

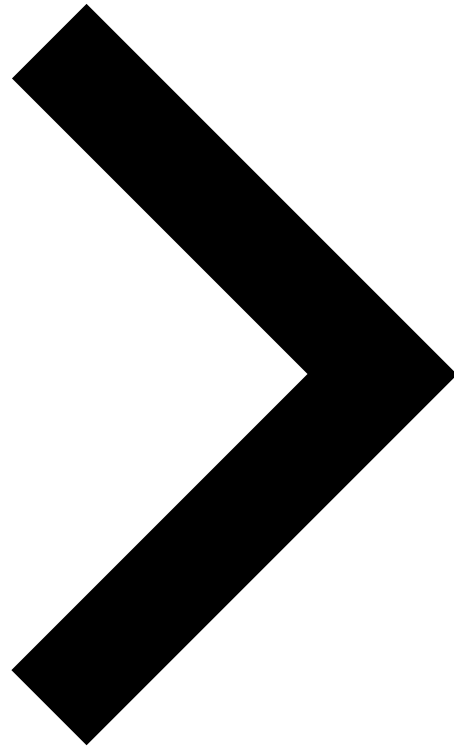
Climate Change Mitigation Study of 2021 – Work Plan

Agenda Item #8 - TPB Technical Committee



Michael Grant
ICF Project Manager

4/2/2021



Focusing on transportation, what would it take to meet TPB's goals for reducing GHG emissions?

Agenda

- **Introduction to the ICF team**
- **Introduction to the Study**
 - Objectives
 - Key questions
- **Approach to Analysis**
 - Literature review
 - Scenario approach
 - Potential scenarios
 - Tools
 - Other considerations
- **Outcomes**

**ICF:
A mission-driven
public company**



**Building a more
prosperous and
resilient world for
all**

Global advisory,
technology, and digital
services provider

Over
7,000
People

Since **1969** working
with public and private
sector clients to navigate
change

Headquartered in
Fairfax, Virginia with
70 offices worldwide

First professional
services firm to go
carbon neutral
in 2006

Expertise in energy, the
environment, climate,
transportation, social programs,
and public health

Greenhouse Gas Mitigation and Sustainability

National, state, regional, and organization climate action planning

Examples:

- **U.S. Environmental Protection Agency**
 - Support to State and Local Climate Clean Energy and Climate Branch
 - Development of national GHG inventories, projections, and marginal abatement analyses
- **States**
 - Pennsylvania 2018 and 2021 Climate Action Plans
 - Delaware Climate Action Plan Technical Support
 - New York State Energy Research and Development Authority
- **Cities and Counties**
 - New York City, LA, Denver, Philadelphia, San Bernardino County (CA), Chicago Region (CMAP)
- **Transportation Agencies**
 - LA Metro Climate Action and Adaptation Plan and EV Charging Infrastructure Implementation Plan



Climate Mitigation Planning in the Region



COG Multi-Sector Working Group Support (2015-2016)

Supported multi-sector effort to identify and assess a set of viable and stretch strategies to reduce GHG emissions; analyzed GHG strategy benefits, co-benefits, and costs.

Supporting Local Jurisdictions, Agencies, and the Private Sector

- **Arlington County, VA** - Community Energy Plan and EV Planning
- **Fairfax County, VA** - Community-wide Energy and Climate Action Plan
- **City of Frederick, MD** - Government Climate Action Plan
- **Montgomery County, MD** – Commercial Buildings Energy Efficiency Policy Study
- **Prince George County, MD**- Government Operations: Electric Vehicle & Charging Infrastructure Action Plan
- **WMATA** – 2019 Annual Sustainability Plan Update
- **WGL** – Climate Business Plan & Opportunities for Evolving the Natural Gas Distribution Business to Support the District of Columbia’s Climate Goals

Transportation Planning and Policy

- Leading work in performance-based planning, scenario planning, visioning, and consensus building
- Expertise in travel demand management, system management and operations, transit, active transportation, emerging technology, micromobility, electric vehicle deployment planning, and more

Examples:

- **TPB Long-Range Plan Task Force, 2017**
 - Led effort to identify, assess, and develop consensus among diverse stakeholders on regional initiatives to improve performance of the transportation system
- **Virginia VTrans Statewide Transportation Plan**
- **Maryland DOT On-Call Planning Support**
- **New York State DOT – Active Transportation Demand Management Program Support**
- **Federal Highway Administration / Federal Transit Administration Planning Technical Assistance**



