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NEPA Reviews of Tolling and Road Pricing Projects

Case Studies

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16. Abstract This research project contains nine case studies on National Environmental Policy Act (NEPA) reviews of tolling and road pricing projects, and it explores various project development factors to consider during their NEPA reviews. Case studies highlight notable practices in meaningful public involvement, environmental justice, multimodal travel considerations, travel forecasting and traffic impacts, Planning and Environment Linkages (PEL) or tiered NEPA reviews, and environmental analysis. This research project is not intended to be construed as FHWA guidance. It is intended to document the current state-of-the-practice about the NEPA reviews of tolling and road pricing projects, and facilitate knowledge transfer and information sharing.			
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INTRODUCTION

Many States have implemented or explored the use of tolling and roadway pricing to help support development of new or expanded roadway capacity and/or to improve transportation system operations and reliability. Options include constructing an entirely new toll facilities, developing new priced lanes on an existing facility, or converting existing lanes to priced lanes (such as conversion of a high occupancy vehicle [HOV] lane). State departments of transportation (DOTs), tollway authorities, and private concessionaires can structure pricing in different ways, such as fixed tolls, variable rate tolls based on time of day, or dynamic toll rates based on demand to manage congestion. Additionally, pricing can be applied to all vehicles or only some – for instance, allowing eligible HOVs to travel free or at a discounted toll rate. The implementation of road pricing can satisfy many different objectives, including to increase throughput (vehicle and person), generate revenue to support project delivery, prioritize transit, ensure travel time reliability, and to support economic growth.

As more transportation agencies are considering tolling and road pricing projects, questions have arisen about how to address the unique aspects of these projects within the environmental review process under the National Environmental Policy Act (NEPA). The imposition of tolls upon users raises questions such as: how alternatives are developed and evaluated, including whether only tolled alternatives can be analyzed during NEPA reviews; how to assess the socioeconomic impacts of toll alternatives; how to conduct meaningful public involvement for tolling projects; how to consider the traffic impacts of toll diversion on parallel roads and adjacent communities; and how undertaking a NEPA review can add value in developing highway projects in the best overall public interest. In many ways, the context and environmental impacts are similar to traditional (non-tolled) highway projects, yet there are some unique characteristics of priced facilities that may need special consideration during the NEPA review process. The case studies provide information on the state of the practice regarding the NEPA reviews of tolling and road pricing projects through a diverse group of examples throughout the United States.

CASE STUDY IDENTIFICATION

The research team identified case study projects from documented literature and research studies, knowledge of the team members, and a web-based review of NEPA documents and planning studies addressing tolling and/or road pricing projects. Based on input from a FHWA technical advisory group, the research team primarily considered which notable practices in the NEPA process to highlight. The team also considered geographic diversity, including highlighting at least one project from each region, diversity of types of pricing projects, and level of documentation available. Figure 1 shows a map of the case studies.

NOTABLE PRACTICES

While FHWA does not intend the case studies to represent best practice or endorsement of the specific approaches used, the case studies highlight notable practices in six key areas:



Meaningful Public Involvement – States used techniques that provided a meaningful opportunity for the public to review and comment, understand tolling and pricing options, and inform project features. The Colorado DOT initiated a “virtual town hall” approach for the I-70 Mountain Express Project that enabled more participation and more meaningful input than typical public meetings, recognizing that many users of the facility do not live in the immediate area. The Ohio River Bridges

Project team hired a trusted liaison to lead engagement with environmental justice communities, and conducted surveys in local neighborhood gathering places, such as grocery stores, to solicit participation from targeted stakeholders. During the environmental analysis process for the I-35W North Corridor project, MnDOT hosted 10 public engagement activities at various apartment complexes and provided food and space for kids since public meetings in the early evening can overlap with meals or other family activities.



Environmental Justice – States demonstrated practices in environmental avoidance, minimization, and mitigation to address the socioeconomic impacts to minority and low-income populations because of tolling and road pricing, including highlighting innovative, collaborative, and/or cost-effective approaches to mitigation to align projects with the best overall public interest. The Indiana DOT and Kentucky Transportation Cabinet conducted extensive analysis of how different toll levels on the Ohio River Bridges Project would affect their environmental justice communities so that they could design and develop their program to be more equitable. The 183 North Mobility project conducted a project-level EJ tolling analysis as part of its Community Impact Assessment Technical Report, and as a result, added in a fourth general purpose lane in addition to express lanes to alleviate a bottleneck. Additionally, buses will be able to use the express lanes toll-free, enabling more reliable transit along the route.

Figure 1. Map of case studies.





Multimodal Travel Considerations – Some projects considered multimodal travel options in the travel corridor overall and in the NEPA reviews when adding road pricing. The I-405 Renton to Bellevue project incorporates the construction of a direct access ramp and inline transit

station to support Bus Rapid Transit operations, which is the selected high-capacity transit mode envisioned in the Tier 1 Environmental Impact Statement (EIS) for the corridor. The Tappan Zee Hudson River Crossing Project design did not preclude future transit services, while adding a new pedestrian and bicycling path.



