

THE FINANCIALLY CONSTRAINED

LONG-RANGE TRANSPORTATION PLAN

FOR THE NATIONAL CAPITAL REGION

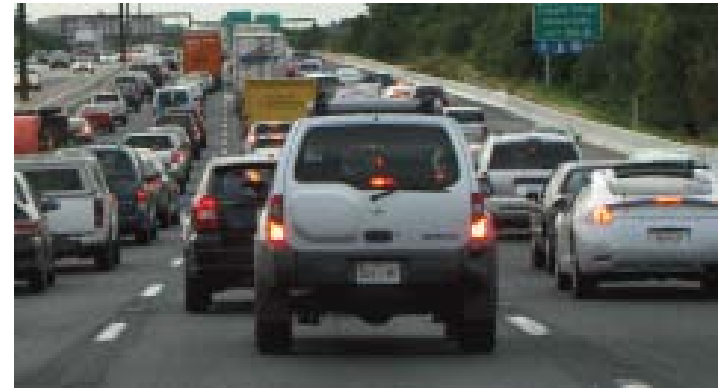
Adopted: July 18, 2012



Performance Analysis

December 19, 2012

(updated from November 28, 2012)



Presentation to the
National Capital Region Transportation Planning Board (NCR-TPB)

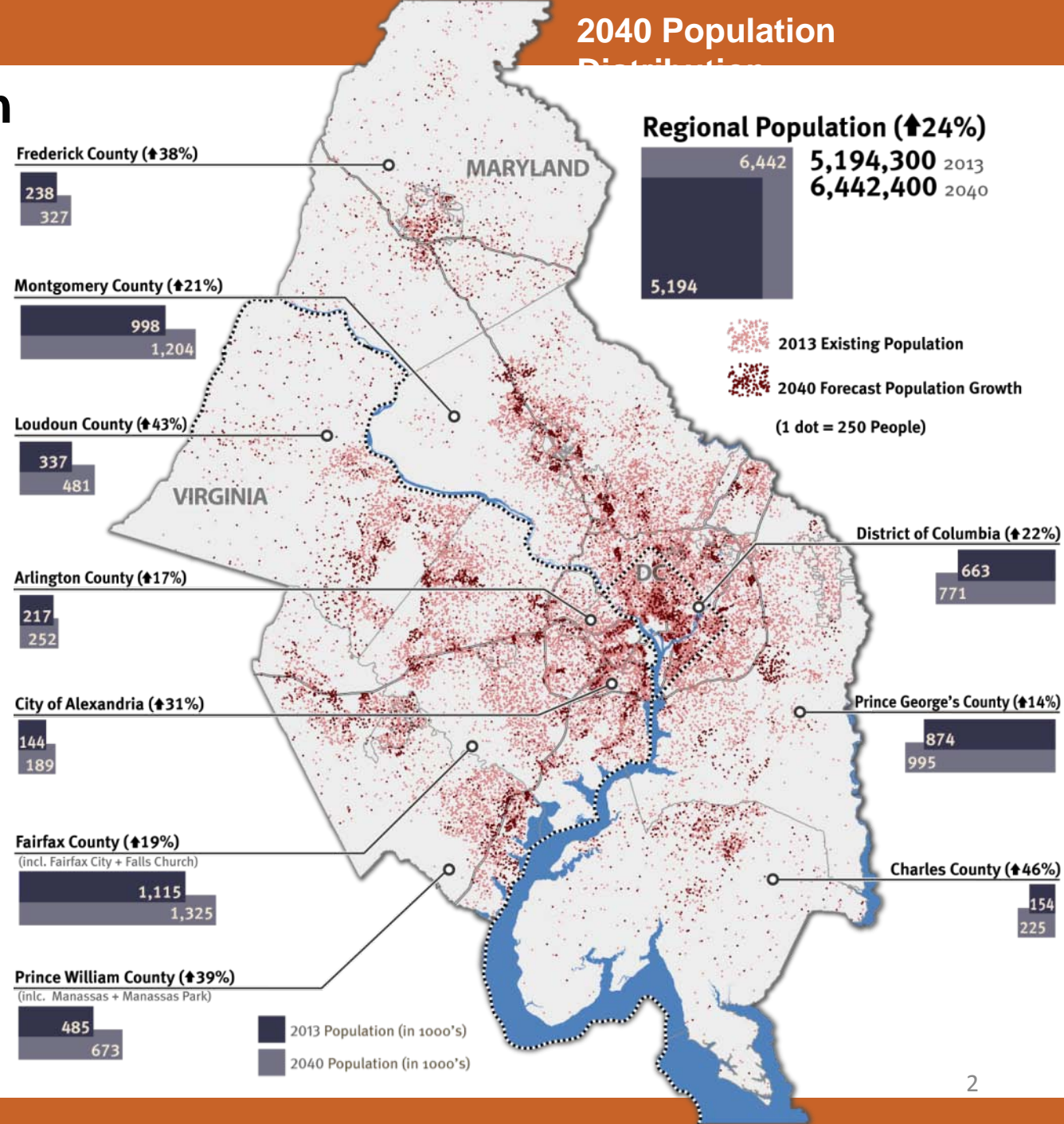
Population Growth

2013 - 2040

By 2040 the region's population will grow by 24% to almost 6.5 million people.

The population of the outer jurisdictions is expected to grow at a faster rate than the inner jurisdictions.

The inner jurisdictions will retain the majority of the region's population in 2040.



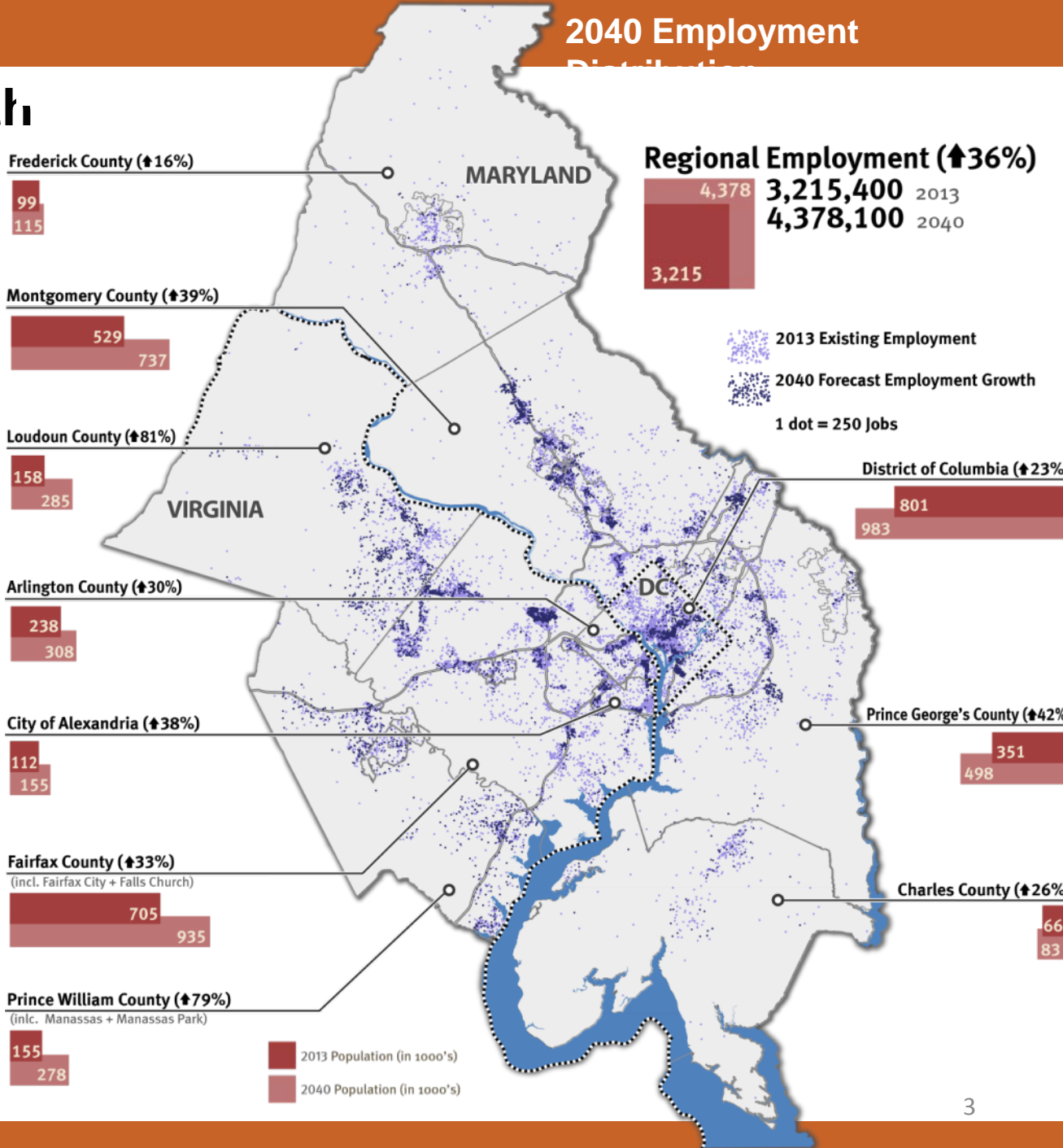
Employment Growth

2013 - 2040

By 2040 the region's employment will grow by 36%.

