

EPA's Travel Efficiency Assessment Method (TEAM): Development and Case Studies

Presented by:



United States Environmental Protection Agency
Office of Transportation and Air Quality

Thursday October 20, 2016

2:00 PM - 3:00 PM EST

Housekeeping

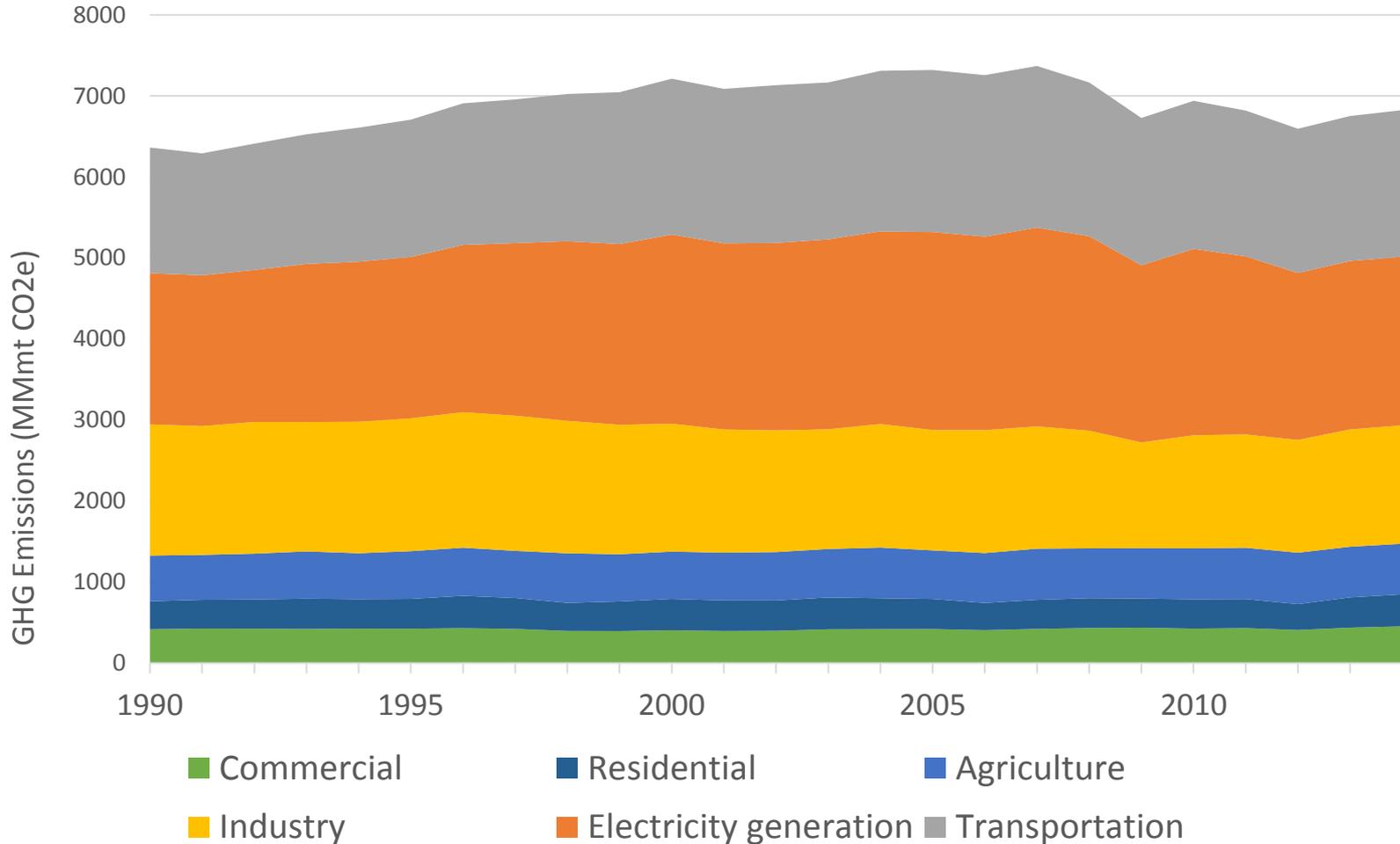
- Please use the **Q & A pod** within Adobe Connect to send questions. We will try to respond to as many as possible throughout the webinar
- Please direct any technical issues to: berry.laura@epa.gov

NOTE: Audio should be coming through your computer's speakers. Please ensure that your computer's volume is properly adjusted

