

US EPA ARCHIVE DOCUMENT

What Impacts from Traffic Emissions Can Be Expected in the Future?

Presentation for Workshop on the Role of Vegetation in Mitigating Air Quality
Impacts from Traffic Emissions
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What Regulatory Programs Will Affect Motor Vehicle Emissions in the Next 20 Years?

- A variety of new vehicle emission standards will reduce average fleet emission rates
 - Tier 2 emission standards for light-duty
 - 2007/2010 heavy duty emission standards
 - cold temperature VOC standard (2007 MSAT rule)

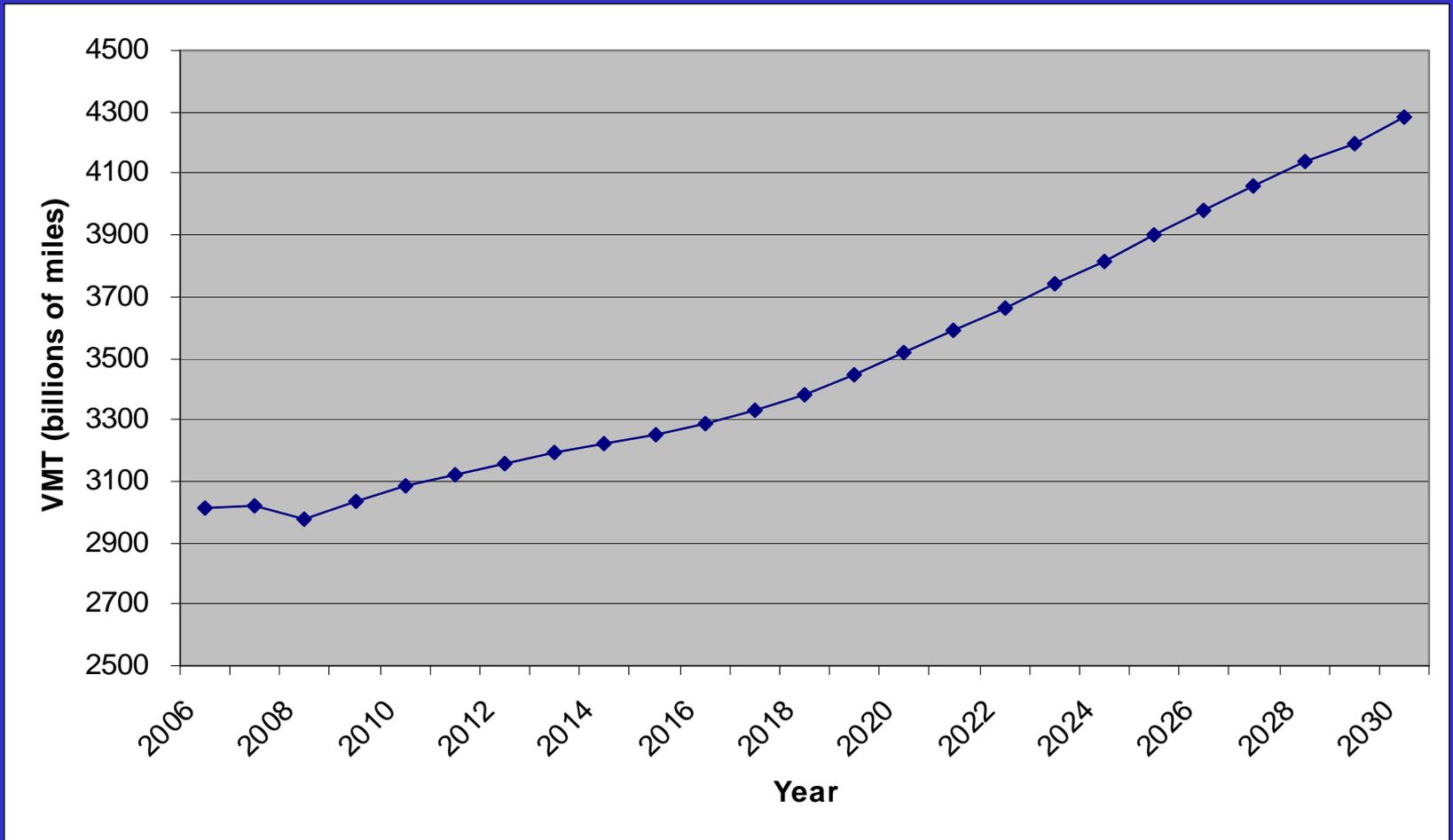
What Regulatory Programs Will Affect Motor Vehicle Emissions in the Next 20 Years?

