



# Transforming Maryland's Transportation Sector

Background Materials for Mitigation Working Group

June 27, 2018

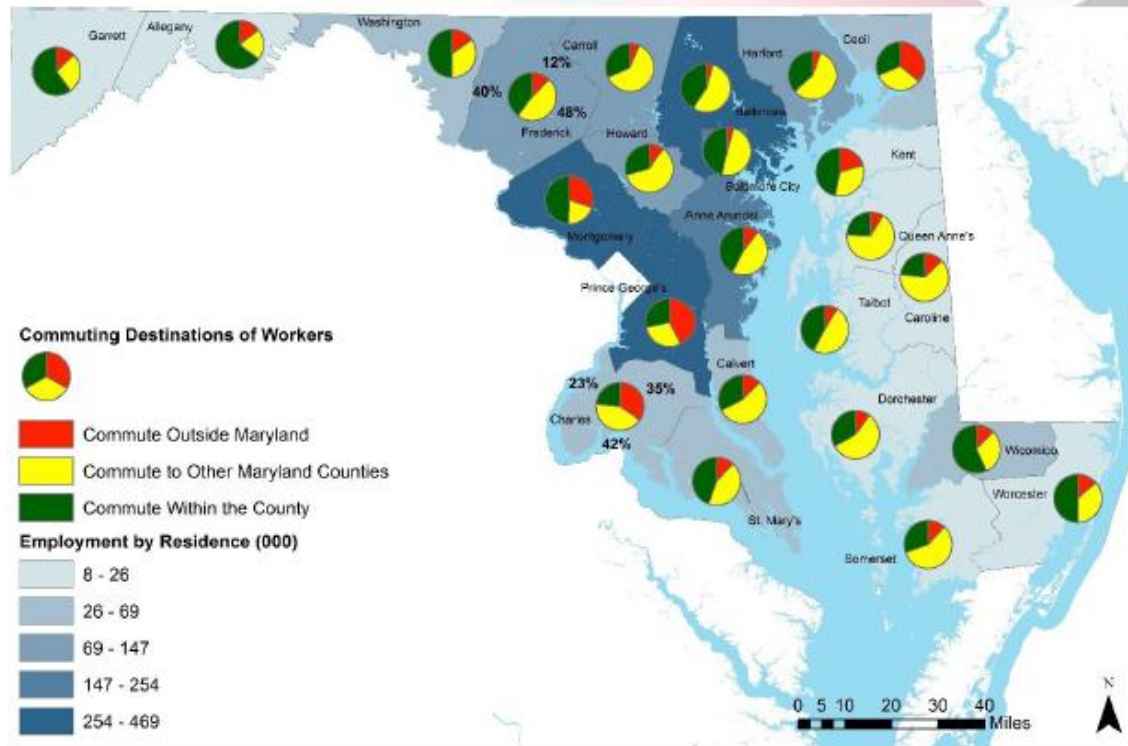
# Review Materials

- Georgetown Climate Center and Cambridge Systematics Report, Appendix 2, April 2015:  
[http://www.georgetownclimate.org/files/report/GCC-Appendix2\\_Emission\\_Reduction\\_Strategy-Nov2015\\_1.pdf](http://www.georgetownclimate.org/files/report/GCC-Appendix2_Emission_Reduction_Strategy-Nov2015_1.pdf)
- Sierra Club Presentation to the Working Group October 2017:  
<http://mde.maryland.gov/programs/Air/ClimateChange/MCCC/MWG/MWGTCIPresentation10272017.pdf>
- Maryland Department of Transportation Presentation to the Working Group April 2018:  
<http://mde.maryland.gov/programs/Air/ClimateChange/MCCC/MWG/MWGMDOTPresentation04052018.pdf>