Travel Forecasting and Traffic Impacts – Recognizing that pricing influences travel choices, agencies have conducted forecasting for tolling and road pricing projects and assessed potential effects of traffic diversion on traffic impacts on neighboring streets, highways, and

communities. In the Elgin O'Hare West Bypass Project, the Illinois DOT closely coordinated with the metropolitan planning organization (MPO) for the Chicago region to ensure consistency of modeling approaches and to examine impacts to the adjacent street network as a result of traffic diversion. Analysis for the Transform I-66 Outside the Beltway project in Virginia assessed four different tolling options using different combinations of toll rates per mile and showed that the project would actually help to reduce travel on other roads. For the Complete 540 project in North Carolina, planners conducted a unique travel forecasting and traffic impacts analysis by developing a set of project-specific socioeconomic data to reflect a future no-build condition that specifically excluded the effect of the project on population and employment after the MPO's regional travel demand model was updated.



Planning and Environment Linkages (PEL) or Tiered NEPA Reviews – Several case studies

leverage the outcomes of transportation planning activities or tiered NEPA reviews to inform and accelerate the project-level NEPA reviews of tolling and road pricing projects. To align with the existing vision for the corridor, the Minnesota DOT completed a corridor study for I-35W North, which developed a vision for improvements including managed lanes to be completed as separate projects; the breakdown of phases from the system study was used to support logical termini for the NEPA review. The I-70 Mountain Express Lanes in Colorado and the I-66 Outside the Beltway project in Virginia each used a Tier 1 EIS to identify improvement concepts for the corridors, followed by project-level analyses that were classified as two Categorical Exclusions (CEs) for the I-70 Mountain Express Lanes and an Environmental Assessment (EA) resulting in a Finding of No Significant Impact (FONSI) for the I-66 Outside the Beltway project.



Environmental Analysis – As agencies conduct environmental review for toll and road pricing projects, they exemplify many practices associated with developing a project purpose and need statement, identifying alternatives, and evaluating the potential environmental impacts of projects.

NEPA documents explored alternatives that included priced and non-priced lanes or different variations of pricing. For instance, the San Diego Freeway project explored alternatives including both general purpose lanes and high occupancy toll (HOT) lanes; in contrast, the Ohio River Bridges Project evaluated tolling as a financing mechanism in a Supplemental EIS. In the Elgin-O'Hare West Bypass Project, early dialogue between FHWA and project sponsors supported the process for evaluating tolling in the alternatives analysis in relation to purpose and need.

The chart below summarizes the practices highlighted by each of the ten case studies. This chart is intended to be a guide to help practitioners choose the case study that discusses the specific notable practice(s) that they wish to learn more about. See above for a key of notable practices.

Chart 1. Notable Practices by Case Study

183 North Mobility Project	
Complete 540 Project	
Elgin O'Hare West Bypass Project	
I-35W North Corridor MnPASS Project	
I-405 Renton to Bellevue Widening and Express Toll Lanes Project	
I-70 Mountain Express Project	
San Diego Freeway I-405 Improvement Project	
Tappan Zee Hudson River Crossing Project	
Transform 66 Outside the Beltway	

FACTORS TO CONSIDER

In addition to the notable practices highlighted in the case studies, the development of tolling and road pricing projects merits consideration of some issues that go beyond those typically addressed for projects without tolling. Transportation agencies may wish to consider the following questions or issues.

- **What types of pricing might agencies consider for a project?** Road pricing involves direct charges for use of roads, and includes use of tolls, which agencies charge based on use of specific facilities, as well as strategies such as vehicle miles traveled (VMT) fees. In the context of a transportation facility, agencies may charge tolls either at fixed or variable toll rates, and may implement them in different ways:
 - Agencies may charge **fixed tolls** at a certain **point on a facility** (e.g., a fee to cross a bridge) or **based on distance** (e.g., a fixed schedule of rates between different points along a toll roadway). Under fixed pricing, tolls may differ by vehicle type but not by time of day.
 - **Variable tolls** describe fees that vary over the course of a day. Toll rates may be **pre-scheduled** to vary at different times of day or week, such as different charges during peak and off-peak periods. Toll rates also may be **dynamic**, which means that fees change based on demand for the facility (sometimes as frequently as every three minutes) in order to manage congestion.

The purpose of the project may influence the consideration of pricing approaches. For example, an agency may implement fixed tolls to generate revenue to fund construction and maintenance of a facility, and the need for the project may be independent of the tolls. In contrast, while variable pricing also generates revenue, an agency may implement a variable rate schedule or dynamic pricing to manage demand on a facility. Agencies may also consider other factors in setting a tolling structure. For instance, agencies may charge high-occupancy vehicles (HOVs) reduced rate tolls or be non-tolled in order to encourage HOV use.

