

Impact of Project Delivery Method on Stakeholder Issues and Involvement Practices in Megaprojects: Evidence From Fixed Crossing Case Studies

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ABSTRACT

As the scale and scope of infrastructure projects have increased, so too has the array of stakeholders either involved or impacted. Such projects often take years to come together and evolve with time through the actions of project sponsors and the engagement of various stakeholders. Stakeholders through engagement and input can help legitimize and improve large-scale project initiatives. Stakeholders can also marshal opposition that can delay or block these projects. Consequently, the significance of stakeholder involvement is critical in megaprojects.

Governments have increasingly utilized public-private partnerships (PPPs) for megaproject delivery. This method introduces characteristics that distinguish PPP megaprojects from others such as: private control, profiteering, foreign profits, and long-term concessions. This study investigates whether differences exist between PPP and non-PPP megaprojects with respect to stakeholder involvement strategies and stakeholder issues raised in such projects.

This research employed a longitudinal multiple case study approach that examined four tolled fixed crossing megaprojects; two of them were delivered as PPPs and two were delivered as design-build (i.e. non-PPP). The approach followed the design of prior studies in this area by De Schepper, Doms, and Haezendonck (2014) and Winn (2001). Pre and post milestone event analysis captured trends and shifts in involvement strategies and stakeholder issues. Subsequently, stakeholder issue tables (organized by issue themes) and stakeholder mechanism tables (organized by mechanism type and information flow) were utilized for *across* case synthesis and comparison to identify similarities and differences.

Analysis of stakeholder involvements across cases showed that NEPA establishes a baseline for involvement, but its requirements are not sufficient for megaprojects; a more comprehensive strategy is necessary. Further, although participatory involvements may be beneficial particularly in complex settings, these mechanisms must be carefully managed in terms of process and criteria for evaluating stakeholder input. Additionally, when private partners/contractors are involved in megaprojects, they become part of the project team and support a coordinated involvement approach. Examination of stakeholder issues indicated that issues that are common to non-PPP and PPP projects are more prevalent than PPP specific issues. In particular, issues related to tolling are dominant; moreover, toll affordability is extremely sensitive, and its severity is predictable based on affected area demographics and past toll escalation practices.

The study provided insights about how megaprojects are shaped through actions of project sponsors as well as impacted and interested stakeholders. It also demonstrated how these projects become artifacts of aspiration for politically powerful figures. Lastly, it identified the main stakeholder issues and suggested a set of guidelines to assist future practitioners in developing better stakeholder involvement strategies, which should both enhance and legitimize megaprojects.

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GENERAL AUDIENCE ABSTRACT

Megaprojects are large in scale and scope and they impact and involve a large array of stakeholders. These projects often take years to come together and evolve over time through the actions of project sponsors and the involvement of many stakeholders. Through engagement and input, stakeholders can help legitimize and enhance megaprojects. Stakeholders can also delay or block these projects through oppositions. Therefore, stakeholder involvement is critical in megaprojects.

Public-private partnerships (PPPs) are becoming more prevalent for megaproject delivery. This delivery method introduces characteristics that distinguish PPP megaprojects from others such as: private control, profiteering, foreign profits, and long-term concessions. This study, through a multiple case study approach, investigates whether differences exist between PPP and non-PPP megaprojects with respect to stakeholder involvement strategies and stakeholder issues raised in such projects.

This research showed that although project sponsors follow the National Environmental Policy Act (NEPA) as a baseline in developing megaprojects, the NEPA requirements are not sufficient and a more comprehensive strategy is necessary. Furthermore, although stakeholder participation in deliberative decision making may be beneficial in megaprojects, these mechanisms must be carefully managed in terms of process and criteria for evaluating stakeholder input. Additionally, when private partners/contractors are involved in megaprojects, they become part of the project development team and support a coordinated stakeholder involvement approach.

This study also indicated that stakeholders are primarily concerned about issues that are common between PPP and non-PPP megaprojects rather than PPP specific issues. In particular, tolling is the main concern of the stakeholders. Moreover, toll affordability is a main stakeholders' concern behind tolling issue and the severity of the issue is predictable based on affected area demographics and past toll escalation practices.

The study demonstrated how megaprojects are shaped through actions of project sponsors as well as impacted and interested stakeholders. It also demonstrated how these projects become artifacts of aspiration for politically powerful figures. Lastly, it identified the main stakeholder issues and suggested a set of guidelines to assist future practitioners in developing better stakeholder involvement strategies, which should both enhance and legitimize megaprojects.

To Malihe,
my lovely and amazing wife,
whose sacrificial care for me and our daughter, Zahra,
made it possible for me to complete this work

To Zahra,
who brings joy to our lives,
and whose smile gave me strength

To my lovely parents,
Bahman & Zahra,
for their unconditional love and support

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Chapter 1. Introduction

1.1. Megaprojects

As the scale and scope of infrastructure projects have increased, so too has the array of stakeholders either involved or impacted. Indeed, we have arguably entered the era of the infrastructure megaproject (Altshuler & Luberoff, 2003), and such projects are a “completely different breed in terms of their level of aspiration, lead times, complexity, and stakeholder involvement” (Flyvbjerg, 2014). Such projects often take years to come together and evolve with time through the actions of project sponsors and the engagement of various stakeholders (D. R. Lessard & Miller, 2013). Stakeholders through engagement and input can help legitimize and improve large-scale project initiatives. Stakeholders can also marshal opposition that can delay or block these projects. Consequently, the significance of stakeholder involvement is critical in megaprojects.

As infrastructure megaprojects evolve from conception to operation, numerous decisions are made that influence the nature of the project as well as the potential issues or concerns that stakeholders may have. Among them is the delivery method. While various delivery options are available, governments worldwide have increasingly utilized public-private partnerships (PPPs) for megaproject delivery. This method introduces characteristics that distinguish PPP megaprojects from others. PPPs involve the contractual transfer of certain rights and obligations from the public sector to the private sector such as the collection of tolls and the responsibility for service provision. Consequently, the private enterprise has greater “control” over a project’s development and operation than is conventional.

Given the significance of stakeholders in megaprojects and the emergence of PPP as a delivery method for megaprojects, this study aims to investigate the impact of delivery method on core issues raised by stakeholders as well as stakeholder involvement strategies employed in megaprojects.

1.2. PPP and non-PPP megaprojects’ characteristics and issues

The literature has taken note of the unique characteristics of PPPs. Some literature has represented possible strengths of PPPs such as improvements in productive efficiency and lifecycle integration (Grimsey & Lewis, 2007). Another body of literature has identified a number of potential issues in PPPs ranging from broad concerns such as transparency and legitimacy (Flinders, 2005; G. A. Hodge & Greve, 2007; Shaoul, Stafford, & Stapleton, 2012) to specific matters such as private sector opportunism (Froud, 2003; Skelcher, 2005) and public sector “lock-in” effects (G. A. Hodge & Greve, 2007). Similarly, infrastructure megaprojects come with their own characteristics and issues such as large footprints, high asset specificity,

and numerous potential externalities and unintended consequences (D. R. Lessard & Miller, 2013; Wen Feng, Lessard, & Bruce, 2013). Hence, both PPP and non-PPP megaprojects generate a range of potential issues and either involve or impact a number of stakeholders.

1.3. Need for the study

Despite the significance of stakeholders and the range of stakeholder issues in megaprojects, literature focused on stakeholder involvement in megaprojects in general and in PPP megaprojects specifically is scarce. In particular, empirical evidence of the concerns expressed by stakeholders and the mechanisms employed for stakeholder involvement in such projects is quite limited. This research aims to rectify this circumstance through a case study investigation of four fixed crossing megaprojects where Elizabeth River Tunnels (ERT) and East End Crossing (EEC) projects are delivered as a PPP and Tappan Zee Bridge Replacement (TZBR) and Downtown Crossings (DTC) projects are delivered as design-build. This design will allow examining the influence that the method of delivery can have on the stakeholder involvement mechanisms used and the stakeholder issues raised.

Such examination will involve identifying key milestone events (i.e. the points where either a new aspect of the project is introduced or a certain milestone is achieved) in the lifecycle of the selected cases and conducting pre and post milestone event analysis for each case. The pre and post analysis entails analyzing available secondary sources of data (i.e. public hearing transcripts, online forums, or social media) where stakeholders have expressed statements or opinions or have commented about the project. With such analysis both stakeholder issues raised and involvement mechanisms employed are identified, tracked, and recorded for each project to facilitate examining the influence of the delivery method and other internal and external factors – i.e. demographics and political environment – within each project case and across cases.

1.4. Intent of research and organization of dissertation

This study provides insights about patterns or shifts in stakeholder issues as certain key decisions are made in the development of megaprojects, including adopting a PPP method to deliver such projects. It also identifies impacts of the key decisions on the stakeholder involvement strategies in those projects, such as: fast-tracking the development process.

Further, the study provides insights from interviews of public and private representatives involved in the cases about the actual benefits obtained and challenges faced in their stakeholder involvement programs.

These insights aim to answer the two main research questions in this study:

- *How do project sponsors involve impacted and interested stakeholders as megaprojects evolve?*
- *How do impacted and interested stakeholders respond as megaprojects evolve?*

To investigate these questions, the subsequent chapters are organized as follows:

Chapter 2 presents a comprehensive review of relevant literature on characteristics and issues in PPP and non-PPP megaprojects. Also, this chapter discusses what current literature states about stakeholders in megaprojects as well as benefits and limitations of stakeholder involvement in these projects.

Chapter 3 presents the overall approach for this study. It explains the research questions and the approach that was adopted to answer those questions.

Chapters 4 through 6 present each of the project cases and identifies stakeholder issues raised and stakeholder involvement strategies of individual cases through pre and post event analysis.

Chapter 7: examines patterns and shifts in stakeholder issues and stakeholder involvement strategies across the cases.

Chapter 8: in conclusion, this chapter summarizes six major contributions of this study along with its limitations and suggestions for future work.

Chapter 2. Literature Review

PPPs have emerged in the contemporary era as a consequence of two other phenomena: megaprojects and new public management. Megaprojects are increasingly the preferred model for the development of large-scale projects with a significant social purpose such as high-speed rail, airports, seaports, highways and other systems (Flyvbjerg, 2014). New public management is a shift in the approach to the provision of public services where governments rely more extensively on public-private collaborations for the provision of goods and services; these collaborations are often founded and monitored via a contract between a public agency and a private enterprise (Froud, 2003; Lane, 2000). Hence, as infrastructure megaprojects are conceived and shaped they are increasingly delivered as public-private partnerships.¹

The significance of stakeholders in PPP megaprojects is pronounced. Inherently, megaprojects bring together multiple parties in market and non-market environments – by necessity since numerous entities are directly engaged in the lifecycle of project activities and by consequence since many entities are either impacted or interested in such endeavors. Likewise, the public-private arrangement entails the exchange of certain activities and rights from the public to the private sector that can prompt negotiations between the principal public and private agents as well as serious questions about the legitimacy of the arrangement by other stakeholders (R. Miller & Lessard, 2001).

In the subsequent sections, megaprojects are first discussed as characterized in relevant literature. Their characteristics and typical issues are identified. Second, PPPs, as a delivery method, are defined, and their distinct issues covered in the literature are discussed. Third, stakeholders and stakeholder involvement and management in the context of public administration and project management are presented along with the potential benefits and costs. Then, stakeholder involvement in PPPs is described followed by a summary of the literature reviewed, which identifies the research opportunity proposed.

2.1. Megaprojects

2.1.1. Overview

Megaprojects are “large-scale, complex ventures that typically cost US\$1 billion or more, take many years to develop and build, involve multiple public and private stakeholders, are transformational, and impact millions of people” (Flyvbjerg, 2014). Their rise in the latter half of the 20th century was precipitated by the need to interconnect or expand regional and national systems that support socioeconomic activities such as surface and air transportation networks, electric grids, and water supply; such projects build solutions to unmet needs, push the envelope of technology, and bring together a diverse set of project stakeholders and actors (D. R. Lessard & Miller, 2013). Trends suggest that the 21st century will see an increase in both the number and scale of such projects (Flyvbjerg, 2014).

¹In some cases, the opposite has occurred – the Private Finance Initiative (PFI) in the United Kingdom is an example of where national policy drove PPP arrangements for all large-scale projects/megaprojects.

2.1.2. Characteristics and typical issues

Megaprojects are the result of technological advancements and the need to combine such advancements into large and complex systems to satisfy a set of recognized needs in the community and improve human life (Wen Feng et al., 2013). Megaprojects have large footprints which impact and interest a wide range of stakeholders whom often are networked (Lin, Er-shi, & Bo, 2008) and have conflicting interests and expectations (Fiori & Kovaka, 2005; Mok, Shen, & Yang, 2015). These projects typically have a significant social purpose (Fiori & Kovaka, 2005), uniqueness and specificity (Lin et al., 2008), and numerous potential externalities and unintended consequences (Wen Feng et al., 2013). Given the high level of complexity in megaprojects (Antoniadis, Edum-Fotwe, & Thorpe, 2011; Giezen, 2012) and their considerable scale (Wen Feng et al., 2013), these projects demand a long time to develop, over multiple phases, through the actions of project sponsors and the engagement of various stakeholders (M. D. R. Lessard, Bruce, & Crawley, 2013).

These megaproject characteristics will consequently invoke a number of potential stakeholder issues. In megaprojects, certain groups of stakeholders may seek to pursue their own interests and objectives; therefore, in many cases, the vested interest of a group of stakeholders may jeopardize the benefits of other groups. Subsequently, an issue that may be very important to a certain stakeholder group, may be the lowest priority of other groups; this may result in stakeholder disagreements and exacerbate stakeholder issues in these projects. The issues are typically related to a project's purpose, scope, location, funding schemes and other impacts. For example, R. Miller and Lessard (2001) argue that the purpose and value proposition of megaprojects has to be negotiated and agreed upon with impacted and interested stakeholders to improve social acceptability and success of a project. Similarly, scope issues are common as stakeholders contend for modifications – often to expand the project's resulting level of service. Within highway megaprojects, the inclusion of public transit is often urged such as accommodations for Bus Rapid Transit (BRT) within the scope of the project (Levinson, Zimmerman, Clinger, & Rutherford, 2002). Furthermore, Not-In-My-Backyard (NIMBY) is a common phenomenon in megaprojects and is a consequence of a project's intended location. This issue may be perceived differently by stakeholders depending upon their positions and interests. Some may see it as a selfish, intolerant, and short-sighted act (Mcclymont & O'hare, 2008); while, others perceive it as a protest to bring equity and fairness to the community (Wolsink, 2007). Other common issues raised are related to the funding schemes, particularly user fees (tolls). Stakeholders often argue that tolls prevent low-income citizens from accessing public services (Davies & Eustice, 2005); some may perceive tolls as double-taxation arguing that the public facility has already been paid for by their taxes, therefore, tolling is double-taxation and unfair (Arnold, Ankner, & DeCorla-Souza, 2012). Additional stakeholder issues on megaprojects are linked to their biogeophysical and social impacts on the environment and societies such as: deforestation, landslides and degraded water quality as well as planned evictions and resettlements (Gellert & Lynch, 2003).

2.2. Public-private partnerships

2.2.1. Overview

At the project level, a PPP is a delivery method that entails a long-term contractual agreement between a public and a private entity where the private entity provides bundled project lifecycle services,

assumes responsibility for acquiring the necessary financing – typically through structured project finance where private equity is at risk (Garvin & Bosso, 2008; Yescombe, 2007). Utilization of a PPP as a project delivery approach introduces a number of unique characteristics. Foremost, a private entity is engaged via a long-term contract to develop a project; this gives the private entity a broader set of responsibilities and risks than a conventional infrastructure project. The scope of the responsibilities assumed by the private entity will vary from contract to contract, but this entity will have significant influence and control over the design and construction process, operational services and asset management; typically, these activities are governed by performance standards or metrics established in the contract. In addition, the private entity may have the right to collect and manage user fees (or tolls) in accordance with the contract. Further, the private entity arranges the financing, and the primary private sponsors contribute equity as part of the overall financial package; consequently, these sponsors expect a return on their investment.

2.2.2. Issues distinct to PPPs

The characteristics of PPPs can incite a range of issues that are rather distinct to this delivery model. Some argue that the involvement of the private sector in PPPs introduces the private sector's efficiencies, management skills, and economies of scale to projects (Grimsey & Lewis, 2002; Mayer, 2007). Others claim that the ownership and long-term control of the private sector facilitate success in PPPs by incentivizing the private-sector for larger upfront investment in the construction phase to achieve lower lifecycle maintenance costs and a higher quality asset (Grimsey & Lewis, 2007); it also encourages the private partner to undertake relation-specific cost saving investments to increase productive efficiency (Duffield & Raisbeck, 2007; Grimsey & Lewis, 2007). Furthermore, bundling of services (i.e. design, construction, operation, and maintenance) in PPPs offers higher efficiencies in public service provisions by internalizing externalities between the construction and operation phases (Blanc-Brude, Goldsmith, & Valila, 2006; Duffield & Raisbeck, 2007).

On the other hand, the involvement of the private sector with its information asymmetry and often opposing goals and interests with respect to its public partner, can introduce opportunistic behaviors and lengthy negotiations; subsequently, such actions may result in higher transaction costs, negative externalities (Ho & Tsui, 2009; Vining & Boardman, 2008), and work quality issues in PPPs (Shaoul et al., 2012; Skelcher, 2005).

G. A. Hodge and Greve (2007) also claim that the long-term nature of PPPs freezes the public-sector's budget for decades, the "lock-in effect;" this circumstance is amplified if the contract prohibits the public sector from future service developments in the region, mostly due to non-compete clauses that are often inserted in PPP agreements (DiNapoli, 2013; G. Hodge, 2006). PPPs may also enhance tensions and promote blame culture between successive governments that do not share the same goals and policies (Forrer, Kee, Newcomer, & Boyer, 2010; Shaoul et al., 2012).

Furthermore, the private-sector's ownership and control of the asset may undermine the lines of public accountability since public sector representatives are reluctant to accept responsibility for delegated functions (Flinders, 2005); it may also encourage the private-sector to set tolls at profit maximizing levels, which reduces the productive efficiency of the project (Ortiz & Buxbaum, 2008).

Commercial confidentiality and secrecy, which are part of the core value set of the private-sector in pursuit of its competitive advantage, are frequently protected in the contractual processes of PPPs; this creates transparency issues and hinders public accountability (Demirag, Dubnick, & Khadaroo, 2004; Shaoul et al., 2012). As Flinders (2005) puts it, this may undermine the claimed efficiency gains by PPP proponents. Furthermore, potential conflicts of interest of the public-sector in PPPs – as the policy advocate, economic developer, steward of public funds, elected representative for decision-making, regulator over the contract life, commercial signatory to the contract, and the project planner – erode public accountability measures and legitimacy in PPPs (G. Hodge & Greve, 2010; G. A. Hodge & Greve, 2007; Shaoul et al., 2012).

Given the delegated autonomy of the private-sector and the undermined accountability assumptions in PPPs, stakeholders and the public in particular may find it difficult to “trust” the public and private parties involved these arrangements, which may create further issues (Demirag & Khadaroo, 2008; Flinders, 2005; Smyth & Edkins, 2007).

With respect to the concept of transferring risks to the private-sector in PPPs, Ho and Tsui (2009) suggest that PPPs actually increase the risks borne by the public-sector because these projects are often too important to fail, and governments intervene to bail out the private-sector if projects go wrong. This is called the syndrome of “soft budget constraints,” which was also observed in the case study conducted by Halachmi (2010) where the public-partner had to dig into its reserved funds to help the private-partner deal with the unexpected and significantly increased cost of fuel.

Lastly, in PPPs foreign entities are often involved in the projects as capital investors, advisors, design-builders, or facility operators. This structure entitles the foreign entities to receive either availability payments or directly collect user fees as a return for their investment for the work performed. Some have raised this issue, arguing that the revenues earned from infrastructure should be reinvested domestically to improve infrastructure rather than allowing the profits to flow to private investors from other countries (Ruiz, Elliott, & Ratcliffe, 2009).

In summary, the literature has covered a host of PPP issues with many concerns identified. Table 2.1. provides a summary of the major concerns discussed. Certainly, some of the higher level issues such as legitimacy may be present in any project, but PPPs tend to amplify such issues. However, some issues such as private sector profiteering, public-sector “lock-in”, and foreign profits are quite distinct to PPPs.

Table 2.1. Summary of the issues raised in PPPs

PPP issues	Source
Information asymmetry in PPPs	Skelcher (2005); Shaoul et al. (2012)
Transparency and public accountability	Demirag et al. (2004); Shaoul et al. (2012)
Legitimacy	G. A. Hodge and Greve (2007); G. Hodge and Greve (2010); Shaoul et al. (2012)
Blame culture and tension between successive governments	Forrer et al. (2010) and Shaoul et al. (2012)
Opportunistic behavior of the parties	Skelcher (2005), Ho and Tsui (2009)
PPPs being inefficient	Flinders (2005)
Conflicting interests of the public-sector in PPPs	G. Hodge and Greve (2010)
High transaction costs and negative externalities	Vining and Boardman (2008)
“Lock-in” effect	G. A. Hodge and Greve (2007)
Higher risks to the public-sector (soft budget constraints syndromes)	Ho and Tsui (2009); Halachmi (2010)
Lack of “trust” of project sponsors	Flinders (2005); Smyth and Edkins (2007); Demirag and Khadaroo (2008)
Profiteering of the private-sector	Ortiz and Buxbaum (2008)
Foreign profits	Ruiz et al. (2009)

2.3. Stakeholder Involvement and Management

2.3.1. Stakeholders

The concept of stakeholder was first introduced by scholars at the Stanford Research Institute in the 1960s as a straightforward, if highly controversial idea, which expanded the definition of stakeholders beyond the exclusive stockholders (shareholders) of a firm and included those groups without whose support the organization would cease to exist (Olander, 2007; Stoney & Winstanley, 2001).

Subsequently, other scholars began examining the significance of citizens and citizen involvement in political and economic processes, which led to the pioneering work of Arnstein (1969) who introduced the citizen participation ladder. Freeman (1984) later extended the definition of stakeholder to include “any group or individual who can affect, or is affected by, the achievement of the organization’s objectives.” Freeman’s work established a clear and fundamental juxtaposition between serving the needs of shareholders through dividend maximization to serving the needs of a broader constituency of stakeholders (Stoney & Winstanley, 2001).

Subsequent to Freeman (1984), researchers have attempted to differentiate between stakeholders in different contexts. Hence, a number of stakeholder frameworks emerged such as: stakeholder identification and saliency by Mitchell, Agle, and Wood (1997) and Purdy (2012)’s framework for assessing stakeholders’ power. With time, interest in stakeholders migrated into other realms including project development and management where project sponsors must handle a variety of stakeholders. In the context of PPPs, stakeholders’ classification is quite challenging due to a higher complexity in

terms of types of stakeholders' relationships, their interactions, and responsibilities (De Schepper et al., 2014). A number of scholars have attempted to identify and categorize stakeholders in the context of megaprojects based on stakeholders' positions. These classifications include: inside and outside stakeholders (Newcombe, 2003); direct and indirect stakeholders (Smith & Love, 2004); internal and external stakeholders (Aaltonen, Jaakko, & Tuomas, 2008); and legal and moral stakeholders (Oyegoke, 2009). In the context of PPPs, El-Gohary, Osman, and El-Diraby (2006) has classified stakeholders into three groups: responsible, impacted, and interested stakeholders.

Given the challenges in stakeholder classification in PPPs and to maintain consistency with current literature in PPPs, this research employs the stakeholder typology suggested by El-Gohary et al. (2006) which classifies stakeholders into three main categories: *impacted stakeholders*, *interested stakeholders*, and *responsible stakeholders*. Impacted stakeholders are individuals or entities who are directly or indirectly affected by the project such as project users and local residents and land owners. Interested stakeholders are those who are not directly impacted by the project, but want to participate and provide opinion on the project such as environmental activists, Non-Governmental Organizations (NGOs), and chambers of commerce. Responsible stakeholders are those who have responsibility for the development of the project which may include project sponsors and agencies with statutory rights for project approval (Aaltonen et al., 2008; El-Gohary et al., 2006).

2.3.2. Stakeholder involvement²

The significance of stakeholder involvement in public administration and project management has been widely recognized by scholars (El-Gohary et al., 2006; Innes & Booher, 2004; Wallner, 2008). Stakeholder involvement may enhance legitimacy and political support for a policy initiative or a project (Boyer et al., 2015). The more stakeholders realize that their contributions are accounted for and concerns are heeded, the more legitimacy they will find in the initiative and the more likely they are to support it (Herian, Hamm, Tomkins, & Zillig, 2012). Subsequently, this may result in increased buy-in and longer-term support for the initiative (Nabatchi, 2010).

Stakeholder involvement can also familiarize stakeholders with the project or the initiative. According to Vigoda-Gadot, Beerli, Birman-Shemesh, and Somech (2007), when stakeholders are involved, they acquire a better understanding and more realistic perspective on specific issues, difficulties, and dilemmas that exist in a project; as a result, they can provide more practical input and help converge the issues to a practical solution (Bayley & French, 2008; Innes & Booher, 2004). Furthermore, better understanding of the issues will allow the public to take on the role of public scrutiny in identifying violations, applying community pressure, and enforcing laws to limit corruption (Ackerman, 2005).

² The terms *stakeholder involvement* and *public involvement* are commonly used in the relevant literature. This research draws a distinction between these two terms. *Stakeholder involvement* refers to activities that solicit input from individuals or organizations that are either affected by or affect the development of a project or have legitimate interests in it (El-Gohary et al., 2006). *Public involvement* refers to a range of activities that solicit citizen input on decision-making processes. Public involvement may be *indirect* through election of elected officials/leaders by citizens; or, it may be *direct* in forms of in-person events (i.e. public meetings and citizen juries) or virtual events (i.e. web-based forums) (Boyer, Van Slyke, & Rogers, 2015). The broader construct is used here since megaprojects and PPPs attract attention from a wide array of constituents.

Early involvement of stakeholders has been frequently claimed as one of the most essential factors leading to a quality outcome (Beierle, 1999; Chess & Purcell, 1999; Mackenzie & Krogman, 2005; Reed, 2008; Walters, Aydelotte, & Miller, 2000). Reed (2008) stresses the early involvement of stakeholders and suggests that in cases where early involvement is not feasible some flexibility be incorporated into the process to enable stakeholders to alter the process retrospectively. Without such flexibility, stakeholders' motivation to engage is undermined; this may place stakeholders in a passive position in the involvement process when they realize that they are involved at a point when key decisions have already been finalized (Chess & Purcell, 1999).

2.3.3. Information exchange and participation typologies

Information and information sharing are essential for an effective stakeholder involvement process. It is through information exchange that stakeholders are afforded means to express their needs and concerns and receive feedback (Nartey, Carolina, & Dorobantu, 2013). Also, availability of sufficient information to stakeholders is crucial for the effectiveness of such practices and can significantly elevate the quality of the outcome (Beierle, 1999; Darnall & Jolley, 2004). Therefore, information access and information exchange facilitate consensus building among stakeholders, decrease conflicts, and may result in more efficient, effective, and less costly participation (Burby, 2003; Hanna, 2000; Nartey et al., 2013).

Rowe and Frewer (2005) have also highlighted the significance of information exchange between stakeholders in stakeholder involvement practices and have introduced an involvement typology based on the nature and direction of information flow among stakeholders. Rowe and Frewer's stakeholder involvement typology categorizes involvement methods into three main groups: *communication*, *consultation*, and *participation*. Stakeholder *communication* is signified when information is conveyed from responsible stakeholders to impacted and interested stakeholders. Stakeholder *consultation* denotes exchanges in which information is conveyed from impacted and interested stakeholders to the responsible stakeholders, following a process initiated by the responsible stakeholders. Stakeholder *participation* is a concurrent two-way exchange of information between responsible stakeholders and impacted/interested stakeholders. Table 2.2 depicts a typology adapted from Rowe and Frewer.

Classification of certain involvement methods, identified in Table 2.2, differ from the classification assigned in this study. The author

Classification of the involvement mechanisms in this study is based on the actual nature of the information flow in such involvements; hence, such classifications may differ from the typology suggested by Rowe and Frewer in Table 2.2. For example, public hearing, public meeting, and open houses involvements are classified as *communication* in Table 2.2; however, based on the settings of these involvements in the cases and the actual nature of information flow, these involvements are classified as *communication* and *consultation* in this study.

Table 2.2. Involvement typology and methods adapted from Rowe and Frewer (2005)

Involvement approach	Information flow	Nature of information flow	Involvement methods
Communication	<i>Responsible stakeholders => impacted / interested stakeholders</i>	One-way	<ul style="list-style-type: none"> • Press release • Websites • Newspapers • Information broadcasts (i.e. email notifications) • Newsletters • Public hearing • Stakeholder interview • Open house • Public meetings³
Consultation	<i>Responsible stakeholders <=> impacted / interested stakeholders</i>	One-way	<ul style="list-style-type: none"> • Citizen panels • Focus group • Opinion poll • Study circle • Survey • Interactive website
Participation	<i>Responsible stakeholders <=> impacted / interested stakeholders</i>	Two-way	<ul style="list-style-type: none"> • Action planning workshop • Stakeholder deliberation • Citizens' jury • Consensus conference • Task force • Negotiations

2.3.4. **Benefits and costs of stakeholder involvement and methods**

As discussed previously, many have argued that stakeholder involvement creates many benefits including: building mutual trust among stakeholders (Edelenbos & Klijn, 2007; Richards, Carter, & Sherlock, 2004); allaying anxiety and hostility toward responsible stakeholders (Irvin & Stansbury, 2004); and developing more effective outcomes (Beierle, 1999). Many scholars suggest that more inclusive and

³ Public meetings which serve the purpose of informing the public (often with question-and-answer session at the end)

deliberative contributions of stakeholders yields higher benefits of participation (Beierle, 1999; El-Gohary et al., 2006; Emerson, Nabatchi, & Balogh, 2012; Fung, 2006). Moreover, including stakeholders and heeding their recommendations in the development process may enhance projects acceptance, smooth tensions amongst stakeholders and improve efficacy of the project (Bayley & French, 2008). A project that is well grounded in stakeholder preferences might be developed in a smoother and less costly fashion because the stakeholders will be more supportive of the project (Irvin & Stansbury, 2004). Furthermore, project sponsors may also benefit from stakeholder involvement through regular contact, learning which decisions are likely to be opposed and how to avoid/manage such decisions (Wallner, 2008).

Richards et al. (2004) suggest that stakeholder involvement enhances transparency and trust amongst stakeholders. Subsequently, stakeholder involvement may prevent adversarial relationships and reduce conflicts between stakeholders by creating common ground, where stakeholders can effectively work together and discuss issues; this is achieved by establishing trust amongst participants and helping them to appreciate the legitimacy of each other's viewpoints (Reed, 2008).

However, Innes and Booher (2004) argue that the majority of the legally required public involvement methods in the US (i.e. public hearings and review and comment procedures) are ineffective and create frustration and mistrust among the public. Irvin and Stansbury (2004) have also suggested conditions under which stakeholder involvement is inefficient, ineffective, and disadvantageous. For example: (1) when stakeholders are reluctant to participate and do not have sufficient interest in the project; (2) when the subject is highly technical and stakeholders' recommendations cannot be implemented; or (3) when stakeholders do not recognize the matter as an issue, stakeholder involvement is ineffective (Irvin & Stansbury, 2004). Further, it is unclear whether stakeholder involvement is a "check the box" process for project sponsors, done only to satisfy federal statutory requirements (Heikkila & Isett, 2007).

Given resource constraints, responsible stakeholders have to make tradeoffs between potential benefits and consequences when selecting certain stakeholder involvement methods (Jolley, 2007). In that regard, Jolley (2007) has provided a comparison between four common involvement methods (i.e. citizen survey, public hearings, stakeholder interviews, and public deliberation). *Citizen surveys* are used to solicit inputs and comments from citizens; this involvement method is a public consultation (Rowe & Frewer, 2005), a one-way information flow that transfers information from impacted/interested stakeholders to responsible stakeholders. It has relatively low cost and there is no opportunity for dialogue in this involvement method. *Public hearings* are classified as communication; it relies on the public to come to the hearing where information is exchanged rather than vice versa. The involved public is self-selected and biased in terms of those most proactive and interested. Information is transferred from project sponsors to those present and any return exchange depends on what participants either say or ask (Rowe & Frewer, 2005). *Stakeholder interviews* are one-way communication methods where project sponsors solicit detailed responses from stakeholders through interviews. This method, like a survey, is relatively inexpensive (Rowe & Frewer, 2005). *Public deliberations* are classified as public participation (Rowe & Frewer, 2005); in public deliberations, citizens decide on what they want individually and as a group. In deliberation mechanisms, participants usually exchange their perspectives, experience, and knowledge with one another about the matter and

collectively decide on potential solutions (Fung, 2006). Table 2.3 demonstrates the degree of commitment, opportunity for dialogue, and the cost of these common stakeholder involvement methods. In the proposed decision making table, Jolley (2007) demonstrates that public deliberations require a high degree of commitment among participants which entails higher costs; however, deliberations provide a high level of opportunity for full and open discussion which is fundamental for effective participation (Jolley, 2007).

Table 2.3. Decision making table from Jolley (2007)

Public engagement mechanism	Required degree of citizen commitment	Opportunity for dialogue	Cost
Citizen Surveys	Low	None	Moderately low
Public Hearings	Moderate	Low	Low
Stakeholder interviews	Moderate	Moderate	Moderately low
Public Deliberation	High	High	High

2.4. Stakeholder involvement and management in PPPs

To date, studies on stakeholder involvement and issues in PPPs are primarily limited to the work of El-Gohary et al. (2006) and the more recent works of De Schepper et al. (2014) and Boyer et al. (2015). El-Gohary et al. (2006) underscore the significance of soliciting and addressing stakeholders' input via stakeholder involvement to minimize stakeholder opposition. They propose a normative framework that suggests certain stakeholder involvement mechanisms based on certain external parameters. El-Gohary et al. (2006) also posit that the nature of communications in stakeholder involvement processes may vary depending upon the project development stage and the purpose of participation. For example, in planning and design phases the purpose of stakeholder engagement and participation is to inform and obtain stakeholder feedback regarding the most suitable design; therefore, two-way communication is appropriate. On the other hand, in the construction phase one-way communication may be more suitable for disseminating construction related information to the stakeholders.

De Schepper et al. (2014) study the impacts of different stakeholder management approaches of the private- and public-sector as project sponsors (the private and public focal organizations). They argue that the private project sponsors' approach in stakeholder management is more proactive while the public project sponsors' are more reactive. De Schepper et al. (2014) categorize stakeholders based on their level of influence on projects and suggest appropriate levels of engagement for each type of stakeholders. They also examined the level of stakeholder engagements in four different PPP cases using their suggested stakeholder engagement framework.

Boyer et al. (2015) examine the role and potential impacts of public involvement in various dimensions of PPPs through a survey study of public and private practitioners in the US with experience in transportation PPPs. Their findings indicate that early and direct involvement of stakeholders, where stakeholders have the opportunity to learn and express their views, may improve social and political support of the project as well as the public's perception of legitimacy. Boyer, Van Slyke et al. also suggest that stakeholder involvement may help tailoring the project design and implementation to local

conditions. Indeed, their survey results indicate that stakeholder involvement holds promise for addressing stakeholder issues that arise in PPPs.

2.5. Summary

Scholars have widely discussed the significance of stakeholder involvement in project management and policy development arenas (Ackerman, 2005; Bayley & French, 2008; Boyer et al., 2015; Emerson et al., 2012; R. Miller & Lessard, 2001; Reed, 2008; Richards et al., 2004; Wallner, 2008). While a number of scholars have focused on factors that enhance the effectiveness of stakeholder involvement practices (Beierle, 1999; Chess & Purcell, 1999; Reed, 2008; Walters et al., 2000), others have focused on potential costs and tradeoffs of stakeholder involvement (Innes & Booher, 2004; Irvin & Stansbury, 2004; Jolley, 2007).

The literature specific to PPPs identifies a range of issues or concerns that are quite distinct to this mode of project delivery including: public sector “lock-in” effect, lack of trust, private sector opportunistic behavior, private profiteering and foreign investor involvement. Hence, megaprojects delivered as PPPs will very likely have a greater sphere of issues than a typical megaproject. In addition, the stakeholder involvement literature reviewed suggests that proper involvement strategies can enhance stakeholder support for projects, which may alleviate such issues. Through deliberate involvement mechanisms, responsible stakeholders can let impacted (and interested) stakeholders be heard and to potentially participate in decision-making, thereby obtaining important input and fostering buy-in. Alternatively, trade-offs with respect to the benefits versus the costs of stakeholder involvement clearly are present – the greatest cost possibly is that involvement done for the sake of involvement can frustrate stakeholders and fuel opposition. Indeed, Boyer et al. (2015) suggest that an unanswered question in PPPs is whether involvement mechanisms contribute instrumental benefits to responsible stakeholders or whether responsible stakeholders simply do what is required by statute, i.e. the NEPA process.

Therefore, this research will take steps toward examining: *how responsible stakeholders involve impacted (and interested) stakeholders in megaprojects*, and *how impacted and interested stakeholders respond as such projects take shape*. In doing so, this research will examine the impact of the decision to deliver a megaproject as a PPP. In particular, this work is interested in distinguishing stakeholder involvement and stakeholder issues *within active projects* and determining: are the involvement mechanisms employed and the issues raised distinctly related to PPPs or are they common to megaprojects? To investigate this relationship, the following chapter outlines the main research questions in this study and details a research approach for addressing those questions.

Chapter 3. Research approach

The foregoing summary of characteristics and issues in megaprojects and the significance of stakeholders and their involvements in PPP and non-PPP megaprojects recognizes the role of stakeholders the stakeholder involvement strategies in these settings. The following sections present the research questions and the approach taken for answering those questions.

3.1. Research questions

Given the: recognized role that stakeholders play in megaprojects, the general tendency to deliver megaprojects as PPPs, the range of issues associated with PPPs, and the potential benefits (and costs) of stakeholder involvement, one might expect a host of studies examining stakeholder involvement in PPPs generally and in PPP megaprojects specifically. However, the literature to date is limited to studies by El-Gohary et al. (2006), De Schepper et al. (2014), and Boyer et al. (2015). Therefore, this research took steps toward filling this gap by examining stakeholder engagement practices and issues in PPP and Non-PPP megaprojects. In doing so, the following research questions were addressed:

1. How do responsible stakeholders involve impacted and interested stakeholders as megaprojects evolve?
 - a. What deliberative involvement mechanisms are used? Why are they used?
 - b. How does the delivery method influence the involvement approach?
 - c. How do issues raised by impacted and interested stakeholders influence the involvement approach over time?
 - d. How does the entry of a private enterprise in the project lifecycle impact the involvement approach?
2. How do impacted and interested stakeholders respond as megaprojects evolve?
 - a. What issues do impacted and interested stakeholders raise and focus on as key decisions are made or key milestones are reached?
 - b. What issues are shared among megaprojects, regardless of the delivery method?
 - c. What issues are distinct to the delivery method in a megaproject? More specifically, what PPP specific issues are raised?

3.2. Research design

To answer the questions posed, this research employed a longitudinal multiple case study approach that examined four fixed crossing megaprojects in the United States to examine stakeholder involvement practices and issues over time. These projects are tolled; two of them are delivered as PPPs and two are delivered as design-build (i.e. non-PPP). The approach followed the design of prior studies in this area by De Schepper et al. (2014) and Winn (2001).

Each case was developed by following the same process. First, project-related documentation and archival records were identified and collected from on-line sources or requested from project sponsors. Each project had a web-site and its archive section held numerous relevant documents. Additionally, web-based searches using the project's title generated various sources of data, and such searches also

identified major media outlets for each project as well as other sources of data such as blogs. Second, the identified documentation, records and on-line resources were sorted by date and a filing system was created to retrieve the data. Third, case narratives were developed to provide a general knowledge about each case. Fourth, project timelines were constructed to identify the major phases of each project: Planning, Procurement, and Design & Construction. In addition, the timelines were used to identify key milestone events that marked either the introduction of changes or shifts in a project's characteristics or the culmination of a change. These milestones represented moments where major decisions, processes, or actions started and ended such as: a modification in a project's scope or funding scheme like the decision to impose tolls to fund a project; start and completion of statutory requirements such as those mandated by the National Environmental Policy Act (NEPA); or start of construction.

Once each case's phases and key milestone events were identified, available documentation and archival records such as project-related announcements, press releases, public meeting transcripts, and media reports were collected for each case's phase and positioned according to the key milestone events. Additionally, stakeholder involvement mechanisms were identified by examining the available documentation and archival records. These involvement mechanisms were classified as NEPA and non-NEPA activities. NEPA activities were identified from NEPA related announcements and transcripts; non-NEPA involvements were initiated by the sponsors and were not related to the NEPA process. Additionally, involvement mechanisms were classified based on the nature of information flow as: communication, consultation, and/or participation.

In addition, semi-structured interviews with public and private representatives involved in the projects complemented the collected documentation and archival records and assisted in identification of the logic behind utilization of certain stakeholder involvement mechanisms, the nature of the involvement activities (i.e. NEPA versus non-NEPA), and the political context of the cases. The interviews were also used to understand the actual benefits attained and challenges faced by the project sponsors in their stakeholder involvement activities. This overall approach supported a chronological analytical technique (Yin, 2009) *within* each case.

Subsequently, stakeholders' expressed comments in the involvement activities were identified in the data and were analyzed following techniques prescribed by Miles, Huberman, and Saldaña (2013). In the first order coding, the major theme of the expressed comments were identified by analyzing the content of the comments. Then, the expressed comments were analyzed in second order coding to identify sub-themes. The frequency the themes and sub-themes of the comments were determined for each data source and positioned within each project's phase.

Pre and post milestone event analysis of the data allowed capturing how responsible stakeholders involved impacted and interested stakeholders and how impacted and interested stakeholders responded to an event by contrasting the themes and sub-themes of the comments before and after each milestone event. For instance, a scope-related decision to eliminate mass transit on a fixed crossing altered the stakeholder issues "discourse" about a project. By completing successive pre and post event analyses over a project's phases, the research uncovered how these milestone events had influenced the issues stakeholders raised (or continued to raise) and the involvement mechanisms

employed as the project evolved. Subsequently, *across* case synthesis and comparison utilized stakeholder issue tables (organized by themes of the expressed comments) and stakeholder mechanism tables (organized by mechanism type and information flow) to identify similarities and differences among the cases (Yin, 2009). The following sections describe the elements of the methodology in more detail. A complete guideline of the NEPA process and the requirements is presented in Appendix D.

3.3. Study propositions

In order to help answer the proposed research questions and to reinforce and expand existing theory, the following set of propositions were proposed:

- *Proposition 1A: Responsible stakeholders base their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process; this proposition is drawn from the existing literature that suggests involvement is done primarily to satisfy statutory requirements.*
- *Proposition 1B: Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project's phase or delivery method; this proposition is also derived from the literature and is based on the premise that the benefit/cost trade-off of such mechanisms is too low, i.e. benefits << costs, in both PPP and non-PPP megaprojects.*
- *Proposition 1C: The decision to deliver a project as a PPP does not markedly change the stakeholder involvement plan nor the mechanisms employed; this proposition is primarily exploratory in nature.*
- *Proposition 2A: Stakeholder issues that are common to non-PPP and PPP megaprojects are far more prevalent than issues that are specific to PPP megaprojects; this proposition is primarily exploratory in nature, although current literature on stakeholder issues in megaprojects portends that project-oriented issues should outweigh delivery method issues.*
- *Proposition 2B: Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues; this proposition is exploratory in nature.*
- *Proposition 2C: A PPP megaproject where the toll is collected by a private entity will generate more PPP specific issues than a PPP megaproject where the toll is collected by a public entity; this proposition is drawn from the literature about PPP-related issues.*

3.4. Selection of cases

In this study, four fixed crossing megaprojects are deliberately selected for their replication logic potential. These four projects were selected from a list of more than 28 megaprojects in the U.S. (these projects are listed in Appendix F). The pool of megaprojects in the U.S. is certainly larger than 28 projects; however, the preliminary pool of 28 projects were considered based on the delivery method, status, scale, and scope of megaprojects in the U.S. Subsequently, the 28 projects were meticulously examined for the availability of primary and secondary data related to the projects while considering other characteristics (i.e. delivery method, status, scale, and scope) for a feasible case study. After careful review of the cases from the preliminary project pool (the 28 projects), four megaprojects were selected for this study. Table 3.1 lists the selected megaprojects along with their main characteristics. Common characteristics among the projects include: scope, scale, tolls imposed, status, and era (or time

frame) of procurement/implementation. Key differences include: delivery method, location/jurisdiction and local demographics. For certain characteristics, variance is exclusive to a single case such as toll collector and procurement method.

Comparable characteristics of the cases support literal replication, i.e. identification of similar results across cases, while variance between certain characteristics supports explanatory analysis and theoretical replication, i.e. identification of different results across cases that are predictable *ex ante*. In this research, the principal variance of interest is the delivery method. Consequently, two of the cases are delivered via a PPP arrangement while the other two are delivered via design-build (DB). Literal replication is expected across the two PPP cases and across the two DB cases while theoretical replication is expected across the PPP cases and the DB cases. Specifically, the cases selected permit exploration of the impacts of the delivery method on stakeholder involvement strategies employed and the stakeholder issues raised.

In addition, rival explanations were considered when selecting the cases. Given the chronological analytical approach proposed, the strength of the pre and post milestone event analyses will dictate how robust the causal relationships observed are. For instance, a milestone event might be the decision to introduce tolls as part of the funding scheme for a project. The expectation is that this would alter the issues discourse, so expressed statements or published reports focused on tolling would now appear and perhaps escalate over time. Such a shift might not occur (or its magnitude will be less) if tolling is prevalent in the region or tolls already are in place on an existing fixed crossing. This is the situation with TZBR – tolling is prevalent in this region and tolls are in place on the current bridge. Including it among the cases allows examining the influence of this issue. Similarly, local or regional circumstances, such as demographics or the political landscape, may influence the presence and prevalence of various stakeholder issues, so a shift that might be attributed to a particular project milestone event could be the consequence of other factors not directly within the project environment. Having cases from varying jurisdictions and demographics can “control” for this; if the issues discourse and the causal relationships observed are consistent for each case, then this strengthens the likelihood that they are based on the observed cause and not a local and regional factor.

Clearly, however, the cases selected are not identical “twins” or “quadruplets”; the nature of megaprojects renders this impossible. However, attention to this variance is warranted, so methods for addressing variance among the cases particularly when doing across case comparisons are discussed subsequently.

A general description of each of the cases is presented as follows.

Tappan Zee Bridge Replacement (TZBR): also named the “New NY Bridge” is the construction and replacement of the nearly 60-year old Tappan Zee Bridge. New York State Thruway Authority is the principal public agency responsible for planning and implementation. The project is delivered as a Design-Build (DB) and was awarded, through a competitive process, to Tappan Zee Constructors, LLC, a consortium consisting of: Flour Enterprises, Inc., American Bridge, Granite Construction, Taylor Bros., Inc., and HDR. The new Tappan Zee Bridge carries I-87/287 over the Hudson River and connects Westchester and Rockland Counties approximately 20 miles north of New York City. The new bridge is being constructed alongside the existing bridge, and all bridge traffic will be rerouted to the new

westbound bridge span while the new eastbound span is being completed. The demolition of the existing bridge will happen concurrently with the construction of the new eastbound span toward the end of the project. The new dual-span twin bridge consists of eight lanes, four emergency lanes, a dedicated commuter bus lane, and a bicycle/pedestrian path. The bridge is being designed to accommodate future transit plans such as: bus rapid transit, light rail, or commuter rail transit. This project was recommended as a “High Priority Project” by the Obama Administration and fast-tracked through the environmental approval process; this significantly reduced the environmental approval process to 10 months instead of the usual multi-year process.

The total cost of the project is \$4.979 billion with the design and construction cost of \$3.142 billion and \$1.837 billion for financing, project oversight and management, and pre-development costs. User fees are imposed to help fund the project. The construction of the bridge started in January 2013, dredging for the new bridge began in August 2013 and both spans are expected to be completed in 2018.

Elizabeth River Tunnels (ERT): also known as Midtown tunnel project, consists of five components of construction involving three facilities in the Hampton roads region in Virginia: Midtown Tunnel; Downtown Tunnel; and MLK Extension. The Midtown Tunnel portion involves adding a new two-lane tunnel tube under the Elizabeth River parallel to the existing tunnel as well as modifications to the existing tunnel to facilitate commutes between Portsmouth and Norfolk. The Downtown tunnel portion includes improvements to the existing tunnels to bring them into compliance with current fire and life safety standards. The MLK Extension portion of the ERT project consists of extending Route 58 south from London Blvd., approximately 0.8 mile to I-264 with an interchange at High Street.

In July 2010, VDOT entered into an interim agreement with Elizabeth River Crossing (ERC) (a consortium consisted of Skanska USA Civil Southeast, Kiewit Construction, and Weeks Marine) to design, build, finance, operate, and maintain the project for 58 years in return for the right to collect user fees. The equity investors for this project are: Skanska Infrastructure Development, Inc. and Macquarie Financial Holding Limited. The project started in April 2012 and the operation and maintenance of the existing Midtown Tunnel and Downtown Tunnels was transferred to ERC in July 2012 and construction started in January 2013 with the expected substantial completion in 2017.

The Ohio River Bridges Project (ORBP): The ORBP is considered as one project with two sub-projects: the Downtown Crossing (DTC) and the East End Crossing (EEC). The overall project connects Clark County in Southern Indiana to Jefferson County in Kentucky. The DTC project is procured by the Commonwealth of Kentucky and the EEC is procured by the State of Indiana. Although, these projects are similar in scale and scope, they are delivered under different delivery mechanisms. Both projects will have user fees after completion. The user fees are collected and managed by the State of Indiana and revenue will be split equally between the states.

Downtown Crossing (DTC): DTC project involves rehabilitation of the existing Kennedy Bridge and construction of a new bridge facility across the Ohio River including associated roadway and facilities between Louisville, KY and Clark County, IN. The new six-lane bridge will carry I-65 northbound traffic and the renovated Kennedy Bridge will provide six-lanes of I-65 southbound traffic. The project also includes improved and expanded approaches and the reconstruction of the Kennedy Interchange between I-65, I-64, and I-71 in downtown Louisville to eliminate functional deficiencies and safety

hazards. The Commonwealth of Kentucky is responsible for the project. The Kentucky Transportation Cabinet (KYTC) awarded the contract to Walsh Construction (a team comprised of Walsh Construction Co., Milestone Contractors, Jacobs Engineering Group, Buckland & Taylor, and Gurhrie/Mayes) in November 2012; construction began in June 2013 and is expected to be completed by December 2016. Tolls are designed for DTC to support bonds that are partially financing the project.

East End Crossing (EEC): EEC project is located approximately eight miles north of the DTC project and includes a new bridge facility spanning the Ohio River, and associated roadway, tunnel, and facilities connecting I-265/SR-265 in Clark County, Indiana and I-265/KY 841 in Jefferson County, Kentucky. The new bridge has two lanes in each direction, expandable to three and a 13-foot wide pedestrian and bicycle path. The EEC project is being delivered as an availability payment PPP concession for 35 years. Indiana Finance Authority (IFA) authorized by Indiana Department of Transportation (INDOT) is the procuring agency, and it awarded the project to WVB East End Partners, a consortium consists of Walsh Construction Co., and VINCI Construction. Private equity investors for this project include: Walsh Infrastructure LLC, VINCI Highways SAS, and Bilfinger Project Investments International Holding GmbH. WVB East End Partners will be responsible for the operations and maintenance of the project with the exception of the Kentucky approach's tunnel which will be maintained by the Commonwealth of Kentucky. The concessionaire will be compensated with milestone payments during construction and availability payments during operation of the facility. Tolls are collected as a source of funding for the project.

Table 3.1. Fixed crossing megaprojects in the case study

Project	State	Connections	Delivery method	Cost (millions)	Contract duration	Procurement method	Toll collector	NTP	Status	Demographic data in region ⁴
Tappan Zee Bridge replacement (TZBR)	NY	Westchester County, NY	DB	\$4,979	5 years	Competitive	Public agency	2013	Under Construction	MHI ⁵ : \$83,422 Population: 972,634
		Rockland County, NY								MHI: \$85,808 Population: 323,866
Downtown Crossing (DTC)	KY	Floyd & Clark County, IN	DB	\$1,452	4 years	Competitive	Public agency	2014	Under Construction	MHI: \$51,182 Population: 190,441
		Jefferson & Oldham County, KY								MHI: \$47,692 Population: 823,516
East End Crossing (EEC)	IN	Floyd & Clark County, IN	PPP	\$1,318.8	35 years	Competitive	Public agency	2014	Under Construction	MHI: \$51,182 Population: 190,441:
		Jefferson & Oldham County, KY								MHI: \$47,692 Population: 823,516
Elizabeth River Tunnels (ERT)	VA	City of Portsmouth, VA	PPP	\$2,089	58 years	Interim agreement	Private sector	2012	Under Construction	MHI: \$46,239 Population: 96,004
		City of Norfolk, VA								MHI: \$44,150 Population: 245,428

⁴ County or City associated with connection points

⁵ Median household income

3.5. Replication logics

Two literal replications across the cases were examined: ERT– OHRB-EEC and TZBR – OHRB-DTC. Three potential theoretical replications across the cases were also identified: OHRB-EEC – TZBR, and ERT – OHRB-DTC.

Initially, EEC – DTC was considered as a strong theoretical replication candidate; both projects have similar scope, regions, and tolling mechanisms. However, after examining the OHRB case, it became clear that the stakeholder involvements of DTC and EEC were primarily conducted under the OHRB project as one project. In other words, the DTC and EEC were presented and perceived as OHRB project by the stakeholders. Environmental studies of DTC and EEC were conducted under one project (i.e. the OHRB); also, tolls on DTC and EEC are managed and administered by one agency and disbursed equally between the facilities. EEC facilities are operated and maintained by a private entity through a PPP agreement with Indiana Department of Transportation (INDOT) and DTC facilities are operated and maintained by the Commonwealth of Kentucky. These findings reduced the credibility of theoretical replication and the pair was eliminated from the replication logic.

Nonetheless, there were two involvement activities identified related to the selection of the PPP proposer in EEC project. There were 59 expressed statements from stakeholders identified in these involvements related to the delivery approach. These records were used to utilize the replication logics in the study.

3.5.1. *Literal replication*

OHRB-EEC – ERT: This pair represents a literal replication. Both EEC and ERT are megaprojects, have user fees associated with them, and share the same delivery method (PPP). Their scopes are similar (both are fixed crossings) and scales are comparable (ERT: \$2,089 million and EEC: \$1,319 million). The demographics of the connecting regions are also comparable.

TZBR – OHRB-DTC: These two projects have a considerable number of similarities. Delivery methods, scopes, toll collecting agencies, and procurement methods are similar for TZB and DTC. Both projects are bridge fixed crossings spanning over two major rivers in the U.S. (Hudson River and Ohio River). The fixed crossings are delivered as a DB and the private developers have been selected through a competitive process and both are in the construction phase. Both facilities have user fees (tolls) and tolls are controlled and managed by the public-sector. The relative scales of the two projects, however, are quite different (TZBR: \$4,979 million and DTC: \$ 1,452 million).

3.5.2. *Theoretical replication*

OHRB-EEC – TZBR: This pair supports theoretical replication. EEC and TZB are both fixed crossing bridges with user fees where user fees (tolls) are managed by the public-sector. Both projects were awarded to private consortia through a competitive process. On the other hand, EEC and TZB differ in delivery methods and jurisdictions under which they are procured; EEC is delivered under a PPP contract in Indiana and TZB is delivered through a DB agreement in New York. Demographic differences between regions may hinder the replication logic, but like the EEC-DTC pair it should demonstrate the impact of the difference in delivery methods on fixed crossings in the U.S.

ERT – OHRB-DTC: ERT and DTC are both fixed crossing projects with the exception that ERT involves tunnels and DTC bridges. Delivery methods of ERT and DTC are different as well as the procurement methods and toll collecting agencies. Sizes of the projects and demographics of the regions where these fixed crossings are developed are comparable.

3.6. Units of analysis

According to Yin (2009), one major step in designing and conducting a case study is defining the principal and sub-units of analysis; however, an operational definition and some precautions are needed to ensure that the units selected are in fact relevant to the issues and questions being investigated. In this case study, each project (case) is the principal unit of analysis to facilitate the examination of its responsible, impacted and interested stakeholders. Each of these stakeholder types is a potential sub-unit; however, this research is focused on their actions associated with the project rather than on the individuals themselves, so the sub-units of analysis are:

- Expressed statements by impacted, interested and responsible stakeholders
- Published documents by impacted or interested stakeholders
- Deliberate involvement mechanisms employed by responsible stakeholders

Expressed statements can be found in transcripts of public hearings that are part of the NEPA process, public open forums, quotes within the media, citizens' comments on relevant articles, or as a consequence of a semi-structured interview. Published documents include meeting minutes and news articles. Deliberate involvement mechanisms employed by responsible stakeholders are previously illustrated in Table 2.2, where mechanisms are categorized based on the nature and direction of the information exchange.

3.7. Data collection and analysis

In accordance with the units of analysis selected, the primary sources of data are: *documentation*, *archival records*, and *semi-structured interviews*. These data sources are discussed in more detail in the following paragraphs. Approval for human subjects data was granted by Virginia Tech's Institutional Review Board (IRB) under VT-IRB-16-533.

3.7.1. Secondary data

Secondary sources of data for this research include: *documentation* and *archival records*.

Documentation data for this case study includes: NEPA documents, public meeting minutes, news article, trade journals, project announcements, etc. This source of data was used primarily to enrich the data set for each of the cases and to corroborate information from other sources in the study. For example, NEPA documents (i.e. EIS, Draft of EIS, Supplemental Draft of EIS, and Final EIS) provided valuable information with regard to the planning phase of the projects, how the project evolved, and certain major changes that were made through the development process.