- In addition, fuel standards will impact vehicle emissions
 - Low sulfur for gasoline and diesel fuel
 - Fuel benzene standard (2007 MSAT rule)
 - Renewable Fuel Standards
 - 35 billion gallons of renewable fuel
 - Large increases in ethanol in gasoline expected
 - Impacts in 2022 relative to current renewable fuel volumes
 - Small increases in NO_x and HC from vehicles expected
 - Small decreases in direct emissions of PM
 - Large increases in direct emissions of acetaldehyde and ethanol

What are projected emission inventory impacts?

- Large reductions in vehicle emission rates
- Partially offset by increases in vehicle miles travelled
- Still, significant inventory reductions anticipated

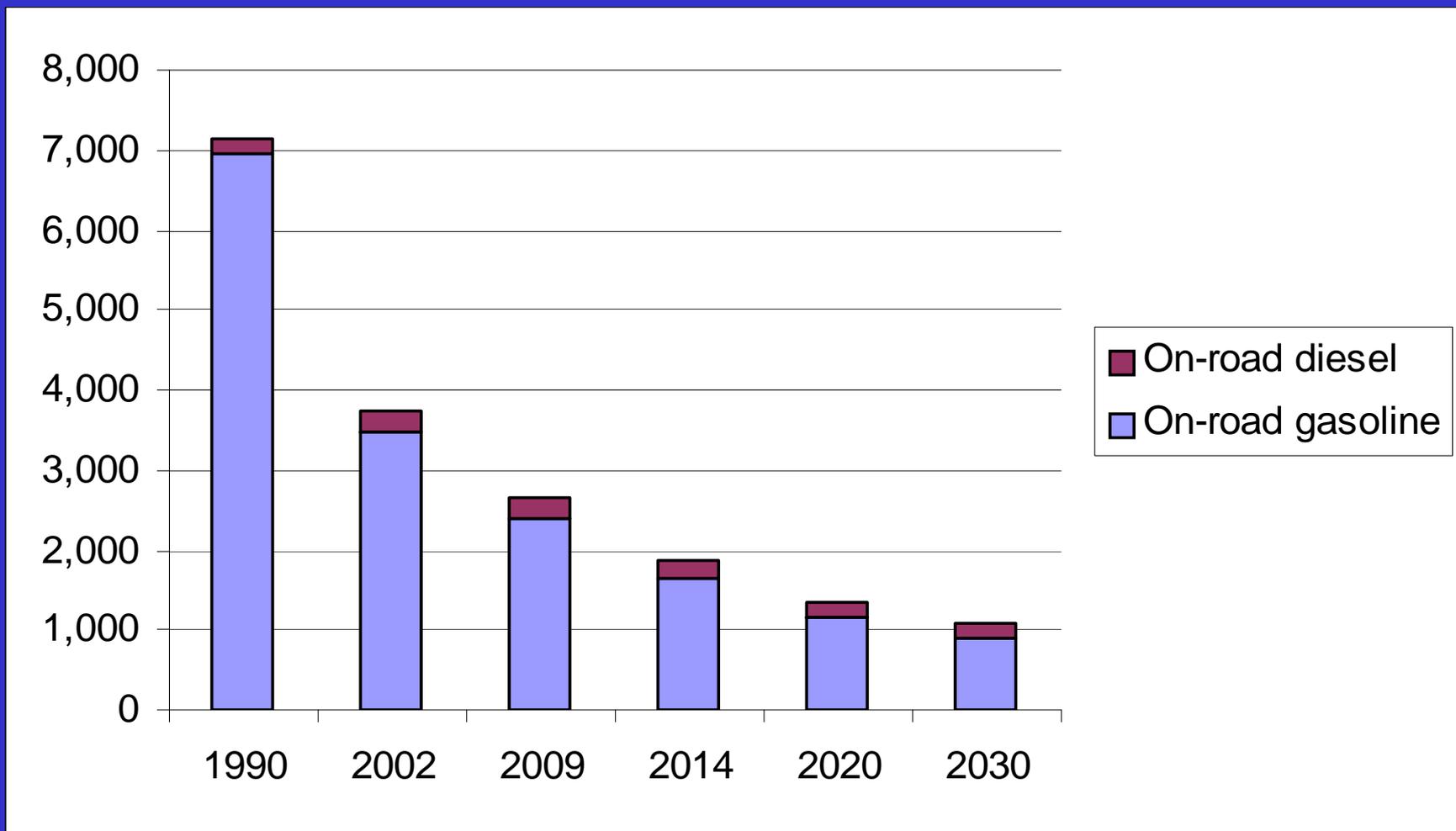
Projected VMT Trend



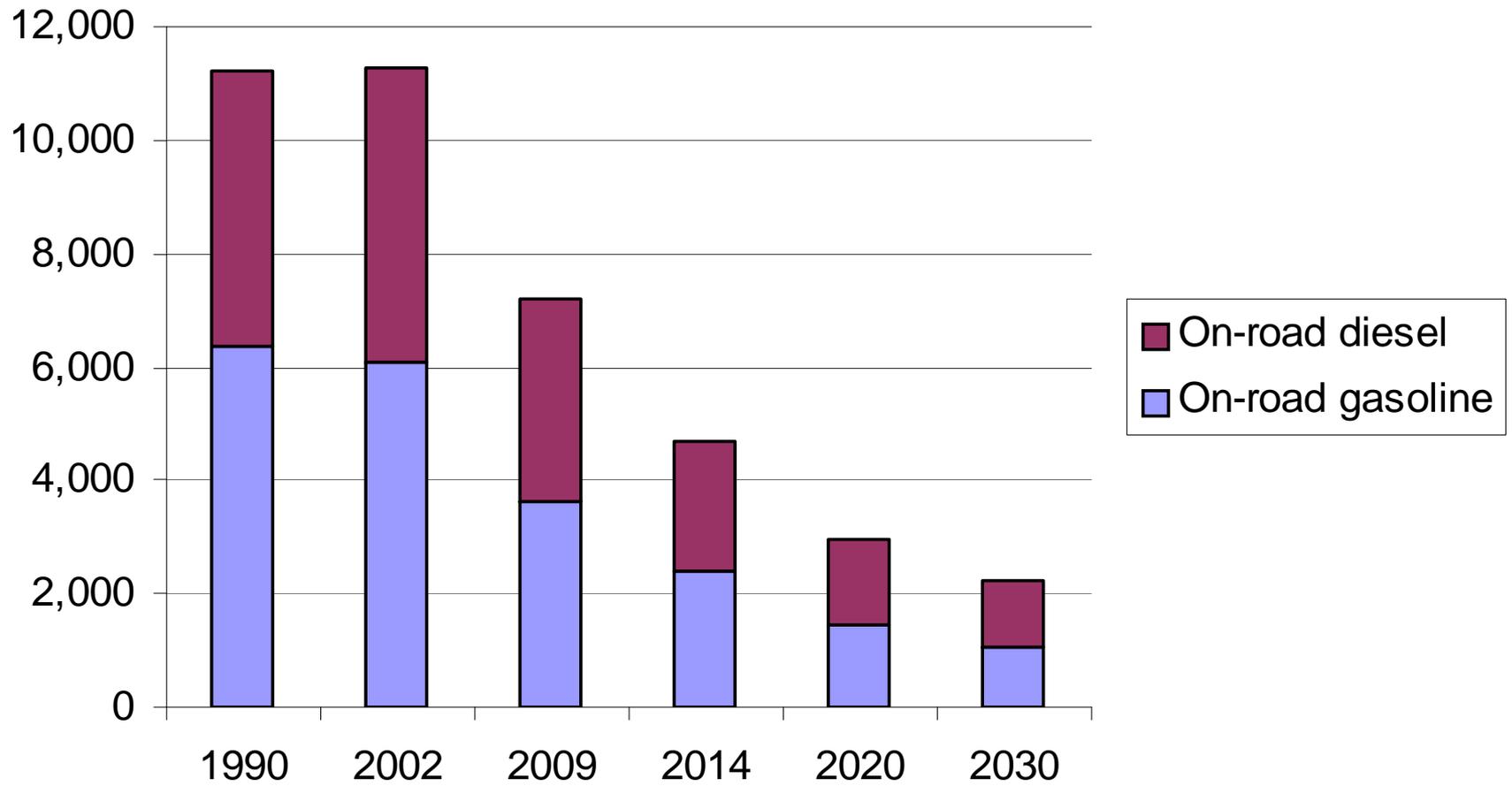
Source: AEO 2009

VOC Emission Trend

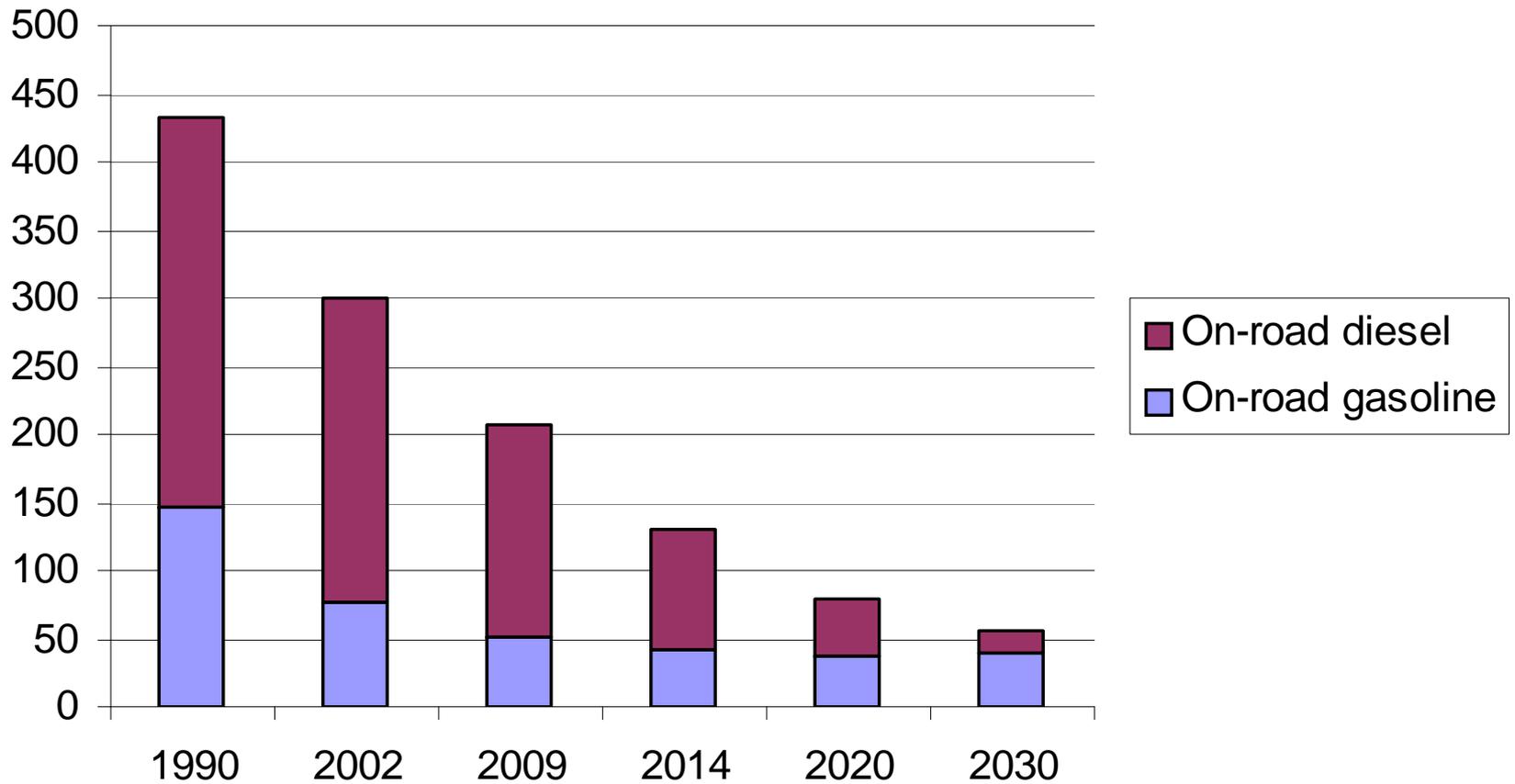
(ktons)



NO_x Emission Trend (ktons)

