Integrating Conservation and Transportation Planning

Tools for Integration, Ecological Assessment, CWA & ESA Compliance, and Crediting
Today’s presenters:

Gail L. Achterman
Director
Institute for Natural Resources
Oregon State University

Jimmy Kagan
Information Program Manager
Institute for Natural Resources
Oregon State University

Marie Venner
President, Principal
Venner Consulting Inc.
Today’s presenters:

Hugh Louch
Senior Associate
Cambridge Systematics

Patrick J. Crist
Director, Conservation Planning &
Ecosystem Management
NatureServe

Kevin Halsey
Senior Policy Analyst
Parametrix
Today’s presenters:

Tom Denbow
Director, Water Resources
URS Corporation

Steve Andrle
TRB, SHRP 2

Patrick Zelinski
TRB, SHRP 2
Your desktop during a webinar

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Webinar control panel

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Question and Answer Session

- Please type your questions into this box

- We will answer as many of your questions as time allows
Today’s Objectives – Steve Andrle

- Introduce Transportation for Communities - Advancing Projects Through Partnerships (TCAPP) transportationforcommunities.com
- Introduce the environmental performance measures elements of TCAPP (Project C-02)
- Introduce work in progress on ecological approaches to mitigation (Projects C06A&B)
- Answer pre-bid questions on Project C21 – Pilot tests of the ecological approach
- Goals for Project
- Status and Timelines
- High Level Review of Findings to Date
- Stepwise Guidebook for Testing
- Questions
1. **Create an ecological framework** for making decisions about transportation capacity improvements and the environment:

   - To achieve more for the environment – substantive on-the-ground improvements for priority resources and ecosystems, through a more efficient process for transportation participants.
   - A way to integrate transportation planning and conservation planning
   - Basis for step-wise guidebook

2. **Understand barriers** to Eco-Logical and ecosystem approaches as well as interests, incentives, readiness for organizational change and potential solutions
3. To address the **scientific and technical** obstacles to the adoption of an integrated conservation and transportation planning process described in *Eco-Logical*

**Key Outcomes:**
- **Process** - First a framework then a guidebook - for integration of conservation and transportation planning
- **Interactive database of methods, tools, systems and case studies** that support the Ecological Assessment methods
  - Three areas of focus:
    1. Cumulative Effects and Alternatives Analysis;
    2. Regulatory Assurances; and
    3. Ecosystem Crediting
Guidebook to be produced this year

- Framework approved in 2009, Guidebook due in Dec. 2010
- Structured as a 9 Step Process based on *Eco-Logical*, provides start to finish process for integrated planning
  - Designed to **address key ESA and CWA issues much earlier**
  - **Discern progress toward objectives** (retention goals), through an outcome-based ecosystem approach
  - **Science rather than opinion-based**
  - **Adaptable and applicable nationwide**, to various natural, regulatory and political contexts
  - **Useable** and generating products/approaches that **foster conservation on a local and regional as well as a state level**
- Guidebook will include recommended tools, methods
Timeline for Initial/Internal C06 Pilot Studies and Guidebook

- Methods Developed, and in Pilot Testing

Initial Pilot Studies Begin

Initial Pilot Studies Results & Finish Draft Guide June-July, 2010

Symposium on Guide September, 2010

Final Reports and Tool Oct. & Dec., 2010

Results & Finish Draft Guide June-July, 2010
Findings from 150 Interview and Surveys in 2009: Top Common Interests

- Target mitigation resources and staff time to produce the greatest environmental benefit
- Improve natural resource planning and data availability
- Improve/streamline the transportation decision making and compliance processes to:
  - Achieve better environmental results
  - Meet regulatory requirements and guidance
  - Reduce costs and delays
  - Improve public perception
Top 3 Barriers

- **Lack of resources** – time and manpower
- **Lack of data**, information, and tools – especially lack of natural resources data **on conservation and restoration priorities**
- **Resistance to change** or lack of incentives to change traditional processes

*The takeaway:*

*Ecosystem-based approaches have got to be easier and more practical to implement* and a *management priority* if they are going to become a new way of doing business.*
Top 3 Recommended Solutions

- Integrate transportation & land use planning – the Holy Grail, but there are clear, feasible steps we can take. Framework/Guide help outline.
- Identify priority conservation areas
- Make data available to all decision makers early in the process (and make decisions earlier)
Readiness for Change

All agencies in “at risk” range for unsuccessful implementation, but...

