



FY 2012 - 2014

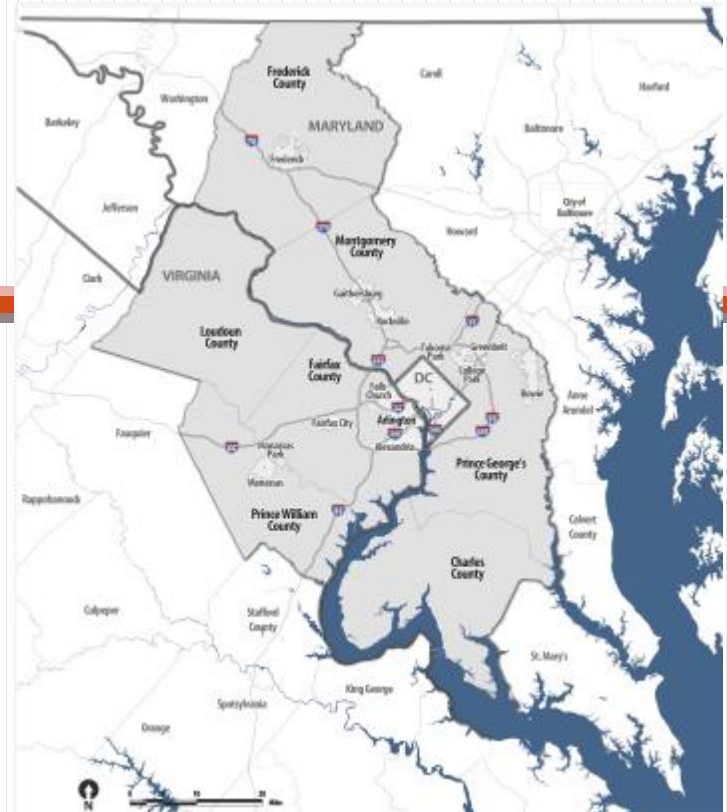
Commuter Connections TERM Analysis  
Results

MWAQC Technical Advisory Committee  
January 13, 2015

# Regional Growth Projections

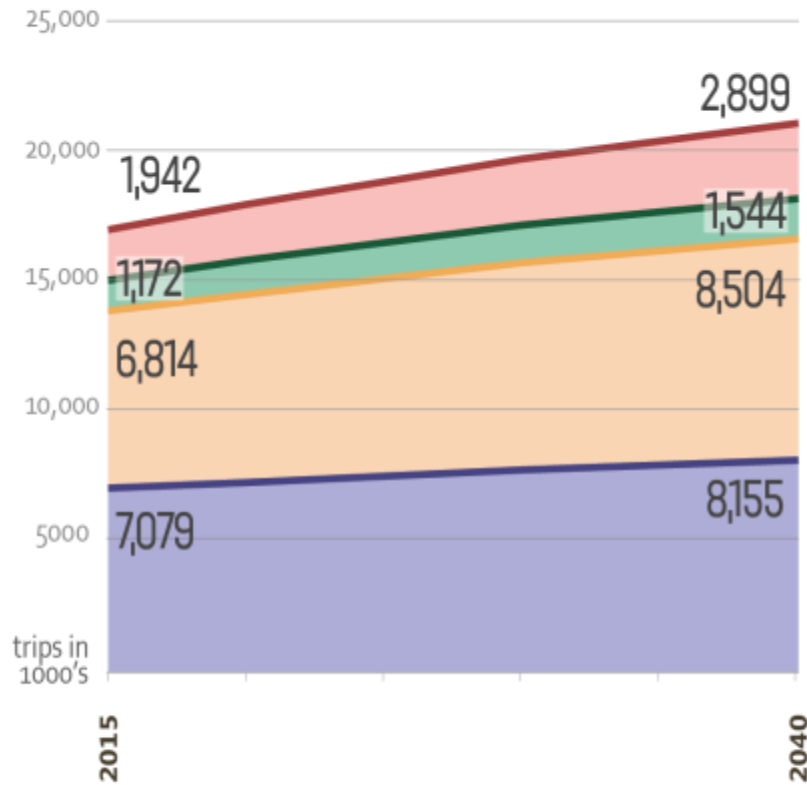
**Today:**  
**5.3 million**  
**residents**  
**2.7 million**  
**workers**





By 2040, It is Predicted that There Will be 4 million more trips each day in the region - a 24% increase over today



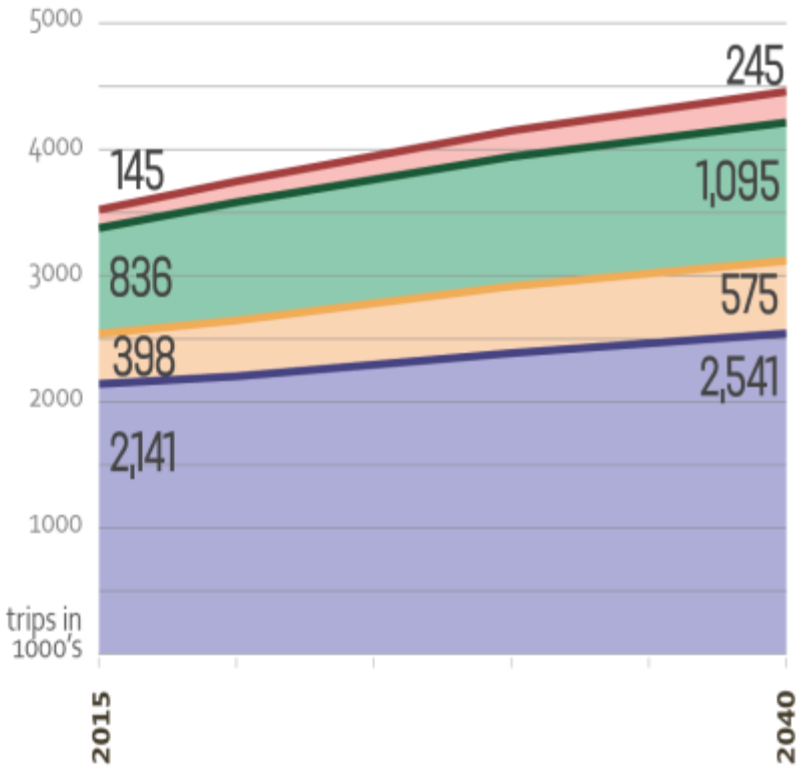
The TPB is the designated Metropolitan Planning Organization (MPO) for the region





