SHRP C09: Incorporating Greenhouse Gas Emissions Into the Collaborative Decision-Making Process

presented to
Strategic Highway Research Program 2 - Technical Coordinating Committee for Capacity

presented by
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SHRP C09 – Project Team

- PB Americas, Inc. – Dr. Michael Meyer, Principal Investigator
- Cambridge Systematics, Inc – Christopher Porter, Co-Director
- E.H. Pechan & Associates
- EuQuant
SHRP C09 – Objectives

- Develop strategies for incorporating GHG emissions in key points of the collaborative-decision making framework

- Identify relevant information and materials that are already produced by the transportation planning process and the gaps that exist for GHG analysis

- Prepare materials and methods for dealing with these gaps

- Prepare a Practitioner’s Handbook that can be used in the planning and decision making process
Project Approach

Task 1: Summarize Background Conditions

Task 2: Review Decision Framework

Task 4: Assess Institutional/Scale Contexts

Task 5: Review Cost-effective Strategies

Task 6: Identify Analysis Situations/Guidance

Task 7: Assess GHG Analysis Needs with CDMF

Task 8: Develop Straw-man Strategy

Task 9: Develop Workshop Strategy

Task 10: Conduct Workshops

Task 11: Develop a GHG Strategies

Task 12: Prepare Draft Final Report

Task 13: Prepare Final Products
Tasks 1, 2, 5 – Review of Existing Research & Data

- Task 1 – Summarize background conditions
  - Key trends & uncertainties
  - GHG analysis tools
  - Transportation vs. other agency roles in reducing GHG

- Task 2 – Review CDMF
  - Look at other research products completed & in-progress

- Task 5 – Review and Summarize Strategy Cost-Effectiveness
  - Existing literature – e.g., McKinsey reports, NCHRP 20-24(59), IEA, Moving Cooler, USDOT Report to Congress
Task 3 – Expert Panel

- Bring broad perspective to identify where and how GHG emissions analysis might be important in decision making

Potential panelists: Anne Canby, Emil Frankel, David Greene, Charlie Howard, Alan Krupnick, Other???

Input:
- Initial input/brainstorming (Task 2 – review of CDMF)
- Development of straw-man strategy (Task 8)
- Development of GHG planning and analysis strategies (Task 11)
Task 4 – Assess Institutional/Scale Contexts

- Describe different institutional contexts and frameworks where transportation-related GHG analyses conducted
  - E.g., statewide climate action planning
- Identify different geo-spatial scales for GHG analyses (multi-state corridors, megaregions, etc.)
- Assess types of decisions intended to inform & types of information produced
- Summarize the importance of these contexts & frameworks from the perspective of the CDMF
- Identify ways to improve climate planning outside the transportation sphere & link with transportation planning
Task 6 – Identify Analysis Situations/Guidance

Range of planning contexts:
- Statewide & metro long-range plans & TIPs
- Corridor/subarea plans
- Project development & environmental review
- Congestion management, operations, asset management, etc.

Key issues:
- Analysis timeframe
- Construction, maintenance, & facility operations
- Vehicle operations
- Capacity expansions & effects
- Secondary & cumulative impacts
- Mitigation strategies
Task 7 – Assess GHG Analysis Needs

- Build on Task 6 framework to identify appropriate data sources, analysis tools, methods for different situations

Key types of data:
- Travel demand data
- Operational data
- Energy consumption data
- Emission factors
- Non-road data

Product: Reference document that allows an analyst to select the situation and decision point being evaluated and review procedures and options available
Task 8 – Develop Straw-man Strategy

- Develop menu of straw-man strategies that can be linked to key decision points in the CDMF

- Strategies will define:
  - Different types of policies/actions
  - Needed analysis tools and data
  - Institutional relationships

- Examples of key issues:
  - Incorporating GHG without undermining streamlining
  - Incorporating cost-effectiveness information
  - Linkages with local land use planning
Tasks 9 & 10 – Workshops

- Workshops in at least 4 states w/transportation GHG planning activity

Potential agenda items:
- Introduction to the CDMF and straw-man strategies
- Discussion
  - Systems planning, pre-programming studies
  - Programming and environmental review
  - Design and permitting
- Missing institutional relationships, analysis tools, information requirements, etc.
- Recommended changes to straw-man strategies
Task 11 – Develop GHG Strategy for the CDMF

- Finalize GHG strategy for each key decision point & incorporate in handbook/Web tool

- “Clicking” on a key decision point would:
  - Provide the user with information on how to incorporate GHG considerations into that KDP
    - Multiple levels of detail
  - Provide linkages and references to other parts of the CDMF that led up to that point and that follow
Task 11 – Potential Handbook Outline

- Introduction, Organization and Purpose of Handbook
- Overview of CDMP & Transportation/GHG/Climate Change Relationships
- Stage of Process 1 to “m” (e.g., Long Range Plan…)
  - KDP 1 to “n”
    - Roles and responsibilities of the formal decision makers with respect to GHG
    - Stakeholder/project champion roles and relationships with respect to GHG
    - Supportive data, tools, and technology for considering GHG emissions
    - Related influencing and sub-processes
    - Primary products of this step and role of GHG analysis
    - Associated best practices with considering GHG emissions
Time Schedule

<table>
<thead>
<tr>
<th>Activity ID</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td>01</td>
<td>Notice to Proceed</td>
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<tr>
<td>10</td>
<td>Summarize Background Conditions</td>
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<td>30</td>
<td>Review Decision Frame Work</td>
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<td>30.1</td>
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<td>Assess Institutional/Scale Contexts</td>
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<td>60</td>
<td>Revise Cost-effective Strategies</td>
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<td>80</td>
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<td>90</td>
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<td>92</td>
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<td>100</td>
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<td>110</td>
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<tr>
<td>120</td>
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![Time Schedule Diagram](image-url)
Discussion