- Ecosystem-based approaches constitute an idea whose time has come.
- There is a general feeling that the approach aligns with current agency business strategies.
- Inadequate rewards and reinforcements are major problems.
- The degree to which managers are drawing lessons from implementation and sharing experiences varies, but is a general area of weakness, that needs support/action.
- Champions/advocates for the approach was the lowest scoring category across all agencies.
Making the Case for Ecosystem Approaches

- Brief, agency specific documents will “make the case” for stakeholder agencies to implement ecosystem-based approaches
- Identify areas where change or adaptation may be necessary (next steps)
- Provides a basis for further action and agreements to implement ecosystem approaches, within and between agencies
Framework for Integrating Conservation and Transportation Planning

- Step 1: Build & Strengthen Collaborative Partnerships and Vision
- Step 2: Integrate Ecosystem Plans
- Step 3: Create Regional Ecosystem Framework
- Step 4: Assess Transportation Effects
- Step 5: Establish & Prioritize Ecological Actions
- Step 6: Develop Crediting Strategy
- Step 7: Develop Agreements
- Step 8: Implement Agreements
- Step 9: Monitoring and Adaptive Management
Practical Applications - Long Range Transportation Planning

Key Decision Name: LRP-2
Key Decision Title: Approve Vision and Goals

Description: At this key decision, the community’s values, whether stated as a vision and goals or simply agreed upon by the stakeholders for the planning area, are used to guide the transportation-specific vision and goals. This decision is the first opportunity for public stakeholders to inform the process, or provide their input. Linkages are also established with the scoping and goal-setting key decisions in corridor planning and environmental review, so the vision and goals approved at this key decision point should eventually influence what transportation projects are built. In order to facilitate collaboration, partnerships with other planning processes are established at this key decision.

There is information developed in prior key decisions that informs this step.

**Purpose**

- To develop a common, comprehensive set of vision and goals for the planning area that incorporate the vision and goals from previous or existing plans, if applicable.

**Outcome**

- Where no community vision and goals exist, transportation-specific vision and goals consistent with community values.
- Where a regional community vision and goals exists, transportation-specific goals for the planning area consistent with the regional vision and goals.

**Partner Roles**

<table>
<thead>
<tr>
<th>Partner Role</th>
<th>Decision Maker</th>
<th>Advisor</th>
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<tbody>
<tr>
<td>MPO</td>
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<td>FHWA</td>
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<tr>
<td>Resource Agency</td>
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Share your thoughts with your Colleagues

**Topic Name:** LRP-2 Approve Vision and Goals

posted 6 months ago ———— Welcome to the forum

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<table>
<thead>
<tr>
<th>Tech Question</th>
<th>Data</th>
<th>Methods</th>
<th>Tools</th>
<th>Case Studies</th>
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<td>Data sources to be used. E.g.:</td>
<td>Methods that further step(s). E.g.:</td>
<td>Specific tools that further step(s). E.g.:</td>
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<td>What areas are identified in conservation plans?</td>
<td>Distribution model outputs</td>
<td>Inter-agency teams</td>
<td>Software models for species</td>
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<td>Permitting data</td>
<td>Programmatic agreements</td>
<td>Natural Heritage Program S-Ranks</td>
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Step 1: Build & Strengthen Collaborative Partnerships

**Purpose:**
- Develop a shared vision of regional goals for transportation and conservation.
- Develop agreements on the process for stewardship and streamlining throughout transportation project delivery.

**Outcomes:**
- Understanding, appreciation and agreement on transportation and resource agencies’ priorities and goals – including areas of concern.
- Understanding of land use issues that impact goals and needs.
Step 2: Integrate Ecosystem Plans

**Purpose:**
- Compile all existing data and plans into a refined set of conservation priorities to guide decision making.
- Develop conservation priority spatial data and cumulative effects outline.
- Provide basis for developing the Regional Ecosystem Framework (REF).

**Outcomes:**
- Identification of resources and issues to be addressed in the REF.
- Data needed for assessment, identification of data gaps, how to address gaps.
- Commitments for data delivery and modeling to fill data gaps.
- Outline of cumulative effects at a landscape level.
- REF-ready data and planning inputs
Step 2: Integrate Existing Data
Step 2: Moving Beyond Observed
Step 2: Model Presence Data

- Distribution models to inform decision making.
Step 3: Create Regional Ecosystem Framework

- **Decisions:**
  - What areas will be directly impacted by transportation development?
  - How severe are the likely impacts (cumulative impacts)?
  - What areas and measures could be used for mitigate?
  - How can conservation goals be met through these mitigation approaches?
Step 3: Create Regional Ecosystem Framework

- **Roles:**
  - Review and verify REF and data sources used.
  - Distribute completed REF to all jurisdictions, agencies and affected parties.

- **Technical Questions:**
  - What site level measures are needed to verify progress?
  - What impacts are likely to be avoided, which ones should be replaced on site or off-site?
  - What unprotected conservation priorities can be protected through project mitigation?
Step 4: Assess Transportation Effects

**Purpose:**
- Analyze transportation project scenarios in relation to resource conservation objectives and priorities.
- Identification of preferred alternative to meet transportation and conservation goals.