# Daily Travel – Trips By Mode



957,000 more trips	 Walk+Bicycle	+49% From 2015
372,000 more trips	 Transit	+32% From 2015
1,690,000 more trips	 HOV+Carpool	+25% From 2015
1,076,000 more trips	 Single Driver	+15% From 2015

# Daily Travel – Commute Trips By Mode



100,000 more trips	 Walk+Bicycle	+69% From 2015
259,000 more trips	 Transit	+31% From 2015
177,000 more trips	 HOV+Carpool	+44% From 2015
400,000 more trips	 Single Driver	+19% From 2015

# Regional Collaboration

Agree to how TDM programs can assist the region to meet congestion reduction and air quality goals.

## Team

State Departments of Transportation

Businesses/Federal Agencies

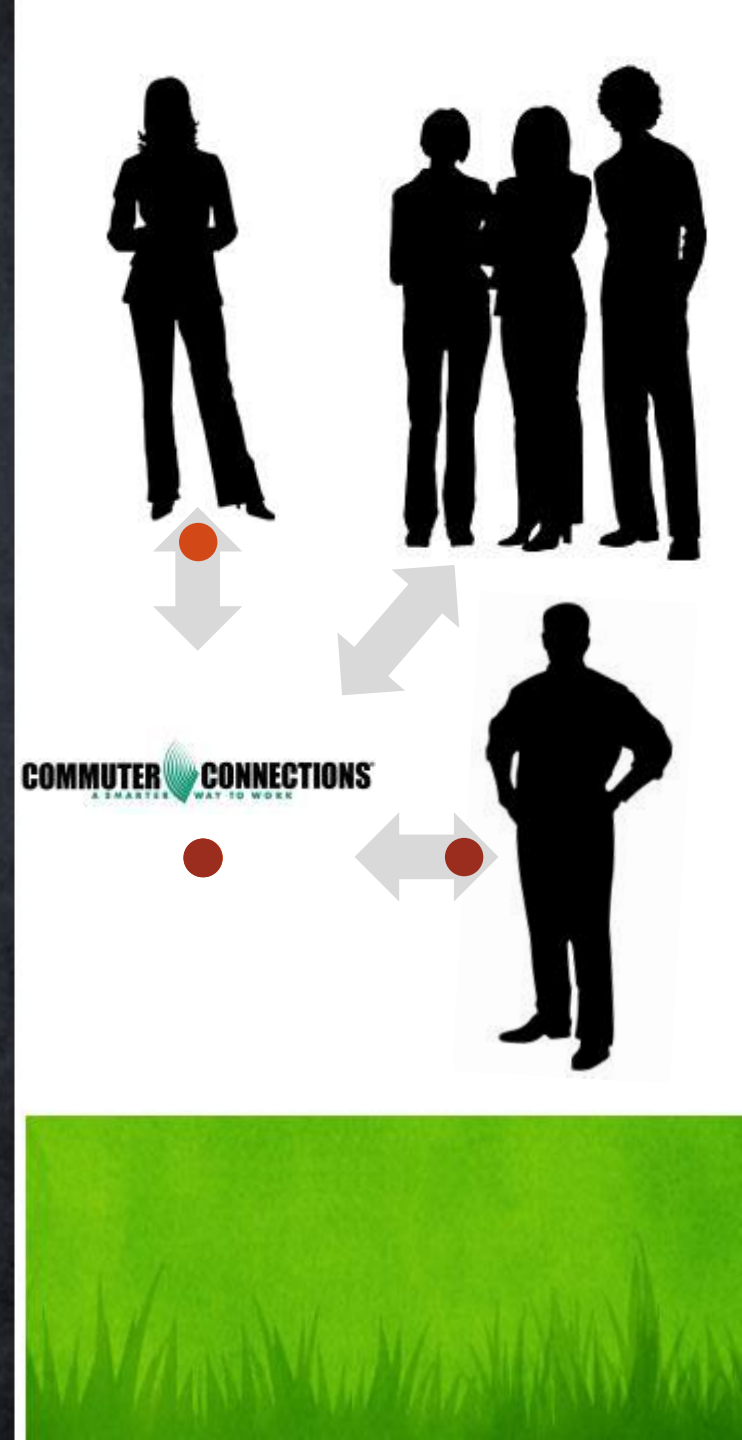
Local governments

Transportation Management Associations Transit operators

Vanpool providers

Carshare/Bikeshare Services

Develop/Implement programs that will contribute to regional transportation and emission impacts.