Agenda

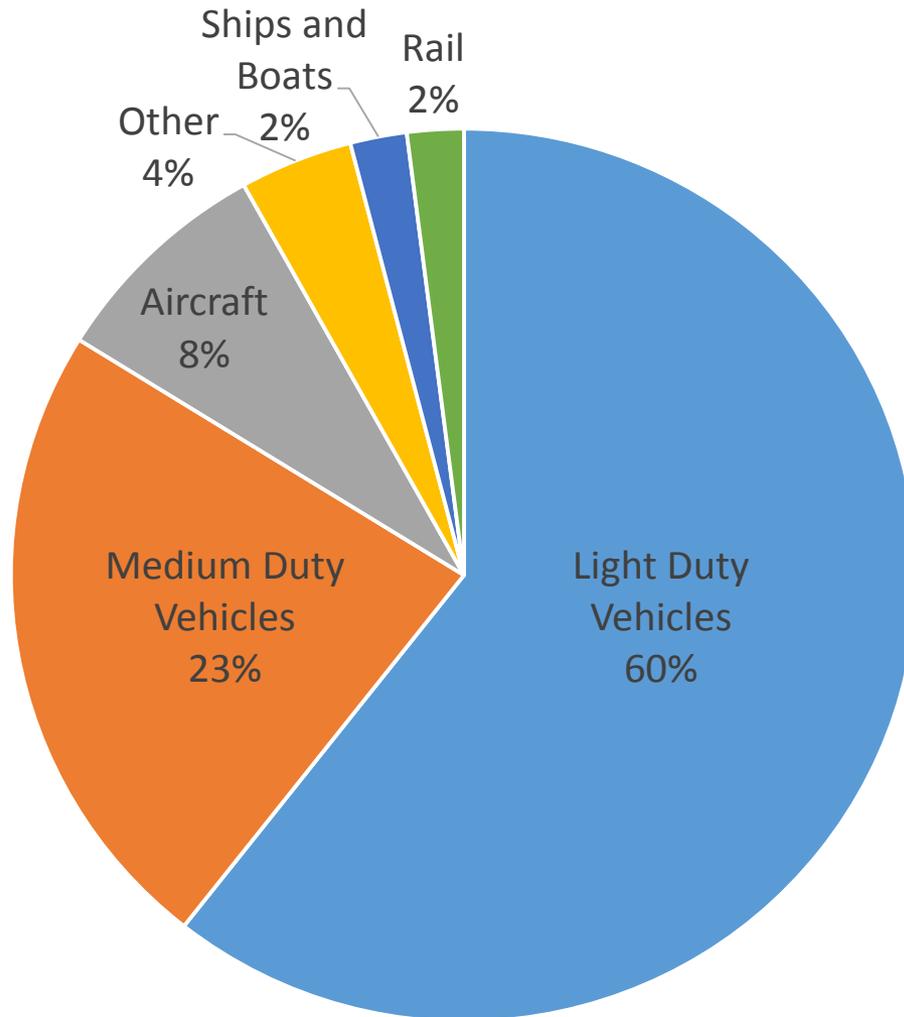
- Introduction
- Issue and Background
- Atlanta Regional Commission - David D'Onofrio
- East West Gateway - Lubna Shoaib
- MetroPlan Orlando - Gary Huttman
- Next round of TEAM Case Studies
- Questions

U.S. Greenhouse Gas Emissions by Sector



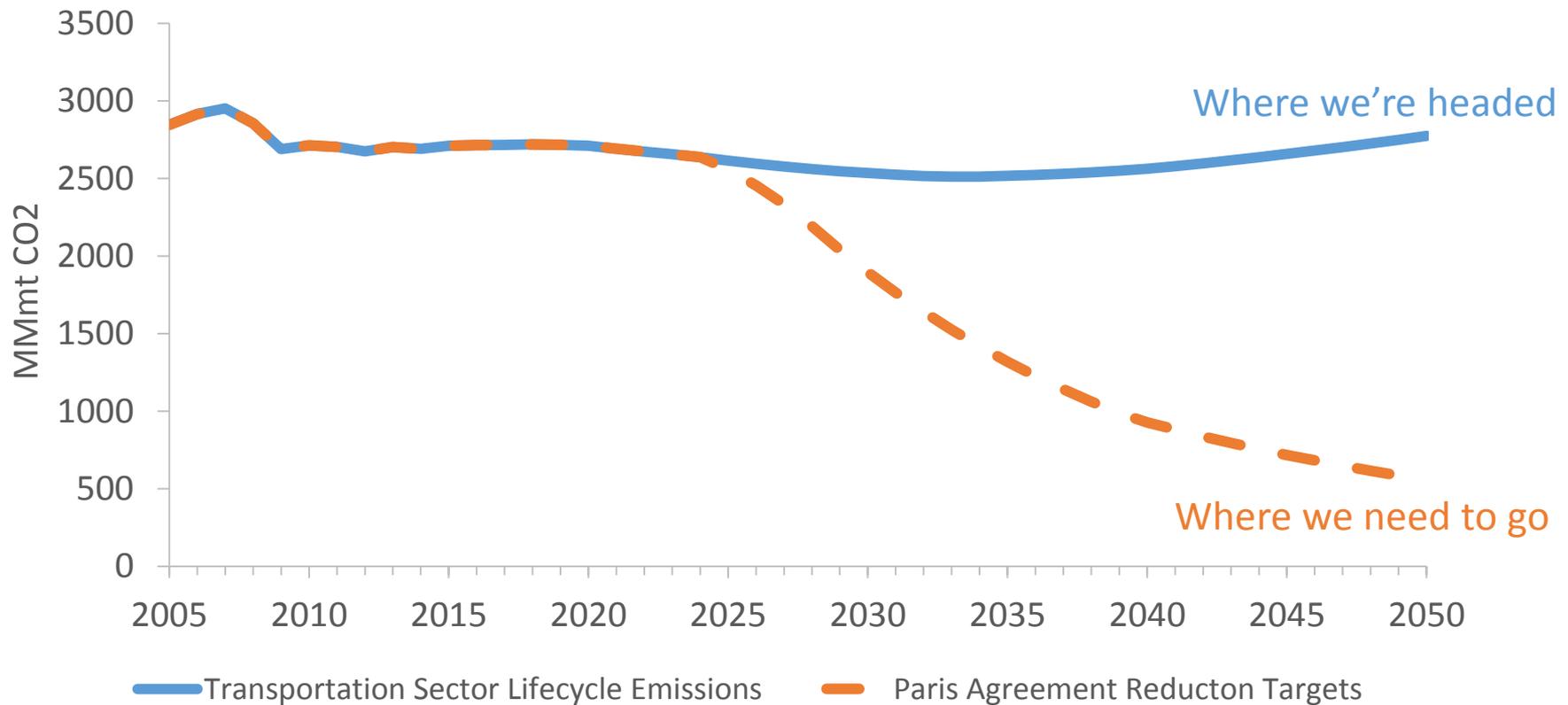
Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (April 2016)