# MDOT INITIATIVES – ANALYTICS FOR LOCAL DECISION MAKING

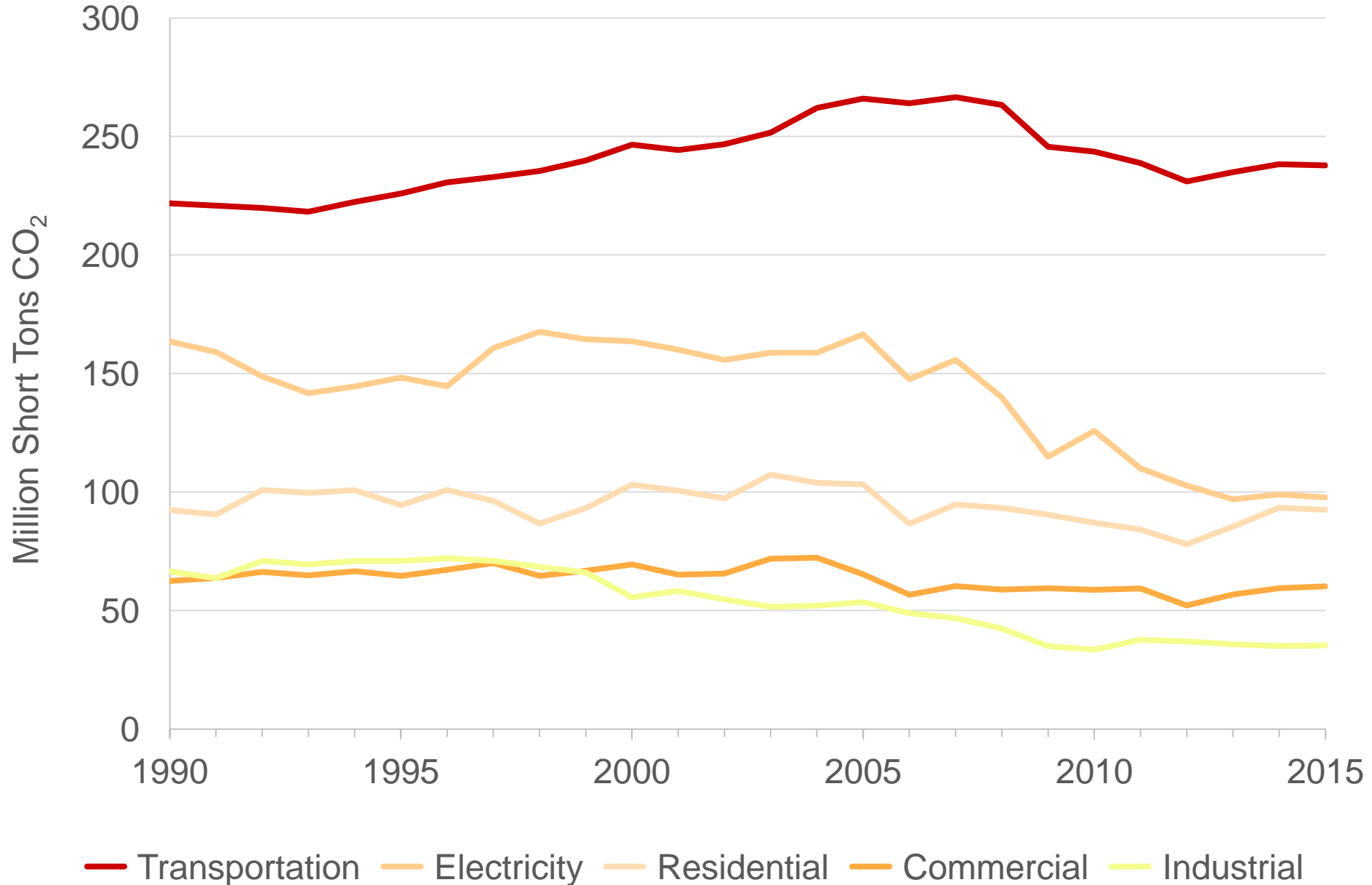
## States with Highest Commute Times

Rank	State	Mean Commute Time (min)
<b>1</b>	<b>Maryland</b>	<b>32.3</b>
2	New York	32.3
3	New Jersey	31
4	D.C.	29.7
5	Massachusetts	28.7
6	Illinois	28.4
7	California	28
8	Virginia	27.9
9	Georgia	27.4
10	New Hampshire	26.9



