

Integrating Climate Change Considerations into Federally Funded Projects



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Integrating Climate Change

- What are we going to do?
 - Look at CEQ Draft Guidance on Integrating Climate Change considerations into NEPA reviews
 - Look at some issues
 - Look at some pertinent example projects
 - And a few cases

Integrating Climate Change

- Case law very clear that climate change implications of projects must often be considered in NEPA reviews.
 - E.g., Center for Biological Diversity v. NHTSA, 538 F.3d 1172 (9th Cir. 2008)
- CEQ issued its Draft NEPA Guidance on “Consideration of the Effect of Climate Change and Greenhouse Gas Emissions” 2/18/10
 - <http://www.nepa.gov>
 - Perhaps “reissued” (1997 draft – NEPA “excellent mechanism” for consideration of climate change; never final)
- Noticed in federal register 2/23/10
 - 75 Fed Reg. 8046
- Comment period closed 5/24/10
- No final yet issued
- Status tracking: Ted Boling 202-395-5750

Integrating Climate Change

- CEQ Draft NEPA Guidance on Consideration of the Effect of Climate Change and Greenhouse Gas Emissions
 - Announced as 1 of 4 steps to modernize, reinvigorate and ease the use and increase the transparency of implementation of NEPA
- NEPA process:
 - a fundamental tool to harmonize economic, environmental and social aspirations
 - Federal agencies must consider the environmental impacts of proposed action before acting
 - Environmental benefits and risks of actions must be weighed and publicly disclosed

Integrating Climate Change

- CEQ Draft NEPA Guidance explains how federal agencies should analyze the environmental impacts of GHG emissions & climate change when they describe environmental impacts of proposed action:
 - (1) providing practical tools for agency reporting on GHG emissions, including presumptive threshold to trigger consideration of a qualitative analysis under NEPA of 25,000 metric tons of CO₂e emissions from proposed project
 - (2) suggestions on how to assess effects of climate change on the proposed design & implementation of the project

NEPA Primer

- NEPA defines a process for the public consideration and disclosure of the environmental consequences of “major federal actions”
 - Its procedural; not substantive
 - MFA must consider and disclose environmental consequences BUT major environmental consequences don’t control the design or implementation of the project
 - Feds retain broad discretion whether & how to deal with identified environmental consequences
 - Value is that meaningful discussion and public participation encourages the agency to strike the right balance between economic project & environmental protection.

NEPA Primer

- NEPA process has four potential elements:
 - (1) determination whether the proposed project is a “major federal action” triggering NEPA review
 - (2) determination if the MFA is categorically excluded from NEPA review
 - Final CEQ NEPA Guidance: Establishing, Applying and Revising Categorical Exclusions
 - http://ceq.hss.doe.gov/ceq_regulations/NEPA_CE_Guidance_Nov232010.pdf (11/23/10)

NEPA Primer

- NEPA process has four potential elements
 - (3) If MFA & not CE, prepare an Environmental Assessment (EA) to evaluate if proposed project will have significant effect on the environment
 - significance: determined from context of affected society, region, locality and interests and intensity of beneficial & adverse interests
 - Remote and speculative impacts need not be considered
 - But cumulative impacts of this and other projects must
 - (4) If project has significant effect on environment, prepare an environmental impact statement (EIS)
 - 40 CFR 1502; 1508

NEPA Primer

- EIS:
 - Baseline conditions of affected environment
 - Address direct and indirect impacts of action
 - Direct: caused by the action occurring at same time & place
 - Indirect: caused later in time or farther removed in distance but still reasonably foreseeable
 - Cumulative impacts
 - Caused by incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person takes such actions.
 - Reasonable alternatives
 - Unavoidable environmental impacts

Integrating Climate Change

- Draft NEPA Guidance
- When proposed project will emit GHGs in quantities that the agency finds “may be meaningful” its appropriate to quantify and disclose an estimate of expected annual direct & indirect emissions
- When activity is subject to GHG emissions accounting – e.g., stationary sources emitting 25,000 mt CO₂e – it should be incorporated
 - 25,000 mt CO₂e may provide useful, presumptive threshold for discussion & disclosure because its minimum standard for reporting GHG emissions under EPA mandatory reporting rule
 - “provid[ing] for comprehensive coverage of emissions with reasonable number of reporters ... creating an important data set useful in quantitative analyses of GHG policies, programs and regulations”
 - Its an “indicator” for discussion & disclosure
 - not an absolute standard of insignificant effects
 - Action agency has discretion on significance

Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- Concern that 25,000 mt CO₂e will be misinterpreted as threshold of “significant effect”
 - No scientific justification given
 - Individual project’s GHG emissions infinitesimal compared with overall GHGEs.
 - 25,000 mt = $5/100,000^{\text{th}}$ of 1% of 96 billion mts emitted globally in 2004
 - Or less than $4/10,000^{\text{th}}$ of 1% of 7.2 billion mts from US

Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- 25,000 mt regulatory level focused on certain facilities handling fossil fuels and certain industrial GHG suppliers
- To collect data in analyzing, developing and implementing future GHG policies and programs
 - Nothing to do with NEPA criteria
- By this yardstick, Oregon threshold is 2,500 mt

Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- EPA's recently issued tailoring rule uses 75,000 mt CO₂e and 100,000 mt CO₂e as thresholds
- 5/13/10 GHG Tailoring Rule for PSD/Title V identifies GHG thresholds at which air quality protections of the Prevention of Significant Deterioration (PSD) and Title V programs trigger permitting for GHG emissions
 - Between July 2011 and June 2013
 - 75,000 mtpy for existing permitted sources that are modified
 - 100,000 mtpy for new sources
 - Covering 70% of HGH emissions
 - <http://www.epa.gov/apti/video/pdfs/tailoring.pdf>
 - <http://www.epa.gov/nsr/documents/20100413fs.pdf>

Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- GHG well-mixed globally, ubiquitous with no source specific local impacts or “hot spots”
- Qualitative evaluation of GHGs wont address overseas projects and could result in “leakage”
- Shouldn’t set a threshold, but if CEQ does, focus should be on providing information about the project and not discussing speculative “effects”
- On the other hand, others commented that draft guidance left agencies with too much discretion over selecting a level of significance
 - National uniformity mandated clearer direction from CEQ

Integrating Climate Change

- Draft NEPA Guidance:
- When project has GHG emissions over appropriate threshold, Guidance states direct effects analysis should include:
 - Quantify cumulative lifetime emissions
 - Discuss measures to reduce emissions, inc. reasonable alternatives
 - Qualitatively discuss link between GHG emissions and climate change
 - Cannot usefully link projects and climate changes and effects
 - GHG estimates are reasonable proxy for CC impacts
 - Useful info for reasoned choice among alternatives

Integrating Climate Change

- Compare Draft NEPA Guidance approach with SEPA analysis recently approved for Millenium Bulk Logistics' proposed coal export facility in Longview, Cowlitz County
- Dock Upgrade for Coal export and cement import with Infrastructure upgrades upland to handle coal export
 - Rail, coal stockpile, conveyors
- County issued “Mitigated Determination of Non-Significance”
 - i.e. approved subject to implementation of mitigation measures

Integrating Climate Change

- Millenium Bulk Logistics' proposed coal export facility Cowlitz County "Mitigated Determination of Non-Significance"
- SEPA Environmental Checklist doesn't appear directly to call out overseas effects – regional focus
- Notes:
 - bulk products terminal not required to report GHG
 - Purpose-built, electrically powered equipment for loading/unloading minimizes indirect off-site emissions (CCPUD gets 90% energy from non fossil fuels)
 - Contributes to minimizing indirect emissions from transportation sources not under Millennium's control (closer to coal source mines than other possible sites; regional transportation of cement products)

Integrating Climate Change

- Millenium Bulk Logistics' proposed coal export facility MDNS
- Volunteers as part of Sustainable Business Practices a baseline GHG emissions estimate for final designed & permitted facility
 - Applying Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (World Resources Institution & World Business Council for Sustainable Development)
 - Re activities under “organizational and operational control”
 - Baseline on “per ton” basis for products handled and an “annual total” basis consistent with projected operating levels
 - Baseline will id measures taken to reduce plant GHG footprint & evaluate other potentially feasible measures that could be used to reduce bulk terminal GHG emissions
 - County made baseline a mitigative measure under its approval

Integrating Climate Change

- Millenium Bulk Logistics' proposed coal export facility MDNS
- Focus on limitation of GHGEs associated with cement product distribution avoids discussion of GHGEs & other pollutants associated with burning coal in China
- Environmentalists commented on lack of evaluation of contribution to overseas emissions
- Oregonian noted the irony of this line of new business compared with the extraordinary precedent being set by the contemplated closure of PGE's Boardman Plant
 - Built 1977, youngest coal plant closure
- Consideration of GHG issues likely to be fought over at state and federal levels.

Integrating Climate Change

- Compare Draft NEPA Guidance approach with NEPA analysis in the public review version of the DEIS for the Lake Oswego to Portland Transit Project
- Federal Transit Administration, Metro and TriMet issued DEIS, studying the potential benefits and impacts of three alternatives in the corridor. The environmental analysis examines the full range of direct, indirect and cumulative effects of three alternatives:
- No-build option
- Pursue existing transit services and facilities and only those transit and highway improvements deemed achievable within financially constrained resources by 2035.
- Enhanced bus service
- potential bus improvements and transportation systems management techniques to benefit bus service between Portland and Lake Oswego
 - would include frequent bus service between Oregon City and downtown Portland along Highway 43 with connections to the Lake Oswego transit center
 - would have fewer stops than a normal local bus service, more frequent service and a park and ride facility.
- Streetcar: streetcar operation between Portland and Lake Oswego. Park and ride facilities would be located at the terminus and in Foothills. The streetcar alternative looks at potential operation in the Willamette Shore Line right of way and design options where it may leave the right of way in some areas.
 - (Streetcar entirely on Highway 43 was dropped from study due to safety)

