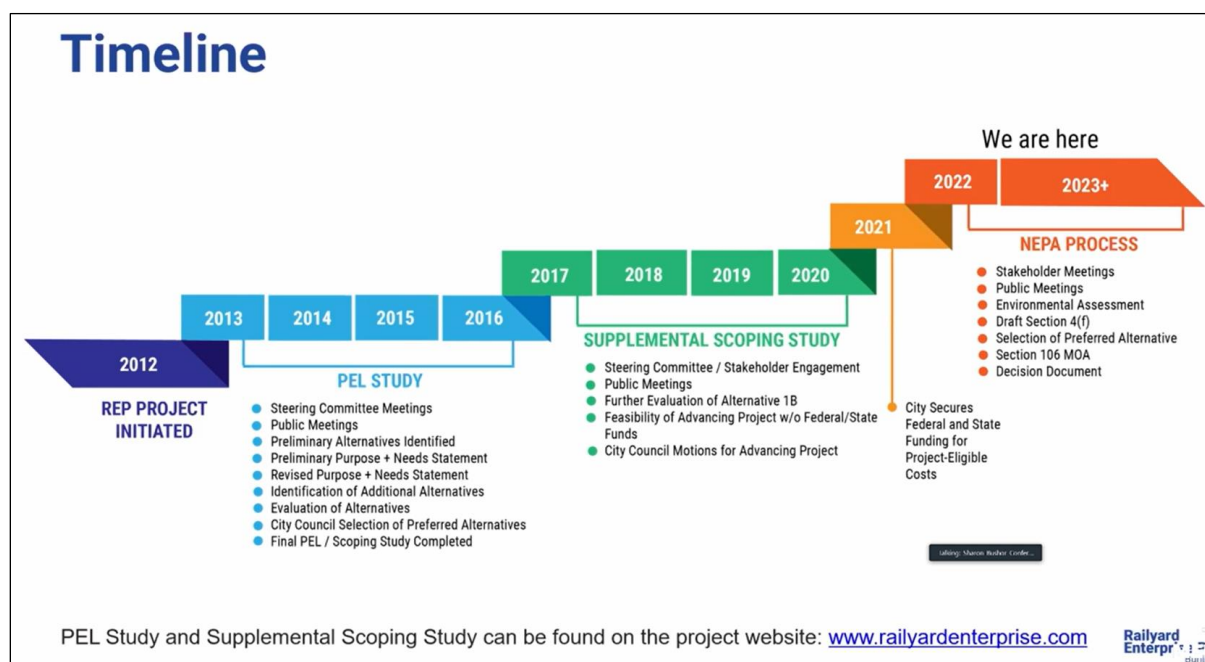


Planning and Environment Linkages: Flexible Implementations



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About the NADO Research Foundation

Founded in 1988, the NADO Research Foundation is the nonprofit research affiliate of the National Association of Development Organizations (NADO). The NADO Research Foundation identifies, studies, and promotes regional solutions and approaches to improving local prosperity and services through the nationwide network of regional development organizations (RDOs). The Research Foundation shares best practices, offers professional development training, analyzes the impact of federal policies and programs on RDOs, and examines the latest developments and trends in small metropolitan and rural America. Most importantly, the Research Foundation is helping bridge the communications gap among practitioners, researchers, and policymakers. Learn more at www.NADO.org and www.RuralTransportation.org.

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Image:

Cover– Chittenden County Regional Planning Commission

Introduction

Delivering transportation projects is a complex process that requires compliance with several policies and regulations intended to ensure environmental and Civil Rights protections, among many other protections for the public interest. Innovations that connect the federally required surface transportation planning process with environmental analysis early on can help agencies to identify and avoid, minimize, or mitigate some of the negative impacts of proposed transportation projects.

Planning and Environment Linkages (PEL) represents a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.¹

This issue brief will introduce core concepts of PEL and the range of PEL authorities. The brief will emphasize FHWA's recommendation that PEL be as flexible as possible, with a range of possible implementation practices. The issue brief will include short snapshots of local government, regional agency (such as RTPO/RPO as described below, or Metropolitan Planning Organization, or MPO), state agency, Tribal government, or Federal agency role in integrating environmental considerations early in the transportation planning process.

To prepare this brief, NADO Research Foundation staff reviewed United States Department of Transportation regulations, state department of transportation (DOT) PEL handbooks, PEL studies and project websites, and Transportation Research Board reports to better understand flexible PEL implementation practices.