- **Does FHWA have a role in approving toll rates on highways, bridges, and tunnels?** No. Decisions regarding the amount of the toll rates to be charged for the use of a toll facility are to be made solely by the public authority with jurisdiction over the facility or the private operator of the facility. These decisions require no review or input from the FHWA. Although 33 U.S.C. 508 requires that the toll rates for bridges constructed under the authority of the General Bridge Act of 1906, the General Bridge Act of 1946, or the International Bridge Act of 1972 be just and reasonable, the FHWA has no authority to review or to determine whether this standard is being met on such a facility. Other tolling policy decisions, such as whether tolls will be collected on one direction of travel or both, the classes of vehicles upon which tolls are charged, and any toll exemptions or discounts for designated users, are also at the discretion of the public authority or private operator.
- **What role does tolling play in relation to the project purpose and need?** Clearly defining the purpose and need of a project is essential in establishing a basis for the development of the range of reasonable alternatives and assists with the identification of a preferred alternative. The [AASHTO Practitioner's Handbook](#) describes different ways in which agencies can incorporate tolling into the purpose and need for a project. The purpose and need statement can be "tolling-neutral" in order to allow for the consideration of both tolled and non-tolled alternatives. However, the *Handbook* advises that when the planning process has provided a foundation for using tolling (such as the development of a regional network of tolled lanes), tolling can be directly included in the project purpose and need, which would eliminate the consideration of non-tolled alternatives. In some cases, a project may not be possible to develop without tolling. Moreover, a purpose and need focusing on travel time reliability and support for transit or high-occupancy modes may connect directly to tolling.
- **How will an agency use toll revenue?** Imposition of tolls generates revenue, even for projects where the intent of road pricing is to manage congestion. Although not typically stated in a NEPA document, it may be useful for project sponsors to consider how they could use revenue. FHWA's [Federal Highway Tolling Programs Fact Sheet](#) notes that Federal tolling programs include restrictions on the use of toll revenues generated by the facilities that receive tolling authority.
 - Under the mainstream tolling programs (23 U.S.C. [129](#) and 23 U.S.C. [166](#)), toll revenue "may be used for debt service, to provide a reasonable return on investment to any private party financing a project, for the operations and maintenance (including capital improvements) of the toll facility, and payments between public and private partners involved in a public-private partnership." If the public authority responsible for the toll facility certifies adequate maintenance of the facility, that agency may also use toll revenues for other purposes eligible under Title 23 (i.e., other transportation facilities).
 - The [Interstate System Reconstruction and Rehabilitation Pilot Program](#) (ISRRPP) includes similar restrictions but does not allow use of toll revenues on other facilities.

- The [Value Pricing Pilot Program](#) (VPPP) allows agencies to use toll revenues to mitigate the adverse effects of tolls on low-income drivers, in addition to project-related costs and other Title 23 uses.

Under the aforementioned programs, agencies operating toll facilities must undergo annual audits to ensure compliance with the limitations on the use of toll revenues. Additional information is provided in the FHWA Center for Innovative Finance Support's [Tolling and Price Frequently Asked Questions](#).

- **Should transportation agencies use a public-private partnership (P3) approach for project development?** Consideration of P3s in the development of transportation improvements can result in a creative and efficient project development process and provide capital to address the transportation issues. As with all projects receiving Federal-aid, project sponsors are responsible for ensuring that P3 projects demonstrate compliance with NEPA. Since P3 contracts include a design-build component, there may be special considerations during the procurement process regarding the extent and timing of private sector involvement in project development/design and the proposed design of the project itself. [Public-Private Partnership Oversight: How FHWA Reviews P3s](#) provides guidance for State and local transportation agencies and the private sector to understand how FHWA conducts stewardship and oversight of Federal-aid projects that consider or involve P3s.
- **What impacts from tolling or road pricing projects may merit additional attention during the environmental review process?** While most analyses of tolling and road pricing projects' impacts on the environment will be similar to non-ttolled projects, pricing can raise issues in relation to traffic impacts (including indirect effects on alternative routes due to traffic diversion) and environmental justice considerations, particularly in regard to low-income populations.
 - The addition of tolling to a facility, and the form of tolling that agencies use (e.g., fixed, variable, or dynamic tolling) may impact travel patterns. The NCHRP Report on [Assessing Highway Tolling and Pricing Options and Impacts: Volume 2: Travel Demand Forecasting Tools](#), discusses modeling to support pricing studies. Moreover, changes in traffic patterns can have impacts on other environmental issues, such as noise and air quality. In general, the methodologies for environmental impact analyses themselves do not differ for a tolled project compared to a non-ttolled project, but the results of analysis may differ for tolled and non-ttolled alternatives due to differences in traffic patterns.
 - The impact on low-income communities is a concern. Several studies specifically address EJ in relation to tolling. For instance, FHWA developed a [Guidebook for State, Regional, and Local Governments on Addressing Potential Equity Impacts of Road Pricing](#), which provides guidelines to consider. The, [NCHRP Report 860: Assessing the Environmental Justice Effects of Toll Implementation or Rate Changes](#), includes a process framework for assessing effects, and includes a “toolbox” with case examples, reference tables, checklists, and scenarios. These references include examples of mitigation efforts to address potential adverse impacts, including development of toll credit programs for low-income populations and use of toll revenues to support transit and other options, including new bus services, park-and-ride facilities, or pedestrian access improvements.