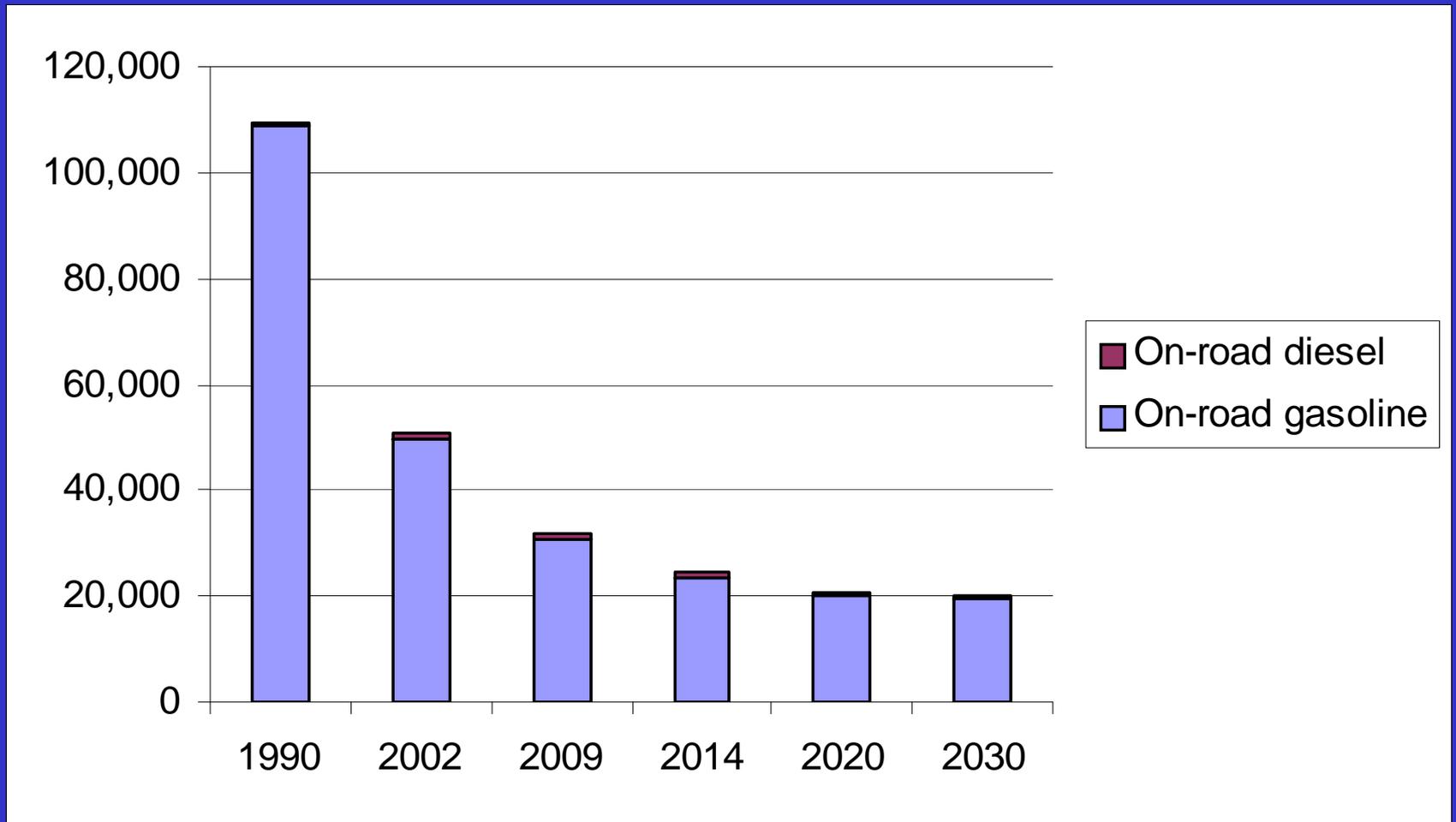


PM_{2.5} Emission Trend (ktons)