What is an RTPO/RPO?

Regional Transportation Planning Organizations (RTPOs) generally operate in non-metropolitan areas to conduct outreach to the public and local officials and provide transportation planning support under contract to state departments of transportation (DOTs). A Governor may establish and designate federally recognized RTPOs to enhance the planning, coordination, and implementation of the long-range statewide transportation plan and STIP, with an emphasis on addressing the needs of nonmetropolitan areas of the State. Whether formally designated or not, regional rural planning partners can benefit state and local stakeholders. Sometimes, such organizations are also called Rural Planning Organizations (RPOs), and some states may refer to them as Regional Planning Affiliations, Regional Transportation Planning Agencies, or simply as general-purpose Councils of Governments or Regional Planning Commissions who have a rural transportation planning program. They generally exist to assist state DOTs with completing their requirements for statewide planning in rural areas and to enhance the outreach conducted to local officials and the public.

What is PEL?

PEL is a collaborative and integrated approach to transportation decision making that (1) considers environmental, community, and economic goals early in the transportation planning process and (2) uses the information, analysis, and products developed during planning to inform the environmental review process.

A PEL study is usually developed with the stated purpose of producing planning analyses and decisions that can be incorporated into subsequent project-level environmental reviews. For Missouri Department of Transportation (MoDOT), a PEL study is used to meet agency requirements while expediting project delivery by formalizing the following activities prior to beginning the National Environmental Policy Act (NEPA) process:²

- Early communication, coordination, and collaboration including obtaining early input from stakeholders, agencies, and the public.
- Identify key socioeconomic, environmental, and historic preservation constraints to create a baseline.
- Establish a preliminary purpose and need, including goals and objectives.
- Develop and screen alternatives.
- Determine risks and prepare potential mitigation strategies.
- Develop a plan to transition from PEL to NEPA



Hunter Station bridge was replaced in Tionesta, Pennsylvania. As result of a PEL process, PennDOT and partners successfully salvaged, tagged, and moved more than 90 percent of the mussels in the direct impact areas of the bridge project. They were relocated to streams in six other states as well as other streams in Pennsylvania. Image from Northwest Commission.

PEL is an important tool for ensuring that transportation projects are planned and designed in a way that minimizes their environmental impact while still meeting transportation goals. By bringing together various stakeholders and considering multiple options, PEL can help ensure that transportation projects are designed with the best interests of the community and the environment in mind. Incorporating early consideration of environmental and community impacts into all the transportation planning cycle elements will support that planning products have utility during NEPA.

PEL is a voluntary process that is implemented by individual states in the United States. While the Federal Highway Administration (FHWA) encourages the use of the PEL process, it is up to each state to adopt and implement PEL in their transportation planning process.



Source: *The Transportation Planning Process Key Issues: A Briefing Book for Transportation Decisionmakers, Officials and Staff.*

PEL can be implemented for a specific study, and PEL can be implemented to different parts of planning process cycle above. PEL can be utilized in transportation planning process to identify alternatives, to accelerate the project delivery process, to increase stakeholder involvement, to identify priorities, to justify funding for projects, to strengthen planning process by increasing coordination with the public and other agencies early in planning, and to establish next steps.

Flexible Implementation

PEL is a flexible approach that can be implemented in various ways depending on the needs of a particular project or region. PEL could be used in different scales such as at the regional level during the transportation planning process or during the development of planning studies where planning products and decisions can be documented for future use in the environmental review process. The scope of PEL may be narrowed to focus on specific environmental concerns, such as air quality or water resources. PEL can be integrated with other planning processes, such as land use planning or economic development planning. This can help ensure that transportation projects are integrated with other community priorities and that the potential impacts of a project are considered in a holistic manner.

PEL can be tailored to engage stakeholders in a way that is most effective for a particular project or region. This may include public meetings, workshops, online engagement, or other methods. PEL can be flexible in the number and types of planning products that are considered in the transportation planning process. This can include considering alternatives for the mode of transportation, potential route alignment, or planning analysis or decision. Planning products coming from the metropolitan or statewide transportation planning processes can support subsequent decision-making in the NEPA process.