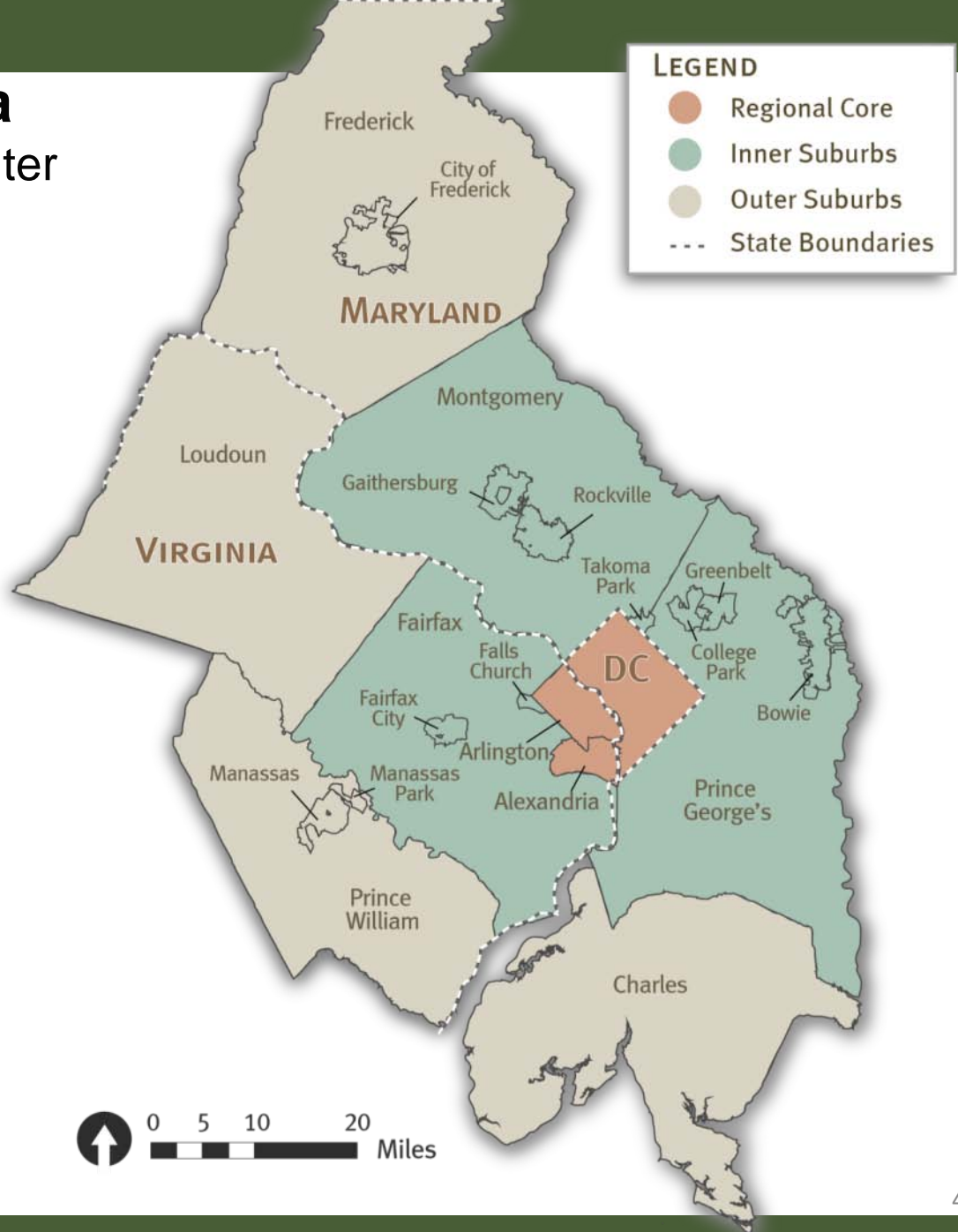
Employment is expected to grow fastest in the outer jurisdictions of Virginia, but the highest concentration of jobs will be in the District of Columbia, Fairfax County, VA, and Montgomery County, MD in 2040.

In 2040 population will be slightly more dispersed than it is today, and jobs will continue to concentrate toward the western side of the region.



The TPB Planning Area

Regional Core, Inner, and Outer Suburbs



Households, Population, and Employment in 1990 and 2010

As estimated by Round 4.1 (1991) and Round 8.1 (2012) Cooperative Forecasts

Jurisdiction:	Households			Population			Employment		
	1990 ¹	2010 ²	Percent Growth	1990 ¹	2010 ²	Percent Growth	1990 ¹	2010 ²	Percent Growth
District of Columbia	259.3	266.7	3%	628.3	601.7	-4%	718.2	783.5	9%
Arlington Co., VA	81.4	98.1	20%	167.0	207.6	24%	214.6	223.3	4%
City of Alexandria, VA	56.0	68.1	22%	111.1	140.0	26%	97.1	106.0	9%
Montgomery Co., MD	280.0	361.0	29%	710.0	971.6	37%	455.0	510.1	12%
Prince George's Co., MD	262.9	304.0	16%	718.4	863.4	20%	311.8	342.6	10%
Fairfax Co., VA	316.3	399.5	26%	825.8	1,091.5	32%	412.4	680.0	65%
Loudoun Co., VA	30.7	104.6	241%	89.8	312.3	248%	33.8	143.7	325%
Prince William Co., VA	88.9	147.8	66%	277.0	454.1	64%	75.5	143.6	90%
Frederick Co., MD	53.0	84.8	60%	149.1	233.4	57%	54.0	98.7	83%
Charles Co., MD	34.0	51.0	50%	103.8	144.6	39%	34.2	62.2	82%
Total	1,462.5	1,885.6	29%	3,780.3	5,020.2	33%	2,406.6	3,093.7	29%

(1) 1990 estimates come from the Round 4.1 Cooperative Forecast – 1991

(2) 2010 estimates come from the Round 8.1 Cooperative Forecast – 2012

Households, Population, and Employment in 2010

Comparison of estimates from Round 4.1 (1991) and Round 8.1 (2012) Cooperative Forecasts

Jurisdiction:	Households			Population			Employment		
	Round 4.1 2010	Round 8.1 2010	Ratio (8.1:4.1)	Round 4.1 2010	Round 8.1 2010	Ratio (8.1:4.1)	Round 4.1 2010	Round 8.1 2010	Ratio (8.1:4.1)
District of Columbia	264.8	266.7	1.01	627.7	601.7	0.96	886.0	783.5	0.88
Arlington Co., VA	95.9	98.1	1.02	178.8	207.6	1.16	263.6	223.3	0.85
City of Alexandria, VA	72.0	68.1	0.95	135.0	140.0	1.04	145.2	106.0	0.73
Montgomery Co., MD	371.0	361.0	0.97	820.0	971.6	1.18	670.0	510.1	0.76
Prince George's Co., MD	337.0	304.0	0.90	840.9	863.4	1.03	473.0	342.6	0.72
Fairfax Co., VA	448.2	399.5	0.89	1,028.4	1,091.5	1.06	625.4	680.0	1.09
Loudoun Co., VA	77.4	104.6	1.35	210.9	312.3	1.48	98.3	143.7	1.46
Prince William Co., VA	142.7	147.8	1.04	390.2	454.1	1.16	142.9	143.6	1.00
Frederick Co., MD	92.5	84.8	0.92	243.6	233.4	0.96	117.5	98.7	0.84
Charles Co., MD	58.5	51.0	0.87	161.5	144.6	0.90	43.0	62.2	1.45
Total	1,960.0	1,885.6	0.96	4,637.0	5,020.2	1.08	3,464.9	3,093.7	0.89