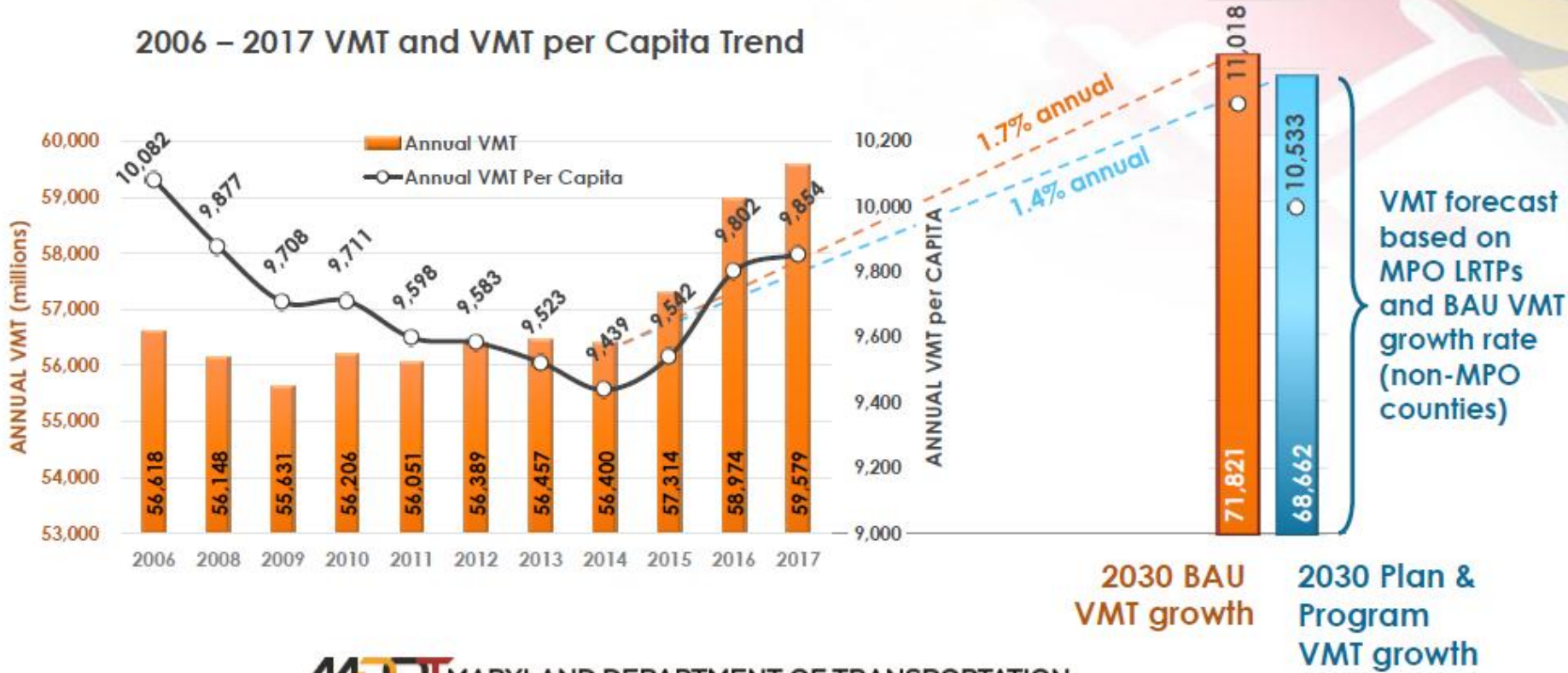
# CO<sub>2</sub> Emissions by Sector

*DC, MD, DE, NJ, NY, CT, RI, MA, VT*

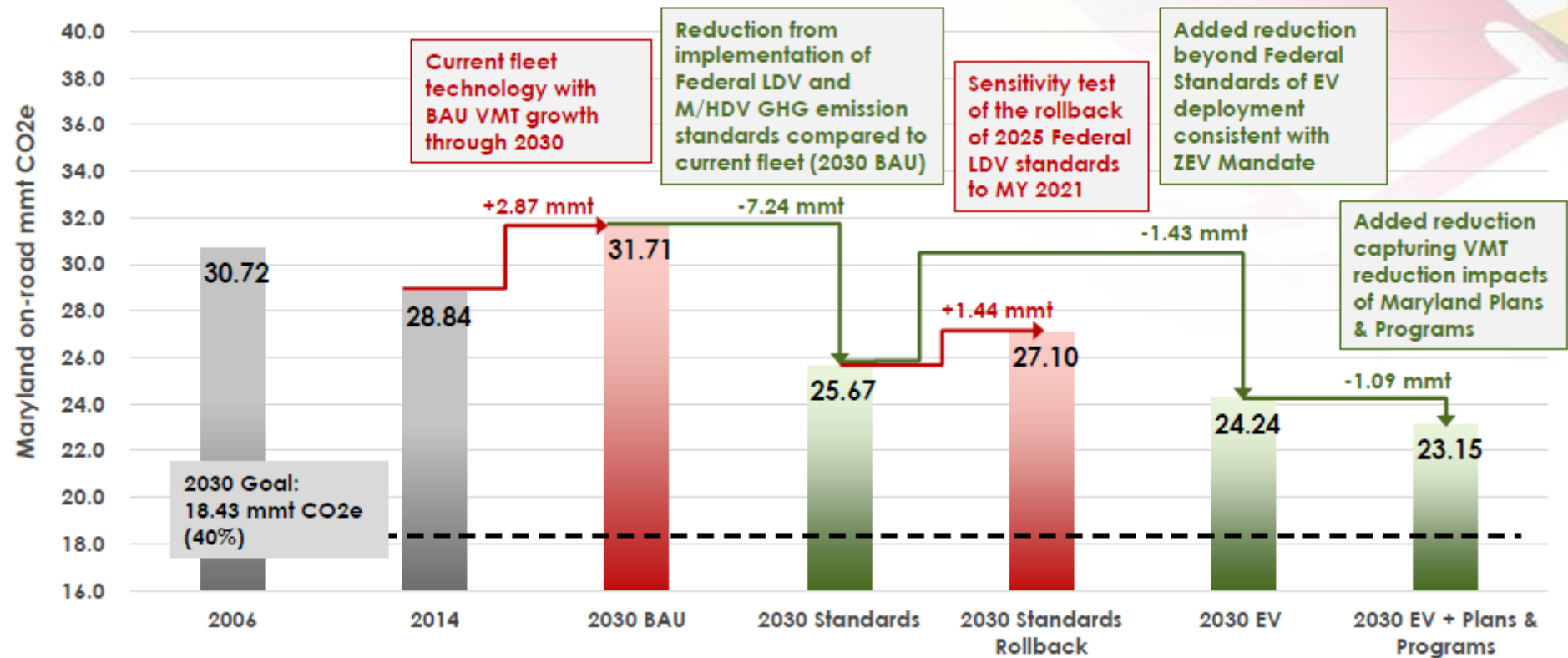


# VMT TREND AND FORECASTS

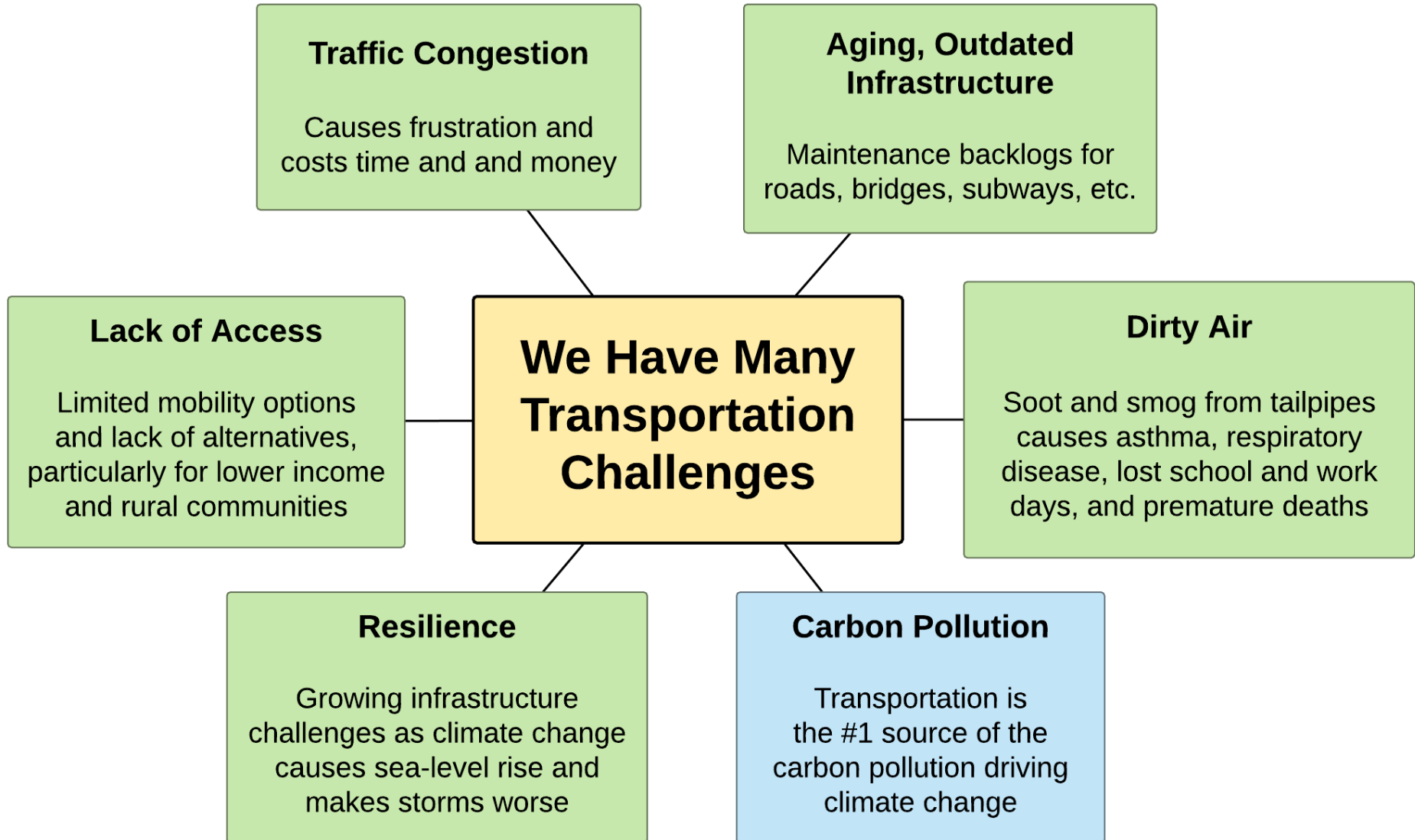
2006 – 2017 VMT and VMT per Capita Trend



# 2030 ON-ROAD EMISSION SCENARIOS (DRAFT)



# It's Not Just About Carbon



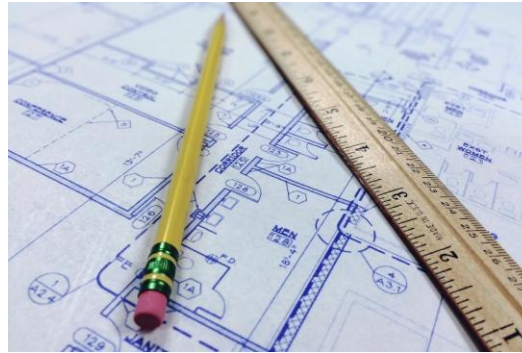
# There Are Solutions – But Funding Is an Issue

## Better Public Transit



- Buses, subways, trains
- Improved route access, more transit options, and increased reliability
- Reduced congestion on our roads

## Smarter Planning



- Reduced travel times and vehicle miles traveled
- Walkable and bikeable communities
- Affordable, transit-oriented housing
- To address pollution hotspots (airports, ports, truck depots, etc.)

## Electric Vehicles



- Electric cars, trucks, and buses can cut emissions and cost less to own
- EV infrastructure to meet charging needs
- Purchase rebates, vehicle sharing programs, and electric buses to provide EV access to low-income households



# Inequities in our Current Systems

Over 45% of Marylanders live in greater Baltimore. 49% of Maryland's GDP is generated in greater Baltimore. Why is Maryland investing so little in the transportation infrastructure of its main economic engine?

