Transportation & Climate Initiative

Modeling Framework Overview

Chris Hoagland, Maryland Department of Environment
April 30, 2019
How does the **CAP** affect the transportation sector (& others)?

How do the **INVEST**ments affect the transportation sector?
How does the **CAP** affect the transportation sector (& others)?

How do the **INVEST**ments affect the transportation sector?

What are the impacts from the program?  
(economic impacts, public health)
How does the **CAP** affect the transportation sector (& others)?

How do the **INVEST**ments affect the transportation sector?

What are the impacts from the program? (economic impacts, public health)

Who bears those impacts?
How does the **CAP** affect the transportation sector (& others)?

How do the **INVEST**ments affect the transportation sector?
CAP

NEMS
• Energy system model
• Effect of cap & other policies on transportation energy use
• Interactions with other sectors (e.g. electrification)

How do the INVESTments affect the transportation sector?
NEMS
- Energy system model
- Effect of cap & other policies on transportation energy use
- Interactions with other sectors (e.g. electrification)

INVEST
Investment Strategy Tool
- VMT changes due to certain low-carbon transportation investment strategies

CAP
INVEST
 Allowance Proceeds
Investment Impacts

OnLocation

Cambridge Systematics
NEMS
• Energy system model
• Effect of cap & other policies on transportation energy use
• Interactions with other sectors (e.g. electrification)

INVEST
Investment Strategy Tool
• VMT changes due to certain low-carbon transportation investment strategies

What are the impacts from the program? (economic impacts, public health)

Who bears those impacts?
**NEMS**
- Energy system model
- Effect of cap & other policies on transportation energy use & GHGs
- Interactions with other sectors (e.g. electrification)

**REMI**
- Net impacts on GDP, income, jobs

**Health Impacts Model**
- Health co-benefits of air pollution reductions

**Investment Strategy Tool**
- VMT changes due to certain low-carbon transportation investment strategies

**Who bears those impacts?**
NEMS
- Energy system model
- Effect of cap & other policies on transportation energy use & GHGs
- Interactions with other sectors (e.g. electrification)

INVEST
Investment Strategy Tool
- VMT changes due to certain low-carbon transportation investment strategies

Capitation
- Allowance Proceeds
- Investment Impacts

INVEST
- Active Transportation
- Other Costs

REMI
- Net impacts on GDP, income, jobs

Health Impacts Model
- Health co-benefits of air pollution reductions

Incidence Model
- Distribution of costs & benefits to different populations/groups

Cambridge Systematics

Cambridge

Harvard
Energy system model
- Effect of cap & other policies on transportation energy use & GHGs
- Interactions with other sectors (e.g. electrification)

Investment Strategy Tool
- VMT changes due to certain low-carbon transportation investment strategies

Net impacts on GDP, income, jobs

Health co-benefits of air pollution reductions

Distribution of costs & benefits to different populations/groups
How does the **CAP** affect the transportation sector (& others)?

How do the **INVEST**ments affect the transportation sector?

What are the impacts from the program? (economic impacts, public health)

Who bears those impacts?