The nature of this data source facilitated assessing stakeholders' perceptions before and after a milestone event, context of the discussions between stakeholders, and the stakeholder involvement mechanisms employed by responsible stakeholders. *Archival records* in this study included: census

records, organizational records, and a project's public records. Census records provided information on certain demographic indicators such as population and median income of the people who live/work within the regions where the project is being developed. Organizational records were utilized to identify stakeholder engagement strategies and engagement policies of the procuring agencies. Project's public records were used to provide a better understanding of the project's context with respect to its footprints and right-of-way (ROW) acquisition.

All the cases in this study were conceived in the 1980s and the 1990s, and the planning process to include statutory requirements processes like the environmental studies began in the 1990s and the early 2000s. Therefore, while stakeholder engagements were held and identified, records of those engagements were not readily available. In all cases requests were made from responsible public agencies or their representatives to acquire these documents; however, by and large, those documents were not available. Appendix E identifies all the environmental documents that were generated for each project and whether or not those records were available as well as what types of stakeholders' expressed comments were available.

3.7.2. Primary data

The main source of primary data in this study is through eleven semi-structured interviews and one set of written responses to interview questions. These interviews involved responsible stakeholders, primarily representatives of the public and private agencies implementing and procuring the project. Potential interviewees were identified from archival documents and on-line sources related to each project. Public and private representatives either were listed as points of contact or identified as key participants in a project; these individuals were invited to participate in an interview via e-mail. The interviews had a number of open-ended questions to cover certain data/logical gaps previously identified in the database and to acquire interviewee's insights beyond the specified questions. The chief goals of the interviews were to understand the agencies' stakeholder involvement strategies, deliberate involvement mechanism that had been employed, and certain objectives that had been sought for utilizing certain engagement mechanisms. Moreover, interviews were used to corroborate certain facts that had been established through other secondary sources of data such as: public hearing transcripts, public meeting minutes, and NEPA documents. During the interview recruitment process, a number candidates declined to be interviewed while some never responded to the recruitment request despite multiple attempts. Additionally, a number of interviewees were very sensitive about the subject. This sensitivity limited the number of interviewees as well as the depth and candidness of the interviews.

The interview questions that were used for the public- and private sectors' representatives are listed below:

Questions for the public sector representatives:

1. Please describe your overall experience with infrastructure development projects.
2. What is your role in the project? When did you assume this role?
3. Please describe the approach taken to involve the stakeholders of this project. What were the goals of your stakeholder involvement program? Did you go beyond statutory requirements, i.e. NEPA? Why or why not?

4. How did the involvement strategy evolve or change as the project progressed? What prompted these changes? Can you provide a specific example?
5. Who were the key stakeholder groups for the project?
6. What were the key issues raised by stakeholders? Did the emphasis on issues change over time?
7. How did the stakeholder involvement process influence the project?
8. What were the benefits of your stakeholder involvement approach?
9. What types of involvement methods were more beneficial? Why?
10. What were the key challenges associated with the stakeholder involvement strategy employed? What would you do the same or differently in the future?

Questions for **the private sector** representatives:

1. Please describe your overall experience with infrastructure development projects.
2. As a private sector service provider, were you able to make contributions to the stakeholder involvement process? How?
3. What role did you play in the stakeholder involvement process? How did you interact with the stakeholders?
4. What involvement activities did you carry out independent from the public sector?
5. Who were the key stakeholder groups for the project?
6. What were the key issues raised by stakeholders?
7. How did the stakeholder involvement process influence the project?
8. What were the benefits of your stakeholder involvement approach?
9. What types of involvement methods were more beneficial? Why?
10. What were the key challenges associated with the stakeholder involvement strategy employed? What would you do the same of differently in the future?

3.7.3. **Data sources**

Table 3.2 demonstrates sources of data identified for each of the cases along with the specific data type. Each case also had various news feeds in the form of online communications and tweets; these communicated information from project sponsors to impacted and interested stakeholders. These news feeds primarily provided updates on upcoming events as well as the project’s construction schedule and consequential information such as road closures and utility disconnections. This data was excluded from the data set since it was primarily about communicating project-related information rather than stakeholder involvement or issues.

Table 3.2. Sources of evidence identified for the cases

Project	Source of evidence	Type of data
TZBR	Documentation	NEPA documents
		Public meeting transcripts
		Community meeting reports
		Alternative Analysis reports
		Public hearing transcripts
		News articles (e.g. Poughkeepsie Journal; Iohud THE JOURNAL NEWS)

Project	Source of evidence	Type of data
		Press releases (e.g. The New NY Bridge; New York State)
		Social media (e.g. "Tappan Zee Bridge" Facebook page)
	Archival records	Census records (i.e. U.S. census data)
		Organizational records (e.g. NYSDOT's website)
		Project's public records (e.g. Westchester County records; Rockland County records)
Semi-structured interview – with project sponsors from public and private sectors		
DTC	Documentation	NEPA documents
		Public meeting minutes
		Public hearing transcripts
		Public workshop reports
		Public written comments
		Stakeholder email communications
		News articles (e.g. Courier-Journal; Leo Weekly)
		Press releases (e.g. The Ohio River Bridges)
		Social media (e.g. "Louisville Downtown Bridge" facebook page)
	Archival records	Census records (i.e. U.S. census data)
		Organizational records (KYTC's website)
		Project's public records (e.g. Clark County records; Jefferson County records)
	Semi-structured interview – with project sponsors from public and private sectors	
EEC	Documentation	NEPA documents
		Public meeting minutes
		Public hearing transcripts
		Public workshop reports
		Public written comments
		Stakeholder email communications
		News articles (e.g. Courier-Journal; Leo Weekly)
		Press releases (e.g. Eastendcrossing.com/newsroom; The Ohio River Bridges)
		Social media (e.g. "Ohio River East End Crossing" facebook page)
	Archival records	Census records (i.e. U.S. census data)
		Organizational records (e.g. INDOT's website)
		Project's public records (e.g. Clark County records; Oldham County records)
	Semi-structured interview – with project sponsors from public and private sectors	
	Documentation	NEPA documents
		Public meeting minutes
		Public hearing transcripts

Project	Source of evidence	Type of data
ERT		Public written comments
		Public email communications
		IRP meeting transcripts
		News articles (e.g. The Virginia-Pilot; PilotOnline.com; Daily Press)
		Press release (i.e. Driveert.com)
		Social media (e.g. “Elizabeth River Crossings Opco, LLC” facebook page; “Stuck At The Midtown Tunnel” facebook page)
	Archival records	Census records (i.e. U.S. census data)
		Organizational records (e.g. VDOT’s website)
		Project’s public records (e.g. City of Portsmouth; City of Norfolk)
		Semi-structured interview – with project sponsors from both the public and private side

3.7.4. Within case analysis

Initial steps of data analysis within each case involved establishing the project timeline and identifying key milestone events for each project. Subsequently, pre and post milestone event analysis of each case’s sub-units using multiple types of data permitted identification and tracking of both involvement mechanisms and stakeholder issues as the analysis proceeded longitudinally across a project’s phases and from milestone event to milestone event. Utilizing documentation and input from interviewees, involvement mechanisms were positioned in each project’s timeline by their date of occurrence, and each mechanism was classified: (1) as a NEPA or Non-NEPA engagement and (2) by the nature of the information flow: communication, consultation or participation. Subsequently, the involvement mechanisms employed by responsible stakeholders prior to and after the milestone events were identified and tracked to examine whether the involvement approach remained consistent or had changed and whether different involvement mechanisms were employed. With respect to each case’s issues, the sources of data were used to extract four types of evidence: (1) comments by impacted and interested stakeholders from involvement records, (2) quotes and actions taken by impacted and interested stakeholders from media articles, (3) quotes and actions taken by responsible stakeholders from media articles or project-related reports, and (4) interview transcripts with project representatives from both the public and private sectors. This data was arranged chronologically across each case’s phases; the sources of evidence were triangulated to identify the significance of a case’s issues in each phase and shifts in the issues over time. In this regard, the principal “trajectory” of the themes derived from the issues raised by stakeholders were followed; in addition, changes or tangents in the trajectory were traced. For instance, over time the milestone events caused certain issues to emerge or certain issues to dissipate. Likewise, actions taken by stakeholders related to the issues raised were tracked over each case’s phase.

To analyze expressed statements or published documents, content analysis was utilized and relevant content was coded following techniques prescribed by Miles et al. (2013). In this process, expressed statements and/or published documents were coded in two steps using Nvivo software. The first step entailed defining sources of comments as “nodes” in the software – i.e. citizens, NGOs, or government

officials. Each node contained multiple “sub-nodes” depending upon the number of themes identified for comments made by each source. Subsequently, comments were inductively coded into “sub-nodes” using first order coding techniques by utilizing certain key words to establish the themes of the expressed comments. The main themes were further analyzed using second level coding techniques to identify sub-themes and better demonstrate the core issues being raised by the stakeholders.

For example, key words such as: “bridge”, “tunnel”, “pedestrian lane”, “bus”, “BRT”, “light rail”, “public transportation” were used to identify “Scope” as a theme in the first level coding. For instance, an expressed comment made by a citizen follows:

“After a decade of studying the many transportation options, now is NOT the time to dismiss **BRT**, **commuter rail** and **light rail** as part of the transportation alternatives on a new Tappan Zee Bridge and for the Rockland to Westchester travel corridor as a whole. We do not support constructing a new highway-only bridge on which none of these **public transportation** options are included.”

The identified key words in the comment indicate that the main theme is “Scope.” Further, these key words are specifically related to mass transit; therefore, in the second level coding of this expressed comment, “Transit” is identified as the sub-theme.

As another example, the following comment was made by a citizen:

“To date, the NYSDOT has not addressed the ongoing **noise pollution** caused by the Tappan Zee Bridge or its proposed Short- and Long-Span alternatives.”

In this comment the key word of “noise pollution” suggests that “Impacts” is the main theme in the first order coding. In addition, this comment refers to specific “noise” impacts; therefore, in second order coding, this comment is categorized under the sub-theme of “Noise.”

3.7.5. *Across case synthesis and comparison*

As discussed in the case selection section, variance among the cases exists, which is not surprising given the nature of the cases. Hence, this could impact the ability to conduct across case analysis. An element of the research that mitigated this issue was that each project must follow the NEPA process. Within this process, the requirements for public involvement are very clear, and they are consistent from state to state and from project to project. Consequently, the NEPA public involvement process and its associated documentation were the same for each case. This condition also supported identification of stakeholder involvement mechanisms outside those required by the NEPA process. When a mechanism is independent of the timeframe or mandates of the NEPA process, it will be far easier to spot. Additionally, selection of different yet analytically similar cases in this study enhance generalizability of the findings across the cases.

Further, the analytical approach across the cases was focused on: (1) the pattern of involvement mechanisms for each case and (2) the pattern of themes for stakeholder issues. Whereas the within case analysis examined measures such as frequency, the across case analysis arrayed patterns in each case using tables. For both stakeholder involvement mechanisms and issues, tables were constructed to

illustrate the themes and mechanisms by project phase and key milestone events for each case. This supported contrasting qualitatively the patterns of each case (Yin, 2009).

3.7.6. *Validity and Reliability*

This study took multiple measures to enhance validity and reliability. First, a multiple case study design was employed to answer the “how” and “why” research questions posed. Second, construct validity was addressed by establishing proper operational measures such as utilizing multiple sources of evidence and establishing a chain of evidence; comments and actions from stakeholders were extracted from multiple sources as described previously while a chain of evidence related to involvement mechanisms and issues was constructed by deriving a set of propositions from the research questions, designing a data collection and analysis approach to examine those propositions, and a within case and across case evidentiary basis for supporting or rejecting the propositions. Third, reliability was controlled by carefully specifying the case data collection and analysis procedures including the research’s content analysis techniques for first order and second order coding; in addition, a detailed list of expressed comments with themes identified are included in the Appendices. Fourth, internal validity and potential generalizability were addressed by various means; four different yet analytically similar cases were deliberately selected for the study and literal and analytical replication logics were utilized to validate/refine existing propositions. Multiple units and sub-units of analysis were considered to support replication logics. Moreover, rival explanations were considered and known variances were identified. Finally, external validity was addressed by examining where the findings from the research reinforced, or in some instances challenged, current literature.

Chapter 4. Tappan Zee Bridge Replacement (TZBR) Project

4.1. Overview

This chapter discusses the Tappan Zee Bridge Replacement (TZBR) case. First, I start with a Project Description which provides a basic overview of the overall project's scope, timeframe, and current status. Next, a summative analysis follows that presents the case's data, involvement activities, and the issues raised. Subsequently, I analyze the project chronologically from period to period from the time of inception until the present day.

4.2. Project description

The Tappan Zee Bridge Replacement (TZBR) project is a \$4.979 billion multimodal project with proposed bridge, highway and transit improvements. It entails the replacement of the existing Tappan Zee Bridge over the Hudson River approximately 20 miles north of New York City. The original Tappan Zee Bridge (TZB) is a 60-year-old bridge that carries I-87/287 over the Hudson River between Westchester and Rockland Counties (see Figure 4.1). It is located on a North America Free Trade Agreement (NAFTA) corridor and is a significant crossing over the Hudson River, which facilitates passenger mobility as well as freight transportation. The bridge was first built in the 1950s during the Korean War with a design life of 50 years. In the 2000s, the bridge had already reached the end of its design life span and was operating well over its design capacity (Spock, 2000). These conditions caused safety and mobility issues for the commuters and had required the authorities to conduct continuous and expensive maintenance to preserve the structural integrity of the bridge.



Figure 4.1. Tappan Zee Bridge Replacement Project map (Source: www.google.com/maps)

The Project entails building a new dual-span twin bridge with eight lanes, four emergency lanes, dedicated commuter bus lanes, and a bicycle/pedestrian path. The new bridge is being built alongside the existing bridge, and bi-directional traffic is rerouted to the new westbound bridge span while the

new eastbound span is being completed. The demolition of the existing bridge and construction of the new eastbound span will happen concurrently in the latter stages of the project.

The project development started in 2002 when New York State Thruway Authority (NYSTA) and Metropolitan Transportation Authority Metro-North Rail (MTA/MNR) jointly issued a Notice of Intent for the environmental studies. The Tappan Zee Bridge is owned by the New York State Thruway Authority (NYSTA); however, in 2007, due to the regional significance of the project, the New York State Department of Transportation (NYSDOT) became the leading agency in the development of the project. In 2011, however, when Governor Cuomo took office, the project was handed back to the NYSTA for the continuation of its development. Moreover, the Governor strongly advocated support from the federal government for the completion of the project development. As a consequence, the project was approved as a fast-tracked project by the federal government in 2011. The fast-track process expedited the associated permitting process for environmental studies of the project. Subsequently, the Environmental Impact Statement (EIS) was completed in eleven months.

In 2011, the NYSTA issued a Request for Qualification (RFQ) for the project and four design-build teams were shortlisted in February 2012. Then, Request of Proposals (RFP) was issued in March 2012 and three design-build consortiums submitted proposals in July 2012. Subsequently, in January 2013, Tappan Zee Constructors, LLC was selected as the preferred bidder through a competitive process based on a best value evaluation process. Tappan Zee Constructors, LLC is a design-build consortium consisting of Fluor Enterprises, Inc., American Bridge, Granite Construction Northeast, Inc., Traylor Bros, Inc., and HDR. The design-build contract amount is \$3.2 billion. The project is still in the construction phase and the substantial completion is expected in 2018 (FHWA, 2012b).

As illustrated in Figure 4.1, Tappan Zee Bridge connects Rockland County and Westchester County. Table 4.1 presents demographics of the regions associated with TZBR project. The table indicates that both regions' annual income level is significantly higher than the national annual income level. (Census, 2015).

Table 4.1. Demographics of the regions associated with TZBR project (Census, 2015)

Region	Estimated population 2015	Median household income (annual)	Persons in poverty (percent)	Median housing value	Educational attainment (percent high school graduate)
Rockland County	326,000	\$85,808	14.7%	\$419,100	87.3%
Westchester County	976,000	\$83,422	10.4%	\$506,900	87.5%
The United States (national)	Not applicable	\$53,482	13.5%	\$175,700	86.3%
Rockland County relative to national	Not applicable	+\$32,326	+1.2%	+\$243,400	+1%
Westchester County relative to national	Not applicable	+\$29,940	-3.1%	+\$311,200	+1.2%

Moreover, the original Tappan Zee Bridge has tolls (user fees); likewise, in the development of the new Tappan Zee Bridge project tolls were considered as a potential source of funding from the early stages of the project development. Current toll on Tappan Zee Bridge is \$5 per vehicle while other crossings in the region – i.e. George Washington Bridge and Lincoln Tunnel – have substantially higher toll rates – \$15 per vehicle (Berger, 2014b).

4.3. Summative Analysis

4.3.1. Summary of data analyzed

A comprehensive review of available data related to the TZBR project was completed. Data sources include all relevant documentation and archival records of the project including organizational documents from the sponsoring agencies such as New York State Thruway Authority, New York State Department of Transportation, Metro-North Railroad, and Tappan Zee Bridge Constructors, LLC. Additionally, five semi-structured interviews were conducted with representatives of both the public and private sectors of the project. The following sub-sections explain the data analyzed in more detail.

Secondary data

Secondary data sources in this study are presented in two tables. First, Table 4.2 depicts stakeholder involvement activities identified in the case as well as records kept of these activities. It indicates the number of involvement activities identified in the project; then it specifies the number of records kept as well as the number and types of available records for the activities and the size of the data. When involvement activity records were generated (or expected to be generated), these records were found

from publicly available sources or requested from the source agency; in some instances, records were not available despite concerted efforts to obtain them.

Table 4.2. List of available secondary data related to involvement activities in TZBR project

Involvement activity	Quantity	Records Kept	Records available	Type of Records	Size of data
Public meetings	23	23 of 23	17 of 23	Meeting Transcripts = 10 Written comments = 7	1710 pages
Public hearings	4	4 of 4	4 of 4	Meeting Transcripts = 4	450 pages
SAWGs meetings	72	72 of 72	71 of 72	Meetings' transcripts	298 pages
Community meetings	24	0	0	Not documented	Not documented
Workshops	6	0	0	Not documented	Not documented

Second, Table 4.3 depicts a list of identified and available data sources. This data is primarily documentation – such as project documents, contract documents, news articles, and blogs – and archival records – such as organizational records and census records. The content of all available data was analyzed following content analysis techniques prescribed by Miles et al. (2013).

Primary data

A total of five semi-structured interviews were conducted with project representatives, two individuals from the private sector and three from the public sector. Interviews were conducted over the phone and each lasted approximately from 45 minutes to 90 minutes.

Table 4.3. List of secondary sources of data identified for the TZBR project

Data	Data source	Data type	Quantity	Size of the data
Secondary data	Documentation	Study reports	11	1,380 pages
		Press releases	12	54 page
		Blogs	67	384 pages
		News articles	65	491 pages
		Project documents	3	35 pages
		Contractual documents	1	1248 pages
		RFQ	1	93 pages
		RFP	1	231 pages
	Archival records	Census records	3	16 pages
Organizational records		2	44 pages	
Primary data	Semi-structured Interview	Interview transcripts	5	24 pages

4.3.2. Project's overall timeline

The overall timeline of the project can be split into two main phases: *pre fast-track* and *post fast-track*. The first phase characterizes a period starting from late 1997 – when the I-287 Task Force was formed – through October 2011 – when the project was selected by the federal government to receive an expedited environmental study and permitting process. Figure 4.2 illustrates the timeline subdivided into two phases and four periods. The periods are distinguished by key milestone events – shown below the timeline. Other significant project events are marked within each period and above the timeline. Events related to the National Environmental Policy Act (NEPA) are shown in purple and non-NEPA related events are shown in yellow. These periods are discussed in the subsequent sections.

Phase 1: pre fast-track

Phase 1 characterizes a period in the project development process from inception in late 1997 until when the project was fast-tracked in late 2011. This phase is entirely within the planning phase. In this phase, the project's scope included a 30-mile corridor from the I-287/I-87 interchange in Suffern to the I-287/I-95 interchange in Port Chester including the lifeline 3.1 mile-long Tappan Zee Bridge crossing the Hudson River (TZBR, 2002).

Phase 1 represents a period with numerous stakeholder involvement activities and a comprehensive environmental study on the project. Although the project was conceived in 1997, the environmental studies started later in October 2001 when NYSTA and MTA/MNR started the pre-scoping process. Later in 2007, NYSDOT became the leading agency in the development process and continued the environmental studies with a comprehensive stakeholder involvement. During this time, NYSDOT established Stakeholder Advisory Working Groups (SAWGs) which examined the project on specific topics – transit, finance, land use, environment, and bridge design. Despite the comprehensive environmental studies and stakeholder involvement strategy in this phase over a relatively long period of time (10 years), only Alternatives Analysis of the environmental studies was completed.

According to Public Representatives interviewed, environmental studies in this phase lacked a driving force to advance the project forward. As one Public Representative explained:

“Whenever an option was brought up, rather than eliminating the option or considering it, they would add that to the process which would make the EIS become bigger and then that would bring more options to the study which extended the EIS process. In short, they never dealt with the issues and options in a conclusive way.”

Governor Cuomo called this phase “10 years of dysfunction” and made a request to fast-track the environmental studies of the project (Public Representative).

Phase 2: post fast-track

In late 2011, after almost 10 years of environmental studies, the project was still in the planning phase despite the urgent need for replacing the bridge. There had been numerous discussions on different matters of the project and nothing had actually happened.

In October 2011, after Governor Cuomo took office, with the urgent need for replacing the original bridge and to make the project feasible, his administration decided to significantly reduce the scope to only replacing the original bridge with a capability to accommodate future transit. The project was

renamed the New NY Bridge project and NYSTA became the leading agency in the procurement. The Cuomo administration also obtained approval from the federal government to fast-track the project and expedite the environmental studies and the permitting process (Haughney, 2011). Because of the changes made in the scope and the environmental study process, a new Notice of Intent (NOI) was issued in October 2011. Subsequently, the Draft EIS was issued in January 2012 followed by Final EIS in July and the Record of Decision (ROD) in September 2012.

While the environmental studies were advancing, the NYSTA selected Tappan Zee Constructors, LLC as the preferred Design-Build proposer through a competitive process. The Design-Build contract was awarded in January 2013 and shortly after pre-construction activities began in March 2013; financial close was reached in December 2013 and construction commenced in March 2013 and continues to this day.

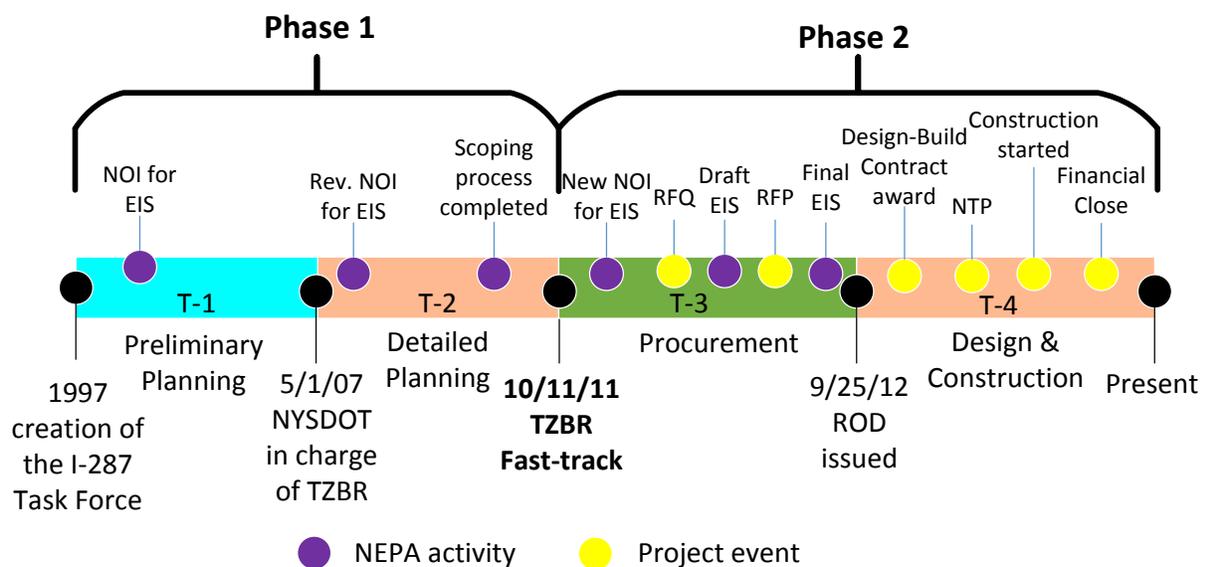


Figure 4.2. TZBR Project's overall timeline

4.3.3. Stakeholder involvement strategy

Involvement mechanisms identified in the project are collectively depicted in Table 4.4. This table lays out the overall project's involvement strategy. This study uses a stakeholder involvement typology suggested by Rowe and Frewer (2005); therefore, in Table 4.4 involvement mechanisms are further identified by the type of information flow that took place in each involvement activity – i.e. *Communication, Consultation, and Participation*. In this scheme, all the involvement mechanisms are given equal “weight” because these involvement mechanisms are counted as a means to assess the nature of engagement (Communication/Consultation/Participation AND NEPA/Non-NEPA); in other words, a press release counts as much as a public hearing in nature of engagement.

Table 4.4. Overall stakeholder involvement strategy of the Tappan Zee Bridge Replacement Project

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	23	23	23	0	20	3
Public hearings	4	4	4	0	4	0
Community meetings	24	24	24	0	18	6
Public workshop	6	6	0	0	6	0
SAWGs meeting	72	0	0	72	0	72
Press release	12	12	0	0	4	8
Study report	19	19	0	0	13	6
Total:	160	87	51	72	65	95

According to Table 4.4, there are 23 public meetings identified. Public meetings were designed to accommodate a less formal setting for information exchange between the sponsors and the stakeholders while accommodating a relatively large number of attendees. These meetings usually started with a brief presentation about the project followed by an open discussion period where the attendees comment or ask questions (USDOT, 2014). In these settings, project sponsors update the stakeholders on the project, so public meetings are classified as *Communication*; similarly, because the stakeholder are given a time to comment on the project or ask questions, these public meetings are also categorized as *Consultation*. These settings do not accommodate a concurrent dialogue between the attendees and the sponsors, so no *participation* is happening in public meetings.

Public hearings are similar to public meetings but they are more formal and normally a stenographer is present to record the event. Public hearings and public meetings are required by NEPA, normally after publication of each environmental document of the project (NEPA, 2014; USDOT, 2014). Similar to public meetings, public hearings are classified as *Communication* and *Consultation* (Rowe & Frewer, 2005). There were a total of 4 public hearings in this project which were NEPA related and followed the publication of Draft EIS in January 2012.

The Stakeholder Advisory Working Groups (SAWGs) meetings facilitated a two-way and concurrent communication and information flow between the parties; therefore, they are classified as *Participation* (Rowe & Frewer, 2005). SAWGs consisted of members of the public and interested stakeholder groups and were established by the NYSDOT when the agency assumed the leading role in the development process. The purpose of SAWGs was to keep interested individuals informed and solicit their input on project. According to the public representatives interviewed, SAWGs meetings were extremely helpful because the meetings facilitated a dialogue between the sponsors and the stakeholders on specific topics such as transit, finance, land use, environment, and bridge design. With regard to the benefits of SAWGs, one interviewee stated (Public Representative):

“SAWGs were very important and useful in the process, in SAWGs stakeholders could meet directly within the working groups with the project team and could openly speak their minds or ask questions and the project team was there to provide explanation ... the

smaller size of SAWGs provided the opportunity for a face to face question and answer which was very helpful.”

SAWGs meetings were heavily used as a method of stakeholder involvement from May 2007 until October 2011.

SAWGs meetings grew out of a stakeholder committee which had over 100 members; the stakeholder committee was inefficient in addressing project related topics because of the large size of the committee (Public Representative). Therefore, it was broken into smaller groups (i.e. SAWGs) tailored to specific topics including: transit, finance, land use, environment, and bridge design (Public Representative). SAWGs meetings ceased in late 2011 when the project was fast-tracked.

Then, for a period of time – from when the project was fast-tracked until the issuance of the Final Environmental Impact Statement (EIS) in July 2012 – the project sponsors implemented minimum involvement activities required by the NEPA process – including three scoping public meetings following the NOI and four public hearings following the publication of Draft of EIS. However, after issuance of the Final EIS, their strategy changed and the project sponsors launched a comprehensive involvement plan; numerous community meetings were held, two outreach centers were opened on each side of the river, a new project website was launched, and a project hotline was established.

All in all, the stakeholder involvement strategy in this project mostly relied on *Communication* activities which indicates that the project sponsors have taken an advisory position in their involvement strategy – a one way flow of information from the sponsors to the stakeholders (Rowe & Frewer, 2005). Also, there have been a considerable number of *Consultations* in the project which indicates that the sponsors have also sought input from the stakeholders. Additionally, during the initial stages of the project participation activities were prevalent while SAWGs were active. Moreover, Table 4.4 suggests that the sponsors went beyond the statutory requirements of the NEPA process in involving the stakeholders as 95 involvement activities – out of 160 total involvement activities – were non-NEPA and 65 were within NEPA process.

4.3.4. Stakeholders' expressed issues

Figure 4.3 shows a word cloud of issues that stakeholders expressed in the project. The themes emerged from first order content analysis of stakeholder comments. The comments were inductively coded based on the themes. In other words, the themes were not predetermined and were identified as they emerged from the content.

As shown in the word cloud, the most frequent issues are related to *scope, impacts, design, process, and funding*.

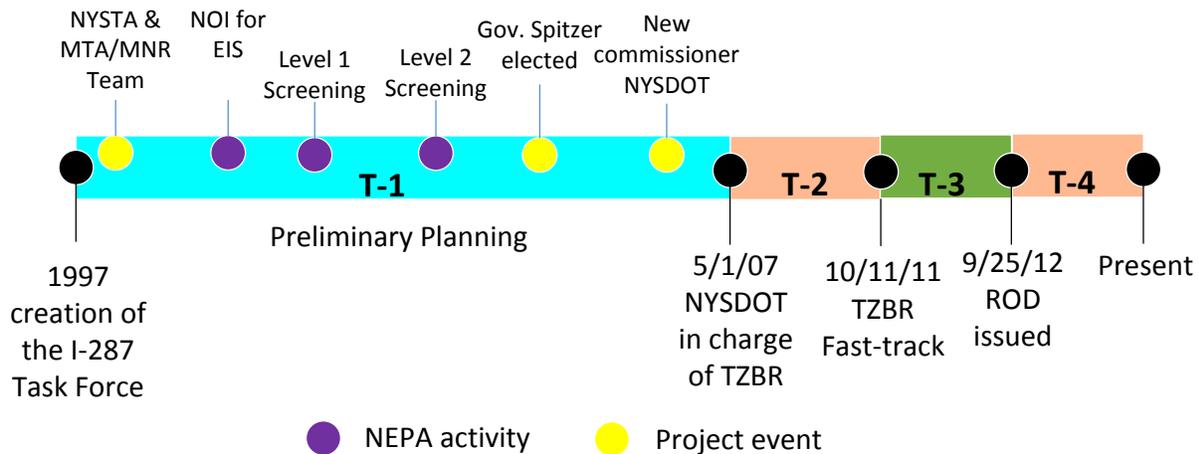


Figure 4.4. Period T-1 timeline

The Tappan Zee Bridge Replacement project was initiated in late 1997 when Governor Pataki formed the I-287 Task Force to address the mobility and safety issues of the I-287 Corridor between Rockland County and Westchester County in New York. The task force was comprised of representatives from the Metropolitan Transportation Authority (MTA), the New York State Department of Transportation (NYSDOT), and the New York State Thruway Authority (NYSTA). The task force conducted a long-term needs assessment study on the corridor to address its mobility and safety issues. Considering the ongoing need for high-cost maintenance required to address the structural integrity and traffic issues of the bridge, in early 2000, the study report suggested the replacement of the Tappan Zee Bridge would be the best long-term alternative solution for the corridor (Spock, 2000).

Subsequently, NYSTA and Metropolitan Transportation Authority Metro-North Railroad (MTA/MNR) formed a team to identify the scope and initiate the environmental study of the bridge replacement project. To educate the public about the forthcoming environmental process and solicit their input, the team hosted two Pre-scoping public meetings in October 2001. A total of 109 people attended both meetings and provided extensive input on what should be included in the Purpose and Need statement for the project and what types of evaluation criteria should be considered as the environmental review progresses – no record has been available for the two public meetings. Accordingly, a Notice of Intent (NOI) was issued for the environmental studies in December 2002 along with a Scoping Information Packet; the Scoping Information Packet laid out scoping strategy and provided information on Alternative Analysis and the environmental review process (NYSTA, 2002).

Following the issuance of the NOI and the Scoping Info Packet, three public meetings were held, one each in Westchester, Rockland, and Orange Counties in January 2003, to invite public comments on the scope of the study and its purpose and need. About 282 persons attended the scoping meetings and made 434 comments. Attendees included the general public, representatives of Non-Governmental Organizations (NGOs), and governmental agencies – at the federal, state, and local levels. Additionally, the public was asked to submit their suggestions for improvements to the corridor. Records of the comments in these public meetings were available and have been analyzed. The majority of the

comments in these meetings were related to *Scope* and *Impacts* – more than 52% of the comments were on *Scope* and 20% of the comments were related to *Impacts*. The majority of the comments on *Scope* were related to *Transit*; while, the main focus of comments on *Impacts* was on *Environmental Impacts*. Table 4.5 shows some of the comments made in these meetings made by different stakeholders. A more comprehensive list of these comments are presented in Appendix A.

Table 4.5. Representative stakeholder comments made on TZBR project in three scoping meetings in January 2003

Comment	Source of comments	Type	Theme	Sub-theme
A thorough and complete analysis of any proposed project must include an analysis of impacts of any proposals upon compliance with Clean Air Act requirements on emissions for the New York Metropolitan area.	Gov. Official	Written comments	Impacts	Environmental
A thorough and complete analysis of any proposed project must include an analysis of a viable light rail way system connecting eastern bank of the Hudson River Communities with Metro North, Harlem and Hudson Lines and communities in Westchester County.	Gov. Official	Written comments	Scope	Transit
[We] feel strongly that before any new bridge or tunnel is approved, rail service must be included.	Citizens	Written comments	Scope	Transit
[We] need a bridge connecting Rockland and Westchester, but there should be focus on public transportation.	Citizens	Written comments	Scope	Transit
[We] support further consideration of Bus Rapid Transit using an added HOV lane.	Citizens	Written comments	Scope	Transit & HOV

In addition to the scoping public meetings, in January 2003, project sponsor hosted two additional scoping meetings with government agencies – at the federal, state, and local levels – to solicit the agencies’ input. Records of these two meetings were not available. By the close of the scoping period in March 2003, the project team had received a long list of alternatives – more than 150 ideas – for improvements to the corridor.

Subsequent to the scoping meetings, three workshops were held in Westchester, Rockland, and Orange counties in April 2003 to review the long list of alternatives and discuss a screening criteria to evaluate those alternatives. Records of these activities were not documented.

Two levels of screening were considered in the Alternatives Analysis process; in Level 1 screening, 72 alternatives were developed, from the original 150 alternatives, to be carried forward into Level 2

screening (NYSTA, 2003a). Then, three additional workshops were held in Westchester, Rockland, and Orange counties in July 2003 to review the results of the Level 1 screening process and to obtain feedback on the alternatives selected for the Level 2 screening (NYSDOT, 2006; NYSTA, 2003b). The alternatives were evaluated in greater detail in the Level 2 screening and a short list of six alternatives were suggested to be carried forward into the Draft EIS process in January 2006; interestingly, all the alternatives contained a mass transit option (NYSDOT, 2006). Similar to the other workshops, records of these involvements were not kept.

With the mass transit becoming more popular among the stakeholders, in February 2007, shortly after Governor Spitzer took office, he assigned Astrid Glynn as the NYSDOT Commissioner to lead the development of the Tappan Zee Bridge/I-287 Corridor project (Higashide, 2008b). Glynn was a mass transit supporter and had successfully developed a BRT system in Boston (Rife, 2008).

Furthermore, in February 2007, the Regional Plan Association (RPA) (a transit advocate group) in partnership with the Rockland Economic Development Corporation (REDC), hosted a Transit-Oriented Development (TOD) public workshop in Rockland County to envision how the land uses around the transit stations could be improved to increase ridership and benefit local communities and underutilized properties (RPA, 2007). No records were kept for the workshop event.

4.4.1. Summary

Table 4.6 illustrates stakeholder involvement mechanisms employed in this period. It also indicates whether such activities are NEPA requirements.

Table 4.6. Stakeholder involvement mechanisms used in T-1

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	7	7	7	0	5	2
Press release	3	3	0	0	2	1
Public workshop	6	6	0	0	6	0
Study report	6	6	0	0	4	2
Total:	22	22	7	0	17	5

Table 4.6 shows that the majority of the involvement activities in this period were NEPA related. Also, project sponsors had primarily used *Communication* to involve stakeholders since there were only seven *Consultations* compared to twenty-two *Communications* and no *Participation*.

Figure 4.5 illustrates stakeholder issues raised in this period. These issues are extracted from records of three public meetings – held in January 2003. These issues are presented by frequency, where each issue represents its percentage of the overall issues. As shown in Figure 4.5, issues related to *Scope* are substantially higher than other issues followed by issues on *Impacts*.

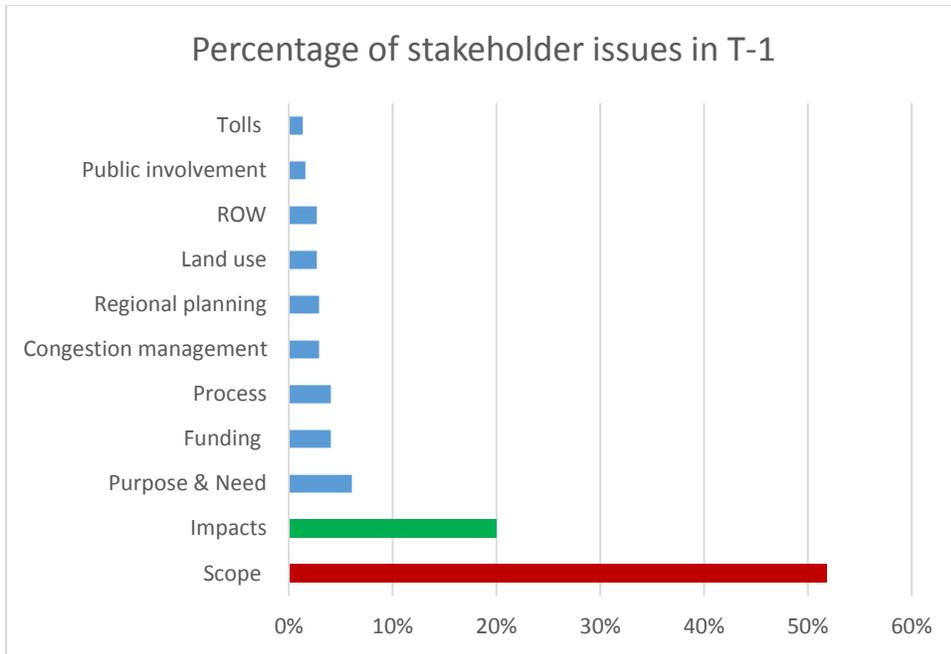


Figure 4.5. Stakeholder issues raised in T-1

Stakeholder comments on *Scope* are further analyzed using second level coding techniques to determine sub-themes of comments made on *Scope*. Figure 4.6 illustrates the sub-themes sorted by their percentages. As shown, *Transit* is the most frequent issue.

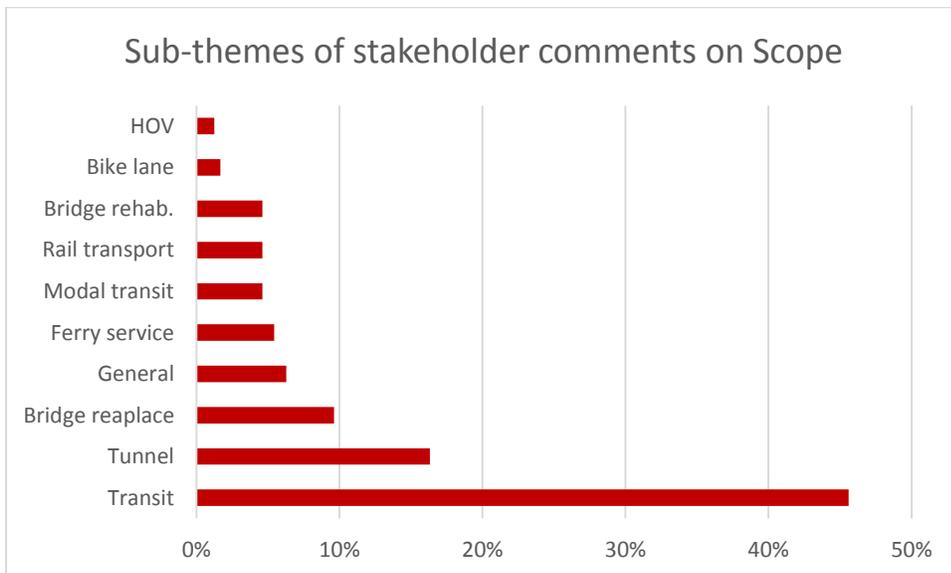


Figure 4.6. Stakeholder comments made on Scope in T-1

Furthermore, Figure 4.7 demonstrates sub-themes of comments made on *Impacts*. The most prominent issue on *Impacts* is related to *Environmental Impacts*.

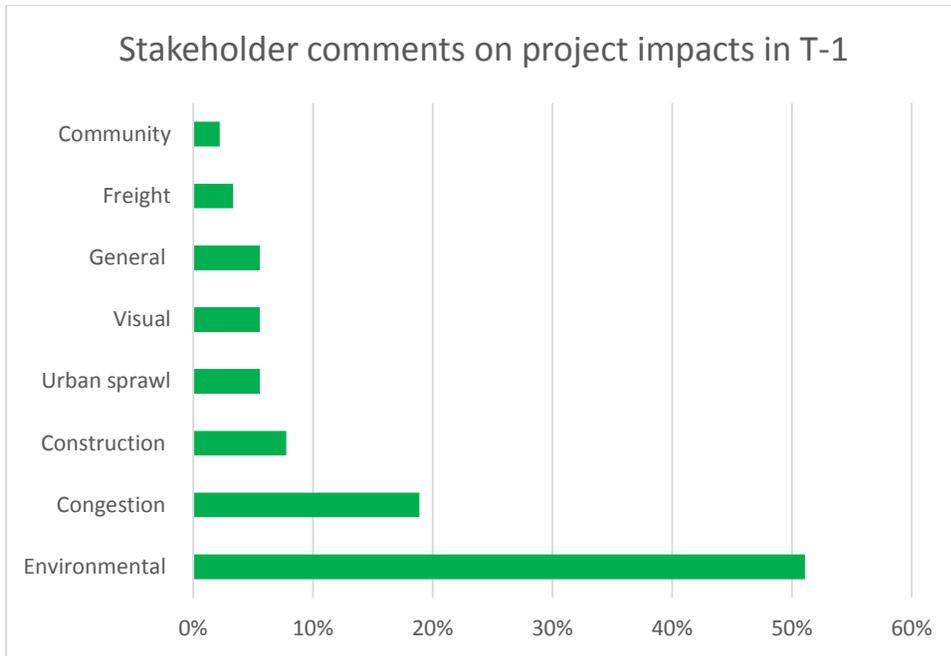


Figure 4.7. Stakeholder comments on Impacts in T-1

4.5. Period T-2 (May 2007 to October 2011)

This period characterizes the time between May 2007 – when the NYSDOT became the leading agency in the project development – and October 2011 when the project was “fast-tracked” (approved for expedited environmental study and permitting process). This period also portrays planning phase of the project and covers the initial environmental studies up until the completion of scoping process.

Figure 4.8 demonstrates a timeline of this period in which project events are outlined. To investigate events in this period, this period is divided into two sub-periods: T-2.1 and T-2.2.

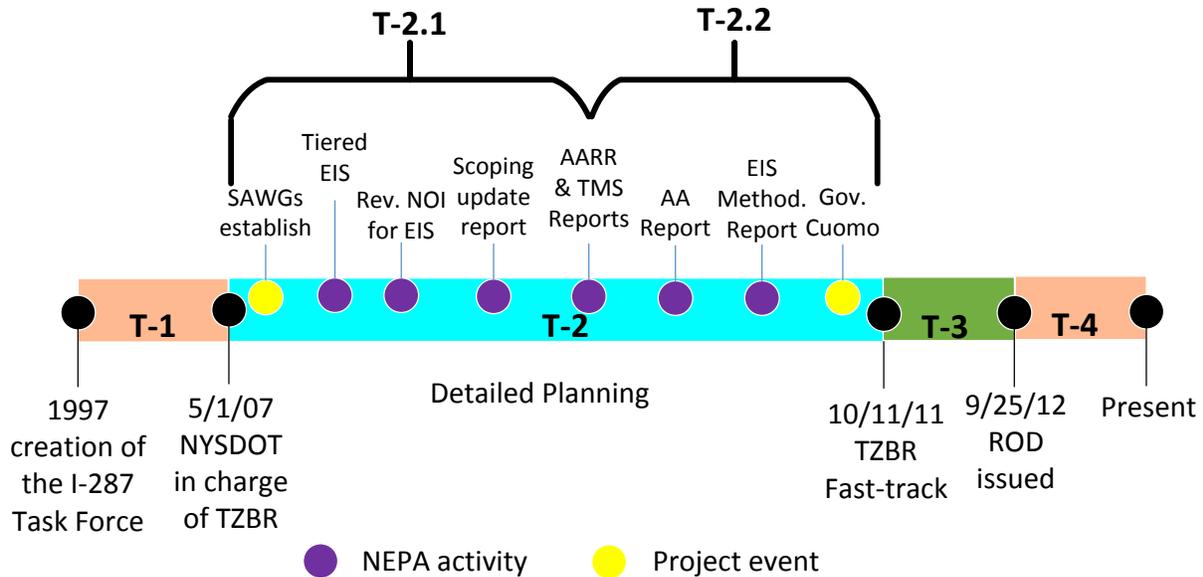


Figure 4.8. Period T-2 timeline

4.5.1. T-2.1 (May 2007 to September 2008)

The first part of Period T-2 (T-2.1) characterizes events that happened between May 2007, when NYSDOT became the leading agency, and September 2008, when the Transit Mode Selection (TMS) and the Alternatives Analysis for Rehabilitation and Replacement of the Tappan Zee Bridge (AARR) report were published by the project team.

In December 2006, Governor Pataki's term – who had previously initiated the project – ended and Governor Spitzer took office in January 2007. Spitzer made a few changes to the project. One of the major changes was to bring NYSDOT on board as the leading agency in the project development process. According to a Public Representative interviewed, one reason that the NYSDOT's assignment was the amount of disagreements between the two procuring agencies who teamed up to initiate the study of Tappan Zee Bridge/I-287 project – the NYSTA and the MTA Metro-North Rail (MTA/MNR). Moreover, the regional significance of the project made NYSDOT a more practical agency to assume the leadership role in the planning stage of the project development process (Public Representative). The assignment became official when the three agencies (i.e. the NYSTA and MTA/MNR and NYSDOT) signed a Memorandum of Agreement on May 1, 2007 to have NYSDOT as the leading agency (NYSDOT, 2008).

Upon becoming the leading agency in May 2007, NYSDOT established Stakeholders' Advisory Working Groups (SAWGs) to better involve the stakeholder community in the development process. The SAWGs consisted of members of the public and interested stakeholders and individuals. The objective of the SAWGs was to provide a two-way communication between the sponsors and stakeholders to keep them informed about the project and solicit their inputs and ideas (Public Representative). The SAWGs meetings were structured to facilitate an open and concurrent dialogue between stakeholders, and project and technical terms were presented in layman terms for participants (NYSDOT, 2009). According to a number of Public Representatives interviewed, SAWGs were an extremely helpful medium for

information exchange between the sponsors and stakeholders and quality discussions on important topics related to the project.

Five types of SWAGs were assigned to focus on five important topics on the project: *Transit, Finance, Land use, Environmental impact, and Bridge design*. Subsequent to the establishment of the SAWGs, seventy two SAWGs meetings were held to discuss the project’s issues relevant to any of the four SAWGs’ groups (NYSDOT, 2009).

Out of the seventy-two SAWGs meetings that were held, seventy one meetings’ summaries were available of which only 16 summaries actually reflected the conversations in the meetings. The nature of these meetings requires that the dialogues – between stakeholders and the sponsors – to be in forms of questions and answers. For example, a member asked “*Will cost data be prepared for each alternative?*” or “*Where and When will you factor in commercial traffic and interstate trucking, which are crucial to the region’s economy and pollution levels?*” or “*What are the factors that led to the 4D [alternative] option?*” Content analysis of the summary of these meetings showed that similar to previous period, issues of *Scope* and *Impacts* are the main two issues. Second level content analysis of these comments revealed that the majority of comments on *Scope* were related to *Transit*. Also, the majority of comments on *Impacts* were related to *Environmental Impacts*. A representative list of comments made in SAWGs meetings is presented in Table 4.7. Appendix A presents a detailed list of comments in these meetings.

Table 4.7. Representative stakeholder comments made in SAWGs meetings

Comment	Type	Theme	Sub-theme
Where would the noise walls begin given the huge, 100-foot drop as the replacement Tappan Zee Bridge would approach the Westchester landing?	Summary	Design / Impacts	Noise
What would the elevation of the shared use path be?	Summary	Design	Not Applicable
Will you need ventilation facilities for the BRT?	Summary	Design	Not Applicable
Given how much is happening with the BRT on the north side of Tarrytown, wouldn’t it make sense to select the short tunnel option to connect the CRT with Metro-North’s Hudson Line?	Summary	Scope	Transit
What about the elimination of the toll booth, not the toll collection, but the booth itself. Is anyone looking at alternative ways to collect tolls?	Summary	Tolls	Toll collection

Moreover, when Astrid Glynn became the NYSDOT’s Commissioner in February 2007, she split the environmental study process in two tiers to expedite the delivery of the integrated and multi-modal TZBR project in January 2008. Tier 1 included analysis of the transit mode associated with the preferred alternative; and, Tier 2 entailed analyses of highway and bridge options associated with the preferred alternative. (Higashide, 2008a; Murphy, 2008; NYSTA, 2008). The decision implied inclusion of mass

transit and was well received by transit and land use advocates (Higashide, 2008b). The Tri-State Transportation Campaign (TSTC), an advocacy group, praised the decision in a press release stating: “*The particular transit option the agency chose ... will effectively plan for the future needs of the region. In fact, the numbers show that this option will do the most to get people out of their cars*” (TSTC, 2008). However, with a \$4.4 billion budget deficit in New York State, transit advocates such as the TSTC and Scenic Hudson had grave concerns that the transit option in the project would be pushed to the side and never materialize (Higashide, 2008a; Murphy, 2008).

Because of the change made in the project team, Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) requested a new NOI to recognize the new role of NYSDOT and new Tiered environmental studies (NYSDOT, 2008). Following the publication of Revised NOI in February 2008, a new Scoping Update Packet Report was published to introduced and explain the new Tiered Scoping process. Following the publication of the Scoping Update Packet, three public meetings were held in February 2008 to discuss the changes in the process and other project related issues. More than 290 people attended the meetings and made over 620 comments on different matters on the project. Summaries of the meetings were available and stakeholder comments were analyzed. The analysis showed that the majority of the comments – more than 50% of all the comments – were related to *Scope*. The second major issue raised was related to *Impacts*. Similar to the previous public meetings, the majority of the comments on *Scope* were related to the issue of *Transit* and the main issue regarding the project *Impacts* was related to *Environmental Impacts*. Some of the comments that stakeholders made in these meetings are shown in Table 4.8.

Table 4.8. Representative stakeholder comments in scoping public meetings in Feb. 2008 (in T-2)

Comment	Source of comments	Type	Theme	Sub-theme
Favors full-corridor CRT that connects with each of the north-south Metro-North lines. An east-west train across the corridor suburbs is more necessary than a train to Manhattan.	Citizens	Written comments	Scope	Transit
Consider a high-speed elevated (Mono)rail (high speed +/- 200 mph and elevated for safety) connecting Stewart Airport with NYC through White Plains.	Citizens	Written comments	Scope	Transit
Compensation to the River Villages and to the property owners must be included in any plan because they are most affected by pollution and noise and will receive the least benefits.	Citizens	Written comments	Impacts	Environmental / Community Impacts
Concerned that tolls revenue will be used for other unrelated things instead of paying the bond for this project.	Citizens	Written comments	Funding & Tolls	

Subsequent to the scoping public meetings held in February 2008, the project team studied a feasibility of rehabilitation and replacing the Tappan Zee Bridge and different modes of transit across the 30-mile Tappan Zee Bridge/I-287 Corridor. In September, the team announced its recommendations and presented its results for the public review in form of two major draft reports: the *Alternatives Analysis for Rehabilitation and Replacement of the Tappan Zee Bridge (AARR)* report and the *Transit Mode Selection (TMS)* Report. Events and activities that followed the publication of these documents are presented in next section (T-2.2).

4.5.2. T-2.2 (Sep. 2008 to Oct. 2011)

T-2.2 represents events and activities between the publication of AARR and TMS reports in September 2008 and when the project was fast-tracked in October 2011.

The AARR and TMS reports suggested replacement the Tappan Zee Bridge and inclusion of two modes of transit: a Bus Rapid Transit (BRT) and a Commuter Rail Transit (CRT) (NYSDOT, 2009c). The suggestions were supported by transit advocates such as Tri-State Transportation Campaign (TSTC) which stated in a press release (TSTC, 2008):

“[TSTC] is pleased that the NYSDOT has recommended replacement of the Tappan Zee Bridge and the addition of transit service across the I-287 corridor. The particular transit option the agency chose ... is a smart one that will effectively plan for the future needs of the region.”

Following the publication of AARR and TMS reports, the project team hosted three public information meetings in October 2008 to discuss the reports' findings. A total of 84 individuals attended those meetings and submitted a total of 255 comments. Summaries of these public meetings were available and analyzed. The results showed that similar to the previous public meetings the majority of the comments were related to *Scope* and more specifically to *Transit*. The second major stakeholder concern was related to project's *Impacts* and specifically *Environmental Impacts*. Some stakeholders had also recognized the scope creep as more things were included and were concerned about the funding of the project; for example, one citizen mentioned: *“Where do you think you will get the money for all of the ideas you have been considering for this project?”*

Table 4.9 presents a number of the comments. A more detailed list of comments are presented in Appendix A.

Table 4.9. Representative stakeholder comments made in public information meetings in Oct. 2008 (in T-2)

Comment	Source of comments	Type	Theme	Sub-theme
The highest priority must be given to creating the express roadway option for BRT in Westchester, thereby mitigating the negative impacts of BRT on already-congested local roadways.	Citizens	Written comments	Scope	Transit / Bus Rapid Transit (BRT)
[We] support at least building bridge now with the capacity to add a rail component.	Citizens	Written comments	Scope	Transit
Noise barriers are needed, given construction work on Thruway and the increase in truck traffic once the work is finished, both of which will impact the neighborhoods.	Citizens	Written comments	Impacts	Construction / Community Impacts

Following the information public meetings – held in October 2008 – an Alternatives Analysis Report was published in March 2009, which summarized the environmental analysis conducted during the scoping stage. The report also suggested that the Rehabilitation was not reasonable or prudent and the Replacement options with consideration of mass transit should be advanced for the Draft EIS. The report argued that while analysis had shown that the existing Tappan Zee Bridge could be rehabilitated to generally comply with standards, the extent of the necessary alterations would be extraordinary. These alterations would result in a structure that would be 80% the same as a Replacement Option, with similar environmental impacts, traffic and transit operations, and cost. It would be unreasonable to retain the remaining 20% in a rehabilitated Tappan Zee Bridge with inferior engineering performance and higher life-cycle costs compared to a replacement bridge. The report also suggested a range of mass transit options for the project including Commuter Transit Rail (CRT), Bus Rapid Transit (BRT), and a combination of BRT and High Occupancy Vehicle (HOV) lanes (NYSDOT, 2009a).

The publication of the Alternatives Analysis Report in March 2009 marked the conclusion of the scoping process; nonetheless, there were five Public Working Meetings held in November and December of 2009 to discuss transit route options throughout the corridor as well as possible configurations for a new Tappan Zee Bridge. There were no records available for these Public Working meetings. In addition to the public working meetings, a series of SAWGs meetings were held to discuss the mass transit options and the new bridge’s designs that were recommended by the final Alternative Analysis report (NYSDOT, 2009b).

After the completion of the scoping process, the project team – NYSDOT, NYSTA, and MTA/MNR – published an EIS Methodology Report in September 2010. The purpose of the report was to demonstrate the methodologies that would be used to evaluate the impact of the project in the preparation of EIS documents.

By early 2011, financing of the project was still unclear. With the state’s financial deficit, funding had become a pressing issue as one article described the dilemma “*Figuring out how to improve Tappan Zee Bridge is the easy part; the hard part is paying for it*” (Grossman, 2011). Facing the funding dilemma and the large scope and high price tag for the project (an estimated \$16 billion for the entire project including the new bridge, Corridor improvements, and BRT/CRT) some state officials started to consider innovative delivery methods to finance and develop the project. State Sen. Andrea Stewart-Cousins, a Democrat, stated “*Unless things change very favorably rather quickly, it’s unlikely that either the federal or state government will be able to finance the changes they’re talking about. I am not uncomfortable with finding private partners*” (Grossman, 2011).

In January 2011, Governor Cuomo elected to office; recognizing the urgent need for replacing the original bridge, his administration made a number of changes to the project. These changes are discussed in Period T-3 in detail.

4.5.3. Summary

Table 4.10 summarizes the involvement activities that happened in Period T-2. It also indicates that whether such activities were within NEPA or outside NEPA requirements. The involvement activities are also categorized using the involvement typology suggested by Rowe and Frewer (2005).

Table 4.10. Stakeholder involvement mechanisms used in T-2

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
SAWGs meeting	72	0	0	72	0	72
Public meetings	11	11	11	0	11	0
Press release	2	2	0	0	1	1
Study report	6	6	0	0	6	0
Total:	91	19	11	72	18	73

By comparing the involvement activities in this period (shown in Table 4.10) with the involvements in period T-1 (shown in Table 4.6), it is observed that the total number of involvement activities has increased significantly from 22 in period T-1 to 91 in T-2. This shift is attributed to a large number of SAWGs meetings held in period T-2. This has also resulted in an increase in the quantity of *Participation* involvements in period T-2.

