

The TPB What Would It Take Scenario: Meeting Regional Climate Change Mitigation Goals for the Mobile Sector

Presentation to COG Climate, Energy and
Environment Policy Committee (CEEPC)

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Ron Kirby

Director, Department of Transportation Planning

National Capital Region Transportation Planning Board (TPB)

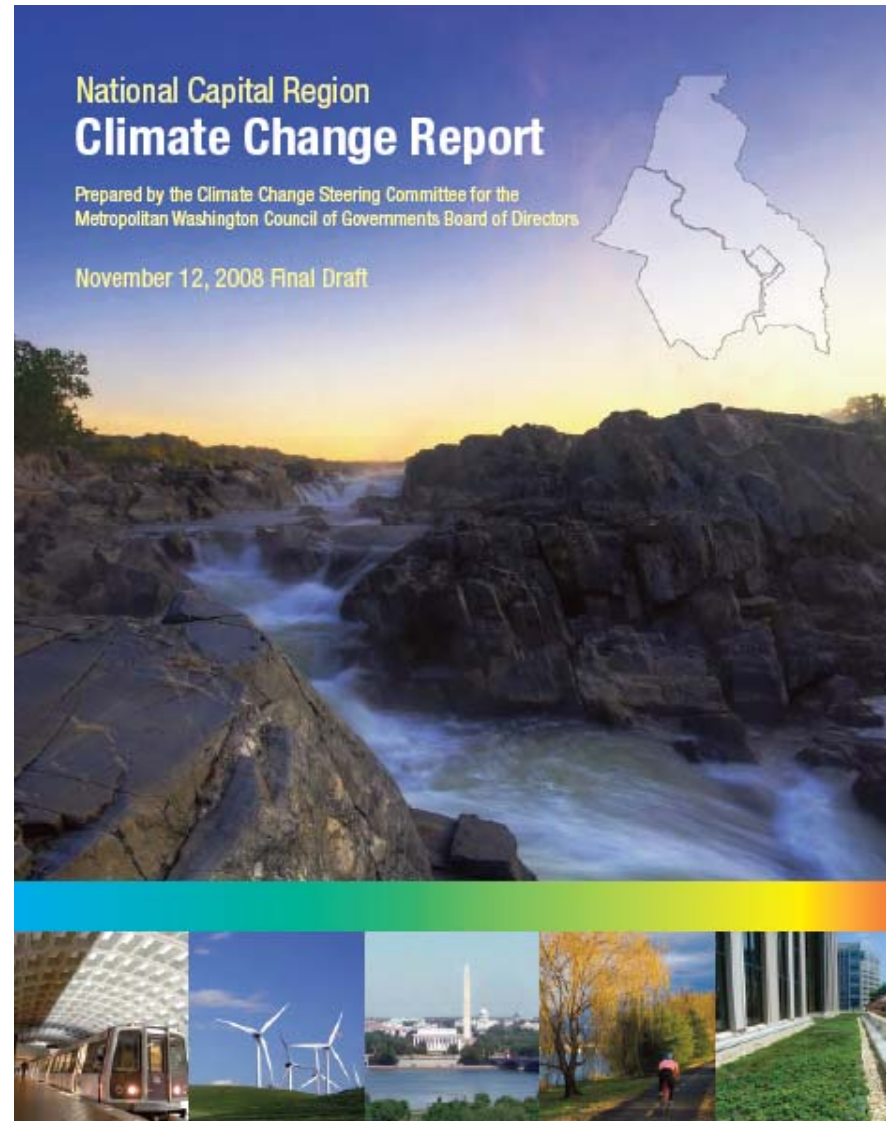
Metropolitan Washington Council of Governments (COG)

COG Climate Change Report

November 12, 2008

Regional GHG
reduction goals

Recommendations for
the mobile sector



COG Regional Goals

“Consistent with the climate science and the goals adopted by the state and local governments in the Washington region”

Return to 2005 levels by 2012

20% below 2005 levels by 2020

80% below 2005 levels by 2050

TPB is applying these goals to the transportation sector:

What would it take to meet these goals in transportation?