Integrating Climate Change

- Compare Draft NEPA Guidance approach with NEPA analysis in the public review version of the DEIS for the Lake Oswego to Portland Transit Project
 - <http://www.oregonmetro.gov/index.cfm/go/by.web/id=227>
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- Map of Options:
- http://library.oregonmetro.gov/files//map-lake_oswego_to_portland_transit_project.pdf

Integrating Climate Change

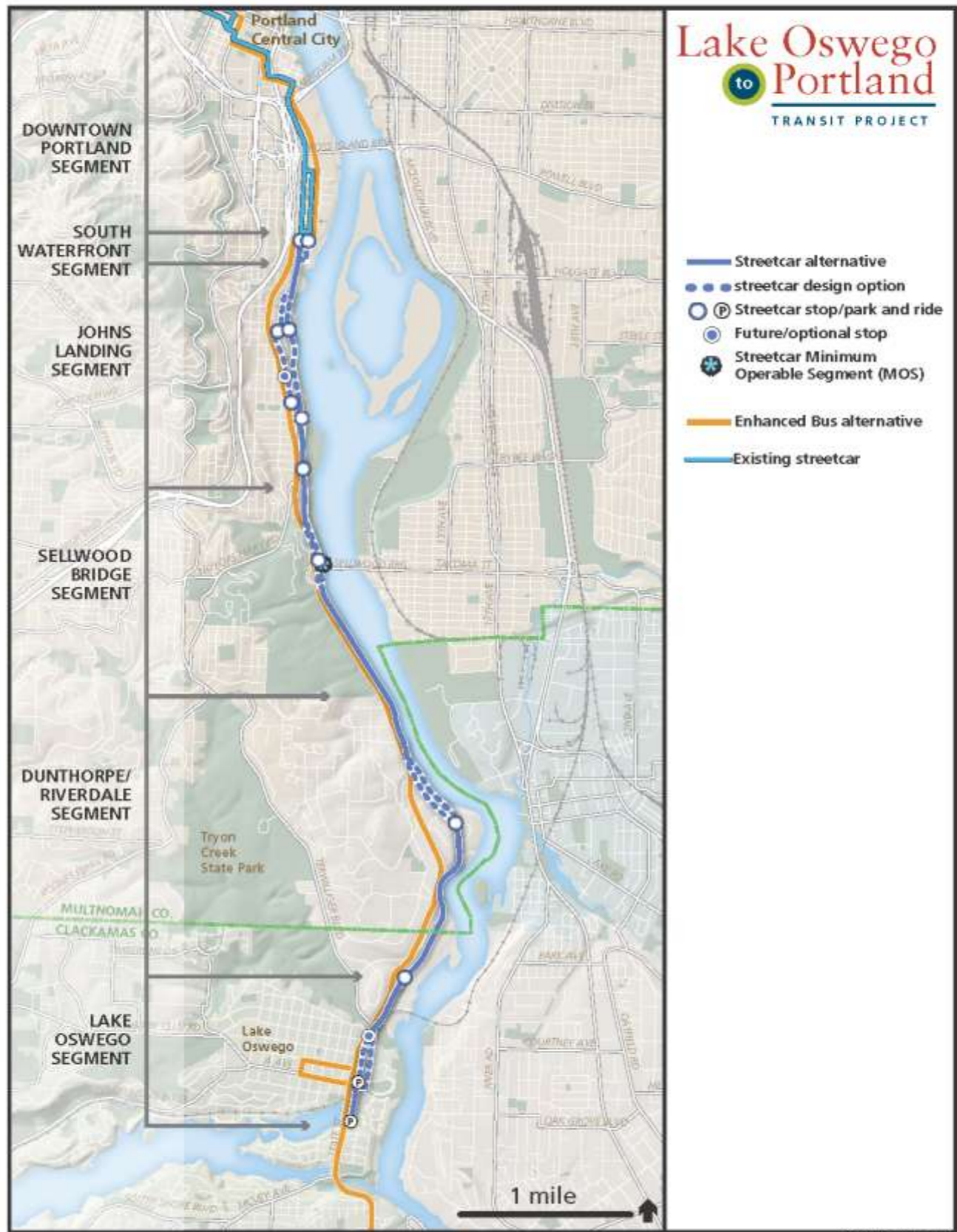
- Compare Draft NEPA Guidance approach with Lake Oswego to Portland Transit Project
- Considers Climate Change in Chapter 3:
 - Climate change is a global problem caused by emissions of greenhouse gases (GHG) from every conceivable source in every nation of the world. Transit projects, in general, can both add (e.g., operations of buses) and reduce GHG (e.g., the overall reduction of vehicle trips).
 - American Public Transportation Association, *Public Transportation's Contribution to Greenhouse Gas Reduction* by Todd Davis and Monica Hale of Science Applications International Corporation (9/2007) suggests investments in transit generally lead to long-term reduction in GHG emissions