**\$0.46B**

**Baltimore Region**

\$0 for Red Line <sup>1</sup>

MTA Operating Budget flat <sup>7</sup>

\$0.461B for widening I-695, I-95 <sup>3</sup>

\$0 for State Center transit-oriented development <sup>5</sup>

**\$11.67B**

**Washington Region**

\$168M for Purple Line, + availability payments <sup>1</sup>

\$167M per year x 3 years = \$500M for WMATA <sup>2</sup>

\$9B for widening I-495, MD-295 and I-270 <sup>4</sup>

\$2B for Amazon HQ2 transportation upgrades <sup>6</sup>

<sup>1</sup><http://www.baltimoresun.com/news/opinion/editorial/bs-md-hogan-transportation-20150624-story.html>

<sup>2</sup><http://www.bethesdamagazine.com/Bethesda-Beat/2017/Hogan-Offers-500-Million-To-Fix-Metro-But-Only-if-Other-Jurisdictions-Do-the-Same/>

<sup>3</sup><http://baltimore.cbslocal.com/2017/12/19/larry-hogan-traffic-plan/>

<sup>4</sup><https://wtop.com/maryland/2017/09/hogan-proposes-9b-plan-add-new-lanes-beltway-270-bw-parkway/>

<sup>5</sup><http://www.baltimoresun.com/news/maryland/baltimore-city/bs-md-bpw-state-center-20161220-story.html>

<sup>6</sup><http://www.baltimoresun.com/news/maryland/politics/bs-md-amazon-package-details-20180122-story.html>

<sup>7</sup>[https://docs.google.com/spreadsheets/d/e/2PACX-1vQ2at-2f5btu2mxGSXAD6\\_qNkdIwUVE2umsHgUqk33nk-WpiLbBWgQE8PCaBrNNhnS4ebznlRnqq\\_p/pubhtml](https://docs.google.com/spreadsheets/d/e/2PACX-1vQ2at-2f5btu2mxGSXAD6_qNkdIwUVE2umsHgUqk33nk-WpiLbBWgQE8PCaBrNNhnS4ebznlRnqq_p/pubhtml)