U.S. Transportation GHG Emission Sources



Atmospheric concentrations of CO₂ need to be stabilized at or below 450 ppm

- 80% reduction target are needed to limit 2° C warming



Travel Efficiency (TE) Strategies

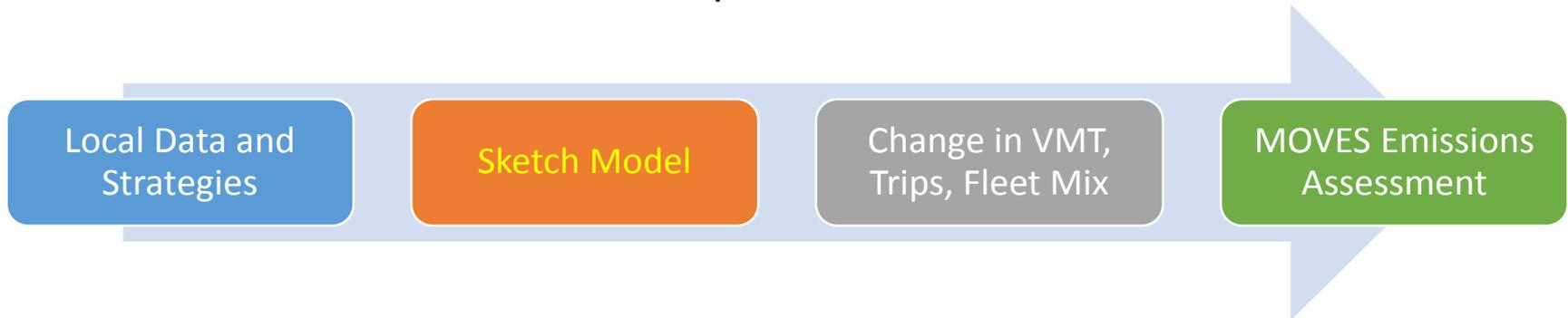
Strategies to reduce emissions by affecting travel activity – examples:

- Travel demand management
 - Telecommuting
 - Transit Subsidies
 - Carpool and Vanpool Programs
- Changes to public transit
 - Reduced Fares
 - Increased Frequency, Range
- Travel pricing
 - Road Pricing, Parking Pricing
- Changes to land use
 - TOD, Mixed Use,
Jobs/Housing Balance