Integrating Climate Change

- Compare Draft NEPA Guidance approach with Lake Oswego to Portland Transit Project
 - Generally, adverse impact of any one transit project on GHG emissions, even in a cumulative effects evaluation, is miniscule within the global context
 - increased use of transit locally in Portland metro region, and across the United States, may have a measurable (positive) impact on the environment from the overall reduction in GHG emissions
 - but, as a general proposition, the overall increase or decrease in global GHG emissions resulting from an individual transit project is so small that it is not necessarily possible to predict the impact of that project on the global climate.
 - historically climate change not considered useful in choosing a preference from among the alternatives considered during NEPA review of a single proposed transit project.

Integrating Climate Change

- Compare Draft NEPA Guidance approach with Lake Oswego to Portland Transit Project
- Uses 25,000 mtpy as measure of significance for “beneficial” impact
 - Not adverse impact
- GHG emissions (as of 2035) were calculated to compare differences for each alternative
- emissions of CO2 evaluated as a surrogate for all GHGs as the major component (approximately 95%) of transportation-related GHGs.
 - build alternatives considered to have a slightly beneficial impact on CO2 emissions, up to an approximate 42-ton per day reduction due to the Willamette Shore Line design option.
 - Over a one year period, this equates to a reduction of approximately 15,375 tons, which is below the CEQ proposed level of 25,000 metric tons (27,560 tons) of CO2 ‘equivalents’
 - Notes: apart from overall reduction in GHG due to the build alternatives, public transportation also produces significantly lower GHG emissions per passenger mile than private vehicles.
 - National average, CO2 emissions per passenger mile are approximately 62 percent lower with light rail as they are for average single occupancy vehicles (SOV)
 - 23 percent lower for large bus systems as compared to SOVs (*Public Transportation’s Role in Responding to Climate Change, FTA (1/2010 Update)*).
- http://library.oregonmetro.gov/files//lotp_deis_e-ch3_affected_env_and_env_conseq.pdf (p176)



Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- Because 25,000 mt wont produce a discernible effect, a qualitative discussion of climate change cause and effects wont be useful
- Guidance doesn't properly reflect the global context
- Overseas sources either wont be considered or giving weight to climate change issues re a project will result in "leakage" of the project overseas

Integrating Climate Change

- Commentary on Draft NEPA Guidance:
- But overseas sources and “leakage” do have to be considered:
- CEQ Guidance: Application of NEPA to Proposed Federal Actions in the US with Transboundary Effects (7/1/97)
- “NEPA requires agencies to include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States. Such effects are best identified during the scoping stage, and should be analyzed to the best of the agency's ability using reasonably available information. Such analysis should be included in the EA or EIS prepared for the proposed action.”

Integrating Climate Change

- *Manitoba v. Salazar*, 691 FSupp2d 37 (Mar. 2010) (Lake Sakakawea water transfer)
- “Reclamation asserts that it has no duty to take a “hard look” at the consequences of biota transfer in Canada because NEPA does “not require assessment of environmental impacts within the territory of a foreign country” and “therefore this type of evaluation is considered outside the scope of the EIS.” 2009 AR 2008-172 at 20. However, the Council on Environmental Quality “has determined that agencies must include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States.” -Council on Environmental Quality Guidance on NEPA Analyses for Transboundary Impacts (July 1, 1997), available at <http://ceq.hss.doe.gov/nepa/regs/transguide.html> (last visited March 5, 2010 at 11:00 a.m.); see also *Swinomish Tribal Cmty. v. FERC*, 627 F.2d 499, 510-12 (D.C.Cir.1980) (concluding that the agency took a “hard look” at the Canadian impacts of dam construction in Washington State); *Wilderness Soc'y v. Morton*, 463 F.2d 1261, 1261-63 (D.C.Cir.1972) (granting intervenor status to Canadian environmental groups seeking to challenge the trans-Alaska pipeline under NEPA). . . . Accordingly, when analyzing the consequences of biota transfer in the Hudson Bay Basin, Reclamation must include in its analysis the impact in Canada.