Figure 4.9 demonstrates stakeholder issues that were raised in period T-2. These issues were extracted from three scoping public meetings (held in February 2008), three public information meetings (held in October 2008), 72 SAWGs meeting summaries, 12 online blogs, and individuals’ online comments on four news articles. These issues are presented by frequency, where each issue represents its percentage of the overall issues. The scoping process and the Alternatives Analysis of the project continued into period T-2; therefore, it is not surprising that in this period, similar to Period T-1, issues related to *Scope* and *Impacts* are still the most prevalent issues. However, *Bridge Design* has become a third dominant stakeholder issue in this period; *Purpose & Need* was previously the third issue, but its prevalence has dropped significantly to roughly 1%.

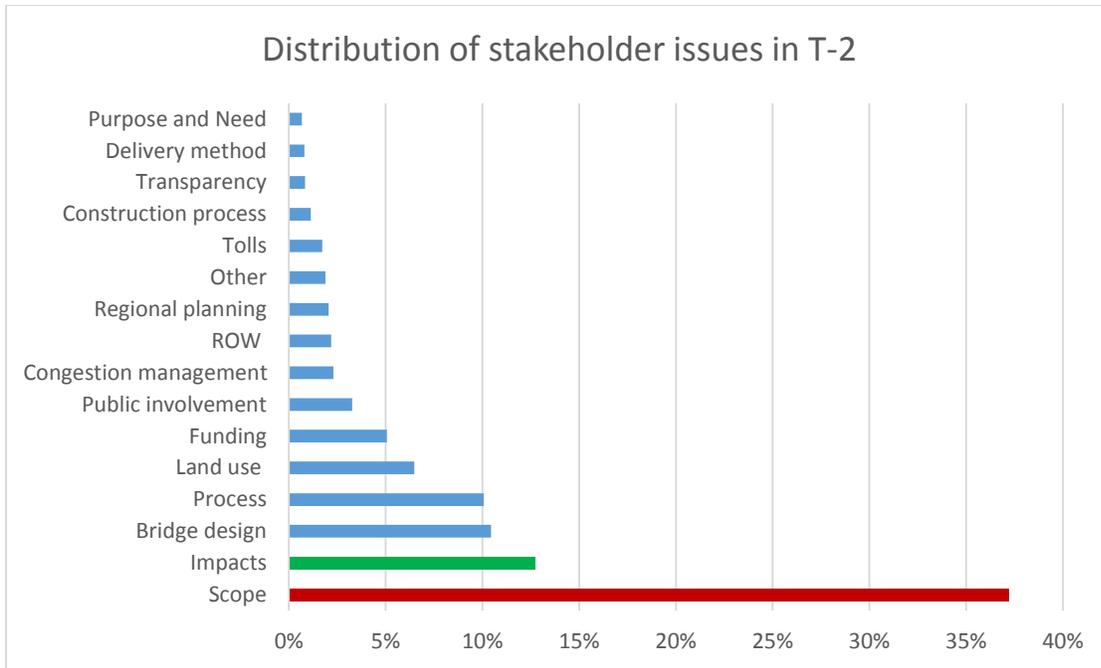


Figure 4.9. Stakeholder issues raised in T-2

To investigate the issues related to *Scope*, a distribution of these issues is shown Figure 4.10. In this period, the issue of *Transit* continued to dominate the discussions related to the project’s *Scope*.

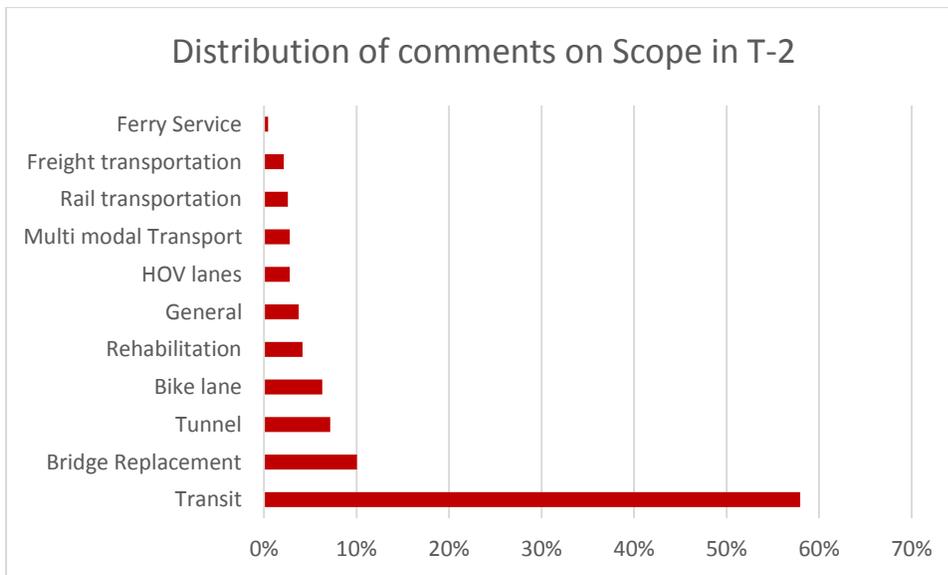


Figure 4.10. Distribution of stakeholder comments made on Scope in T-2

Figure 4.11 also demonstrates themes of comments made by stakeholders on the *Impacts*. The figure shows that *Environmental Impacts* continued to be the most prevalent issue.

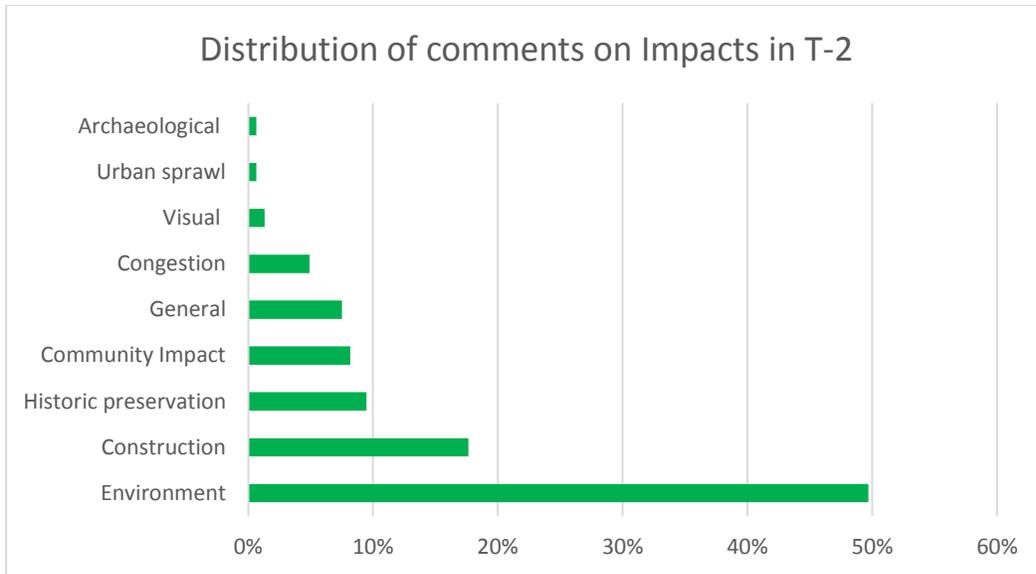


Figure 4.11. Distribution of stakeholder comments made on project's impacts in T-2

4.6. Period T-3 (October 2011 to September 2012)

This period characterizes the time between October 2011 – when the project was fast-tracked – and September 2012 – when the Record of Decision (ROD) was published for the project. In this period, the scope and title of the project was changed and the environmental studies were expedited. Figure 4.12 demonstrates a timeline of this period in which significant project events are outlined. To investigate events in this period, this period is divided into three sub-periods: T-3.1, T-3.2, and T-3.3.

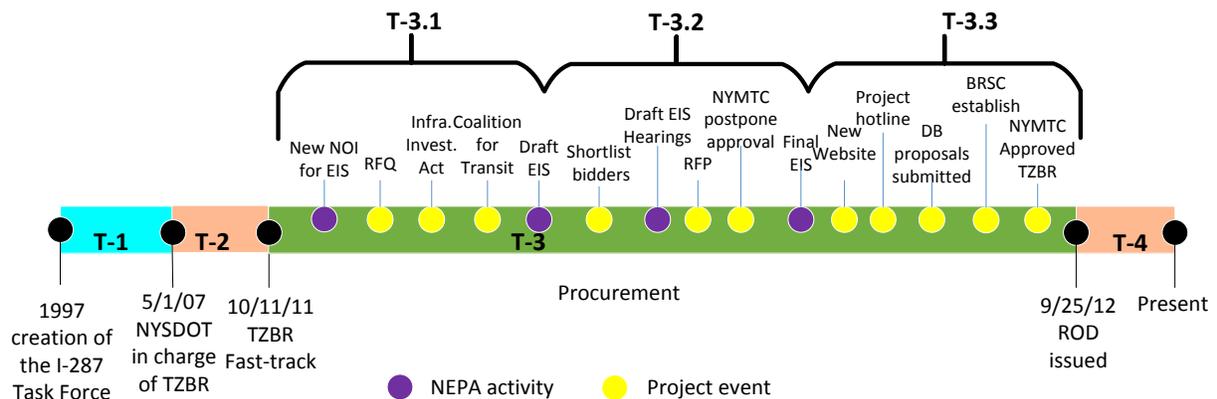


Figure 4.12. Period T-3 timeline

4.6.1. T-3.1 (October 2011 to July 2012)

The first part of Period T-3 characterizes events and activities that took place in the project from October 2011 when the project was fast tracked until the preparation and publication of Draft EIS in July 2012.

Shortly after Governor Cuomo was elected to office in January 2011, Cuomo administration recognized the lengthy 10 years of planning and environmental studies of the project without a significant

advancement in the process. The Governor called it “10 years of dysfunction” and decided to make changes to the project to move the project forward (Public Representative).

With urgent need for replacing the original Tappan Zee Bridge and lack of sufficient resources to secure the funding of the entire Tappan Zee Bridge/I-287 Corridor project, Cuomo administration made three main decisions. First, to make the project feasible, the administration reduced the scope to only replacing the bridge and excluded the Corridor improvements and mass transit option. Second, the administration applied to expedite the new environmental studies and got the fast-track approval in October 2011. Lastly, the administration assigned NYSTA – the owner of the bridge – as the leading agency in the development process. Subsequently, the project’s title was changed from the Tappan Zee Bridge Replacement Project to the *New NY Bridge Project* and a new NOI was issued for the new project’s environmental studies on October 12, 2012.

According to a Public Representative interviewed, one reason that the project was given back to its owner NYSTA was because the corridor improvements and transit options were eliminated from the scope, hence, the transition was a common sense. The Public Representative stated “NYSTA is an agency that has only highways and bridges with no mass transit in its portfolio; therefore, the [leadership] transition from NYSDOT to NYSTA [as the owner of the bridge] made sense.”

After the issuance of the new NOI for EIS in October 2011, two public scoping briefings were held by the sponsoring agencies on October 25 and 27, 2011, to introduce the new scope and explain the expedited environmental review process. There were no records kept for the briefings; however, there were a total of 390 written comments available from stakeholders following the two briefing events. Analysis of the written comments shows that *Scope* is the most prominent issue in followed by the issue of *Funding*. The ascendancy of the issue of *Scope* is attributed to the large number of comments on *Transit* in this period. Table 4.11 shows a number of written comments recorded for the scoping briefings. A more detailed list of comments are presented in Appendix A.

Table 4.11. Representative stakeholder written comments on Public Scoping Briefings (in T-3)

Comments	Source	Type	Theme
A bus lane seems to make sense. Most people would ride a bus from say White Plains. It would also potentially reduce traffic. Why is it not being considered on a minimal level?	Citizens	Written comments	Transit
After a decade of studying the many transportation options, now is NOT the time to dismiss BRT, commuter rail and light rail as part of the transportation alternatives on a new Tappan Zee Bridge and for the Rockland to Westchester travel corridor as a whole. We do not support constructing a new highway -only bridge on which none of these public transportation options are included.	Citizens	Written comments	Transit
The submitted scoping document is inadequate and must be modified. It states that funding was not available for the full project so public transportation was eliminated. It's not clear how this decision was made or whether this presumption includes both bus rapid transit and rail.	Citizens	Written comments	Transparency / Transit
Ways of funding the construction of the new bridge must be resolved quickly. The options, including NYSTA bonding, infrastructure loans, private and public pension loans, and private and public partnerships as well as traditional federal and state funding are all possibilities. The lead agency for the project must resolve this quickly because some options will require state legislation to go forward.	Citizens	Written comments	Funding

In addition to citizen comments – shown in Table 4.11 – the exclusion of transit prompted reactions from government officials as well as transit advocacy groups. Westchester County Executive Rob Astorino expressed that he was “troubled by the missing mass transit component.” He stated that the new bridge would be “already at capacity on the day it opens,” and he called on the project to allow for both public and private funding. Senator Andrea Stewart Cousins stated (Binkele, 2011):

“I am calling for Federal and State officials to include mass transit in their plans to rebuild the bridge. While I am optimistic that the Federal government has put the Tappan Zee Bridge project on the fast track for approval, it is important that we take this opportunity to build a bridge for the future.”

In a statement, Kate Slevin, the executive director of TSTC (a transit advocacy group), argued that postponing transit was against the facts and findings of a decade-long study. She feared that the bridge

would never have transit in the future. She referred to George Washington Bridge and added (TSTC, 2011):

“There is a lesson to be learned from George Washington Bridge. The bridge was supposed to handle transit service but ... [the] road portion went ahead first. Obviously, the transit was never completed.”

With the signs of stakeholders’ disappointment for the absence of transit in the new bridge, Joan McDonald, NYSDOT’s Commissioner assured stakeholders that transit on the bridge would be built in the future. She stated in an interview (Hinds, 2011):

“The transit has not gone anywhere. I think it’s very important to clarify that. We’re speeding up construction of the bridge, we’re not slowing down transit. The project that’s on the table now will be built to not preclude transit in the future, when it is financially feasible.”

Nonetheless, there were skepticisms about the future of transit. Stakeholders referred to George Washington Bridge which had the same plan but mass transit on the bridge was never realized. Westchester County Executives Scott Vanderhoef argued that *“you can’t just throw a bridge down there and say we’ll build the rest of it later”* (Binkele, 2011). Chuck Lesnick, Yonkers City Council President, was skeptical about the issue and said *“The George Washington Bridge which recently turned 80 years old was built with the promise that a mass transit component would soon be added. It never was”* (Binkele, 2011). Also, Harriett Cornell, a Rockland County legislator, found that hard to believe that the sponsors are really interested in adding transit to the project, he said *“I think there’s a bit of a difference between not precluding public transportation and actively making provision for future transit in the construction”* (Hinds, 2011).

Subsequently, in December 2011, eleven local elected officials and a group of environmental, labor, social justice, and transportation organizations formed a coalition in support of the inclusion of transit in the project. Among the elected officials were County Executives Scott Vanderhoef and Rob Astorino, State Senators David Carlucci and Andrea Stewart-Cousins (Kazis, 2011).

In the interim, NYSTA and NYSDOT jointly issued a Request for Qualification (RFQ) for Design-Build services for the New NY Bridge project on November 21, 2011. Although the sponsors had issued the RFQ, design-build contracts were not authorized in New York State. Therefore, Governor Cuomo signed the “Infrastructure Investment Act” into law on December 9, 2011, after the Legislature passed the Act in a special session with little fanfare. The legislation would authorize the state to adopt Design-Build for infrastructure development projects (Braun, 2012; Buglione, 2011). Subsequent to the issuance of RFQ, on December 14, 2011, NYSTA and NYSDOT hosted a Pre-Statement of Qualification (SOQ) meeting to discuss the project delivery and solicit input from the industry. Five Design-Build teams responded to the RFQ and submitted Statement of Qualifications (SOQ). In February 2012, the project team shortlisted four design-build consortiums. Subsequently, a Request for Proposals (RFP) was published on March 9, 2012 (NYSTA, 2012).

4.6.2. T-3.2 (January 2012 to July 2012)

Shortly after the Public Scoping Briefings (held in October 2011), the Draft EIS was issued in January 2012. For justifying the elimination of transit in the Draft EIS, the sponsors presented new cost estimates for transit in the Draft EIS that contradicted previous estimates. In 2009, the cost of BRT was estimated at \$897 million; while estimates in the Draft EIS suggested the cost of \$4.6 billion with little explanation for the increase (Kazis, 2012b). This generated issues related to financial transparency in the new EIS process.

Subsequent to the publication of Draft EIS, four Public Hearings were held on February 28th and March 1st of 2012 as required by NEPA; there were two sessions on each day. More than 180 individuals attended the public hearings and made total number of 260 comments. The majority of the comments were related to the *Draft EIS Issues* including: the preparation of the Draft EIS, insufficient time given to review the documents, and unrealistic cost estimation of transit. The other major concern of the stakeholders was the exclusion of *Transit*; similar to the previous involvements, stakeholders were requesting mass transit in the project. Table 4.12 presents a few stakeholder comments in these meetings. Appendix A provides a more detailed list of comments in these public hearings.

Table 4.12. Representative stakeholder comments in Draft EIS public hearings (T-3)

Comments	Source	Type	Theme	Sub-theme
First, the amount of time that the public has been given to review and comment on the DEIS is wholly insufficient. We have been given the minimum number of days as required by law to comment and read this DEIS that is very long and addresses a multitude of complex issues.	Citizens	Public meeting	Draft EIS Issues	Flawed EIS process
The cost estimates for the alternatives mentioned in the DEIS have no accompanying cost studies to show how these figures were calculated.	Citizens	Public meeting	Draft EIS Issues	Inflated cost of transit
We do hope that in the final analysis there will be provisions for transit and that whatever transit service is provided will include provision for bikes on buses.	Citizens	Public meeting	Scope	Transit
In fact, just two years ago, the DOT Scoping Summary stated that mass transit offers the only realistic means of addressing the requirements of improving mobility in the corridor.	Citizens	Written comments	Scope	Transit

Despite the opposition to the exclusion of transit, the project moved forward with the issuance of Draft EIS. Additionally, NYSDOT commissioner made a statement before the Draft EIS public hearings about the inclusion of transit (Hinds, 2012c):

“We don’t think it is financially feasible at this time for transit to be included...at some point in the future ... we will make sure that [mass transit] happens. So we are building the bridge to not preclude it in the future.”

Consequently, in July 2012 the two County executives – Rob Astorino and Scott Vanderhoef – who were also voting members of the New York Metropolitan Transportation Council (NYMTC) – warned the project sponsors that they would block the project in the Council which would have prevented the project from federal funding (Hinds, 2012b). Following the executives’ warning, the sponsors agreed to allow buses to use the “emergency access” lanes on the bridge on both spans of the new bridge only during the rush hour (Kazis, 2012a). This decision was applauded by transit advocates. County Executive Scott Vanderhoef called it “*an important step in the right direction*” and urged for more transit options on the bridge (Kazis, 2012a). TSTC Executive Director Veronica Vanterpool said, “*This is an important first step, and a small victory, to improve bus commutes for hundreds of existing bus riders who idle in gridlock along with cars and trucks*” (Kazis, 2012a).

Despite the allowance by the project team to accommodate bus commute on the bridge during rush hour, on July 5th 2012, the county executives postponed the upcoming NYMTC meeting scheduled on July 10th 2012 until after being able to review the Final EIS (Handler, 2012a). Subsequently, the project sponsors published the Final EIS on July 25th 2012.

4.6.3. T-3.3 (July 2012 to September 2012)

After the Draft EIS public hearings were held in February 2012, project sponsors responded to the stakeholder comments made on Draft EIS and published the Final EIS on July 25th 2012. There has been no record of stakeholder involvement activity (i.e. public hearing) identified following the publication of Final EIS; however, a total of 177 stakeholders’ written comments were submitted in forms of letters and emails commenting of the Final EIS. Table 4.13 shows a number of these comments.

Table 4.13. Representative stakeholder written comments on Final EIS

Comments	Source	Type	Theme	Sub-theme
To date, the NYSDOT has not addressed the ongoing noise pollution caused by the Tappan Zee Bridge or its proposed Short- and Long-Span alternatives.	Citizens	Written comments	Impacts	Noise
All efforts must be made to further reduce impacts to oyster habitat and live oysters. An impact of this magnitude could have serious repercussions for the much larger ecosystem of fledging oyster research and restoration efforts.	Citizens	Written comments	Impacts	Environmental
When the construction phase for the bridge begins, where will the staging areas be located on the Tarrytown side of the river to support the project? Specifically, how will the workers and the equipment be delivered to the worksite on a daily basis.	Citizens	Written comments	Impacts	Construction
Obviously as this framework was defined after release of the final EIS, its very significant components setting forth how mass transit needs are to be considered immediately are not reflected in the final EIS. It is critical that this framework be acknowledged.	Citizens	Written comments	Scope	Transit

Content analysis of the 177 written comments reveals that the two main issues are related to *Impacts* and *Scope* followed by *Draft EIS Issues*. Moreover, second level codings of comments on *Impacts* and *Scope* show that the major issues on *Impacts* are related to *Noise*, *Environmental*, and *Construction Impacts*; while, major issue on *Scope* is related to the issue of *Transit*. Also, as the project’s planning phase was getting completed and the Design & Construction Phase was approaching, it was normal to observe that stakeholders were getting concerned about *Noise*, *Environmental*, and *Construction Impacts*. The popularity of issues on *Transit* remains to be consistent with the preceding periods in the project. More detailed comments and relevant frequency charts are presented in Appendix A.

With the state being concerned about the potential blockage of the project by the County Executives, Governor Cuomo designated Lawrence Schwartz, his secretary and the former deputy Westchester County executive, as his personal “on-the-ground representative” to rally support for the project in Westchester and Rockland counties, where the County executives had been demanding for transit on the project (Dicker, 2012). The Governor also started a comprehensive stakeholder involvement initiative. The initiative involved launching a new project website, www.NewNYBridge.com, a toll free hotline, 855 TZBRIDGE, and a series of community meetings in Westchester and Rockland Counties (NYSDOT, 2012).

These stakeholder involvement activities and specifically the community meetings seemed to play a crucial role in successfully advancing the project. According to a Public Representative interviewed the

community meetings *“had been extremely helpful in fortifying support for the project by the communities along the river; because, the meetings provided maximum transparency and support from the project team.”* Project officials personally attended the community meetings and met with citizens face to face which showed their support for the communities (Public Representative). Furthermore, Paul Gallay, president of Riverkeeper (an environmental non-profit organization of the Hudson River), supported the involvement initiative adopted by the project team and hoped that these activities would *“not just a formality and the beginning of a more meaningful dialogue”* (Handler, 2012b).

Meanwhile, following the issuance of the Request for Proposals (RFP) on March 9, 2012, three design-build consortiums submitted detailed proposals on July 27th 2012. Furthermore, in August 2012, a Blue Ribbon Selection Committee (BRSC) was established to evaluate the three design-build proposals and recommend the best value proposal (BRSC, 2012).

Moreover, on August 16, 2012, Cuomo and the county executives of Westchester and Rockland reached an agreement regarding the mass transit on the project. The county executives announced their support for the project in exchange for two concessions: (1) a guarantee of rush hour bus lanes on the new bridge, and (2) the creation of a regional Mass Transit Task Force (MTTF) which would report back in one year with recommendations for transit on the bridge (S. Miller, 2012). Also, recognizing unclear financing of the project, the county executives announced the creation of a working group that would focus on project financing and bridge tolls, a task force named *“Toll and Financing Task Force”* (S. Miller, 2012).

Veronica Vanterpool executive director of TSTC (a transit advocacy group) supported the agreement describing it as *“a sign that this bridge project is taking turn for the better.”* TSTC executive director commended the agreement and added, *“The deciding factor will be whether this [agreement] ... brings transit further into reality. Financial support, diverse engagement, and urgency in the planning process are the absolute minimum criteria to make this happen”* (Vanterpool, 2012).

Subsequent to the agreement, the New York Metropolitan Transportation Council (NYMTC) convened on August 20th 2012 and approved the project for federal funding application. With that approval project sponsors submitted a TIFIA loan application for \$2.9 billion on August 20th 2012 (Handler, 2012c).

In September 2012, the environmental study of the New NY Bridge was completed and the Record of Decision (ROD) was issued by FHWA. This development allowed NYSDOT and NYSTA to enter into a Design-Build contract with Tappan Zee Constructors in January 2013 and begin construction. According to a Public Representative, the environmental process, typically, takes about three years for projects of this size, but with the expedited process, the process took about 10 months to complete. To underline the significance of the recent milestone, Governor Cuomo said in an announcement, *“This was the aspect of the project that had me holding my breath, and I’m exhaled today. This was really a big hurdle”* (Klopott, 2012), he added *“It [ROD] doesn’t build the bridge – we still have to pick a contractor, we still have to work out the financing, but the environmental review is basically completed”* (Hinds, 2012a).

4.6.4. Summary

Table 4.14 summarizes the involvement activities that happened in Period T-3. In this table the project hotline and the new website are classified as *Communication* due to a one-way of information flow in these involvement activities – in these activities information is provided from project sponsors to the stakeholders.

Table 4.14. Stakeholder involvement mechanisms used in T-3

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	2	2	2	0	2	0
Community meetings	18	18	18	0	0	18
Public hearings	4	4	4	0	4	0
Press release	7	7	0	0	1	6
Study report	4	4	0	0	3	1
Project hotline	1	1	0	0	0	1
Project website	1	1	0	0	0	1
Total:	37	37	24	0	10	27

By comparing the involvement activities in this period with period T-2 (shown in Table 4.10), it is observed that the total number of involvement activities has decreased significantly from 91 involvement in T-2 to only 37 in period T-3. Another shift in the involvement strategy between T-2 and T-3 is the sharp decrease in the quantity of *Participation* involvement from 72 to zero. This change is the result of the abandonment of SAWGs in period T-3 – SAWGs ceased when the project was fast-tracked in October 2011. Another change in the stakeholder involvement strategy in period T-3 compared to T-2 is the significantly lower number of involvement activities that are done outside NEPA requirements; in T-2 there are 73 non-NEPA activities and that has decreased to 27 in T-3. Table 4.14 also indicates that main involvement strategy in period T-3 was *Communication*; in other words, the majority of the involvements were *Communication* which reveals that in this period, sponsors were disseminating information rather than soliciting input from stakeholders.

Figure 4.13 demonstrates stakeholder issues in period T-3. These issues were extracted from one set of written comments following two public scoping briefings, four public hearing transcripts following the publication of Draft EIS, and stakeholders' written comments following the publication of Final EIS as well as stakeholders' online comments on 40 blogs and 23 news articles. These issues are presented by frequency, where each issue represents its percentage of the overall issues. The three main issues are related to *Scope*, *Impacts*, and *Draft EIS Issues*.

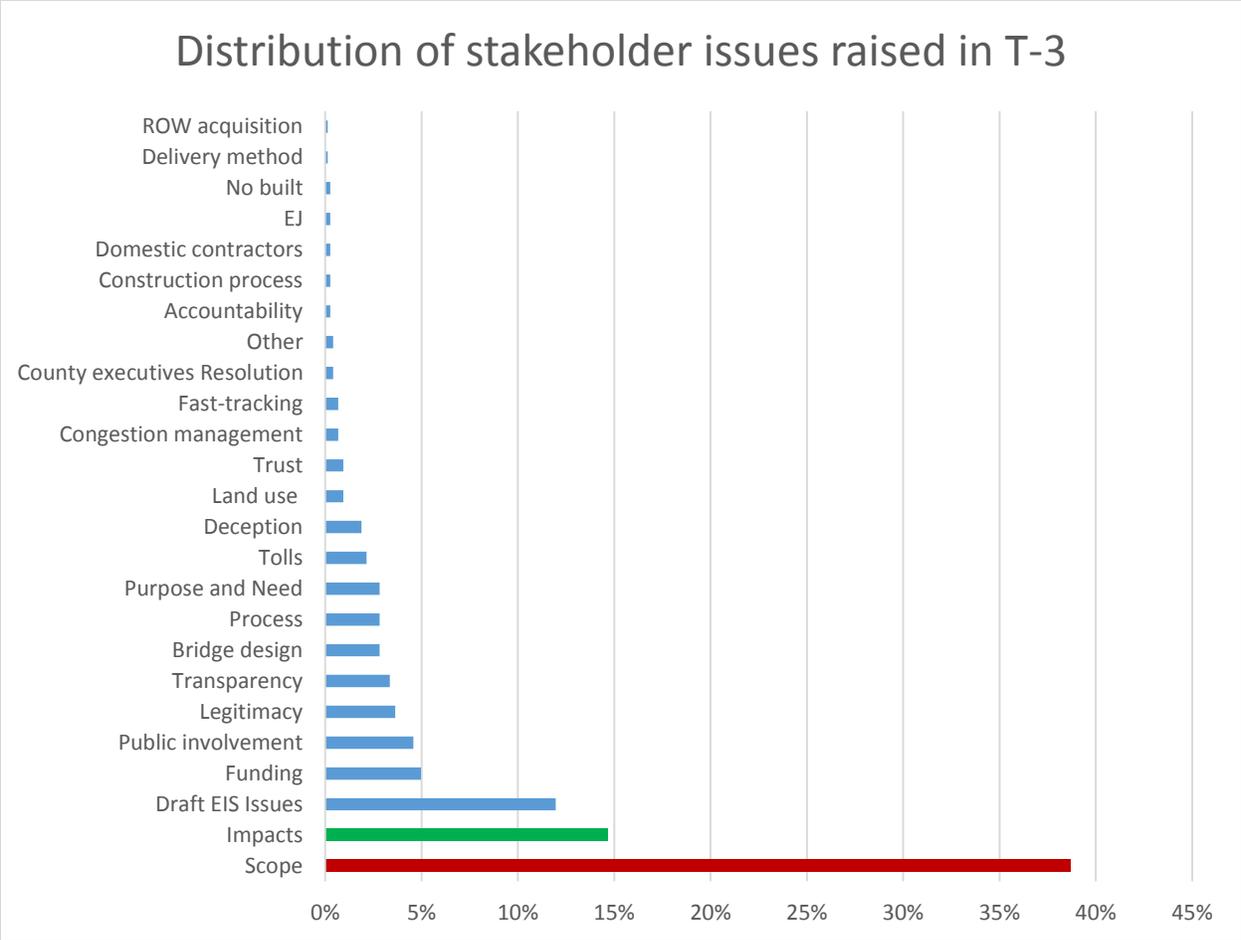


Figure 4.13. Stakeholder issues raised in period T-3

As the project transitions into T-3, the issues of *Scope* and *Impacts* remains the most prevalent issues. Furthermore, the environmental study of the project was expedited which entailed a shorter time for reviewing and commenting on the Draft EIS prepared. This issue triggered a new set of comments about the *Draft EIS Issues* as shown in Figure 4.13. Hence, a new trend of issues related to *Draft EIS Issues* emerged in period T-3. While *Bridge Design* is the third ranking issues in period T-2, this issue appears to be a minor issue in period T-3; in contrast, issues related to *Draft EIS Issues* emerged as the third major issue in this period.

Figure 4.14 illustrates percentages of stakeholder comments on *Scope*. In this period, *Transit* continued to dominate the issues related to *Scope*. This observation is consistent with the preceding period (period T-2) in which *Transit* was the prominent issue within *Scope*.

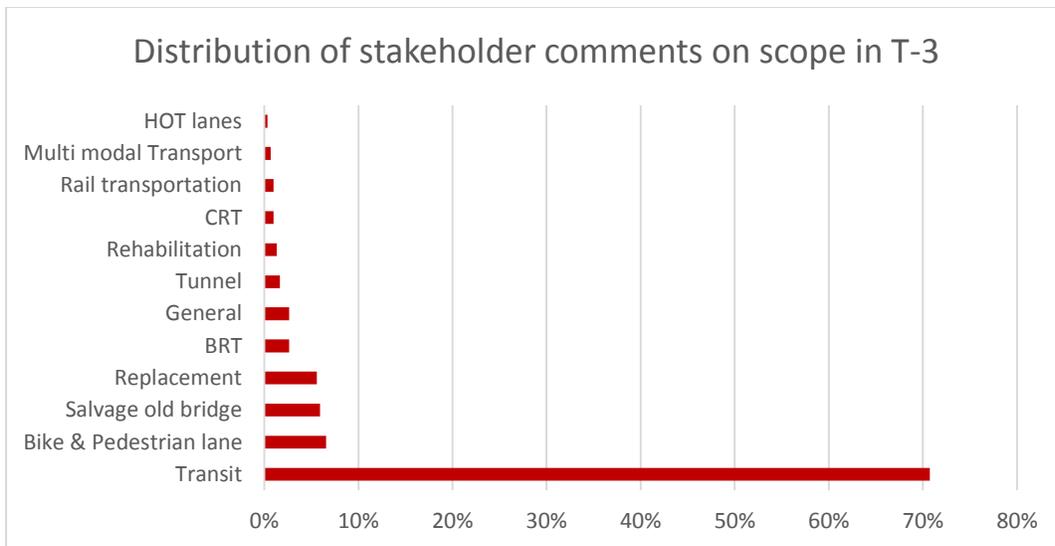


Figure 4.14. Stakeholder issues on scope raised in T-3

Figure 4.15 demonstrates percentages of issues on *Impacts*. As shown, the issues related to *Noise*, *Construction*, and *Environment* are the main concerns of stakeholders on *Impacts*. The emergence of issues related to *Noise* may be related to the development stage of the project at this period. As the procurement process is advancing in this period, stakeholders are becoming more concerned about upcoming construction and its impacts. These concerns are reflected in form of comments on *Noise* and *Construction Impacts* in Figure 4.15.

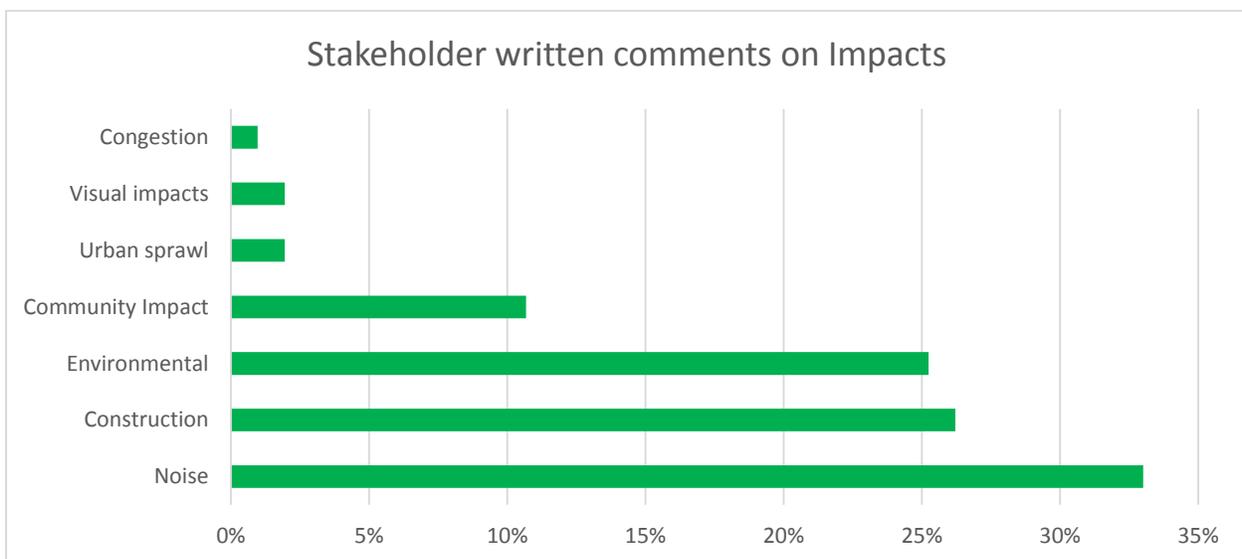


Figure 4.15. Stakeholder issues on Impacts T-3

Figure 4.16 demonstrates the distribution of comments made by stakeholders on the *Draft EIS Issues*. As shown in the figure, the majority of the comments are related to *Flawed EIS process* followed by the *Alternatives Analysis (AA) Issues* and *Financial Transparency* in the Draft EIS process.

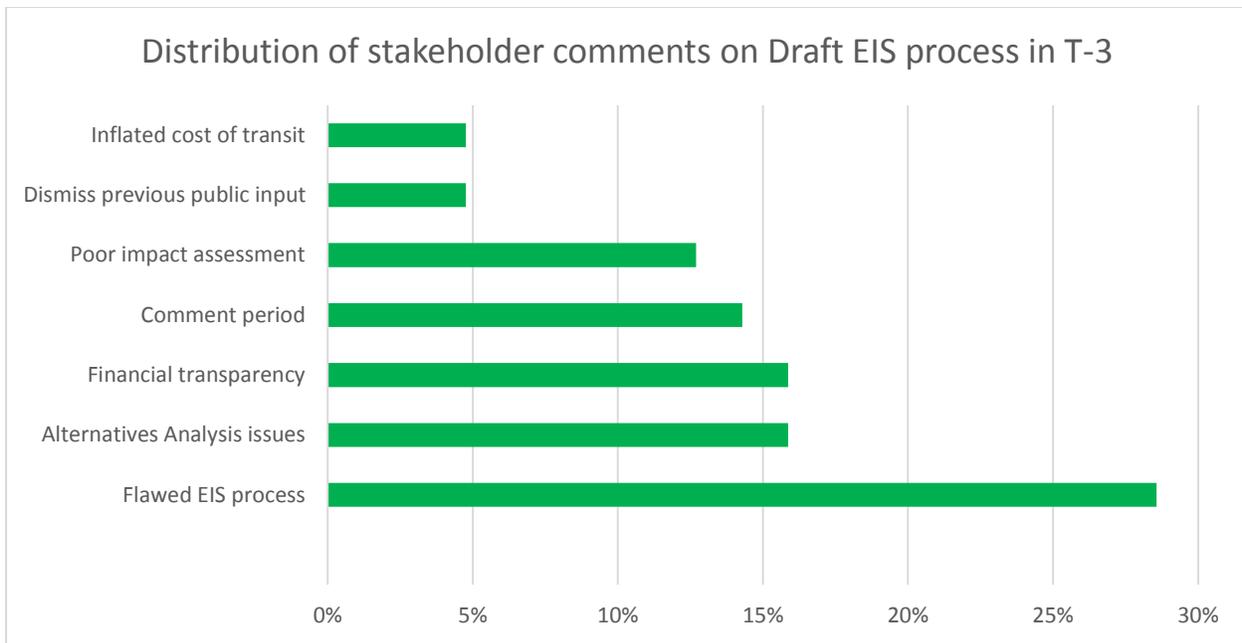


Figure 4.16. Stakeholder comments on New EIS process raised in T-3

4.7. Period T-4 (July 2012 to present)

This period starts when the environmental study of the project was completed – by the publication of ROD in September 2012 – and continues until present day. Period T-4 characterizes the Design & Construction Phase of the project since the design-build contract was executed early in this period. Figure 4.17 demonstrates a timeline of this period.

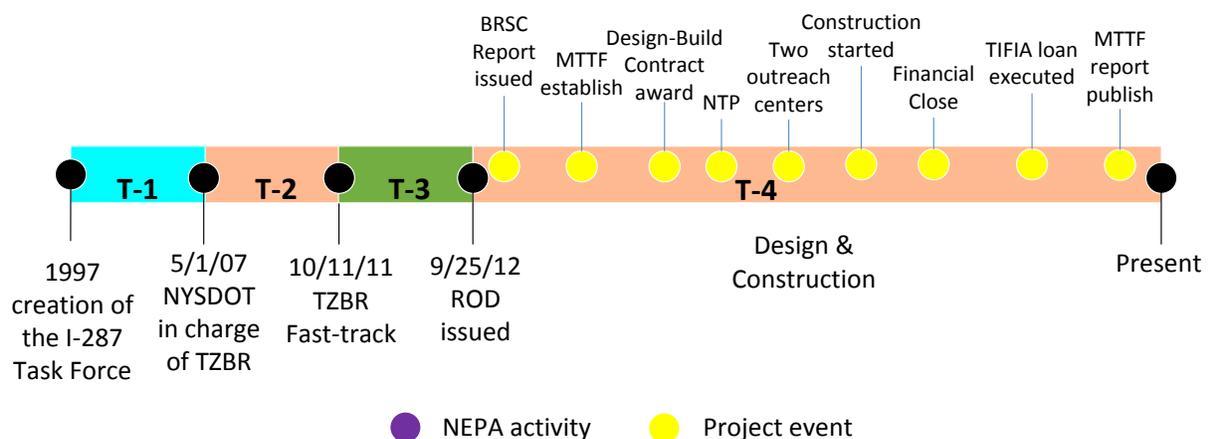


Figure 4.17. Period T-4 timeline

Subsequent to the resolution between the Governor and the county executives on August 16th 2012, the Mass Transit Task Force (MTTF) was commissioned in December 2012. The MTTF comprised of 31 members whom represented key stakeholders from around the region who had an interest in developing transit across the I-287 Corridor and in their local communities. MTTF conducted transit

studies in the corridor and in February 2014, recommended Bus Rapid Transit (BRT) for the corridor as a short-term transit solution for the region (Rife, 2013).

Subsequently, on November 15, 2012, the Blue Ribbon Selection Committee (BRSC) suggested Tappan Zee Constructors as the best value proposer (BRSC, 2012). NYSTA's executive board concurred with BRSC's recommendation and executed the design-build contract with Tappan Zee Constructors on January 7th 2013. Subsequently, Notice to Proceed (NTP) was issued on January 18th 2013 (NYSTA, 2013).

The project sponsors conducted 6 more community meetings in early 2013 and opened two outreach centers in Nyack and Westchester on February 5, 2013. According to a Public Representative interviewed, these outreach centers were extremely helpful in informing the stakeholders; these centers operate 7 days a week from 8am until 8pm and more than 11,000 visitors have frequented the facilities.

Meanwhile, the TIFIA loan application was approved for the amount of \$1.6 billion in December 2013 and the project reached financial close on December 18, 2013. With the approved \$1.6 billion TIFIA loan, still there was a gap of \$2.4 billion to cover the overall \$4 billion cost of the project. This uncertainty about funding resources encouraged skepticism about the possibility of funding the project by toll revenue bonds which would have resulted in steep toll hikes on the bridge (Dawid, 2013). State Senator John A. DeFrancisco, chairman of the Senate Finance Committee was concerned about future toll rates when he stated, *"There would have to be an awful lot of tolls to make up for the \$2.3 billion,"* referring to the gap that remained to be financed (Berger, 2014a). The skepticism was in part based on that the tolls on Tappan Zee had been kept artificially low – tolls on Tappan Zee Bridge is currently \$5 compared with \$15 for the George Washington Bridge which is operated by the Port Authority of New York and New Jersey (Berger, 2014a).

In search for low-cost funding resources to keep the tolls down, Governor Cuomo created an "infrastructure bank" which was financed by settlements with financial institutions accused of violating state banking and insurance laws. According to state officials, the infrastructure bank could raise up to \$4.8 billion (Berger, 2014b). Dani Lever, a spokeswoman for Governor Cuomo stated, *"The Governor's objective is to protect toll payers and avoid or limit any toll increases to the greatest extent possible. We are pursuing every alternative financing measure to achieve this goal"* (Berger, 2014b). Finally, with the toll rate discussion heating up, in August 2015, Governor Cuomo proposed \$1 billion in state funds to freeze the Thruway's current toll rates – including the Tappan Zee Bridge – through 2020. Following the decision, Governor Cuomo stated that, *"[Toll freeze] will make a real difference in people's pockets, it will make a difference in commuters' pockets. It will make a difference in the pockets of businesses"* (Campbell, 2016).

According to Public and Private Representatives interviewed, there were a number of measures that were taken to take stakeholders' issues into account and minimize project impacts. For example, project sponsors dedicated \$500 million to minimize environmental impacts of construction in the river. Furthermore, to minimize noise and air pollution during construction, air quality and noise levels were displayed in real-time on project's website; also, the design-builder was required to use vibration for pile driving, where possible, to minimize construction noise. Moreover, to minimize air pollution and traffic congestion caused by construction equipment, the design-builder was required to use floating concrete batch plants on the river to avoid having concrete trucks driving on neighborhood roads. According to

the Private Representative, this decision actually helped the design-builder to save time in their process because their concrete trucks would not be stocked in traffic.

Another voluntary action offered by the private design-builder was to create a \$20 million Community Benefit Program in which the private consortium and the public sector contributed \$10 million each to offset project impacts on the community and businesses. The public sector’s contribution was provided to municipalities for community improvements and services such as extra police patrolling, purchasing new firetrucks, new swage system etc. (Saeed, 2015). The design-builder’s contribution – \$10 million – was spent to minimize project impacts on citizens. For example, it was paid to replace door and windows on three apartment complexes near the project with sound proof door and windows (Juva-Brown, 2014).

Moreover, as the project advanced into construction phase in March 2013 and the project reached financial close, three annual public meetings were held. Two annual public meetings were held on March 26th and 27th in year 2014 and annual public meeting on May 12th 2015. No record was kept for these public meetings.

As of December 1st 2016, the project is still under construction and substantial completion is expected in 2017.

4.7.1. Summary

Table 4.15 summarizes the involvement activities that happened in period T-4. NEPA process was concluded in the preceding period; therefore, all involvements in this period are non-NEPA.

Table 4.15. Stakeholder involvement activities in Period T-4

Involvement mechanism	Quantity	Communication	Consultation	Participation	Non-NEPA
Community meetings	6	6	6	0	6
Public meetings	3	3	0	0	3
Study report	3	3	0	0	3
Total:	12	12	6	0	12

By comparing the involvement activities in this period with period T-3 (shown in Table 4.14), it is observed that the total number of involvements has decreased from 37 involvement in T-3 to 12 in period T-4. This reduction may be attributed to the development stage of the project. In other words, period T-3 represents the Detailed Planning Phase where different aspects of the project are planned, hence, more stakeholder involvements may be required in T-3. While, T-4 represents Design & Construction Phase in which less involvement activities may be necessary since most of the project decisions are likely to be made during the planning phase.

Also, Table 4.15 shows that project sponsors have utilized 12 involvement activities in this period; this indicates that the sponsors have perceived benefits in stakeholder involvement since NEPA was completed in the preceding period. This indication was confirmed by Public and Private Representatives who indicated that they have gained benefits from stakeholder involvement activities.

Overall, the stakeholder involvement strategy in this period is mainly relying on *Communication* with less *Consultation* since only half of the involvements are only *Consultation* while all have the *Communication* characteristic.

Figure 4.18 demonstrates stakeholder issues that were raised during period T-4. These issues were extracted from online comments of stakeholders on 20 blogs and 29 news article – a detailed list of the comments is presented in Appendix A. The issues are presented by their overall percentages. With uncertainties about project’s funding structure and its future toll rates in this period, it is not surprising to see the majority of the stakeholder comments focused on *Toll Rates* and *Funding*.

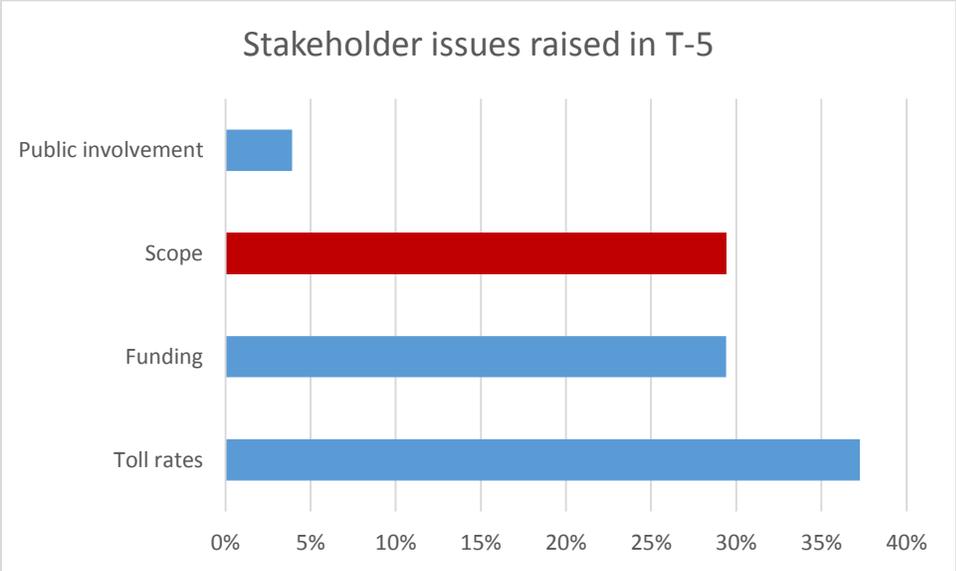


Figure 4.18. Stakeholder issues raised in T-5

Figure 4.19 demonstrates distribution of comments made by stakeholders on *Scope*. Observation from Figure 4.19 suggests that to date, where the project is well into its construction phase, the issue of *Transit* is still a sticking point for the project.

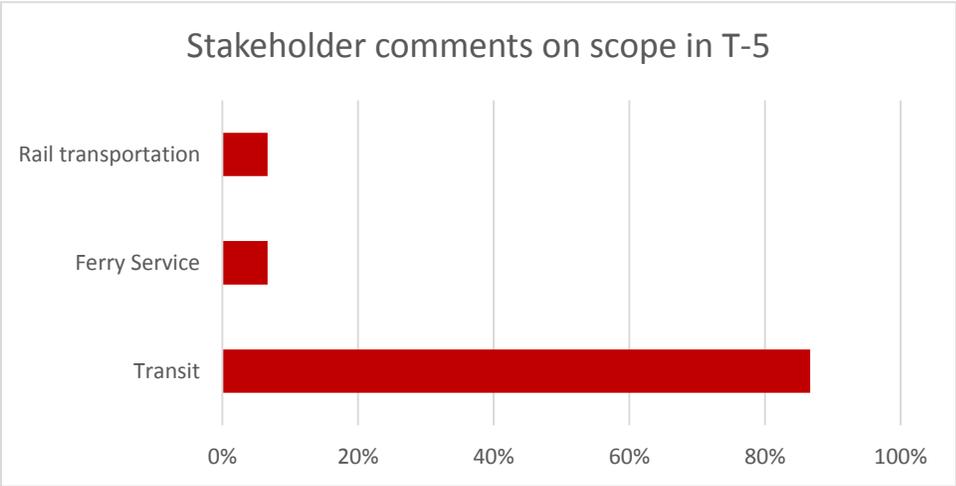


Figure 4.19. Stakeholder comments made on scope in T-5

4.8. Assessment Across Project Periods

In this section, activities and events are examined across the periods to facilitate identification of trends and shifts in the involvement strategy and the stakeholder issues raised. Additionally, the findings are discussed with regard to propositions proposed in this study.

4.8.1. Summary of Involvement Activities and Stakeholder Issues Across Periods

Table 4.16 illustrates the stakeholder involvement strategies by phase and period, depicting the involvement by type of information flow and NEPA vs. non-NEPA activities. This table includes more “passive” involvements, such as press release and reports, as well as active involvements where sponsors and stakeholders exchange information through participatory and non-participatory involvements such as: public meetings, public hearings, community meetings, and stakeholder committee meetings.

Table 4.16. Stakeholder involvement strategy of TZBR in each period

Phase	Period	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Pr. Planning	T-1	22	100%	32%	0%	77%	23%
Dt. Planning	T-2	91	21%	12%	79%	20%	80%
Procurement	T-3	37	100%	65%	0%	27%	73%
Des. & Const.	T-4	12	100%	50%	0%	0%	100%

Table 4.17 illustrates the seven main stakeholder issues raised by frequency across the four periods in the project.

Table 4.17. Stakeholder issues raised in TZBR project in each period

Period T-1	Period T-2	Period T-3	Period T-4
1. Scope (52%)	1. Scope (37%)	1. Scope (39%)	1. Tolls (38%)
2. Impacts (20%)	2. Impacts (13%)	2. Impacts (15%)	2. Scope (30%)
3. Purpose (6%)	3. Design (10%)	3. Draft EIS issues (12%)	3. Funding (28%)
4. Funding (4%)	4. Process (10%)	4. Funding (5%)	4. Public involvement (4%)
5. Process (4%)	5. Land use (6%)	5. Public involvement (5%)	
6. Congestion (3%)	6. Funding (5%)	6. Legitimacy (4%)	
7. Regional planning (3%)	7. Public involvement (3%)	7. Transparency (3%)	

In the following sections, a period by period discussion assesses the involvement mechanisms and stakeholder issues.

4.8.2. Period T-1: Project Inception to NYSDOT Assumes Direction (1997 to 2007)

The project started when Governor Pataki formed the I-287 taskforce to address mobility and safety issues of the I-287 Corridor. The taskforce suggested that the replacement of the Tappan Zee Bridge would be the best long-term alternative solution for the corridor. Recognizing the potential role of transit in the region, MTA/MNR became involved with NYSTA and jointly initiated the required environmental studies of the bridge replacement project. The majority of the involvement activities at this time entailed informing stakeholders about the scoping process and developing viable alternatives. Hence, the main type of information flow in this period is *communication*, as Table 4.16 illustrates. Moreover, both tables illustrate that the vast majority of involvements in this period were NEPA related.

The stakeholder dialogue focused primarily on planning different types of transit. This contributed to predominance of the issue of *Scope* – as shown in Table 4.17. Further, a public representative interviewed indicated that the people in the region were highly concerned about environmental impacts to the Hudson River. Therefore, as different project alternatives were being developed, considerable concerns were raised over the alternatives' impacts; consequently, a large number of comments were made about *Impacts*, where the majority of these were related to *Environmental Impacts*.

4.8.3. Period T-2: NYSDOT Assumes Direction to Decision to Fast-Track (2007 to 2011)

Although MTA/MNR and NYSTA initiated the environmental studies, these agencies had different interests in the project with little commonality in their service portfolio. MTA/MNR is a transit agency, while NYSTA manages the Thruway system in New York and has no transit services in its portfolio (Public Representative). This situation caused leadership issues in the development process (Public Representative). When Governor Spitzer took office in 2007, he made a decision to assign NYSDOT as the leading agency in the project development. According to a Public Representative, this decision resolved the leadership issue.

“[When the project] was a joint Metro-North and NYSTA project, stakeholder involvement as well as many other aspects of the project [were] very difficult and almost impossible to handle because the two agencies could never agree on different things. When the NYSDOT took over, [things] became a lot better, because the project’s leadership was unified under one agency and it was much easier to get directions and we knew who to go to when some issues were pressing.”

Subsequently, SAWGs were established. This period had a significant number of involvement activities – including NEPA and non-NEPA activities. There were 72 SAWGs meetings identified; these meetings were non-NEPA and facilitated *participation* involvement – shown in Table 4.18. Additionally, as the environmental studies were advancing, 11 public meetings were held (see Table 4.18). The large number of SAWGs meetings demonstrates the reliance on *participation* for information flow – shown in Table 4.16.

Although the SAWGs permitted more stakeholder input, it resulted in significant scope creep. As a Public Representative described it:

“During that time, whenever an option was brought up, rather than eliminating the option or considering it, they would add that to the process which would make the EIS become

bigger and then that would bring more options to the study which extended the EIS process. In other words, they never dealt with the issues and options in a conclusive way.”

Consequently, the scope of the project increased significantly; for example, different modes of transit – i.e. BRT and CRT – were added to the scope. The state, however, announced that it had a \$4.4 billion deficit. This triggered concerns from stakeholders about the financial feasibility of the project. While state officials were seeking innovative funding schemes, one article described the dilemma as “*Figuring out how to improve Tappan Zee Bridge is the easy part; the hard part is paying for it*” (Grossman, 2011).

Transit was the main subject of stakeholder comments in this period where issues were mostly related to inclusion of different modes of transit. This is evident in Table 4.17 since the issue of *Scope* is the most prominent. Similar to period T-1, *Environmental Impacts* continued as significant portion of the issue *Impacts*. Consequently, later in the development process, the State of New York dedicated \$500 million to mitigate environmental impacts on the river during construction (Public Representative).

In addition, as the project alternatives became more concrete, comments on *Design* emerged as shown in Table 4.17.

4.8.4. Period T-3: Decision to Fast-Track to ROD Issued (2011 to 2012)

When Governor Cuomo took office in early 2011, he realized ten years of “dysfunctional” planning had taken place, and the inconclusive process had led to a project with an unfeasible scope. Therefore, his administration stopped the previous studies, reduced the scope to only replacing the bridge, and excluded transit services. Then, his administration initiated an expedited environmental study by obtaining federal authority to fast-track the project. These decisions significantly influenced the stakeholder involvement strategy as well as the stakeholder issues.

With the expedited environmental studies, SAWGs meetings were eliminated, and the stakeholder involvement strategy was streamlined to satisfy the basic requirements of the NEPA process. These changes in the strategy are reflected in Table 4.16 and Table 4.18 as the involvement activities decrease significantly in T-3.

The expedited studies provided brief review periods for the stakeholders to comment on the EIS documents. Also, in the preparation of the Draft EIS, BRT was estimated as very costly, so transit was claimed unfeasible. Consequently, the stakeholder continued to raise issues about Transit. Though, the nature of the dialogue changed from “inclusion of different modes of transit” to “re-inclusion” of transit.

Impacts continued to be prevalent in T-3. While the central theme of *Impacts* in previous periods was related to *Environmental Issues*, the main emphasis of *Impacts* in this period was related to *Noise*. Given the approaching construction phase, this is not surprising. Consequently, later in the process, project sponsors took two actions to mitigate the impact of construction noise: (1) the private contractor was required to use vibration, where possible, for driving piles and (2) the design-build team voluntarily dedicated \$10 million to a “Community Benefit Program Fund” to install sound proof doors and windows for two apartment complexes in the proximity of the project (Private Representative).

Furthermore, to reduce construction traffic and air pollution, the private design-build team was required to use floating concrete batch plants on the river to avoid concrete trucks driving on local roads (Public Representative).

Meanwhile, stakeholders claimed that the BRT estimate had been intentionally inflated to eliminate transit in the Draft EIS. They also argued that the review time given for the Draft EIS had been too short. These issues, contributed to the emergence of *Draft EIS issues* in this period – as shown in Table 4.17.