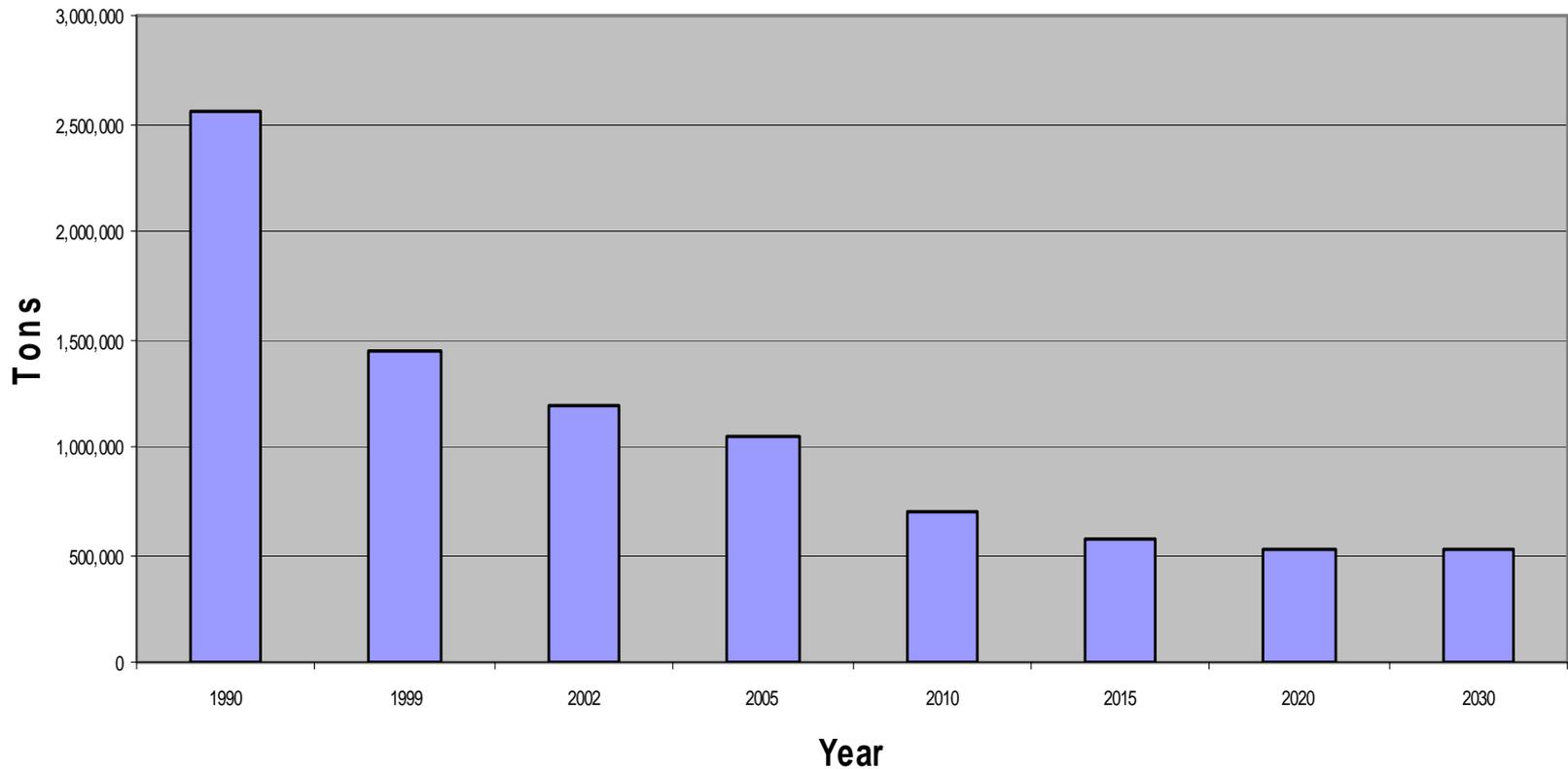
CO Emission Trend

(ktons)



Toxics Emission Trend

(all highway; tons)



Voluntary Programs Will Also Impact Emissions

- National Clean Diesel Campaign
- Clean School Bus USA
- Smartway Transport Partnership
 - Encourages more efficient goods shipment
 - Loans for truck replacement
- Improved transportation planning

Have we solved the motor vehicle emissions problem?

- Despite continuing reductions in highway vehicle emissions, they remain a public health issue
 - Strong spatial gradients near roads
 - Local impacts can be large
 - Recently lowered NAAQS standards
 - Some sources (e.g. brake and tire wear) relatively uncontrolled
 - Changes in emission composition from new technologies and fuels could present unforeseen public health issues