Integrating Climate Change

- Draft NEPA Guidance:
- Provides some guidance on protocols for estimating emissions, absent federal protocols
 - Land management techniques and changes in land use or management strategies noted to have no federal protocols re effect on carbon release or sequestration
 - Comments requested
- Some parties commented that the draft guidance needed to provide much clearer guidance in the area of transportation
 - Transportation is scarcely mentioned
 - Transportation's contribution to climate change is enormous
 - almost 30% of GHG pollution nationwide and a higher percentage in a number of states (34% Or)
 - fastest growing source of GHG emissions in many regions.
 - NEPA analyses often ignore GHG impacts

Integrating Climate Change

- Commentary re Guidance's lack of treatment of transportation issues
 - E.g. Tier I Environmental Impact Statement for the I-81 Corridor Improvement Study in Virginia examined proposal to double the size of I-81 for 325 miles through Virginia
 - » would have enormous impacts on traffic, driving, and air emissions
 - » Did not consider GHG emissions likely to result from proposal
 - Transportation agencies have used flawed models or misused models to underestimate the amount of emissions that would result from a project
 - have at times asserted that a new or expanded highway will have minimal or no air quality impacts because the additional capacity will relieve congestion and thus reduce emissions.
 - analyses often slight or ignore factors such as induced travel demand and emission rates at higher speeds which would show increased emissions from a preferred highway alternative if they were considered adequately.
 - Likely agencies are likely to similarly—and erroneously—conclude that GHG emissions resulting from proposed highway projects will be minimal and that no GHG analysis is needed if the CEQ draft guidance standard is adopted.

Integrating Climate Change

- Draft NEPA Guidance:
 - 25,000 mtpy is not proposed as a measure of indirect effects
 - Indirect effects must be bounded by the limits of feasibility in evaluating upstream and downstream effects of proposed actions
- Commentary:
 - At most, guidance should require agencies to include information about anticipated GHG emissions in environmental analyses
 - should not require agencies to engage in qualitative discussion of the impacts of such emissions upon climate because any such changes are far too speculative to predict
 - publication of projected annual emissions levels should be sufficient

Integrating Climate Change

- Commentary:
 - CEQ correctly concedes that “it is not currently useful” to attempt to make causal link between climate change, or the environmental impacts of such change, and a particular project or its emissions because “such direct linkage is difficult to isolate and to understand”
 - CEQ also acknowledges EPA’s view that it is not currently “possible to quantify with great specificity (i.e. geographic) the various health effects from climate change.”
 - *CEQ recognizes* Supreme Court has stated that the obligation of an agency to discuss particular effects turns on “a reasonably close causal relationship between the environmental effect and the alleged cause.” (*Dep’t of Transp. v. Public Citizen, 541 U.S. 752, 767 (2004)*).

Integrating Climate Change

- Commentary:
 - Because there is no such demonstrable “causal relationship” between an individual activity’s GHG emissions and specific climate change impacts, there is no meaningful basis for requiring agencies to engage in a speculative discussion of such a link in the NEPA context.
- Powder River Basin Resource Council, 180 IBLA 119 (11/2/2010)
 - Declining to posit a precise correlation between specific climatological changes or the environmental impacts thereof attributable to projected GHG emissions for the particular project does not fall short of NEPA’s “hard look” requirement for promoting informed decision making where evidence in the records as to the state of the science confirms the speculative nature of such impacts.

Integrating Climate Change

- Conclusions:
 - Guidance is a start
 - We are looking for significantly improved guidance
 - Agencies will continue to have broad discretion in this area of scientific uncertainty
 - Needs to be well crafted analysis of climate change benefits and impacts
 - Still likely to face significant legal challenge until comprehensive climate change legislation is put in place.
 - So we are looking at many opportunities to integrate climate change considerations
 - And as many opportunities to challenge such reviews



Innovation through Collaboration:

**Structural and Ecological Mitigation
of Potential Impacts to
Visual Resources**

Visual Resources

- Visual Values of a Landscape
- Often managed to preserve quality
- Located within a viewshed of interest
- Other elements come into play:
 - Visual Sensitivity
 - Distance

Authority: NEPA (1969)

Section 101(b) – Requires measures to be taken to “...assure for all Americans...aesthetically pleasing surroundings...”

Section 102 – Requires agencies to “Utilize a systematic interdisciplinary approach which will ensure the integrated use of ...Environmental Design Arts in the Planning and decision making...”

Authority: FLPMA (1976)

Section 102(a)(8) – States that “...the public lands be managed in a manner that will protect the quality of the ...scenic values...”

Section 103(c) – Identifies “scenic values” as one of the resources for which public land should be managed

Section 201(a) – States that “The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and other values (including...scenic values”)

Section 505(a) – Requires that “each ROW shall contain terms and conditions which will...minimize damage to the scenic and aesthetic values...”

How are Visual Resources Managed?

- Bureau of Land Management
- US Forest Service

- US Army Corps of Engineers
- Federal Highway Administration

- Visual Modification Approach (Headley, 2010)

Bureau of Land Management

- Visual Resource Management System
- Lands managed by specific VRM Objectives
- VRM Class I → VRM Class IV

Example: VRM Class II

- Retain the existing character of the landscape.
- The level of change should be low.
- Management activities should not attract attention
- Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape

USDA Forest Service (USFS): Visual Management System (VMS) and Scenery Management System (SMS)

- Visual Quality Objectives (VQOs) – 1974
Preservation, Retention, Partial Retention,
Modification, or Maximum Modification
- Scenic Integrity Objective (SIOs) –1995
Very High → Very Low

Example: VQO Partial Retention → SIO Moderate

- Alteration to landscape are visually subordinate to natural features.
- Management activities ... may occur but must be designed so they blend into the natural landscape.
- Management activity should remain subordinate to the visual strength of the existing character.