Figure 1.1 Comprehensive Policy Bundle Approach

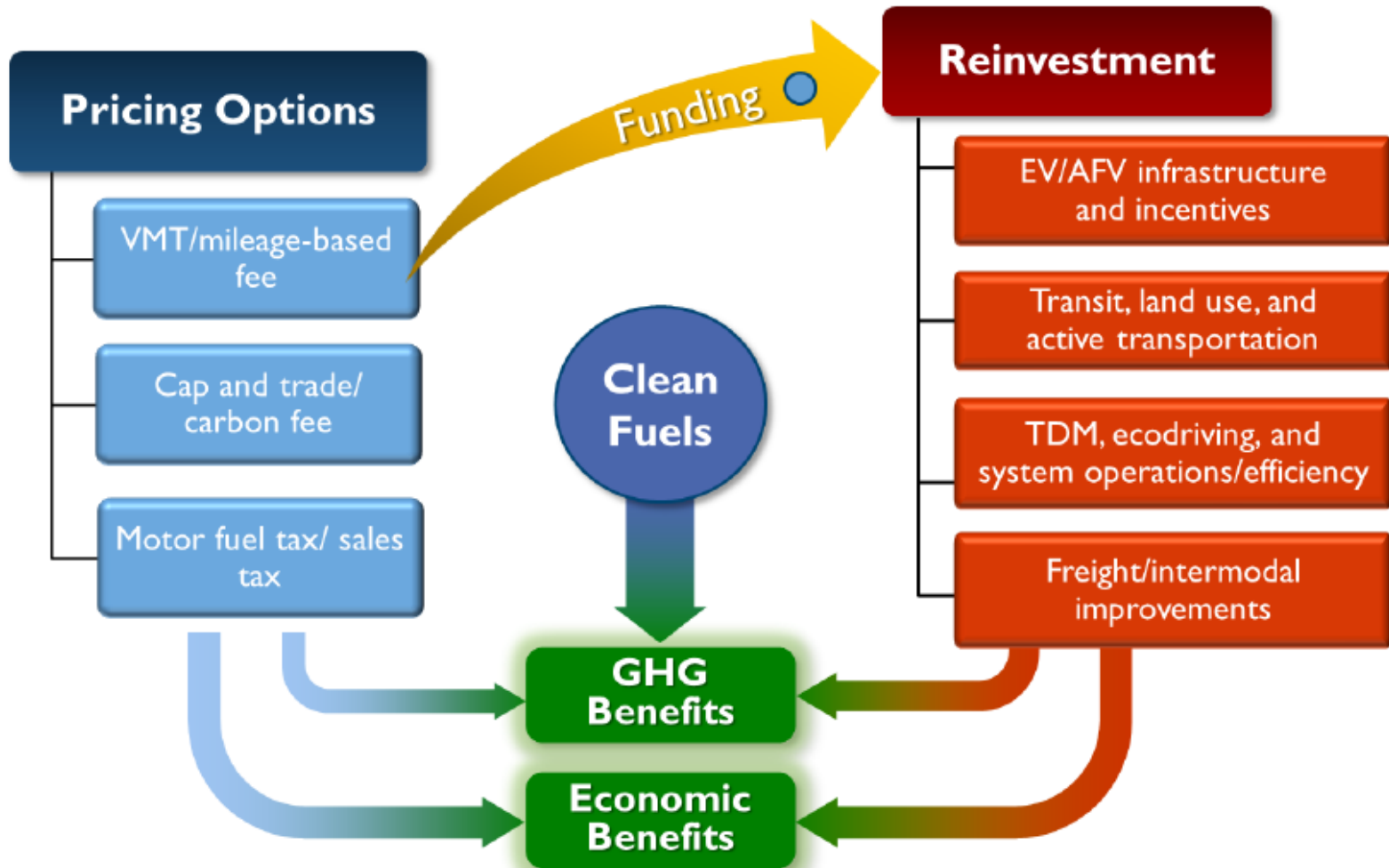


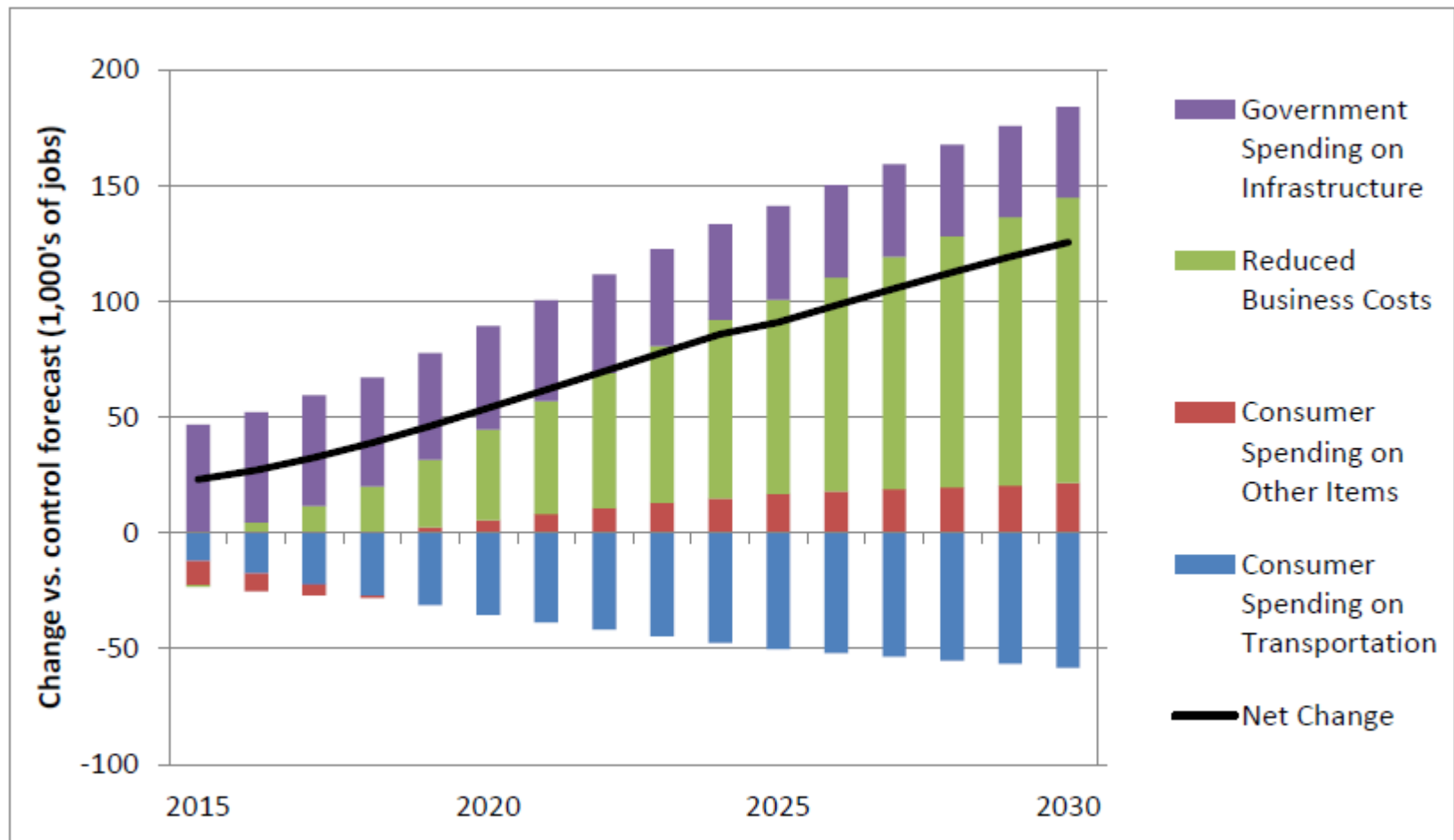
Table 1.1b Pricing Policy Proceeds and Reinvestment Allocation Scenarios