Introduction to the ICF Team



Michael Grant
ICF Project Manager



Adam Agalloco
Climate Strategies Specialist



Beth Zgoda
Technical Expert



C.Y. Jeng (Gallop)
Senior Analyst/Modeling
Expert



Mike McQueen
Analyst/Modeling Expert
(VisionEval)



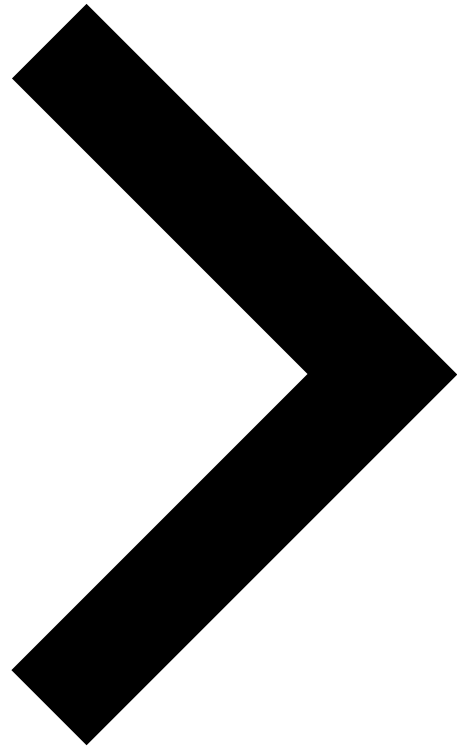
Carolyn Pugh
Climate Strategies Analyst



Seth Hartley
Senior Analyst/Modeling
Expert



Sarah Lettes
Transportation Analyst



Introduction to the Study

Objectives

Assess transportation-related actions and levels of implementation needed to reduce GHG emissions to meet 2030 and 2050 goals.

50%

below 2005 levels
by

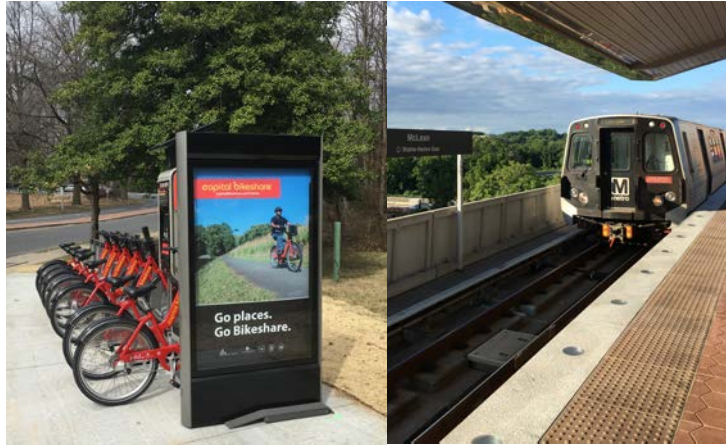
2030

80%

below 2005 levels
by

2050

Pathways to GHG Reduction



Travel Behavior / Vehicle Travel Reduction

- Mode shifts to transit, carpooling, nonmotorized
- Reduce trip lengths (e.g., brings jobs and housing closer together)
- Replace trips (e.g., telework, alternative work schedules)



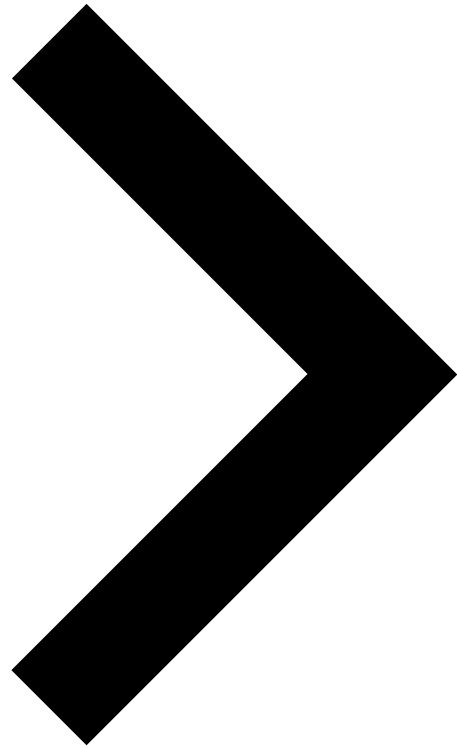
Vehicle Fuel, Efficiency, and Technology

- Accelerate electric vehicle deployment
- Advance alternative fuels
- Improve fuel economy of vehicle fleet