# TERM Evaluation Cycle

- » Evaluation Methodology “Blueprint”
- » Data Collection
- » Reports
- » Share Results
- » Incorporate into Regional Planning Process



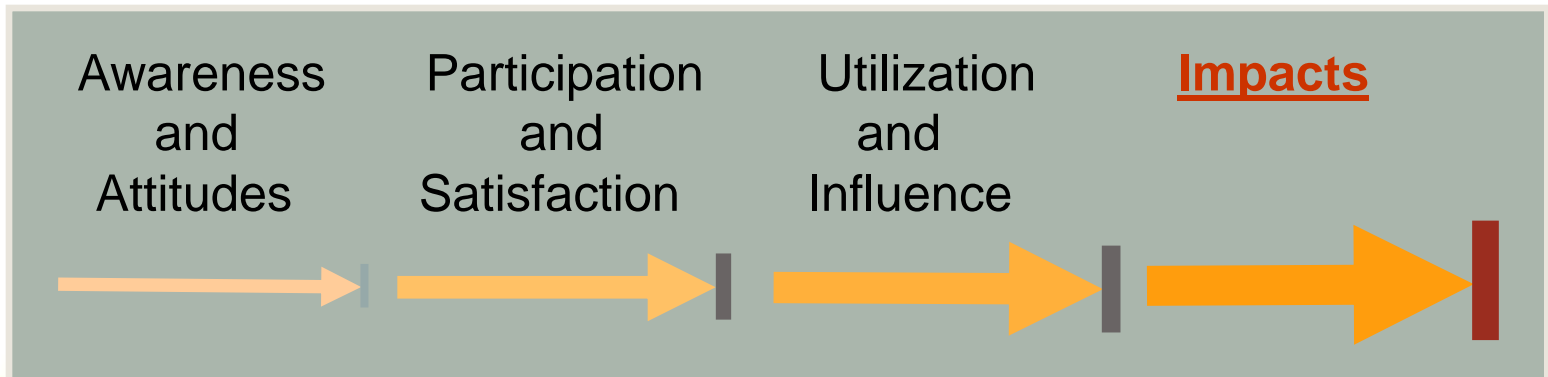
# Objective of Evaluation

- Apply methodology outlined in Evaluation Framework to:
- Estimate effectiveness of Commuter Connections TERMS
  - Telework
  - Guaranteed Ride Home
  - Employer Outreach
  - Mass Marketing
- Document results of Commuter Operations Center
- Adjust impacts for overlap among programs



# Performance Continuum

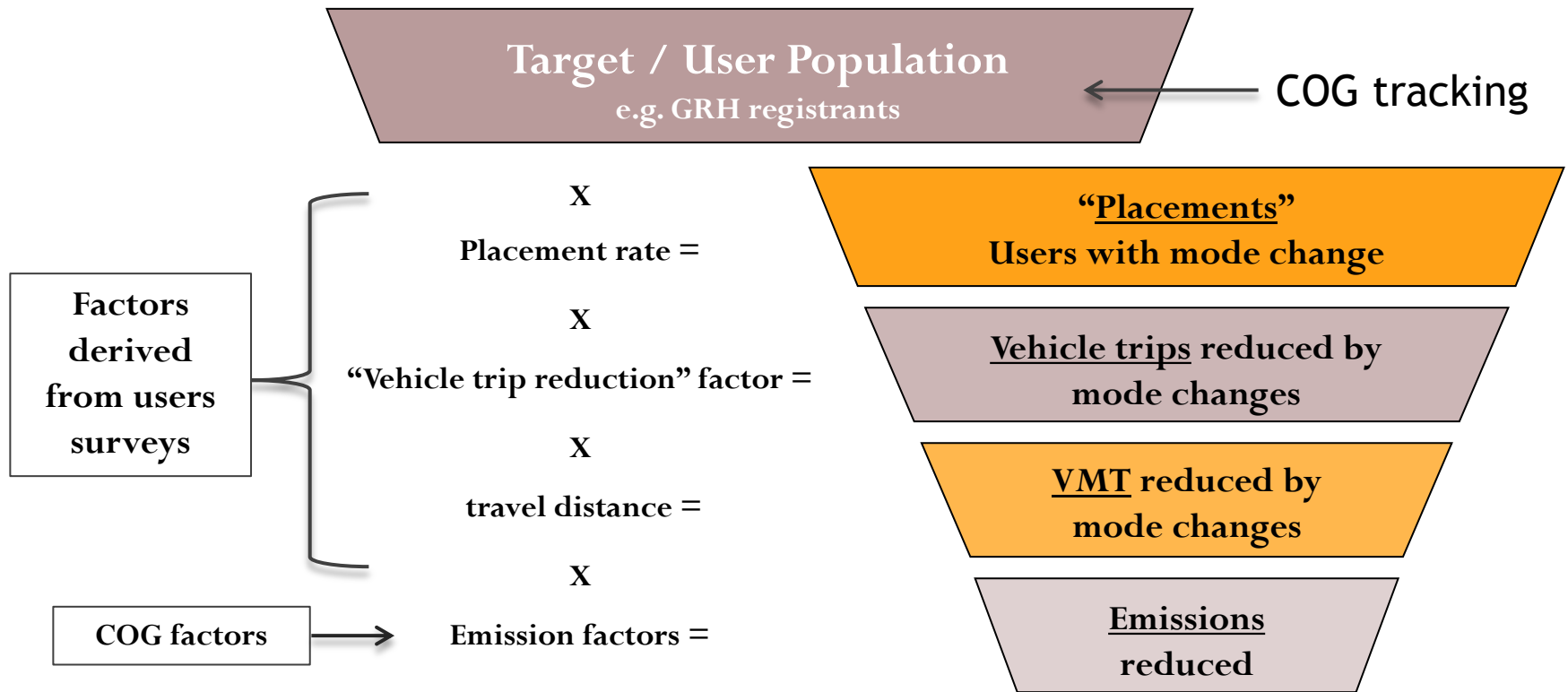
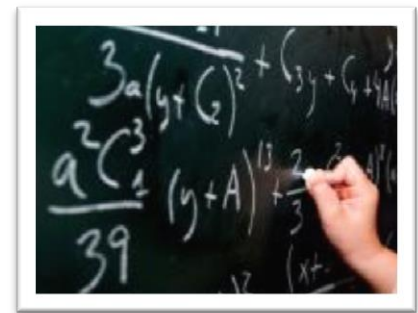
- Awareness – modes/programs
- Attitudes – willing to try modes
  - Participation – services used
  - Satisfaction – with programs
  - Utilization – mode / travel changes
  - Influences – motivations for change
  - **Impacts** of change (travel / AQ / energy)





