

THE FINANCIALLY CONSTRAINED

# LONG-RANGE TRANSPORTATION PLAN

FOR THE NATIONAL CAPITAL REGION

Adopted: July 18, 2012



## Performance Analysis

November 28, 2012



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

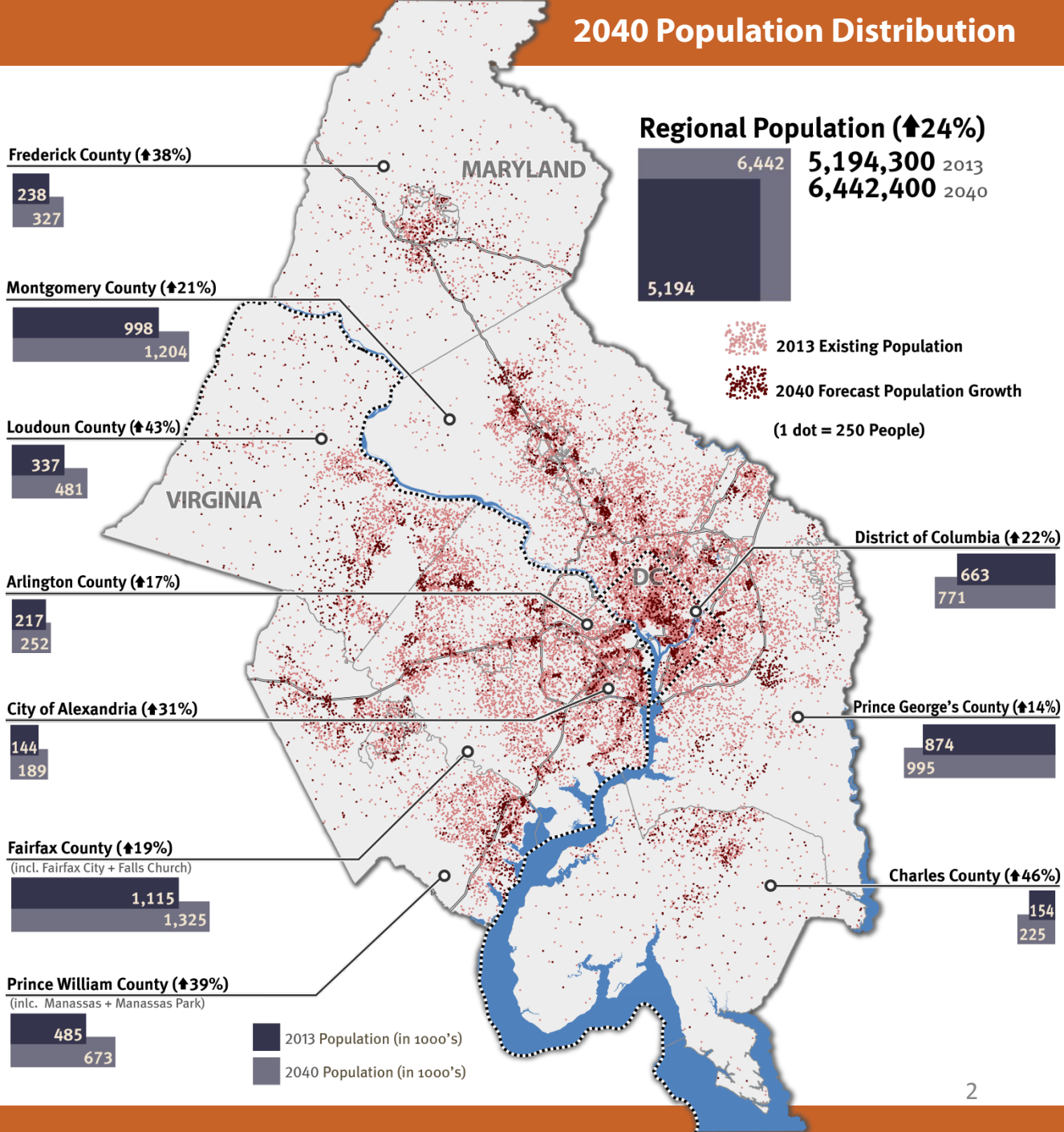
# Population Growth

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.