Nonetheless, the project sponsors moved forward with the studies and issued a Final EIS. After the publication of Final EIS, Governor Cuomo launched a comprehensive involvement plan. His administration’s involvement initiative was then geared to mitigate stakeholder concerns and demonstrate that the sponsors were actually taking stakeholder issues into account. The initiative included a number of community meetings as well as informal interactions with stakeholders in Westchester and Rockland Counties. These activities are non-NEPA related and contribute toward the quantity of involvements in this period as shown in Table 4.17 – although the fact that these occurred after the Final EIS was issued makes these numbers a bit misleading.

Still, a number of state officials who had previously backed including transit in the project warned the sponsors that they would block the project from getting the federal funding. This issue prompted the Cuomo administration to offer two concessions to the state officials to obtain their support for the project: (1) a guarantee for rush hour bus lanes on the bridge, and (2) the creation of MTTF to study transit in the project and recommend short- and long-term transit options on the bridge.

4.8.5. Period T-4: ROD Issued to Present (2012 to 2017)

As the project advanced into T-4, involvement activities decreased, and information flow is primarily focused on *communication*.

With the approval of \$1.6 billion TIFIA loan, project sponsors were faced with a \$2.4 billion funding gap to finance the project. Subsequently, toll revenue bonds were issued to fill the gap. This decision raised stakeholder concerns on possible significant toll hikes on the bridge. Although *Tolls* was not significant in the preceding periods, when stakeholders realized the possibility of higher toll rates they began to question toll affordability. Hence, *Tolls* emerged as the predominant issue while *Transit* continued to be a major issue.

To deal with the rising issue of *Tolls*, the Cuomo administration dedicated \$1 billion from state funds to freeze toll rates on all NYSTA facilities – including the Tappan Zee Bridge – until 2020.

4.8.6. Discussion of Stakeholder Involvement

Table 4.18 summarizes active involvement mechanisms across periods. . In this table, more passive involvements (e.g. press releases and reports) were excluded; it counts for involvements where project sponsors and stakeholders actively exchange information through participatory and non-participatory mechanisms such as: public meetings, stakeholder committee meetings, public hearings, community meetings, etc.

An examination of the involvement strategies in Table 4.18, indicates that involvement activities in the Preliminary Planning Phase (T-1) were primarily NEPA related; however, when NYSDOT assumed the leading role in the project, the involvement strategy shifted in period T-2. Non-NEPA involvements increased significantly due to utilization of SAWGs meetings. However, when the project was fast-tracked in T-3, non-NEPA involvements were deliberately halted, so NEPA approvals could be obtained (SAWGs meetings cease in T-3). Once the Final EIS was issued – in the latter part of T-3 – and the NEPA

studies concluded, the project sponsors implemented a number of non-NEPA involvements primarily to rally support for the project and appease stakeholders such as appointment of an “on the ground” official to meet with local officials, creation of a project hot-line and web-site, initiation of multiple community meetings and establishment of public outreach centers. Although the NEPA process was clearly central to the involvement approach, the project sponsors did rely rather significantly on non-NEPA engagements during different periods and phases of the project. Moreover, the non-NEPA activities of the Cuomo administration were arguably necessary to marshal the support of public officials who had the capacity to block or at least delay the project. Consequently, the evidence from TZBR is viewed as insufficient to support the perspective that sponsors base their involvement approach predominantly on NEPA requirements. Therefore, the evidence from this case neither supports nor rejects Proposition 1A: *Responsible stakeholders base their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process.*

Table 4.18. Active involvement mechanisms in TZBR

Phase (Period)	Public Meeting		Public hearing		Community meeting		SAWGs meeting		Workshop		Total	
	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA
Pr. Plan. (T-1)	5	2	0	0	0	0	0	0	6	0	11	2
Dt. Plan. (T-2)	11	0	0	0	0	0	0	72	0	0	11	72
Proc. (T-3)	2	0	4	0	0	18	0	0	0	0	6	18
D & C (T-4)	0	3	0	0	0	6	0	0	0	0	0	9
Total	18	5	4	0	0	24	0	72	6	0	28	101

Table 4.19 categorizes active involvements based on the involvement types. SAWGs were a participatory mechanism established in period T-2 when NYSDOT assumed the leading role in the project. As shown in the table, a substantial number of SAWGs meetings occurred in period T-2. According to a Public Representative interviewed, these meetings were very beneficial in discussing and resolving project related issues; however, these meetings led to scope creep to a point where the project became unfeasible, as a Public Representative described it:

“During that time, whenever an option was brought up, rather than eliminating the option or considering it, they would add that to the process which would make the EIS become bigger and then that would bring more options to the study which extended the EIS process. In other words, they never dealt with the issues and options in a conclusive way.”

Consequently, in period T-3 when the project was fast-tracked, SAWGs were eliminated by Governor Cuomo to speed up the process and to get the project done. Nonetheless, when the Final EIS was issued Governor Cuomo relied on informal participatory channels by designating Lawrence Schwartz as his on-the-ground representative to rally support for the project in Westchester and Rockland counties, where county executives had demanded inclusion of transit on the project. While the participation within the SAWGs may have added value to the overall project, these involvements delayed the project’s advancement. Certainly, the SAWGs were not the only cause of these delays; the joint leadership of the MTA/MNR and NYSTA likely contributed to this circumstance as well. But, the findings from this case are inconclusive to support or reject proposition 1B: *Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project’s phase or delivery method.*

Table 4.19. Active involvements categorized by theme across TZBR's periods

Phase (Period)	Public meeting	Public hearing	Community meeting	SAWGs meeting	Workshop
	Com. / Con.	Com. / Con	Com. / Con.	Part.	Com.
Pr. Planning (T-1)	7	0	0	0	6
Dt. Planning (T-2)	11	0	0	72	0
Procurement (T-3)	2	4	18	0	0
Des. & Const. (T-4)	3	0	6	0	0
Total	23	4	24	72	6

According to a Public Representative, before the design-build team was selected, Howard/Stein-Hudson Associates provided consultant services for outreach activities of the project. When Tappan Zee Constructors was selected as the design-build contractor in January 2013, the private sector became highly involved in the stakeholder involvement strategy, and the consultant’s services were discontinued (Public Representative). This suggests that even in a non-PPP project the private delivery contractor has an impact on the stakeholder involvement strategy. For example, the private contractor participated in a number of community outreach programs. Additionally, the private contractor dedicated \$10 million to a Community Benefit Program Fund to minimize construction noise and launched a project website in 2013 – <http://www.tappanzeeconstrutors.com/>; it also began issuing news communications about the project. These involvement activities are categorized in Table 4.20 using an involvement continuum where activities range from conventional to pioneering. Most of the activities employed are conventional, but a few such as the real-time noise and vibration monitoring and the \$10 million contribution toward soundproofing are less conventional. These observations suggest that the design-build team influenced the involvement strategy, but they did not cause a fundamental shift in the strategy.

Table 4.20. Stakeholder involvement continuum

Case	← (Pioneering)	(Involvement continuum)	(Conventional) →
TZBR		<ul style="list-style-type: none"> • Real-time noise & vibration monitoring • \$10 million contribution for soundproof doors & windows 	<ul style="list-style-type: none"> • Fulltime outreach personnel • Website launched • News feed & project updates • Respond to stakeholders' inquiries

Table 4.21 summarizes the findings with regard to the involvement propositions; support is shown by “+”, rejection is shown by “-” and inconclusive evidence is shown by “+/-”. While proposition 1C was framed in the context of the involvement of a PPP concessionaire; the findings in this case are more broadly assessed relative to the engagement of a private delivery contractor in a megaproject.

Table 4.21. Summary of findings on propositions 1A, 1B, and 1C

Case	1A: NEPA Dictates Involvement	1B: Participation Not Beneficial	1C: Private Delivery Contractor Does Not Shift Strategy
TZBR	+/-	+/-	+

4.8.7. Discussion of stakeholder issues

Common issues in megaprojects and the dominance of tolling (Propositions 2A and 2B) are addressed simultaneously. Table 4.22 summarizes multiple sources of evidence relevant to stakeholder issues raised in each project phase (period). The first row indicates the top seven stakeholder issues raised in each period extracted from expressed comments of stakeholders. The second row shows representative media quotes made by stakeholders. The third row lists actions taken by stakeholders relative to the issues raised. Lastly, the fourth row indicates relevant input from interviews with project representatives.

As shown in Table 4.22, *Scope* and *Impacts* are the two main issues during the project’s Preliminary Planning, Detailed Planning, and Procurement Phases (Periods T-1 to T-3). In Preliminary Planning and Detailed Planning, discussions on *Scope* were focused on including modes of *Transit* as shown in Table 4.22 and discussions on *Impacts* were focused on *Environmental Impacts*.

However, when the project was fast-tracked and transit was eliminated (in T-3), stakeholders became concerned about lack of transit and the nature of the discussions changed to “the need for transit.” This is evident in County Executive Bob Astorino’s quote: “[I am] troubled by the missing mass transit component” (Melina, 2012) as shown in Table 4.22. In response, the Cuomo administration created a regional Mass Transit Task Force (MTTF) to examine transit options in the corridor and guaranteed that buses could utilize the bridge’s emergency lanes during rush hours. In this period, in light of approaching construction process, stakeholder became concerned about construction noise and vibration impacts, too; supporting quotes and evidence are shown in Table 4.22. Subsequently, to mitigate environmental

and construction impacts, the project sponsors dedicated \$500 million for environmental mitigation and required the private contractor to use vibration for pile driving to reduce noise. The sponsors also installed soundproof doors and windows for the communities in the proximity of the project. Also, in this period, by preparation of Draft EIS, stakeholders raised concerns about the accuracy of the findings in the document and the short review period given for the Draft EIS. These concerns contributed to the emergence of *Draft EIS Issues* in T-3 as the third issue in this period; Table 4.22 illustrates this emergence and provide supporting quote from citizens.

In construction phase (T-4), in light of uncertainties about the project's funding structure and future toll rates, *Tolls* emerged as the main issue followed by *Scope* and *Funding*. Representative quotes from state officials and citizens are listed in Table 4.22 to support the findings. Also, public representatives interviewed suggested that *Tolls* and *Construction Impacts* were major issues in this period.

As shown in Table 4.22, the main issues raised in this project are not related to *Tolls* and/or *Funding* in periods T-1 through T-3. Perhaps, the established tolling culture in the region and relatively higher annual income of the people contributed to less sensitivity about *Tolls* (Lemp & Kockelman, 2009; Yusuf, O'Connell, & Anuar, 2014). Indeed, this was anticipated as a rival explanation in the overall case design since the Tappan Zee Bridge had existing tolls, and tolls are fairly prevalent in the region. Nevertheless, in period T-4, when stakeholders anticipated potentially higher toll rates *Tolls* became a major issue. Subsequently, the magnitude of the issue prompted the Cuomo Administration to dedicate \$1 billion from state funds to freeze current toll rates for five years throughout the Thruway corridor (Campbell, 2016). Hence, while the issue of *Tolls* and *Funding* were not prevalent throughout the project, they became more pronounced as uncertainty regarding both remained into T-4. Given these observations, this case provides reasonable evidence to support proposition 2B: *Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues* – particularly if the proposition is refined to reflect decisions regarding toll rates in addition to decisions to impose tolls.

Table 4.22. Summary of sources of evidence for propositions 2A & 2B

Source of evidence	Pre. Planning (T-1)	Det. Planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
Expressed comments	<ol style="list-style-type: none"> 1. Scope (52%) 2. Impacts (20%) 3. Purpose (6%) 4. Funding (4%) 5. Process (4%) 6. Congestion (3%) 7. Regional planning (3%) 	<ol style="list-style-type: none"> 1. Scope (37%) 2. Impacts (13%) 3. Design (10%) 4. Process (10%) 5. Land use (6%) 6. Funding (5%) 7. Public involvement (3%) 	<ol style="list-style-type: none"> 1. Scope (39%) 2. Impacts (15%) 3. Draft EIS issues (12%) 4. Funding (5%) 5. Public involvement (5%) 6. Legitimacy (4%) 7. Transparency (3%) 	<ol style="list-style-type: none"> 1. Tolls (38%) 2. Scope (30%) 3. Funding (28%) 4. Public involvement (4%)
Quotes	<p><u>Gov. official (about environmental impact):</u> “A thorough and complete analysis of any proposed project must include an analysis of impacts of any proposals upon compliance with Clean Air Act requirements on emissions for the New York Metropolitan area.”</p>	<p><u>TSTC, a transit advocacy group (about type of transit):</u> “The particular transit option the agency chose ... will effectively plan for the future needs of the region. In fact, the numbers show that this option will do the most to get people out of their cars.” (TSTC, 2008)</p>	<p><u>Citizen (Draft EIS issues):</u> “The amount of time that the public has been given to review and comment on the DEIS is wholly insufficient. We have been given the minimum number of days as required by law to comment and read this DEIS...”</p> <p><u>County Executive Bob Astorino (lack of transit):</u> “[I am] troubled by the missing mass transit component” (Melina, 2012).</p> <p><u>Citizen (construction & noise impacts):</u> “The communities surrounding the bridge on either side of the River will be greatly impacted not only during construction, but for the life of the bridge.”</p>	<p><u>State Sen. DeFrancisco (toll rates):</u> “There would have to be an awful lot of tolls to make up for the \$2.3 billion” (Berger, 2014).</p> <p><u>Citizen (toll rates):</u> “Having high tolls without having an alternative is an equity issue — you’re pricing people out of certain counties.”</p> <p><u>Citizen (Construction and noise impacts):</u> “... Somehow the very last pile was the loudest and noisiest and had to be close to 90 to 100 decibels outside, and inside everything was vibrating and thumping.”</p>
Actions	<p>Joint project leadership by NYSTA & MTA/MNR</p>	<p>NYSDOT takes over project leadership role</p> <p>Gov. Spitzer appoints Glynn as NYSDOT Commissioner</p>	<p>State of NY contributes \$500 million for environmental mitigation</p> <p>Cuomo establish MTTF</p>	<p>Cuomo contribute \$1 billion and enact toll freeze until 2020</p> <p>MTTF recommended BRT as short-term solution for the bridge</p> <p>Cuomo allows buses in rush hour</p>
Interview points	<p>Transit & Environmental issues were the main concerns of stakeholders (Public Rep.)</p>	<p>Transit & Environmental issues were the main concerns of stakeholders (Public Rep.)</p>	<p>Construction impacts emerged as citizens anticipated construction activities (Public Rep.)</p>	<p>Tolls & Construction impacts became the major concern of stakeholders (Public Rep.)</p>

Table 4.23 presents a summary of the findings with regard to proposition 2B. Propositions 1A and 2C are not applied since TZBR is a non-PPP case. In this table, support for propositions is shown by (+); conversely, rejection of propositions is shown by (-) and inconclusive determination is demonstrated by (+/-).

Table 4.23. Summary of findings on propositions 2A, 2B, and 2C

Case	2A: Common Issues Regardless of Delivery Method	2B: Tolling Is Dominant Issue	2C: Public vs. Private Toll Collector
TZBR	Baseline for subsequent comparison	+	Not Applicable

4.9. Stakeholder involvement benefits and challenges

This section is mainly constructed from the interviews with three public representatives and two private representatives involved in the project. In the following subsection first the benefits of stakeholder involvement in the project are discussed; then, the challenges they faced during the project are discussed.

4.9.1. Benefits of stakeholder involvement in the New NY Bridge project

According to the public and private representatives interviewed, the main benefits for their stakeholder involvement strategy are summarized in four main areas:

- 1) Show support for the community: this was achieved by the project representatives personally attending public meetings, public hearings, workshops, and even personally speaking with individuals who had not gotten their answers in those involvement activities;
- 2) Transparency: by providing all necessary project information to stakeholders in the involvement practices which also fostered trust between the sponsors and stakeholders
- 3) Communication: stakeholder involvement opened up a communication channel between stakeholders and project sponsors in which stakeholders expressed their concerns and issues and the sponsors responded
- 4) Establishing good relationship with stakeholders: by involving and informing stakeholders project sponsors established a good relationship with stakeholders. This aspect is very important in megaprojects because it takes a while for these project to get completed and a good relationship is crucial for the success of the project.

Additionally, the private representatives interviewed pointed out that the community services of the private developer have been very beneficial. In their opinion, those community services – such as the Community Benefits Program – have changed the perspectives of stakeholders, fostered trust, and established a good relationship between the private sector and the stakeholders. Brian Conybeare, Cuomo’s advisor on the project described the Community Benefits Program a way of giving back to the community. He also stated “*The New NY Bridge Community Benefits Program is doing exactly what it was designed to do by helping the local communities most impacted by bridge construction*” (Saeed, 2015).

4.9.2. Challenges of stakeholder involvement in the New NY Bridge project

Based on the interviews with the public and private representatives, there were a few challenges in the process. The main challenges had been the lack of leadership in the public sector at the agency level. As discussed earlier, this challenge is related to having two leading agencies – i.e. NYSTA and MTA/MNR – in the development process. This issue was resolved when NYSDOT became the leading agency.

Additionally, NYSTA had left a bad taste in the mouth of the people when it built the original Tappan Zee Bridge; therefore, project sponsors had to mend their relationship with the public and assured them that they would be engaged in the process and their comments would be considered (Public Representative).

The other challenge emerged when the project was fast-tracked and transit was eliminated from the project's scope. A lot of stakeholders were upset primarily for two reasons: (1) the environmental study process was expedited and little time was given to the public to review and comment on the study, (2) transit was eliminated from the scope. According to a Public Representative, although there was a lot of anger about eliminating the transit, some of the anger was mitigated when the Governor established the MTTF and stakeholders realized that the transit would be available (Public Representative).

Another major challenge in the project was that the financial plan of the project was not finalized until late in the process – it was finalized during construction. This contributed to a lot of skepticism about the project and uncertainties about the future toll rates. Stakeholders were greatly concerned that the toll rates would increase significantly. However, when the Cuomo administration announced that it had dedicated \$1 billion to freeze the tolls on the facility, the issue was resolved – until the freeze period is over.

Since TZBR was the first design-build project in the state, another challenge for the project sponsors was to present the design-build arrangements and introduce opportunities for stakeholders to contribute in the design process of the project in these arrangements (Public Representative).

Other public official interviewed indicated that in stakeholder involvement, consistency is the key. Therefore, one of their main challenges was to maintain the high level of stakeholder involvement and transparency throughout the project development process.

Chapter 5. Elizabeth River Tunnels (ERT) Project

5.1. Overview

This chapter discusses the Elizabeth River Tunnels (ERT) case. First, I start with a Project Description which provides a basic overview of the overall project's scope, timeframe, and current status. Next, a summative analysis follows that summarizes the case's data, involvement activities, and the issues raised. Subsequently, I analyze the project chronologically from period to period from the time of inception until the present day.

5.2. Project Description

The Elizabeth River Tunnels (ERT) is an approximately \$2.1 billion project in the Hampton Roads region in Virginia. The project is located in the cities of Portsmouth and Norfolk and consists of five construction components involving three facilities: the Midtown Tunnel (MTT), the Downtown Tunnel (DTT), and the Martin Luther King Freeway Extension (MLK). Figure 5.1 illustrates these three facilities. The Midtown Tunnel portion consists of a new two-lane tolled tunnel under the Elizabeth River parallel to the existing Midtown Tunnel as well as modifications to the existing tunnel to provide increased capacity for east-west travel across the river. For the Downtown Tunnel portion, improvements will bring the tunnel into compliance with current fire and life safety standards. The MLK Extension section of the project consists of extending U.S. Route 58 south from London Boulevard, approximately 0.8 mile to I-264, also known as MLK freeway, with an interchange at High Street (FHWA, 2012a).

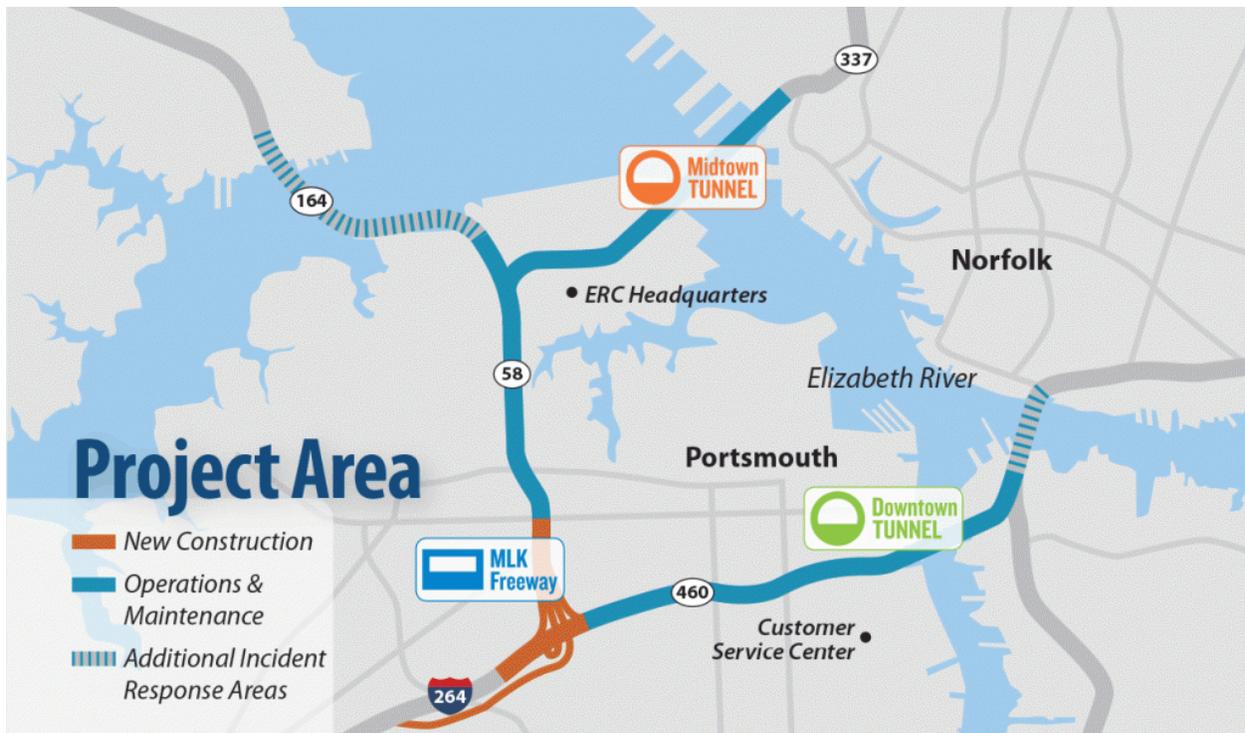


Figure 5.1. Elizabeth River Tunnels (ERT) project (ERC, 2013a)

The existing Downtown and Midtown Tunnels were built in the 1960s and tolls were initially imposed to pay for the revenue bonds issued for building the facilities; subsequently, in the late 1980s tolls were removed when the bonds were paid off. In the late 1990s, the tunnels were operating well over their design capacity and daily congestion was routine. Also, operational safety was another concerning issue in the tunnels. These issues prompted the need for safety and mobility improvements for the tunnels. Moreover, truck traffic on MLK Freeway and through the Downtown Tunnel had also created congestion issues; therefore, an extension for the MLK freeway was needed to connect the freeway to Route 58 to divert truck traffic away from downtown Portsmouth and through the Midtown Tunnel (Messina, 2010).

The Elizabeth River Tunnels (ERT) project is being developed as a Public-Private Partnership, Design-Build-Finance-Operate-Maintain (DBFOM), agreement between the Virginia Department of Transportation and Elizabeth River Crossings, LLC. (ERC), under a 58-year concession period. Elizabeth River Crossings, LLC is a private consortium consisting of Skanska Infrastructure Development, Inc. and Macquarie Financial Holding Limited; the construction joint venture team – design-build members – include: Skanska USA Civil Southeast, Inc.; Kiewit Construction Company; and, Weeks Marine, Inc.

In 2008, VDOT solicited Conceptual Proposals for improvements to the tunnels; however, only ERC responded with a conceptual proposal. After a comprehensive review process by the state’s Independent Review Panel (IRP) in 2009, VDOT entered into an Interim Agreement with ERC to negotiate and develop a Comprehensive Agreement for the development of the ERT project in January 2010. Tolls were considered as a source of funding and to make the expected toll rates affordable, it was decided to impose tolls on the tunnels during construction. The decision to impose tolls during construction triggered opposition by stakeholders; subsequently, tunnel tolls were first deferred then reduced while tolls on the MLK Extension were removed indefinitely (Forster, 2015c).

The Interim Agreement advanced (IA) into a Comprehensive Agreement (CA) between VDOT and ERC in December 2011 and the private concessionaire (ERC) became responsible for collecting and managing tolls according to provisions of the comprehensive agreement.

The two tunnels connect the City of Portsmouth with the City of Norfolk while the MLK Extension section of the project is located in the City of Portsmouth. Table 5.1 presents demographics of the regions associated with Elizabeth River Tunnels (ERT) project. The table indicates that both regions’ annual income level is lower than the national annual income level.

Table 5.1. Demographics of the regions associated with Elizabeth River Tunnels (ERT) project (Census, 2015)

Region	Estimated population 2015	Median household income (annual)	Persons in poverty (percent)	Median housing value	Educational attainment (percent high school graduate)
City of Portsmouth	96,201	\$46,239	18.6%	\$169,800	83.6%
City of Norfolk	246,393	\$44,150	21.5%	\$193,400	87.0%
The United States	Not applicable	\$53,482	13.5%	\$175,700	86.3%
City of Portsmouth	Not applicable	-\$7,243	+5.1%	-5,900	-2.7%
City of Norfolk	Not applicable	-9,332	+8%	+17,700	+0.7%

5.3. Summative analysis

5.3.1. Summary of data analyzed

A comprehensive review of available data related to the ERT project was completed. Relevant data sources include all relevant documentation and archival records of the project including organizational documents from sponsoring agencies such as Virginia Department of Transportation (VDOT), Hampton Roads District – VDOT, Virginia Office of Public-Private Partnerships, Federal Highway Administration, Hampton Roads Transit, City of Portsmouth, City of Norfolk, and Elizabeth River Crossings, LLC. In addition, four semi-structured interviews were conducted with project officials from both public and private side of the project. The following sub-sections explain the data analyzed in more detail.

Secondary data

Secondary data sources in this study are presented in two tables. First, Table 5.2 depicts stakeholder involvement activities identified in the case as well as records kept of these activities. It indicates the number of involvement activities identified in the project; then, it specifies the number of records kept as well as the number and types of available records for the activities and the size of the data. When involvement activity records were generated (or expected to be generated), these records were found from publicly available sources or requested from the source agency; in some instances, records were not available despite concerted efforts to obtain them.

Table 5.2. List of available secondary data related to involvement activities in ERT project

Involvement activity	Quantity	Records Kept	Records available	Type of Records	Size of data
Public meetings	6	2 of 6 ⁶	2 of 6	Written comments= 2	30 pages
Public hearings	10	10 of 10	6 of 10	Meeting Transcripts=2 Meeting Summary=1 Written comments=3	320 pages
Industry meeting	1	0	0	Not documented	Not documented
IRP meetings	5	5 of 5	5 of 5	Meetings' transcripts	300 pages
Community meetings	4	0	0	Not documented	Not documented
Open house	2	0	0	Not documented	Not documented
Survey	1	1 of 1	1 of 1	Summary report	50 pages

Second, Table 5.3 depicts a list of identified and available data sources. This data is primarily documentation – such as project documents, contract documents, news articles, and blogs – and archival records – such as organizational records and census records. The content of all available data was analyzed following content analysis techniques prescribed by Miles et al. (2013).

Primary data

Four individuals were interviewed in a semi-structured format; two interviewees were public representatives involved in the project and two were private representatives. Interviews were conducted over the phone and each lasted approximately sixty to ninety minutes.

Table 5.3. List of secondary sources of data identified for the ERC project

Data	Data source	Data type	Quantity	Size of the data
Secondary data	Documentation	Study reports	22	860 pages
		Online comments	19	100 pages
		Press releases	13	20 page
		News articles	122	480 pages
		Project documents	10	126 pages
		Contractual documents	4	275 pages
	Archival records	Census records	3	16 pages
		Organizational records	3	40 pages
Primary data	Semi-structured Interview	Interview transcripts	4	12 pages

⁶ Based on an interview with a Public Representative, these records are not kept; however, two written comments records of the public meetings were available.

5.3.2. Project's overall timeline

Figure 5.2 shows a timeline of the project with a number of significant project milestones. The timeline is divided into four periods based on key milestone events in the project. T-1 signifies the majority of the planning phase and T-2 characterizes procurement phase. T-3 represents design and construction and T-4 contains construction and operation phase. The key milestone events are shown below the timeline, and other project and NEPA related events are marked above. To better delineate events related to each component of the project as well as the entire MTT/DTT/MLK Extension (ERT) project, events related to MTT and DTT are shown by triangles, squares are used to represent MLK events, and circles are used to show events for the MTT/DTT/MLK Extension (ERT) project. Further, NEPA related events are shown in purple while Non-NEPA events are presented in yellow.

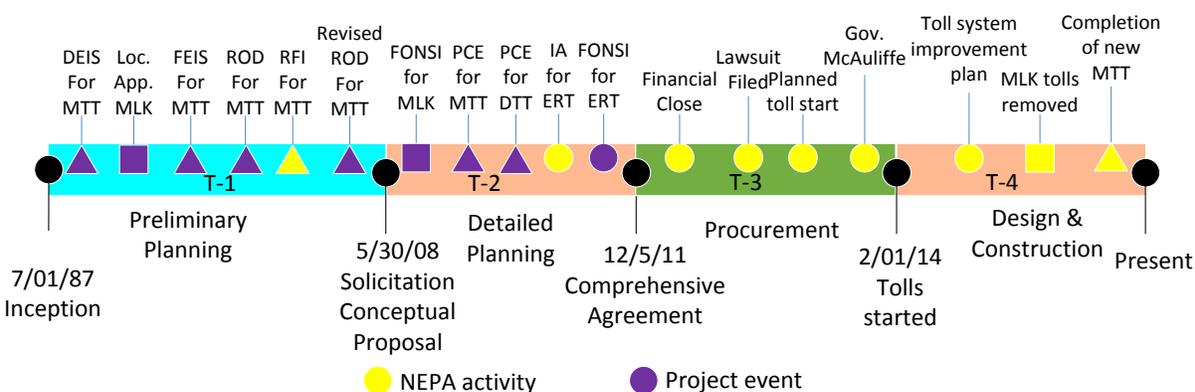


Figure 5.2. ERT project's overall timeline

Period T-1 commences in July 1987 when environmental studies of the Midtown Tunnel/Route 58 Improvements project and the MLK Extension project started; these were separate projects at that time. The Midtown Tunnel/Route 58 component was part of the Pinners Point Interchange project and MLK Extension was a standalone project as the environmental clearance process began (Public Representative). The environmental study of the Midtown Tunnel was completed when the Record of Decision (ROD) was approved by FHWA in March 1997. The Pinners Point Interchange piece of the project advanced and the Midtown Tunnel piece of the project was shelved at the time due to a lack of sufficient funding (Public Representative).

The Midtown Tunnel project became active again when the Virginia Department of Transportation (VDOT) issued a Request for Information (RFI) for the Midtown Tunnel project in November 2004. Subsequently, a Revised ROD was issued for the Midtown Tunnel in July 2007. Furthermore, the environmental studies of MLK Extension project advanced with approval of the final Interchange Justification Report (IJR) in December 2007 and publication of a Finding of No Significant Impact (FONSI) followed in February 2009.

In May 2008, Period T-2 begins when VDOT issued a Solicitation for Conceptual Proposals for improvements to the Midtown Tunnel, Downtown Tunnel, and MLK Extension. Only ERC responded to

VDOT’s request, and VDOT and ERC entered into an Interim Agreement in January 2010. The Interim Agreement advanced into a Comprehensive Agreement in December 2011.

Period T-3 starts once the Comprehensive Agreement was in place; the project advanced into design and construction phase, and strong opposition emerged from the stakeholder community with regard to tolling the tunnels during construction and a lawsuit was filed challenging the constitutionality of the tolls on the project. Subsequently, tunnel tolls which were planned to commence in September 2012 were deferred to commence in February 2014; as the opposition continued toll rates were reduced in January 2014.

Furthermore, as toll collection started in February 2014 (start of Period T-4), numerous tolling problems occurred at the tunnels. Riders were mistakenly charged multiple times for a single travel with late fees and service fees; some were mistakenly charged at higher rates and some invoice were delayed for up to six months after the time of tunnel use. These circumstances generated another wave of public resentment toward the project operators.

5.3.3. Stakeholder involvement strategy

Involvement mechanisms employed in the project are collectively depicted in Table 5.4. This table lays out the overall stakeholder involvement strategy adopted by project sponsors for this project. This study adopts the stakeholder involvement typology suggested by Rowe and Frewer (2005); therefore, in Table 5.4 involvement mechanisms are further identified by the type of information flow – *communication, consultation, and participation* – that took place in the involvement activities as well as whether they were executed in support of the NEPA process or not.

Table 5.4. Overall stakeholder strategy for the Elizabeth River Tunnels project

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	6	6	6	0	5	1
Public hearings	10	9	9	1	10	0
Industry meeting	1	1	1	0	0	1
IRP meetings	5	5	5	0	0	5
Community meetings	4	4	4	0	0	4
Open house	2	2	2	0	0	2
Survey	1	0	1	0	0	1
Study report	22	22	0	0	13	9
Press release	13	13	0	0	0	13
Total:	64	62	28	1	28	36

According to a Public Representative interviewed, project sponsors had two types of stakeholder involvement mechanisms: (1) Open Forum format and (2) Presentation format. The *Open Forum* format characterizes *participation* while the *Presentation* format characterizes *communication* and *consultation*. As shown in Table 5.4, 10 public hearings were held for the project. Public hearings provide a formal setting for information exchange between project sponsors and stakeholders; usually, these meetings start with a presentation about the project to update the stakeholders on the project and then there is a comment period where stakeholders are given two to three minutes to comment. Public meetings are similar to public hearings except public meetings are less formal (USDOT, 2014). Typically, due to the nature of communication and information flow in public hearings and public meetings, these involvement mechanisms are classified as *communication* and *consultation* unless a concurrent dialogue between sponsors and stakeholders was facilitated in the engagement which classifies it as *participation* (Rowe & Frewer, 2005). Among the 10 public hearings identified for the project, only one hearing had an *Open Forum* format (VDOT, 2009b); hence, only one of the public hearings was classified as *participation* and the rest are a combination of *communication* and *consultation*.

There was one industry meeting identified for this project in which the sponsors sought feedback from the industry about the project. Furthermore, there was only one proposal submitted for the project and the project had to go through an Independent Review Panel (IRP) process. Hence there were five IRP meetings in which IRP members reviewed the proposal and suggested that the project advance.

There were two public open houses for the project to provide information to stakeholders and to facilitate casual conversation with stakeholders. Similar to public hearings and public meetings, open houses are classified as *communication* and *consultation*. Additionally, there was a survey study to solicit input from stakeholders. The purpose of the survey was to assess the potential demand for Midtown and Downtown Tunnels from commuters who currently commute on one of the tunnels and/or MLK Freeway when faced with an option between toll facility and free roads (C&M, 2009). Based on the nature of a survey study which facilitates information flow from stakeholders to project sponsors, the survey is classified as *consultation*.

A total of 22 study reports were published for the project; 13 were required by NEPA. In addition, 13 press releases were issued which were done outside NEPA requirements. Because study reports and press releases provide one-way information from the sponsors to stakeholders both are classified as *communication*.

Table 5.4 indicates that sponsors primarily relied on *communication* in their involvement activities – 62 involvement activities out of 64 total activities were *communication* – with some *consultation* and very little *participation*. This indicates that project sponsors involved stakeholders mainly to inform them – a one-way flow of information from the sponsors to the stakeholders (Rowe & Frewer, 2005).

Furthermore, Table 5.4 indicates that out of 64 total involvement activities, 28 activities were NEPA related and 36 activities were non-NEPA. This shows that the sponsors had sought benefits in extending their stakeholder involvement activities.

5.3.4. Stakeholders' expressed issues

This section portrays the overall themes of stakeholder comments in ERT project. Figure 5.3 is a word cloud of themes of the comments that were raised by stakeholders during the project development

Extension (MTT/DTT/MLK Extension) project in May 2008. Figure 5.4 shows a timeline of this period where events are in relative chronological order. Project related events are marked with yellow and NEPA events are purple.

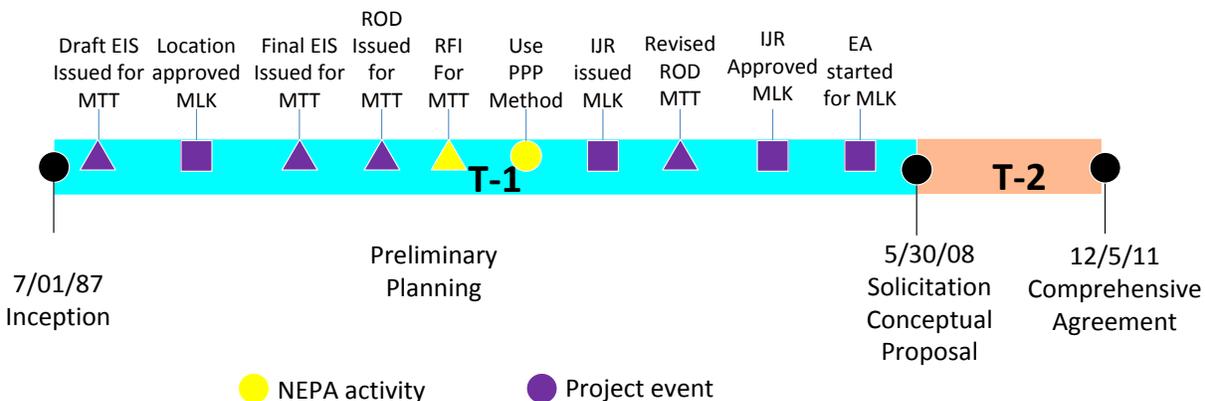


Figure 5.4. Period T-1 timeline

In this period, two components of what would become the ERT project – the Midtown Tunnel/Route 58 project and the MLK Extension project – were initiated. After their initiation in 1987, the environmental studies of the two components advanced in parallel, as explained in the following sub-sections; subsequently, in 2005 these two components started to merge as one project; and finally, with the addition of the Downtown Tunnel component they all comprised MTT/DTT/MLK Extension project in May 2008 when the Solicitation for Conceptual Proposals was issued.

5.4.1. Midtown Tunnel/Route 58 (MTT) Project

Environmental studies of the Midtown Tunnel/Route 58 (MTT) project were initiated with a public information meeting hosted for MTT improvements in July 1987. There was no formal presentation for the project at the meeting, but the scope and purpose along with the preliminary alternatives of the project were introduced to stakeholders. VDOT personnel and consultants were available at the meeting to answer stakeholders’ questions and receive comments. Additionally, meetings were held on an individual basis with affected municipalities, agencies, and businesses to discuss and exchange concerns regarding the evaluation of the alternatives (VDOT, 1996). Then, a Draft EIS was issued in December 1989, and as required by NEPA, two plan review public meetings and two Draft EIS public hearings were held in February 1990 to provide opportunities for stakeholders to discuss and comment on the Draft EIS (VDOT, 1996). These involvement activities were held; however, no records of these activities are available.⁷

By September 1994, no significant progress was made on MTT since the circulation of the initial Draft EIS in December 1989; therefore, because more than three years had lapsed, a re-evaluation of Draft EIS was required according to the NEPA regulations. In the re-evaluation process, Federal, State, and local

⁷ A request was made to VDOT; but, the agency was not able to provide the documents.

agencies and interest groups provided written comments – in form of letters – and the re-evaluation of Draft of EIS was approved by FHWA on February 23, 1996. One public meeting was held for the re-evaluation of Draft EIS; then, a Final EIS was issued in November 1996 followed by a Record of Decision (ROD) on March 17, 1997 which concluded the environmental studies of MTT (FHWA, 1997). No records of the public meeting were available.

5.4.2. MLK Extension Project

Planning for MLK Extension began in early October 1988 when a public information meeting was hosted by the City of Portsmouth to inform the public about the project’s preliminary location studies and to offer an opportunity to engage in the preliminary stages of development. Representatives from VDOT, the consulting engineers DV&A, and the City of Portsmouth were present in the meeting to address any questions or concerns of stakeholders (Portsmouth, 1988). Additionally, there were two location public hearings held in May and September 1990 as part of NEPA requirements. In these meetings, various project alternatives were presented to stakeholders and provided a formal opportunity for stakeholders to provide comment and/or suggestions on the project (Portsmouth, 1990). Subsequently, VDOT addressed the comments and the suggestions made at both public hearings and on October 24, 1990, the Commonwealth Transportation Board (CTB) approved the location of the project (VDOT, 2007). No records for the involvement activities were available.

After the location approval for the project, a Design Public Hearing was held in June 1998, as required by NEPA, to discuss major design features of the proposed interchange – the MLK Extension project (VDOT, 2007). This paved the way for the publication of the Interchange Justification Report (IJR) in June 2007; the IJR proposed a new location for the project and after a review process, FHWA approved the IJR on December 3, 2007. Subsequently, to complete the environmental studies of the MLK project, an Environmental Assessment (EA) was initiated and a public hearing was held in January 2008 to discuss the project’s social, economic, and environmental impacts as well as the new alternative location for the project identified in the IJR. Then, an EA report was prepared which outlined social, economic, and environmental impacts of the project and a public hearing was held on May 14, 2008 to review the report and provide citizens an opportunity to review the results of EA study and discuss their concerns with representatives from VDOT and the City of Portsmouth (VDOT, 2008b). A summary of stakeholder comments made was available, and it was analyzed. The majority of the comments were made on potential *Impacts* of the project. The high level of stakeholder concerns on *Impacts* can be attributed to VDOT’s poor handling of Right of Way (ROW) acquisition in the past (Public Representative). According to a Public Representative interviewed, stakeholders in this region did not necessarily trust VDOT because of the way that VDOT had handled previous projects in the region in terms of Right of Way (ROW) acquisition and eminent domain (Public Representative). Citizens were highly concerned that how the development of the project would affect their properties and communities. For example, in the public hearing, one citizen stated:

“The reason we are so sensitive about this is the fact that we were in our current home when VDOT or the state government constructed the highway I-264 in the late 50s, and we remember how it tore up the neighborhood then. So we just feel uncomfortable and uneasy about the whole process, and quite naturally, we think it’s unfair.”

Another citizen mentioned:

“I’m concerned about the project, in fact, that it is impacting the same neighborhood. I was there when it impacted the first time for [I-] 264. I’m being impacted again... I understand it’s only a matter of months... that is not sufficient time to be moved from a home that’s been accessible to me for the last 55 years. I think community has been treated unfairly...”

VDOT’s poor reputation in the region contributed to the large number of stakeholder concerns on Impacts in period T-1.

The other major issue raised was the possibility of Tolls on the project. Citizens were concerned about the future tolling of the project and how that may affect them. Some citizens, on the other hand, supported the project, but were concerned that tolls on the project would be diverted to other projects outside of Portsmouth. For example, one Portsmouth resident stated *“[We] support the project only if toll profits are utilized within the community infrastructure to repair roads/sidewalks & bridges.”*

Table 5.5 presents representative comments that were made in the MLK project’s Environmental Assessment (EA) public hearing. For better explanation, these comments are categorized and coded using first and second level coding to identify the comments’ themes and sub-themes. A more detailed list of comments is presented in Appendix B.

Table 5.5. Representative comments made by stakeholders in the MLK Extension's EA public meeting

Comment	Source of comments	Type	Theme	Sub-theme
If the MacArthur Ave is taken in the Route 58 extension project, the road will be too small for trucks or ambulances to get to our home. There will be no egress. The street is not presently wide enough for two way traffic. How much additional traffic is anticipated on the expressway?	Citizen	Written comments	Impacts	Congestion
Construction vibrations (especially from pilings driven into the ground) could create cracks or otherwise damage the sanctuary of our church, which VDOT has determined to have merit as a historic structure.	Citizen	Written comments	Impacts	Construction
At the current time the speed limit is 35 mph. [R]aising higher speed limits will create more noise, especially in terms of going up and down the High Street overpass.	Citizen	Written comments	Impacts	Noise
Since the container truck/port facilities traffic would be a big beneficiary of this project, I would hope that they would be required to pay their fair share of moving this project forward and not unfairly placed on the local citizens and already burden tax payers.	Citizen	Written comments	Tolls	Imposition of tolls

5.4.3. *The merge*

In November 2004, the environmental studies of MTT were completed – ROD was issued in March 1997 – and as the MLK project’s environmental studies were advancing, VDOT started contemplating combining the two projects and delivering them using a PPP method. Consequently, on November 1, 2004, VDOT issued a Request for Information (RFI) soliciting interest from private entities for development of the project. Three entities – Tidewater Skanska, Jacobs Civil Inc., and Parsons Transportation – responded, and VDOT decided to use a PPP method in April 2005 (VDOT, 2008a).

By 2007, ten years had lapsed since the ROD was issued for MTT; therefore, FHWA re-evaluated MTT’s previous Final EIS and issued a revised ROD on July 10, 2007 (FHWA, 2007). Also, the need to rehabilitate the existing Downtown Tunnel had arisen, so VDOT began considering whether to combine it with MTT and MLK projects. In March 2007, VDOT hosted an industry briefing meeting with private developers to get their feedback on the combined project. More than 70 stakeholders participated in the meeting that were either interested in bidding on the project or were impacted by the project (Public Representative). With such bidder interest in the project, VDOT combined MTT project, rehabilitation of Downtown Tunnel (DTT) project, and MLK Extension project into one project and issued a Solicitation for Conceptual Proposals for the entire project on May 20, 2008. At this point the combined project was referred to as MTT/DTT/ MLK Extension Project which was later changed to Elizabeth River Tunnels (ERT) Project.

5.4.4. *Summary*

Although environmental studies of all components of the project were not finalized in this period, Period T-1 characterizes a large portion of the project’s planning phase. There were a number of involvement activities carried out by VDOT in this period. Table 5.6 demonstrates stakeholder involvement mechanisms employed; some are required by NEPA, but others are done outside of NEPA. This table also indicates whether the involvement activities involved *Communication, Consultation, or Participation*.

Table 5.6. Stakeholder involvement mechanisms used in T-1

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	5	5	5	0	5	0
Public hearings	7	6	6	1	7	0
Industry meeting	1	1	1	0	0	1
Study report	10	10	0	0	9	1
Total:	23	22	12	1	21	2

An evaluation of Table 5.6 reveals that the majority of the involvement activities in this period were *communication* and only about half of the involvements – 12 out of 23 activities – were *consultation*. The sponsor’s strategy mainly focused on transferring information from sponsors to the stakeholders.

Also, nearly all of the involvement activities were required by NEPA – 21 out of 23 involvements. Furthermore, as discussed earlier, one of the public hearings in this period had an *Open Forum* format which facilitated concurrent dialogue between stakeholders and sponsors; therefore, there is one *participation* involvement in this period (VDOT, 2009b).

Figure 5.5 illustrates stakeholder issues raised in this period. These issues are extracted from records of a public hearing – held on May 14, 2008 – including a public hearing summary and a list of written comments following the hearing. These issues are presented as percentages of all the issues identified; hence, they represent the frequency of each issue. As shown in Figure 5.5, issues related to *Impacts* are substantially higher than other issues, followed by issues on *Tolls* and *Public Involvement*.

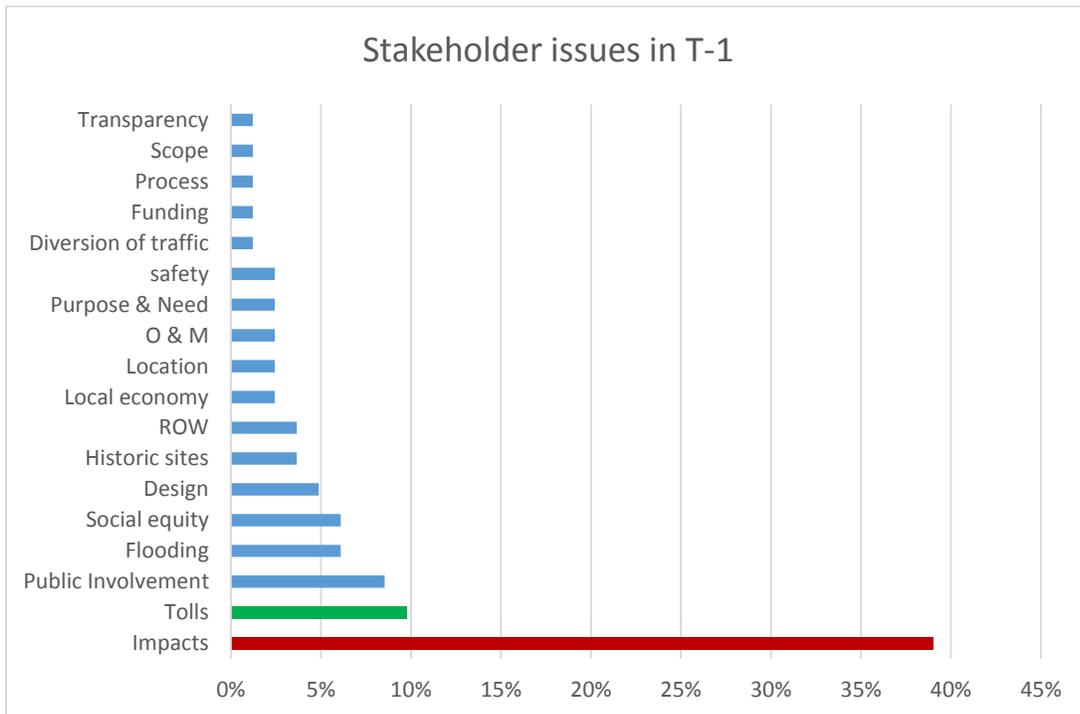


Figure 5.5. Stakeholder issues raised in T-1

Stakeholder comments on *Impacts* are further analyzed to determine sub-themes. Figure 5.6 illustrates a percentage of each sub-theme under the main theme of *Impacts*. As shown, comments related to *community impacts* and *construction impacts* are among the most frequent issues raised by the stakeholders which aligns with the perspective shared by a Public Representative regarding the bad history of VDOT in ROW acquisition and eminent domains.

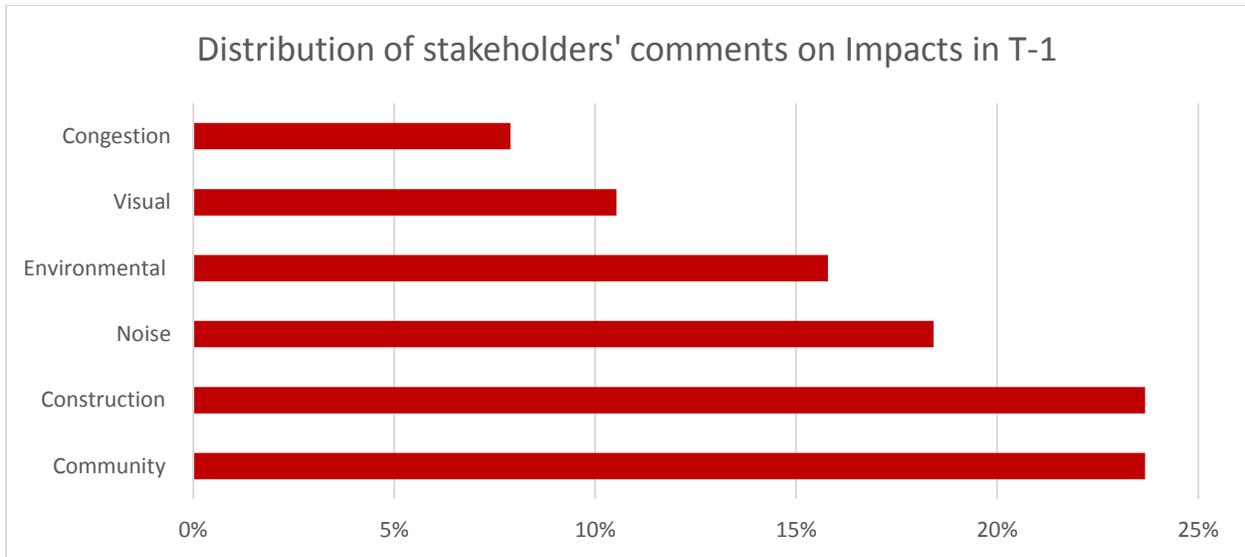


Figure 5.6. Distribution of stakeholder comments on Impacts in T-1

Additionally, *Tolls* is the second most frequent issue in this period. Figure 5.7 demonstrates sub-themes of stakeholder comments made on *Tolls*. As shown the most prominent issues are related to *Imposition of tolls* and *Toll rates*.

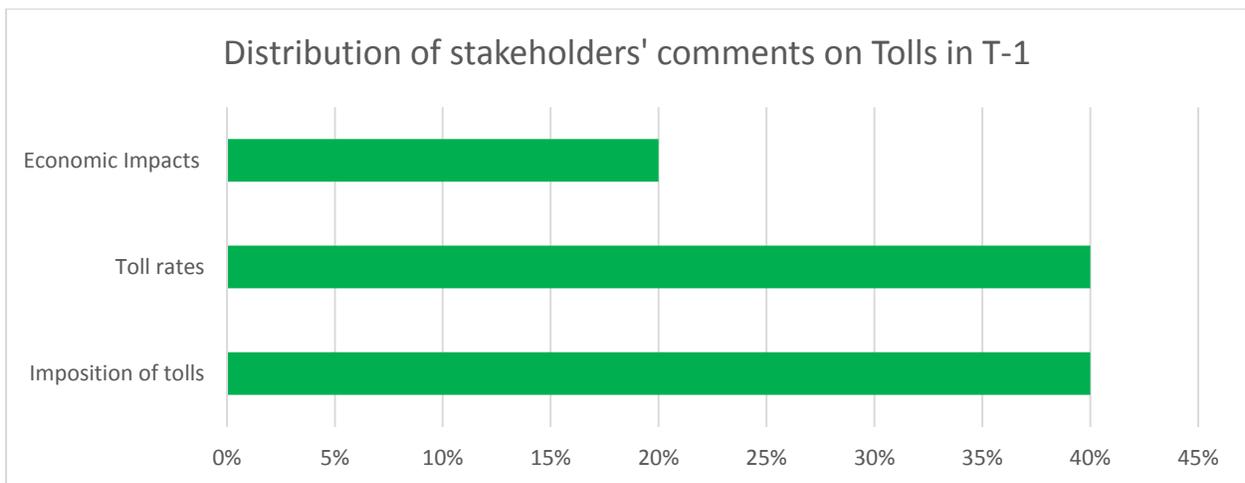


Figure 5.7. Stakeholder comments on Tolls raised in T-1

5.5. Period T-2 (May 2008 to December 2011)

With the decision by VDOT to combine the three projects – MTT, DTT, and MLK – into one and use a PPP method, VDOT issued a Solicitation for Conceptual Proposals in May 2008. This period portrays the procurement phase and project events that happened between the Solicitation of Conceptual Proposals and execution of Comprehensive Agreement (CA) between VDOT and Elizabeth River Crossings, LLC. (ERC) in December 2011. Figure 5.8 demonstrates a timeline of this period. To better investigate the events that happened, this period is divided into two sub-periods: T-2.1 and T-2.2.

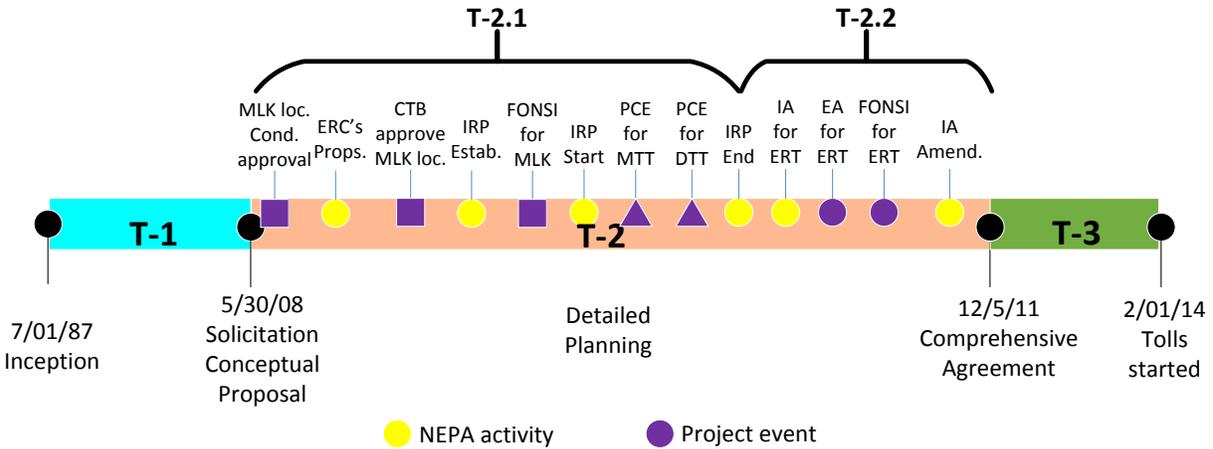


Figure 5.8. Period T-2 timeline

5.5.1. Period T-2.1 (May 2008 to July 2009)

Period T-2.1 represents events and activities that happened between the Solicitation of Conceptual Proposals in May 2008 and the Commonwealth Transportation Board’s (CTB) recommendation to advance the MTT/DTT/MLK Extension Project to an Interim Agreement (IA) in July 2009.

According to Public Representatives interviewed, up until the Solicitation for Conceptual Proposals, there was not a whole lot of interest in the project by the stakeholder community. In other words, the community was not certain that the project would move forward (Public Representatives). When ERC came forward with a conceptual proposal, the stakeholder community realized that the project was happening and became more interested and involved; therefore, the solicitation for proposals caused the stakeholders to take the project more seriously (Public Representatives).