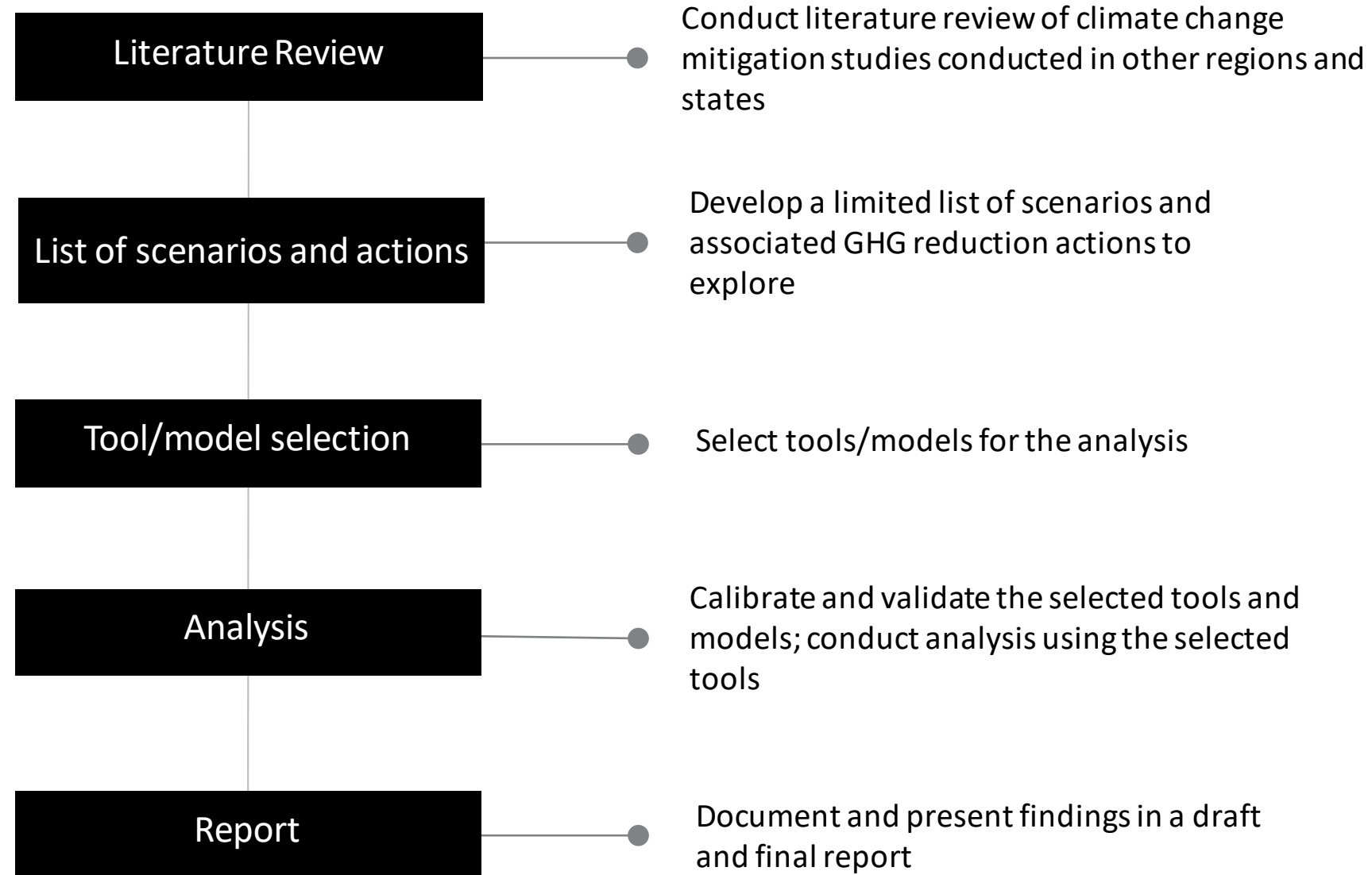
Operational Efficiency

- Enhance system operations
- Incident management
- Idling reduction, reduced speeding, and “eco-driving”