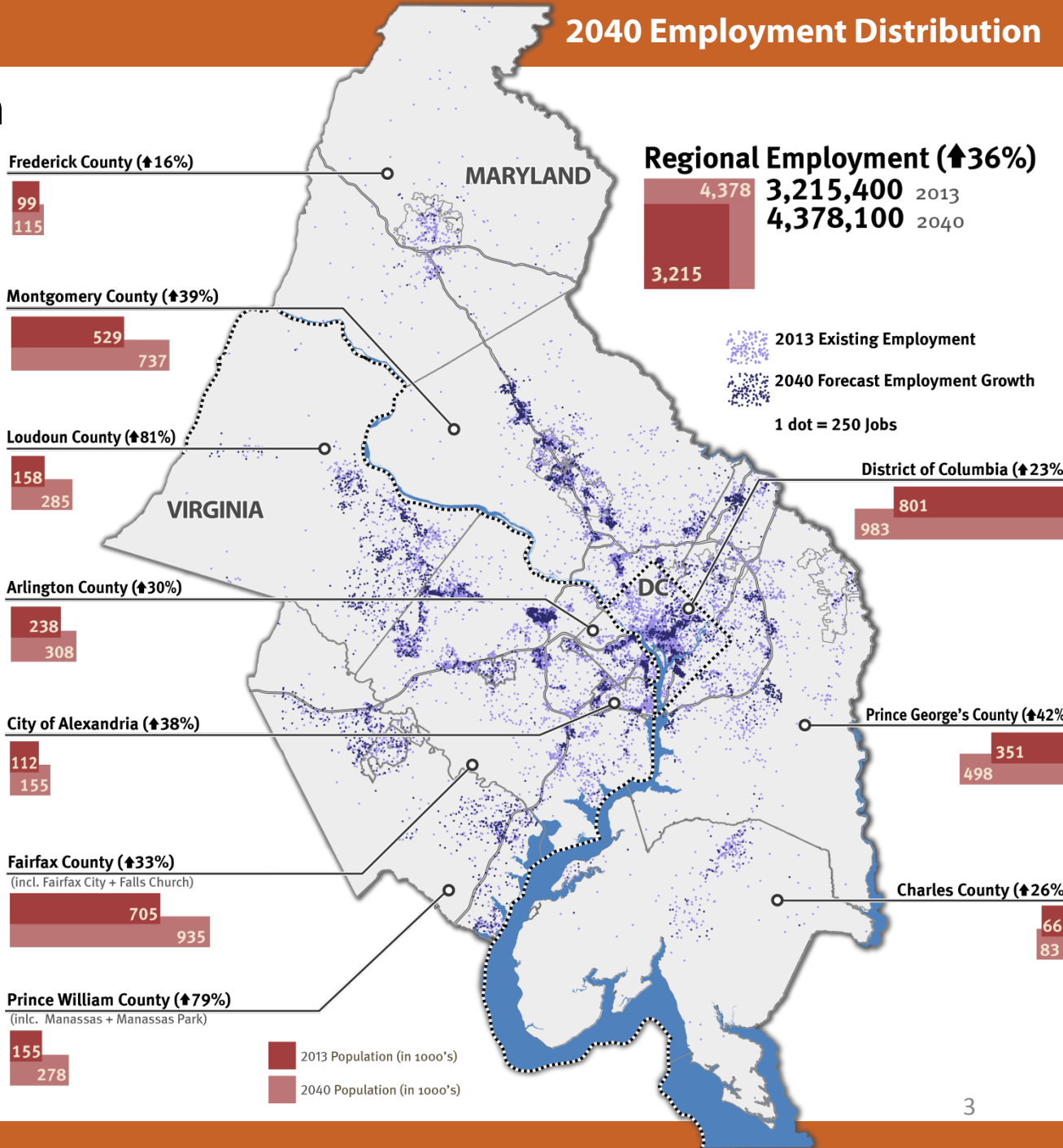
# Employment Growth

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.

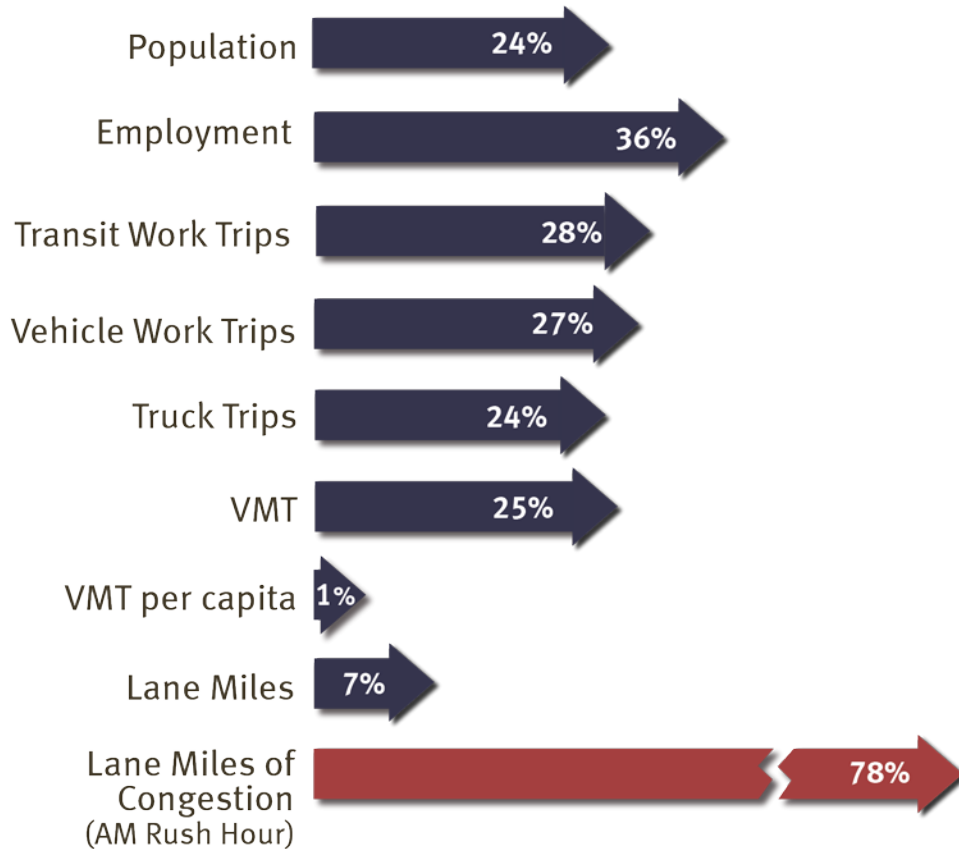
In 2040 population will be slightly more dispersed than it is today, and jobs will continue to concentrate toward the western side of the region.



