

# Health Impacts from Transport

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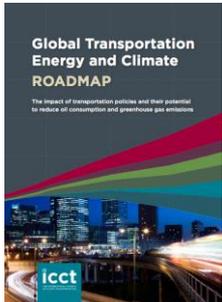


# Global Transportation Health and Climate Roadmap Series



## Roadmap Model

<http://www.theicct.org/global-transportation-roadmap-model>



## Global Transportation Energy and Climate Roadmap

<http://www.theicct.org/global-transportation-energy-and-climate-roadmap>



## The Impact of Vehicle and Fuel Standards on Premature Mortality and Emissions

<http://www.theicct.org/global-health-roadmap>

# Increasing urbanization and densification can increase exposure to harmful pollutants if not coupled with clean vehicles and fuels



Current emission controls can cut vehicle emissions by 99%.

Vehicle emission standards can drive the introduction of emission controls such as diesel particulate filters (DPFs).

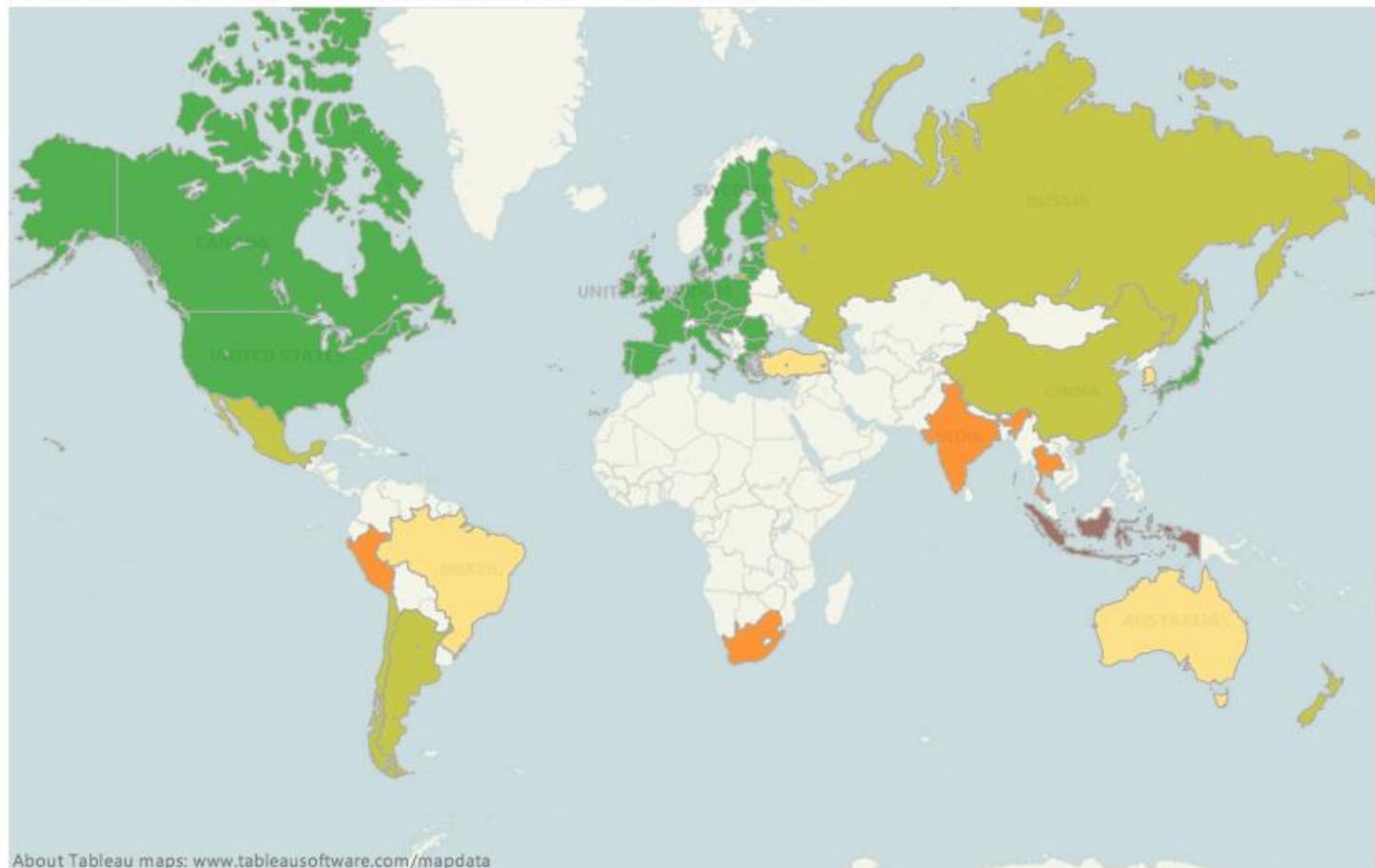
Fuel standards can ensure supply of low sulfur fuels.