Two New Scenarios

CLRP Aspirations

Draws on past studies and public outreach to provide an ambitious yet attainable vision of land use and transportation for the 2010 CLRP update and to eventually serve as an unconstrained long range plan.

What Would it Take?

Starts with COG regional CO₂ goals and assesses what scales and combinations of interventions would be necessary to achieve the goal for the transportation sector.

Timeline

2007

Began analysis and developed initial baseline

2008/09

Update baseline with new CAFE standards and updated vehicle fleet

Analyzed various mobile GHG reduction measures using updated baseline

2009

Completing analysis of recommendations from COG report with final baseline

Mobile CO₂ Projections

CO₂ Emissions from Cars, Trucks, and Buses Annual MT of CO₂ Emissions 8-hour Ozone Non-Attainment Area

	2005	2020	2030
Emissions prior to 2007 CAFE	24.03	30.81	32.71
% Change from 2005 levels	---	28.2%	36.1%
Emissions With 2007 CAFE (35 mpg by 2020)	24.03	24.80	23.93
% Change from 2005 levels	---	3.2%	-0.4%
Emissions With 2009 CAFE (35.5 mpg by 2016)	24.03	24.40	23.75
% Change from 2005 levels	---	1.5%	-1.2%
CCSC Proposed Regional Goal	24.03	19.23	14.42
% Change from 2005 levels	---	-20.0%	-40%

Source: 2008 CLRP

Example Mobile GHG Reduction Strategies to be Examined

Fuel Efficiency

- Extending CAFE requirements to heavy trucks
- Cash for Clunkers programs
- Benefits of enhanced CAFE possibilities (eg 45/55 mpg by 2030)

Alternative Fuels

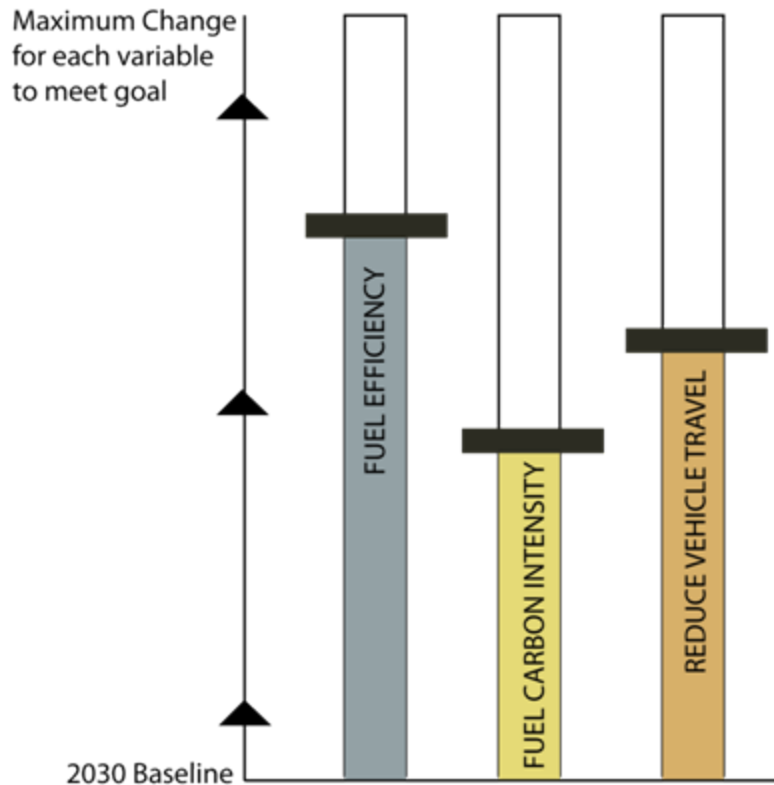
- Regional green fleet policy
- Accelerated adoption of clean-fuel vehicles (hybrids, flex fuel)

Travel Efficiency:

- Pricing policies to reduce VMT (tolling, congestion pricing, parking pricing)
- Shift short trips to non-motorized modes
- Increased transit capacity
- Land use shifts (TOD, walkable activity centers)
- Signal optimization

Products

“Sliders” metaphor



How can strategies across these categories be combined to meet our regional climate change goals?