# Impact Calculation Approach

Impact calculation approach uses series of “multiplier” factors, applied to user population



# Impacts for All TERMS + COC (Jul 2011 – Jun 2014)

Comparison of collective goals against collective impacts, including  
Commuter Operations Center

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
<u>Trips reduced</u>	109,594	131,830	<u>22,236</u>	+20%
<u>VMT reduced</u>	2,162,400	2,473,326	<u>310,926</u>	+14%
NOx reduced	1.098 T	1.061 T	<b>(0.037) T</b>	<b>- 3%</b>
VOC reduced	0.654 T	0.533 T	<b>(0.121) T</b>	<b>-19%</b>

## Met vehicle trip and VMT goals

Shortfall in emission goals due to reduced emission factors  
for 2015 (cleaner cars) and shift to MOVES emission model



# TERM Analysis Observations

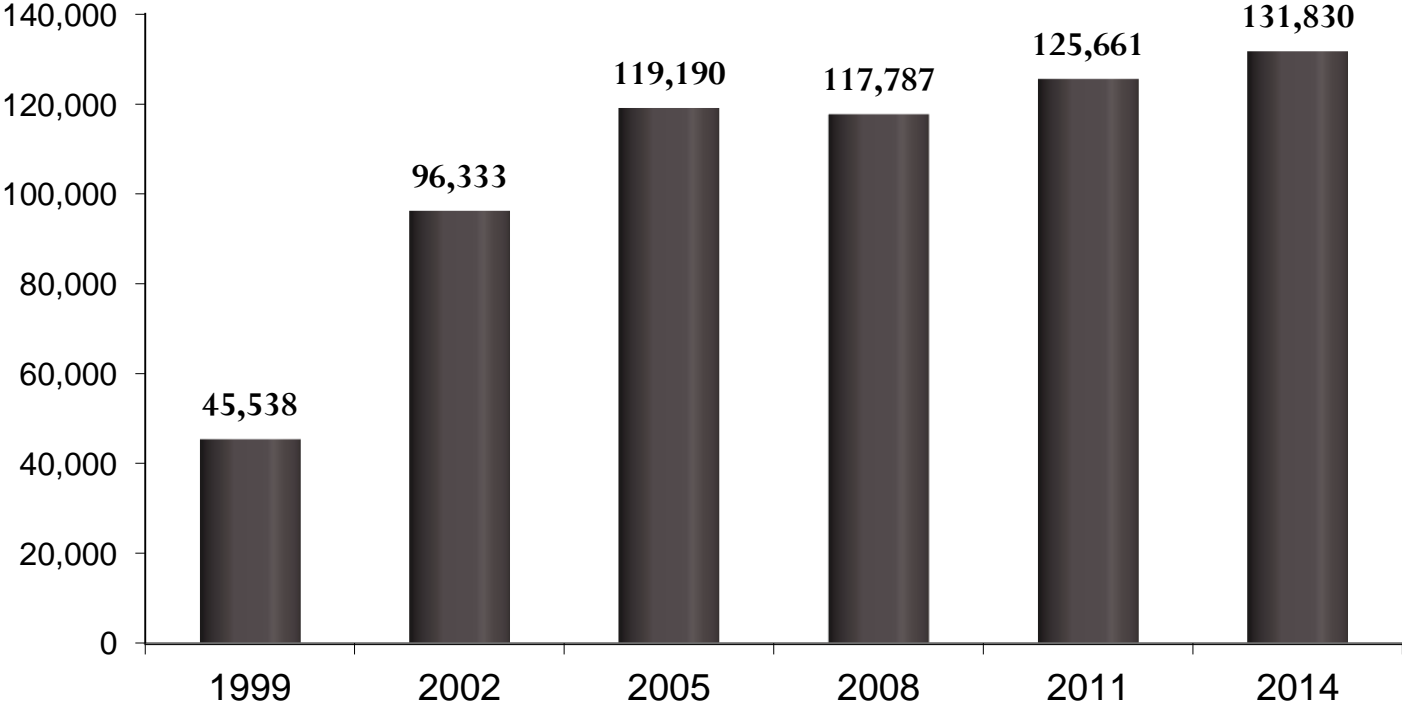


- The four TERMS met the collective goals for both vehicle trips (+10%) and VMT reduced (+6%)
- CC programs overall (TERMs + COC) exceeded the VT reduction goal (+20%) and VMT goal (+14%)
- TERMS did not meet emissions goals, but this was due to a change in the emission model (MOVES) and reductions in the 2014 emission factors, compared to the factors used when the goals were established in 2005