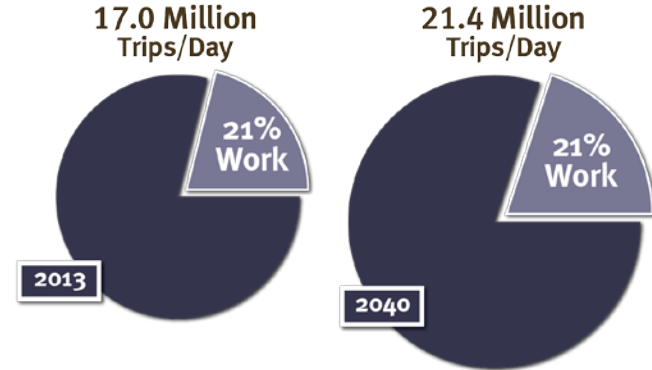
# Travel Demand 2013 - 2040

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

Change in Land Use and Travel Forecast 2013-2040



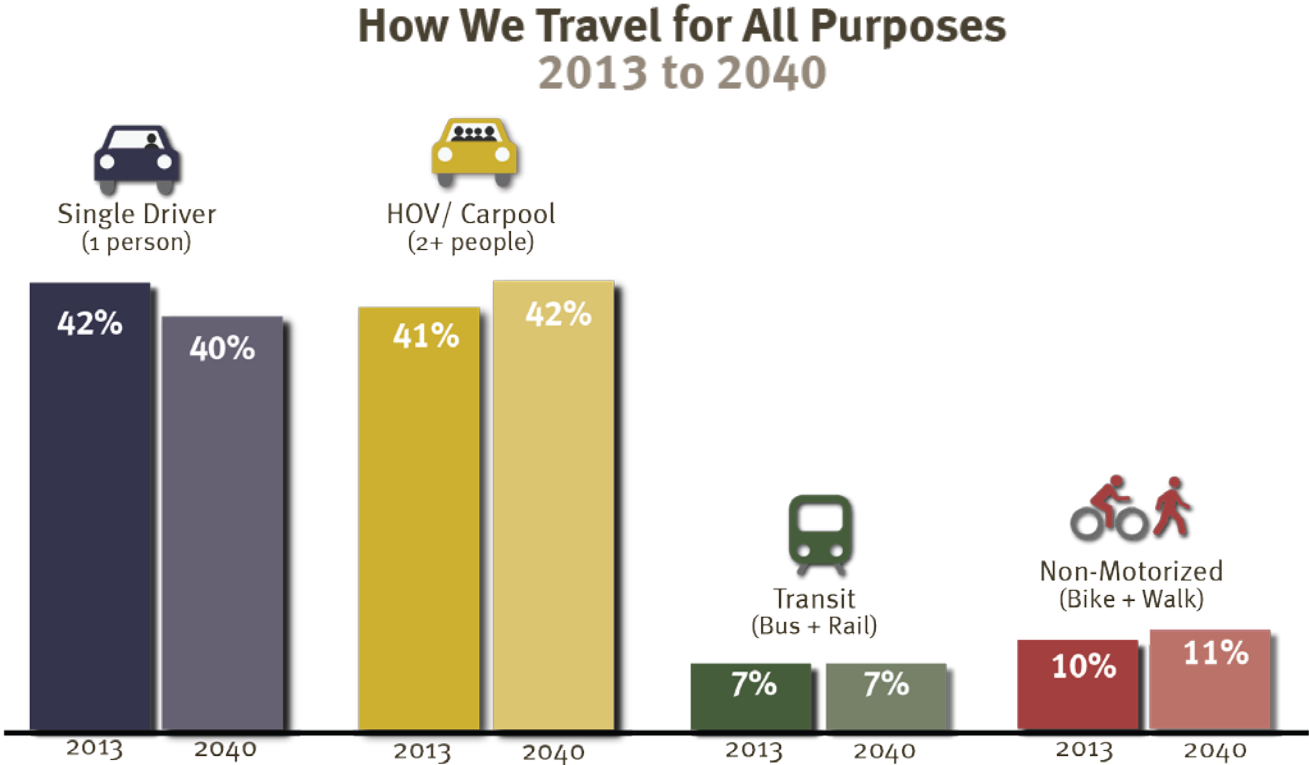
Trips by Purpose  
2013 - 2040



# Daily Mode Share 2013 - 2040

Currently 42% of all trips are single occupancy vehicle trips, 41% are carpool, 7% by bus or rail transit, and 10% by walking or biking.