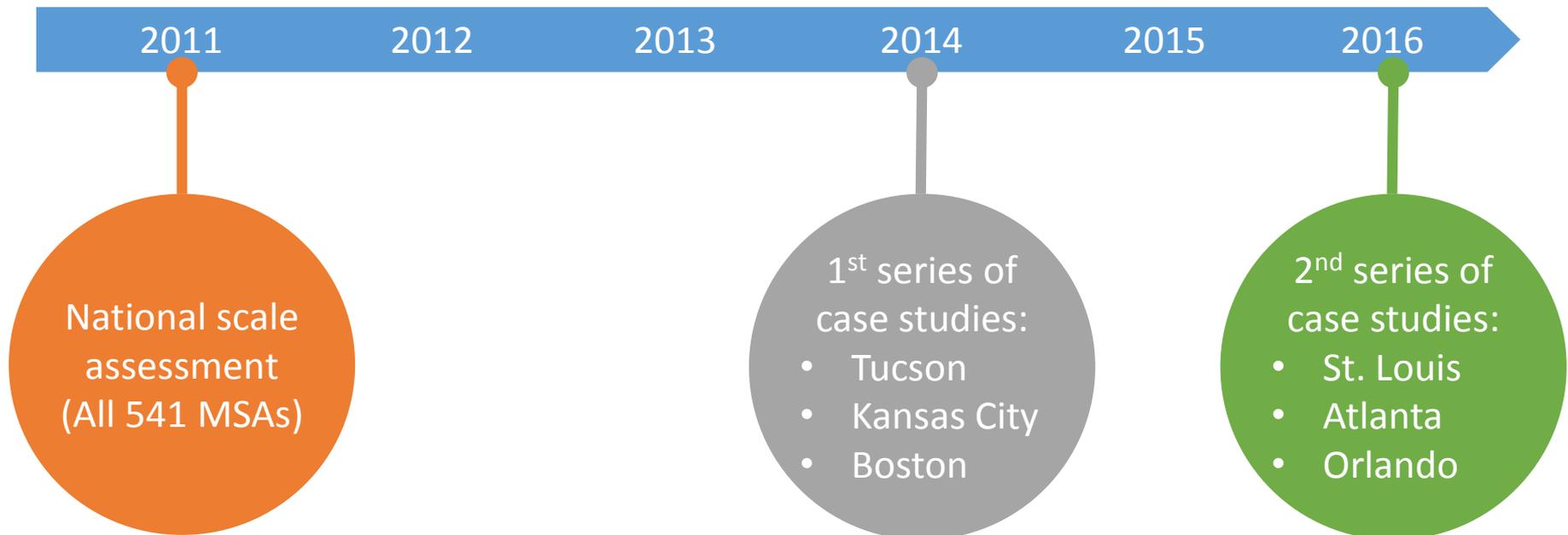
The Travel Efficiency Assessment Method

- TEAM is a methodology to assess multi-pollutant emission reductions from TE strategies at the local, state and national level
- Modification of traditional 4-step model



The Travel Efficiency Assessment Method

- TEAM approach demonstrations



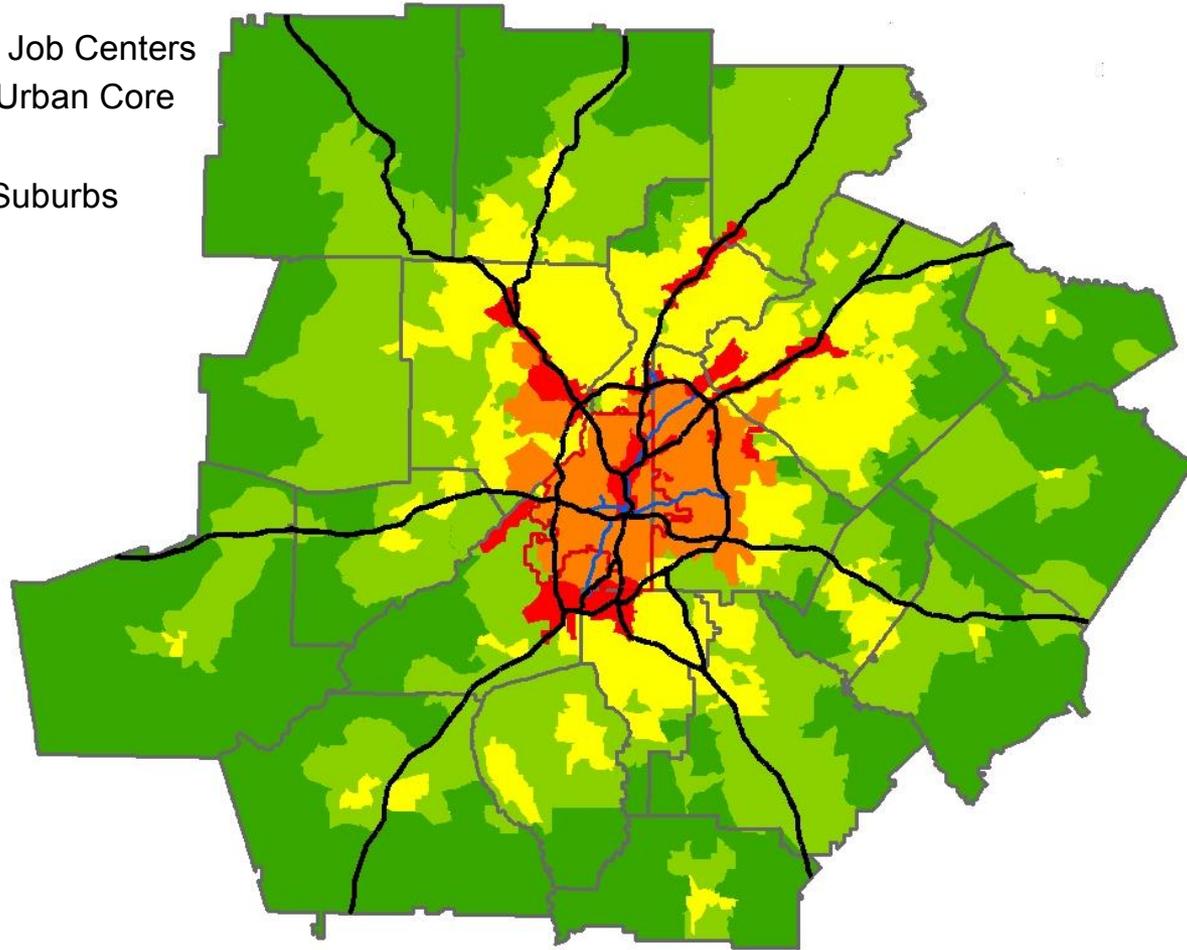


David D'Onofrio
Principal Planner
Air Quality & Climate Change Program
Atlanta Regional Commission

The Atlanta Region

Legend

- City Center / Job Centers
- Established Urban Core
- Suburban
- Developing Suburbs
- Rural Areas