Major CLRP and Non-CLRP Projects Completed by 2010

Major projects in 1991 CLRP and Completed by 2010

- The Green line to Greenbelt and Branch Ave. in MD, and from U Street to Ft. Totten in DC.
- The Red line to Glenmont in MD
- The Blue line to Franconia /Springfield in VA, and to Largo in MD
- The Fairfax County Parkway, construct
- I-66 widen to 6 lanes from Fairfax City to Manassas
- I-270 spurs widen to 6 lanes in MD
- Dulles Toll Road widen to 6 lanes in VA
- VA 28 widen to 8 lanes in VA

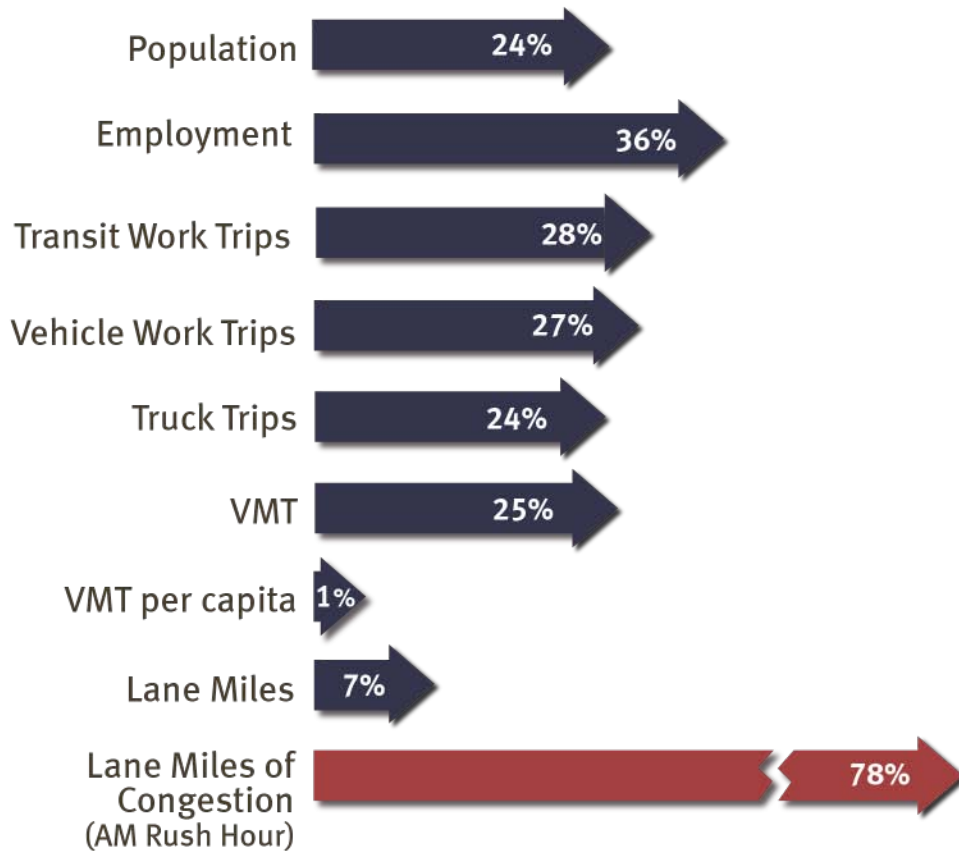
Projects not in the 1991 CLRP but built by 2010

- The Woodrow Wilson Bridge reconstruction (study only)
- I-95/395/495 interchange reconstruction (study only)
- Dulles Greenway construct 4 lanes in VA (study only)
- I-95 interchange at Arena Drive in MD
- New York Ave Metro Station in DC

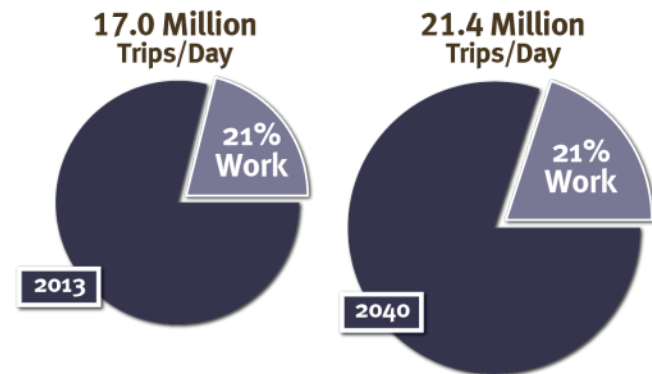
Travel Demand 2013 - 2040

In 2040 the total number of trips taken will increase by 4.4 million, or 26%. Commute trips will continue to account for only 21% of all trips taken in the region.