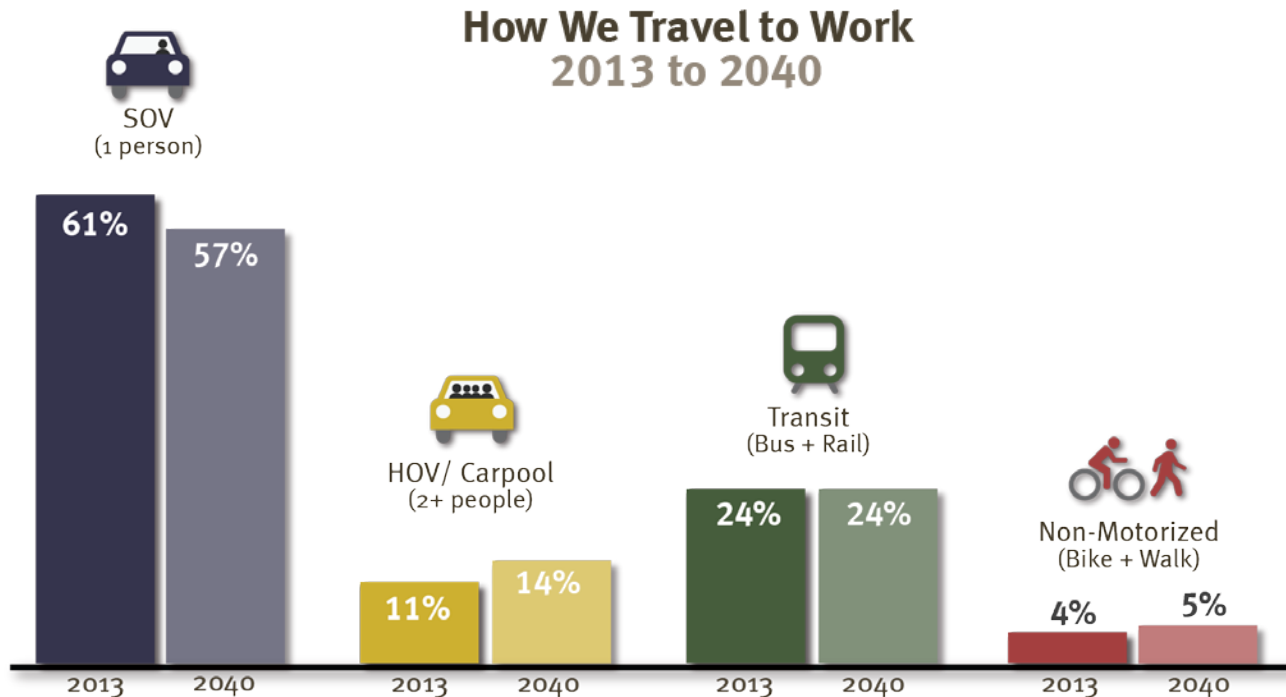
By 2040, these figures will not change significantly. SOV trips will drop slightly, while carpool and non-motorized trips will increase slightly.



# Commute Mode Share 2013 - 2040

About 3 out of every 5 commute trips are made by people driving on their own (SOV), about 1 quarter of all trips are made by bus or rail transit, 11% are by carpool, and 4% by non-motorized modes.

In 2040 these figures will also not change significantly. SOV trips are projected to fall as a share of all trips, while Carpool and non-motorized trips are expected to increase.



# 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%**.

Number of Transit Work Trips in 2040  
Constrained vs. Unconstrained  
(in 1000s)

