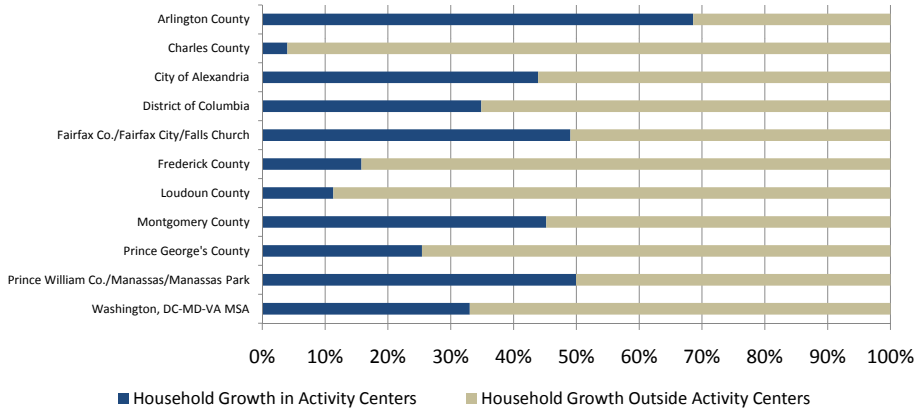
Source: Round 8.0 Cooperative Forecast, Revised Round 7 Activity Center Boundaries

Promote Accessibility of Activity Centers

Jobs & Housing Balance

Household Growth & Activity Centers, 2011-2040



Challenge: Continue to focus housing in Activity Centers to promote an efficient transportation system

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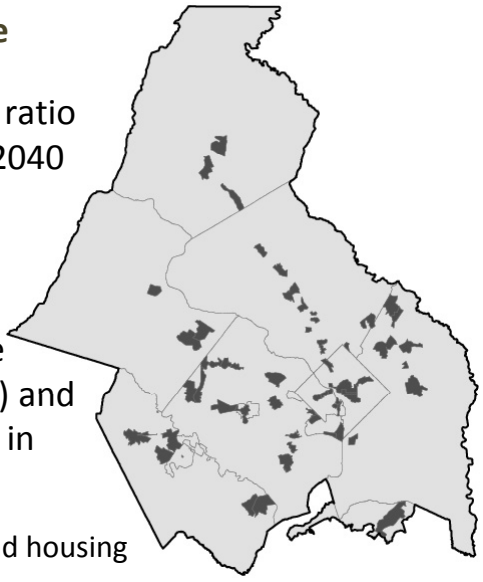
Source: Round 8.0 Cooperative Forecast, Revised Round 7 Activity Center Boundaries

Promote Accessibility of Activity Centers

Jobs & Housing Balance

- Regional Jobs-Household ratio of **1.6** in 2011, and **1.7** in 2040
- **55%** of all jobs in Activity Centers (2011 and 2040)
- **14%** of all households are currently in Centers (2011) and **19%** of households will be in Centers (2040)



Challenge: Improve the jobs and housing balance in Activity Centers

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

Promote Accessibility of Activity Centers

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

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

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%)
(59 Activity Centers in Total)	

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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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

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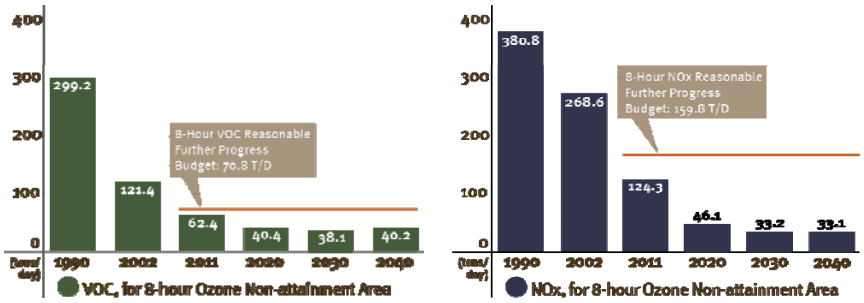
Source: Round 8.0 Cooperative Forecasts, Version 2.2 Travel Model

Enhance Environmental Quality

Reductions in Mobile-Source Emissions, 2011 – 2040



Challenge: Continue to meet federal conformity requirements and address rising levels of some emissions beyond 2030

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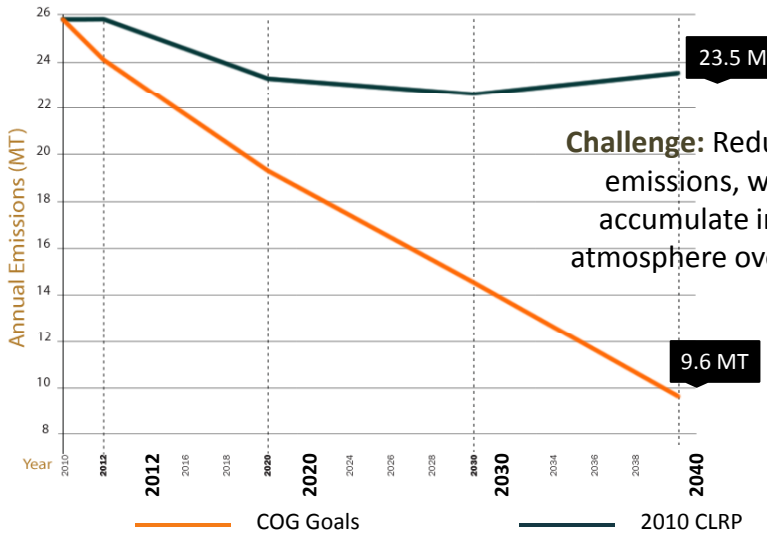
Reduction of Climate Change Impacts

Annual CO_2 Emissions (MT), 2011- 2040



Challenge: Reduce CO_2 emissions, which accumulate in the atmosphere over time

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Next Steps

- Complete performance analysis of the 2010 CLRP
- 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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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@mwcog.org and allow 7 days for preparation of the materials.

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