Planning and Environment Linkages also is a key element of FHWA's Every Day Counts Initiative as a tool to accelerate project delivery.³

PEL Benefits

PLANNING & ENVIRONMENT LINKAGES



Source: Federal Highway Administration (FHWA) Office of Project Development & Environmental Review

Following the Fixing America's Surface Transportation Act (FAST Act), Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly issued a final rule updating 23 CFR 450 planning regulations relating to PEL. The changes reflected the passage of MAP-21 and the FAST Act, and clarified the flexibility of PEL. Specifically, the 2016 final rule recognizes that a variety of PEL approaches may be used, and it does not limit the use of any particular PEL authority.⁴

PEL authorities include 23 U.S.C. 168 for Integration of Planning and Environment Review statute; 23 U.S.C. 139(f)(4)(E)(ii) for efficient environmental reviews statute; 23 CFR 450.212(a)-(c) & 23 CFR 450.318(a)-(d) for planning regulations; 40 CFR 1500.4(l) and 40 CFR 1501.12 for CEQ NEPA regulations; 23 U.S.C. 169 for programmatic mitigation planning statute; and 23 CFR 450.214 & 23 CFR 450.320 for planning regulations under programmatic mitigation plan.

For example, Arizona Department of Transportation utilizes aspects of PEL in its planning processes, specifically around alternatives analysis. Arkansas Department of Transportation utilizes PEL to accelerate the project delivery process, increase stakeholder involvement, and allow for more comprehensive consideration of the environment and support identification of full range of project alternatives. Colorado Department of Transportation incorporated PEL process as a method to identify priorities, justify funding for projects, and accelerate project delivery. Montana Department of Transportation incorporated PEL to strengthen its planning process by increasing coordination with the public and other agencies early in planning. Michigan Department of Transportation incorporates PEL process as a streamlined way to determine which alternatives may be acceptable to the community, to identify funding, and to establish next steps.⁵

Several DOTs work with RTPOs/RPOs and local communities to incorporate PEL into the transportation planning process at various levels as mentioned in the above examples.

Flexibility in PEL Approaches

General Considerations	Desired Outcomes	Authorities
1. Follow the transportation planning process.	> Define Purpose and Need	Integration of planning and environmental review statute 23 U.S.C. 168
2. Participation by Federal and state resource agencies and Indian tribes.	> Preliminary Screening of Alternatives and Elimination of Unreasonable Alternatives	
3. Opportunity for public review and comments.	> Other Planning Decisions and Analysis	
4. Use reliable and reasonably current data and reasonable scientifically acceptable methodologies.	> Adopt Planning Decisions under 168	
5. FHWA and FTA review as appropriate.	> Reduction of duplication by elimination of alternatives from detailed analysis.	Efficient environmental reviews statute 23 U.S.C. 139(f)(4)(E)(ii)
6. Documentation.	> Planning Studies	Planning Regulations 23 CFR 450.212(a)-(c) & 23 CFR 450.318 (a)-(d)
	> Planning Information and Analysis	CEQ NEPA Regulations 40 CFR 1500.4(l) and 40 CFR 1501.12
	> Programmatic Mitigation Plan	Programmatic Mitigation Planning statute 23 U.S.C. 169
		Planning Regulations 23 CFR 450.214 and 23 CFR 450.320

Source: Federal Highway Administration (FHWA) Office of Project Development & Environmental Review

PEL provides flexibilities so that an approach can be designed to achieve a specific purpose or “Desired Outcome.” The ‘General Considerations’ are tips for kicking-off PEL. The “Authorities” are the statute or regulation that provide direction on an approach and requirements to ensure that the planning work can be adopted and/or incorporated by reference or used during NEPA. Additional areas of flexibility include the depth of alternatives development and evaluation, the future year used for analysis, the level of detail for environmental review and mitigation, and fiscal constraints.

Practitioners should consider how they intend to use PEL and determine which authority best supports that goal. Knowing the requirements of each authority is critical to successfully leveraging PEL’s benefits. FHWA encourages the use of PEL under the provisions of both 23 U.S.C. 139(f)(4)(E) and 23 U.S.C. 168 together to the extent practicable, to preserve the option to use the planning products and decisions (such as purpose and need, and elimination of unreasonable alternatives) in the environmental review process. Using the two statutory provisions together may maximize the potential benefits of PEL. However, the statutes allow the use of either approach alone.

Case Studies

The implementation of the PEL process can vary depending on the size, complexity, and potential impacts of the transportation project, as well as the unique needs and preferences of different stakeholders. It has been proven that PEL can be implemented for a specific study and PEL can be implemented to different parts of transportation planning process such as scoping, preliminary screening of alternatives and elimination of unreasonable alternatives, prioritizing projects, accelerating project delivery, and increasing stakeholder involvement.