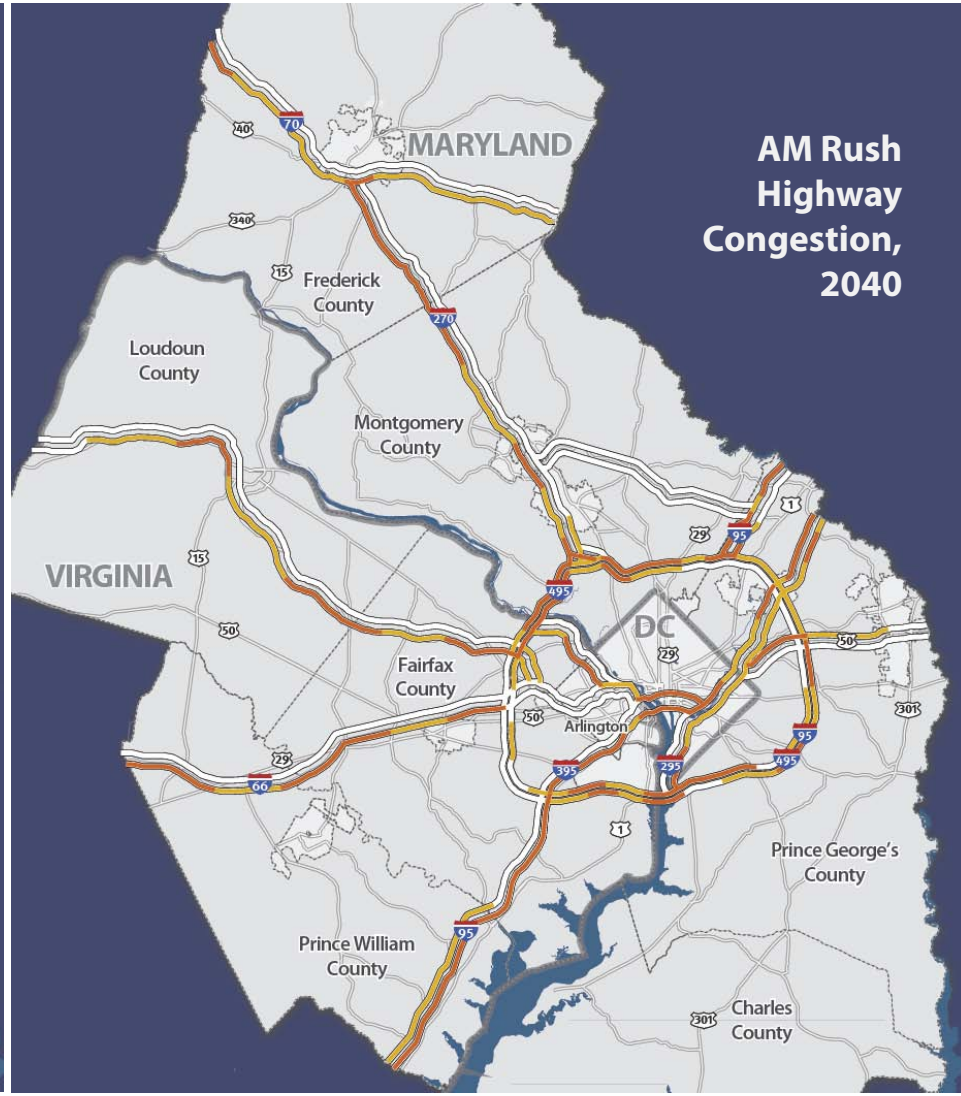




# Highway Congestion 2013 - 2040



AM Rush Highway Congestion, 2013



AM Rush Highway Congestion, 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.

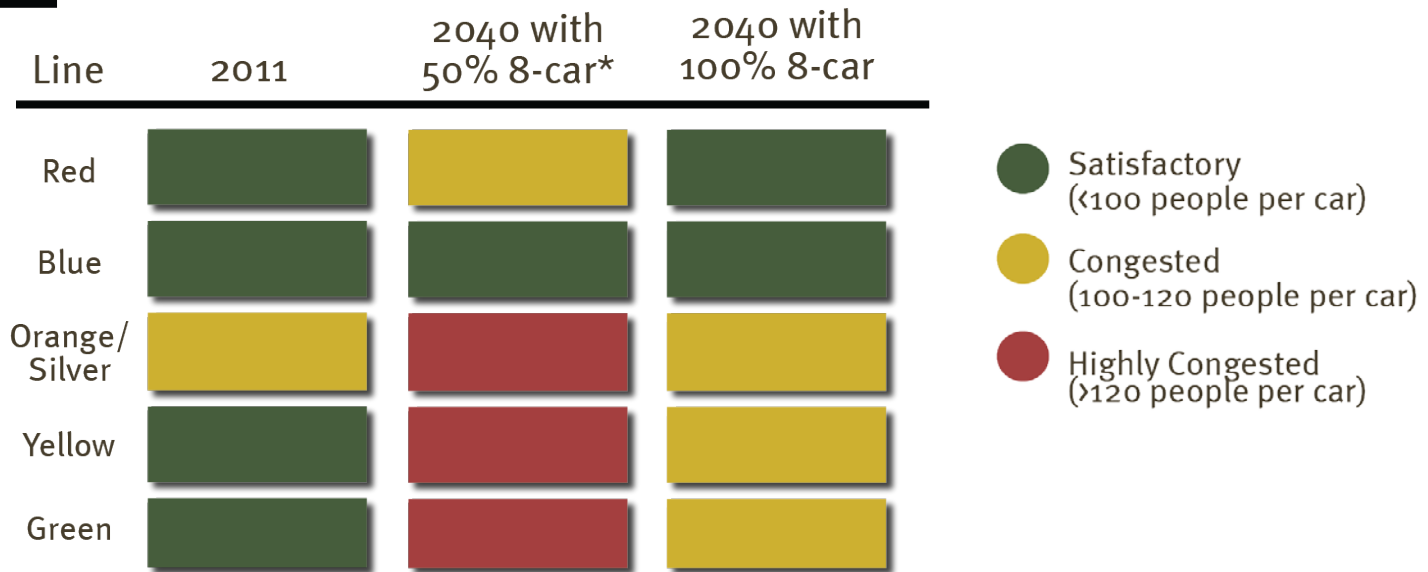
# Transit Congestion 2013 - 2040

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]