As explained in Period T-1, MLK’s location had been finalized and was approved by CTB in October 1990. However, a new location was suggested by the Interchange Justification Report (IJR) in 2007. In July 2008, the City of Portsmouth held a public hearing to discuss the new location and solicit stakeholders’ input – no record of the public hearing was available. After the City received stakeholders’ feedback on the new location, the City Council of Portsmouth and VDOT made a resolution for conditional cooperation and approval for MLK project on July 22nd. The City Council approved the new location; in return, VDOT committed to engage in a “compassionate relocation process” for the residents who would be displaced by the project – in accordance with Uniform Relocation Assistance and Real Property Acquisition Program – and to keep tolls on the project at a reasonable rate that would not impose undue burden on Portsmouth residents. Also, the resolution requested that the City of Portsmouth have proper representation in the forthcoming Independent Review Panel (IRP) process (VDOT, 2009b). Subsequently, on September 18, 2008, CTB approved the new MLK location and rescinded its previous approval of the location of MLK (made on October 24, 1990). After the approval of MLK location by CTB, FHWA completed the EA process and issued a Finding of No Significant Impact (FONSI) for MLK on February 26, 2009 (VDOT, 2009b). With the publication of FONSI for MLK, the environmental studies of MLK extension – that had started in 1990 – were completed.

Following VDOT's Solicitation for Conceptual Proposals, only ERC responded in September 2008. When ERC submitted its conceptual proposal, consistent with the Public-Private Transportation Act (PPTA) guidelines, the proposal had to go through the Independent Review Panel (IRP) process. On February 16, 2009, Secretary of Transportation Homer approved the procurement of ERT project through a competitive negotiation process and designated the IRP members to start their review (Homer, 2009). IRP consisted of citizens, Commonwealth Transportation Board (CTB) members, VDOT officials, local government officials, and representatives from Hampton Roads Transit (HRT) (VDOT, 2009a). Through the IRP process, the conceptual proposal was examined with respect to ERC's qualifications from *financial, technical, and operational* stand points and whether the project was in the interest of the Commonwealth (Public and Private Representatives). There were a total of five IRP meetings and IRP submitted its final recommendations to CTB in July 2009 which recommended to advance the project into an Interim Agreement. CTB supported the IRP's recommendations and suggested the Commonwealth Transportation Commissioner to advance in the implementing of the project. CTB also recommended the early tolling of the project during construction to moderate toll rates in the long-term (FHWA, 2010). Transcripts of the five IRP meetings held were available. The analysis of the transcripts showed that stakeholder issues that were raised in the IRP meetings were mainly on issues related to *Tolls* as well as the project's *Funding*, and *Scope*. Stakeholders concerns on *Tolls* were primarily related to *Imposition of Tolls* and *Toll Rates*; while, discussions on project's *Scope* were mainly focused on the issue of *Transit*. For example, one individual commented on Tolls and said "*Think of it as a toll, it just never stops. I am fighting tolls, and that's the sole purpose of my being here tonight. I'm not fighting the project. I'm fighting the tolls.*" Another participant made a comment on mass Transit "*I'm here today to strongly suggest that any addition to the Midtown Tunnel be constructed to accommodate a future light rail line.*"

Among the comments made on *Tolls*, some stakeholders requested from project sponsors to limit the tunnel tolls to one dollar and to defer start of toll collections on the facilities until the completion of the project:

"As you review this proposal, we would offer the following as guiding principles: First, the toll must be as close to one dollar as possible. The citizens of Norfolk and Portsmouth, as has already been stated in reading, do not have to subsidize a project that is clearly a state responsibility beyond something approaching a more reasonable level, particularly since the cities of Portsmouth and Norfolk share a disproportionate burden in terms of traffic congestion impact on quality...We understand that the panel has requested that the toll rate and the corporate -- rather, the components of the project be disaggregated, and we certainly support that request. We also believe that VDOT should revisit its decision to begin tolling upon project completion rather than at the time of project authorization."

Comments in this nature are precedents to the subsequent decision by the McDonnell administration to defer toll collections in MTT and DTT in April 2012 (Walker, 2012), and later the decision by the McAuliffe administration to lower the toll rates in February 2014 (Walker, 2014).

Other citizens were concerned about the planned tolls on the MLK Extension project. For example, one citizen stated:

“We understand there are two tolling schemes proposed, one toll for the river crossings and a second lower toll for the Pinnars Point/I-264 portion known as the connector. Vehicles who utilize the connector only and not the tunnels never leave the City of Portsmouth. We do not support the connector toll. It would place an undue hardship on our businesses and citizens of the city.”

These types of comments are also precedents to the subsequent decision by the McAuliffe administration to remove the tolls from MLK project altogether in July 2015 (Forster, 2015b).

Although it was announced at the IRP meetings that the project would be delivered as a PPP, PPP was not among the main concerns of the stakeholders – issues on PPP was 8th in frequency among the comments in these meetings. Stakeholder comments on PPPs were focused on different issues. For example, one individual opposed *private control* in PPPs stating that “*We don’t want the public to give its right without thorough understanding. We think the public should have the control of its assets*”; one citizen brought up the issue of *Profiteering* of the private sector “*[we] will be dead in 50 years. It’s your children that are coming behind you... and their children, of course, the private companies, their kids will be enjoying life in Tahiti [while] our kids will be scrapping for a slice of bread.*”

Table 5.7 presents representative comments that were made in IRP meetings. A more detailed list of stakeholder comments on the issues raised in these meetings is presented in Appendix B.

Table 5.7. Representative comments made by stakeholders in IRP meetings

Comment	Source of comments	Type	Theme	Sub-theme
When you talked of your toll rates, does this anticipate being a fixed toll or will there be congestion pricing applied during time of day?	Citizen	Transcripts	Tolls	Toll Rates
And as someone who's worked on light rail going back into the late '80s, I would like to throw in while we might not be able to proceed with light rail in the first realization of this project, I think it would be a mistake not to have the design accommodate the possibility of light rail using this facility in the future.	Citizen	Transcripts	Scope	Transit
What I'm concerned about is their taking our houses on Trexler Avenue; five of them they say. Just the five but they've been through there once before and taken our homes and they want us to have comments to say but I don't know anything to say because they're doing what they're going to do seem like and I think that there should have been some other way.	Citizen	Transcripts	ROW Acquisition / Public Involvement	N/A
Now, if we need the tolls to fund the project, I have no problem or we should have no problem some setting the toll once the project is paid for.	Citizen	Transcripts	Funding / Tolls	N/A

Moreover, improvements on existing MTT and DTT consisted of modifications to the existing tunnel tubes to comply with the requirements of National Fire Protection Association (NFPA) 502. To show that such improvements did not have significant effect on environment, Pragmatic Categorical Exclusions (PCE) were prepared for existing MTT and DTT. PCEs for existing MTT and DTT were approved by FHWA on May 13, 2009 which further finalized the environmental studies related to improvements on existing MTT and DTT (FHWA, 2004).

5.5.2. *Period T-2.2 (July 2009 to December 2011)*

With CTB's recommendation to advance the project to an Interim Agreement as well as the possibility of tolling the project during construction, VDOT initiated a travel survey in October 2009 to assess the

potential demand for the three facilities – MTT, DTT, and MLK – if tolls were imposed. The survey results showed that 61% of respondents were strongly or somewhat in favor of tolling the project, 17% were neutral, and 21% were strongly opposed to it (C&M, 2009). With the potential support for the tolled project, VDOT and ERC prepared a draft Interim Agreement; FHWA approved the draft and the Interim Agreement was executed on January 7, 2010 (FHWA, 2010).

As the environmental studies of all three components of the project – MTT, DTT, and MLK – were finalized, these components were pulled together and an Environmental Assessment (EA) was initiated for the MTT/DTT/MLK Extension project as a whole (VDOT, 2011a). An EA report was published and two public hearings followed to examine the EA on May 3rd and 4th 2011. More than 211 individuals attended these two public hearings held in Norfolk and Portsmouth (VDOT, 2011d). Transcripts of these meetings were available and analyzed. Similar to the IRP meetings that were held earlier in the process, the major issues in these meetings were also related to *Tolls, Funding, and Scope*. Further analysis on *Tolls* and *Scope* showed that the majority of the concerns on *Tolls* were related to *Imposition of tolls* and *Toll rates* and the majority of concerns on *Scope* were on *mass Transit*. For example, one citizen stated *“I also feel that tunnel tolls will further isolate Portsmouth from Norfolk/ Virginia Beach and hurt the region's commerce in general. These will be the only toll roads in the region, and people will make an effort to avoid them.”* Another citizen stated *“I would like it to be reflected in the plans ... that mass transit is being focused on, being considered, and the room for it is being included in the plans because as it stands now, that is not the case, and that's all I'd like to say.”* Table 5.8 presents representative comments that were made in the public hearings. A more detailed list of stakeholder comments on the issues raised in these meetings is presented in Appendix B.

Table 5.8. Representative comments made by stakeholders in EA public hearings

Comment	Source of comments	Type	Theme	Sub-theme
What consideration has been given with regards to the impact of this project upon the well-being of Calvary Baptist Church both during and after this project is completed?	Citizen	Written comments	Impacts	Community
To encourage it as such, any VDOT financial contribution to this project should go first to eliminating a toll from the MLK Extension, and then to reducing the toll at the tunnels.	Citizen	Transcripts	Funding	N/A
Tolling the MLK Freeway Extension separately from the tunnel expansion is counter-productive to reducing regional congestion, and bundling it with the tunnel expansion only reduces the chances that a vastly more important highway expansion will not be built as quickly as it is needed.	Citizen	Transcripts	Tolls	Imposition of Tolls
I believe that the average citizen who is going to end up paying tolls and \$5 for a gallon of gas is going to move from one city to another to prevent having to cross a toll or having to buy more gas.	Citizen	Transcripts	Tolls	Imposition of Tolls
Provide free bike/ pedestrian lane. This show VDOT's support of a "greener" future.	Citizen	Transcripts	Scope	Bike Lane

The publication of FONSI by FHWA, in August 2011, concluded the environmental studies of the ERT project. With the completion of environmental studies, the planning phase of the MTT/DTT/MLK Extension project was completed and the procurement phase which was initiated by the solicitation for conceptual proposals in May 2008 continued to advance.

Following the publication of FONSI in August 2011, VDOT and ERC executed an amendment to the Interim Agreement which authorized ERC to start with the preliminary work including the design and preparation of site drawings for the tunnels as well as purchasing certain tolling equipment (VDOT, 2011b). Then, three community meetings were held on September and November of 2011 to update the public about different aspects of the project such as tolling, use of E-ZPass, and benefits of the project. Transcripts of these community meetings were not kept since these meetings were less formal (Public Representative); also, these meetings were not NEPA related. Finally, the Interim Agreement advanced into a Comprehensive Agreement and was executed on December 5, 2011. This concludes Period T-2.

5.5.3. Summary

Table 5.9 summarizes all the involvement activities of Period T-2; it also indicates that whether such activities were NEPA related or were performed beyond NEPA process.

Table 5.9. stakeholder involvement mechanisms used in T-2

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	1	1	1	0	0	1
Public hearings	3	3	3	0	3	0
IRP meetings	5	5	5	0	0	5
Community meetings	3	3	3	0	0	3
Press release	6	6	0	0	1	5
Survey	1	0	1	0	0	1
Study report	8	8	0	0	5	3
Total:	28	27	14	0	10	18

There are almost the same number of involvement activities in this period as it was in the preceding period – Period T-1. However, the number of Non-NEPA involvement activities has increased significantly. Furthermore, in this period a survey study was conducted – a *consultation* – to assess the potential demand for different components of the MTT/DTT/MLK Extension project when the facilities were tolled (C&M, 2009). Also, there is no *participation* type of involvement in this period, while there is one *participation* involvement in period T-1.

Figure 5.9 illustrates stakeholder issues that were raised in the involvement activities during period T-2. These issues are extracted from transcripts of five IRP meetings and two public hearings – held in May 2011 – and written comments following the public hearings.

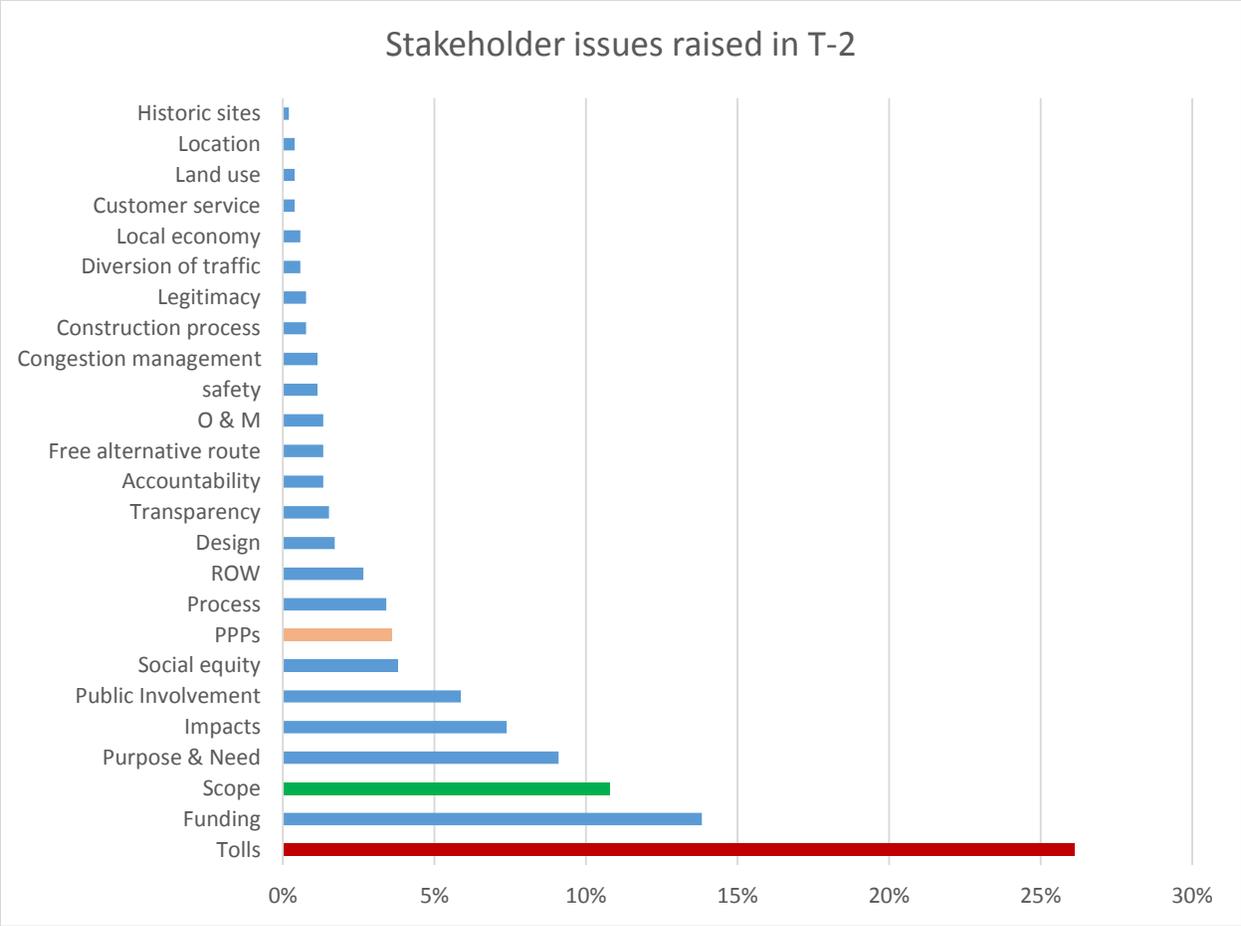


Figure 5.9. Stakeholder issues raised in T-2

With the issuance of Solicitation of Conceptual Proposals, two important characteristics of the project were confirmed with the stakeholder community: (1) the project was to be tolled; and (2) the project was to be delivered as a PPP. Hence, two main shifts in the stakeholder issues are observed in this period compared to period T-1: (1) significant escalation of issues raised on Tolls; and (2) emergence of issues related to PPPs.

In Period T-1, comments on *Tolls* were less than 10% of all the comments and was second in frequency; however, in T-2, *Tolls* are first and cover more than 25% of the comments. Stakeholder comments on *Funding* that were minor in T-1 and represented less than 5% of the comments have increased significantly to almost 14% and became the second prominent issue in Period T-2. Furthermore, comments on *Impacts* that included more than 35% of all the comments and ranked first in Period T-1, has fallen to less than 10% in Period T-2.

To better investigate the nature of stakeholder comments on *Tolls*, these comments are analyzed and coded into sub-themes. Figure 5.10 illustrates a distribution of stakeholder comments on the issue of Tolls made in Period T-2. As shown in the figure, the most common comments on *Tolls* are related to *Imposition of tolls and Toll rates*.

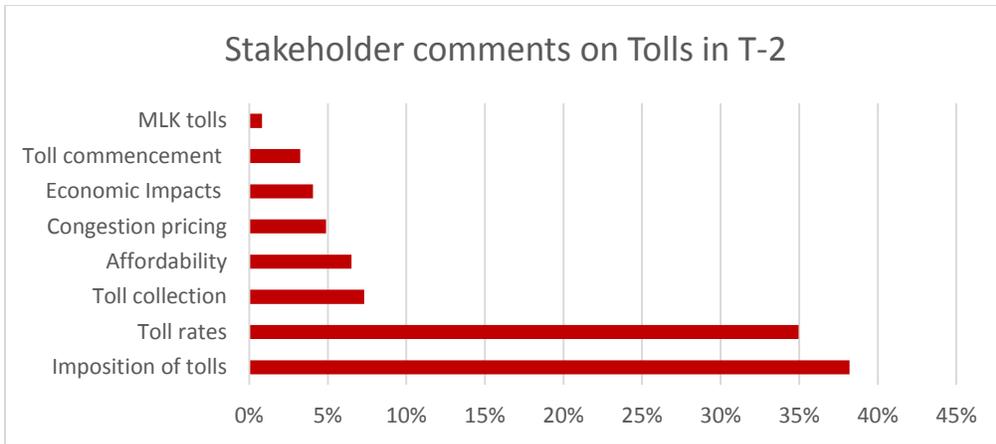


Figure 5.10. Stakeholder comments on Tolls in T-2

Figure 5.11 illustrates a distribution of stakeholder comments on *Scope*. As it is seen, the majority of the comments are related to *Transit*.

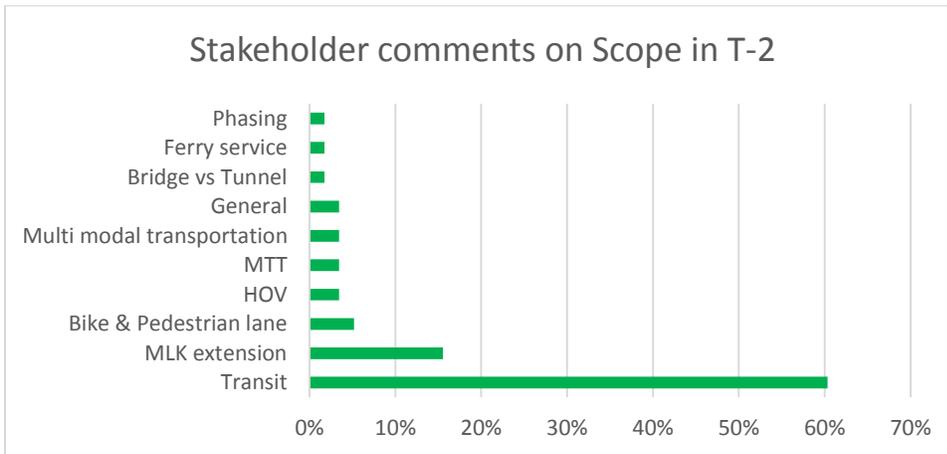


Figure 5.11. Stakeholder comments on Scope in T-2

Finally, there was a new set of issues emerged related to delivering the project as a PPP. Although, comments related to *PPPs* were not among the major issues raised by stakeholders, this issue is being further analyzed. For this purpose, Figure 5.12 demonstrates a distribution of the comments made on *PPPs*. As shown, the majority of comments on *PPPs* are related to *Profiteering* of the private sector.

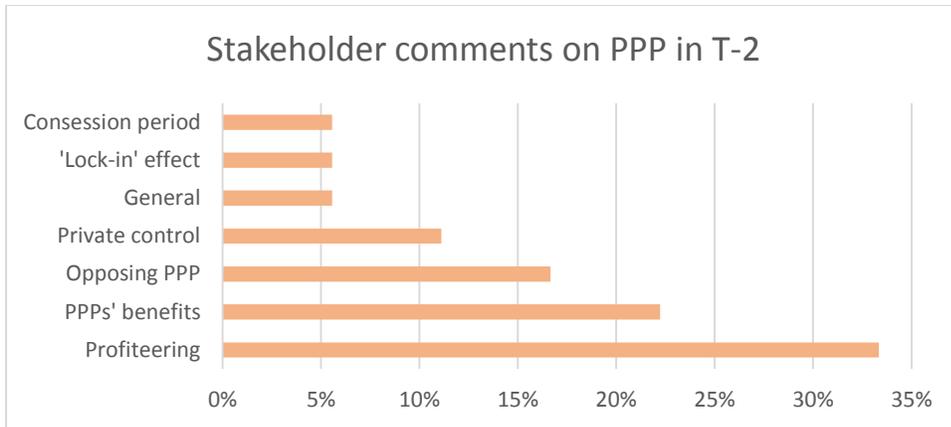


Figure 5.12. Stakeholder comments on PPPs raised in T-2

5.6. Period T-3 (December 2011 to February 2014)

This period characterizes project events and stakeholder involvements that took place between the execution of the Comprehensive Agreement (CA) in December 2011 and the commencement of tunnel tolls in February 2014. When the Comprehensive Agreement (CA) was executed, project sponsors changed the title of the project from the MTT/DTT/MLK Extension project to Elizabeth River Tunnels (ERT) project.

With the conclusion of environmental studies of the ERT project by the publication of Finding of No Significant Impact (FONSI) in August 2011, this period represents the design and construction phases of the project. Figure 5.13 illustrates the timeline of Period T-3 in which project events are orderly outlined in time. The timeline is divided into two sub-periods: T-3.1 and T-3.2.

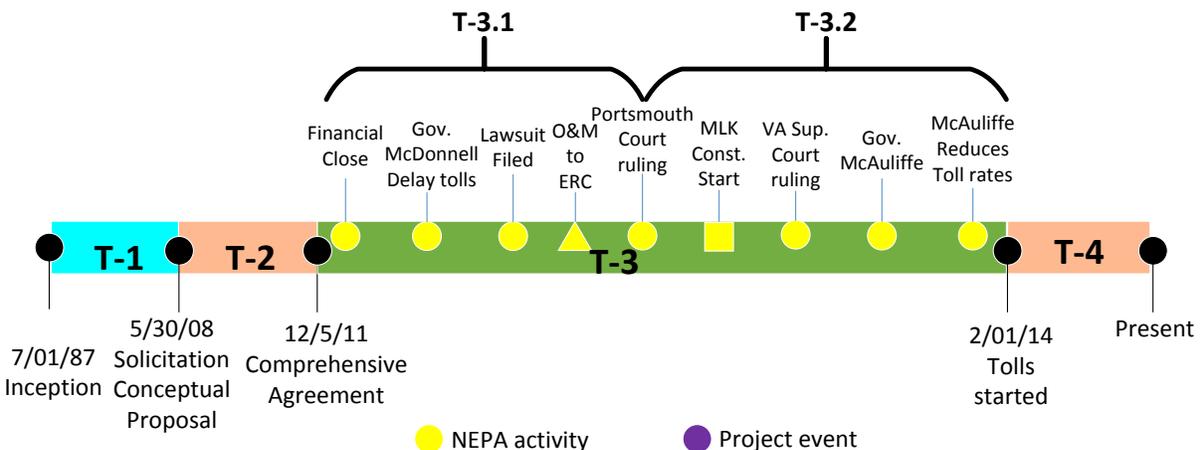


Figure 5.13. Period T-3 timeline

5.6.1. Period T-3.1 (December 2011 to May 2013)

It took the state and the private partner almost five months to negotiate the Comprehensive Agreement (CA) (Public Representative). Negotiators from the public sector had realized that *Toll* was a significant issue for the people in the region; therefore, there was a great effort in the negotiation process to keep

the tolls down and create relief for the people with regard to tolls (Public Representative). To keep toll rates affordable, project sponsors decided to start tolling the project early and during construction (Public and Private Representatives). A toll relief initiative was also planned in the comprehensive agreement which required ERC to make annual contributions of \$2.145 million to Hampton Roads Transit (HRT) for enhancement in bus services in the region (Public Representative).

Beside the attempts by the negotiators to minimize the impact of tolls, certain state and local government officials were also pressing on the toll issue; they were requesting reduction in toll rates and delaying toll collection until after construction was completed (Public Representative). According to the CA, tolls were scheduled to start in September 2012; tunnel toll rates were set at \$1.59 or \$1.84 depending on the time of the day and \$.50 for the MLK for tunnel users and \$1 for non-tunnel users (VDOT, 2011c). State Delegate Chris Jones opposed the agreement and stated *“I do not feel it is fundamentally fair to levy a toll of that magnitude for three full years prior to the benefit being received.”* Portsmouth Mayor Kenny Wright said he was *“extra disappointed [that they] didn't find a better way to do this. Tolls will create barriers that will promptly put regionalism on life support.”* However, Norfolk Mayor Paul Fraim defended the project and argued that the project was needed, he said *“We pay a toll for doing nothing. I hate paying these tolls I didn't expect them to be this oppressive but we have to have this deal.”* He argued that the tolls were necessary for the project and said *“The issue is: Do this deal or do nothing”* (Messina, 2012b). Nonetheless, funding resources of the project were finalized and the project reached its Financial Close on April 12, 2012.

With the growing concerns from the stakeholder community – citizens and State and Local officials – and the toll commencement day approaching on September 1st, the McDonnell administration made two decisions to ameliorate opponents and make the project more acceptable to stakeholders in April 2012 (Samuel, 2012). First, it delayed the tunnel tolls until January 2014 by allocating \$100 million from state transport funds to cover the cost (Samuel, 2012; Walker, 2012). Second, the administration exempted local trips from tolls on the MLK connector (Samuel, 2012). Subsequent to the decision, a community meeting was held by VDOT to discuss the new decisions with stakeholders. Record of the community meetings was not available; since the environmental studies of the project had been completed this involvement activity is considered a non-NEPA activity.

Despite the decisions by the McDonnell administration to make the project attractive in the eyes of its opponents, a lawsuit was filed against VDOT and ERC on July 12th to halt tunnel tolls. The lawsuit was filed on behalf of thirty-nine residents, businesses, and local officials – State Senator Kenny Alexander and Portsmouth Mayor Kenny Wright – and argued that tolling *“is transparently not a bona fide fee-for-service, but a device to generate revenue... Tolls that raise revenue for other facilities are not genuine user fees, but taxes. Here we've got a private entity and VDOT, which is unelected, reaching an agreement that in effect sets taxes”* (Sizemore, 2012). VDOT Commissioner responded in a statement that the project is legitimate and *“was developed with significant public input and in accordance with applicable law”* (Sizemore, 2012).

Nevertheless, the project advanced and the Operation and Maintenance (O&M) of the tunnels were transferred to ERC on July 13th 2012 as specified in the Comprehensive Agreement. VDOT Commissioner Greg Whirley praised the transition in a press release and stated *“This partnership with*

Elizabeth River Crossings positions VDOT as a national leader in leveraging public dollars to advance critical infrastructure projects like this one.” He further added, *“The agreement allows us to utilize private sector technical, management and financial resources to deliver an enhanced transportation system to the citizens of Hampton Roads in a faster and less costly manner.”* Furthermore, CEO of ERC, Greg Woodsmall stated in a press release *“Our team is dedicated to making sure commuters experience similar or enhanced service at the tunnels to help make the drive a little easier”* (ERC, 2012). ERC, also, hired more than 80 VDOT’s personnel who were previously working on the tunnels for the O&M of the facilities (Messina, 2012a). Subsequently, VDOT hosted two open house events on July 22nd and 23rd to inform the public about the new developments on the project. No records were kept for the open house events (Public Representative).

The lawsuit – filed on July 2012 – went to Portsmouth Circuit Court and on May 1, 2013; the Court ruled against the tolls arguing that the PPP agreement and its tolls were unconstitutional and the General Assembly exceeded its authority in giving VDOT “unfettered power” to set toll rates. A dozens of Portsmouth residents and the Mayor of Portsmouth who had sponsored the suit thrilled over the ruling shouting *“We did it!”* Portsmouth Mayor hoped that this decision *“sends a message to the rest of the region and the rest of the commonwealth... even small cities, when they’re right, they’re right.”* However, representatives from ERC stated that they would remain committed to delivering the project on schedule (Forster, 2013a).

Governor McDonnell and other top state officials – i.e. Attorney General Ken Cuccinelli – contested the ruling of the Circuit Court. By pointing out that tolls initially funded the tunnels’ construction years ago, McDonnell argued that tolls *“are needed again to build a second Midtown Tunnel and make other essential improvements for the sake of safety and efficient travel.”* He added *“The Elizabeth River Crossing [Tunnels] project is vital to the safety, transportation and economic vitality of the Hampton Roads region”* (Walker, 2013). The state officials also argued that with this ruling the state and state taxpayers would face a *“very, very large”* amount of damages (Forster, 2013b).

Furthermore, with the possibility of revoking tolls, the U.S. Department of Transportation who had provided a \$422 million federal loan – in a form of a TIFIA loan – sought assurances that Virginia would help pay back the loan if tolls were not allowed; in response, VDOT’s Commissioner replied to the federal agency that money could be taken from other transportation projects in the state to fulfill VDOT’s obligation, if needed as a fall back plan. However, Senator Frank Wagner from Virginia Beach – and a member of the Senate Finance and Transportation committees – challenged the fall back plan suggested by VDOT and argued *“It’s not an option to pay that entire thing out of the existing funding stream in the absence of tolling”* and suggested that the General Assembly to pursue a legislative fix – i.e. raising taxes – rather than derailing other projects (Forster, 2013e).

5.6.2. Period T-3.2 (July 2013 to February 2014)

In July 2013, after the Portsmouth Court ruling about the tolls and while the project was advancing in construction, Portsmouth city staff, acting with the support of council members, were refusing to allow the relocation of utility lines and delaying permitting processes (Private Representative). Subsequently, ERC contended that the impasse had caused delays that were *“quickly becoming critical path concerns”* and jeopardizing the project’s schedule (Forster, 2013c). VDOT’s Commissioner also followed up on the

issue and called the city's actions "unprecedented" and said they "must be rectified." He also requested the city to "provide its intentions" on the project, "so the Commonwealth can consider what appropriate steps it must take to protect its interests." The City of Portsmouth argued that they were only being prudent and if the higher court agreed the tolls were illegal, part or all of the project could be abandoned, making the utility work unnecessary. While ERC and VDOT offered to allay the concerns by filing a stipulation with the city to Supreme Court, City of Portsmouth rejected the offer and argued that the state was trying to bully the city (Forster, 2013c). According to a private representative interviewed, the lack of willingness and cooperation by City of Portsmouth continued throughout the project especially with regard to issuing work permits for MLK project which resulted in delays in MLK project's schedule – which was still under construction at the time of the interviewed (private representative).

Finally, VDOT and ERC appealed the ruling made by Portsmouth Circuit Court on May 1st to the Supreme Court of Virginia. On September 11, 2013 a new hearing was held for the case and both parties presented their arguments to the Supreme Court of Virginia. On October 31, 2013, the Supreme Court found that the tolls are constitutional and reversed the ruling of the Portsmouth Circuit Court. This news received mixed reactions within the stakeholder community. A Portsmouth restaurant owner and one of the plaintiffs described it as *"a perfect horror story – a real-life horror story."* Another plaintiff who owns a retail store in Portsmouth said *"I think there are broad ramifications; it's bad for citizens, it's bad for business."* Pat McSweeney, the attorney representing the toll opponents, said *"I'm having a hard time absorbing the logic of the opinion. It's going to take me awhile"* (Forster, 2013d). On the other hand, the Supreme Court's decision was well received by the project's proponents; Gov. McDonnell applauded the decision, saying *"It will allow work to continue on the Midtown Tunnel expansion project, a longtime regional priority to relieve congestion in Hampton Roads."* Virginia Attorney General Ken Cuccinelli said he understands that some people dislike the tolls, but his job is to defend the laws of the Commonwealth; he continued *"Those projects are needed to decrease congestion on our roads, which is critical to keeping business and commuters moving throughout the commonwealth"* (Forster, 2013d). Additionally, ERC welcomed the decision in a press release following the ruling of the Supreme Court *"the Supreme Court of Virginia's ruling... reverses the Circuit Court's order, ERC can continue to deliver the ERT project in full compliance with our Comprehensive Agreement with VDOT to bring this vital transportation network to Hampton Roads"* (ERC, 2013b).

Subsequent to this ruling, an online opinion poll was launched by *PilotOnline.com* that asked the commuters "How far would you go to avoid the DTT and MTT tolls?"; the results showed that out of 452 total votes, 232 participants (51%) stated *they would avoid tolls, even if it meant spending more on gas*; 118 participants (26%) stated *they would avoid tunnel tolls only if it meant spending less money compared to using a tunnel*; 75 participants (17%) stated that *they would take the tunnels even if they could save money with longer non-toll alternative route*; and, 27 participants (6%) were *unsure* (Citizens, 2013). Furthermore, a number of citizens made comments on the online polling page; these comments are presented in Table 5.10 and categorized based on their themes using content analysis techniques.

Table 5.10. Representative online comments made by citizens on the Opinion Poll

Comment	Type	Theme	Sub-theme
If the tunnel financing deal is so great I think we should expand the "a la cartye" system throughout the state. We could start to charge everyone who dies and is buried a small monthly charge for being dead, of course you would have to pay up-front for this service. Perhaps we should consider a small daily charge to maintain the common wealth's borders. Obviously I have issues on paying for something more than once!	Online comments	Tolls	Imposition of tolls
"I'd drive out of my way to the point of moving out of Virginia." Many will ask why live in this state when they can earn so much more with the same skill set elsewhere, and with fewer dopy politicians.	Online comments	Tolls	Imposition of tolls
About the only viable route for me is the Jordan Bridge. I'll probably use that,, especially in the evening when I'll be going home during the high price time.	Online comments	Diversion of traffic	N/A
The area is declining and I'm tired of being taxed to death by state and federal government. I don't mind paying taxes, but I look at my paycheck and I'm being robbed. "To compel a man to furnish funds for the propagation of ideas he disbelieves and abhors is sinful and tyrannical." Thomas Jefferson	Online comments	Tolls	Imposition of tolls

In the midst of arguments about the tolls on the project, new Governor McAuliffe, a Democrat, was elected to office; McAuliffe had previously raised concerns about the tolls during his gubernatorial campaign and had promised to try to reduce the toll burden on Hampton Road Residents (Fain, 2014; Forster, 2014a). Upon his election, McAuliffe proposed to CTB that Virginia spend \$82.6 million over three years to reduce the tolls on January 18th. The proposal was approved unanimously by the CTB members, which reduced initial toll rates from \$1.59 and \$1.84 to \$1 and \$0.75 during peak and off-peak hours respectively. Gov. McAuliffe called it “a good first step” and promised to continue to look for ways to help tunnel users there, “*This buys us some time to do what we need to do*” (Forster, 2014a). ERC’s CEO Greg Woodsmall stated that ERC knew of McAuliffe’s desire to do something about the tolls; therefore, they “were already prepared” when they were contacted by VDOT and came to an agreement the next day. ERC later added in a statement, that it was “pleased to be able to accommodate the toll rate change” (Forster, 2014a).

Delegate Chris Jones called the decision “*a reasoned approach*”; he continued “*They’re trying to minimize the impact until you actually have the facility open with extra capacity.*” State Senator Kenny Alexander, who took part in the anti-toll lawsuit in 2012, applauded McAuliffe’s decision, but he still

would prefer no fee at all on the DTT, *“The goal was to alleviate the tolls during construction. I would like to eliminate tolls at the DTT altogether, because there is no new capacity.”* Similarly, Portsmouth City Councilwoman said a \$0.75 toll sounds fair for the MTT but for the DTT that’s still too high, *“The DTT [toll] should be zero, we’re not getting anything but maintenance that the state should have been paying for all along.”* Portsmouth Mayor Kenny Wright said he hopes there is more to McAuliffe’s plan than *“kicking the can down the road,”* he added *“If all we’re doing is just buying it down until we deliver the tunnel, that’s not doing anything”* (Walker, 2014).

With the new toll commencement date approaching on February 1st, there were growing concerns over diversion of traffic to other non-tolled alternative routes. Stakeholders were concerned that the state operated non-tolled routes would be over capacity, which would require extra maintenance and improvements. Hampton Roads Transportation Planning Organization Director Dwight Farmer said *“We think the High Rise and Gilmerton will by far see the majority of that traffic that is diverted or changed because of the effect of the toll... [This] will add 35,000 vehicles per day to the High Rise Bridge, which is already carrying more vehicles than intended.”* Assistant Director of Public Works in Chesapeake said, *“The additional traffic will likely result in additional congestion, longer delays. I think what it will also do is underscore the need to replace the High Rise Bridge and to widen 64 on the Southside.”* In a statement VDOT spokesperson responded (Kelly, 2014):

“VDOT will monitor and respond to the congestion at the High Rise Bridge, as we do with any congestion event. Necessary measures will be taken, including deploy additional Safety Service Patrol, having Hampton Roads Traffic Operations Center operators closely monitor all water crossings and placing congestion messages overhead signage.”

However, unhappy stakeholders blamed VDOT for its agreement with ERC. This resentment is evident in one of the comments made on news article (Kelly, 2014):

“The Virginia Department of Transportation COULD CARE LESS about any other Routes that Virginia Drivers are now [TAKING] to avoid THESE GARBAGE TOLLS... Since VDOT is the REASON we HAVE to PAY the TOLLS in the first place... THANKS to Their CROOKED UNDER the TABLE DEALS with Elizabeth River Crossings.. WHY would they CARE if other Roads are to be FLOODED with Traffic... I Would Love to KNOW HOW MUCH BIG MONEY the Communistwealth of Virginia is GETTING behind KISSING the HIND PARTS of Elizabeth River Crossings...”

As expectations on diversion of traffic to other non-tolled routes were growing just days before tunnel tolls started, State Senator Kenny Alexander stated that if the traffic increases on those routes, those routes could face possible tolls in the future (Fox, 2014c). This also concerned other individuals, as one commented on a news article that (Kelly, 2014):

“If the High Rise Bridge wind up getting tolled, then the VA Supreme Court will have to reverse its decision on the legality of the tunnel tolls because they justified their ruling because the users of the tunnels still have ‘free & reasonable’ options to get to Norfolk / VA Beach. And it will no longer be reasonable because we’ll be down to one option, the Gilmerton Bridge.”

Table 5.11 shows a list of representative stakeholders’ comments that were made online in this regard before the commencement of tolls on the tunnels – Appendix B provides a more detailed list of the comments.

Table 5.11. Representative citizens’ online comments on commencement of tolls before Tunnel tolls started

Comment	Source	Type	Theme	Sub-theme
Many people like me, will drive around rather than pay their stupid tolls. For residents who were considering bypassing the tolls and using either Battlefield Boulevard or George Washington Highway instead, the added 4.4 miles and 4.9 miles, respectively, would cost about 72 cents or 80 cents per trip.	Citizens	Online comments	Diversion of traffic & Tolls	N/A & Imposition of tolls
THANKS to Their CROOKED- UNDER the TABLE DEALS with Elizabeth River Crossings.. WHY would they CARE if other Roads are to be FLOODED with Traffic...	Citizens	Online comments	Accountability	N/A
The way the gas prices fluctuates no one would have known the difference, instead we are now going to have 58 years of tolls with most of the profits going to overseas companies. Thanks toll booth; Bob McDonnell and our elected representatives who follow McDonnell’s lead and allowed this to happen.	Citizens	Online comments	PPP	Profiteering
It's not the current toll that the issue. It’s that the company is allowed to raise the toll whatever they want with no recourse.	Citizens	Online comments	PPP & Tolls	Profiteering & Toll rates
So, if these idiots have their way, pretty soon there will be no way to get out of Hampton Roads without paying a toll.	Citizens	Online comments	Tolls	Imposition of tolls
“I think almost immediately, overnight, people will change their traffic patterns and will change their time of day usage,” he said. “Once the trip is much more bearable, much more predictable, the question is will the attitudes change?”	Gov. Officials	Statement	Tolls & Diversion of Traffic	

5.6.3. Summary

In this period, only one community meeting and two open houses occurred. Since the environmental studies of the project completed in the preceding period, these involvement activities are offered outside of the NEPA process. According to a Public Representative interviewed, community meetings

and the open house event were less formal and no formal meeting records were kept (Public Representative). There were also a total of 4 press releases in this period which make a total of 7 involvement activities in this period.

The total number of involvement activities in this period had significantly decreased compared to the preceding period. In Period T-2 there were 28 involvement activities of which 27 were Communication and 14 were Consultation; however, there are only 7 involvement activities in Period T-3 of which three of them – the community meeting and two open houses – were both *Communication* and *Consultation*. The four additional press releases in this period are classified as *Communication* only, which totals the *Communication* activities to 7 in this period. Table 5.12 lists the involvement activities in this period.

Table 5.12. Stakeholder involvement activities in Period T-3

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Open house	2	2	2	0	0	2
Community meetings	1	1	1	0	0	1
Press release	4	4	0	0	0	4
Total:	7	7	3	0	0	7

The only sources for stakeholders’ reactions in this period were the citizens’ online comments and the quotes by local and state officials on the news articles that were published. There were a total number of 21 citizen comments and 8 statements from government officials identified from news articles published in this period. These comments were analyzed and classified into different themes.

Figure 5.14 illustrates the themes and their percentages in Period in T-3.

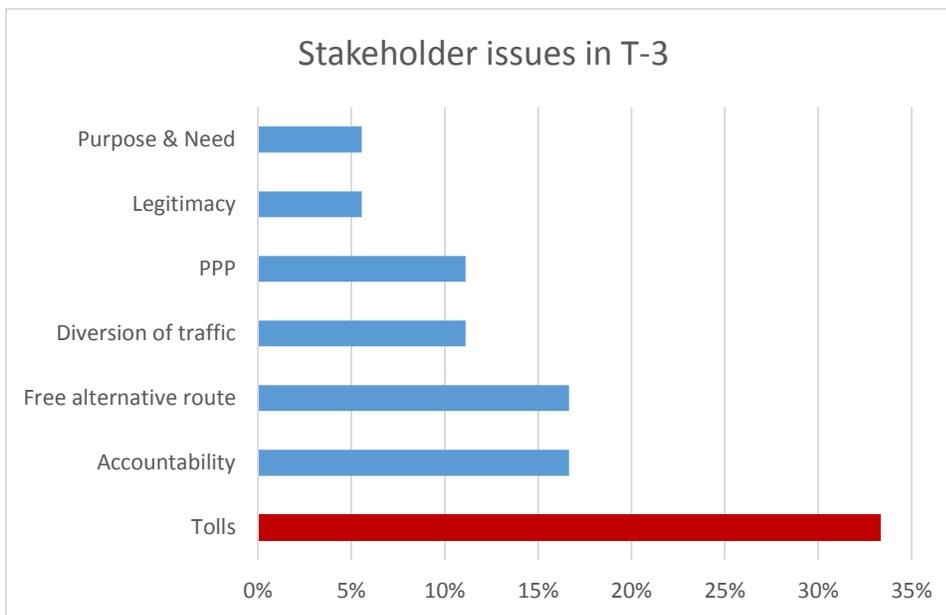


Figure 5.14. Distribution of themes of comments raised in Period T-3

Further analysis on stakeholder comments on *Tolls* revealed that 67% of the comments were related to *Imposition of tolls* and 33% were related to *Toll rates*.

A comparison between the issues raised in this period with the previous period shows that *Tolls* is still the major issue among the stakeholders. Moreover, while issues related to *Funding* and *Scope* were the second and third major issues in Period T-2, these issues did not surface in the comments in Period T-3. Also, *Accountability*, *Free Alternative route*, and *Diversion of Traffic* are among the major issues in Period T-3, these issues were minorities in Period T-2.

5.7. Period T-4 (February 2014 to present)

This period characterizes project events from the time that tunnel tolls started in February 2014 until present time. This period represents construction and operation phases of the project as the operation and maintenance of the tunnels were assumed by ERC and construction/improvements on MTT, DTT, and MLK started in July 2012. Figure 5.15 demonstrates a timeline and major events that happened in Period T-4. The timeline is divided into two sub-periods: T-4.1 and T-4.2.

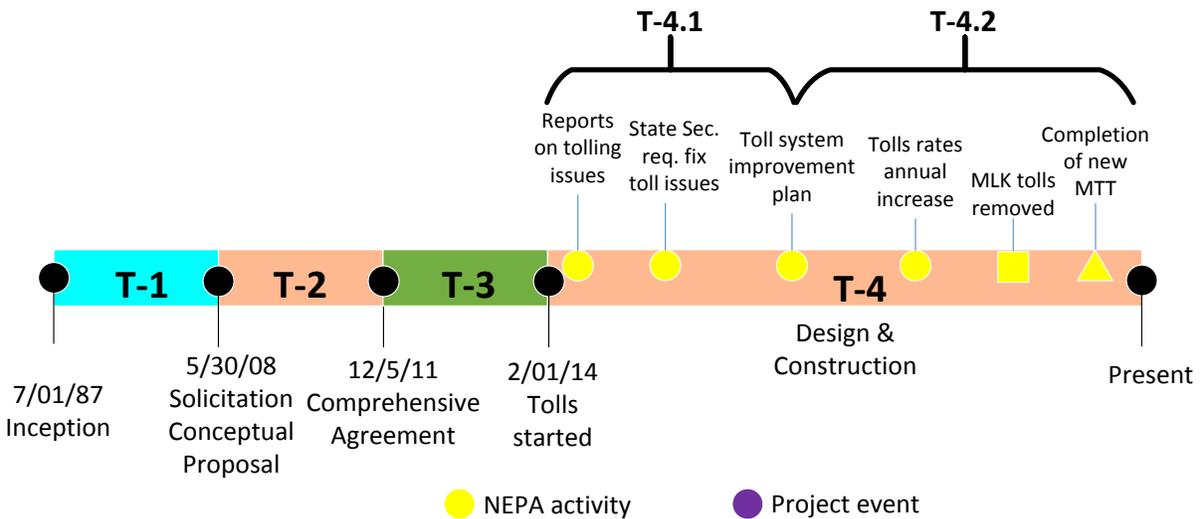


Figure 5.15. Period T-4 timeline

5.7.1. Period T-4.1 (February 2014 to September 2014)

Upon the commencement of tolls, it was expected that a portion of tunnels’ traffic would divert to Gilmerton or High-Rise bridges. On Monday February 2nd when toll started, Gilmerton experienced a 57% increase in traffic and the tunnels experienced the lightest traffic day of the work week in the winter (Forster, 2014e). According to ERC’s spokeswoman traffic on tunnels were 25% less than usual traffic before tolls and 60% of the trips were made by vehicles with E-ZPass transponders. Citizens also noticed less congestion at the tunnels; one commuter stated “*I love it. I love no congestion. It gets terrible, and it will take you twice the time to get to work and the majority of the time is just getting through the tunnel*” (Fox, 2014a). Following the announcement that revealed a 25% decrease in tunnels’ traffic, a news article was published which indicated that on the first weekday of tolling operation, the

traffic at Midtown and Downtown Tunnels had reduced compared with the preceding week. Twenty-eight citizens made online comments on the article.

Obviously the majority of the comments were related to *Imposition of Tolls*; some citizens were happy that they had a smooth drive, while this upset other drivers on the bases that all should have boycotted ERC by not using the facilities. Other comments were related to issues such as *Accountability*, *Legitimacy*, and *PPPs*. Table 5.13 demonstrates a representative list of those comments. A more detailed list of stakeholder comments is presented in Appendix B.

Table 5.13. Representative stakeholder comments following the announcement of 25% reduction on tunnel's traffic

Comment	Source of comments	Type	Theme	Sub-theme
Exactly.... people need to have these public roads that I pay for from tax dollars but now I have to pay more. Virginia government does not represent the people. Virginia government only looks out for their own interests. Shame on them!	Citizen	Online comments	Legitimacy	N/A
			Tolls	Imposition of tolls
Just another way for Virginia to take some more money from us... I personally think they all a bunch of thieves.	Citizen	Online comments	Accountability	N/A
			Tolls	Imposition of tolls
Why should citizens who pays taxes should pay tolls anyways... the greed in the state of va.	Citizen	Online comments	Legitimacy	N/A
			Tolls	Imposition of tolls
Not a chance that ERC will walk away from the 58 year cash cow contract.	Citizen	Online comments	PPPs	Profiteering
Amazing! Got off work at the shipyard and 10 minutes after that, was completely thru the tunnel and up and over the Berkley Bridge. Thanks everyone that decided to take the detour and sit in traffic. Enjoy spending that extra money on gas rather than getting an E-ZPass.	Citizen	Online comments	Tolls	Imposition of tolls
Response: Don't buy into this comment he's probably getting a piece of the tolls to!!!! Snake!				
Response: Wasn't obeying the Master soooooo easy??? All they ask is that you let them control you....				

Shortly after the tunnel tolls started, there were thousands of commuters complaining they had been erroneously charged higher tolls; the error happened to about 4,000 E-ZPass transactions over the first week of toll operation. On February 13th, ERC’s spokeswoman attributed that to the new tolling system’s sensors that had been too sensitive and had recognized vehicles with two axles as having three axles which had triggered \$4 “heavy vehicle” fee on the accounts. She ensured the problem would be resolved by end of the day and recommended that motorists check their E-ZPass statements to be sure (Forster, 2014d). When the news was announced by *PilotOnline.com*, eight citizens made comments on the issues. Subsequently, on July 9th, *10 On Your Side* – another media source in the region – published an article which showed ERC had sent an erroneous invoice to a commuter. Thirty five comments were made on the article. Table 5.14 present a number of those comments. A more detailed list of stakeholder comments is provided in Appendix B.

Table 5.14. Representative stakeholder comments following the announcement of tolling issues

Comment	Source of comments	Type	Theme	Sub-theme
This is a corrupt effort to make money. ERC, Vdot, and our leaders who approved this are splitting a cut of the profits. We all know it, and they know we don't care enough to do anything to stop them so we just drive the long way around.	Citizen	Online comments	Accountability	N/A
			Legitimacy	N/A
Look at N.C. with their bridge problems. How many of you would wait in line for a ferry, should our current structures be deemed unsafe? If the State doesn't have the money, then private partnership is a viable answer. Should there be a grand profit above what would be considered adequate compensation? Deals like this one sat on VDOTs game plan for several years with Tolls, as approved by the State.	Citizen	Online comments	PPPs	PPPs' benefits
Imagine that people have a problem paying to cross a bridge they already paid for. We pay taxes for this kinda stuff and to say the taxes to cover it simply isn't enough.	Citizen	Online comments	Tolls	Imposition of tolls
“People value their time much more during the rush hour,” Farmer said. “They are more tolerant of a toll during rush hour, and are willing to pay it.”	Gov. Officials	Statement	Tolls	Imposition of tolls

Comment	Source of comments	Type	Theme	Sub-theme
Farmer's [HRTPO's Executive Director] an idiot w/ his self-fulfilling prophecies. A dunce could have determined the outcome. We already get taxed to support the highways. Viva le resistance!	Citizen	Online comments	Tolls	Imposition of tolls
The tunnel toll operator's delays in billing thousands of motorists is "unacceptable" and endangering the future of tolling elsewhere in Hampton Roads.	Gov. Officials	Statement	Tolls	Billing Issues

Also, two weeks into tunnel tolling, a traffic analysis report – conducted by the Hampton Roads Transportation Planning Organization (HRTPO) – showed that commuters had been using other routes avoiding the tolls. The HRTPO's report showed that during peak hours, traffic was down 16% and 11% at the DTT and MTT respectively; the report also indicated that traffic on the Gilmerton and High-Rise bridges – the two non-tolled alternatives – were up 31% and 8% respectively. Also the report showed in off-peak hours, commuters used non-tolled alternatives – traffic was down 21% and 31% at the MTT and DTT and traffic had increased by 24% at the High-Rise Bridge and 38% at the Gilmerton Bridge. HRTPO's Executive Director expressed that the changes were expected and were normal. He continued *"People value their time much more during the rush hour... they are more tolerant of a toll during rush hour, and are willing to pay it."* ERC's spokeswoman also indicated that the rate of traffic diversion was still within their traffic projections *"The rate of traffic diversion we've seen at the Downtown and Midtown tunnels falls in line with ERC's projections. The toll rates were lowered by an amendment to our Comprehensive Agreement, which also provided compensation from the Commonwealth Transportation Board, making up the difference in toll revenue"* (Fox, 2014b).

As tolling operations on the tunnels continued, more tolling problems emerged; the additional problems involved delay in the start of billing the pay-by-plate motorists who did not have E-ZPass and the administration of an ERC promotion that gave new users five free trips. On March 12th, VDOT's district administrator James Utterback stated in a letter to ERC's CEO that, while VDOT recognized that the electronic tolling system had been operating for only about a month, prompt action was necessary *"to maintain the traveling public's confidence in the toll collections process and the integrity of E-ZPass Virginia."* The CEO responded that the issues were being worked out and the remedial actions would improve the system and restore public confidence. Three weeks later, another problem arose which involved a software glitch that prevented toll transactions from being relayed to E-ZPass Virginia for processing. Furthermore, the State Transportation Secretary Aubrey Layne called the tolling problems *"unacceptable,"* and said the state was tracking them. Subsequently, on April 19th, ERC's spokeswoman stated that the billing problems and software issue had been resolved and the delayed toll transactions would begin flowing soon (Forster, 2014b). She also added *"What we've experienced isn't unique with all-electronic systems... Nobody start out on day one and has zero problems."* However, Michael Walton, a researcher of toll technology at the University of Texas at Austin, called ERC's problems *"unfortunate*

yet interesting” and he said he was surprised by these issues because the ERC team has “considerable experience” (Forster, 2014b).

In May 2014, with ERC still struggling with tolling issues, ERC’s CEO, Greg Woodsmall, announced an action plan to address the problems; he suggested to have daily briefings from tolling operators, additional billing and processing staff with extra resources, and to provide briefings to the VDOT division administrator for ERC’s tolling operations (Woodsmall, 2014). With the tolling issues continuing into September, the State Secretary of Transportation, Aubrey Layne, stated *“This has been going on for eight months, and I’m not convinced they got it fixed yet.”* In an interview, he called the ERC’s billing errors “unacceptable” and said “it’s not fair to the motorists and it certainly is not a good implementation of tolling and billing policy for the Commonwealth” (WAVY-News, 2014). Subsequently, Layne called for a meeting with Woodsmall to discuss the tolling problems. After the meeting he said he was not reassured by his meeting with Woodsmall “I didn’t come away feeling this thing was under control.” Then, on September 20th Layne sent a letter to Woodsmall demanding a written plan by October 1st that addresses the deficiencies in ERC’s tolling system. He added that until he was satisfied with the results, the state will not help ERC collect video tolls – those incurred by non-E-ZPass users – by withholding vehicle registration issuances or renewals for people with an unpaid toll. Layne also raised concerns on the damage being done to public support for tolling by ERC’s low performance on tolls *“We’re going to need tolls to further these major projects in Hampton Roads, and the performance of ERC is not helping that”* (Forster, 2014f). Subsequently, ERC responded with a brief statement saying “ERC takes its responsibility to the Commonwealth very seriously and is working diligently with our tolling operators to correct invoicing issues attributed to earlier system problems and address Secretary Layne’s concerns prior to October 1st” (Forster, 2014f).

5.7.2. Period T-4.2 (September 2014 to present)

Following the request made by Layne, on September 26th, ERC published a Toll System Improvement Action Plan to enhance the quality and timeliness of toll transaction processing. The report recognized nine areas of improvements in ERC’s tolling system performance including: Contract management; System functionality; E-ZPass processing and invoicing; Pay-by-plate processing and invoicing; Management of returned mails; Business rules; Quality Assurance; Customer service; Communications. ERC also committed to provide a report to the Secretary of Transportation on the status of its progress in executing this action plan (ERC, 2014c).

The State Highway Commissioner Charlie Kilpatrick responded to ERC’s action plan in a letter that the action plan was short in details for “identifying, addressing, and monitoring the underlying issues that have plagued the operation from its beginning.” In the letter which was addressed to Woodsmall, he wrote “The performance of this project’s tolling operation has fallen far short of Good Industry Practice,” he added that ERC has provided “insufficient information to track toll transactions and toll system improvements” as part of its plan to improve. Kilpatrick wrote “Should there be issues, we expect you will identify them early and take all action necessary to correct problems... I expect solutions and not explanations. As partners, I also expect complete and full transparency into your operational processes” (Forster, 2014c). Subsequently, Woodsmall issued a letter to VDOT commissioner explaining that ERC had issued about \$500,000 in refunds to motorists who were billed for tolls that were more

than 60 days old. In a response, Layne wrote to Woodsmall that “[ERC’s] actions over time will determine whether it is successful,” and explained that he expects VDOT to hold ERC accountable over the life of its 58-year contract. Woodsmall replied in a letter “While completing this list of improvements was important to us, we have more to do to make the system as efficient, timely and user-friendly as we believe it can be... We at ERC remain focused on reaching out mutual goal of providing our customers an outstanding level of service” (Forster, 2015a).

On December 31, 2014, in the midst of the tolling issues, *PilotOnline.com* conducted an online poll about ERC’s performance in 2014. When citizens were asked “How would you assess ERC’s performance in 2014?” Out of 563 votes, 290 votes (63%) rated it as “Very poor”; 101 votes (22%) rated “Poor”; 37 votes (8%) rated “Average”; 9 votes (2%) rated “Good”; 15 votes (3%) rated “Very good”; and, 11 votes (2%) were “Unsure” (Citizens, 2014).

On December 30, 2014, ERC issued the new toll rates under the toll reduction agreement made with VDOT shortly after Gov. McAuliffe took office. Toll rates went up \$0.25 on January 1st to make them to \$1.00 and \$1.25 for off-peak and peak periods respectively (ERC, 2014b). Gov. McAuliffe responded to the change in a press conference and said, “This is an issue I ran on. I’ve done all I can do, I did what I could to buy down the tolls early on.” He continued, “[The ERT project agreement with ERC is] one of the worst deals I’ve ever seen negotiated.” He added “We’ve got to honor our commitments. We’ve signed agreements, and we now have to move forward and make the best situation with what we have” (Wilson, 2015).