UNEP 2009. Cleaning up Urban Bus Fleets

Open Knowledge 2013. <http://knowledge.allianz.com/?2157/pollution-in-china-tasting-the-air>

# There is wide discrepancy regarding the stringency of vehicle emission standards worldwide

Nationwide emissions standards for heavy-duty vehicles, 2014



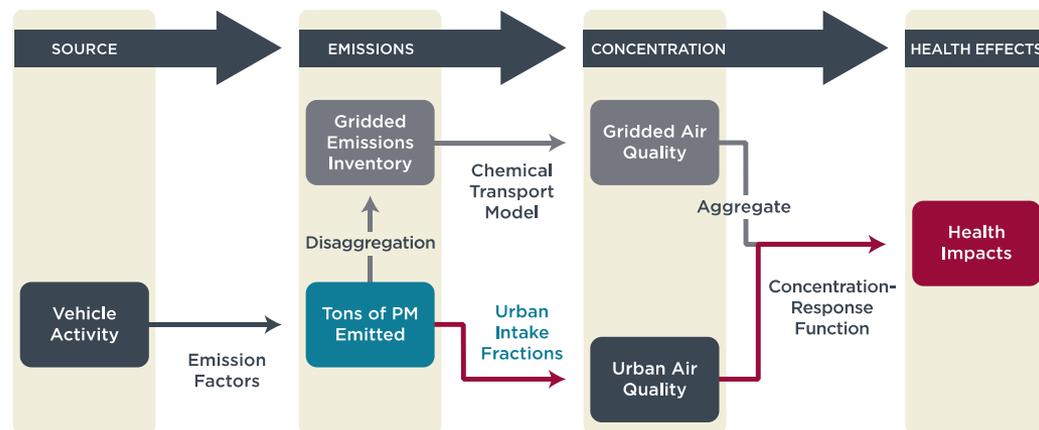
Euro-equivalent standard

II III IV V VI

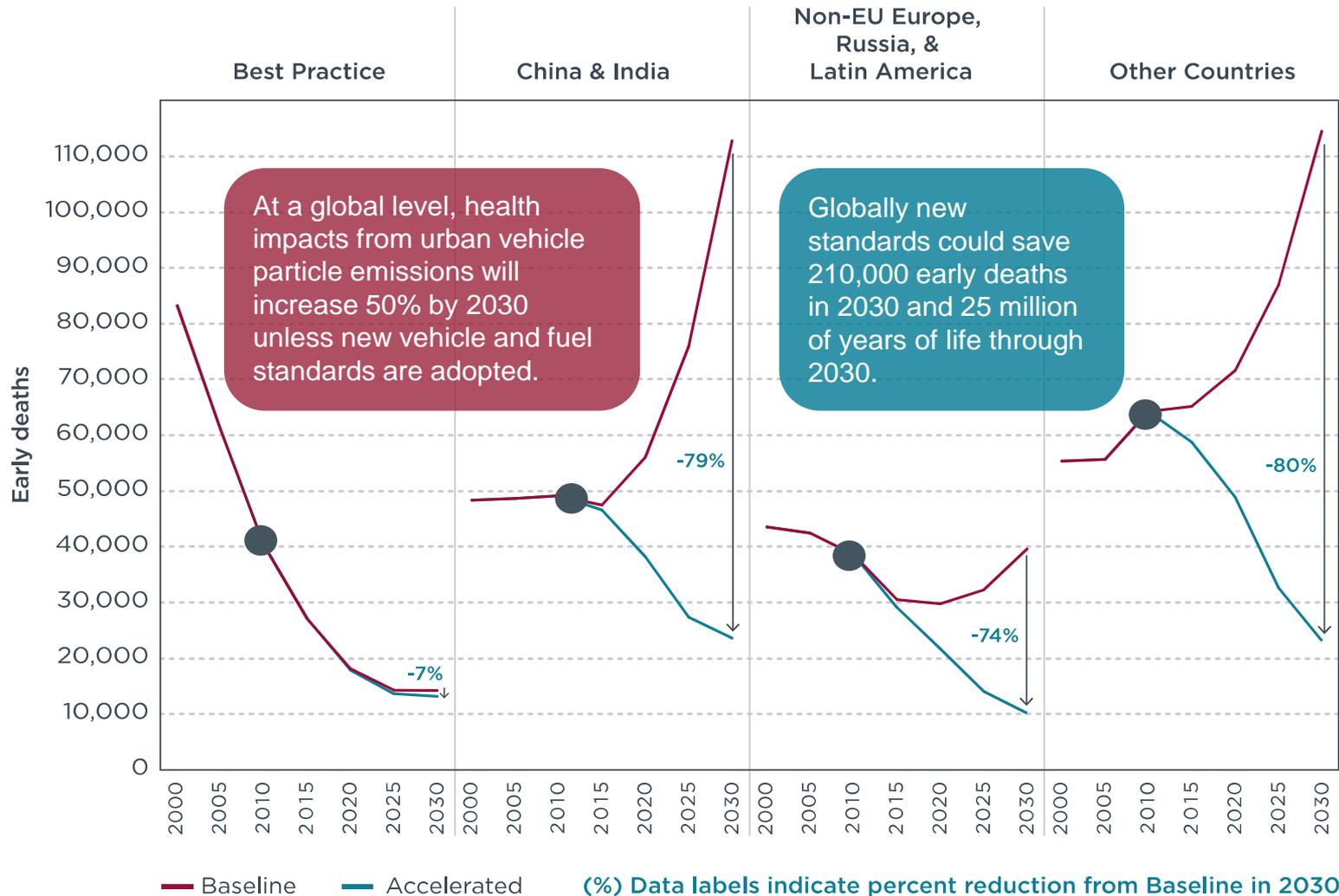
Source: TransportPolicy.net (2014). Global Comparisons  
International Council on Clean Transportation & DieselNet  
Accessed 16 May 2014  
<http://www.transportpolicy.net>

# A global focus on health impacts from transportation is critical to provide policy insights

- Global study to evaluate health impacts of stringent vehicle emission and fuel controls.
- Regional groupings by policy progress, geography, and economic development
- Evaluation of accelerated policy roadmap
- Health impacts from urban PM<sub>2.5</sub> (premature deaths from lung cancer, cardio-pulmonary disease, and respiratory infections).
- Streamlined methodology to circumvent the need for detailed air quality modeling



# Latest vehicle controls can reduce emissions and premature mortality worldwide by 75%



# Buses with advanced emissions controls are a win-win solution for climate and health

## Milligrams PM per passenger-km

Scenario	Bus	Motorcycle	Passenger car
Baseline technology	8.2	18.2	2.4
Advanced technology	✓ 0.3	1.3	0.6