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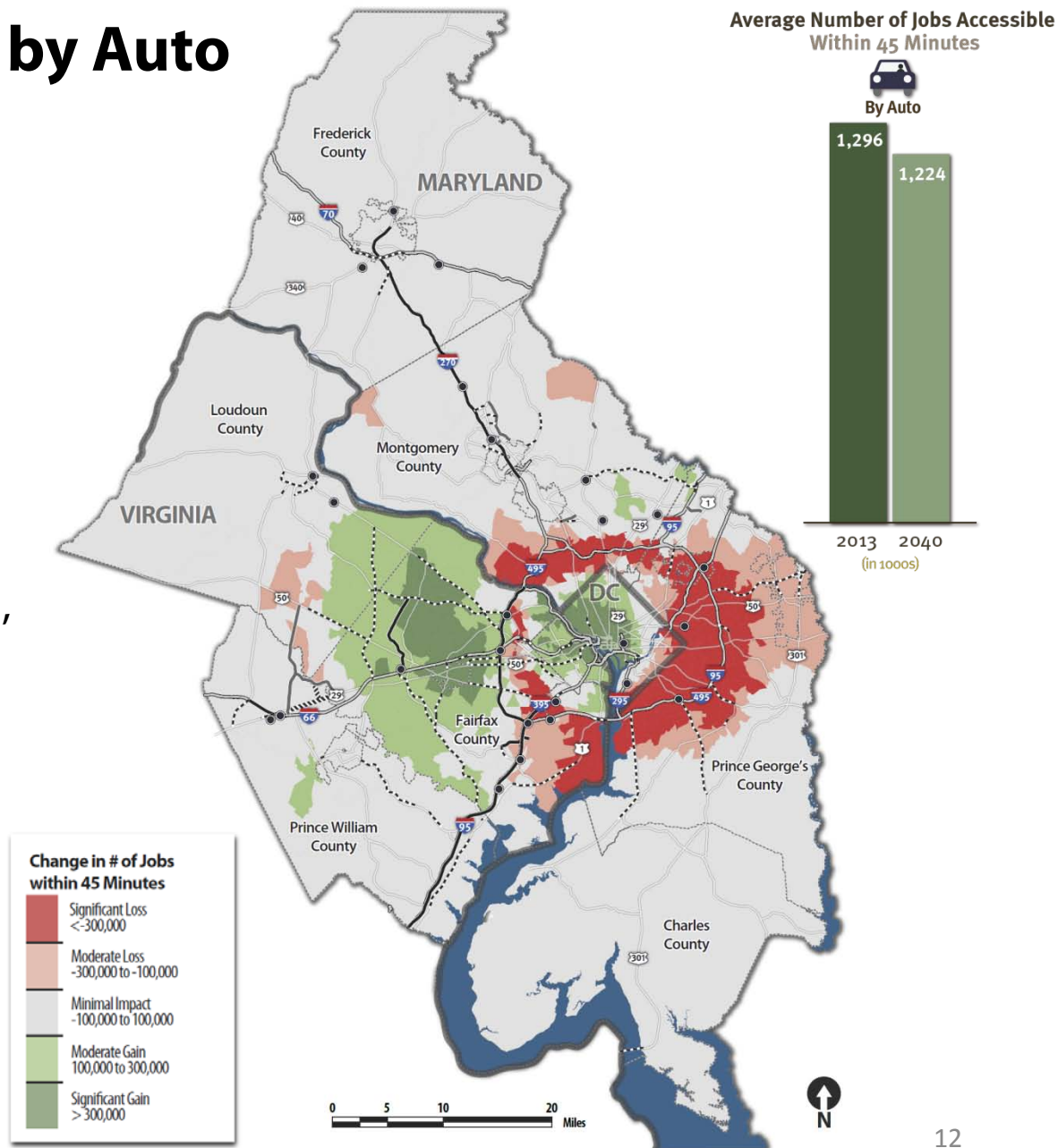
Jobs are considered to be **accessible** if they are within a 45 minute commute range.