Legend

- City of Atlanta
- MARTA Rail
- Expressways

local relevance

+

regional impact

Past Climate Change Work at ARC

Emission Inventory

Scenario Planning

Project Evaluation

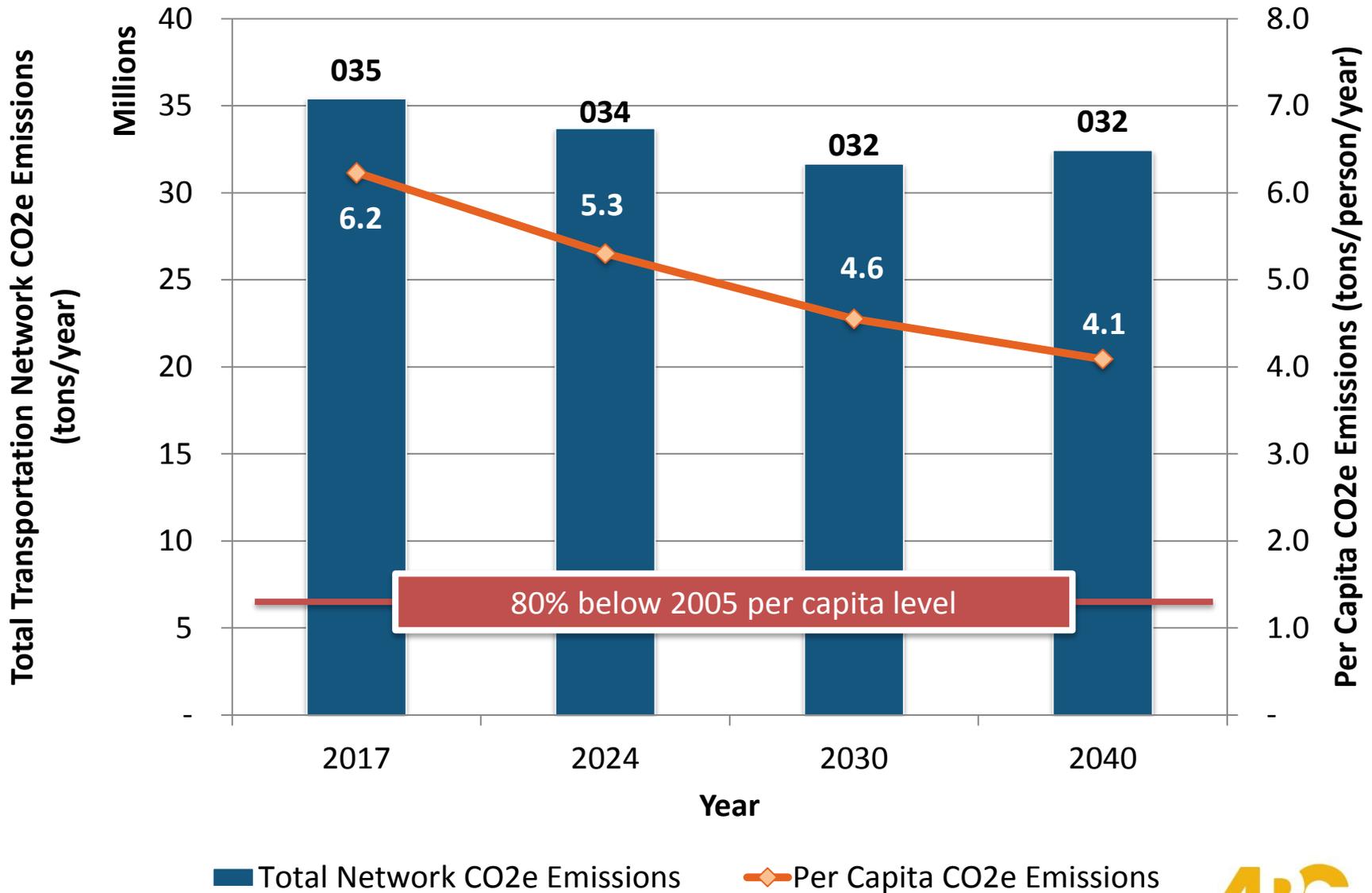
Community Design

local relevance

+

regional impact

Past Climate Change Work at ARC





ATLANTA REGIONAL COMMISSION

Results

Scenario	Applied to	Total 2040 Reductions
<ul style="list-style-type: none">• Expand telework and guaranteed ride home	Employees in 5 county core area of 20+ counties	<ul style="list-style-type: none">• 12 million VMT/day• 2.8 million kg/day GHG• 124 kg/day PM2.5• 535 kg/day NOx• 414 kg/day VOC
<ul style="list-style-type: none">• Improve transit access times	5 county area	
<ul style="list-style-type: none">• Parking pricing	5 county area	
<ul style="list-style-type: none">• Increase density and mixed use land use	5 county area	



Lubna Shoaib

Division Manager

East-West Gateway Council of
Governments



EAST-WEST GATEWAY
Council of Governments

We are...