Strategy	Reinvestment Percent		New Average Annual Funding 2015-2030 (millions of current dollars)			
	100% GHG Mitigation	50% Mit./50% Other	Primary Pricing, 100% Mitigation	Primary Pricing, 50% Mit./50% Other	Double Pricing, 100% Mitigation	Double Pricing, 50% Mit./50% Other
<b>GHG mitigation</b>						
EV/alt. fuel infra. and incentives	20.0%	10.0%	\$613	\$311	\$1,227	\$621
Urban and intercity transit	25.0%	12.5%	\$767	\$388	\$1,533	\$777
Land use/smart growth	7.5%	3.75%	\$230	\$116	\$460	\$233
Active transportation	7.5%	3.75%	\$230	\$116	\$460	\$233
TDM and ecodriving	10.0%	5.0%	\$307	\$155	\$613	\$311
System operations/efficiency	15.0%	7.5%	\$460	\$233	\$920	\$466
Freight/intermodal infra./operations	15.0%	7.5%	\$460	\$233	\$920	\$466

Table 2.1c Summary Results by Strategy (1x Funding, 100% Reinvestment)

Strategy	GHG Reduction (mmt)		% Reduction vs. 2011 Baseline <sup>d</sup>	
	2030	2015-2030	2030	2015-2030
Pricing Options <sup>a</sup>				
VMT fee (0.6 c/mi)	1.60	22.11	0.6%	0.6%
Motor fuel tax (\$0.137/gal)	1.50	22.80	0.6%	0.6%
Carbon price (\$5-30/ton CO <sub>2</sub> )	2.75	25.77	1.1%	0.6%
EV/AFV infrastructure & incentives <sup>b</sup>	2.84	21.12	1.1%	0.5%
Urban and intercity transit	0.20	2.06	0.1%	0.0%
Land use/smart growth	1.69	19.12	0.7%	0.5%
Active transportation	1.32	12.66	0.5%	0.3%
TDM and ecodriving	0.69	13.73	0.3%	0.3%
System operations/efficiency	1.58	16.04	0.6%	0.4%
Freight/intermodal infra/ops	0.94	8.60	0.4%	0.2%
<b>Total, Pricing + Reinvestment</b>	<b>10.77</b>	<b>116.13</b>	<b>4.2%</b>	<b>2.9%</b>
Clean Fuels Standard 10% <sup>c</sup>	7.37	86.71	2.9%	2.2%

Figure 5.7 Net Effects on Employment (Scenario 1a)



# By the numbers

- **1,000,000 tons** of carbon reduced annually
- **12,000 net new jobs** annually in 2030 in MD/DC
- **\$13,000,000,000** added to the MD/DC economy through 2030
- **Thousands of lives saved** in the region
- **Hundreds of millions of dollars** saved in lower infrastructure costs
- **More access** to clean mobility opportunities for overburdened and underserved communities