Other Agency Standards

- US Army Corps of Engineers (USACE)
- Federal Highway Administration (FHWA)

What's Changed?

- Types of Projects
- Location of Projects
- Scale of Projects
- Public Expectations









Case Study

- Public Lands
- Wild and Scenic Rivers
- Level 1 Trail
- Management Standards
- Design Challenges
- ROW width
- Structure
- Landscape Character





VQO Retention → SIO High

- Landscapes where the valued landscape character appears intact.
- Deviations may be present but must repeat ... landscape character so completely and at such a scale that they are not evident.





Visual Mitigation Team

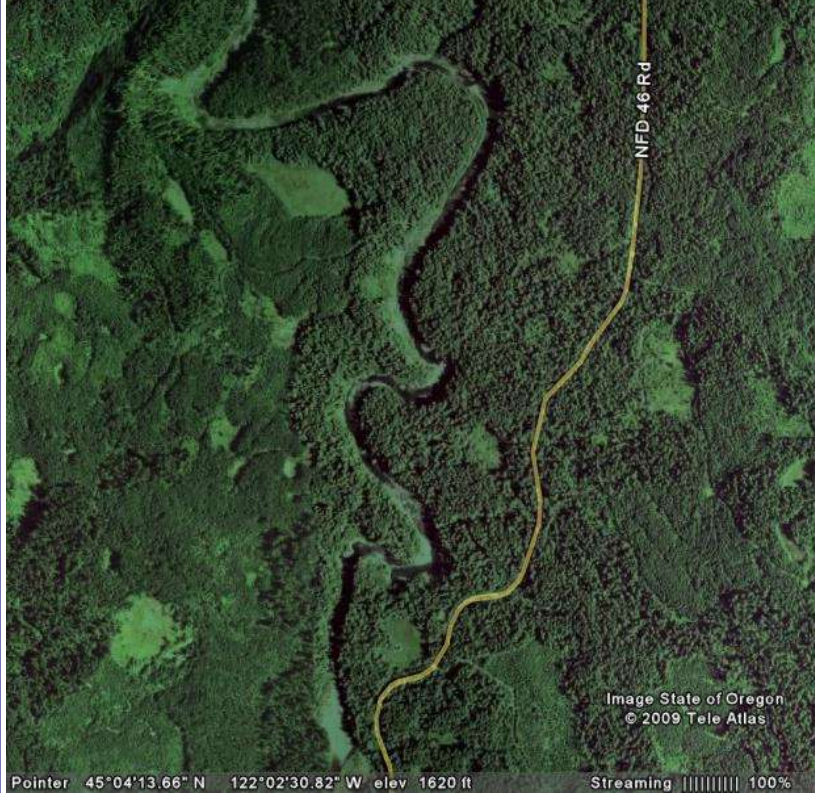
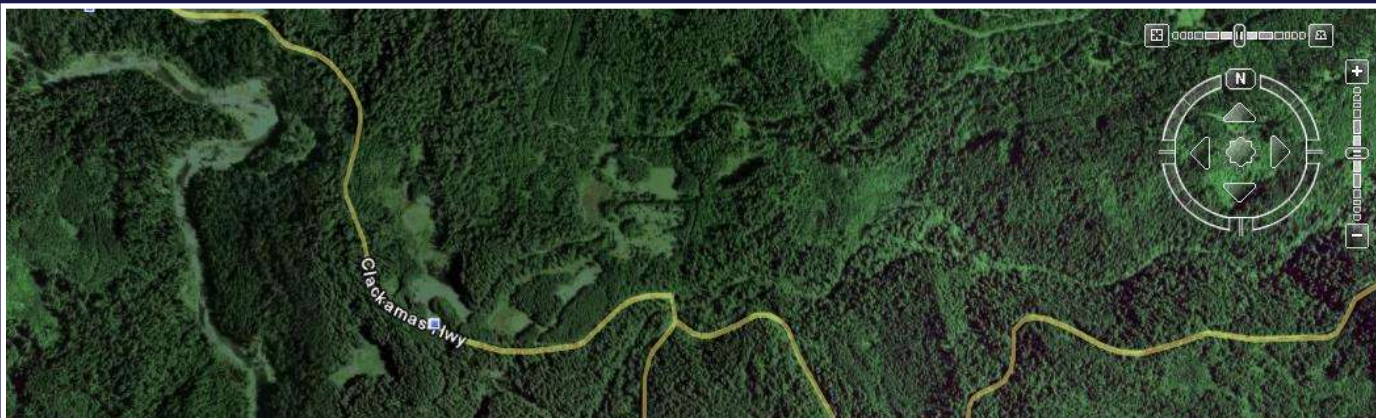
- Project Manager
- Pipeline Engineer
- USFS Landscape Architects
- Contractors
- Bridge Architect