Case Study #1: PEL study, Railyard Enterprise Project; Chittenden County Regional Planning Commission, VT

The Chittenden County Regional Planning Commission (CCRPC) is one of 11 regional planning commissions in Vermont and serves the region as the sole and a small Metropolitan Planning Organization (MPO) operating within Vermont. The CCRPC in collaboration with the City of Burlington initiated a PEL/scoping study 2013 which was concluded in 2016 for the Railyard Enterprise Project. ⁶

The purpose of the Railyard Enterprise Project is to develop a network of multimodal transportation infrastructure improvements connecting several streets while incorporating the principles of Complete Streets, and to: 1) support economic development in the area; 2) improve Livability of the surrounding neighborhoods; 3) enhance multimodal travel connectivity between the Pine Street corridor and Battery Street in the Burlington Waterfront South area; and 4) improve intermodal connections to the Burlington Railyard, a National Highway System -designated intermodal facility.

The study team met with the VTrans Resource Coordination Group (RCG), consisting of a variety of resource agencies including the US Army Corps of Engineers, the US EPA, US Fish & Wildlife, VTrans, FHWA, and the Agency of Natural Resources (ANR), three times to inform them of the project progress, and ensure their concerns were addressed during the development and evaluation of alternatives. Several criteria including environmental resource impacts were considered during the evaluation of alternatives. The environmental screening criteria included impacts to any known historical buildings/resources, archaeological resources, floodplain, rare, threatened & endangered species, hazardous waste sites, and right of way. Each of the alternatives was evaluated and assigned points based on positive and negative impacts. To find the reasonable alternatives, all the points were summarized as shown below.

FIGURE 37. ALTERNATIVE EVALUATION SUMMARY SCORE

	1A	1B	2	3	4	5A	5B
Transportation System Impacts	2	2	4	2	1	7	7
Environment/Resources	-5	-5	-10	-10	-20	-12	-12
Local & Regional Issues	5	5	5	5	3	5	5
TOTAL	2	2	-1	-3	-16	0	0

Chittenden County Regional Planning Commission

Case Study #2: Evaluation of projects in Long-Range Transportation Plan, Northwest Pennsylvania Regional Planning and Development Commission

The Northwest Pennsylvania Regional Planning and Development Commission (Northwest Commission) serves as the Rural Planning Organization (RPO) for the Pennsylvania Department of Transportation (PennDOT). In this capacity, they serve 5 counties in Northwest Pennsylvania. The Northwest Commission is one of the state's smallest transportation planning regions by population yet consists of nearly 3,600 square miles of land area (or an area roughly half the size of New Jersey). The Northwest Commission includes environmental issues during evaluation phase of transportation projects in the Long-Range Transportation Plan (LRTP). The Northwest Commission follows PennDOT Connects which is a holistic approach to work with all local, regional, state, and federal organizations and agencies to avoid, minimize, or mitigate impacts in the early stages of the transportation planning process. The review of potential direct and indirect environmental impacts has been included in the plan implementation and evaluation phase of the LRTP.



LRTP public outreach meeting where projects were discussed including environmental issues associated with potential candidate projects.

Source: Northwest Commission.

The LRTP includes a list of projects expected to be built by the plan's horizon year, and while detailed environmental analysis is not required at the early stage of the planning process, the importance of anticipating potential environmental impacts has been captured in the plan.⁷

In the last update of the LRTP, the Transportation Advisory Committee (TAC) steering committee considers several evaluation criteria such as safety (30%), infrastructure condition (24%), performance and operations (12%), sustainability and smart growth (10%), traffic congestion and network classification (10%), multimodal accessibility and mobility (7%), and project impact/benefit environmental (7%).

The Northwest Commission performs a high-level evaluation of the environmental resources that could be affected by the LRTP's candidate project list, which helps inform the identification of appropriate mitigation strategies for the region as these projects move through the project delivery process.

An agency coordination meeting is facilitated with the agencies such as Department of Natural Resources, Environmental Protection Agency, Pennsylvania Fish Commission, United States Department of Agriculture (Allegheny National Forest) and U.S. Army Corps of Engineers. At this meeting, the different agencies discuss the draft Plan with projects and solicit additional comments on potential resources and their mitigation strategies.⁸

The results from this meeting are presented to the TAC to determine the project priorities.