Bi State MPO

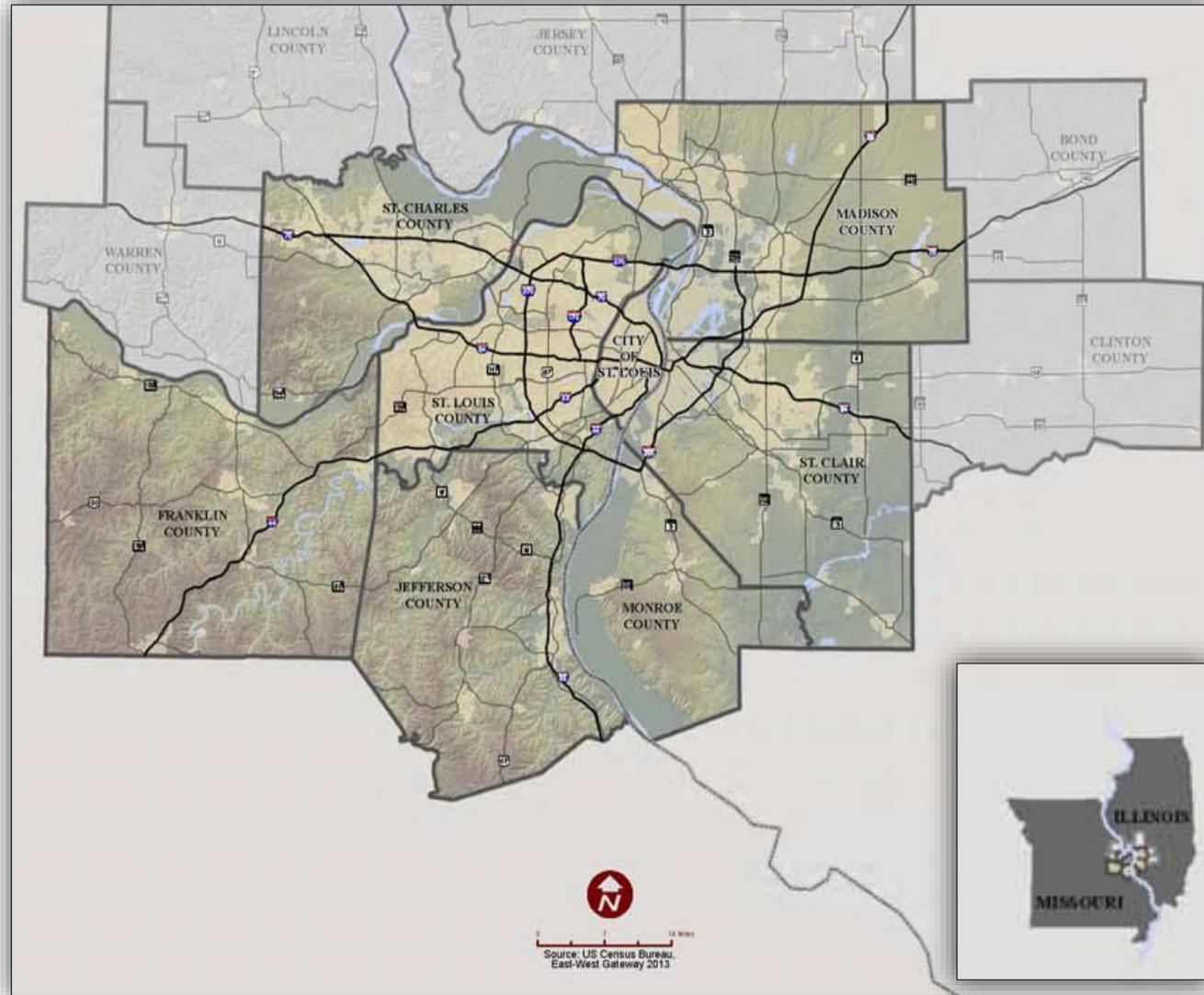
Eight counties

2.8 Million population

4,500 square miles

Geographical Location

Freight





EAST-WEST GATEWAY
Council of Governments

Motivation...

- Region's interest in addressing air quality issues: Long Range Plan and OneSTL
- One of 10 guiding principles in LRP: linking transportation planning to environmental sustainability
- Regional plan for sustainable development OneSTL, with goals and strategies for the region to build a more sustainable future
- City of St. Louis Mayor signed the Compact of Mayors
- Minimal level of familiarity with sketch planning tools for emissions

*Employment Projections– Access to Jobs
Universities and millennials*

Scenario 1 – Regional Transit Oriented Development Initiative

Increase transit oriented development around 7 existing LRT station --- sustainable development

Scenario 2 - Regional Transit Oriented Development Initiative and Workforce Housing Balance Initiative

Balance housing and employment density --- affordable housing

Scenario 3 - Regional Transit Oriented Development Initiative and Workforce Housing Balance Initiative with Bicycle/Pedestrian Infrastructure

Complete bicycle and pedestrian network --- access to employment, mode choices, transit dependent population

Scenario 4 - Regional Transit Oriented Development Initiative and Workforce Housing Balance Initiative with Bike/Ped Infrastructure and Transit Expansion

Transit expansion --- access to employment, mode choices, transit dependent population



EAST-WEST GATEWAY
Council of Governments

Results

Scenario	Applied to	Total 2040 Reductions
• TOD near existing light rail stations	3 county core area	• 1.9 million VMT/day • 440,000 kg/day GHG • 16 kg/day PM2.5 • 103 kg/day NOx • 80 kg/day VOC
• Increase residential density and mixed development	5 county area	
• Complete bicycle and pedestrian network	5 county area	
• Complete light rail system	5 county area	