In July 2015 when the Route 460 Improvements project was cancelled, Governor McAuliffe sought the opportunity to use some of the funds that had become available from the Route 460 Improvements project to reduce the burden of tolls on the users of ERT project. In an agreement between the state and ERC, the state transferred \$78 million that was set aside for Route 460 project to ERC to eliminate the tolls on MLK Extension of the ERT project. In that agreement, ERC also agreed to transfer \$5 million to a non-profit organization, over the course of 10 years, to help low-income drivers at the Downtown and Midtown runnels (WAVY-News, 2015). This last \$78 million state’s payment to ERC along with the two preceding payments of \$112 million and \$82.5 million made in 2012 and 2014 brought the state’s total contribution on the \$2.1 billion ERT project to about \$582 million. While ERC’s equity contribution is only \$221 million, the rest is being paid with federal loan, toll revenue, and private bonds (Forster, 2015c).

Finally, on June 17, 2016, the new MTT tube was completed and opened to traffic six months ahead of schedule. Woodsmall, ERC’s CEO, called it a “great day for drivers and a great day for Hampton Roads” because that means “faster travel, fewer accidents, and safer travel.” Woodsmall stated “the new tube provides one-way travel on each tunnel which is a huge safety improvement over the old tunnel.” The State Secretary of Transportation Aubry Layne welcomed the improvement and called the tunnel “a key part of the new Virginia Commerce which will bring more jobs and help economic growth in the region.” He also added “getting around the Hampton Roads more easily is a big deal now and for the future” (Gray, 2016).

A complete list of government officials’ statements in this period – extracted from news articles published in this period – is presented in Appendix B.

5.7.3. Summary

There are only three press releases identified in this period as a means of public involvement activity in Period T-4. These press releases were published primarily to provide update on operation of the facilities and construction activities. Stakeholder involvement activities in period T-4 are shown in Table 5.15.

Table 5.15. Stakeholder involvement activities in Period T-4

Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Press release	3	3	0	0	0	3
Total:	3	3	0	0	0	3

Although there were minimal public involvement activities in this period; nonetheless, there have been a total of fifteen online forums recognized for this period in which 294 online comments – made by interested stakeholders – are identified. In addition to those comments, 19 statements from state and local government officials are extracted from news articles published in this period. These comments have been analyzed and classified into appropriate themes – as previously shown in Table 5.13 and Table 5.14. Figure 5.16 demonstrates the themes that have emerged from analyzing those comments along with the percentages of comments made on each theme.

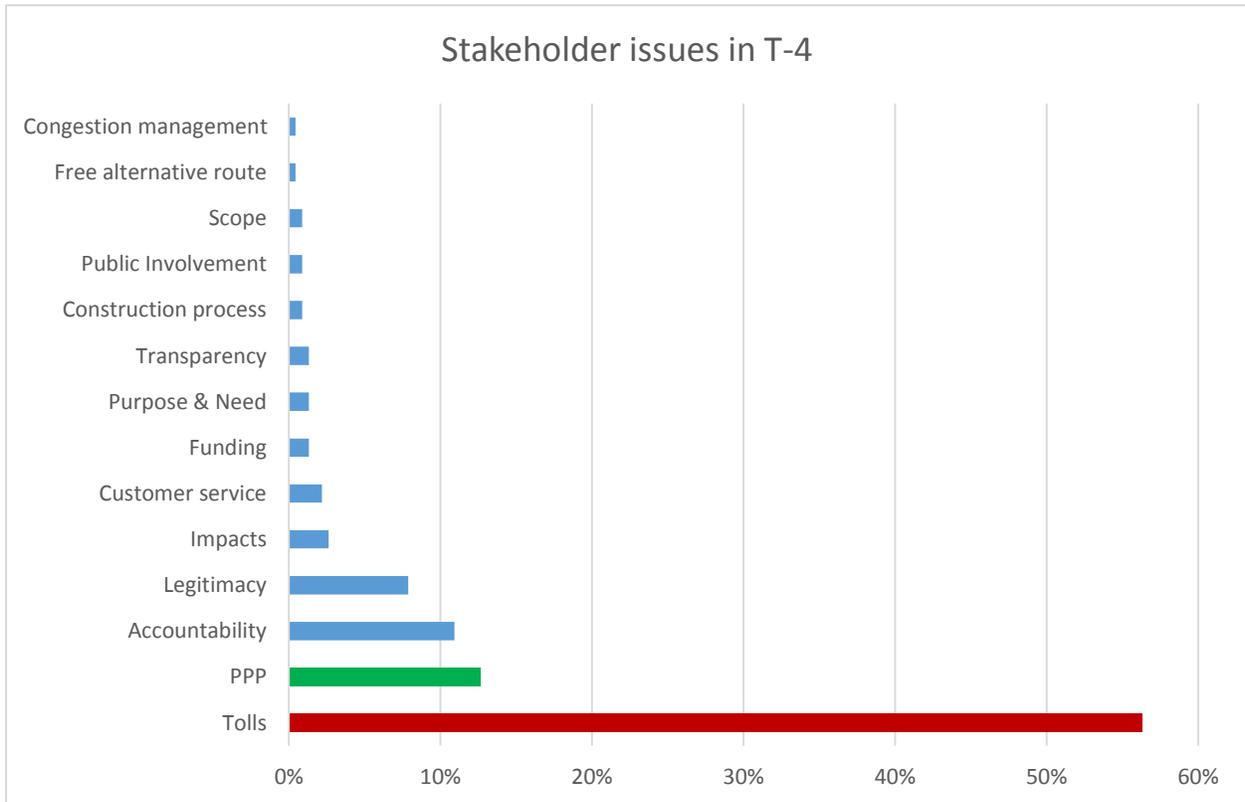


Figure 5.16. Stakeholder comments' themes in Period T-4

Figure 5.16 shows that issues related to *Tolls* are the most frequent issues raised by stakeholders followed by issues on *PPPs*. This observation is aligned with the findings in this period that tolling problems have dominated the stakeholder concerns in this period.

Moreover, comparison of the results in Period T-4 and Period T-3 shows that while only 33% of the comments are related to *Tolls* in Period T-3, 58% of the comments are related to *Tolls* in Period T-4. This increase is related to the tolling operation problems that had emerged in T-4; this is because further analysis of the comments on *Tolls* in Period T-4 reveals that the majority of the issues is related to *Billing issues*. Nonetheless, *Tolls* is the most frequent issue in both Periods T-3 and T-4. Results from further analysis of stakeholder comments on *Tolls* are shown in Figure 5.17. The figure shows the sub-themes as well the percentage of each sub-theme.

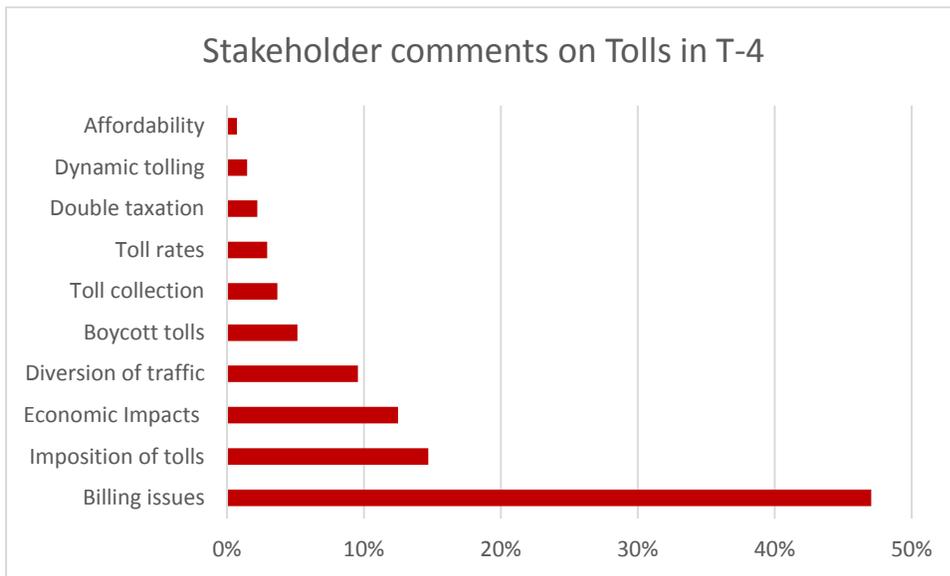


Figure 5.17. Stakeholder comments made on *Tolls* in Period T-4

Another shift in stakeholder issues in this period is the emergence of issues in *PPPs* as the second major issue in Period T-4, while issue of *PPPs* was the fifth issue in Period T-3. More than 45% of the comments on *PPPs* are related to the issue of *Profiteering* of the private sector followed by 26% *Opposing PPPs*. Similarly, Figure 5.18 demonstrates the sub-themes of the comments made on *PPPs* as well as the percentages of the sub-themes.

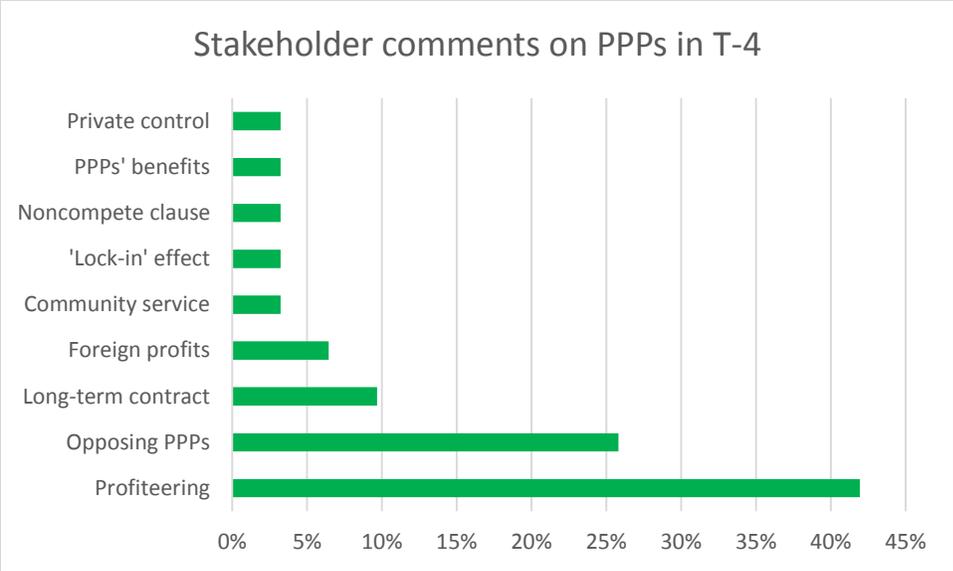


Figure 5.18. Stakeholder comments on PPPs raised in T-4

5.8. Assessment Across Project Periods

In this section, activities and events are examined across the periods to facilitate identification of trends and shifts in the involvement strategy and the stakeholder issues raised. Subsequently, the findings are discussed with regard to propositions proposed in this study.

5.8.1. Summary of Involvement Activities and Stakeholder Issues Across Periods

Table 5.16 illustrates the stakeholder involvement strategies by phase and period, depicting the involvement by type of information flow and NEPA vs. non-NEPA activities. As explained in Chapter 4, this table includes passive involvements as well as active involvements.

Table 5.16. Stakeholder involvement strategies of ERT in each period

Phase	Period	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Pr. Planning	T-1	23	96%	52%	4%	91%	9%
Dt. Planning	T-2	28	96%	50%	0%	36%	64%
Procurement	T-3	7	100%	43%	0%	0%	100%
Des. & Const.	T-4	3	100%	0%	0%	0%	100%

Table 5.17 illustrates the seven main stakeholder issues raised by frequency across the four periods in the project.

Table 5.17. Stakeholder issues raised in ERT project in each period

Period T-1	Period T-2	Period T-3	Period T-4
1. Impacts (39%)	1. Tolls (26%)	1. Tolls (33%)	1. Tolls (58%)
2. Tolls (10%)	2. Funding (14%)	2. Accountability (17%)	2. PPPs (14%)
3. Public involvement (9%)	3. Scope (11%)	3. Free alternative (17%)	3. Accountability (10%)
4. Flooding (6%)	4. Purpose (9%)	4. Diversion traffic (11%)	4. Legitimacy (8%)
5. Social Equity (6%)	5. Impacts (7%)	5. PPPs (11%)	5. Customer service (2%)
6. Design (5%)	6. Public involvement (6%)	6. Legitimacy (6%)	6. Funding (1%)
7. Historic sites (4%)	7. Social equity (4%)	7. Purpose (6%)	7. Purpose (1%)

5.8.2. Period T-1: Project Inception to Solicitation of Conceptual Proposals (1987 to 2008)

Because VDOT had a left a bad taste in the mouth of people in the region regarding ROW acquisition and eminent domain from past project, at the beginning of the project citizens were mainly concerned about the project’s impact on their properties and their communities. Hence, *Impacts* is the most prevalent issue in period T-1 (as shown in Table 5.17). *Community Impacts* and *Construction Impacts* are the two main sub-themes of *Impacts*. The second prominent issue is related to *Tolls*, and *Imposition of Tolls* and *Tolls rates* are the main sub-themes of *Tolls*.

To address the issue of *Impacts*, project sponsors made an effort to compassionately engage with stakeholders to minimize the impacts and assure them that they would be treated fairly (Public Representative):

“We learned that there were a lot of local stakeholders that were interested in the project and ROW had been their major issue especially for the residents in the Portsmouth area. Therefore, there were times and resources allocated to reach out to those stakeholders... We had a compassionate approach to all the individuals that had to be displaced... to cure the mistrust that had been on the project.”

As the footprint of the project became clear and impacted stakeholders were identified, project sponsors adjusted their involvement activities to be more focused and customized for those stakeholders (Public Representative). For example, as a Public Representative stated:

“One major stakeholder was the Baptist church in Portsmouth at the London Blvd. and the exit ramp that had impacted their facility. Therefore, we understood their issue and reached out to them and engaged them early. We learned that many of the constituents of the church do not have access to internet, therefore, we deployed other ways of communication to engage with them including postcards and posted messages in community centers.”

As shown in Table 5.16, *communication* is the main channel for information flow in stakeholder involvement. According to a Public Representative, there was one public hearing held in this period which had an open forum format. This is reflected in the Table 5.16. Since the environmental studies of MTT and MLK were initiated, the involvement strategy is predominantly focused on NEPA activities – this is shown in Table 5.18.

5.8.3. Period T-2: Solicitation of Conceptual Proposals to Comprehensive Agreement (2008 to 2011)

T-2 constitutes an intensive planning phase for the project as well as the culmination of its required environmental studies. As shown in Table 5.16, *communication* is the main type of information flow during stakeholder involvements.

Table 5.16 shows that the number of involvement activities increased in T-2, but Table 5.18 illustrates that the increase is attributed to several non-NEPA activities. This includes five IRP meetings. These meetings are required for PPP projects by the Public-Private Transportation Act (PPTA) of Virginia. As the environmental studies advance and conclude in this period, the quantity of the NEPA related activities decreases (as shown in Table 5.18).

When the IRP review process was complete, members of the IRP panel suggested to advance the proposal to an Interim Agreement. Once the Interim Agreement was executed, ERC became involved in stakeholder involvement and assisted VDOT in the process. For example, ERC’s representatives would attend the meetings that VDOT held and make presentations in those meetings (Public Representative).

Prior to the Solicitation for Conceptual Proposals by VDOT, there was not a lot of interest in the project among the stakeholder community (Public Representative). When ERC came forward with a proposal, stakeholders realized that the project was moving forward and became more interested and active (Public Representative). The Solicitation for Conceptual Proposals made it clear that the project would be tolled, and it would be delivered as a PPP. Also, it was announced that the tolling would start early during construction (Public Representative). The decision to impose tolls resulted in the emergence of *Tolls* as the prevailing issue. The primary discussion around *Tolls* was related to *Imposition of Tolls* and *Toll Rates*. Some stakeholders requested limiting the toll rates and deferring the start of toll collection:

“As you review this proposal, we would offer the following as guiding principles: First, the toll must be as close to one dollar as possible.... We also believe that VDOT should revisit its decision to begin tolling upon project completion rather than at the time of project authorization.”

Comments of this nature are perhaps precedents to the subsequent decision by the McDonnell administration to defer toll collections in MTT and DTT in April 2012 (Walker, 2012), and later the decision by the McAuliffe administration to lower the toll rates when initiated in February 2014 (Walker, 2014).

Other citizens were concerned about the planned tolls on the MLK Extension portion. For example, one citizen stated:

“We understand there are two tolling schemes proposed, one toll for the river crossings and a second lower toll for the Pinnars Point/I-264 portion known as the connector... We

do not support the connector toll. It would place an undue hardship on our businesses and citizens of the city.”

Given the lack of established tolling culture in the region combined with relatively lower annual household income in Cities of Portsmouth and Norfolk, such sensitivity is not unexpected (Lemp & Kockelman, 2009; Yusuf et al., 2014). *Funding* emerged as a main issue since the conceptual proposal of ERC was reviewed and different funding mechanisms were discussed in the IRP meetings.

The decision to deliver the project as a PPP caused *PPP issues* to emerge as the 8th issue in frequency among other issues. Although, *PPP issues* is not as significant as other issues, it received non-trivial attention from the stakeholder community; the main discussion points on *PPP issues* were related to *Profiteering* and *PPP benefits* – so not all attention paid to PPPs was negative in nature.

5.8.4. Period T-3: Comprehensive Agreement to Tolls Started (2011 to 2014)

When the Comprehensive Agreement was executed, ERC became more active in stakeholder involvement (Public Representative). The Public Representative explained the change in ERC’s role as:

“Their role changed as the project progressed from Interim Agreement to Comprehensive Agreement. They became part of the team and a partnership, so their message and our message had to be the same for the public. There [was] close coordination between VDOT and ERC about the involvement activities regularly which was done through the Internal Working Groups which consisted of VDOT and ERC personnel to coordinate these activities.”

Additionally, the private partner (ERC) launched a new project website, <https://www.driveert.com/>, and it began to issue news communications about the project from the website.

While the Comprehensive Agreement was being executed, opposition to tolls and tolling during construction was growing. To mitigate those issues, a toll relief initiative was negotiated in the Comprehensive Agreement which required ERC to contribute annual payments of \$2.145 million to Hampton Roads Transit (HRT) to improve bus transit services.

The magnitude of the opposition to tolls forced the McDonnell administration in April 2012 to allocate \$100 million from state transportation fund to delay the tunnel tolls for 17 months – until February 1st 2014 – and exempt local trips on MLK extension portion of the project from tolls (Samuel, 2012; Walker, 2012). However, the decision did not alleviate the opposition, and a lawsuit was filed on behalf of a number of Portsmouth residents and business owners on July 12, 2012. The lawsuit challenged the constitutionality of the tolls arguing that the tolls were taxes and imposing such taxes by VDOT was unconstitutional (Sizemore, 2012). In May 2013, the Portsmouth Circuit Court ruled that the tolls were unconstitutional. With this ruling, U.S. Department of Transportation sought assurance from VDOT regarding the pay back of the \$422 federal TIFIA loan if tolls were removed. Subsequently, the defendants – VDOT and ERC – challenged the ruling and the Supreme Court of Virginia ruled that the tolls were constitutional in October 2013.

As shown in Table 5.16, the involvement strategy in T-3 is focused on *communication*; moreover, Table 5.18 indicates that stakeholder involvement has decreased significantly as the environmental studies are concluded and the project advances into T-3.

In January 2014, Terry McAuliffe was elected as governor; during his campaign he had expressed his disapproval about the negotiated agreement between VDOT and ERC and had promised to ease the burden of tolls for the residents in the Hampton Roads area.

5.8.5. Period T-4: Tolls Started to Present (2014 to 2017)

In mid-January 2014, Governor McAuliffe proposed to the Commonwealth Transportation Board (CTB) to dedicate \$82.5 million from state funds to reduce toll rates as he had promised in his campaign; the CTB approved the proposal unanimously and tolls were reduced on February 1, 2014 (Forster, 2013e). The Governor called it “a good first step” and hoped for future considerations to reduce the impact of tolls on the people (Forster, 2014a; Walker, 2014).

Subsequently, when the Route 460 Improvements project was cancelled in July 2015, Gov. McAuliffe saw the opportunity to use \$78 million of funds now available to eliminate all tolls on the MLK extension indefinitely (WAVY-News, 2015).

When tolling operations started in February 2014, thousands of facility users were either mistakenly overcharged or wrongfully billed. As operations continued, the issues escalated and state officials became concerned about the damage being done to public support for tolling. State Secretary of Transportation Aubrey Layne called the issues “unacceptable” and requested an action plan for resolving the issues by October 2014 (Forster, 2014f). These circumstances contributed to more stakeholder concerns about *Tolls*.

As the project advanced into construction, the focus of the involvement strategy shifted to communication (as shown in Table 5.16). Also during this time, active involvements were stopped (as shown in Table 5.18) and activities became limited to a handful of communication involvements – i.e. press releases – (as shown in Table 5.16).

Similar to the preceding periods, *Tolls* is the prominent issue. However, the nature of the dialogue is slightly different. While the main sub-themes in T-2 and T-3 were *Imposition of Tolls* and *Toll Rates*, the two main sub-themes became *Billing Issues* and *Imposition of Tolls*.

5.8.6. Discussion of Stakeholder Involvement

Table 5.18 summarizes active involvement mechanisms across periods. In this table, more passive involvements are excluded; it reflects involvements where project sponsors and stakeholders actively exchange information through participatory and non-participatory mechanisms such as: public meetings, stakeholder committee meetings, public hearings, community meetings, etc.

As shown in Table 5.18, the quantity of the involvement activities declined as the environmental studies were completed at the end of period T-2 and as the project advances into its Procurement and Construction Phases. Although project sponsors utilized a number of non-NEPA involvements in T-2 (i.e. IRP meetings), the evidence shows that involvements in period T-1 are heavily focused on the NEPA process. Moreover, the non-NEPA activities in period T-2 took place in a relatively short period of time (from March 2009 to June 2009), when compared to the project’s lifecycle. Additionally, as shown in Table 5.18, when the environmental studies are completed, active involvements become limited to a community meeting and two open houses in T-3; these involvements cease altogether in *Construction* (T-4). Therefore, these observations provide support for proposition 1A: *Responsible stakeholders base*

their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process.

Table 5.18. Active stakeholder involvements mechanisms in ERT

Phase (Period)	Public Meeting		Public hearing		Industry meeting		Community meeting		IRP meeting		Open house		Survey		Total	
	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA
Pr. Plan. (T-1)	5	0	7	0	0	1	0	0	0	0	0	0	0	0	12	1
Dt. Plan. (T-2)	0	1	3	0	0	0	0	3	0	5	0	0	0	1	3	10
Proc. (T-3)	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
D & C (T-4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	1	10	0	0	0	0	4	0	5	0	2	0	1	15	14

Table 5.19 categorizes active involvements based on the involvement types. As shown in this table, little *participation* involvement is observed in the entire project lifecycle. The only *participation* involvement identified is related to a public hearing that had an open forum format in period T-1; however, the IRP process required by Virginia’s PPTA is a form of “selective” participation since IRP members discussed and assessed the merits of the ERT project and issued a recommendation that it could proceed. Overall, however, the evidence indicates that project sponsors did not view participatory involvement as beneficial – at least during implementation. In hindsight, a public representative did indicate that the project could have benefitted from a stakeholder committee. Therefore, on balance the findings support proposition 1B: *Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project’s phase or delivery method.*

Table 5.19. Active involvements categorized by theme across ERT's periods

Period	Public meeting	Public hearing		Industry meeting	Community meeting	IRP meeting	Open house	Survey
	Com. / Con.	Com. / Con.	Par.	Com. / Con.	Com. / Con.	Com. / Con.	Com. / Con.	Con.
Pr. Plan. (T-1)	5	6	1	1	0	0	0	0
Dt. Plan. (T-2)	1	3	0	0	3	5	0	1
Proc. (T-3)	0	0	0	0	1	0	2	0
D & C (T-4)	0	0	0	0	0	0	0	0
Total	6	9	1	1	4	5	2	1

During T-1, the decision was made to deliver the emerging project as a PPP; by 2008 (Period T-2), VDOT issued a Solicitation for Conceptual Proposals. Subsequently, when the Interim Agreement was executed in 2010, ERC became involved in the stakeholder involvement plan. According to a Public Representative, the involvement strategy of VDOT did not change, but ERC assisted VDOT in the process.

Moreover, when the Comprehensive Agreement was executed in 2011, the private partner became part of the project team and cooperated with the public sector in the involvement plan. Additionally, the private partner opened new channels to engage with stakeholders such as: sending communications via a new website and tweets. This evidence suggests that the private concessionaire influenced the involvement strategy, but these impacts do not represent a markedly different engagement approach.

Table 5.20 categorizes the involvement activities employed using an involvement continuum where activities range from conventional to pioneering. Most of the activities employed are conventional, but a few such as sending tweets to commuters and a Scholarship program for high school graduates in Hampton Roads are less conventional.

Additionally, the five IRP meetings held in T-2 are more conventional and took place in a relatively short period of time (from March 2009 to June 2009). The IRP meetings are required for PPP projects by Virginia's PPTA. Therefore, utilizing a PPP influenced the overall involvement strategy. Although the influence of the private concessionaire is certain and the IRP meetings would not have been held otherwise, a fundamental shift in the stakeholder involvement strategy did not occur. Therefore, the observations provide support for proposition 1C: *The decision to deliver a project as a PPP does not markedly change the stakeholder involvement plan nor the mechanisms employed.*

Table 5.20. Stakeholder involvement continuum

Case	(Pioneering) ← (Involvement continuum) → (Conventional)	
ERT	<ul style="list-style-type: none"> Scholarship program for high school graduates in Hampton Roads Sending tweets to commuters 	<ul style="list-style-type: none"> Five IRP meetings (in four months) Fulltime outreach personnel Website launched Sending news feeds & updates Administrating involvements

Table 5.21 summarizes the findings with regard to the involvement propositions; support is shown by “+”, rejection is shown by “-” and inconclusive evidence is shown by “+/-”.

Table 5.21. Summary of findings on propositions 1A, 1B, and 1C

Case	1A: NEPA Dictates Involvement	1B: Participation Not Beneficial	1C: Impact of Delivery Method
ERT	+	+	+

5.8.7. Discussion of Stakeholder Issues

Common issues in megaprojects and the dominance of tolling (Propositions 2A and 2B) are addressed simultaneously. Table 5.22 summarizes multiple sources of evidence relevant to stakeholder issues raised in each period (project phase). The first row indicates the top seven stakeholder issues raised in each period extracted from expressed comments of stakeholders. The second row shows representative statements from quotes made by stakeholders. The third row lists actions taken by stakeholders relative to the issues raised. Lastly, the fourth row indicates relevant input from interviews with project representatives.

In period T-1 (pre-planning phase) stakeholders were primarily concerned about the project’s impact on their communities. This was related to a legacy issue that VDOT had left when it did previous projects in the region. The provided quote from a citizen supports this. Also, public representative interviewed stated that VDOT had left a bad track record with respect to ROW acquisition in the past. These evidence are provided in Table 5.22 to support the findings.

At the beginning of period T-2 (Detailed Planning Phase) it was announced that tolls would be emplaced during construction and a PPP method would be utilized. This decision made a shift in stakeholder issues and *Tolls* became the major issue. Stakeholders strongly opposed the tolls. Although decision for PPP was made in this period, issues related to *PPPs* were 8th in frequency and other issues such *Tolls*, *Funding*, *Scope* and *Purpose* were far more pronounced. A quote from citizen and relevant points from interviews are presented in Table 5.22 to support the findings.

As the project advanced into Procurement Phase (T-3), *Tolls* continued to be the main issue and *PPPs* emerged as the 5th issue. In light of growing opposition to tolls, Governor McDonnell dedicated \$125 million from state funds to delay tolls for two years (until Feb. 2014). State Del. Chris Jones supported the decision: *“They’re trying to minimize the impact until you actually have the facility open with extra capacity”* (Walker, 2014). While State Sen. Kenny Alexander suggested no tolls on DTT: *“The goal was to alleviate the tolls during construction. I would like to eliminate tolls at the DTT altogether, because there is no new capacity”* (Walker, 2014). Despite of the measured action by the Governor, a lawsuit was filed in July 2012, over the constitutionality of tolls by a number of stakeholders; consequently, the lawsuit was settled in the Virginia Supreme Court in favor of VDOT and ERC. This evidence is presented in Table 5.22.

When the project advanced into construction phase (T-4) and the tolling operation began, significant number of billing and operational issues emerged which exacerbated the tolling issue. Consequently, state officials were getting concerned with the tolling operation performance of ERC; Sec. of Transportation Aubrey Layne was worried about the possibility of tolls in future projects in the region: *“We’re going to need tolls to further these major projects in Hampton Roads, and the performance of ERT is not helping that”* (Forster, 2014). Also, during the interview process, a public representative stated that ERC had tolling issues when tolling operation started. Subsequently, newly elected Governor McAuliffe dedicated \$87 million to reduce the toll rates and eliminated the tolls on MLK to minimize the tolling impact and mitigate the issue. Nonetheless, *Tolls* remained dominant in T-4 followed by the issue of *PPPs*. Relevant evidence is presented in Table 5.22 in support of the findings.

The top issues listed in Table 5.22 in Construction Phase (period T-4) are extracted from stakeholders’ online comments on news articles and blogs since there is no active involvements identified in this period. Therefore, these issues are not likely representative of the overall stakeholder community. Nevertheless, *PPPs* are still dwarfed in frequency by *Tolls* (58% to 14%). Therefore, findings over the project lifecycle provide support for proposition 2A: *Stakeholder issues that are common to non-PPP and PPP megaprojects are far more prevalent than issues that are specific to PPP megaprojects.*

Tolls became the prominent issue once the decision to toll the project was made in the planning phase (period T-2). Similarly, this issue remained prominent in procurement and construction phases (periods T-2 through T-4). Further, as depicted in Table 5.22, a lawsuit was filed challenging the constitutionality of the tolls while both Governors McDonnell and McAuliffe took actions to alleviate the toll burden. The magnitude of public opposition and the high level of state and federal contributions in this project to alleviate the burden of tolls, prompted local legislators to suggest a number of legislation reforms for the way toll transportation projects are developed in Hampton Roads area.

- In February 2014, Hampton Roads’ Delegate Chris Jones and State Senator Frank Wagner made a proposal to the General Assembly to establish a local commission that retains tolling authority for transportation projects in Hampton Roads. The commission would include three or four lawmakers, as well as mayors and county board chairs from across Hampton Roads (Virginia-Pilot, 2014).
- In July 2014, the Hampton Roads Transportation Accountability Commission (HRTAC) was established by the approval of the General Assembly to manage the Hampton Roads

Transportation Fund (HRTF) revenues. HRTAC consisted of mayors from local governments, state legislators from the region and area Commonwealth Transportation Board members (HRTAC, 2014). HRTAC is commissioned to approve future tolls on transportation facilities in the Hampton Roads (Public Representative).

The literature also supports the prominence of this issue; the relatively low income levels and the lack of tolling culture in the region can prompt such concerns (Bain, 2009; Lemp & Kockelman, 2009; Yusuf et al., 2014). Therefore, the findings support proposition 2B: *Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues.*

Table 5.22. Summary of lines of evidence for proposition 2A & 2B

Source of evidence	Preliminary planning (T-1)	Detailed Planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
Expressed comments	<ol style="list-style-type: none"> 1. Impacts (39%) 2. Tolls (10%) 3. Public involvement (9%) 4. Flooding (6%) 5. Social Equity (6%) 6. Design (5%) 7. Historic sites (4%) 	<ol style="list-style-type: none"> 1. Tolls (26%) 2. Funding (14%) 3. Scope (11%) 4. Purpose (9%) 5. Impacts (7%) 6. Public involvement (6%) 7. Social equity (4%) 	<ol style="list-style-type: none"> 1. Tolls (33%) 2. Accountability (17%) 3. Free alternative (17%) 4. Diversion traffic (11%) 5. PPPs (11%) 6. Legitimacy (6%) 7. Purpose (6%) 	<ol style="list-style-type: none"> 1. Tolls (58%) 2. PPPs (14%) 3. Accountability (10%) 4. Legitimacy (8%) 5. Customer service (2%) 6. Funding (1%) 7. Purpose (1%)
Quotes	<p><u>Citizens (Community impacts & legacy issues):</u> “The reason we are so sensitive about this is the fact that we were in our current home when VDOT or the state government constructed the highway I-264 in the late 50s, and we remember how it tore up the neighborhood then. So we just feel uncomfortable and uneasy about the whole process, and quite naturally, we think it’s unfair.”</p>	<p><u>Citizen (Opposing tolls):</u> “Think of it as a toll, it just never stops. I am fighting tolls, and that’s the sole purpose of my being here tonight. I’m not fighting the project. I’m fighting the tolls.”</p>	<p><u>State Del. Chris Jones (support for delay tolls):</u> “They’re trying to minimize the impact until you actually have the facility open with extra capacity” (Walker, 2014). <u>State Sen. Kenny Alexander (suggests no tolls on DTT):</u> “The goal was to alleviate the tolls during construction. I would like to eliminate tolls at the DTT altogether, because there is no new capacity” (Walker, 2014). <u>Portsmouth Mayor Kenny Wright (filed lawsuit):</u> “Tolls that raise revenue for other facilities are not genuine user fees, but taxes. Here we’ve got a private entity and VDOT, which is unelected, reaching an agreement that in effect sets taxes” (Sizemore, 2012).</p>	<p><u>Sec. of Transportation Aubrey Layne (tolling operation issues):</u> “We’re going to need tolls to further these major projects in Hampton Roads, and the performance of ERT is not helping that” (Forster, 2014). <u>State Highway Commissioner Charlie Kilpatrick (tolling operation issues):</u> “The performance of this project’s tolling operation has fallen far short of Good Industry Practice” (Forster, 2014c).</p>
Actions	<p>No significant action taken</p>	<p>Decision to implement tolls was made. Decision to deliver as PPP was made.</p>	<p>McDonnell delayed tolls until Feb. 2014; eliminated MLK tolls for local commutes Lawsuit filed over tolls despite action to delay tolls; subsequently, settled in favor of VDOT/ERC; Pilot survey indicate majority of responders avoid tolls</p>	<p>McAuliffe reduced toll rates McAuliffe eliminated MLK tolls Legislative/regulative reforms for tolled projects in Hampton Roads; Decline in tunnel uses when tolls started (indicative of toll sensitivity).</p>

Source of evidence	Preliminary planning (T-1)	Detailed Planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
Interview points	VDOT left a bad track record in the region with regard to ROW acquisition. Stakeholders didn't have interest in the project.	Stakeholders' interest in project increased when solicitation for proposals issued and ERC submitted a proposal	Citizens opposed tolls and tolling during construction.	Billing issues emerged when toll operation began

Table 5.23 summarizes the findings of this case with regard to proposition 2A and 2B. In ERT, the private concessionaire is responsible for collecting and managing tolls. As discussed, the issue of PPPs was present since the announcement of its utilization for delivery. Analysis of this issue reveals that the primary discussion on PPPs across the periods is related to *Profiteering*. Although the issue of PPPs is not prominent in this case, examination of proposition 2C will occur in Chapter 7. In Table 5.23, support for propositions is shown by (+); conversely, rejection of propositions is shown by (-) and inconclusive determination is demonstrated by (+/-).

Table 5.23. Summary of findings on propositions 2A, 2B, and 2C

Case	2A: Common Issues Regardless of Delivery Method	2B: Tolling Is Dominant Issues	2C: Public vs. Private Toll Collector
ERT	+	+	Not Applicable

5.9. Stakeholder involvement benefits and challenges

This section is mainly constructed from the interviews done with two Public Representatives and two Private Representatives involved in the project. In the following subsections first the benefits of stakeholder involvement in the project are laid out; then, the challenges that they had during the project are discussed.

5.9.1. Stakeholder involvement benefits

According to a Public Representative interviewed, stakeholder involvement activities at the beginning stages of the project developed a sense of trust between project sponsors and the stakeholder community to a major degree. Personalized and targeted involvement activities – like community meetings – helped cure the mistrust that had been created by VDOT in previous projects in the region. It also helped to establish relationships with stakeholders early on and continued throughout the project (Public Representative).

According to Public Representatives interviewed, the mainstream media opposed the project from its early stages – perhaps, this was a consequence of the poor track record of VDOT in the area. With stakeholder involvement, project sponsors were able to mitigate the negativity that the media had promoted against the project (Public Representative). Also, stakeholder involvement provided an opportunity for the project sponsors to inform stakeholders about the project’s objectives and seek their input. This engagement fostered trust and enhanced project support among the stakeholders (Public Representative).

Moreover, with stakeholder involvement project sponsors communicate the benefits of the project as well as the impacts of the project and specifically impacts of the tolls. After communicating the benefits and the impacts, the stakeholders became more receptive to the project (Public Representative).

According to Private Representative interviewed, stakeholder involvements provided ERC a great opportunity to establish relationships with the community and stakeholders; this relationship has been

crucial for ERC because ERC is going to stay in the community for 50 to 60 years and establishing relationships will facilitate communication between ERC and the community (Private Representative).

Furthermore, corporate social and community activities of ERC such as: the Good Citizen Scholarship, Disadvantaged Business Enterprise (DBE) and Small Woman and Minorities (SWaMs) specially in the City of Portsmouth have greatly contributed to establishing a good relationships with the residents (Private Representative). The Good Citizen Scholarship is a \$1,500 reward given to one graduating senior from each public school in Portsmouth and Norfolk. The scholarship commends and rewards students who consistently reflect excellence in character and have demonstrated leadership skills by making positive contributions to their school and community (ERC, 2014a).

5.9.2. Challenges of stakeholder involvement

One of the main challenges of stakeholder involvement in this project has been the level of complexity of the project. This issues was repeatedly brought up by Public and Private Representatives in the interviews. Low level of information about the concept of PPPs and the partnership of the private sector in the project development bundled with the issue of tolling the facilities had extremely complicated the development of the project.

One issue that was raised by a Public Representative during the interview was that VDOT did not settle the tolls until later in the project. The Public Representative suggested to inform stakeholders about the benefits, costs, and financing options of the project and to solicit their input early in the process. The representative added “It is crucial to talk about benefits, impacts, and tolls with stakeholders early on in the process, provide them with options that we have and ask their opinion of what should we do.” The representative also suggested that if a stakeholder committee had been established in the project, there would have been less hostility by the stakeholder community toward the project. Because with stakeholder committees, stakeholder representatives are involved and can weigh in the decision making process (Public Representative).

Another issue that a Private Representative pointed out was that the state decided to toll the project early and during construction before any improvements had been made to the facilities. Although, the tolling scheme was suggested by IRP and then recommended by CTB to make the tolls more affordable in the long-term, this issue created significant opposition against the tolls and subsequently the project. According to the Private Representative, based on the problems that the early tolling created for the project and the amount of remedial actions that the state had to take to deal with the problems, it is doubtful that the state would ever make a similar decision for projects in the future.

Furthermore, according to both Public and Private Representatives, regional media was against the project. This created a major challenge for the project sponsors because most of the stakeholders and citizens would get most of their information related to the project from the media; in other words, the media portrayed the project for most of the stakeholders. For example, The Virginia-Pilot which is the main media outlet in the region, described the project as “*The disastrous contract the former Gov. Bob McDonnell’s administration negotiated ... saddling this region with escalating tolls.*” The article also stated “[ERT project] is a study in how public officials shouldn’t construct a contract” (Virginia-Pilot, 2014). Another article by The Virginia-Pilot described the provisions of the Comprehensive Agreement as

“myopic and ill-advised, endorsed by state officials who didn’t pay attention to the implications for Hampton Roads” (Virginia-Pilot, 2013). Therefore, according to a Private Representative,:

“You may do really well in an interview with the media but if you say one thing wrong, that’s what they’re going to reflect... Therefore, the real challenge was to reach out directly to stakeholders and the community to deliver the message to them directly and answer any questions they had.”

Another challenge in the project as pointed out by a Private Representative was that the leading team in the procurement from the public sector was more engineering led and lacked the ability to see the big picture of the project. In other words, the team had to realize that this project was not just another engineering project; it was a business duty to deliver the service to the public.

Chapter 6. Ohio River Bridges (OHRB) Project

6.1. Overview

This chapter discusses the Ohio River Bridges (OHRB) case. First, I start with a Project Description which provides a basic overview of the overall project's scope, timeframe, and current status. Next, a summative analysis follows that summarizes the case's data, involvement activities, and the issues raised. Subsequently, I analyze the project chronologically from period to period from the time of inception until the present day.

6.2. Project Description

The Ohio River Bridges Project (ORBP) is a \$2.8 billion fixed crossing project over the Ohio River between the States of Indiana and Kentucky in the Louisville metropolitan area. The ORBP is managed by the Bi-State Management Team (BSMT) comprised of representatives from the Kentucky Transportation Cabinet (KYTC), Indiana Department of Transportation (INDIT), and the FHWA as a non-voting member. The ORBP is comprised of two sub-projects: (1) the Downtown Crossings (DTC); and, (2) the East End Crossing (EEC). The Downtown Crossings (DTC) project is procured by the Kentucky Transportation Cabinet (KYTC) through a design-build delivery method; the East End Crossing is delivered by the Indiana Department of Transportation (INDOT) and the Indiana Finance Authority (IFA) through an availability-pay (AP) design-build-finance-operate-maintain (DBFOM) concession. Figure 6.1 demonstrates the overall ORBP, Downtown Crossings, and East End Crossing projects. The first round of environmental studies of the OHRBP started in March 1998 – when a Notice of Intent (NOI) was issued for the environmental studies – and was concluded – when a Record of Decision (ROD) was published – in September 2003. However, as more funding elements of the project were defined, the project deemed unfeasible (Louisville, 2006). Then, the project's scope was reduced and tolling was added as a source of funding; subsequently, a new NOI was issued in February 2011 to reflect the new changes on the project. The second round of environmental studies were completed when a revised ROD was issued in June 2012.



Figure 6.1. The Ohio River Bridges Project map (Source: Kentucky Transportation Cabinet)

The Downtown Crossings (DTC) project connects downtown Louisville in Jefferson County, Kentucky to Clark County in Indiana. DTC project entails building a new 6-lane bridge and associated roadways and approaches on both sides of the river, rehabilitating the existing Kennedy Bridge, and reconstruction of the Kennedy Interchange (aka Spaghetti Junction) where I-65, I-65, and I-71 come together in Louisville, KY. The new bridge will carry the I-65 northbound traffic and the rehabilitated Kennedy Bridge will accommodate the six lanes of southbound traffic on I-65 (ORBP, 2013b).

Total cost for the DTC contract has been \$1.452 billion. The design-build contract was awarded to Walsh Construction on December 28, 2012 (PMP, 2013). Walsh Construction is consisted of Walsh Construction Co. and Milestone Contractors, L.P. as constructors and Jacobs Engineering Group Inc. as the lead designer, Buckland & Yaylor Ltd. as the structural designer, and Guthrine/Mayes Public Relations as the public involvement consultant (FHWA, 2014a).

East End Crossing (EEC) connects Clark County in Indiana with Jefferson County in Kentucky approximately eight miles north of DTC project (FHWA, 2014b). It involves building a new six-lane bridge, bridge approaches on both sides of the river, and two two-lane tunnels under a historic estate (Drumanard estate) on the Kentucky side (ORBP, 2014e). The PPP DBFOM agreement was executed in December 2012 between IFA and WVB East End Partners, a private Concession Company led by Walsh Construction. The PPP agreement has a total cost of \$1.32 billion, includes a four-year construction period, and stipulates a 35-year operation term. WVB East End partners, a joint venture consortium of Walsh Investors, Vinci Concessions, and Bilfinger Berger, was selected as the preferred proposer on November 16, 2012 (Smolen, 2012). The project achieved financial close in March 2013, construction began in May of the same year, and substantial completion is expected by October 2016 (FHWA, 2014b).

Based on a Memorandum of Agreement signed by the two states in October 2012, tolls on both EEC and DTCs are collected and managed by the IFA and are split evenly between the two states. While the states of Kentucky and Indiana are responsible for the operation and maintenance of the DTCs and EEC projects respectively, operation and maintenance of the tunnel on the Kentucky side of the EEC project (Drumanard tunnel) is the state of Kentucky's responsibility.

The need for an East End Crossing to connect the I-265 beltway on both sides of the Ohio River has been sought since the 1960s (Public Representative). However, the project had been constantly opposed by the residents in the region (Public Representative). Moreover, in downtown Louisville, chronic congestion at the Kennedy Interchange had prompted the need for a redesigned interchange; however, the interchange congestion had been blamed on the lack of mobility on the I-265 in the east end. Therefore, improvements on the downtown had also been opposed by the people in downtown area (Public Representative).

With commuters facing chronic congestion in the Downtown area and safety issues related to the dated design on the Kennedy Interchange, the two states decided to combine the East End and Downtown crossings into one project named as ORBP (Public Representative). The project was put forward to improve cross river mobility between Southern Indiana and the Louisville Metropolitan in Kentucky and improve traffic safety for the commuters.

Table 6.1 presents demographics of the regions associated with the OHRB Project. The table indicates that both regions' annual income level is lower than the national annual income level.

Table 6.1. Demographic data of the regions connected by OHRB Project (Census, 2015)

Region	Estimated population 2015	Median household income (annual)	Persons in poverty (percent)	Median housing value	Educational attainment (percent high school graduate)
Jefferson County, KY	763,623	\$47,692	16.8%	\$149,900	88.2%
Clark County, IN	115,371	\$51,182	10.6%	\$127,800	87.0%
The United States	Not Applicable	\$53,482	13.5%	\$175,700	86.3%
Jefferson County relative to national	Not Applicable	-\$5,790	+3.3%	-\$25,800	+1.9%
Clark County relative to national	Not Applicable	-\$2,300	-2.9%	-\$47,900	+0.7%

6.3. Summative analysis

6.3.1. Summary of data analyzed

A comprehensive review of available data related to the OHRB project was completed. Relevant data sources include all documentation and archival records including organizational documents from the sponsoring agencies such as INDOT, IFA, KYTC, Kentucky Public Transportation Infrastructure Authority (KPTIA), Federal Highway Administration (FHWA), Walsh Construction, and WVB East End partners. Additionally, there have been a total of two semi-structured interviews one with a Public Representative and one with a Private Representative. One other Public Representative declined the interview and

made written responses to the interview questions instead. The Private Representative who was interviewed is involved with the DTC project. Author’s multiple requests for interview from Private Representatives involved in EEC project were declined. The following sub-sections explain the data analyzed in more detail.

Secondary data

Secondary data sources are presented in two tables. First, Table 6.2 indicates the number of involvement activities identified; then, it specifies the number of records kept as well as the number and types of available records for the activities and size of the data. When involvement activity records were generated (or expected to be generated), these records were found from publicly available sources or requested from the source agency; in some instances, records were not available despite concerted efforts to obtain them.

Table 6.2. List of available secondary data related to involvement activities in OHRB project

Involvement activity	Quantity	Records Kept	Records available	Type of Records	Size of data
Public meetings	12	5 of 12	5 of 12	Meeting Summary=4 Written comments=1	648 pages
Public hearings	14	12 of 14	12 of 12	Meeting Transcripts=12	1,120 pages
AAT meetings	12	12 of 12	10 of 12	Meeting Summary	136 pages
RAC meetings	5	5 of 5	5 of 5	Meeting Summary	46 pages
IHPAT & KHPAT meetings	43	43 of 43	43 of 43	Meeting Summary	158 pages
Open house	9	2 of 9	2 of 9	Meeting Summary	26 pages
Workshops	6	0	0	Not documented	Not documented
Surveys	2	2 of 2	2 of 2	Summary report	230 pages

Second, Table 6.3 depicts a list of identified and available data sources. This data is primarily documentation – such as project documents, contract documents, news articles, and blogs – and archival records – such as organizational records and census records. The content of all available data was analyzed following content analysis techniques prescribed by Miles et al. (2013).

Primary data

Two individuals were interviewed in a semi-structured format; one interviewee was a public representative involved in the project and one was a private representative. In addition, one set of written responses was submitted by a Public Representative. The interviews were conducted over the phone and each lasted approximately from 45 minutes to 90 minutes.

Table 6.3. Data sources identified for the OHRB project

Data	Data source	Data type	Quantity	Size of the data
Secondary data	Documentation	Study reports	12	1,460 pages
		Press releases	14	58 page
		Blogs	12	88 pages
		News articles	94	578 pages
		Project documents	5	36 pages
		Contractual documents	2	1,890 pages
		RFQ	2	160 pages
		RFP	2	546 pages
	Archival records	Census records	3	16 pages
		Organizational records	2	44 pages
Primary data	Semi-structured Interview	Interview transcripts	2	12 pages
		Interview questions written response	1	4 pages

6.3.2. Project’s overall timeline

Figure 6.2 shows a timeline of the OHRB project with a number of significant project milestones. The timeline is consisted of three timelines; the main timeline is shown in the middle and represents the events and decisions related to the OHRB project as a whole. The two other timelines – above and below the main timeline – demonstrate events exclusively related to DTC and EEC projects (i.e. project delivery events). These timelines are stemmed from the main timeline upon the execution of the Memorandum of Understanding (MOU) between the states of Kentucky and Indiana to split the delivery of the DTC and EEC projects.

Periods OHRB-T-1 and OHRB-T-2 represent planning phase. Periods OHRB-T-3 and OHRB-T-4 represent procurement, design, and construction phases. DTC-T-3 and DTC-T-4 characterize events exclusively related to the delivery of DTC project. EEC-T-3 and EEC-T-4 represent events related to the delivery of EEC project. In Figure 6.2, project related events are shown in yellow and NEPA related events are marked with purple.

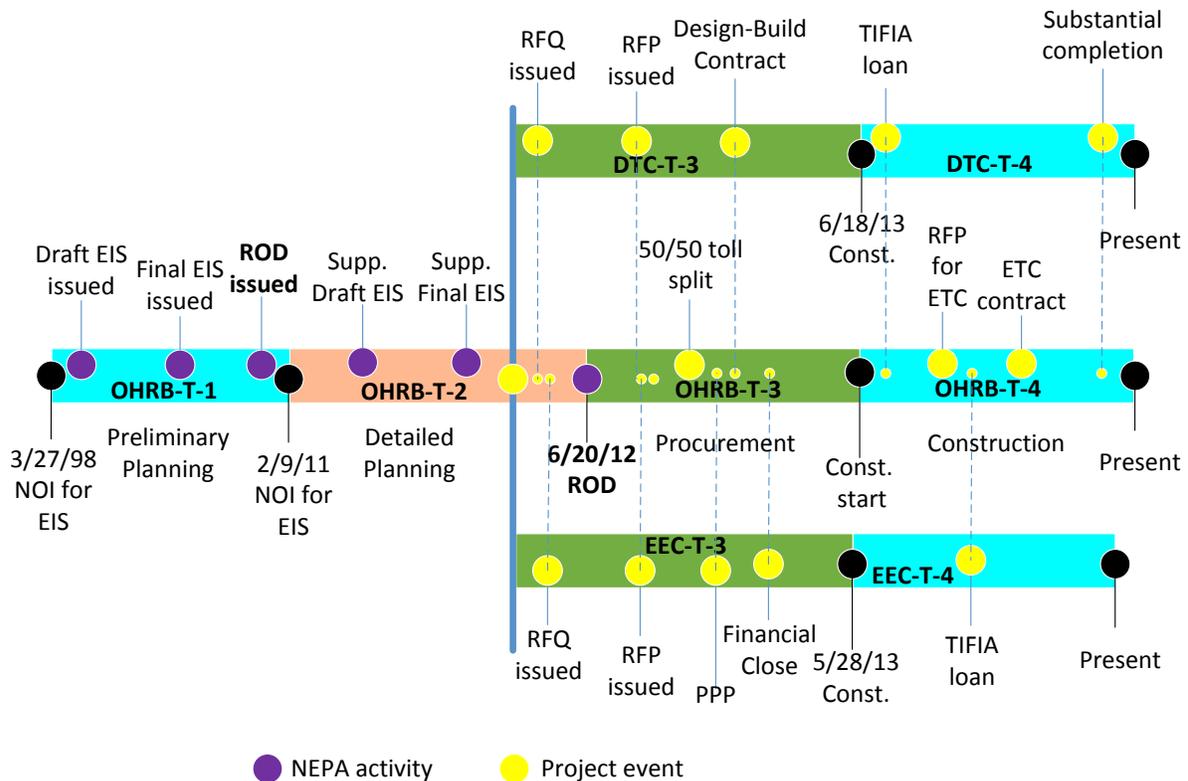


Figure 6.2. OHRB Project timeline

Period OHRB-T-1 starts in March 1998 when a Notice of Intent (NOI) was published for the environmental studies. At the time Community Transportation Solutions (CTS) was hired as a consultant to conduct the environmental studies of the project (Public Representative). Subsequently, Draft EIS and Final EIS were published and the environmental studies were completed in September 2003 when the Record of Decision (ROD) was issued. By completion of the environmental studies, project sponsors – INDOT and KYTC – selected Community Transportation Solutions (CTS) as General Engineering Consultant (CTS-GEC) to carry the project through procurement, design, and construction (KYTC, 2003).

The initial scope developed through the studies in this period was too big which had brought the estimated cost of the project to \$4.1 billion which was financially unfeasible for the states (Public Representative). Therefore, there were certain changes made into the scope and design which brought the cost to \$2.6 billion. According to a Public Representative the project changed from “a Cadillac to a nice Ford.”

A NOI intent for a new environmental studies was issued in February 2011 to reflect the changes. Period OHRB-T-2 starts with the NOI and ends with the publication of ROD in June 2012. After the publication of NOI, a Supplemental Draft EIS was issued in November 2011 which was followed by a Supplemental Final EIS in February 2012. During this period, the two states agreed to split the delivery of the DTC and EEC parts of the OHRB project by signing a Memorandum of Understanding (MOU) on March 5th 2012. Shortly after, KYTC and INDOT separately issued Request for Qualifications (RFQ) for design-build

consortiums and private concessionaires to develop DTC and EEC projects. Subsequently, the publication of ROD, in June 2012, concluded the environmental studies and the planning phase of the OHRB project.

Period OHRB-T-3 parallel with DTC-T-3 and EEC-T-3 characterize the Procurement Phase. Following the publication of RFQs, three design-build consortiums and four private concessionaires were shortlisted by KYTC and INDOT respectively to develop DTC and EEC projects. Subsequently, Request for Proposals (RFP) were issued on July 31st and August 3rd 2012 for EEC and DTC projects. On October 26th, INDOT selected WVB East End Partners through a competitive process and the two parties executed a PPP agreement on December 27th. On December 28th, KYTC selected Walsh Construction Company and executed the design-build contract. Subsequently, EEC project reached Financial Close on March 28th and the construction began on May 28th 2013. Similarly, for DTC project construction began on June 18th 2013.

Meanwhile, on October 16th 2012, the two states executed a Bi-State Development Agreement and agreed to split the projects' toll revenues equally between the states. Also, Indiana Finance Authority (IFA) was assigned to oversee the tolling operations.

Construction commencements of EEC and DTC mark the start of period OHRB-T-4 as well as DTC-T-4 and EEC-T-4. Subsequent to the Bi-State Development Agreement in October 2012, IFA issued a RFP for the Electronic Toll Collection (ETC) system in December 2014. In May 2015, Kapsch TrafficCom North America was selected by IFA operate the ETC system of the OHRB project. In the interim, TFIA loans for DTC and EEC were awarded in December 2014 and May 2015. Finally, on December 5th 2015, the new downtown bridge reached substantial completion; the East End Bridge's substantial completion is expected in December 2016.

6.3.3. Stakeholder involvement strategy

Table 6.4 illustrates the overall stakeholder involvement strategy of the OHRB project as a whole. Additional involvement mechanisms used exclusively for DTC and EEC projects are summarized in Table 6.5. These mechanisms are further classified by the type of information flow as well as whether they were related to the NEPA process or not. In this scheme, all the involvement mechanisms are given equal "weight" because these mechanisms are counted as a means to assess the nature of engagement (communication/consultation/participation AND NEPA/Non-NEPA); in other words, a press release counts as much as a public hearing in nature of engagement.

Table 6.4. Overall stakeholder involvement strategy for the OHRB project

OHRB Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meeting	12	12	12	0	10	2
Public hearing	12	12	12	0	6	6
Public workshop	6	6	0	0	6	0
Public Open house	4	4	4	0	2	2
IHPAT meeting	43	0	0	43	0	43
AAT meetings	10	0	0	10	0	10
RAC meetings	5	0	0	5	0	5
Survey	2	0	2	0	0	2
Press release	12	12	0	0	4	8
Study report	16	16	0	0	10	6
Total	122	62	30	58	38	84

Table 6.5. Exclusive stakeholder involvements for DTC and EEC projects

DTC Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public Open house	5	5	5	0	0	5
Press release	2	2	0	0	0	2
Total	7	7	5	0	0	7
EEC Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public hearing	2	2	2	0	0	2
Total	2	2	2	0	0	2

Public hearings and public meetings provide a setting for information exchange between project sponsors and stakeholders when dealing with a large number of audiences; usually, these meetings start with a presentation about the project to update the stakeholders on the project and then there is a commenting period where stakeholders are given two to three minutes to comment. Public hearings are

more formal than public meetings and there are stenographers present to take stakeholder comments and transcribe the hearings (USDOT, 2014).

Public workshops and open houses are more casual involvement mechanism in which stakeholders are informed about the project and have the opportunity to personally interact with project sponsors and ask questions about the project. Due to the nature of communication and information flow in public hearings and public meetings, these involvement mechanisms are classified as *communication* and *consultation* unless a concurrent dialogue between sponsors and stakeholders was facilitated in the engagement which classifies it as *participation* (Rowe & Frewer, 2005).