Approach to Analysis

Key Analysis Steps

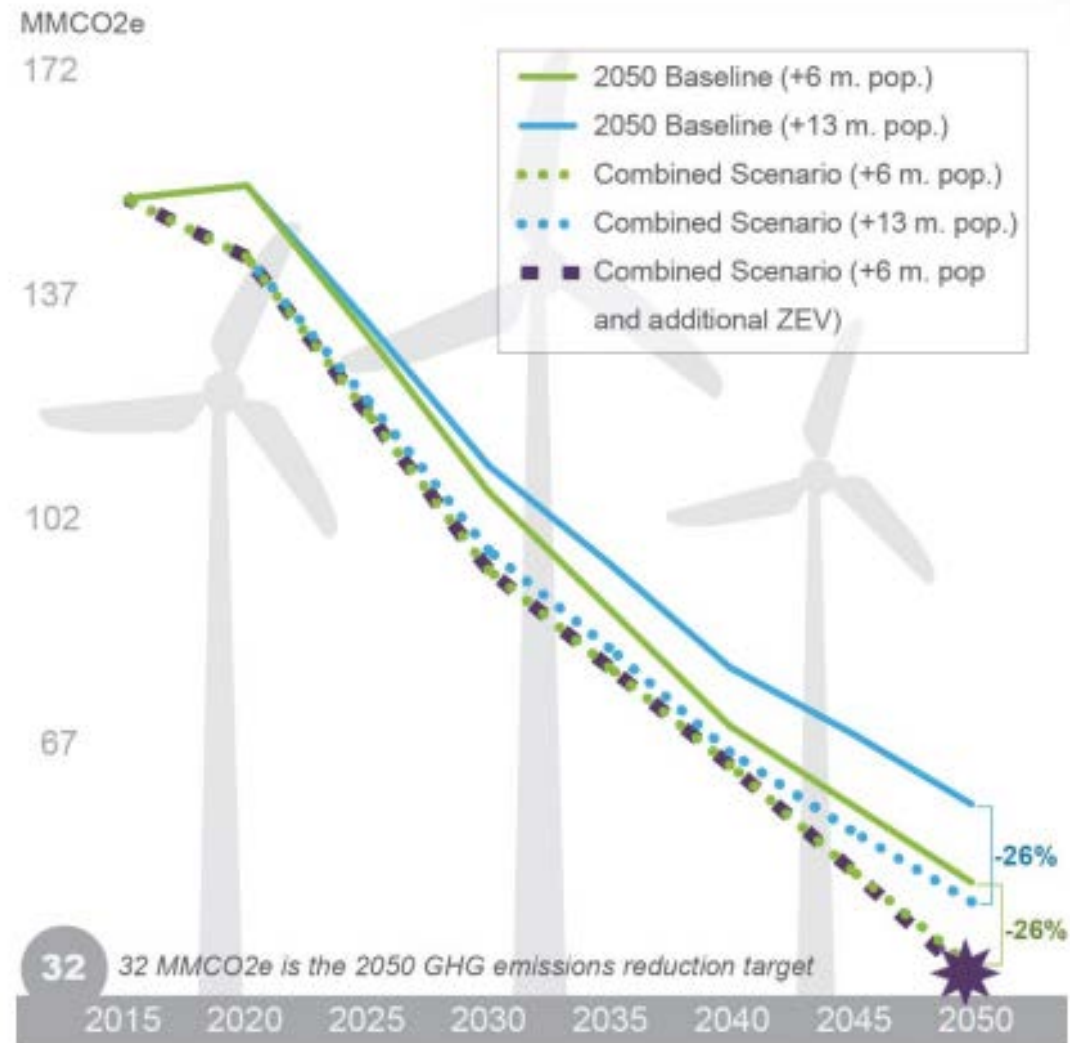


2021 Timeline

April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Literature Review								
List of scenarios and actions								
	Tool/model selection							
	Tool/model calibration							
		Analysis						
				Draft Report				
						Final Report		

Literature Review

FIGURE 35 GHG EMISSION REDUCTION COMPARISON FROM BASELINE



Caltrans 2050 GHG Scenarios

- Conduct a literature review
 - Review state and local climate action plans in the Washington region
 - Review climate plans from outside the region, as well as national-level policies that influence GHG reduction
- Answer questions
 - How have other regions throughout the country and the world achieved GHG reductions? Or plan to achieve GHG reductions? What strategies work?
 - How were strategies implemented? By whom?

Scenario Approach

- Select a limited set of scenarios, defined at a **high level**, such as percent reduction in VMT off the baseline in order to achieve goals.
- Conduct analysis identifying how scenarios compare in **magnitude of impact**, and **possible GHG reduction actions/strategies** and associated **implementation levels** needed.