**Outcomes:**
- Refined quantification of transportation effects under each scenario.
- Identification and quantification of mitigation needs.
- Cumulative effects scenarios of future land uses and transportation.
- Identification of best transportation plan alternatives in relation to conservation goals.
Using REF and Models for Priorities

Summary

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<thead>
<tr>
<th>Name</th>
<th>Distribution Area (acres)</th>
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<th>Avg Condition</th>
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<td>Distribution Area (acres)</td>
<td>Occs</td>
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<td>Distribution Area (acres)</td>
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Element evaluation details

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|---------|---------------------------------------------------------------|
| Name    | Name=Monument Creek PCA
| Total   | 1 occ's; 13,141.8 ac.                                        |
| Selection| 1 occ's; 13,141.8 ac.                                        |
| Selection Average CV | 0.5
| Selection Minimum CV | 0.5
| Selection Maximum CV | 0.5
| Goal     | 100% of acers                                               |
| Response | Negative                                                    |
| Viable   | 1 occ's; 13,141.8 ac.                                        |
| % Viable | 100% occ's; 100% area                                        |
| Selection Viable | 1 occ's; 13,141.8 ac.                                        |
| Selection %Viable | 100% occ's; 100% area                                        |
| Chart: Viable Occurrences |                                                                 |
| Chart: Viable Area |                                                                 |
| Chart: Compatible Occurrences |                                                                 |
| Chart: Compatible Area |                                                                 |

Map
Step 5: Establish & Prioritize Ecological Actions

- **Purpose:**
  - Develop and agree on a Regional Mitigation Strategy based on preferred alternative.

- **Outcome:**
  - Prioritized mitigation areas.
  - Quantitative and qualitative valuation of mitigation areas.
  - Documented goals for each mitigation site, mitigation methods and lead agency.
Step 5: Establish & Prioritize Ecological Actions
Step 6: Develop Crediting Strategy

- **Purpose:**
  - Integrate mitigation sequence at site level: avoidance, minimization, compensation.
  - Development of a crediting system to accelerate implementation and improve the results of mitigation.
  - Support implementation tools like conservation/mitigation banks, programmatic permitting, and advance mitigation.

- **Outcomes:**
  - Agreement on rules for field measurement of ecological functions.
  - Agreement on approved mitigation/conservation banking.
  - Outcome-based performance standards using credit system.
**Landscape to Site**

**Crediting must:**
- Be enforceable
- Link to REF
- Be easily measured
Step 7: Develop Agreements

- **Purpose:**
  - Develop MOU’s, agreements, programmatic permits or biological opinions for transportation projects.

- **Outcomes:**
  - Agreement on resource management.
  - Programmatic permits and biological opinions including outcome based performance standards
  - Implementation guidance
  - Monitoring strategies
  - Adaptive management plans
Step 8: Implement Agreements

- **Purpose:**
  - Assure transportation project design, construction and operation and mitigation actions are implemented in accordance with negotiated agreements.

- **Outcomes:**
  - Accurate recordkeeping and tracking of all commitments by transportation agency.
  - Effective monitoring and adaptive management.
  - Feedback of information from construction and operation into REF.
Step 9: Monitoring and Adaptive Management

- **Purpose:**
  - Assure continued updating of REF and modification of transportation facility operation and mitigation project implementation in response to new information.

- **Outcomes:**
  - Methods for assuring monitoring information informs revisions to the REF.
  - Adjustments in on-going mitigation project implementation and transportation facility operation as needed in light of new information.
Initial Pilot Methodology

- Testing occurring under the C06B project in Colorado, Michigan and Oregon.
- Cumulative Effects and Resource Modeling being tested on previous capacity projects to discover benefits from methods.
- Ecosystem Crediting tested via case studies and interviews with agency staff – identifying needs and opportunities for various tool applications.
Initial Pilot Methodology

- Case Study Methodology:
  - Developing REF for study area
  - Analyze REF through development of conservation priorities and targets
  - Compare results of REF analysis against historic decisions made on case study
  - Analyze Mitigation Opportunities (Avoidance, Minimization and Compensation)
C06 Ecological Assessment Products and Objective

- **Products**
  - Create a **framework** to integrate conservation and transportation planning
  - Develop supporting **tools, methods, and case studies**

- **Objectives**
  - Faster permitting for new highway projects
  - Better environmental results
Objectives of the C-21 Pilot Tests

- Test the application of TCAPP with environmental and ecological enhancements from the C06 Projects
- Assess the ecological framework and business cases
- Try the suggested ecological methods to see how well they work in practice
- Test the results for acceptability to state and federal regulatory agencies
General RFP Terms

- We are looking for collaborative partners – DOTs, MPOs, cities or counties, state and federal resource/regulatory agencies
- A public agency should lead the effort and have at least 25% of the effort
- Consultants or universities may be involved and may submit the proposal on behalf of a public agency but the public agency must take the lead on the project.
- We are looking for commitment to really give the ecological approach a good try.
You may try the ecological methods on a live project or use a back-casting approach or some other approach.

You are encouraged to use the collaboration tools and/or performance measures from TCAPP in combination with the C06 products.

The selected teams will be asked to come to Washington DC for training and will be asked to attend a closeout meeting.

You will have to write a final report.
Questions

Now we will respond to your questions.

- Please type your questions into this box
- We will answer as many of your questions as time allows
Thank you for joining the webinar.

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