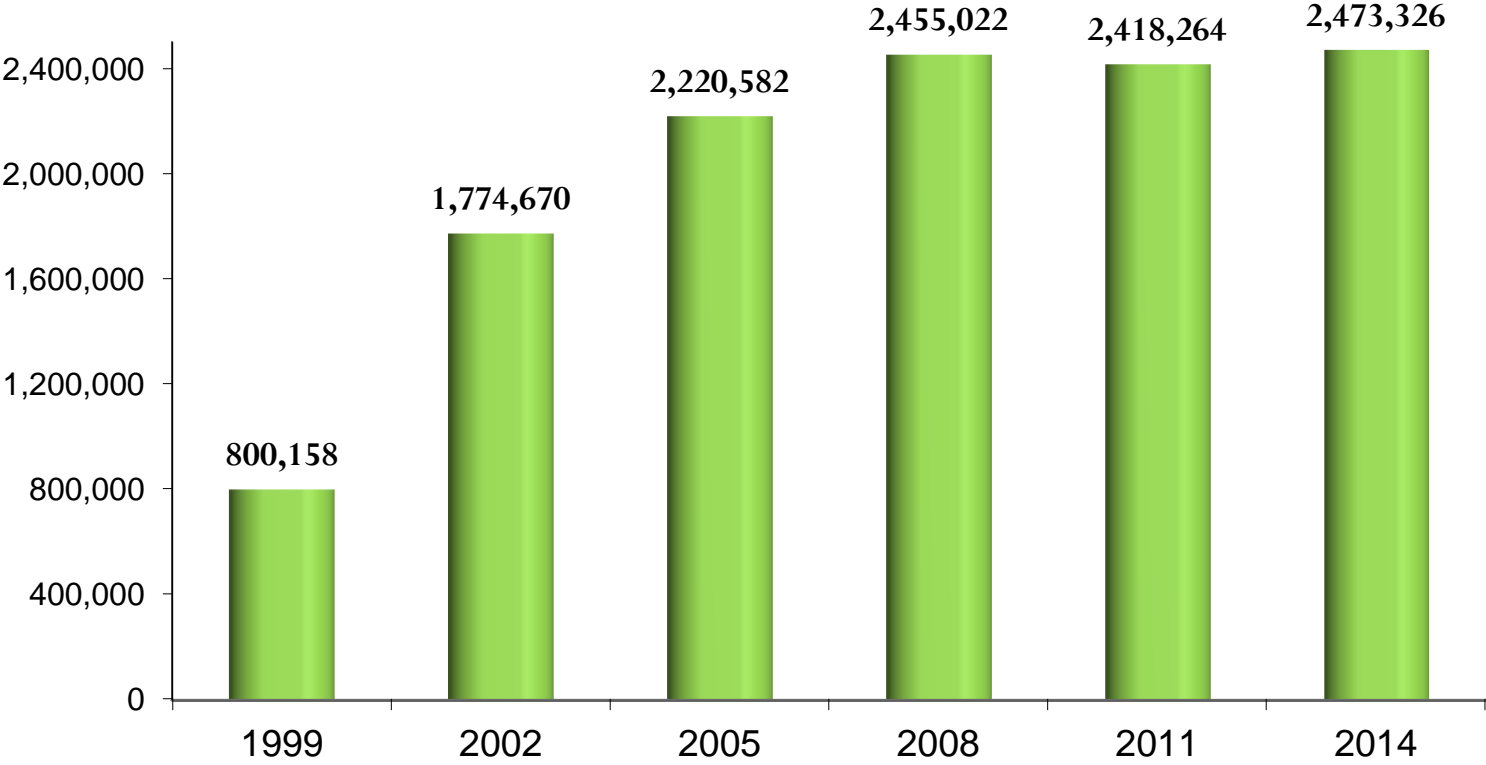
# Commuter Connections Vehicle Trip Reduction – 1999 to 2014

Daily Vehicle Trips Reduced



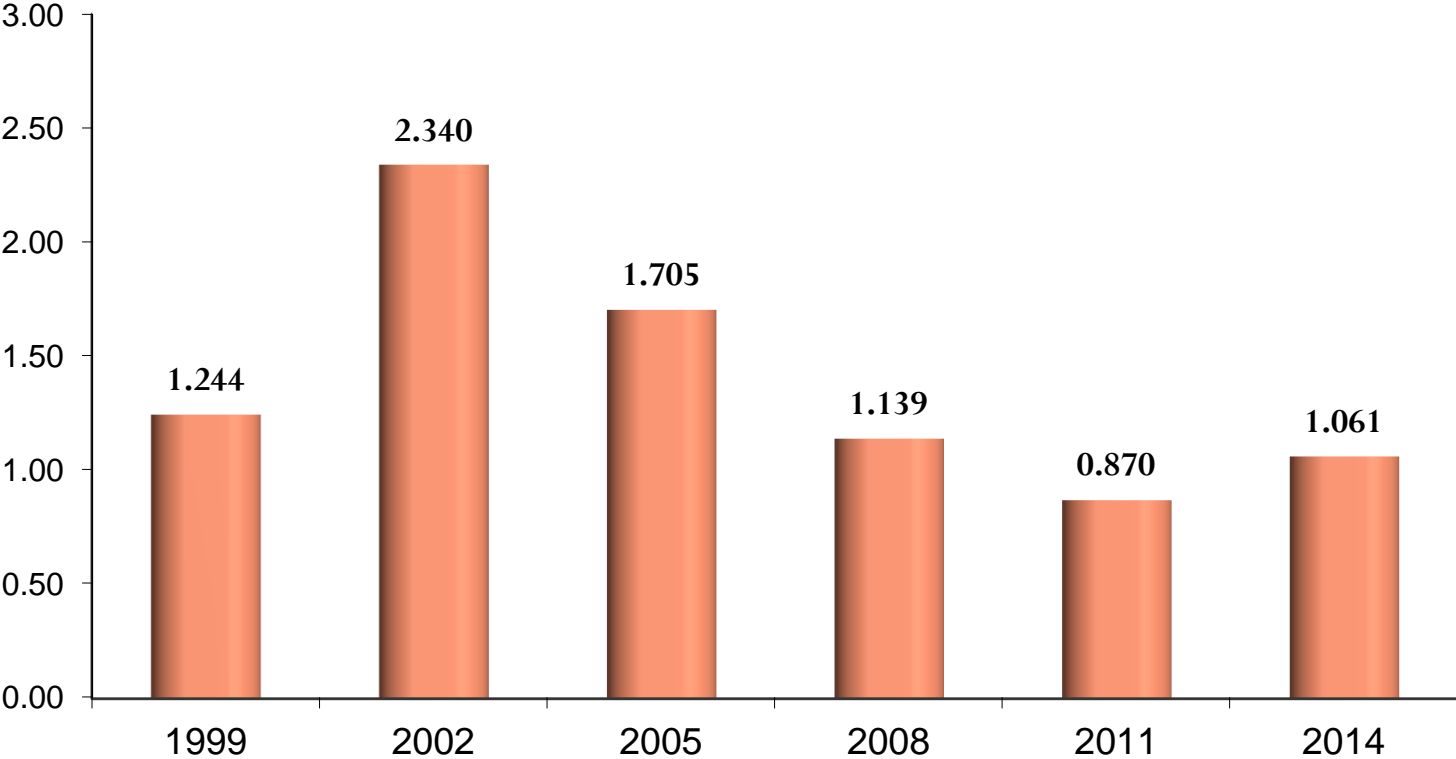
# Commuter Connections VMT Reduction – 1999 to 2014