Stakeholder committees were established to discuss different aspects of the OHRB project. These committees include Area Advisory Teams (AAT), Regional Advisory Committee (RAC), and Indiana Historic Preservation Advisory Team (IHPAT) and Kentucky Historic Preservation Advisory Team (KHPAT). AATs were established to discuss issues at a community levels and consisted of representatives from neighborhood associations, local town councils, and chamber of commerce; the general public was also able to attend AATs (Public Representative). RAC meetings were designed to discuss issues at a regional level and consisted of representatives from government agencies, Non-Governmental Organizations (NGOs), and the project team. IHPAT and KHPAT were commissioned to discuss issues related to historical parts of the project. The teams consisted of town and county officials from both sides of the river, neighborhood associations, and historical preservation groups. According to Public Representatives interviewed, AAT, RAC, and IHPAT & KHPAT meetings facilitated concurrent dialogue and deliberation between the stakeholders and the sponsors; therefore, these involvement mechanisms are characterized as participation in Table 6.4.

Additionally, there have been two survey studies to solicit input from stakeholders. The first survey was to measure potential changes in commuting patterns with respect to tolls. The second survey was to examine the impact of tolls on commuting behavior of low-income and minority populations (ORBP, 2014a). The nature of survey requires information flow from stakeholders to project sponsors; therefore, this mechanism is classified as *consultation*.

Study reports and press releases provide project information to the stakeholders; therefore, these mechanisms are classified as *communication*.

Table 6.4 indicates that the involvement strategy of the OHRBP is primarily focused on *participation* and *communication* – 58 *participation* involvements and 62 *communication* involvements. Furthermore, Table 6.4 indicates that the majority of the involvements are non-NEPA activities.

6.3.4. Stakeholders' expressed issues

This section portrays the overall themes of stakeholder comments in the OHRB project. Figure 6.3 shows a word cloud of the themes emerged from first order content analysis of the comments.

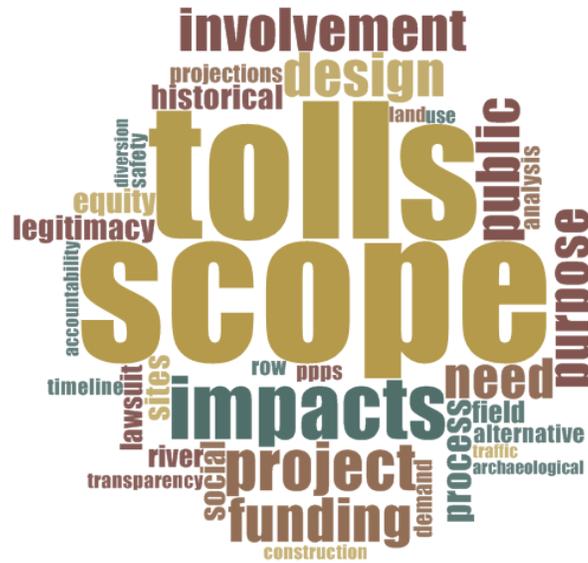


Figure 6.3. Wordcloud of stakeholder issues in the OHRB project

Figure 6.3 shows that *Scope* is the dominant issue followed by issues related to *tolls*, *impacts*, *design*, and *funding*. Given the demographics of the region where the project is located and lack of established tolling culture in the regions, it is not surprising to observe tolls as a major issue in this project.

It is observed that issues related to PPPs have emerged in the word cloud. While EEC is delivered as a PPP, issues specific to PPPs such as *Profiteering*, *Private control*, and *‘Lock-in’ effect* are not expressed as often as other more common megaproject issues. PPPs issues are 15th by frequency among the overall comments. This is not necessarily surprising since this decision was made quite late in the overall timeline.

In the following sections a systematic chronological analysis of the OHRB project including EEC and DTC projects are presented from inception to present time. As illustrated in Figure 6.2, the OHRB project’s timeline is divided into four major periods – OHRB-T-1 to OHRB-T-4 – to demonstrate the progress and events related to the OHRB project as a whole. Two other supplemental timelines are also demonstrated to show exclusive events related to EEC and DTC project – i.e. events related to delivery of EEC and DTC project.

Each period of the OHRB project is examined to identify: (1) project delivery actions and decisions, (2) stakeholder engagement activities and mechanisms and (3) stakeholder issues raised. By examining the periods iteratively, trends or changes in stakeholder involvement activities or the stakeholder issues raised are identified. Furthermore, this incremental examination allows examining how the issues raised may have influenced project decisions and the stakeholder involvement activities.

6.4. Period OHRB-T-1 (March 1998 to February 2011)

This period begins with the publication of a NOI for environmental studies in March 1998 and ends with the publication of a new NOI in February 2011. Figure 6.4 shows a timeline of this period where events are in relative chronological order. Project related events are marked with yellow and NEPA events are

shown in purple. To discuss the events in this period, the timeline is OHRB-T-1 is divided in two sub-periods. OHRB-T-1.1 represents the events from the beginning until the issuance of ROD and OHRB-T-1.2 represents the events that follow the publication of ROD.

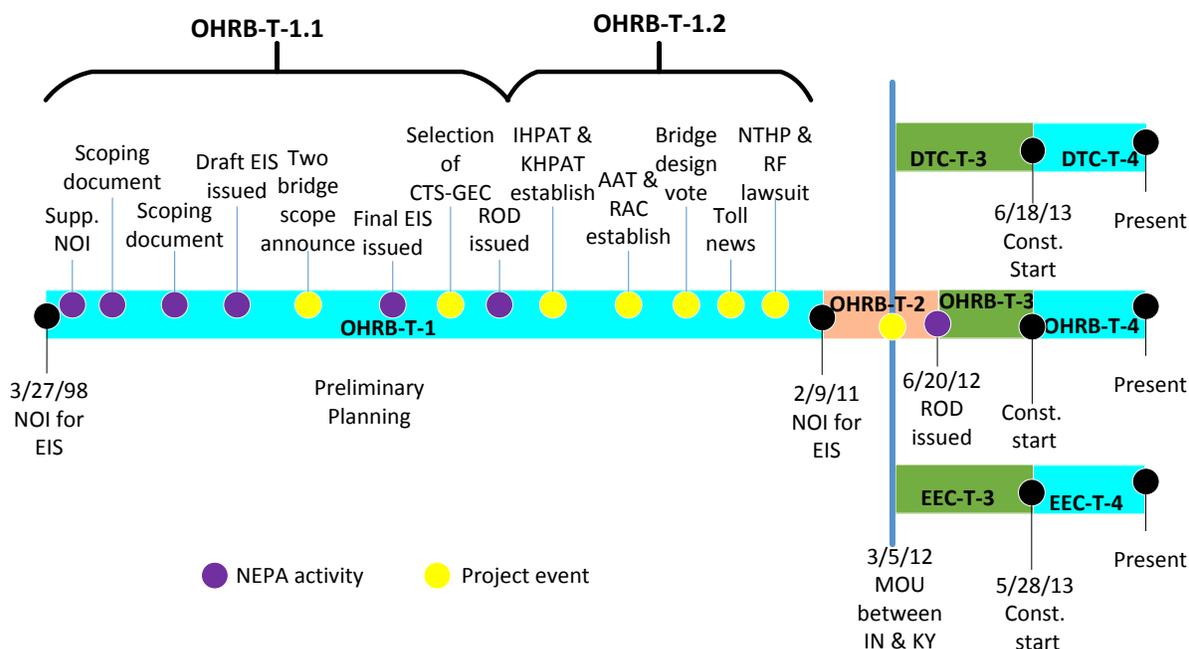


Figure 6.4. Period OHRB-T-1 timeline

6.4.1. Period OHRB-T-1.1 (March 1998 to September 2003)

This period represents the environmental studies which was started in March 1998 and completed in September 2003 by the publication of ROD. According to a Public Representative interviewed, when the environmental studies started, in 1998, Community Transportation Solutions was selected to conduct the environmental studies of the project.

Following the publication of NOI in March, two public meetings were held in December 1998 one in Jeffersonville, Indiana and one in Louisville, Kentucky. The purpose of the meetings was to introduce NEPA process that had started and to discuss the steps required for the preparation of a Draft EIS for the project. More than 220 individuals attended the meetings and a total of 35 comments were submitted. No record was kept for these public meetings.

There were two more public meetings held in April 1999 to provide information on preliminary environmental and engineering work on the project. The meetings were held in Jeffersonville, Indiana and in eastern Jefferson County, Kentucky. There are no transcripts or summaries available for the meetings; however, the Final EIS document show that about 400 individuals attended the meetings, with about 250 attending in Indiana and 150 in Kentucky. Those records indicate that there were 75 comments made in the meetings; comments in the Kentucky meeting primarily questioned the need for an east end bridge – EEC project. In contrast, comments made in Jeffersonville expressed support for an east end bridge (ORBP, 2003b). Following the public meetings in April, there were two public workshops

held on June 8th 1999, to explore the methodology used to analyze regional traffic patterns. A total of 30 people attended the workshops (ORBP, 2003b). There were no records kept for the workshops.

Subsequent to the publication of NOI for the environmental studies in March 1998, a Supplemental NOI was issued on August 20th 1999, to describe in greater detail the scoping process. Following the issuance of Supplemental EIS, two public meetings were held in September 1st and 2nd 1999, in Jeffersonville, Indiana and Prospect, Kentucky. There were no records kept for these public meetings; however, the Final EIS document indicate that more than 1,000 people attended the meetings – 300 in Indiana and 700 in Kentucky – and 313 comments were submitted. Those records show that the majority of the comments came from residents of the city of Prospect which primarily opposed building the east end bridge because of NIMBY. Other comments expressed included support for the east end bridge, opposition to a new bridge in downtown Louisville – DTC project – and support for mass transit in lieu of highway options (ORBP, 2003b).

On September 8th 1999, a Scoping Document and Need Statement Coordination was published by project sponsors which provided preliminary information regarding alternatives under consideration and specific areas that might be impacted by the alternatives. Subsequently, a public workshop and two public meetings were hosted by the sponsors. The workshop was on October 14th and discussed the transit alternatives on the new bridge in downtown Louisville. There is no record kept for the workshop. The public meetings were on May 10th and 11th 2000, in Jeffersonville, Indiana and Jeffersontown, Kentucky. There are no records kept for these public meetings; however, the Final EIS document indicates that about 300 people attended the Indiana meeting and about 800 individual attended the Kentucky meeting. The meetings provided detailed information about the alternatives under consideration and update on the study progress. The majority of the comments opposed the east end bridge; there was also a broad support for a new downtown bridge and rebuilding the Kennedy Interchange – or the Spaghetti Junction (ORBP, 2003b).

According a Public Representative interviewed, there were 31 bridge alternatives proposed to the stakeholders for the new bridge in downtown Louisville and 15 bridge alternatives for the new bridge in the east end. Subsequent to the public meetings in May 2000, three Design Concept Public Workshops were held on March 13th, 14, and 15th 2001, to examine the visual impacts of the proposed bridges' designs (ORBP, 2003b). No records were kept for these design workshops.

On November 9th 2001, a Draft EIS was published which suggested four alternatives for the OHRB project: (1) No-Action Alternative; (2) Transportation Management Alternative (including mass transit improvement); (3) One Bridge Alternative (either the east end bridge or the downtown bridge); and (4) Two Bridges Alternative (the east end bridge and the downtown bridge) (ORBP, 2003a). To further discuss the alternatives proposed in the Draft EIS, two public open houses were held on November 29th and December 4th 2001 (ORBP, 2003b). Additionally, there were two public hearings in Indiana and Kentucky to discuss the Draft EIs on February 6th and 7th 2002. No record was kept for the open house events. Records for the public hearings were not available.

Subsequently, on April 8th 2003 a Final EIS was published. After a 60-day comment period for the Final EIS, a total of 156 written comments were submitted. A summary of the comments are available and has been analyzed. The results show that the majority of the comments are related to *Impacts* and *Purpose*

& Need. Table 6.6 shows a number of the written comments. A detailed list of the comments and representative graphs are presented in Appendix C.

Table 6.6. Representative written comments on Final EIS submitted by Stakeholders

Comment	Reference (DTC / EEC)	Theme	Sub-theme
The identification of the Selected Alternative, including a discussion of Alternative A-15 in the East End, is detailed in Section 3.7 of the FEIS. Additionally, Alternative A-15 was the direct result of an intensive public involvement campaign involving citizens from the town of Utica, the City of Prospect and other affected communities. Therefore, Alternative A-15 has been determined to be in the best interest not only of the State, but also of the public in general.	EEC	Alternatives Analysis (AA)	N/A
The study of the impact of the new ramps for I-64 at Mellwood/Story Avenues and I-71 at Ohio/Frankfort Avenues is incomplete. Two way traffic on Story and Mellwood Avenues is important to the Butchertown Historic District and the Clifton Historic District.	DTC	Impacts	Historic
The FEIS does not specifically address how any of the alternatives in the vicinity of St. Francis in the Fields Church will be constructed so as to avoid interfering with access to and from the church or interference through noise, vibration and other construction concerns with the church's religious activities.	EEC	Impacts	Community
Supports building an additional bridge in eastern Clark and Jefferson Counties to connect the LMA outer beltway. Strongly urges that the advantages of any eastern bridge be maximized as much as possible in view of its predicted impacts.	EEC	Purpose & Need	N/A

As completion the environmental studies of the OHRB project was approaching, the project sponsors started to look for a consultant group to guide the project through procurement, design, and construction. The sponsors, through a competitive process, selected Community Transportation Solutions (CTS) as a General Engineering Consultant (GEC) for the OHRB project on July 24th 2003. The CTS-GEC is consisted of two engineering firms: Parsons Transportation from Chicago, Illinois and Haworth, Meyer, and Boleyn (HMB) Professional Engineers from Frankfort, Kentucky (Louisville, 2003). On September 6th 2003 a Record of Decision (ROD) was issued by the FHWA which concluded the environmental studies of the OHRB project that was started in March 1998.

6.4.2. Period OHRB-T-1.2 (September 2003 to February 2011)

The environmental studies that were completed in September 2003 suggested building two new six-lane bridges over the Ohio River one in downtown Louisville and one in the east end. Both bridges included 17-foot bicycle and pedestrian paths. The alternative also included the relocation of the Spaghetti Junction in downtown Louisville and rehabilitation of the existing Kennedy Bridge to accommodate 6

lanes of traffic parallel to the new downtown bridge (ORBP, 2003c). Although the possibility of tolls were discussed for the feasibility of the project, the funding structure was not determined at this stage (Public Representative).

In December 2003, project sponsors established three types of stakeholder committees: (1) the historic preservation groups which included the Indiana Historic preservation Team (IHPAT) and Kentucky Historic Preservation Team (KHPAT) to discuss potential impacts on historic sites in Indiana and Kentucky; (2) Area Advisory Teams (AAT) which represented neighborhood associations and special interest groups at each end of the DTC and EEC projects; and (3) the Regional Advisory Committee (RAC) which included members of governments from both of the states and especial interest groups specially the environmental groups. Since the environmental study of the project was concluded in OHRB-T-1.1, all involvement activities in this period – period OHRB-T-1.2 – are considered outside of NEPA process.

After the completion of the environmental study of the project, the AATs and RACs were used to finalize the aesthetic, landscape, and structural design of the project (Public Representative). In this period there are a total of 8 ATT meetings and 4 RAC meetings identified. According to the Public Representative interviewed, the AAT and RAC meetings were open to public. Summaries of AAT and RAC meetings are available and have been analyzed. Content analysis of the meeting summaries shows that the major issues raised in these meetings are *Bridge Design* followed by *Impacts*. Table 6.7 lists representative comments made in these meetings by the stakeholders. A detailed list of comments and representative charts are provided in Appendix C.

Table 6.7. Representative stakeholder comments in AAT and RAC meetings

Comment	Source	Theme	Sub-theme
The plan is fantastic. Is anyone working on the sub-water level? Also, are you coordinating your work with the waterfront parks?	AAT/RAC member	Bridge Design	N/A
What issues come first when selecting a bridge type - safety or aesthetics?	Citizens	Bridge Design	N/A
With the railings, the concrete block precludes a lot of visual aspects. I find it hard to think people would like the concrete railing.	AAT/RAC member	Bridge Design	N/A
We think the issue of sound proofing should be considered more.	AAT/RAC member	Impact	Noise
Has KYTC's approval for the contractor to work weekends had been communicated to the neighborhoods?	AAT/RAC member	Public involvement	N/A

Moreover, there were a total of 30 IHPAT & KHPAT meetings identified in this period. Summaries of the meetings are available and have been analyzed. The analysis shows that the majority of the issues are related to *Historic Sites* followed by issues related to the *Bridge Designs*. Table 6.8 lists representative comments that were made in these meetings. A detailed list of comments and representative charts are provided in Appendix C.

Table 6.8. Representative stakeholder comments in IHPAT & KHPAT meetings

Comment	Source	Theme	Sub-theme
Do the owners of Colgate-Palmolive understand they will receive a tax rebate if they agree to the National Register of Historic Places (NRHP) Nomination?	Member	Historic	N/A
Where is the Project in regards to Drumanard [estate]?	Citizen	Historic	N/A
Will the concrete in the structure be colored? Is there still time to make comments on the choice of color? Are the colors that are proposed for use the choices preferred from the prior Workshops?	Member	Bridge Design	N/A
Could the roadway lighting fixture be more of an oval shape like the towers rather than the square?	Member	Bridge Design	N/A
The Restore 64 project has reduced vibration and noise by about 98% for the Riverfields office. Is there a professional preference for concrete over asphalt?	Member	Impacts & Bridge Design	Noise

Meanwhile, there were two public open houses held on December 13th and 15th 2005 in Utica, Indiana and Prospect, Kentucky to discuss bridges' alternatives. A summary of the comments made in these open houses are available. Most of the comments were related to the *Bridge Design*; nonetheless, other issues were raised in the comments such as *Transit*, *Funding*, and *Operation & Maintenance*. Table 6.9 lists representative comments in these open houses. A detailed list of these comments is presented in Appendix C along with representative graphs.

Table 6.9. Representative stakeholder comments on design public open houses related to EEC

Comment	Source	Theme
The cables look incomplete, with the missing cables in the middle.	Citizens	Bridge Design
Would this accommodate a rapid transit system in the future?	Citizens	Bridge Design / Transit
The towers look more attractive, it is more symmetrical, and the cables go to the edge, which looks better.	Citizens	Bridge Design
If any of the piers are struck by barge traffic, would one type of pier hold up better than another?	Citizens	Bridge Design
It looks more to scale and fits the flow of the land and water, while some of the others seem too tall.	Citizens	Bridge Design

As the design of the project advanced, questions about funding the project started to grow. In late 2006, Congressman John Yarmuth along with other public officials expressed doubts about the financial feasibility of the OHRB project. In light of the financial situation, in November 2006, the Kentuckiana Regional Planning Development Agency voted to eliminate advanced transit initiatives – such as light rail, new transit centers, and special bus lanes – from the region's long-range transportation plan. This

announcement disappointed transit advocates especially the Transit Authority of River City (TARC) who had recommended those transit initiatives (Louisville, 2006). Subsequently, in February 2008, the project sponsors announced that tolling would be necessary for funding the project (LEOWEELY, 2006).

In September 2009, National Trust for Historic Preservation (NTHP) in partnership with River Fields, Inc. filed a lawsuit against the OHRBP. NTHP is a non-profit historic preservation group and River Fields, Inc. is a non-profit environmental advocacy group. The plaintiffs argued that the project team didn't follow all necessary environmental guidelines when the ROD was issued in 2003 for the project (Shaw, 2009). The suit was perceived as a plot to kill the EEC project and invoked public anger against the plaintiffs arguing that they planned to block the project for the interests of their group. River Fields supported building the downtown bridge and forgoing the Spaghetti Junction and East End Bridge (Shaw, 2009). Lee Cochran, former executive director of River Fields reacted to the news by saying (Shaw, 2009):

"I see them [River Fields] as misguided obstructionists who are unable to see the big picture for the greater good."

FOX-41 General Manager Bill Lamb called them (Shaw, 2009):

"A handful of nostalgic purists [who] stand in the way of literally thousands of commuters, and as a self-important, tiny minority that believes that with enough money, you really can make time stand still."

With the estimated cost of the project at \$4.1 billion and the possibility of funding the project through tolls, stakeholders were concerned about future of the project. In light of possible high toll rates on the project, many suggested to reduce the scope to bring the cost down (Louisville, 2010). Louisville architect Steve Wiser urged the project team to scale down the OHRB project. Mayoral candidate, Tyler Allen, warned the project sponsors against writing a blank check for the project and said that tolls would amount to new taxes on local residents (Eigelbach, 2010). Furthermore, David Morse, the vice president of the Coalition for the Advancement of Regional Transportation (CART), a transit advocacy group, questioned the need for the project from a traffic standpoint (Eigelbach, 2010). Subsequently, Joe Prather, chairman of the project management team responded that the project team would consider all the comments and explore all funding avenue (Eigelbach, 2010). Moreover, more than 50 individuals sent letters and emails to the project team and primarily asked for transit improvements in lieu of highway mobility improvements and tolls. For example, one individual stated:

"In the Louisville metro area, we need a light rail system!!! It would make a big difference with pollution, not to mention the number of traffic accidents. Let's bring Louisville into the modern age of transportation."

Another citizen argued the affordability issue of the tolls on the project:

"Almost nobody I speak to can afford \$3, let alone \$2 or \$1 tolls to cross any river bridge. The implementation of these tolls will surely divide the community, divide families (including my own) and hurt businesses, especially small businesses, deeply."

An individual opposed the attempts made to stop EEC project:

“Surely, we can trust the engineers to come up with a better way. Surely, we can reduce this plan without abetting more years of diversion by a few East End property owners.”

In late 2010, toll opposition continued by citizens concerning affordability of tolls and its socioeconomic impacts on families and businesses in the region. One Southern Indiana business owner said to the press that (Meador, 2010):

“At the time when most businesses and governments are scaling their spending back, this authority [the project team] want to charge us for a project they can’t even pay for.”

Amid growing opposition against tolls from the stakeholder community, other sources of funding were scarce. For example, in November 2010, the U.S. Department of Transportation rejected the project’s application for federal grant for a \$135 million (Meador).

Facing with lack of sufficient financial resources and growing opposition against using tolls, project sponsors decided to scale down the scope of the project. In late January 2011, Governors of Kentucky and Indiana and Louisville Mayor Greg Fischer announced a plan to reduce the total cost of the project (Shaw, 2011). They suggested to rebuild the Spaghetti Junction in its current footprint, cut lanes from the new east end bridge, and remove pedestrian pathways from the new downtown bridge (Shaw, 2011). The changes were estimated to reduce the cost by at least \$1.2 billion (Richardson, 2011). Following the announcement, Kentucky Governor Steve Beshear stated in a press release that (Richardson, 2011):

“We are committed on both sides of the river to build these bridges as quickly as we can, at the lowest cost possible. The project team’s detailed analysis showing a much higher estimated savings is great news for our citizens. I’m excited about the project’s continued momentum and the enormous beneficial impact it will have for our communities.”

The scope reduction decision invoked mixed reactions from stakeholders. Some celebrated the decision while other individuals opposed the decision arguing that reducing the east end bridge to 4 lanes would make bottleneck in local traffic. One individual stated to a local news press that *“The very concept that you’d shrink the east end bridge [to four lanes from six]... don’t make any sense”* (Shaw, 2011).

6.4.3. Summary

Period OHRB-T-1 characterizes planning phase of the OHRB project. Environmental study of the OHRB project was completed in the first portion of the period and the planning continued through the second portion of the OHRB-T-1 period as the design features of the project were finalized.

Table 6.10 summarizes the involvement activities in this period.

Table 6.10. Involvement activities of the OHRB project in period OHRB-T-1

OHRB Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meeting	8	8	8	0	8	0
Public hearing	2	2	2	0	2	0
Public workshop	6	6	0	0	6	0
Public Open house	4	4	4	0	2	2
IHPAT & KHPAT meeting	30	0	0	30	0	30
AAT meetings	8	0	0	8	0	8
RAC meetings	4	0	0	4	0	4
Press release	2	2	0	0	2	0
Study report	5	5	0	0	5	0
Total	69	27	14	42	25	44

Table 6.10 shows that the majority of the involvement activities in this period are *participation*. This indicates that the sponsors’ strategy had been mainly focused on concurrent dialogue and deliberation. Moreover, more than two-third of the involvement activities in this period are non-NEPA activities which indicates that project sponsors have extended their involvement strategy beyond NEPA requirements.

Figure 6.5 shows stakeholder issues raised in this period. These issues are extracted from written comments following the publication of Final EIS, letters/emails sent by stakeholders, and summaries of AAT, RAC, and IHPAT&KHPAT meetings and two open houses.

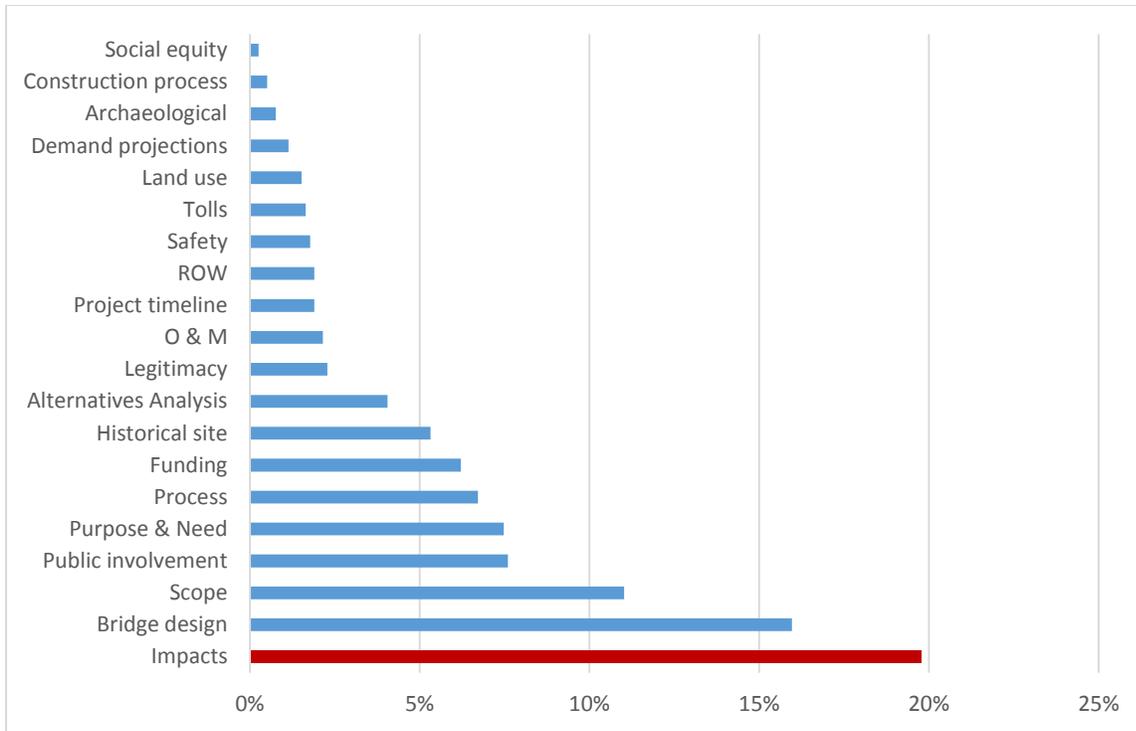


Figure 6.5. Stakeholder issues in OHRB project

As shown in Figure 6.5, *Impacts* is the major issue. Hence, comments made on *Impacts* are analyzed in second level coding and the results are shown in Figure 6.6.

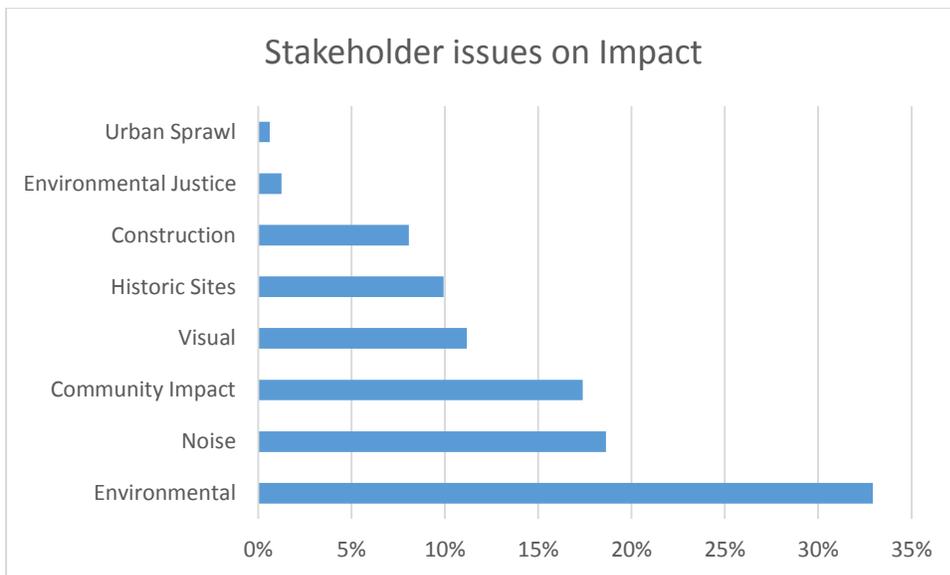


Figure 6.6. Stakeholder comments on Impacts OHRB project

As shown in Figure 6.6, the two major issues are *Environmental Impacts* and *Noise*.

6.5. Period OHRB-T-2 (February 2011 to June 2012)

Because of the changes in the project’s scope and the plan to impose tolls, a Supplemental Environmental Impact Statement was required (Shaw, 2011). Therefore, on February 9th 2011, a NOI for supplemental environmental studies was issued to mark the start of a new round of environmental studies for the OHRB project. This period ends with the completion of the environmental studies on June 20th 2012. Figure 6.7 illustrates a timeline of this period in which project events are orderly outlined in time. To better examine the events happened in this period, the timeline is divided in two parts: OHRB-T-2.1 and OHRB-T-2.2.

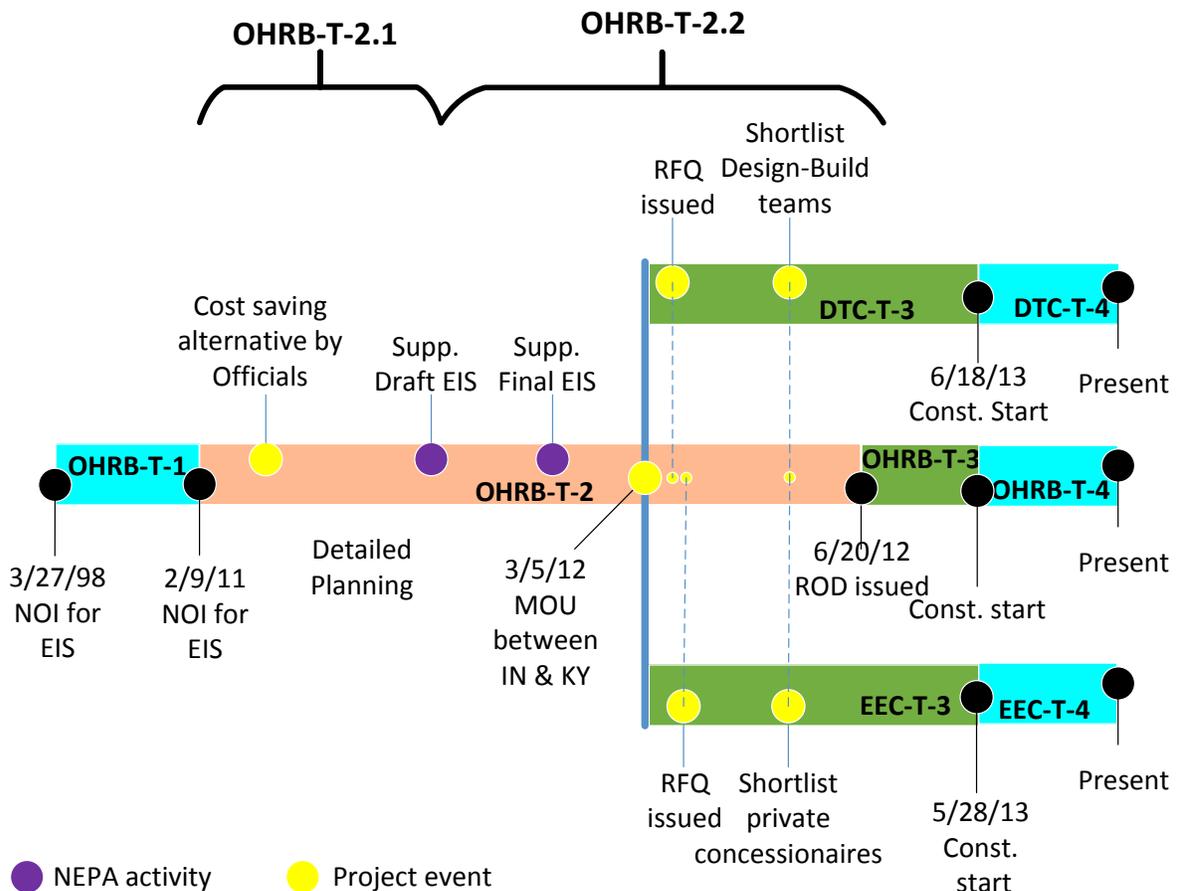


Figure 6.7. Period OHRB-T-2 timeline

6.5.1. Period OHRB-T-2.1 (February 2011 to November 2011)

Following the publication of the NOI in February 2011, a Supplemental EIS Coordination plan was published in April 2011. The plan defined the process by which the project sponsors – INDOT and KYTC – and the FHWA would carry out the environmental review process for the project. The Coordination plan also defined how information would be solicited from the stakeholders and how that information would be considered in the environmental review process (ORBP, 2011).

In June 2011, a Section 106 Public Meeting was held to discuss the changes made in the project's scope and examine potential impacts on historic sites in the project. Members of historic preservation offices from both states were present in the meeting along with historic preservation groups – such as National Trust for Historic Preservation (NTHP). A summary of the meeting is available.

Subsequent to the publication of the NOI, there were one Regional Advisory Committee (RAC) meeting and four Area Advisory Team (AAT) meetings held in June 2011. The purpose of the RAC and AAT meeting was to discuss the changes made to the project's scope and follow up on other issues such as: noise and funding. Furthermore, three IHPAT & KHPAT meetings were held to discuss new impacts on historical sites. Summaries of the RAC, AAT, and IHPAT & KHPAT meetings are available and analyzed.

Then, two public hearings were held in Indiana and Kentucky on June 27th and 18th 2011. The purpose of the hearings was to discuss the changes in the scope and solicit public's input. Transcripts of the public hearings are available and have been analyzed. Additionally, written comments submitted by the stakeholders following the public hearings are available and have been analyzed. The majority of comments were related to the *Purpose & Need* of the project followed by issue of *Tolls*. Table 6.11 shows a list of representative comments made in these meetings. A detailed list of comments is presented in Appendix C.

Table 6.11. Representative stakeholder comments made in public hearings held on June 27th and 28th

Comments	Source	Theme	Sub-theme
There's an overwhelming belief that tolls will have a tremendous negative impact on the well-being of southern Indiana. In essence, they create a barrier to people coming to southern Indiana and, over a period of time, will have a negative impact on business over here.	Meeting transcript	Tolls	Oppose tolls
I feel that the historic designation of the Drumanard Estate was done to stop the east-end bridge, and that the entire estate should not have been declared historic, only the home; and that the tunnel will cause problems for hazardous materials, cost overruns, and potential expansion in the future.	Meeting transcript	Scope	Tunnel
I did feel the entire project needs to be built, but I think the east-end bridge should be completed first to alleviate pressure on Spaghetti Junction during the rebuild.	Meeting transcript	Purpose & Need	N/A
I don't understand people who are saying that if you build another bridge downtown and you change Spaghetti Junction, it creates more congestion downtown. It's terrible right now. Right now you have pickup trucks that are trying to get off of at a 45-degree angle and they're falling down. Every day at 5:00 there's a big jam. I wish those trucks could keep moving.	Meeting transcript	Purpose & Need	N/A

On November 18th 2011, a section 106 meeting was held to discuss the impacts of the new scope on the historical properties and the additional Area of Potential Effects (APE). In that regard, seven additional historic sites were added to the APE. A summary of the meeting is available; however, the summary does not deliver the content of comments made in the meeting to be analyzed.

6.5.2. Period OHRB-T-2.2 (November 2011 to June 2012)

On November 25th 2011, a Supplemental Draft EIS was published. The document was prepared based on the project's new scope and consideration of tolls on the project. Two public hearings were held on December 19th and 20th 2011 following the publication of Supplemental Draft EIS. Transcripts of the public hearings are available along with written comments submitted by stakeholders. The majority of the comments were related to *Purpose & Need* followed by the issue of *Tolls*. Table 6.12 shows a list of representative comments made in these meetings. A detailed list of comments is presented in Appendix C.

Table 6.12. Representative stakeholder comments made in public hearings held on December 19th and 20th

Comments	Source	Reference (EEC/DTC)	Theme	Sub-theme
Simply put, as some speakers have mentioned earlier, this project represents our economic development lifeline, as the Sherman Minton Bridge closure has demonstrated. LDDC is convinced that the Bridges Project, two bridges, and the improvements to Spaghetti Junction will provide essential access to downtown, the region, and the state in the future.	Meeting transcript	OHRB & DTC	Purpose & Need	N/A
Another idea that, you know -- so I -- so I've talked to the guys about it here, and if we build just an East End and don't build downtown, downtown's still a problem. It's less of a problem. Steve Weiser (phonetic) had an idea of a local access bridge.	Meeting transcript	EEC	Purpose & Need	N/A
Tolling a major throughway to the community, I-65 -- putting tolls on a 49 year old bridge seems a bit ridiculous and will serve as a barrier to commerce, visitor spending, and create an added burden to the local community -- and I mean both sides of the community.	Meeting transcript	DTC	Tolls	Oppose tolls
The point is, public transit is a significant factor and deserves more than three words in a draft statement for a \$2.9 billion project.	Meeting transcript	DTC/EEC	Scope	Transit

On January 27th 2012, another Section 106 Public Meeting was held to discuss the project’s impact on historic properties. Similar to other section 106 meeting the summary does not deliver the content of comments made in the meeting to be analyzed.

Subsequently, a Supplemental Final EIS was issues for the OHRB project on February 29th 2012. There were 110 written comments – in forms of letters and emails – submitted on the Supplemental Final EIS by stakeholders. Transcripts of these written comments are available and have been analyzed. The majority of the written comments were related to *Tolls* and *Purpose & Need* of both DTC and EEC projects. Table 6.13 demonstrates a representative list of these written comments. A detailed list of comments is presented in Appendix C.

Table 6.13. Representative stakeholder written comments on Supplemental Final EIS document

Comments	Source	Theme	Sub-theme
Proposing a toll on any of the bridges is totally lopsided as Indianans will bear the larger part of the burden. Hundreds of people travel from Indiana to Kentucky to work or school every day, anything more than a nickel toll will pose a hardship as it is hard enough to pay for the gas to get across the bridge. The tolls will continue long after the bridges are paid for and Indianans will pay for them for many generations. Louisvillians will just choose not to cross the bridge and utilize Indiana businesses....thereby causing Indianans to pay in a second way.	Written comments	Tolls	Oppose tolls
A downtown bridge is not needed! Reroute all through north and south bound trucks to the east end bridges, as is done in most cities i.e. Atlanta, Georgia, Cincinnati, Ohio, Indianapolis, Indiana. In these austere times, more taxes and tolls are not needed.	Written comments	Purpose & Need	N/A
The east end bridge was proposed in the 1950s when I was on the jeff city council How much easier and cheaper it would be now if that proposal would have been activated Tolls are a threat to both sides of the river.	Written comments	Purpose & Need	N/A
My daughter and her husband lived in New Albany and worked in Louisville. This would be an unfair burden on them. This area has always been considered a "Metro" area with both sides of the river dependent on each other.	Written comments	Social equity	N/A

Meanwhile, KYTC announced that it desires to utilize a design-build method to deliver DTC project (KYTC, 2012). Shortly after, on March 5th 2012, INDOT and KYTC executed a Memorandum of Understanding (MOU) to split delivery of the OHRB project. KYTC would deliver DTC project and INDOT and IFA would deliver EEC project. With the execution of the MOU, the two states agreed to equally split the toll revenue between the states.

Following the execution of the MOU, KYTC issued a Request for Qualification (RFQ) on March 7th 2012, for a design-build delivery of DTC project. INDOT and IFA issued a Request for Qualification (RFQ) on March 9th 2012, for a PPP delivery of EEC project. Subsequent to the issuance of RFQs, KYTC and INDOT announced that the agencies have selected shortlists of private contractors to be advanced for the Request for Proposals (RFP) processes. On April 23rd 2012, KYTC selected three design-build teams and INDOT and IFA selected four private concessionaires for the procurements of DTC and EEC projects.

Meanwhile, there were growing opposition against tolls specifically from residents in Indiana for tolls on DTC project. They argued that more than 80% of trips through downtown bridges would be from Indiana; therefore, Hoosiers would be paying 80% of the tolls (Renn, 2012a). One Indiana resident stated in a press interview *“Hoosiers will pay a disproportionate amount of tolls for new infrastructure-bridges, while Kentucky residents will NOT pay tolls for new infrastructure”* (Renn, 2012a).

Moreover, there was opposition with regard to the Kentucky approach of the East End Bridge. Stakeholders were complaining about the high cost of the Drumanard tunnel under the Drumanard estate in Kentucky; a tunnel that had an estimated cost of \$262 million financed by the state of Indiana (Renn, 2012b). For example, one Kentucky resident said *“I think it is absolutely ludicrous and an outrage that we would spend 200 million additional dollars in this tough economic times for the tunnel to save 1 estate & to satisfy the wealthy East end families.”* One other resident stated *“The proposed tunnel will be 10% of the total project cost, pure waste, \$255 million to hide a road from a \$8.5 million house that apparently is unoccupied! Most of the tunnel would be beneath trees.”* Some suggested to remove the Drumanard estate from the National Register as a historical site and since *“few people had knowledge of the property”* and not to *“waste the taxpayers’ money and extra time drilling the expensive tunnel”* (ORBP, 2012b).

On June 20th 2012, the FHWA approved the Supplemental EIS document for the OHRB project and issued a Record of Decision (ROD). With the publication of the ROD, the environmental study of the OHRB project was completed and the project advanced into Procurement Phase. This phase will be discussed in the next period.

6.5.3. Summary

Period OHRB-T-2 characterizes planning phase of the OHRB project; because, this period encompasses the entire Supplemental environmental review process. Hence, the majority of the involvement activities in this period are expected to be NEPA related. Table 6.14 summarizes the involvement activities that took place in this period.

Table 6.14. Stakeholder involvement activities of OHRB project in period OHRB-T-2

OHRB Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meeting	2	2	2	0	2	0
Public hearing	4	4	4	0	4	0
IHPAT meeting	3	0	0	3	0	3
AAT meetings	4	0	0	4	0	4
RAC meetings	1	0	0	1	0	1
Press release	8	8	0	0	2	6
Study report	5	5	0	0	5	0
Total	27	19	6	8	13	14

Table 6.14 shows that the majority of the involvements in this period are *Communication* while *Participation* and *Consultation* have also been utilized. The table also shows that there are a considerable number of non-NEPA activities in this period.

By comparing the involvement activities in this period with previous period, it is observed that the total number of involvement activities has decreased significantly. This observation is also valid for the NEPA and non-NEPA activities. These differences in quantity can be attributed to the relatively shorter span of this period compared to the previous period – 16 months of study versus 13 years. Moreover, this period represented a Supplemental EIS process while, the previous period entailed an entire EIS process. Hence, the former period required more involvement.

Figure 6.8 illustrates stakeholder issues in this period with their percentages. These issues are extracted from four public hearing transcripts, the written comments following the hearings, and summaries of RAC and AAT meetings.

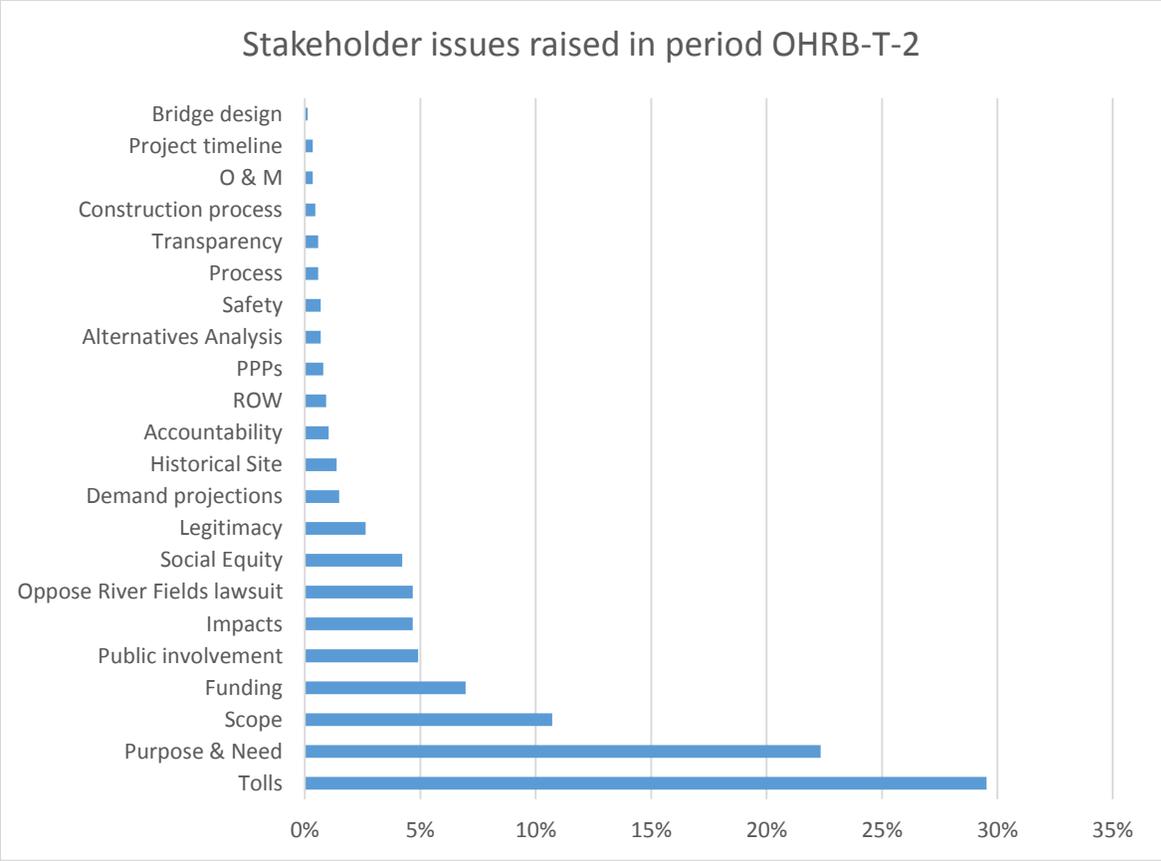


Figure 6.8. Stakeholder issues raised in period OHRB-T-2

A comparison of the issues in this period with the preceding period shows that *Tolls* has emerged and become the prominent issue. This shift is attributed to the introduction of tolls in this period. The emergence of the issue of *Purpose & Need* in this period is attributed to the large number of discussions on the need for DTC project versus EEC project.

On the other hand, in period OHRB-T-1 the main issues are *Impacts* and *Bridge Design*; while in this period, the issue of *Impacts* is minor and the issue of *Bridge Design* is almost negligible. This observation indicates that as the scope and design of the project are finalized in period OHRB-T-2 these issues have become less important for stakeholders.

6.6. Period OHRB-T-3 (June 2012 to June 2013)

This period represents the Procurement Phase. While, procurements of DTC and EEC projects advance independently, both of these projects are considered as parts of one OHRB project. This period ends when DTC and EEC projects transition to construction phase. Figure 6.9 illustrates a timeline of this project.

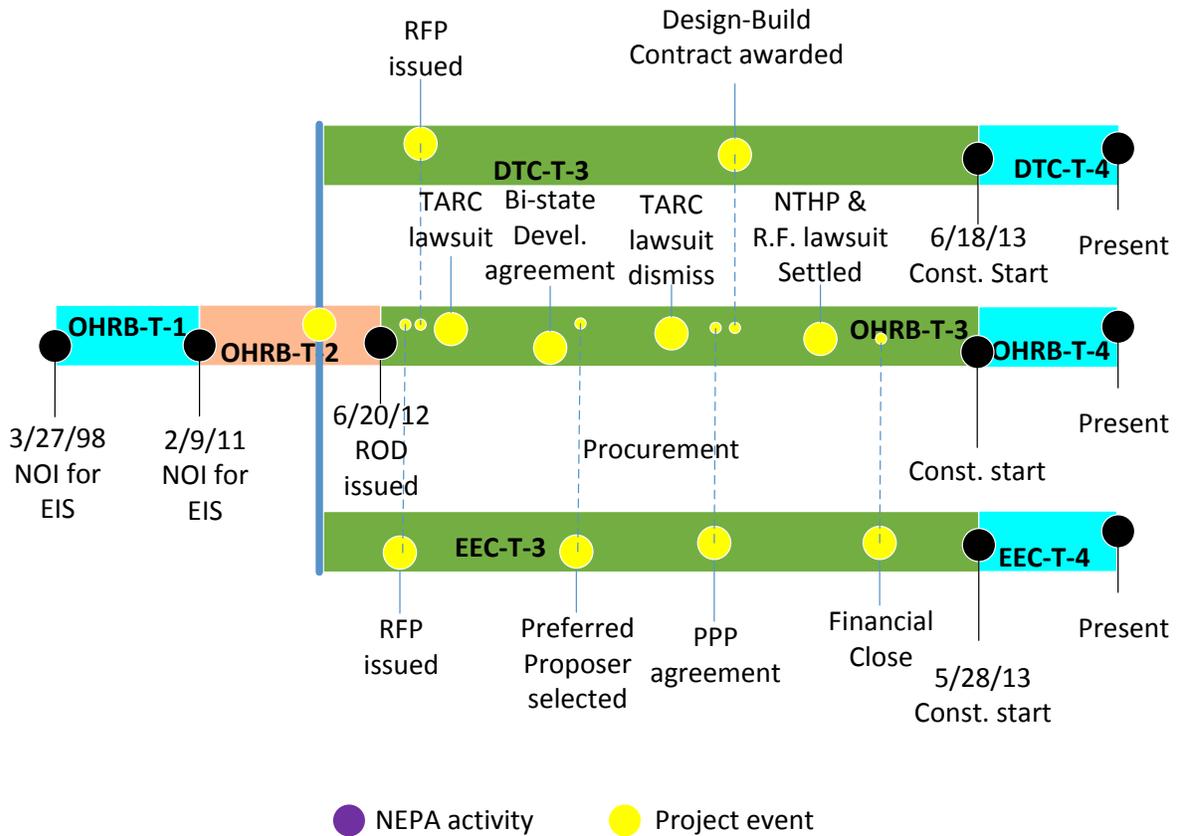


Figure 6.9. Period OHRB-T-3 timeline

After INDOT and IFA shortlisted four private concessionaires in April 2012, the agencies issued a Request for Proposals (RFP) on July 31st 2012, to develop, design, construct, finance, operate, and maintain the EEC project. Subsequently, KYTC issued a Request for Proposals (RFP) on August 3rd 2012, for a design-build delivery of the DTC project.

On September 11th 2012, a transit advocacy group called the Coalition for the Advancement of Regional Transportation (CART) filed a lawsuit against the OHRB project. CART claimed that the OHRB project had dismissed public transportation and prevented any improvements to the regional public transportation (Shaw, 2012). In a statement, CART’s president accused the project team of “intentionally denying the low income and minority population in the urban core to potential economic development in the suburbs” and plotting a “toll collection scheme” that “disproportionately impacts” the low-income people (Shaw, 2012).

Shortly after, U.S. District Judge Heyburn reviewed the claim and dismissed the suit filed by CART on November 2012, claiming that the defendants’ actions “do not suggest any actionable discriminatory intent” (OHRBP, 2013).

Meanwhile, the two states of Indiana and Kentucky executed a Bi-State Development Agreement on October 16th 2012. The agreement required the project sponsors to: (1) conduct a detailed assessment of potential economic effects of tolls on environmental justice populations; (2) make the results

available for public review; (3) identify and evaluate measures to mitigate the effect of tolling on low-income population; and (4) provide an opportunity for public input for the mitigation measures (ORBP, 2012a).

On October 26th 2012, INDOT and IFA announced that they have selected the WVB East End Partners as the preferred proposer for the development of EEC project. Subsequently, INDOT and IFA hosted two public hearings in Jeffersonville, Indiana and Louisville, Kentucky on December 1st 2012 to solicit comments from stakeholders on the selection process and the private sector’s proposal. Transcripts of the public hearings are available. Forty people attended the Indiana meeting and ten people attended the Kentucky meeting. The two main issues raised in these meetings were related to *PPPs* and *Transparency*. Among the issues on PPPs, the main concerns were related to *Benefits* of PPPs and *Profiteering* of the private sector (please refer to Figure 6.10 and Figure 6.11 for the representative graphs). Table 6.15 lists some of the comments made in these public hearings. A detailed list of stakeholder comments is presented in Appendix C.

Table 6.15. Representative stakeholder comments in public hearings on selection of the preferred proposer

Comments	Source	Reference (EEC/DTC)	Theme	Sub-theme
[When] project finished, instead of being the \$2.9 billion that had been much publicized in the newspapers, would rise to the level of almost \$10 billion collected in tolls from the local community. That toll funding would go to investors, and the cure seems to be worse than the disease in this case.	Meeting transcript	EEC	PPPs	Profiteering
It's apparent from the amount of the bid that this process has resulted in significant savings and an -- an accelerated timeline for the completion of the East End Bridge.	Meeting transcript	EEC	PPPs	Benefits
Investors or Walsh Construction, as it has been accused of in the past, performs shoddy work or uses concrete that doesn't meet spec? Does that mean if it does that on the East End Bridge that it throws the downtown construction into question? What will be the effect?	Meeting transcript	EEC	Quality	N/A

Subsequently, a 35-year PPP Availability Payment (AP) agreement was executed on December 27th 2012, between IFA and WVB East End Partners. Similarly, a design-build contract was executed between KYTC and Walsh Construction on December 28th 2012.

Meanwhile, the lawsuit that was filed by NTHP and River Fields in September 2009, was settled between the project team and the plaintiffs on January 4th 2013. The settlement required INDOT and KYTC to

establish a \$1.7 million Historic Preservation and Enhancement Fund equally funded by both states to provide grants to preserve historic site. It also required the project sponsors to provide advance notice procedures for public meetings related to the construction of the project at least seven days in advance to the meetings. In return, NTHP and River Fields would drop all claims against the project (INDOT, 2013).

Furthermore, as required by the Bi-State Development Agreement, the project sponsors conducted a study to assess the impact of tolls on the environmental justice populations on October 16th 2012 (ORBP, 2012a). The study entailed a survey on potential commuters in the region to assess their commuting patterns with respect to imposition of tolls. The survey results were compiled and published as “Environmental Justice Populations Impacts Report” in April 2013 (ORBP, 2013c). Then, on April 30th, project sponsors – INDOT and KYTC – executed a Memorandum of Agreement with Transit Authority of River City (TARC) – a transit service provider – regarding enhancing bus services across the river as partial mitigation for the economic effects of tolling on environmental justice populations. In that agreement, INDOT and KYTC agreed to provide \$10 million each from their FHWA funds to TARC for bus service enhancements (ORBP, 2013a).

On March 28th, EEC project reached financial close and construction for the EEC project started on May 28th 2013. Meanwhile, before the construction of DTC started, KYTC and Walsh Construction held a public open house on May 8th 2013, to introduce the design-build team and construction process and timeline to the public (Private Representative). There is no record kept for the open house event. Successively, construction of DTC project started on June 18th 2013.

Similar to the preceding period, there were five IHPAT & KHPAT meetings held in this period. Brief summaries of these meetings are available. According to a Public Representative interviewed, IHPAT & KHPAT meetings were held every other week during the initial planning phase; however, as the OHRB project planning was finalized and the project progressed to Procurement Phase these meetings became monthly meetings and when construction started these meetings were convened quarterly.

6.6.1. Summary

Period OHRB-T-3 characterizes the Procurement Phase. Involvement activities conducted in this period are outside NEPA process since the environmental studies of the project concluded in the preceding period. Table 6.16 demonstrates involvement activities related the OHRB as a whole as well as DTC and EEC projects.

Table 6.16. Stakeholder involvement activities related to the OHRB, DTC, and EEC projects

OHRB Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
IHPAT & KHPAT meeting	5	0	0	5	0	5
Survey	1	0	1	0	0	1
Press release	2	2	0	0	0	2
Study report	2	2	0	0	0	2
Total	10	4	1	5	0	10
DTC Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Open house	1	1	1	0	0	1
Press release	1	1	0	0	0	1
Total	2	2	1	0	0	2
EEC Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public hearings	2	2	2	0	0	2
Total	2	2	2	0	0	2

A comparison between involvement activities in this period with previous period, shows that the number of involvement activities have decreased significantly. This decline in involvement activities can be attributed to the conclusion of the NEPA process and start of the Procurement Phase.

In this period there are two public hearings held for EEC project regarding the selection of the preferred proposer. Transcripts of these public hearings are available and have been analyzed. Figure 6.10 demonstrates issues and their percentages that were extracted from transcripts of the public hearings. There is only open house held in this period for DTC project. No record was kept for the open house.