Potential Scenarios

VMT reductions

A scenario where goals are to be met solely based on reductions in VMT

Operational efficiencies

A scenario focused solely on operational efficiencies to consider likely maximum potential

Fuel/technology

A scenario where goals are to be met solely based on changes in vehicle fuel/fuel efficiency/vehicle technology

Combination

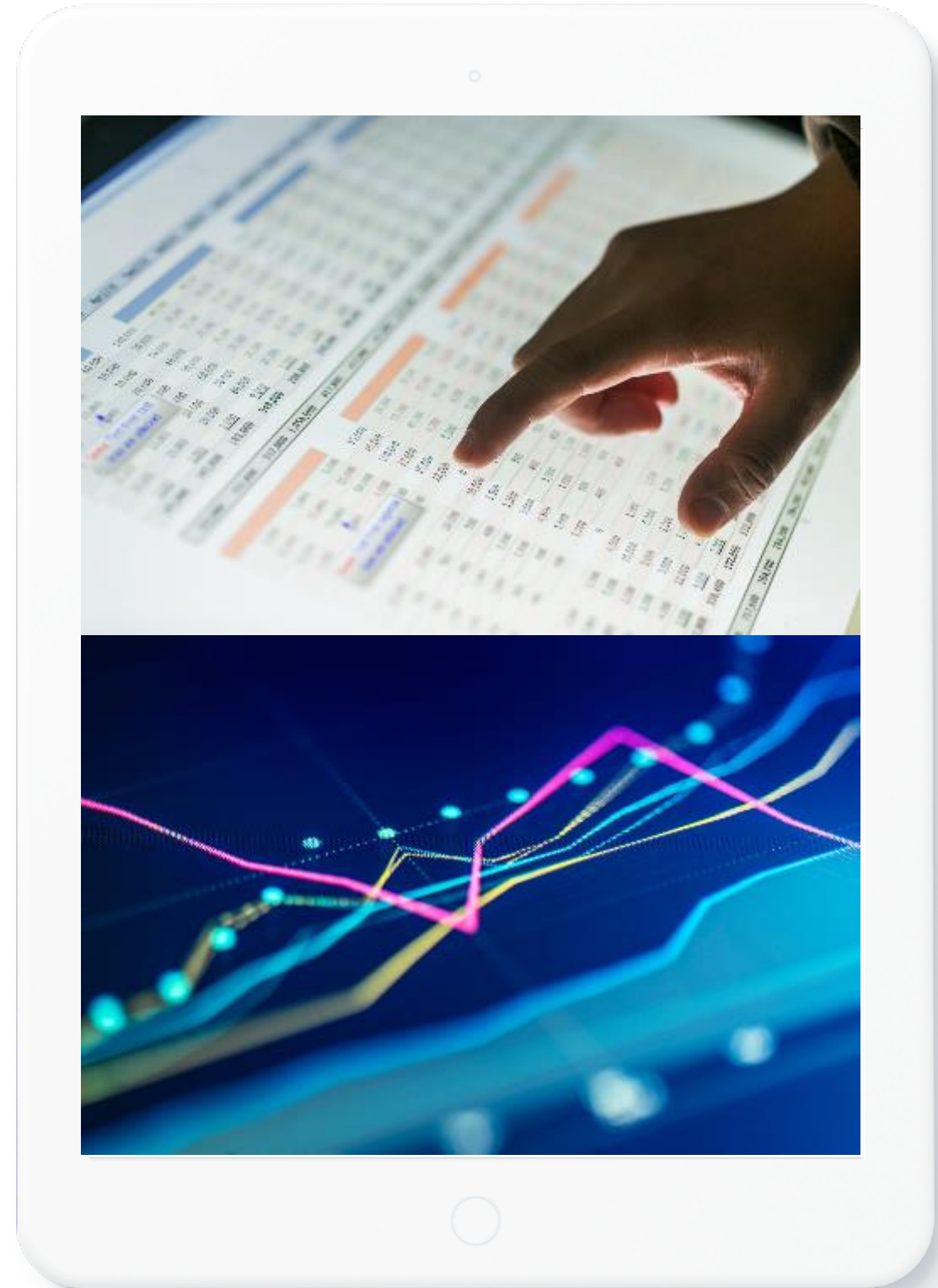
A scenario or scenarios that combine multiple pathways to GHG reduction

What is feasible?

What would it take in terms of types of strategies and level of implementation to achieve?

Tools

- VisionEval
- MOVES Emission Model
- TPB's regional travel demand forecasting model
- Sketch planning analyses using spreadsheet-based analysis



Analysis Results

- Comparisons of results across selected scenarios
- Analysis of feasibility and reasonableness of implementing scenarios, as well as barriers to implementation
- Assessment of possible equity-related implications

***Support TPB's
climate
planning efforts***



Identify **pathways** that TPB can take to reach goals.


Identify actions that will have the **greatest impact**.



Get in touch with us:
Michael Grant

Vice President, Transportation
(202) 862-1211
Michael.Grant@icf.com

icf.com

-  [linkedin.com/company/icf-international/](https://www.linkedin.com/company/icf-international/)
-  twitter.com/icf
-  <https://www.facebook.com/ThisIsICF/>

About ICF

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