Process

- Field Visit
- Design Ideas
- Renderings
- Design Selection
- Simulation
- Analysis
- Report







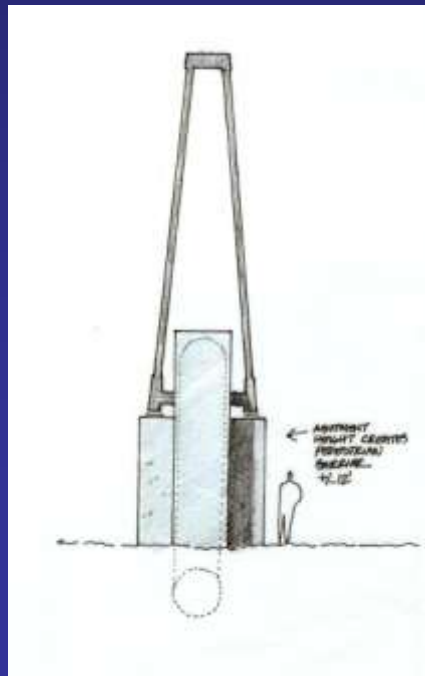
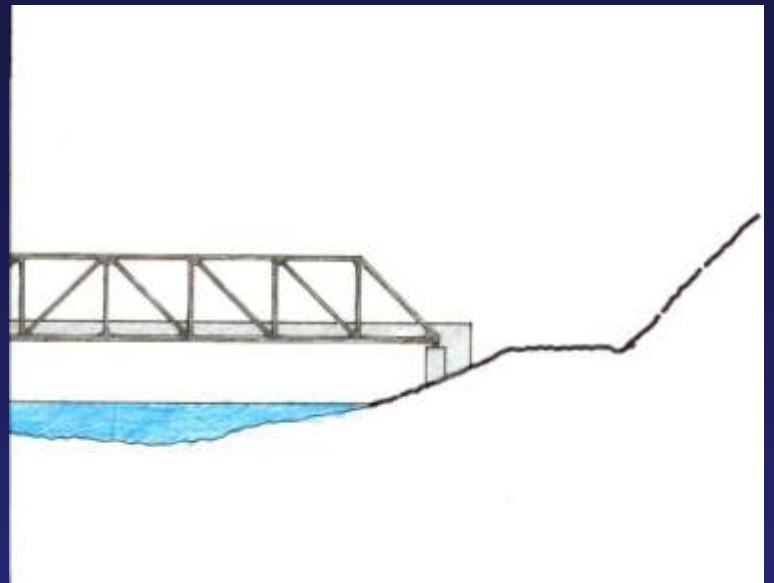
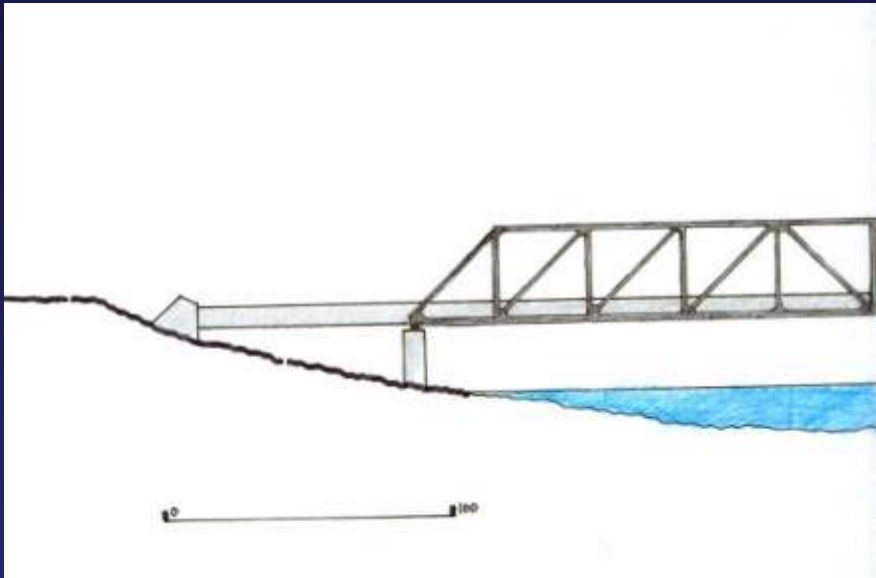
Pointer 45°04'13.66" N 122°02'30.82" W elev 1620 ft Streaming 100%



Pointer 45°03'20" N 122°05'17.10" W elev 1500 ft Streaming 100% Elev alt 5100 ft

Design Options

- Natural fallen log concept.
- Contemporary/State of the Art concept
- Historic/Traditional concept.