Change in Land Use and Travel Forecast 2013-2040



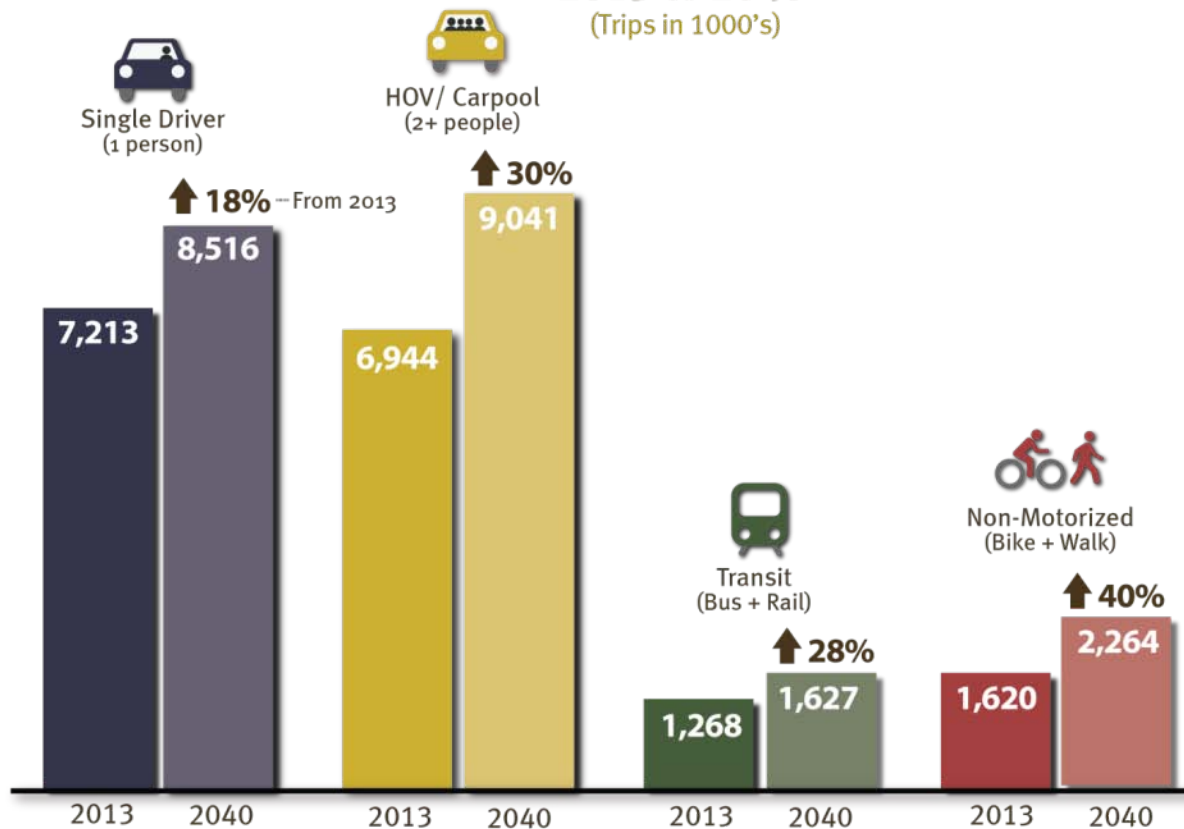
Trips by Purpose
2013 - 2040



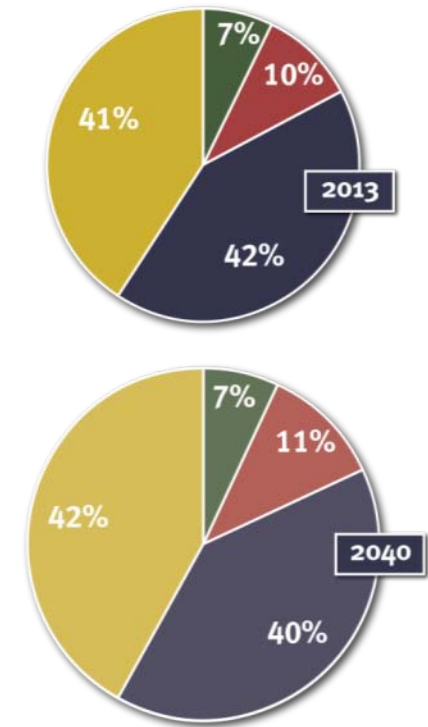
Daily Travel by Mode and Mode Share

2013 - 2040

Trips by Mode - Daily Travel
2013 to 2040
(Trips in 1000's)