[Case Study #3: Prioritization process in Rural Long Range Transportation Plan, Berkeley-Charleston-Dorchester Council of Governments, South Carolina](#)

The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) serves a 3-county region in South Carolina. BCDCOG also serves the Metropolitan Planning Organization-Charleston Area Transportation Study (CHATS). The Rural Long Range Transportation Plan (RLRTP) is a long-term plan of projects that represent a consensus of regional priorities and address identified transportation needs prior to committing funds.⁹

As such, it serves as a planning tool to ensure the most effective use of limited federal funding for transportation improvements. The public, BCDCOG, South Carolina Department of Transportation (SCDOT) and federal agencies all work together to maintain a short-term, programming of RLRTP prioritized projects that are eligible for federal funding in non-urbanized areas of the region. The funds are programmed in the Rural Transportation Improvement Program (RTIP) based on availability and estimated federal allocations in future years.

Performance-based investment decision making is a strategic approach SCDOT uses to link goals, objectives, and risks when allocating resources. RLRTP projects are evaluated and ultimately prioritized using the 12 project criteria established in the BCDCOG's 2040 Rural Long-Range Transportation Plan and in accordance with SCDOT policy (State Act 114). This approach is designed to provide greater transparency in the prioritization process using quantitative criteria prescribed by state legislation. Each criterion is assigned a "weight" based on its relative

importance, determined by BCDCOG’s Rural Study Team with input from COG technical staff. The project criteria and associated “weighting” (out of 100%) are shown below:

20% <u>Existing Infrastructure</u> Analysis of existing roadway pavement quality	15% <u>Congestion Relief</u> Analysis of traffic volume by the capacity of the roadway	15% <u>Safety</u> Number of vehicle-, bicycle-, and pedestrian-involved crashes in close proximity	10% <u>Environmental Impact Mitigation</u> Composite of natural resource and vulnerable population analyses	10% <u>Transit</u> Proximity to existing or recommended transit services	5% <u>Walking & Bicycling</u> Number of intersecting existing or recommended pedestrian and bicycle facilities
5% <u>Economic Development</u> Surrounding employment density	5% <u>Land Use</u> Inclusion within existing land use or development plan + land suitability analysis	5% <u>Financial Viability</u> Project cost ratio (individual project cost divided by total project costs)	5% <u>Evacuation Route</u> Composite of resiliency + resource efficiency analyses	5% <u>Freight Mobility</u> Composite of peak travel time and daily truck volume analyses	

Berkeley-Charleston-Dorchester Council of Governments

Environmental impact score of ten percent is based on whether a project avoids or mitigates impacts on environmental features, including water features, wetlands, parks, and vulnerable populations. Geographic Information System Mapping software is utilized extensively to map the project areas to determine natural and socio-economic environmental impacts. ¹⁰

Case Study #4: Evaluation of projects, Southwest Connects: Southwest Region

Transportation Plan, Southwest Regional Planning Commission, New Hampshire

Southwest Region Planning Commission (SWRPC) is one of New Hampshire’s nine regional planning commissions. SWRPC is an association of member municipalities in its service area, which covers 34 towns and approximately 1,000 square miles. Southwest Connects: Southwest Region Transportation Plan 2014-2035, the long-range plan for the region considers environmental, cultural, historical, and other impacts for regional priority. Projects submitted by towns and other regional stakeholders every other year. This plan follows the project evaluation criteria used for New Hampshire Department of Transportation’s Ten-Year Transportation Improvement Plan, a fiscally constrained capital improvement plan that identifies projects and their funding sources for a 10 year period statewide. ¹¹

CRITERION	SUB-CRITERIA
Economic Development	Local & Regional; Freight Movement
Equity, Environmental Justice, & Accessibility	Equity & Environmental Justice; Accessibility
Mobility	Mobility Need & Performance; Mobility Intervention
Natural Hazard Resiliency	Hazard Risk; Hazard Mitigation
Network Significance	Traffic Volume; Facility Importance
Safety	Safety Performance; Safety Measures
State of Repair	State of Repair; Maintenance
Support	n/a

Southwest Region Planning Commission

In New Hampshire, PEL considerations are used as a project screening process ahead of the environmental review process conducted by state agencies before a project is selected for funding. The screening process attempts to identify potential conflicts with state's environmental, historical, and cultural policies and regulations, including the state's wetland protection, air quality, and wildlife protection laws. The process helps to identify potential environmental issues, such as impacts on wetlands, wildlife, water quality, and historical resources and to develop strategies to address those issues before a project moves forward.