Gary Huttman, AICP
Deputy Executive Director
Metroplan Orlando

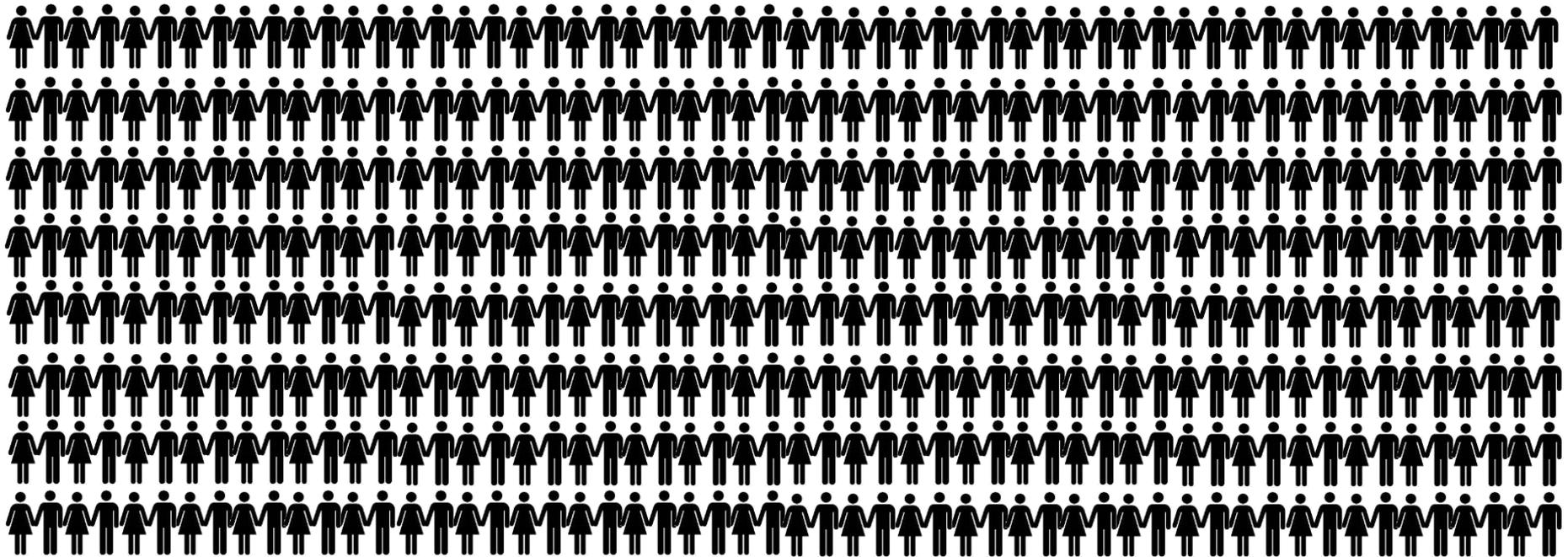


metroplan orlando

A REGIONAL TRANSPORTATION PARTNERSHIP



Two million people... and by 2040,
ONE MILLION MORE





**66.1 million
visitors in 2015**

Cost of Congestion

\$1,044
per commuter

46 hours
stuck in traffic

Source:
Texas Transportation Institute's 2015 Urban Mobility Scorecard



Transit Focus

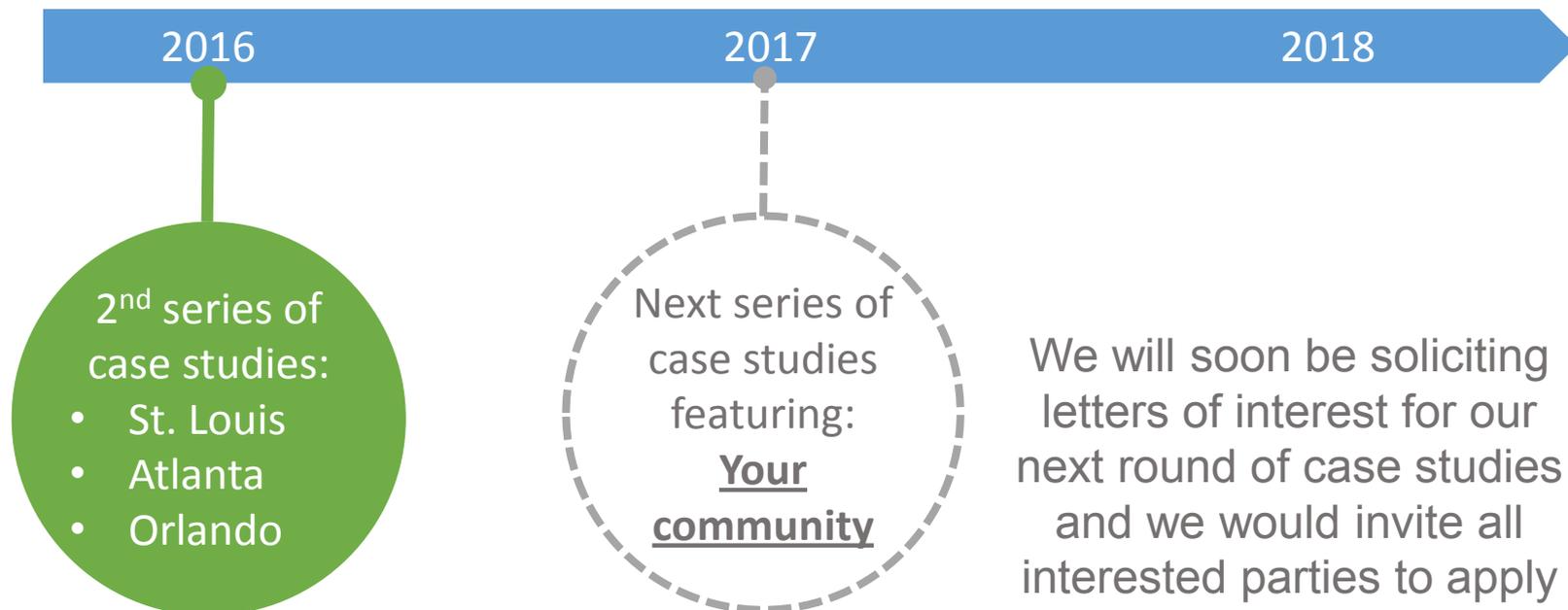




Results

Scenario	Applied to	Total 2040 Reductions
<ul style="list-style-type: none"> Expand employer programs including transit pass 	Sub-pop. of 3 county area	<ul style="list-style-type: none"> 4.6 million VMT/day 1.1 million kg/day GHG 39 kg/day PM2.5 201 kg/day NOx 117 kg/day VOC
<ul style="list-style-type: none"> Improve transit access and travel times 	Sub-pop. of 3 county area	
<ul style="list-style-type: none"> VMT pricing for entire region 	Sub-pop. of 3 county area	