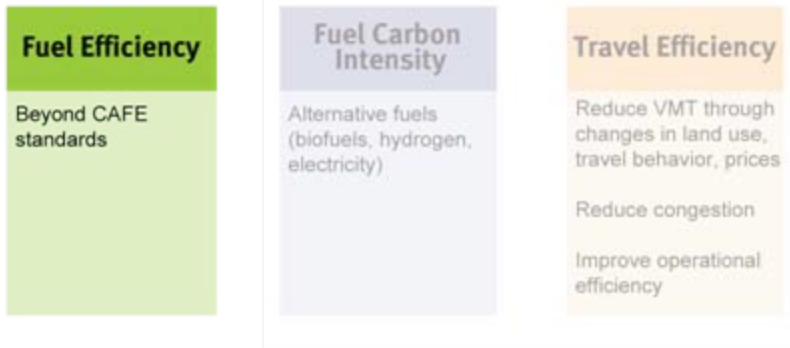
There are many different possible combinations.

**Getting to the goal of 40% reduction
below 2005 levels by 2030**

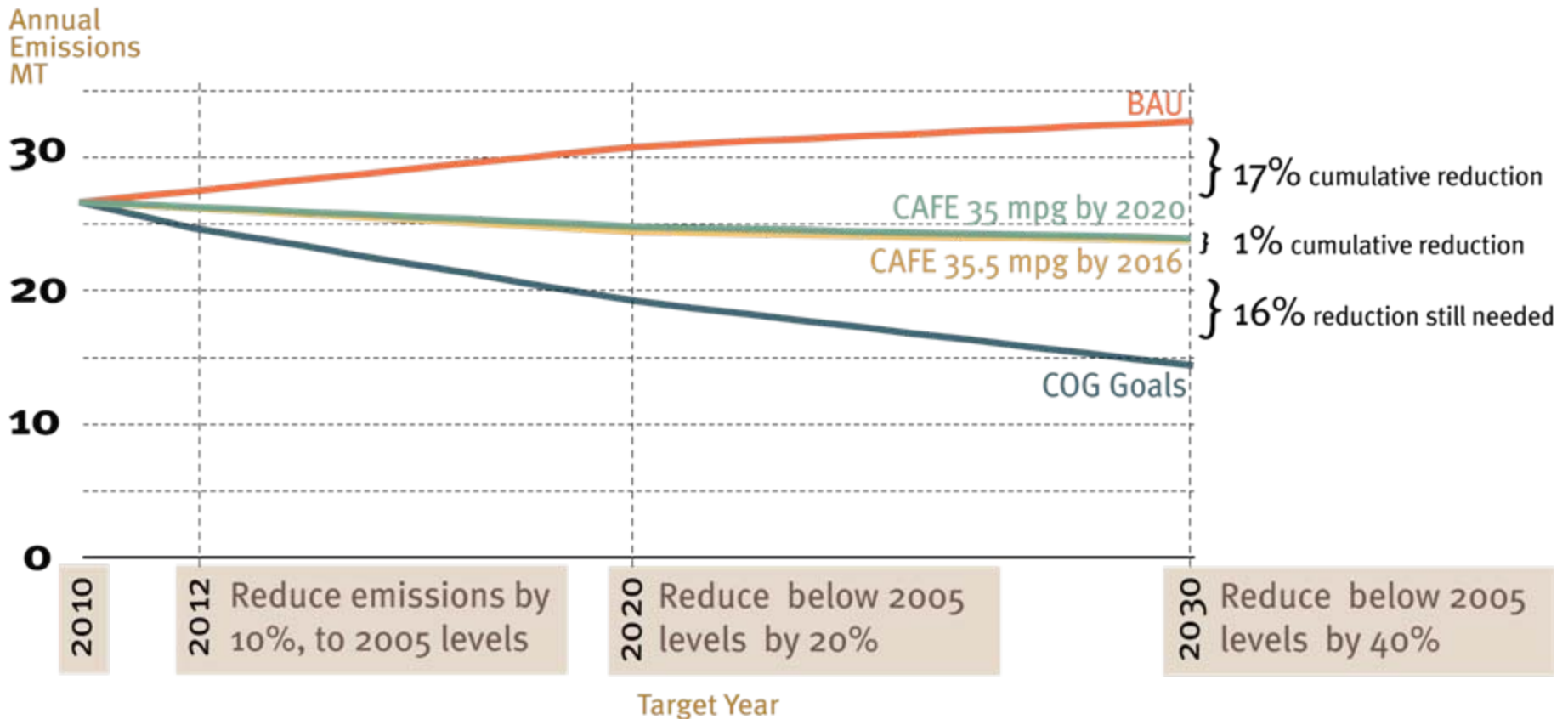
Can these strategies get us there?