The eight criteria and fourteen sub criteria for evaluating transportation projects by NHDOT are shown in the image.¹²

New Hampshire regional planning commission's transportation committees evaluate each regional project by considering backup documentation such as cost estimates, citations from plans that reference the project, photographs, maps, a project application, engineering review comments, etc. This follows an intensive data gathering and holistic approach.¹³

Summary

PEL studies or specific planning corridor studies are one effective way of implementing PEL, but not the only way.

The flexibility of the PEL process allows it to be tailored to the needs of a particular project or region, while still achieving its goals of integrating transportation planning and environmental considerations. It is a proactive and collaborative approach that aims to address transportation issues while also protecting the environment and promoting sustainable development.

Several states across the nation have implemented PEL study and its flexibility of usage in different levels of transportation planning process. PEL is a useful tool for transportation

agencies, as it allows for more efficient project delivery while still ensuring that environmental issues are addressed appropriately. By conducting PEL early in the transportation planning process, transportation agencies can minimize duplication of effort in planning and NEPA processes, ensuring that analyses or decisions made in the planning process do not conflict with future permitting or environmental requirements by Federal, state, or local agencies, building relationships among transportation agencies, resource agencies, regional entities, and the public and local community and better plan for environmental mitigation and avoid delays in future project delivery.

Resources

Transportation practitioners and stakeholders can find more information in the following resources:

American Association of State Highway and Transportation Officials, Center for Environmental Excellence: <https://environment.transportation.org>

Colorado DOT (2016), Planning and Environmental Linkages Handbook, Version 2 (PDF): <https://www.codot.gov/programs/environmental/planning-env-link-program/pel-handbook-january-2016>

FHWA, Planning Environment Linkages: https://www.environment.fhwa.dot.gov/env_initiatives/PEL.aspx

American Association of State Highway and Transportation Officials Center for Environmental Excellence
Practitioners Handbook 10 - Transportation Planning Process to Support NEPA Process
https://environment.transportation.org/wp-content/uploads/2021/05/practitioners_handbook10.pdf

U.S. Department of Transportation, Federal Highway Administration
Environmental Review Toolkit: PEL Peer Exchange August 14 – 15, 2019
https://www.environment.fhwa.dot.gov/env_initiatives/pel/publications/PEL_Peer_Exchange_DC_Aug2019.aspx#va

U.S. Department of Transportation, Federal Highway Administration
The Transportation Process Planning Briefing Book
https://www.fhwa.dot.gov/planning/publications/briefing_book/

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<https://www.fhwa.dot.gov/hep/guidance/pel/pelfaq16nov.cfm#q1>

² MoDOT (2022), 127.28 Planning and Environmental Linkages (PEL) and the National Environmental Policy Act (NEPA),

[https://epg.modot.org/index.php/127.28_Planning_and_Environmental_Linkages_\(PEL\)_and_the_National_Environmental_Policy_Act_\(NEPA\)#127.28.1_Introduction_to_the_PEL_Process](https://epg.modot.org/index.php/127.28_Planning_and_Environmental_Linkages_(PEL)_and_the_National_Environmental_Policy_Act_(NEPA)#127.28.1_Introduction_to_the_PEL_Process)

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⁷ Michael Baker International (2020), Northwest Commission 2020-45 Long range transportation plan,

https://cms5.revize.com/revize/northwest/Document_Center/Community%20Development/Northwest%20long%20range%20Transportation%20plan/Northwest-PA-LRTP-FINAL.pdf

⁸ Personal communication with Travis Siegel, Northwest Commission, PA, April 2023.

⁹ Berkeley-Charleston-Dorchester Council of Governments (2020), BCD rural transportation improvement program,

https://bcdcof.com/wp-content/uploads/2020/09/BCDCOG-RTIP-Draft-Y21-27_091420.pdf

¹⁰ Personal communication with Kathryn Basha, BCDCOG, SC, April 2023.

¹¹ Southwest Region Planning Commission (2015), Southwest Connects: Southwest Region Transportation Plan

<https://www.swrpc.org/wp-content/uploads/2021/03/Southwest-Connects-Southwest-Region-Transportation-Plan-FINAL.pdf>

¹² NH Ten Year Plan (2020), https://www.swrpc.org/wp-content/uploads/2021/03/TYP-Criteria_final.pdf

¹³ Personal communication with J. B. Mack, Southwest Region Planning Commission, NH, April 2023.