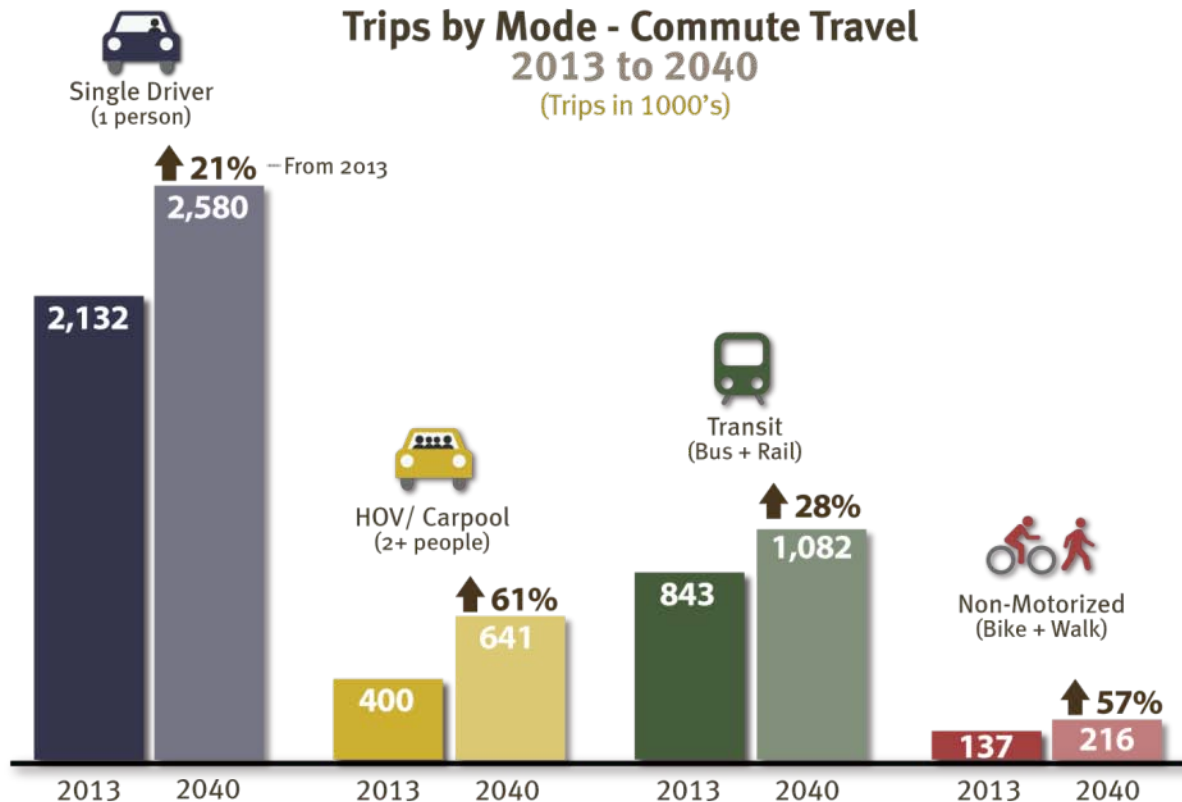


Mode Share for Daily Travel
2013 to 2040

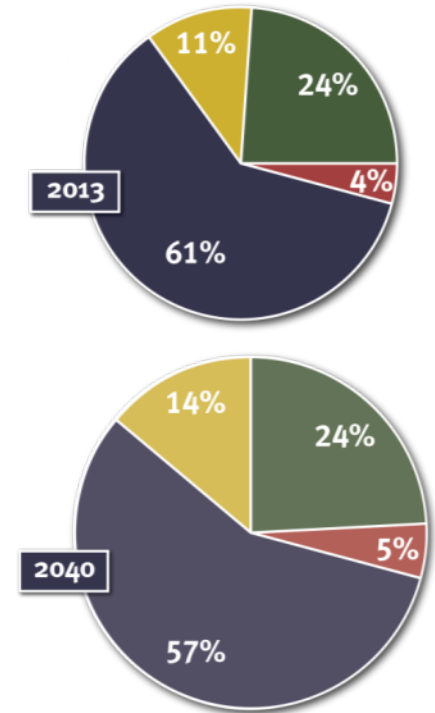


Commute Travel by Mode and Mode Share

2013 - 2040



Mode Share for Commute Travel
2013 to 2040

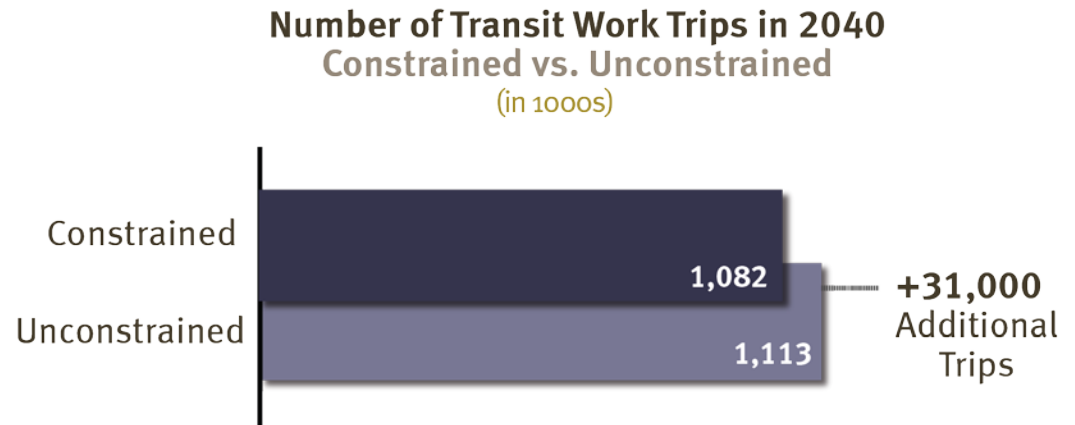


Unconstrained Transit

2013 - 2040

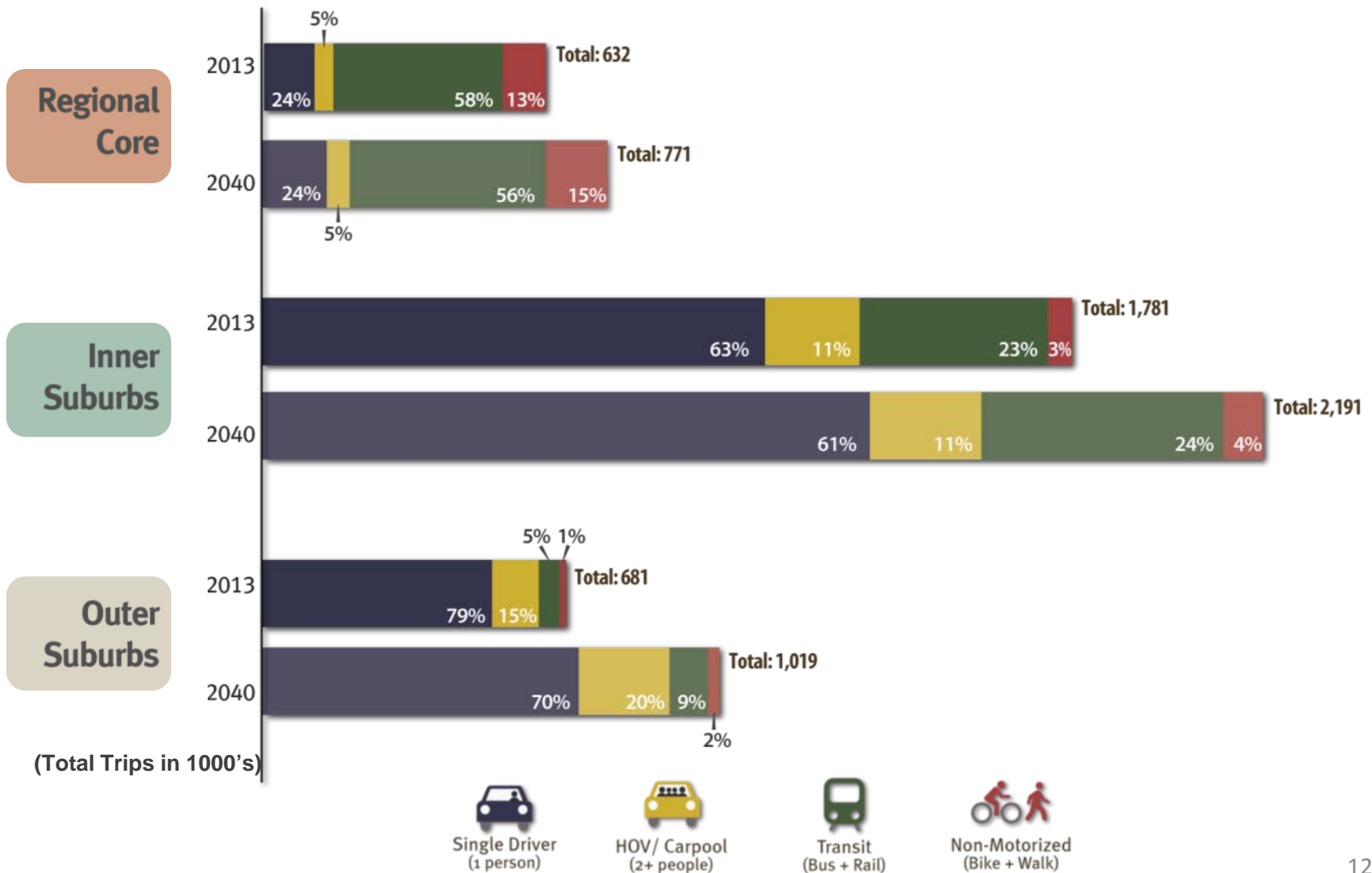
To address the lack of identified funding for WMATA's future rehabilitation and maintenance needs beyond 2020, transit ridership to or through the core area was constrained to 2020 levels.

When this constraint on transit trips is lifted, there is an increase of 31,000 transit work trips in 2040. This brings the commute mode share for transit up to **24.5%** from **24.0%**.



Commute Travel by Mode and Mode Share

For the Regional Core, Inner, and Outer Suburbs



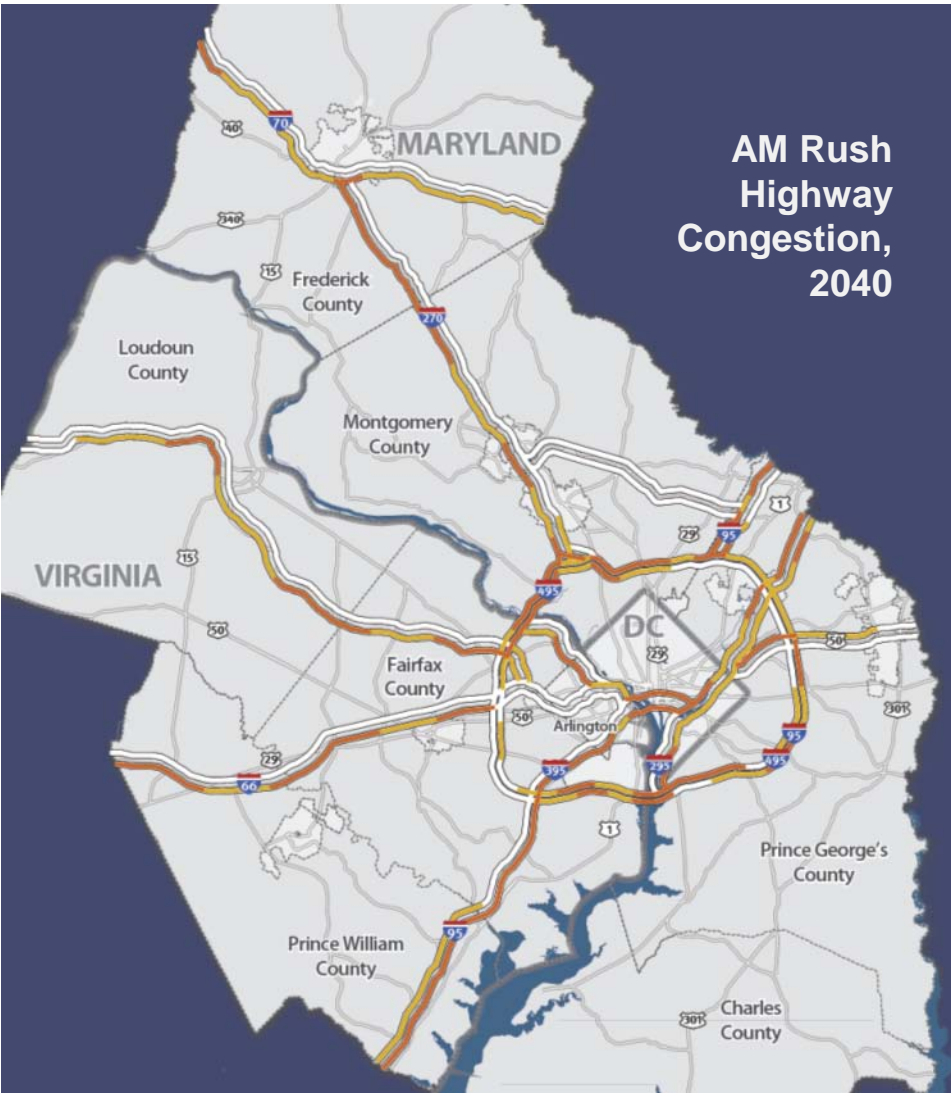
Commute Mode Share 2010/2011

In Selected Neighborhoods

		Drive Alone (SOV)	Carpool (HOV)	Transit	Walk	Bike	Other
Core	Logan Circle, DC	21%	4%	28%	33%	10.6%	2%
	Crystal City, VA	22%	4%	53%	19%	0.7%	2%
Inner	Largo, MD	70%	11%	13%	3%	2.8%	--
	Reston, VA	70%	17%	8%	3%	0.7%	2%
Outer	Woodbridge, VA	76%	13%	8%	1%	0.3%	2%
	Frederick, MD	78%	12%	4%	4%	1.5%	--

Source: 2010/2011 Geographically Focused Household Surveys reported to the TPB on May 16, 2012

Highway Congestion 2013 - 2040



NOTE: I-95 and I-495 in VA illustrates only non-priced lanes. Priced lanes will have free flow traffic.