# 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.

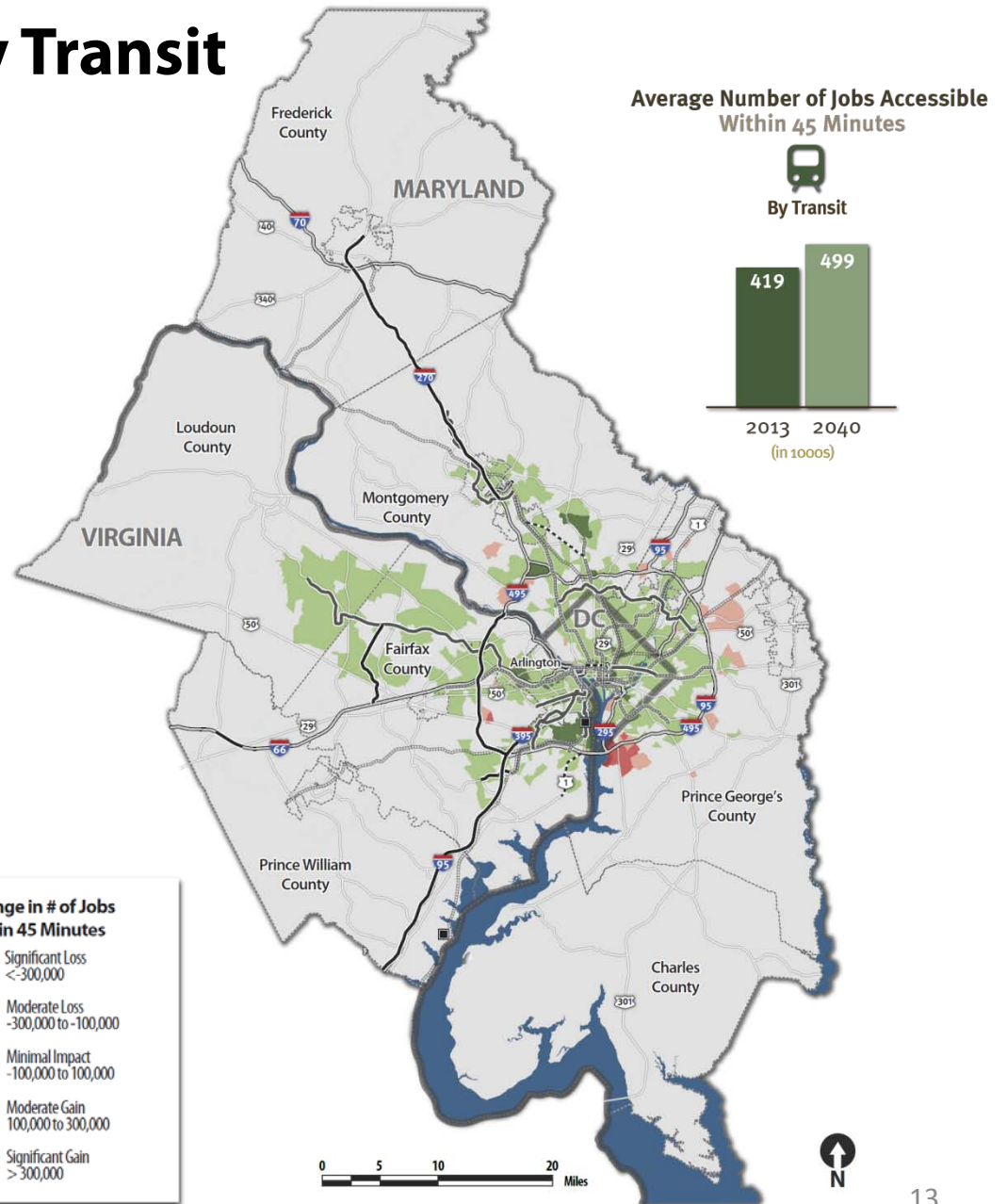
The greatest reductions in job accessibility are expected to be on the eastern side of the region, due to increases in congestion system-wide and a higher concentration of future jobs on the west side.