Achieving the Goal

40% reduction in mobile CO₂ emissions below 2005 levels by 2030



Fuel Efficiency CAFE Standards

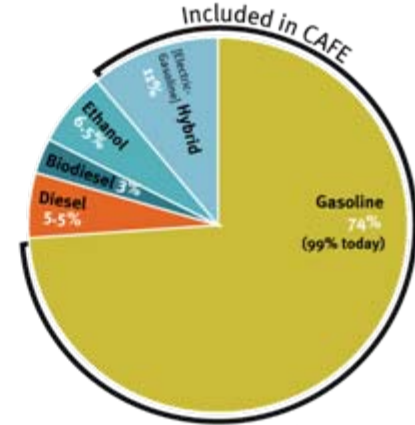


Achieving the Goal

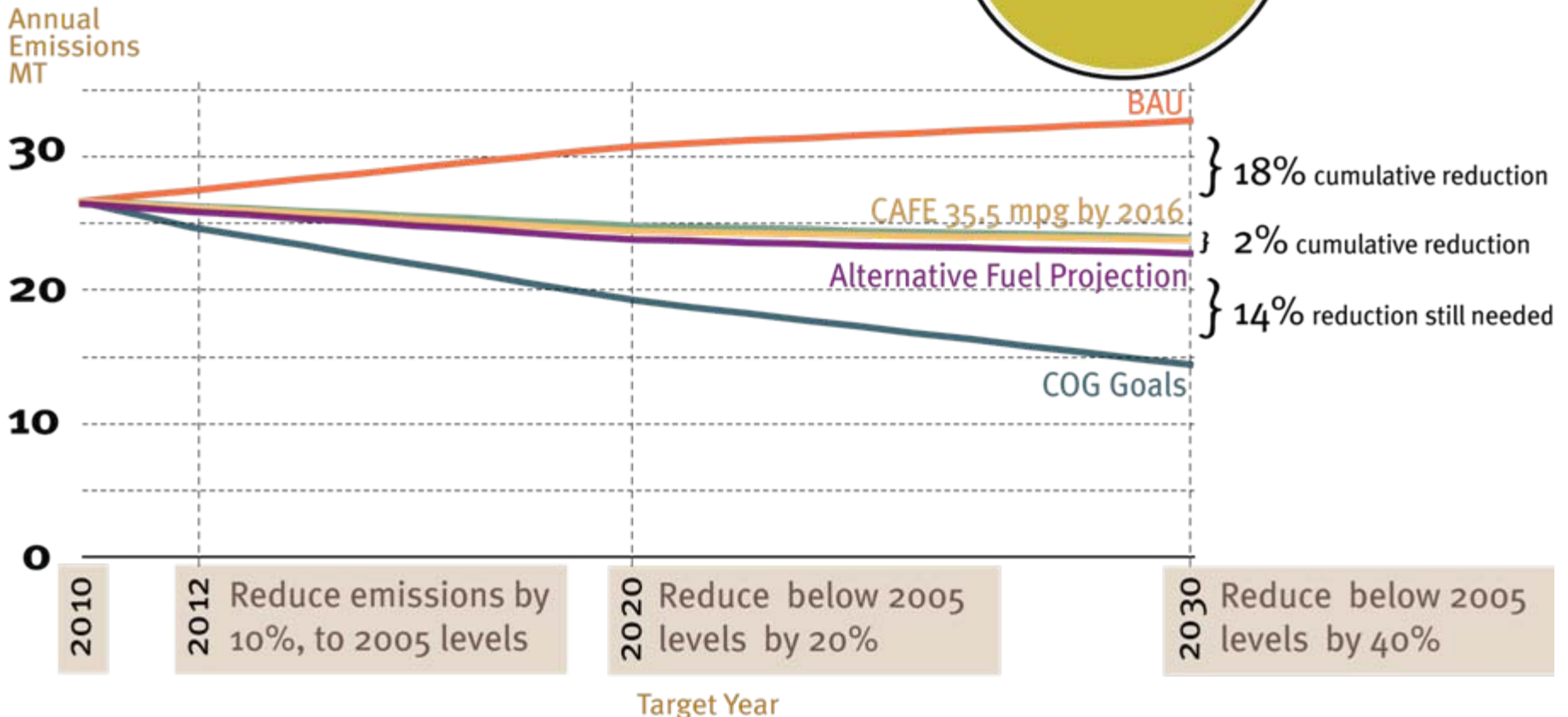
40% reduction in mobile CO₂ emissions below 2005 levels by 2030