Highway Congestion 2013 - 2040

1. AM congestion is expected to increase throughout most of the region in 2040, particularly in the following outer jurisdiction locations:
 - **I-95** North in Prince William County
 - **I-70** East in Frederick County
 - **I-270** South in Frederick and Montgomery Counties
 - **I-66** East in Prince Williams and Fairfax Counties
 - The **Dulles Toll Rd.** Eastbound in Loudoun and Fairfax Counties
2. Congestion will also increase inside the Capital Beltway along **I-395** North, **I-295/MD-295** North, and the **George Washington Memorial Parkway**; however **I-66** is expected to be uncongested due to planned HOV-3 restrictions.
3. While the **Capital Beltway** is expected to be more congested in most locations, congestion along the inner and outer loops in Fairfax County will be somewhat reduced due to the Express Toll Lanes.

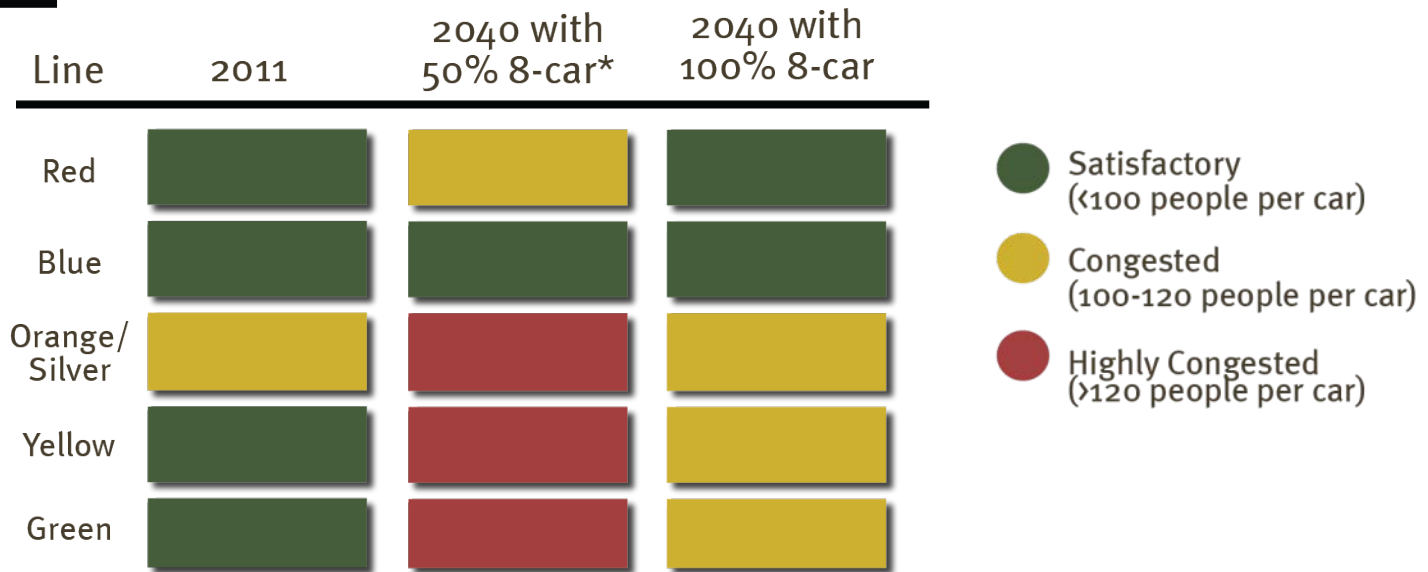
Transit Congestion 2013 - 2040

The Metrorail system will likely reach capacity on trips to and through the regional core, due to lack of funding for capacity enhancements.

Without additional railcars beyond those currently funded, all lines entering the core will become congested by 2040.



MetroRail Congestion AM rush hour



*The 2012 CLRP assumes 50% 8-car trains in 2040

Accessibility to Jobs

What is Job Accessibility?



Location of Jobs

+



Travel Time
(by auto or transit)

=

Accessibility

[Number of Jobs
Within 45 Minute
Commute]

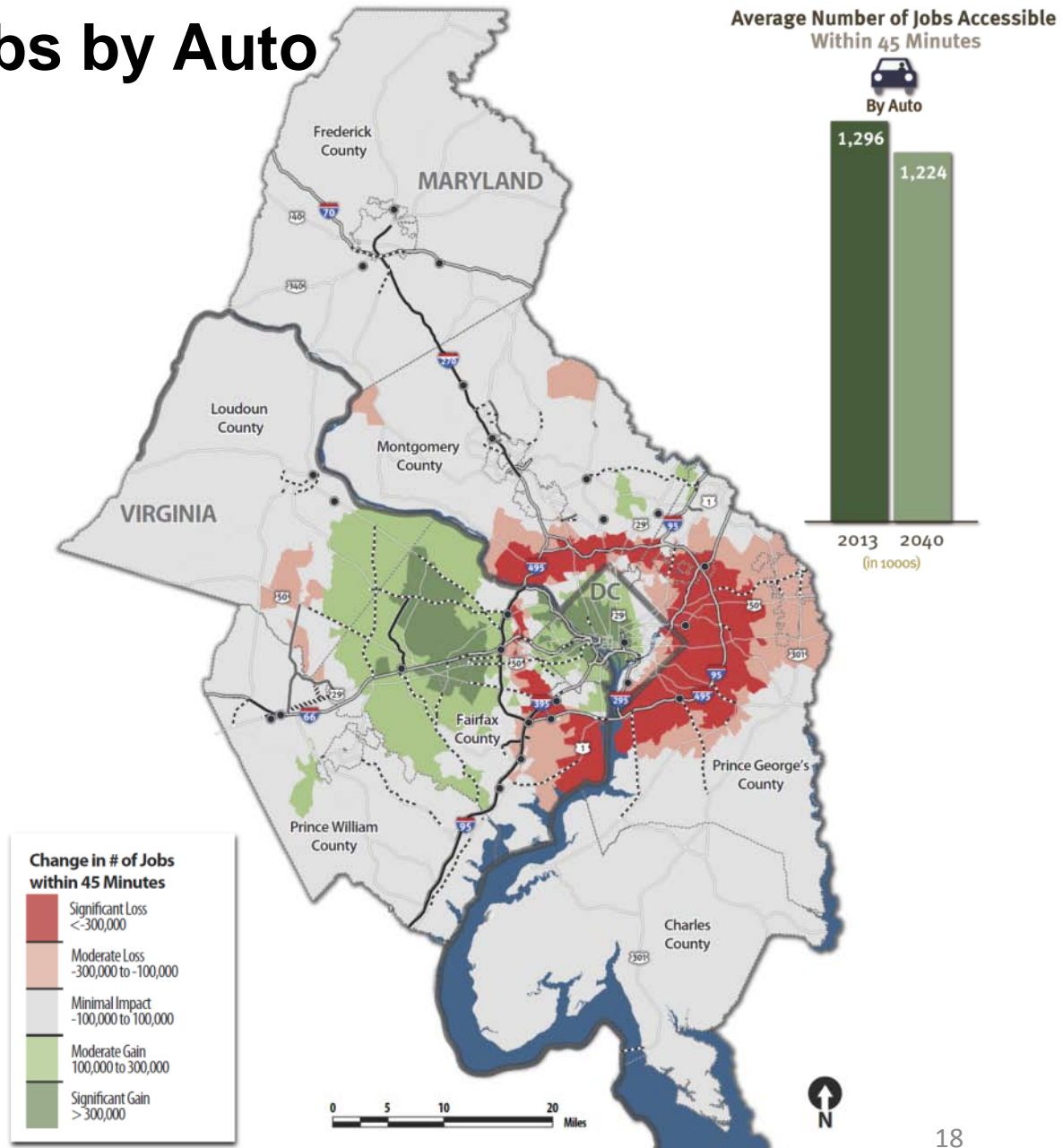
Jobs are considered to be **accessible** if they are within a 45 minute commute range.

Accessibility to Jobs by Auto

2013 - 2040

The average number of jobs accessible within a 45 minute automobile commute is expected to go down slightly.