# Accessibility to Jobs by Transit

## 2013 - 2040

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





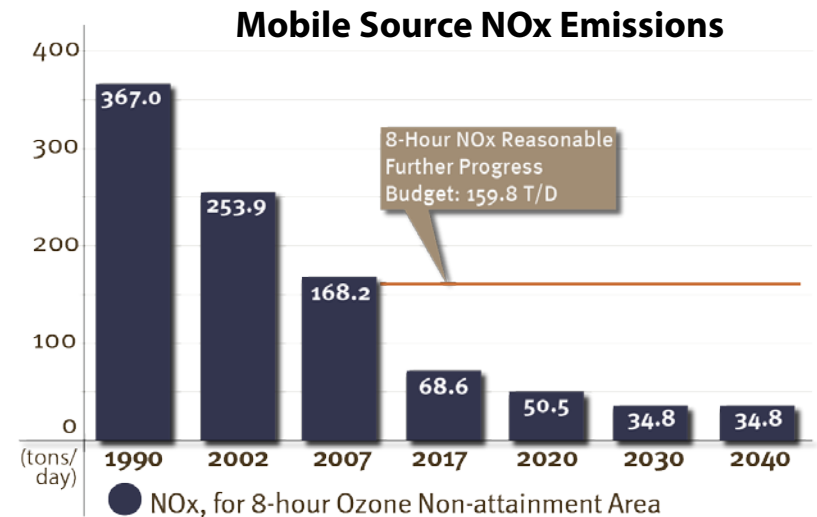
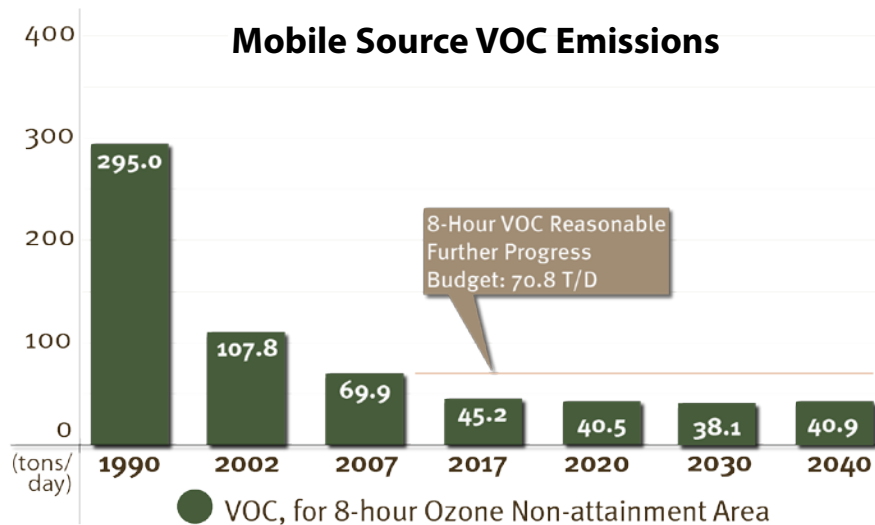
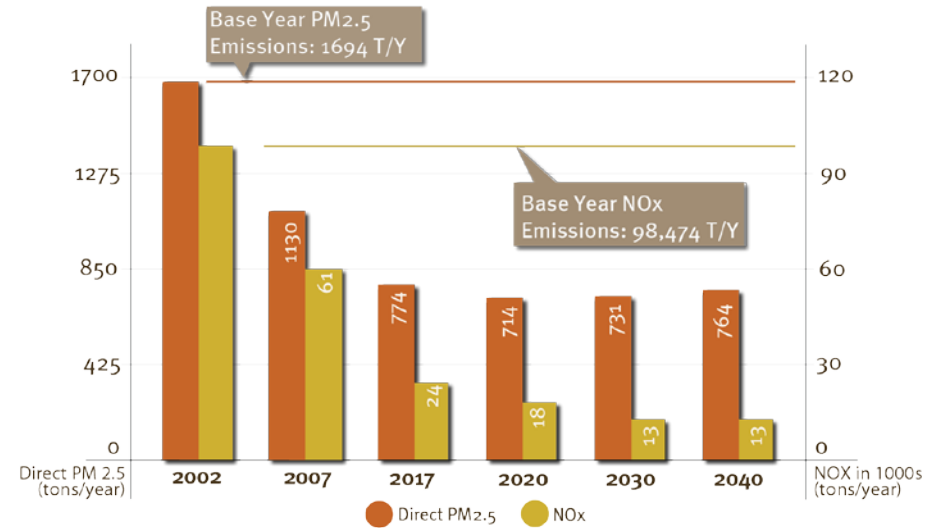
# Air Quality

## 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



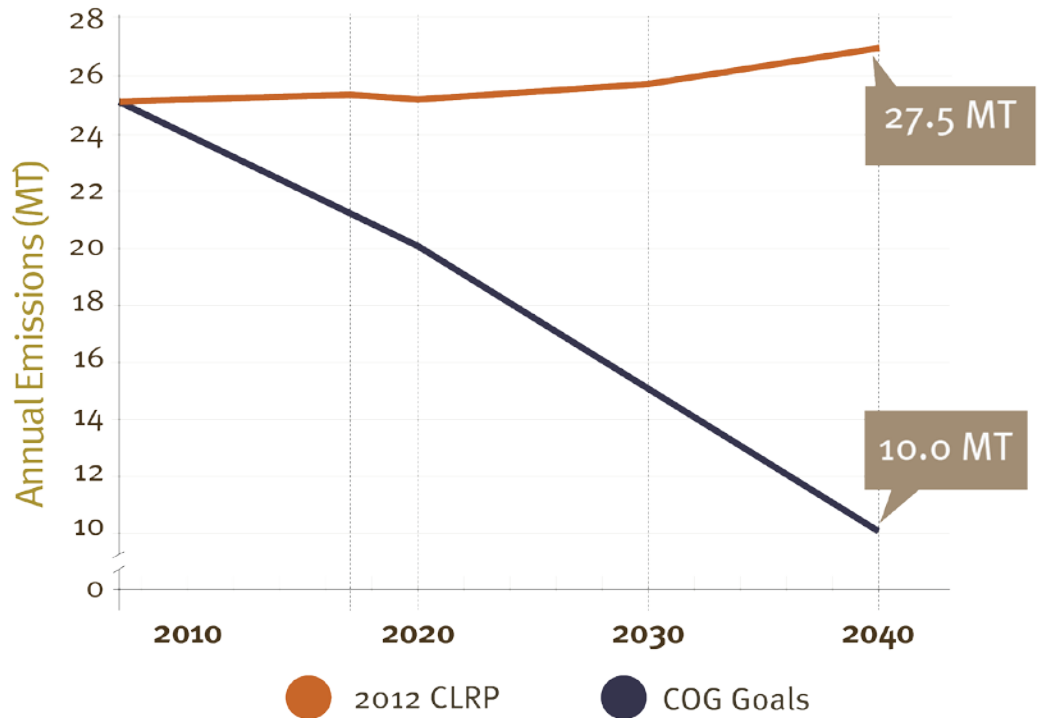
# Air Quality – Carbon Dioxide (CO<sub>2</sub>)

## 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 CO<sub>2</sub> emissions estimates will decrease over time.

### Carbon Dioxide (CO<sub>2</sub>) Emissions



# 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.

# 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