## Daily VMT Reduced



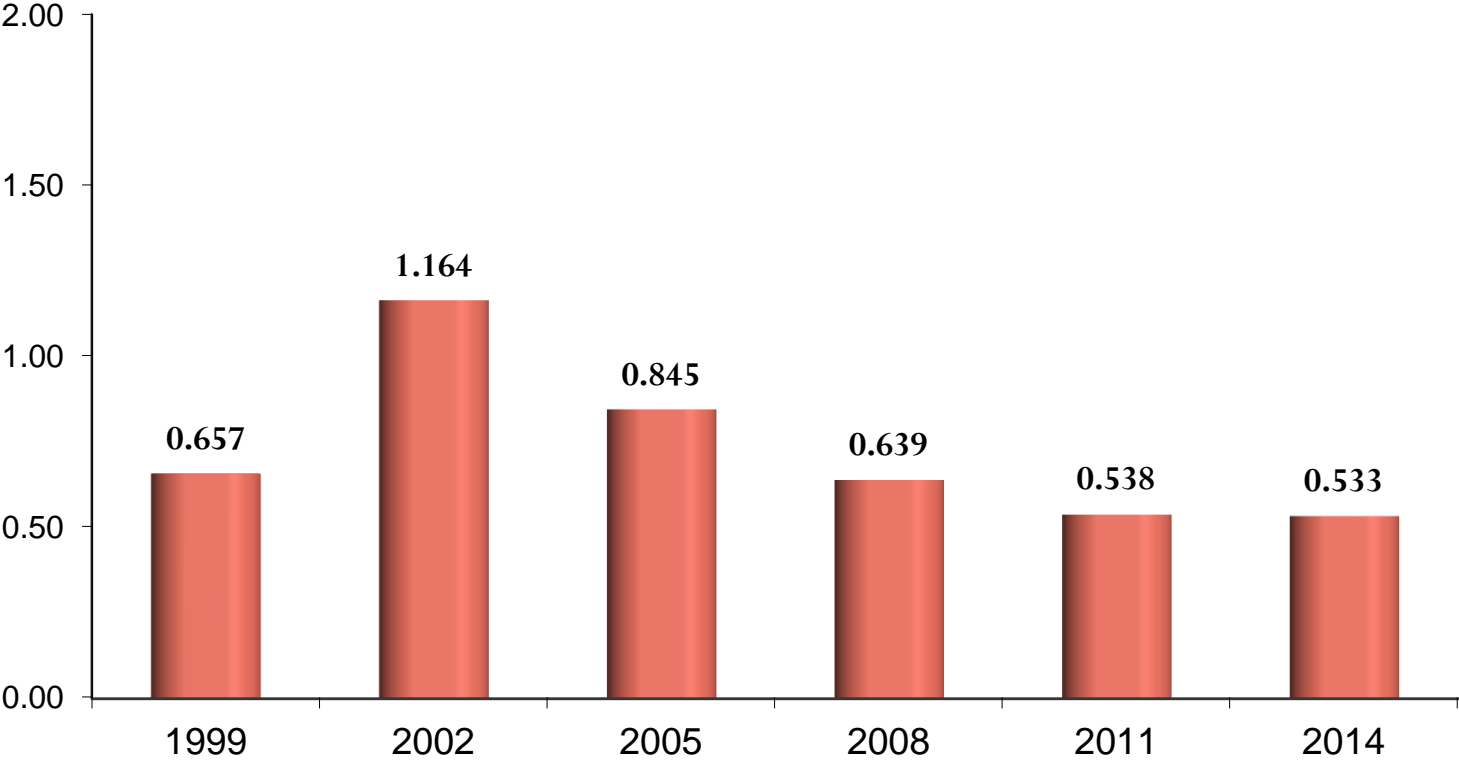
# Commuter Connections NOx Reduced (daily tons) – 1999 to 2014