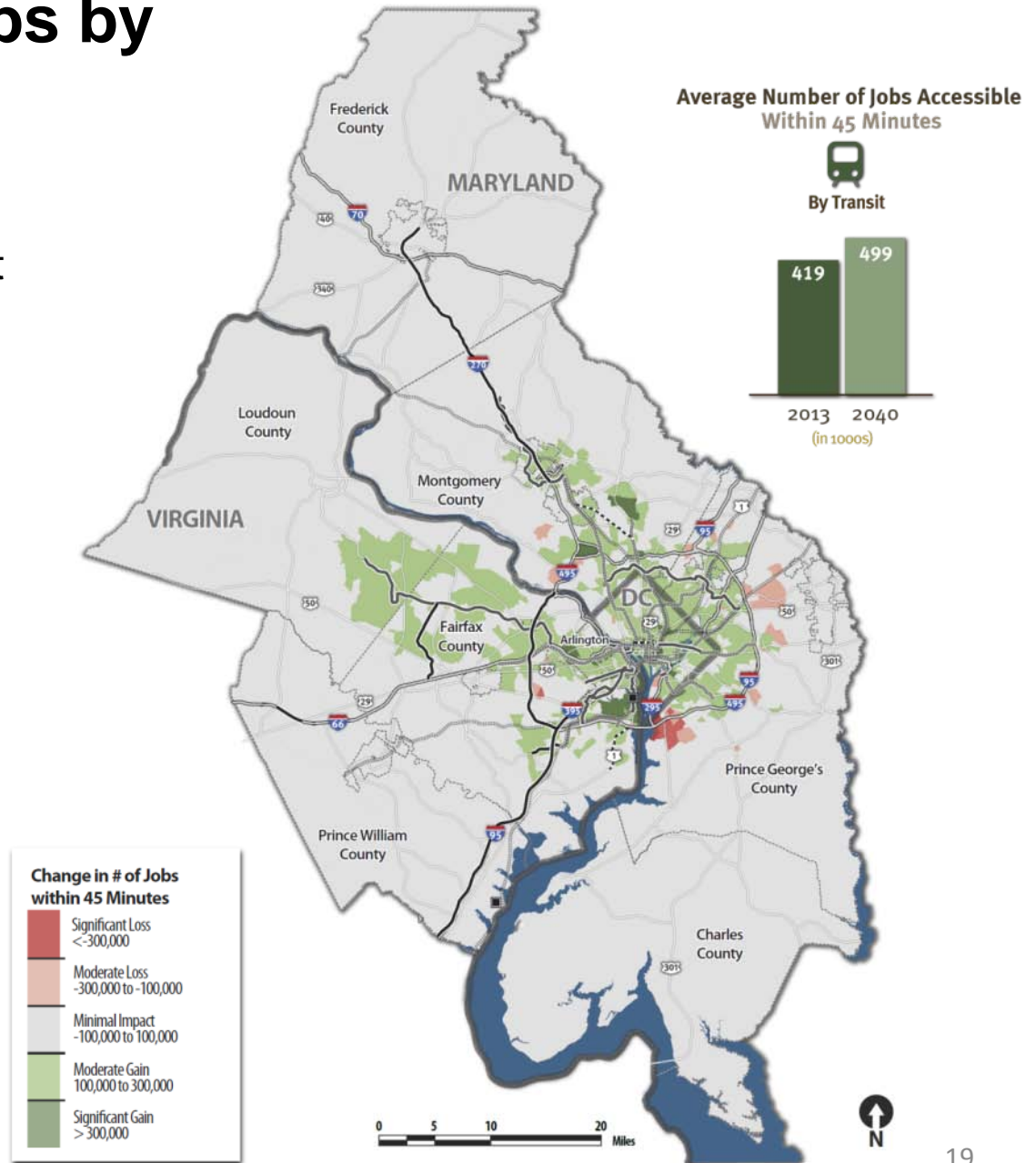
The greatest reductions in job accessibility are expected to be on the eastern side of the region, due to increases in congestion system-wide and a higher concentration of future jobs on the west side.



Accessibility to Jobs by Transit

2013 - 2040

Average accessibility by transit is forecast to increase, but will remain significantly lower than by automobile.



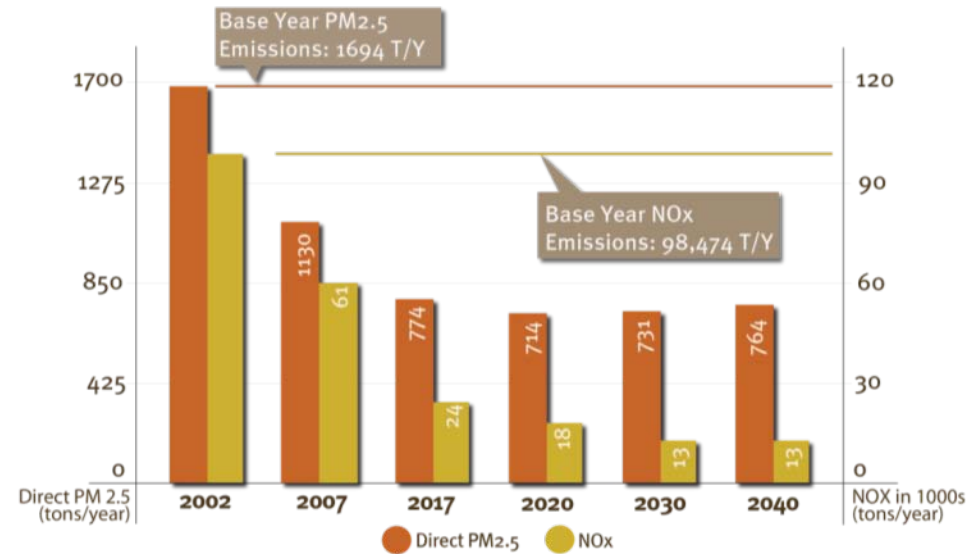
Air Quality

2013 - 2040

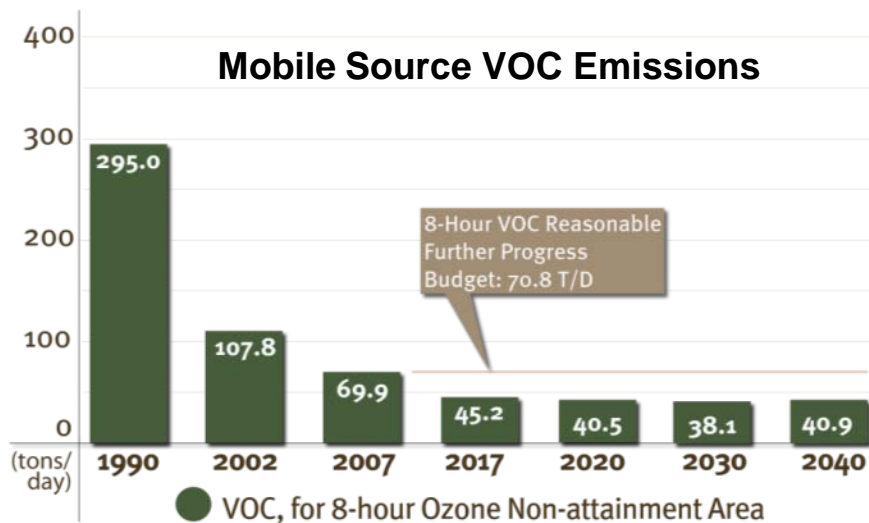
The CLRP shows substantial reductions in all three main pollutants through 2020, with a very small uptick between 2030 and 2040.

Estimated emissions are well within the approved budget for each pollutant through 2040.