<ul style="list-style-type: none"> Unlimited transit pass for with tuition and university employment 	Sub-pop. of 3 county area	

TEAM Next Steps

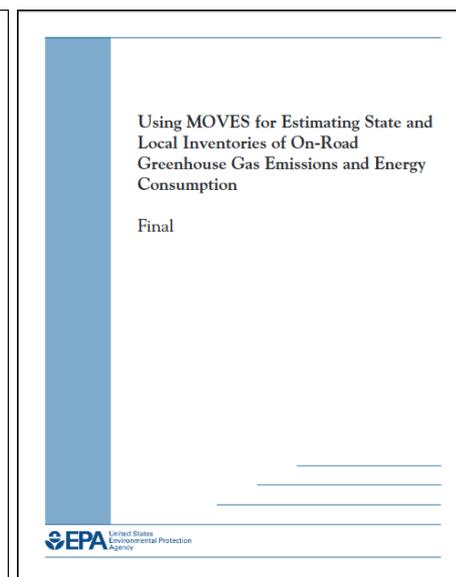
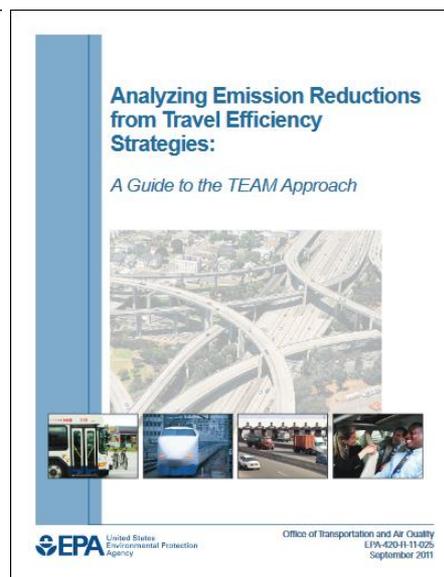
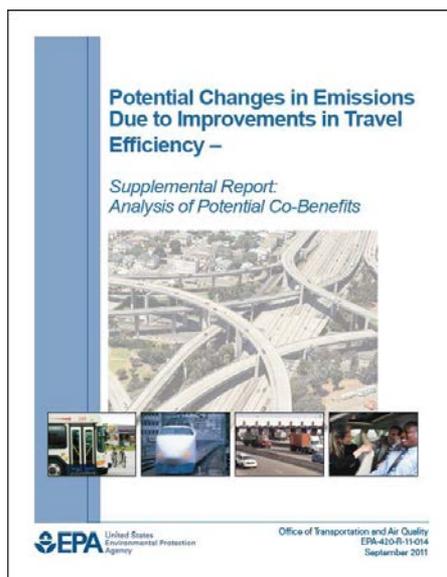
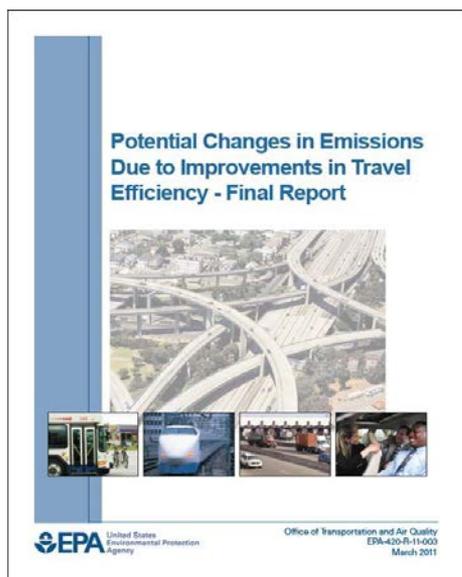


2017 Case Studies

- Opening eligibility to smaller sized areas
- Offering support for
 - Assessing emission reductions under alternative travel efficiency scenarios (i.e., as in previous case studies), or
 - Greenhouse gas planning activities, e.g., developing a GHG inventory of the transportation sector
 - Have other ideas that would foster GHG planning/emission reductions? Let us know

For more information on the TEAM approach, TEAM case studies, and other useful documents, please visit:

<https://www.epa.gov/state-and-local-transportation/estimating-road-greenhouse-gas-emissions>



Questions?