Daily tons NOx Reduced



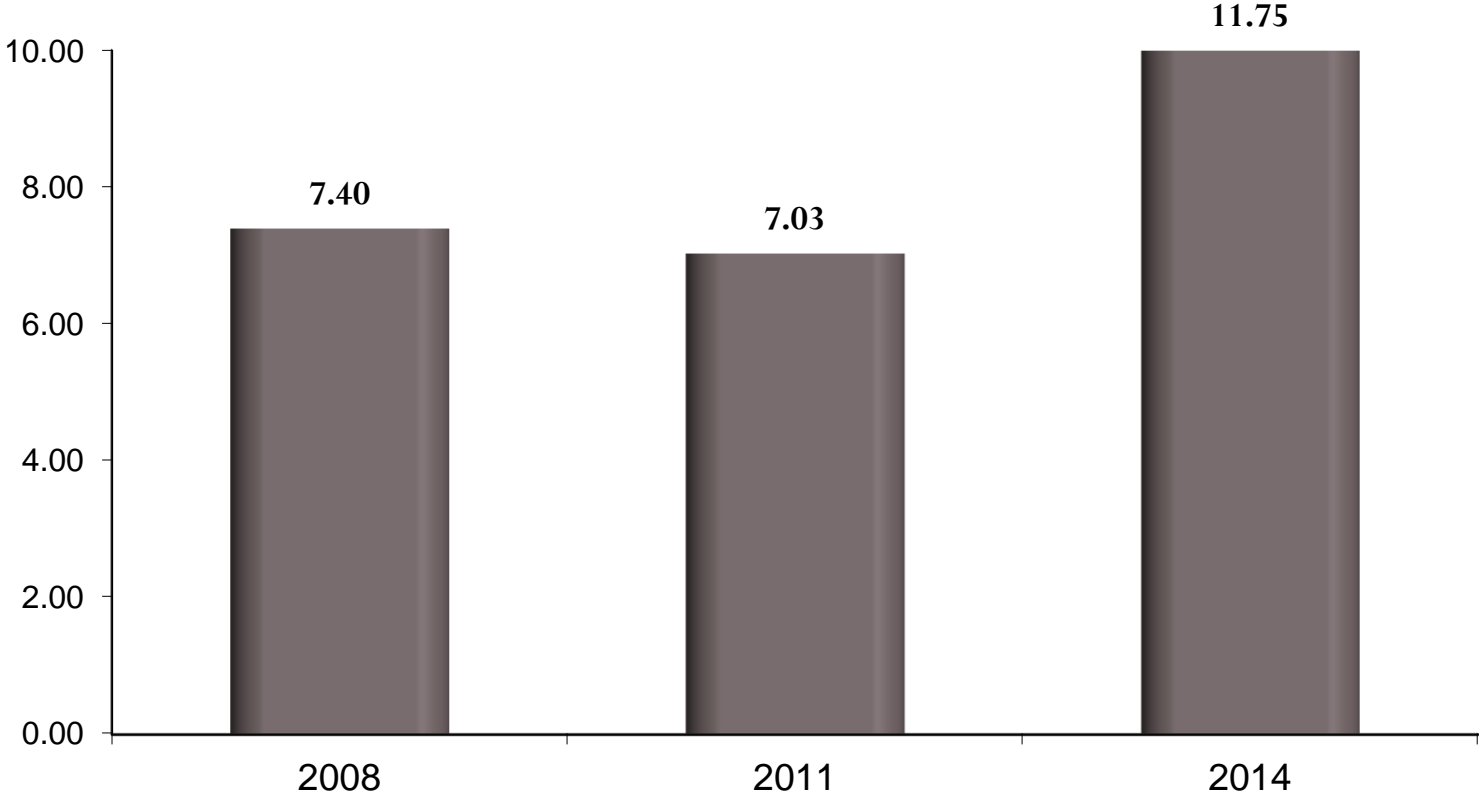
# Commuter Connections VOC Reduced (daily tons) – 1999 through 2014