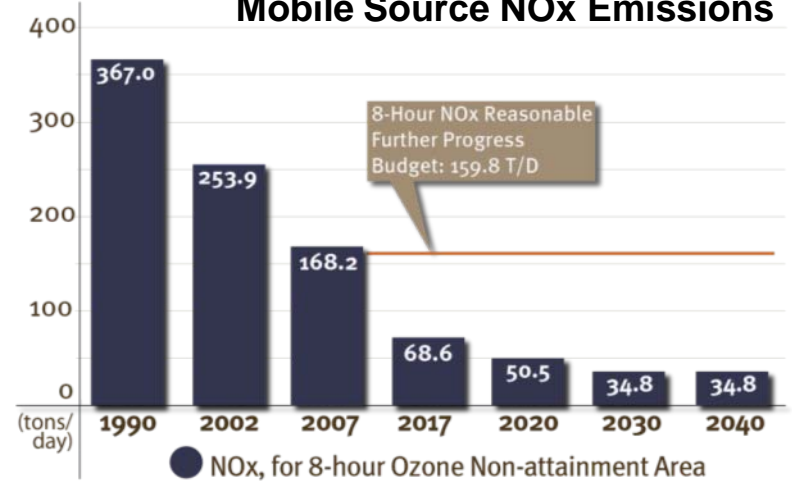
PM2.5 Direct and Precursor NOx emissions



Mobile Source VOC Emissions



Mobile Source NOx Emissions

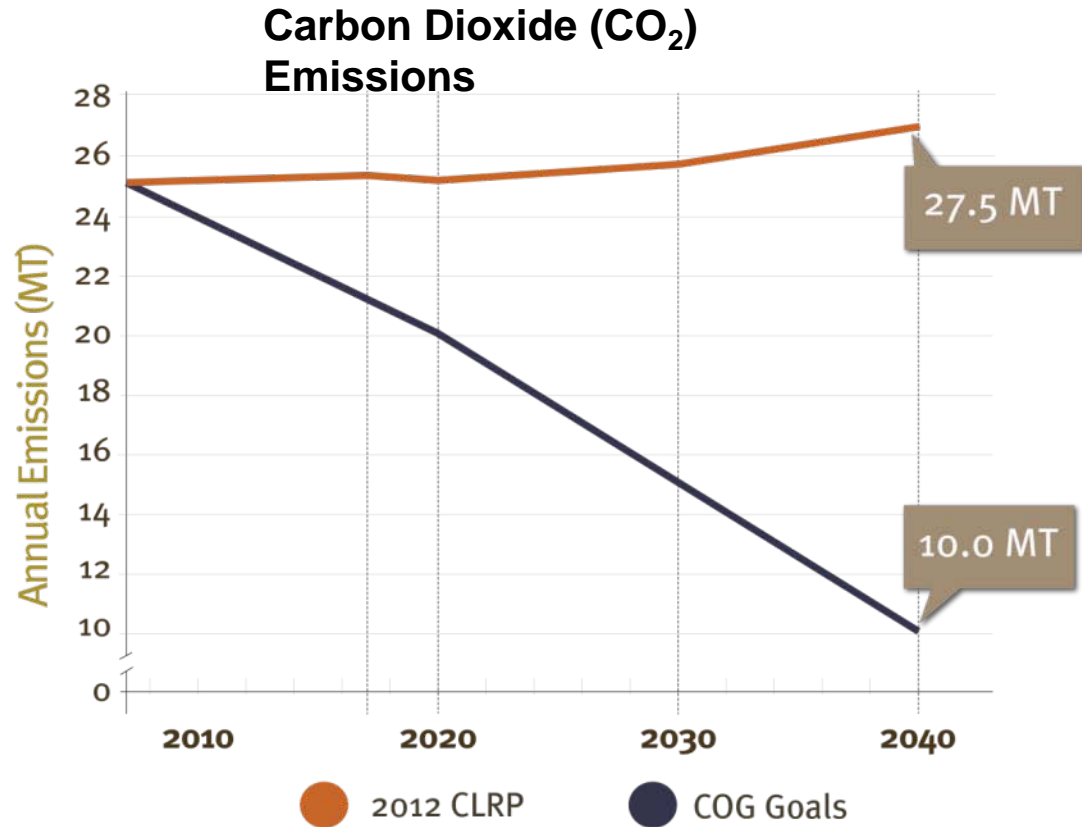


Air Quality – Carbon Dioxide (CO₂)

2013 - 2040

The regional target for carbon dioxide emissions is far from being met: emissions are projected to increase between 2010 and 2040.

However, when new federal fuel economy standards are included, it is expected that CO₂ emissions estimates will decrease over time.



Regional Challenges Highlighted by the 2012 CLRP



Metrorail Repair Needs: Funding to address deferred Metrorail maintenance needs is committed only through 2020.



Roadway Congestion: The region's roadways will remain among the most congested in the nation, limiting travel options for people and goods.

Regional Challenges Highlighted by the 2012 CLRP



Transit Congestion: The Metrorail system will experience increasingly severe crowding problems, and lack the capacity to support forecasted population and employment growth.

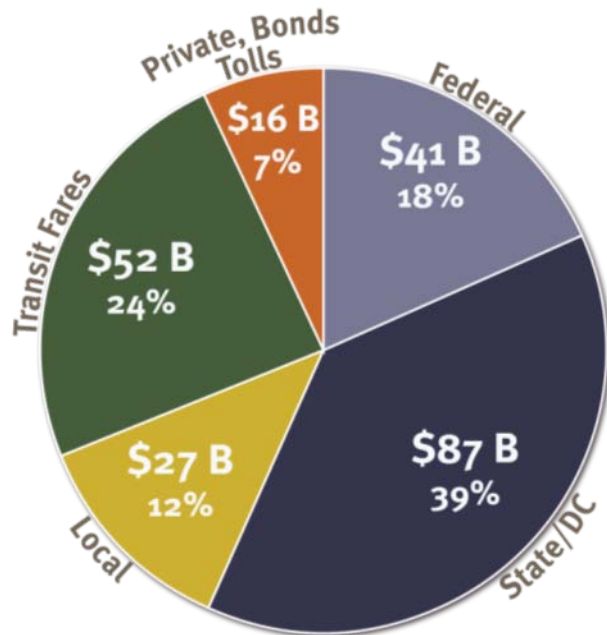


Housing & Job Location: Most housing and many of the region's jobs will continue to be located far outside of activity centers in locations with limited travel options.

CLRP Funding and Expenditures

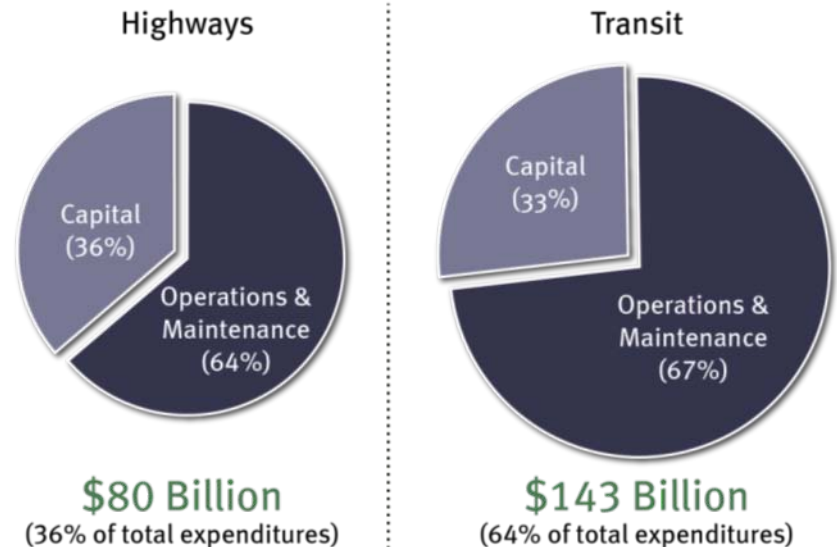
Revenues by Funding Source, 2011-2040

\$222.9 Billion



CLRP Expenditures, 2011-2040

\$222.9 Billion



Addressing the Challenges Highlighted by the 2012 CLRP

1. Obtain additional funding for both transit and roadways

- Transit:
 - Funding for Metrorail maintenance and rehabilitation needs beyond 2020
 - Funding to expand Metrorail capacity through 8-car trains and other measures
- Roadways:
 - Sufficient funding to support both road and bridge maintenance requirements and the capacity improvements needed to accommodate a growing region

2. Improve coordination of transportation and land-use

- Take advantage of the many untapped opportunities for mixed-use development near existing rail stations
- Concentrate more of the region's housing and employment growth in activity centers and other areas with good transportation options
- Address the imbalance between the east and west sides of the region