Fuel Efficiency Beyond CAFE standards	Fuel Carbon Intensity Alternative fuels (biofuels, hydrogen, electricity)	Travel Efficiency Reduce VMT through changes in land use, travel behavior, prices Reduce congestion Improve operational efficiency
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Alternative Fuels



2030
 Source: US DOE, EIA, Annual Energy Outlook (AEO) 2008



Travel Efficiency

**An overview of the transportation
GHG reduction measures to be
included in the analysis**

Transportation measures analyzed to date:

Measure	Description	Reduction (tons)
SmartBike Regional Expansion	DC SmartBike Program regionally expanded by 30% (650 bikes)	20,400 (2010-2030)
BikeStation Regional Expansion	5 BikeStations in Bethesda, Silver Spring, Arlington, Alexandria and at Union Station	4,700 (2010-2030)
Carpool Incentive	SOV drivers receive \$1 per trip (\$2 roundtrip) taken by carpool on I-66, I-270, I-495 and I-395	62,000 (2010-2030)
TPB Bike and Ped Plan Construction	Fully fund and complete the construction of the TPB Bicycle and Pedestrian Plan by 2020	1,830,000 (2010-2030)
Achieve Goal of Shifting Short Auto Trips	Shift 20% of auto trips under 3 miles in length to non-motorized modes (walk or bike)	5,910,000 (2010-2030)

Achieving the Goal

40% reduction in mobile CO₂ emissions below 2005 levels by 2030

Fuel Efficiency

Beyond CAFE standards

Fuel Carbon Intensity

Alternative fuels (biofuels, hydrogen, electricity)