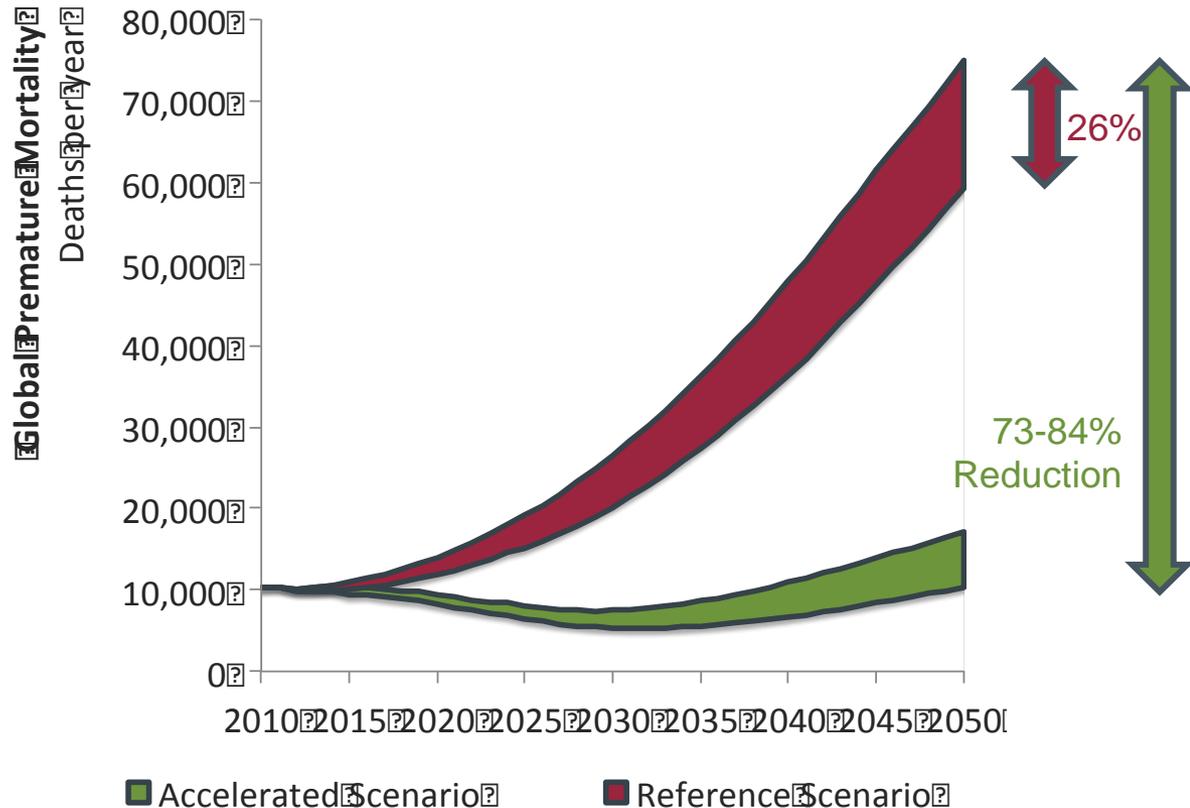
## Grams CO2 per passenger-km

Scenario	Bus	Motorcycle	Passenger car
Baseline technology	✓ 31	81	156

- Baseline technology (Euro 3/III) buses have higher PM emissions per passenger-km than cars
- Advanced technology (Euro 6/VI) buses have lowest PM
- Buses are less carbon intensive than motorcycles and cars

# In Latin America, technology and activity combined can reduce health impacts by 84%

- Premature deaths vary by 26% between the four urban mobility scenarios.
- A package of technology and activity can stabilize health impacts from transportation (despite projections of activity growth in Latin America).



## Sources:

VKT projections from ITF Outlook 2013

Emissions and health impact projections from ICCT's Roadmap model

# Moving forward

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- Joint partnership between ITF and ICCT to evaluate health impacts in China and India for ITF's Outlook 2014
- Consider both climate and health impacts from transport when addressing environmental protection
- Think about technology and activity solutions as a package
- Require new transit systems to adopt state of the art vehicle technologies (and fuel) to minimize health impacts, especially in those countries without stringent national emission controls

# Thank you! For more information:

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