Design Credit:
Peterson Design

Mitigation Goals

- Mimic elements of the River Basin cultural landscape through design
- Consider a rust-color bridge façade
- Screen bridge pilings through planting of small-to-medium size woody vegetation such as red alder to mask pilings.
- Minimize discrete edges of the right-of-way:

Minimize Discrete Edges

- retain large DBH trees/snags, or strategic trees/snags to minimize edge
- replanting small-to-medium size woody vegetation within the right-of-way, and near or below the bridge span;
- preserve branches of trees that extend into the right-of-way

Minimize Discrete Edges

- retain individual trees and shrubs that are rooted near or below the pipeline span
- stockpile removed trees and branches, and place back into the right-of-way
- replant 10- to 15-year-old conifers to immediately
- where canopy species require topping, consider a rough-cut



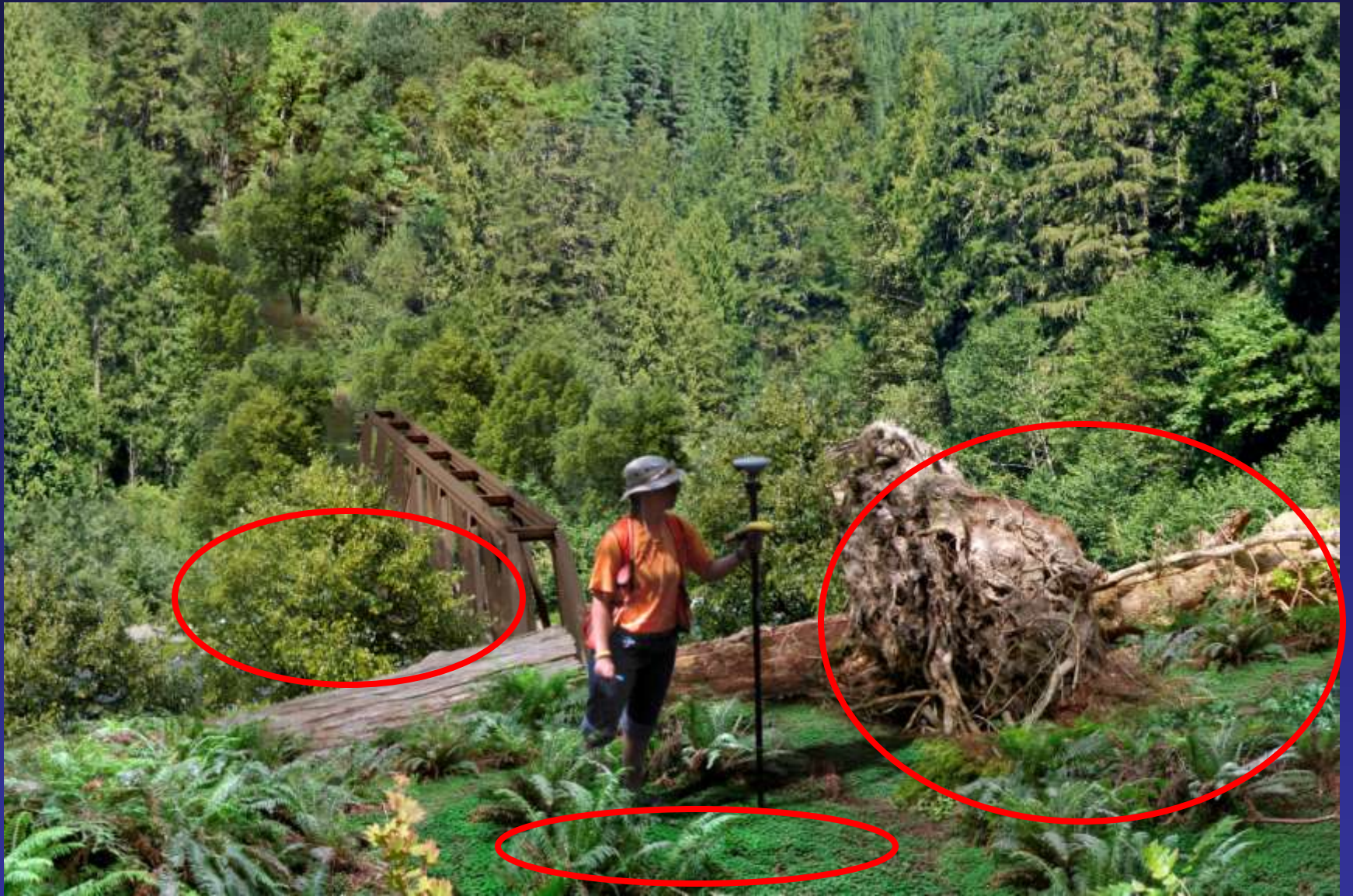












VQO Partial Retention → SIO Moderate

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Lessons Learned

- Coordinate early
- Use multi-disciplinary team
- innovative design over mitigation
- Ask questions – never assume