Travel Efficiency

Reduce VMT through changes in land use, travel behavior, prices

Reduce congestion

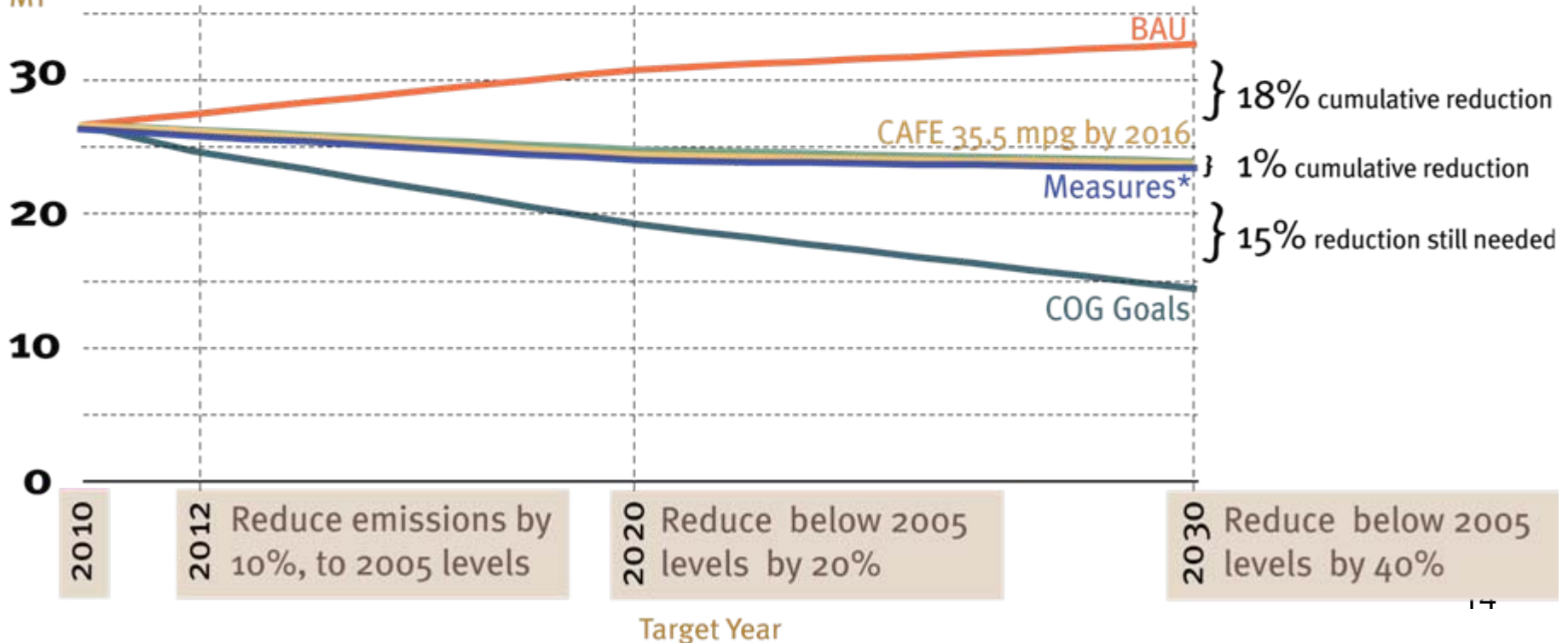
Improve operational efficiency

Travel Efficiency

Measures Analyzed to Date

SmartBikes, BikeStations, TPB Bike/Ped Plan, Carpool Incentive, Shifting Short Auto Trips

Annual Emissions MT



* Measures are shown as additive, though the individual measures may have overlapping benefits

Other Measures to be Analyzed

Measure	Description	Reduction (tons)
Increase Fuel Efficiency Beyond CAFE Requirements	Extending CAFE requirements past 2020 Extending CAFE to heavy trucks Incentive programs for fuel efficient vehicles	
Cash for Clunkers Program	Analysis of bill signed into law on June 24, 2009, and potential future programs.	
Regional Green Fleet Policy	Examine a green fleet policy for public and private fleets, transit, and others possibly based on other regional models	
Expand existing commuter options	Expand existing programs: commuter connections, guaranteed ride home, telework, park & ride lots and bike/ped access	
Use of financial incentives	Examine tolling, parking pricing, congestion pricing	
Land use and transit changes	Analyze GHG benefits of CLRP Aspirations Scenario	

Next Steps

Complete ongoing analysis of transportation GHG reduction measures

Conduct cost-effectiveness and cost benefit analyses