Daily tons VOC Reduced



# PM 2.5 Reduced (annual tons) – 2008 to 2014 Commuter Connections TERMS + Commuter Operations Center

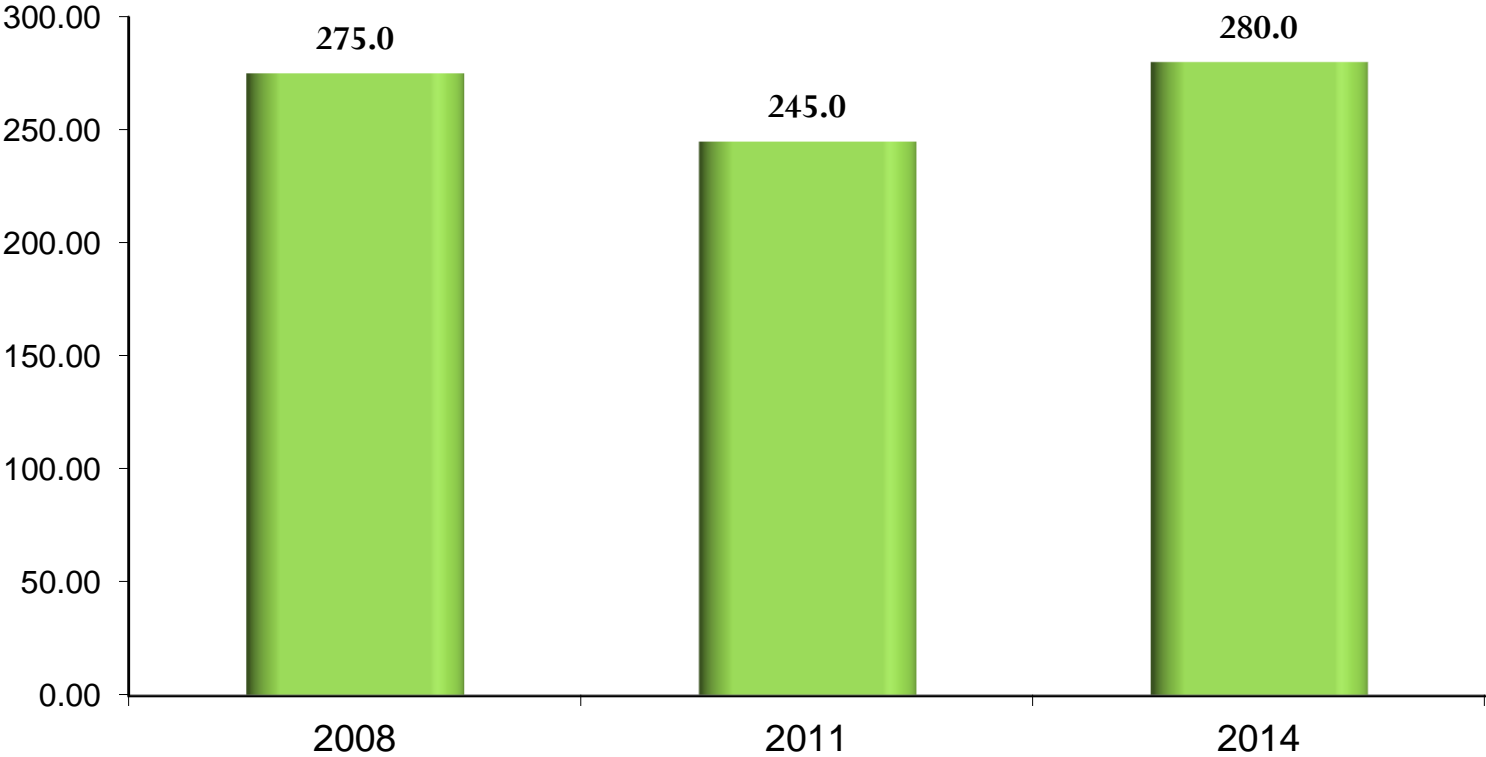
Annual tons PM 2.5 Reduced





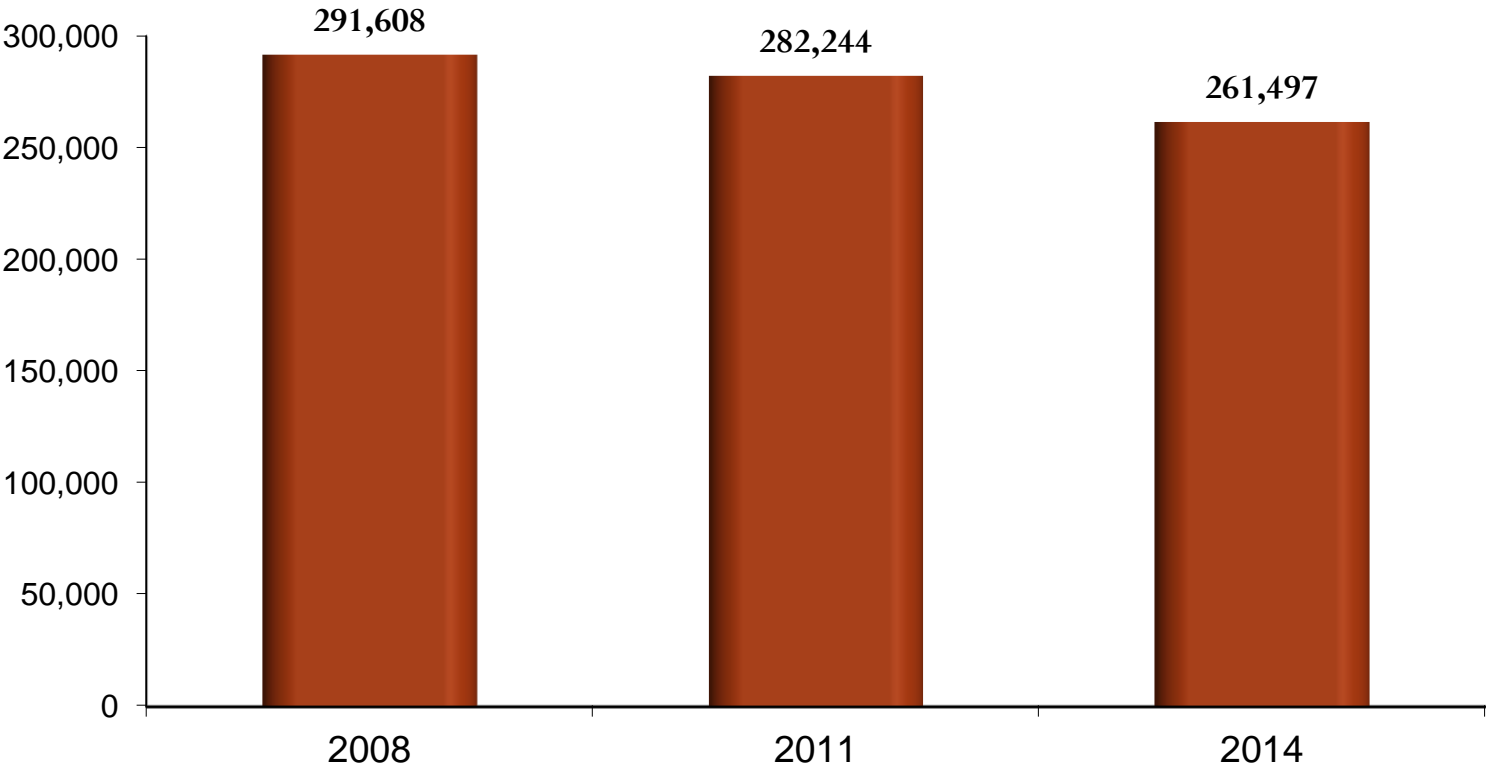
# Precursor NOx Reduced (annual tons) – 2008 to 2014 Commuter Connections TERMS + Commuter Operations Center

## Annual tons PM 2.5 Precursor NOx Reduced



# CO2 Reduced (annual tons) – 2008 to 2014 Commuter Connections TERMS + Commuter Operations Center

Annual tons CO2 – Greenhouse Gases Reduced



# Next Steps

- Report Endorsement
- Report Publication and Release
- Program Cost Effectiveness Calculation
- Integrate results into regional air quality conformity determination and Congestion Management Process



Questions?

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