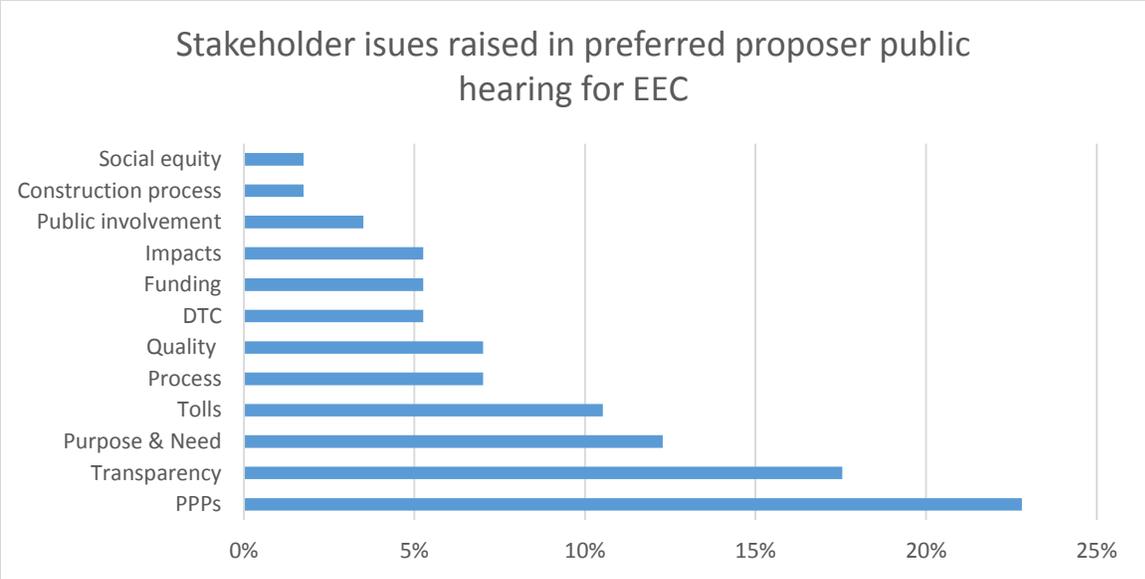


Figure 6.10. Stakeholder issues raised for EEC

By comparing the issues raised in this period with the preceding period, it is observed that there is a shift in the issues raised in the project. Issues of *PPPs* and *Transparency* are the two prominent issues in this period; while, these issues were very minor in previous period (both were less than 5% of total issues in previous period). The emergence of issues related to *PPPs* can be attributed to the introduction of *PPP* as a method. Moreover, emergence of issues related to *Transparency* can be attributed to the involvement of a private entity in the delivery of *EEC* project.

Figure 6.11 shows the results from second level content analysis on comments related to *PPPs* in this period. As shown in Figure 6.11, the main stakeholder issues on *PPPs* are related to *Benefits* of *PPP* arrangements and *Profiteering* of the private sector.

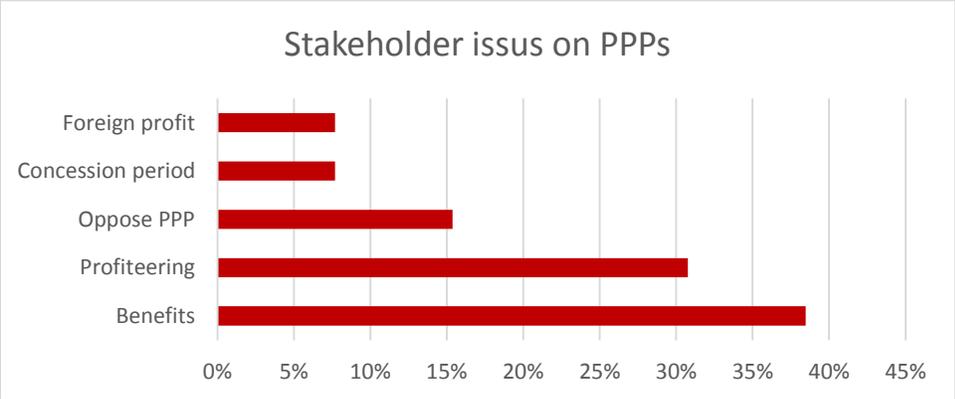


Figure 6.11. Stakeholder issues on PPPs in period OHRB-T-3

6.7. Period OHRB-T-4 (June 2013 to present)

This period represents the construction phase of the project. Figure 6.12 illustrates a timeline of this period in which project events related to DTC and EEC projects as well as the OHRB project are marked on the timeline. This timeline has been divided into two periods: OHRB-T-4.1 and OHRB-T-4.2.

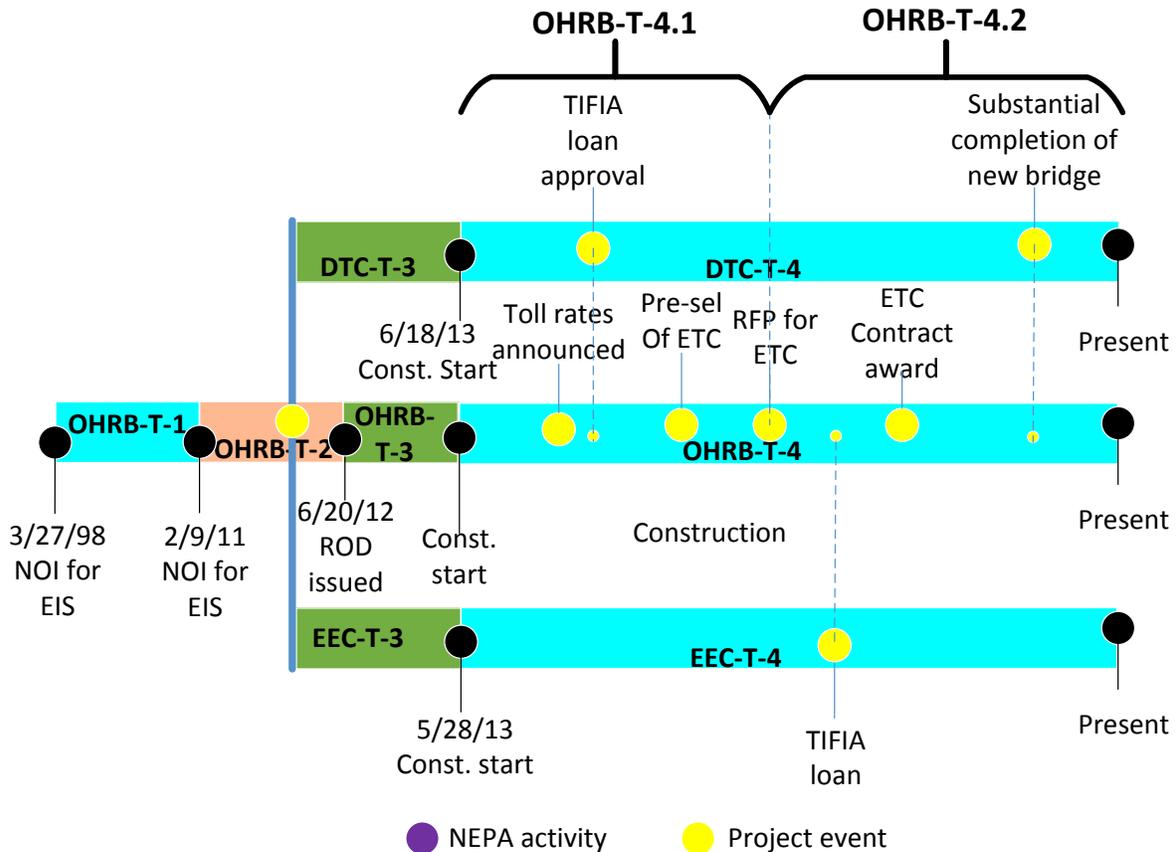


Figure 6.12. Period OHRB-T-4 timeline

6.7.1. Period OHRB-T-4.1 (June 2013 to May 2014)

On June 27th 2013, the project sponsors released a study report called the *Assessment of Economic Effects of Tolling and Potential Strategies for Mitigating Effects of Tolling on Low-income and Minority Populations*. The study suggested toll exceptions strategies for low-income and minority populations. Subsequent to the publication of the report, project sponsors held two public meetings in Clarksville, Indiana and Louisville, Kentucky on July 22nd and July 23rd 2013. More than 119 people attended the Indiana meetings and more than 101 people attended the Kentucky meeting. Additionally, the stakeholders submitted 237 written comments. A summary of the comments made in the public meetings and the written comments submitted are available. The two most prominent issues raised in the meetings were related to *Tolls* and *Social Equity*. Table 6.17 shows a list of representative comments made in these meetings. A detailed list of the stakeholder comments and the frequency charts are presented in Appendix C.

Table 6.17. Representative stakeholder comments on economic effects of tolling and potential mitigations

Comments	Source	Reference (EEC/DTC)	Theme	Sub-theme
But I just wanted to state that this particular bridge tolling will highly affect the economy, the citizens' pocketbooks. The people that are coming from Louisville to our new River Ridge Commerce Center, the employees will have to take into account the tolling fee before they come. And I just think that's seriously going to hurt our new development in the east end.	Meeting transcript	EEC/DTC	Tolls	Oppose tolls
The tolling of the bridges to these groups is simply another manifestation of the economic, educational, and political disenfranchisement of these low-income people. So that's another issue.	Meeting transcript	EEC/DTC	Social Equity	N/A
The global warming is the most important problem we face as a society and as a generation, and the bridges as planned currently exacerbate that problem...	Meeting transcript	EEC/DTC	Impacts	environment

Subsequently, KYTC and Walsh Construction held a public open house on October 24th 2013. The purpose of the open house was to provide construction schedule and future road closures in the area. In the open house the design-build team also provided an overview of the project and answered questions from the audience (Private Representative). This open house was exclusively held for DTC project and there was no record kept for the event. Moreover, on December 12th, the \$452 million TIFIA loan for DTC project was executed and the KYTC issued \$728 million in revenue bonds to complete the financing of DTC project on December 13th (Karman, 2013).

On March 1st 2014, the OHRB project sponsors released an Economic Impact Study Report for the OHRB project. The report suggested that the OHRB project would have positive economic impact for the region (ORBP, 2014b). The study showed that positive economic impacts of new construction jobs, market access, transportation efficiency and land use far outweigh any adverse regional economic effects of tolling (ORBP, 2014b).

Following the release of the Economic Impact Study Report, two public hearings were held on March 25th 2014. The public hearings were in Jeffersonville, Indiana and Louisville, Kentucky and examined the Economic Impacts of the OHRB project. Transcripts of the public hearings are available and have been analyzed. The analysis shows that the two main issues raised in the meetings are related to *Tolls* and *Impacts*. Table 6.18 lists representative comments made in these meetings. A detailed list of the stakeholder comments and the frequency charts are presented in Appendix C.

Table 6.18. Representative stakeholder comments on Economic Impacts of the OHRB project

Comments	Source	Reference (EEC/DTC)	Theme	Sub-theme
We need them for everything. Hospitals, schools, our -- our doctors, our shopping. But they [Louisville community] don't need us at all, and with -- and they're not going to go get that transponder, and they're not going to pay 11 or 12 bucks to come over here. So you have effectively cut the legs out of the retail business in the western part of this county.	Meeting transcript	EEC/DTC	Impacts	Community
The state needs to engage and proactively communicate with these businesses and try to come up with some sensible solutions that can mitigate their problems. I think there are some. We've -- we've talked at great length about these, but I think it's the state's turn to get active and try to engage. Thank you.	Meeting transcript	EEC/DTC	Public Involvement	N/A
Now, remember -- now, here are the tolls. And when this study was done, we didn't know what the tolls were, but as it turns out, the study is \$2 round trip if you're the most frequent user.	Meeting transcript	EEC/DTC	Tolls	Toll rates

Subsequently, KYTC and Walsh Construction held a public open house on April 1st 2014 for the DTC project. In the open house event, stakeholders were updated about the status of the project as well as the construction schedule (Private Representative). There is no record available for this event.

6.7.2. Period OHRB-T-4.2 (May 2014 to present)

On May 23rd 2014, Indiana Finance Authority (IFA), on behalf of the OHRB project sponsors, issued a Request for Proposal (RFP) to provide, operate, manage, and maintain an all-electronic toll collection system, including roadside, back office and toll system operations for the OHRB project (ORBP, 2014d).

Subsequently, four teams submitted proposals and IFA preliminarily selected the proposal offered by Kapsch Traffic Com IVHS, Inc. (ORBP, 2014d). Then, two public hearings were held on September 29th 2014, in Jeffersonville, Indiana and Louisville, Kentucky to discuss the preliminary selection process for the tolling operator and solicit stakeholder input in the selection process (ORBP, 2014d). Transcripts of the public hearings are available. Analysis of the transcripts shows that the two main issue discussed in the hearings were *Tolls* and *Impacts*. Table 6.19 shows a representative list of the comments made in these hearings. A detailed list of the stakeholder comments and the frequency charts are presented in Appendix C.

Table 6.19. Representative stakeholder comments made in public hearings for selection of ETC proposer

Comments	Source	Reference (EEC/DTC)	Theme	Sub-theme
As a part-time employee, it will cost me \$12 to cross 3 time -- or 3 days a week as opposed to the full-time employee crossing 5 days a week. Just seems a bit unfair the way you're approaching the tolls, setting the tolls. --	Meeting transcript	EEC/DTC	Tolls	Affordability
So I just hope that you-all give the due diligence to look at this project and think of the -the citizens and the workers who are at the lower end of the scale and are trying to hang on with their teeth, and think over this, and try to find a way to alleviate these people's concerns.	Meeting transcript	EEC/DTC	Tolls	Affordability
I'd like to thank you-all for having this meeting. I would like to, however, say that the starting time of the meeting at 5:00 I think is preventing a lot of people who are working from actually being at this meeting.	Meeting transcript	EEC/DTC	Public involvement	
But my big concern is, what is this going to do economically to these businesses here in downtown Jeffersonville and Clarksville and the other surrounding areas that have really been in a Phoenix coming back? Will this prevent -- a \$6 toll prevent citizens from Louisville, Kentucky to come over, say, for Buckheads for dinner? You know, that's like adding an additional \$6 to a tab.	Meeting transcript	EEC/DTC	Impacts	Tolling

Meanwhile, the OHRB project sponsors conduct an Environmental Justice Community survey, in August 2014, to examine the impact of tolls on commuting behavior of low-income and minority populations (ORBP, 2014c). About 80% of the participants expressed that they would use non-tolled routes, 45% expressed that they would reduce number of trips, and about 20% expressed they would use transit or carpool (ORBP, 2014c).

Subsequently, KYTC and the design-build team hosted a public open house on November 5th 2014, to provide project update and discuss construction schedule. The design-build team also solicited feedback from the public regarding construction road closures; according to a Private Representative interviewed, the design-build team would adjust, when possible, their construction schedule or road closures to accommodate community activities. For example, when there was a football game the design-build team would change construction schedule to work around the event (Private Representative).

On December 8th 2014, IFA, issued a supplemental and amended RFP for an all-electronic toll collection system. On February 10th 2015, Kapsch TrafficCom IVHS Inc. was selected as a preferred bidder. Two public hearings were held on March 26th in Jeffersonville, Indiana and Louisville, Kentucky to discuss the preliminary selection process for the tolling operator and solicit input for the selection process (ORBP,

2015b). Transcripts of the public hearings are available; however, no comment was made in either of the hearing sessions.

On April 24th, the OHRB project sponsors released a report on Assessment of Economic Effects of Tolling and Mitigation Strategies for Environmental Justice (EJ) Populations. The report identified a range of potential measures for mitigating the economic effects of tolling on EJ populations (ORBP, 2015a). Subsequently, KYTC and INDOT proposed actions to mitigate such effects on EJ populations. The proposal included: (1) providing toll-free crossings to TARC's mass transit buses; (2) providing free and accessible transponders for local commuters; (3) allowing accounts to be established with as a \$20 balance to let customer entry into the program (KYTC-INDOT, 2015). After the announcement, INDOT Commissioner Jim Stark stated in a press release *"[This] is a plan by which the effects of tolling can be mitigated in practical, meaningful ways to those who will be disproportionately affected"* (KYTC-INDOT, 2015).

Subsequently, the provision, operation, management, and maintenance of the electronic toll collection system of the OHRB project was awarded to Kapsch TrafficCom IVHS Inc. on May 14th 2015.

On November 5th, another public open house was hosted by the KYTC and the design-build team to provide project updates to the public and solicit their comments (Private Representative). There is no record available for the open house event. Finally, on December 5th 2015, the construction of the new downtown bridge was completed. The substantial completion of the DTC project is expected to be by the end of the year 2016 (Public Representative).

Moreover, there were a total five IHPAT & KHPAT meetings held in this period. Similar to the preceding period, these meetings were held quarterly to discuss impacts on historic sites during the development process.

6.7.3. Summary

Period OHRB-T-4 characterizes the construction phase. Similar to the preceding period, involvement activities conducted in this period are outside NEPA process. Table 6.20 demonstrates involvement activities related to the OHRB project and DTC project. In this period there is no involvement activity exclusively related to EEC project.

Table 6.20. Stakeholder involvement activities in period OHRB-T-4

OHRB Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Public meetings	2	2	2	0	0	2
Public hearings	6	6	6	0	0	6
IHPAT meeting	5	0	0	5	0	5
Survey	1	0	1	0	0	1
Study report	4	4	0	0	0	4
Total	18	12	9	5	0	18
DTC Project						
Involvement mechanism	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Open house	4	4	4	0	0	4
Press release	1	1	0	0	0	1
Total	5	5	4	0	0	5

By comparing the involvement activities in this period with the preceding period, it is observed that the overall involvement activities have increased significantly for both DTC and EEC projects. The majority of these involvement activities are related to tolling of the project; two of the public meetings and two public hearings were directly related to the issue of toll mitigation on low-income and minority populations. There were four additional public hearings held for the selection of the tolling operator for the project.

Furthermore, analysis of the public meeting and public hearing transcripts in this period reveals that the majority of the comments are related to *Tolls*. This is not surprising knowing that the main agenda of these meetings were: toll mitigation and toll operation. Figure 6.13 shows stakeholder issues raised in this period with regard to the OHRB project. These issues are extracted from transcripts of two public meetings and six public hearings.

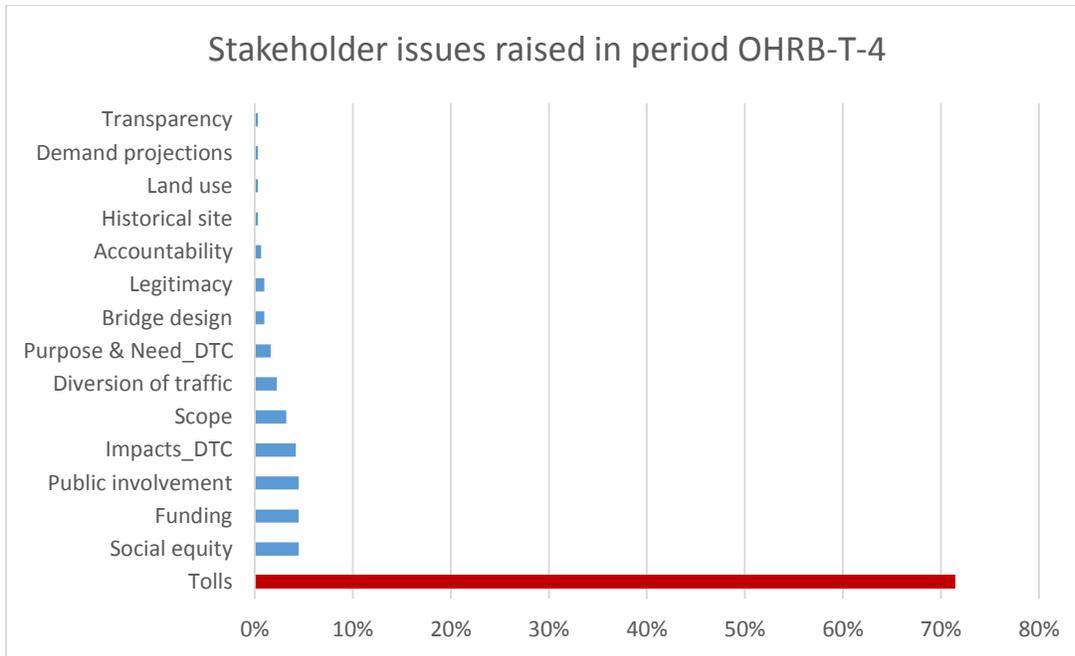


Figure 6.13. Stakeholder issues on the OHRB project in period OHRB-T-4

Due to the significance of the issue of *Tolls*, these comments are further analyzed. Figure 6.14 shows the result of second level coding on comments made on *Tolls*.

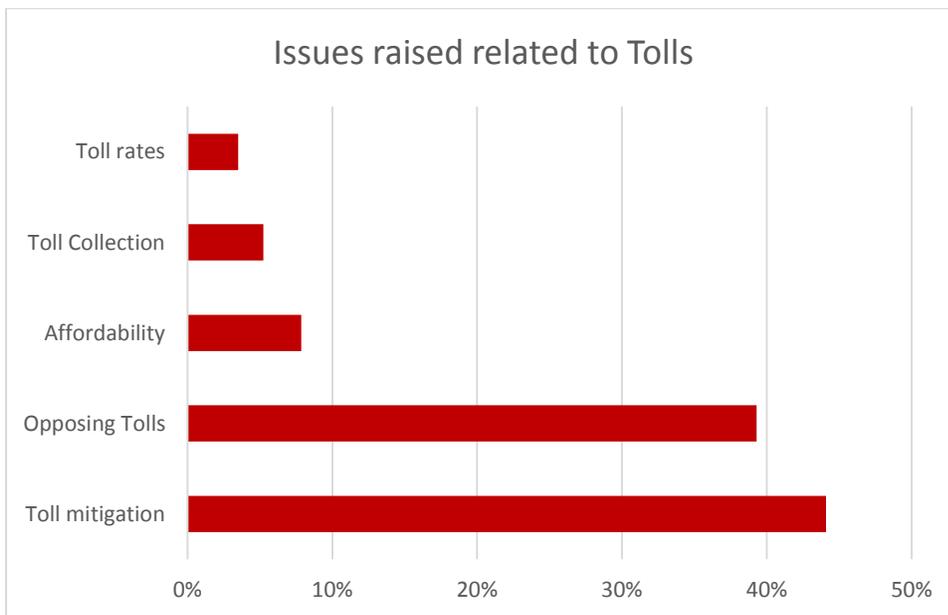


Figure 6.14. Stakeholder comments on Tolls

6.8. Assessment Across Project Periods

In this section, activities and events are examined across the periods to facilitate identification of trends and shifts in the involvement strategy and the stakeholder issues raised. Subsequently, the findings are discussed with regard to propositions proposed in this study.

6.8.1. Summary of Involvement Activities and Stakeholder Issues Across Periods

To better facilitate the examination, involvement activities are summarized in Table 6.21 and Table 6.23. Stakeholder involvement strategy of the OHRB project is illustrated in Table 6.21. It summarizes the quantity of stakeholder involvements in each period as well as each phase. This table counts for passive involvements (i.e. press release and reports) as well as active involvements where sponsors and stakeholders actively exchange information through participatory and non-participatory involvements such as: public hearing, community meeting, public meeting, stakeholder committee meeting, etc.

Table 6.21. Stakeholder involvement strategy of OHRB project

Phase	Period	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
Pr. Planning	T-1	69	39%	20%	61%	36%	64%
Dt. Planning	T-2	27	70%	22%	30%	48%	52%
Procurement	T-3	10	40%	10%	50%	0%	100%
Des. & Const.	T-4	18	67%	50%	28%	0%	100%

Table 6.22 illustrates the seven main stakeholder issues and their percentages across the four periods of the OHRB project. Issues shown in periods T-1, T-2, and T-4 are related to the OHRB project as a whole since involvements in these periods are specific to the overall OHRB project. Issues listed in period T-3, however, are exclusive to the EEC project because the only involvements in T-3 with expressed comments are two public hearings in the EEC project.

Table 6.22. Stakeholder issues raised in EEC project in each period

Period T-1	Period T-2	Period T-3	Period T-4
Impacts (20%)	Tolls (30%)	PPPs (23%)	Tolls (71%)
Design (16%)	Purpose (22%)	Transparency (18%)	Social equity (4%)
Scope (11%)	Scope (11%)	Purpose (12%)	Funding (4%)
Public involvement (8%)	Funding (7%)	Tolls (11%)	Public involvement (4%)
Purpose (7%)	Impacts (5%)	Process (7%)	Impacts (4%)
Process (7%)	Oppose River Field (5%)	Quality (7%)	Purpose (3%)
Funding (6%)	Social equity (4%)	DTC (5%)	Diversion of traffic (2%)

6.8.2. Period T-1: EIS Notice of Intent to EIS Notice of Intent (1998 to 2011)

The need for improvements in the east end to connect the I-265 beltway on both sides of the Ohio River started in the 1960s. Then, a project was initiated in 1969 to build a bridge in the east end; however, major opposition emerged from the people in the east end and the project was stopped (Public Representative). Similarly, to address congestion issues in downtown Louisville, it was proposed to rebuild Spaghetti Junction; however, the initiative was cancelled in the 1970s due to major opposition from the people in the downtown (Public Representative). By the mid-1990s, the need for the improvements became too great; authorities decided to combine both improvements into one project –

the OHRB project (Public Representative). When the OHRB project was initiated in 1998, project sponsors knew they had to unify a much divided community (Public Representative).

Initial involvement activities in this period were primarily focused on laying out the NEPA guidelines and defining the scope. When the scoping process was completed in September 2003, it suggested building two bridges.

Three stakeholder committees were established – AAT, RAC, and IHPAT & KHPAT – in December 2003. IHPAT & KHPAT meetings were focused on historic preservation plans. The purpose of AAT and RAC meetings was to discuss and select the bridge type. Discussions at RAC meetings covered project-wide issues whereas AAT meetings were focused on the design aesthetics and interchange refinements (AAT, 2004). Subsequently, 31 bridge alternatives for the downtown bridge and 15 alternatives for the east end bridge were proposed by the project team for discussion by the stakeholder committees (Public Representative).

These committee meetings facilitated *participation*. They were frequently held throughout the period to discuss and finalize the bridges' designs, so design aspects of the bridges became the main focus of the involvement strategy. The stakeholder committee meetings resulted in scope creep. By November 2006, the scope of the project entailed building two new six-lane bridges in downtown and east end with each having bicycle and pedestrian lanes. The suggested scope also entailed relocation of the Spaghetti Junction in downtown. Consequently, the scope as defined resulted in an estimated cost of \$4.1 billion, which made it financially unfeasible. Subsequently, transit initiatives such as light rail, new transit centers and special bus lanes were eliminated from the region's long-range transportation plan, and tolls were suggested to fund the OHRB.

In 2009, the National Trust for Historic Preservation (NTHP) and River Fields jointly filed a lawsuit against the project. The plaintiffs claimed the initial environmental study in 2003 was cobbled together as a political compromise, and the project team did not follow all necessary guidelines in the environmental studies. This action was perceived as a plot to eliminate the EEC project for special interests since River Fields was mostly controlled by the people in the east end.

The involvement strategy in this period was primarily focused on *participation* (as shown in Table 6.21) since so many stakeholder committee meetings were held (as shown in Table 6.23).

As the scope was being defined, it initiated discussions on *Impacts* of different alternatives as well as the design. Table 6.22 indicates that the three main issues in this period are *Impacts*, *Design*, and *Scope*.

6.8.3. Period T-2: EIS Notice of Intent to ROD Issued (2011 to 2012)

To make the project feasible, project sponsors decided to reduce the scope. The reduced scope cut two lanes from the East End Bridge, removed the bicycle lanes from the Downtown Bridge, and rebuilt the Spaghetti Junction within its original footprint. Also, it was announced that the project would be tolled. As a result, supplemental environmental studies were initiated. Supplemental environmental studies are shorter in process and require less involvements since the main parts of the studies – i.e. Scoping and Alternatives Analysis – have been completed in the original environmental studies. Therefore, fewer NEPA-related involvements, not surprisingly, occur in period T-2. Table 6.23 also shows that the

quantity of RAC & AAT as well as IHPAT & KHPAT meetings decreased significantly. This is because the overall design concept had been finalized in T-1, so the committees had fulfilled their purpose.

Table 6.22 shows that *Tolls* emerged as the main issue once the decision to toll the project was made. Interestingly, once tolling became certain, stakeholders started to question the need for the EEC and/or DTC. This caused the emergence of *Purpose*.

Meanwhile, the MOU was executed between Indiana and Kentucky to separate the delivery of DTC and EEC while splitting the toll revenues. Subsequently, INDOT and KYTC issued RFQs and shortlisted private consortiums. The supplemental environmental study was completed in June 2012 – almost 16 months after publication of its NOI.

6.8.4. Period T-3: ROD Issued to Construction Starts (2012 to 2013)

According to a Public Representative, a transit option was studied in the project, but it was deemed unnecessary due to lack of interest from the community and eventually was removed from the plan. Nevertheless, in September 2012, CART – a transit advocacy group – filed a lawsuit claiming that by excluding a transit option, project sponsors had prevented improvements to regional public transportation; hence, the sponsors had cut off low-income population in the urban core for potential economic opportunities in the suburbs. A U.S. District Judge dismissed the claim in November 2012.

Consequently, the two states executed a Bi-State Development Agreement in October 2012 to: (1) conduct a detailed assessment of potential economic effects of tolls on Environmental Justice (EJ) populations; (2) make the results available for public review; (3) identify and evaluate measures to mitigate the effect of tolling on low-income population; and (4) provide an opportunity for public input for mitigation measures (ORBP, 2012a).

As a result of the Bi-State Agreement, project sponsors took two actions. First, they conducted a survey study to gain insights into potential bridge usage patterns of Environmental Justice (EJ) populations, including low-income and racial minorities, and to assess the potential impacts that tolling of the new bridges would have on these segments of the community. The survey suggested that 65% of the respondents suggested that they would not change their travel patterns while 36% indicated switching to non-tolled routes (ORBP, 2013c). Second, INDOT and KYTC executed a Memorandum of Agreement with the Transit Authority of River City (TARC) regarding enhancing bus services across the river as partial mitigation for the economic effects of tolling on environmental justice populations. In that agreement, INDOT and KYTC agreed to provide \$10 million each from their FHWA funds to TARC for bus service enhancements (ORBP, 2013a).

Consequently, in January 2013, NTHP and River Fields settled their lawsuit with the project sponsors. The settlement required INDOT and KYTC to establish a \$1.7 million Historic Preservation and Enhancement Fund to preserve historic sites; also, the project sponsors were required to provide advance notice procedures for future public meetings (INDOT, 2013).

As shown in Table 6.23, this period represents involvement activities for the OHRB project as well as exclusive involvements for DTC and EEC projects. Total involvements have decreased. This is not unexpected since the environmental studies were concluded (in T-2).

6.8.5. Period T-4: Construction Starts to Present (2013 to 2017)

To minimize the impact of tolling, project sponsors conducted a tolling mitigation study. The study suggested lower toll rates and toll exemptions for low-income and minority populations. Subsequently, project sponsors held two public meetings to discuss the results with stakeholders. In the meetings, a large number of stakeholders opposed the inclusion of minority populations in the mitigation plan, arguing that being a minority was irrelevant. Additionally, the sponsors conducted an economic impact study which suggested that the OHRB project would have positive impacts on the economic development of the region. The main issues in these hearings were related to *Tolls* and *Impacts*.

Table 6.21 and Table 6.23 show that the quantity of the involvement activities has increased in T-4. This increase is attributed to the involvement activities that followed the two studies as well as the public hearings that followed the selection of the tolling operator. These involvements were for the overall OHRB project. Additionally, four open house events were held for DTC project.

As shown in Table 6.22, the main issue in T-4 was *Tolls* followed by *Social equity* and *Funding*. Consequently, the project sponsors took several actions to mitigate the impacts of tolling on low-income populations. These actions included: (1) providing toll-free access to TARC's transit buses; (2) providing free and accessible transponders for local commuters; (3) allowing accounts to be established with as a \$20 balance to support customer entry into the program (KYTC-INDOT, 2015).

The involvement activities were focused on tolling mitigation, economic impacts of the project, and selection of toll operator; given the targeted nature of these engagements, the expressed comments are somewhat biased toward these issues.

6.8.6. Discussion of Stakeholder Involvement

Table 6.23 summarizes active involvement mechanisms across periods. Like previous chapters, more passive involvements are excluded; it reflects involvements where project sponsors and stakeholders actively exchange information through participatory and non-participatory mechanisms. The majority of the involvements are related to the OHRB project; to distinguish activities that are specifically related to DTC and EEC, DTC activities are shown in green and EEC activities in red. For example, DTC had five open houses overall while EEC had two public hearings.

Initial examination of Table 6.23 suggests that the non-NEPA involvement activities declined as the case advances from T-1 to T-2. However, as discussed earlier, it is expected to see less involvement activities in the supplemental environmental studies than a complete environmental studies.

As the project advances to Procurement Phase (period T-3), involvement activities decrease significantly. Then, as the project advances to Construction Phase the number of involvements increases. This is somewhat unusual but the project sponsors concluded tolling mitigation studies and selected a tolling operator in this timeframe. Throughout the project's lifecycle, the project sponsors engaged stakeholders for a variety of reasons; some were NEPA related while others were not. In particular, the sponsors engaged stakeholders to supplement NEPA requirements in the earliest and latest stages of the project. On balance, the evidence is insufficient to support proposition 1A: *Responsible stakeholders base their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process.*

Table 6.23. Active involvement mechanisms in OHRB Project

phase (Period)	Public Meeting		Public hearing		Open house		AAT & RAC		IHPAT & KHPAT		Workshop		Survey		Total	
	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA
Pr. Plan. (T-1)	8	0	2	0	2	2	0	12	0	30	6	0	0	0	18	44
Dt. Plan. (T-2)	2	0	4	0	0	0	0	5	0	3	0	0	0	0	6	8
Proc. (T-3)	0	0	0	2	0	1	0	0	0	5	0	0	0	1	0	9
D & C (T-4)	0	2	0	6	0	4	0	0	0	5	0	0	0	1	0	18
Total	10	2	6	8	2	7	0	17	0	43	6	0	0	2	24	79

Table 6.24 categorizes active involvements based on the involvement types. AAT & RAC and IHPAT & KHPAT were participatory mechanisms established in period T-1. As shown in the table, a substantial number of AAT & RAC and IHPAT & KHPAT meetings occurred during period T-1. According to a Public Representative interviewed, these meetings were beneficial; however, these meetings led to scope creep to a point where the project became unfeasible. Consequently, the sponsors had to reduce the scope and start a Supplemental environmental studies in period T-2.

Although participation decreases in T-2, this decrease is anticipated since T-2 represents a Supplemental environmental studies which indicates that the main the parameters of the project (i.e. scope, impacts, etc.) have been defined in the preceding environmental studies.

In periods T-3 and T-4, AAT & RAC meetings ceased, and only a few IHPAT & KHPAT meetings were held. Although participatory involvements fluctuated across the periods, the project sponsors utilized participation as needed – more participation occurred in T-1 because more parameters needed discussion. Additionally, the literature suggests that when projects advance from planning to procurement there is less need for participation (El-Gohary et al., 2006; Irvin & Stansbury, 2004). Project sponsors sought benefits from participatory involvements as needed during the development process. Therefore, the evidence from this case rejects proposition 1B: *Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project’s phase or delivery method.*

Table 6.24. Active involvements categorized by theme across OHRB's periods

Period	Public meeting	Public hearing	Open house	AAT & RAC	IHPAT & KHPAT	workshop	Survey
	Com. / Con.	Com. / Con.	Com. / Con.	Par.	Par.	Com.	Con.
Pr. Plan. (T-1)	8	2	4	12	30	6	0
Dt. Plan. (T-2)	2	4	0	5	3	0	0
Proc. (T-3)	0	2	1	0	5	0	1
D & C (T-4)	2	6	4	0	5	0	1
Total	12	14	9	17	43	6	2

Involvement activities employed by the private partner in EEC project are categorized in Table 6.25 using an involvement continuum where activities range from conventional to pioneering. Most of the activities employed are conventional; according to a Public Representative, the PPP contractor was active in responding to public inquiries and was required to notify the public in advance of certain events such as utilities shutoffs and lane closures. In this categorization, conventional activities such as fulltime public outreach personnel, creating a website, and responding to stakeholders inquiries are classified as conventional involvements. Additionally, there were two public hearings held for the selection of the preferred PPP proposer.

Although the decision to use a PPP has influenced the involvement plan and the mechanisms employed, these changes are not significant enough to demonstrate a fundamental shift in the involvement plan nor in the mechanisms employed. Therefore, the evidence supports proposition 1C: *The decision to deliver a project as a PPP does not markedly change the stakeholder involvement plan nor the mechanisms employed.*

Table 6.25. Stakeholder involvement continuum

Case	(Pioneering) ← (Involvement continuum) → (Conventional)	
OHRB		<ul style="list-style-type: none"> • Fulltime outreach personnel • Launch website • News feed & project updates • Respond to stakeholders' inquiries

Table 6.26 summarizes the findings with regard to the involvement propositions; support is shown by “+”, rejection is shown by “-” and inconclusive evidence is shown by “+/-”.

Table 6.26. Summary of findings on propositions 1A, 1B, and 1C

Case	1A: NEPA Dictates Involvement	1B: Participation Not Beneficial	1C: Impact of Delivery Method
OHRB	+/-	-	+

6.8.7. Discussion of stakeholder issues

Common issues in megaprojects and the dominance of tolling (Propositions 2A and 2B) are addressed simultaneously. Table 6.27 summarizes multiple sources of evidence relevant to stakeholder issues raised in each period (project phase). The first row indicates the top seven stakeholder issues raised in each period extracted from expressed comments of stakeholders. The second row shows representative statements from quotes made by stakeholders. The third row lists actions taken by stakeholders relative to the issues raised. Lastly, the fourth row indicates relevant input from interviews with project representatives.

In Preliminary Planning Phase, the main focus of stakeholder discussions was on project’s impacts, bridges’ designs, and inclusion of transit (as shown in Table 6.27). According to a project representative interviewed, the community was divided over the need for DTC and/or EEC; additionally, the stakeholders on both sides of the river were concerned about the environmental impacts on the river. Indeed, a lawsuit was filed by NTHP and River Fields to stop the EEC project due to NIMBY. Also, during this period, discussions on types of designs for the bridges were prevalent as 31 design alternatives and 15 alternatives were proposed by the consultant for the DTC and EEC to be discussed and decided upon by the project consultant (public representative). Additionally, transit was requested by stakeholders; for example, one citizen stated:

“In the Louisville metro area, we need a light rail system!!! It would make a big difference with pollution, not to mention the number of traffic accidents. Let’s bring Louisville into the modern age of transportation.”

However, according to a public representative, transit option was excluded from the plans due to lack of support from the stakeholders. A summary of the evidence is presented in Table 6.27.

Tolling decision was announced in period T-2; this resulted in a shift in stakeholder issues raised. Many stakeholders opposed the tolls and started to question the need for either EEC or DTC projects. For example, one citizen expressed:

“There’s an overwhelming belief that tolls will have a tremendous negative impact on the well-being of southern Indiana. In essence, they create a barrier to people coming to southern Indiana and, over a period of time, will have a negative impact on business over here.”

Or one citizen questioned the need for DTC:

“A downtown bridge is not needed! Reroute all through north and south bound trucks to the east end bridges, as is done in most cities i.e. Atlanta, Georgia, Cincinnati, Ohio, Indianapolis, Indiana. In these austere times, more taxes and tolls are not needed.”

Another citizen expressed the urgent need for EEC:

"I did feel the entire project needs to be built, but I think the east-end bridge should be completed first to alleviate pressure on Spaghetti Junction during the rebuild."

According to a public representative interviewed, after tolling decision was announced people in the east end questioned the need for EEC and suggested to use all the available funds to build DTC without tolls. Conversely, people in downtown suggested to eliminate DTC and build EEC without tolls.

Therefore, the main concerns of stakeholders in this period were focused on *Tolls, Purpose, and Scope*.

In period T-3, the only available involvement records were transcripts of two public hearings held for the selection of the preferred PPP proposer. The purpose of the public hearings was to discuss the selection process and the private partner's proposal. The main focus of the discussion in these public hearings was on *Profiteering*. For example, one citizen stated:

"[When] project finished, instead of being the \$2.9 billion that had been much publicized in the newspapers, would rise to the level of almost \$10 billion collected in tolls from the local community. That toll funding would go to investors, and the cure seems to be worse than the disease in this case."

Given the purpose of the public hearings, expressed comments in these activities may not be the perfect representation of stakeholders' opinion. Therefore, the issues in T-3 are not representative of the overall project. In fact, in period T-2, delivering the OHRB projects as PPP was being considered as a possibility, and expressed comments about PPPs was 14th in frequency.

In this period, CART, a transit advocacy group, filed a lawsuit claiming that the project sponsors had dismissed public transportation by not including transit on the project. The lawsuit was dismissed by the U.S. District Judge Heyburn. Nonetheless, INDOT and KYTC contributed \$20 million for bus service enhancements in the region. A list of these activities are presented in Table 6.27.

Tolls continued to be the major issue in period T-4. Subsequently, there were a number of toll related involvements held in this period. These involvements were related to the selection of tolling operator and tolling mitigation plan for the low-income and minority populations. Discussions in these activities were primarily related to affordability and opposing tolls. For example, one citizen sought help to minimize the impact of tolls:

"I make 24000 a year and have 4 kids that live in Kentucky and I live in Indiana. So I have to cross the bridges all the time. So to be hit with a toll every time is draining. It would be nice to have a pass that allows for the regular commute into KY from IN and back. Please help."

Other citizen opposed tolls:

"I will NEVER use the new bridges as long as they have tolls. Taxpayers have paid billions to the govt. over the years & if there is not enough money to build them without tolling, then they SHOULD NOT be built. I am a low income working taxpayer."

Some citizens opposed the inclusion of minorities for tolling subsidies. They argued that being a minority is irrelevant and minorities should not be considered for tolling subsidies:

“Low-income residence of North KY and South IN should be able to apply for a deferment from the tolls, but being a minority doesn’t make you poor. The very idea that these two separate groups are both referred to in the same context is an insult to all minorities.”

To mitigate the tolling issue, the project sponsors allowed toll-free crossing for buses and provided free transponders for local commuters.

These engagements were held to discuss very specific issues and not the project as a whole. Based on the engagements discussing the projects versus specific issues, the evidence suggests support for proposition 2A: *Stakeholder issues that are common to non-PPP and PPP megaprojects are far more prevalent than issues that are specific to PPP megaprojects.*

As previously indicated, the decision to impose tolls on the project was made in period T-2. Indeed, this decision contributed to the ascendancy of *Tolls* in period T-2 (as shown in Table 6.27). In period T-3 *Tolls* does not appear as the main issue; however, the only engagements with expressed comments were two public hearings to discuss the selection of the preferred PPP concessionaire.

Moreover, the regions associated with OHRB project – EEC and DTC projects – lack an established tolling culture since few tolling facility exists in the regions. Additionally, income levels of the regions are relatively low. Therefore, as the literature suggests, *Tolls* are expected to be a key issue (Bain, 2009; Lemp & Kockelman, 2009; Yusuf et al., 2014).

The actions of the project sponsors, however, does support the overall significance of tolling. As a consequence of a Bi-State Development Agreement, studies were done to examine the impacts of tolling generally and on specific populations. The results of these studies were reported in T-4 and engagements were held to present the results; in addition, public hearings were held after selection of the tolling operator. The balance of the evidence supports the view that tolls were a dominant if not the dominant issue (Taylor, Dossick, & Garvin, 2010); the case supports proposition 2B: *Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues.*

Table 6.27. Summary of lines of evidence for proposition 2A & 2B

Source of evidence	Preliminary planning (T-1)	Detailed planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
Expressed comments	<ol style="list-style-type: none"> 1. Impacts (20%) 2. Design (16%) 3. Scope (11%) 4. Public involvement (8%) 5. Purpose (7%) 6. Process (7%) 7. Funding (6%) 	<ol style="list-style-type: none"> 1. Tolls (30%) 2. Purpose (22%) 3. Scope (11%) 4. Funding (7%) 5. Impacts (5%) 6. Oppose River Field (5%) 7. Social equity (4%) 	<ol style="list-style-type: none"> 1. PPPs (23%) 2. Transparency (18%) 3. Purpose (12%) 4. Tolls (11%) 5. Process (7%) 6. Quality (7%) 7. DTC (5%) 	<ol style="list-style-type: none"> 1. Tolls (71%) 2. Social equity (4%) 3. Funding (4%) 4. Public involvement (4%) 5. Impacts (4%) 6. Purpose (3%) 7. Diversion of traffic (2%)
Quotes	<p><u>Citizens (Request for transit):</u> <i>"In the Louisville metro area, we need a light rail system!!! It would make a big difference with pollution, not to mention the number of traffic accidents. Let's bring Louisville into the modern age of transportation."</i></p>	<p><u>Citizens (Opposing tolls):</u> <i>"There's an overwhelming belief that tolls will have a tremendous negative impact on the well-being of southern Indiana. In essence, they create a barrier to people coming to southern Indiana and, over a period of time, will have a negative impact on business over here."</i></p> <p><u>Citizens (need for DTC):</u> <i>"I did feel the entire project needs to be built, but I think the east-end bridge should be completed first to alleviate pressure on Spaghetti Junction during the rebuild."</i></p>	<p><u>Citizens (oppose profiteering in PPPs):</u> <i>"[When] project finished, instead of being the \$2.9 billion that had been much publicized in the newspapers, would rise to the level of almost \$10 billion collected in tolls from the local community. That toll funding would go to investors, and the cure seems to be worse than the disease in this case."</i></p>	<p><u>Citizens (affordability of tolls):</u> <i>"I make 24000 a year and have 4 kids that live in Kentucky and I live in Indiana. So I have to cross the bridges all the time. So to be hit with a toll every time is draining. It would be nice to have a pass that allows for the regular commute into KY from IN and back. Please help."</i></p> <p><u>Citizen (oppose tolls):</u> <i>"I will NEVER use the new bridges as long as they have tolls. Taxpayers have paid billions to the govt. over the years & if there is not enough money to build them without tolling, then they SHOULD NOT be</i></p>

Source of evidence	Preliminary planning (T-1)	Detailed planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
				<p><i>built. I am a low income working taxpayer.”</i></p> <p><u>Citizen (oppose toll subsidies for minorities):</u>“<i>Low-income residence of North KY and South IN should be able to apply for a deferment from the tolls, but being a minority doesn’t make you poor. The very idea that these two separate groups are both referred to in the same context is an insult to all minorities.”</i></p>
Actions	A lawsuit was filed in 2009 by NTHP and River Fields to stop EEC project over NIMBY.	Scope was reduced by the sponsors to make the project feasible. Decision on Tolling was made.	Lawsuit filed by CART for lack of transit. The CART’s lawsuit was dismissed by the U.S. District Judge Heyburn shortly after was filed. The NTHP and River Fields lawsuit (from T-1) was settled. Bi-State agreement to assess impacts of tolls and suggest mitigation measures. Project sponsors provided \$20 million for bus service enhancements.	Project sponsors provided: 1. toll-free crossing for buses 2. provide free transponders for local commuters

Source of evidence	Preliminary planning (T-1)	Detailed planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
Interview points	<p>The community was divided over the need for DTC and/or EEC.</p> <p>Stakeholders were concerned about environmental impact.</p> <p>Design alternatives for DTC and EEC bridges were discussed.</p> <p>Transit was excluded due to lack of interest from stakeholders.</p> <p>Design alternatives of DTC & EEC</p>	<p>When faced with tolls, people in downtown requested to forgo DTC and build EEC without tolls.</p> <p>People in east end had the opposite request.</p>		<p>Stakeholders opposed toll subsidies for minorities. They argued being minority is irrelevant.</p>

Table 6.28 summarizes the findings of this case with regard to proposition 2A and 2B. Analysis of PPPs issue reveals that the primary discussion on PPPs is related to *Profiteering*. Although the issue of PPPs is not prominent in this case, examination of proposition 2C will occur in Chapter 7. In Table 6.28, support for propositions is shown by “+”; conversely, rejection of propositions is shown by “-” and inconclusive determination is demonstrated by “+/-”.

Table 6.28. Summary of findings on propositions 2A, 2B, 2C

Case	2A: Common Issues Regardless of Delivery Method	2B: Tolling Is Dominant Issue	2C: Public vs. Private Toll Collector
OHRB	+	+	Not Applicable

6.9. Stakeholder involvement benefits and challenges

This section is mainly constructed from the interviews done with two Public Representatives involved in the OHRB project – involved in both DTC and EEC projects – and one Private Representative involved in DTC project. In the following subsections first the benefits of stakeholder involvement are discussed; then, the challenges that they had during the project are elaborated.

6.9.1. Stakeholder involvement benefits

According to a Public Representative interviewed, the need for building the east end bridge has been recognized since 1969. Similarly, the need to improve the Spaghetti Junction in downtown and a new downtown bridge had been recognized since 1975. However, there was oppositions against improvements in the east end and the downtown. People in the downtown opposed the downtown improvements and suggested improvements in the east end to resolve the issues in the downtown. And people in the east end opposed the improvements in the east end and suggested improvements in the downtown area (Public Representative). Therefore, in the project, project sponsors had a divided community. One of the main benefits of the public involvement strategy of the sponsors in this project was to unite the focus of the communities. By informing the stakeholders about the benefits of DTC and EEC projects, project sponsors were able to get the stakeholders on board with the project. With this approach, project sponsors were able to involve stakeholders in the project and incorporate their input in the design, aesthetic, and scope of the project.

According to the Public Representative, stakeholder advisory groups that were established in the project – i.e. Area Advisory Teams (AATs), Regional Advisory Committees (RAC), and historic preservation committees (IHPAT & KHPAT) – played a great role in the success of the project. This was because the representatives of the stakeholders were present in the committees and could efficiently communicate the issues directly to its constituents. Another benefit for the stakeholder committees was that the project sponsors and the stakeholders could have detailed conversations and deliberations about the issues in hand (Public Representative). Another benefit of the stakeholder committees was that these committee meetings were open to public and stakeholders could participate and express their concerns and issues.

According to a Public Representative, a face-to-face contact with stakeholders is always the most effective way to engage with stakeholders. At the open houses and public meetings, project personnel were able to engage one-to-one with stakeholders, answer their questions and address follow-up questions and concerns. Of course, this might not make everyone happy; nonetheless, it made stakeholders appreciative of the effort to communicate with them.

Transparency is the key in earning stakeholders' trust (Private Representative). According to a Private Representative, proactively reaching out to the press for any project events or when something happens in the project translates transparency to the community. For example, when an accident happened in the project the representative reached out to the press to report the accident before the press found out themselves. Furthermore, the representative stated that they invited members of the public and media and toured them on the jobsite. This allowed the stakeholders to observe the construction without any secrecy; it enabled the stakeholders to see the private contractor as a member of the community.

Moreover, involvement activates facilitated communication with stakeholders to get them informed about the construction process in terms of forthcoming construction activities and the potential construction impacts. According to the Private Representative, this might not eliminate the construction impacts on stakeholders; however, it could facilitate acceptance of the project. For example, in one of the involvement events, as the representative was interacting with people, one individual reached out to the representative and said "we don't like sometimes what you are doing but we want to know what you're doing, why you're doing, and how long that will take" (Private Representative).

6.9.2. *Challenges of stakeholder involvement*

According a Public Representative, project sponsors had a divided community for the OHRB project. Some opposed the DTC project and supported the EEC project; while, others opposed DTC project and supported EEC project. The Public Representative explain the situation as "We had a divided community, people in the downtown said go and build the East End and that would fix the problem; people in the East End said we don't want you here go and fix down town." The oppositions from both sides of the community had been strong enough that had stopped the projects in mid 1970s. One major challenge was to unite the focus of all the stakeholders and identify what their needs were. After identifying their needs, another challenge was to get what stakeholders wanted without pushing one end to the other (Public Representative).

Moreover, DTC and EEC projects, as parts of the OHRB project, are delivered by two different agencies; this increases the complexity of the project which required extra coordination between the agencies in terms of the procurement process, Right of Way (ROW) acquisitions, easements, and construction process (Public Representative). Furthermore, the complexity of the project would require communicating complicated and technical terms with the stakeholder community; therefore, project sponsors had to use simple language and utilize supplemental communication tools (such as visualization of the project) to explain the terms (Public Representative). Additionally, not everyone in the community was familiar with PPP arrangements and project sponsors had to explain the dynamics of these arrangements (Public Representative)

This project had two relatively high cost components, one was the Drumanard tunnel in the EEC project and one was the Spaghetti Junction in DTC project. The high cost to build these facilities was greatly challenged by the stakeholder community. The Spaghetti Junction issue was resolved when the project sponsors decided not to relocate the facility and rebuild it within its original footprints. However, the project sponsors did not remove the tunnel from the scope because that would require another round of environmental study for the project which would further delay project and the sponsors could not afford that (Public Representative).

Furthermore, as good as the face-to-face contacts were in the involvement activities, these types of activities had their drawbacks. The problem with these types of involvements was that they were very time-consuming and they only reached only a limited audience. Also, those methods are not suitable for communicating emergency information, such as unforeseen road closures or utility interruption (Public Representative).

Another challenge that the project sponsors had was in assessing the effectiveness of their involvement methods that they used. As a Public Representative expressed “One of the key challenges with any communication plan is metrics. How do you measure the effectiveness of your communications? How many people did your message reach? Did they understand the message? Did they take whatever action your message encouraged?” Therefore, to answer these questions, the project sponsors tracked visits to the project website and produce a monthly report on various factors, such as: total number of visits, number of repeat versus first-time visits, number of page views, most visited page(s), average visit duration, type of access device used (desktop/laptop computer, tablet or mobile), and geographic location of visitors. The report charted the number of page visits for each day of the month, plus an analysis of “key traffic drivers” – events that influenced people to visit the website, such as the announcement of a major construction milestone (Public Representative).

Chapter 7. Comparative analysis of cases

Megaprojects take shape through actions of project sponsors and engagement of various stakeholders. Stakeholders are crucial players in the development of megaprojects; stakeholders through engagement can help legitimize and improve these projects or can also marshal opposition to delay or block these projects. Delivery method is a variable among megaprojects that can influence stakeholders' perspectives as well as the stakeholder involvement strategies employed.

This research examines the impact of delivery method on stakeholder issues raised and stakeholder involvement strategies of project sponsors in megaprojects. Four cases were deliberately selected for their replication logic potential. The selected projects are tolled; two of them are delivered as PPPs – ERT and EEC projects – and two are delivered as design-build (non-PPP) – TZBR and DTC projects.

The preceding chapters demonstrated how stakeholder involvement strategies evolved and stakeholder issues raised changed as each case progressed through the project's lifecycle. In this chapter, replication logics are utilized to examine the impacts of delivery method across the cases in two dimensions: (1) their stakeholder involvement strategies; and (2) stakeholders' issues raised in these cases.

7.1. Stakeholder involvement strategies

Stakeholder involvement strategies of the cases are summarized in Table 7.1. The table indicates the overall number of involvement activities, types of involvement based on information flow, and the percentages of NEPA and non-NEPA related activities employed in the lifecycle of the cases.

As explained in Chapter 6, DTC and EEC projects are two components of the OHRB project that are delivered using different methods. Consequently, these projects shared a majority of the planning and environmental studies as well as stakeholder involvements with a few exceptions. Table 7.1 and Table 7.2 show the involvement mechanisms related to OHRB as well as those exclusive to DTC and EEC. The tables indicate that only seven activities in DTC and two activities in EEC were not related to OHRB while they "shared" 124 OHRB involvements. Therefore, OHRB is generally representative of the DTC and EEC cases, but DTC's and EEC's exclusive activities are included in the analysis where appropriate.

Table 7.1. Stakeholder involvement strategy of the cases

Case	Quantity	Communication	Consultation	Participation	NEPA	Non-NEPA
TZBR	160	54%	32%	45%	41%	59%
ERT	64	97%	44%	2%	44%	56%
OHRB	124	50%	24%	48%	31%	69%
DTC	7	100%	86%	0%	0%	100%
EEC	2	100%	100%	0%	0%	100%

Table 7.1 indicates that TZBR project had the largest number of involvement activities while ERT had the least. Also, there were more non-NEPA involvement activities in all cases than NEPA activities.

Additionally, *communication* is the main channel for information exchange for involvement across the cases.

Table 7.2 also illustrates active involvement mechanisms in each case; the table counts only for involvements where project sponsors and stakeholders actively exchange information through participatory and non-participatory mechanisms such as: public meetings, stakeholder committee meetings, public hearings, community meetings, etc.

In Table 7.1 and Table 7.2, activities that are exclusive to DTC and EEC projects are presented in separate rows. The tables show that TZBR project has the largest amount of active involvements, while ERT project has the least number of both active and participatory involvements.

Table 7.2. Active involvement mechanisms in the cases

Case	Public Meeting		Public hearing		Industry meeting		Community meeting		Stakeholder committee		IRP meeting		Open house		Workshop		Survey		Total	
	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA
TZBR	20	3	4	0	0	0	18	6	0	72	0	0	0	0	6	0	0	0	48	81
ERT	5	1	10	0	0	1	0	4	0	0	0	5	0	2	0	0	0	1	15	14
OHRB	10	2	6	6	0	0	0	0	0	60	0	0	2	2	6	0	0	2	20	73
DTC	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
EEC	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	35	6	20	8	0	1	18	10	0	132	0	5	2	9	12	0	0	3	83	175

Table 7.3 depicts stakeholder involvement strategies employed across different phases and periods. In this table involvement activities that are related to OHRB project as a whole are separated from involvements that are exclusive to DTC and EEC projects. Table 7.3 counts for all involvement activities took place in the project including more passive involvements such as: press releases and reports.

Table 7.3. Stakeholder involvement strategies across projects' phases

Cases	Phase: Planning	Phase: Procurement	Phase: Design & Construction
	T-1 & T-2	T-3	T-4
TZBR	Total: 113 Communication: 41 Consultation: 18 Participation: 72	Total: 37 Communication: 37 Consultation: 24 Participation: 0	Total: 12 Communication: 12 Consultation: 6 Participation: 0
	T-1 & T-2	T-3	T-4
ERT	Total: 51 Communication: 49 Consultation: 26 Participation: 1	Total: 7 Communication: 7 Consultation: 3 Participation: 0	Total: 3 Communication: 3 Consultation: 0 Participation: 0
	T-1 & T-2	T-3	T-4
OHRB	Total: 96 Communication: 46 Consultation: 20 Participation: 50	Total: 10 Communication: 4 Consultation: 1 Participation: 5	Total: 18 Communication: 12 Consultation: 9 Participation: 5
	T-1 & T-2	T-3	T-4
DTC	OHRB involvements	Total: 2 Communication: 2 Consultation: 1 Participation: 0	Total: 5 Communication: 5 Consultation: 4 Participation: 0
	T-1 & T-2	T-3	T-4
EEC	OHRB involvements	Total: 2 Communication: 2 Consultation: 2 Participation: 0	OHRB involvements
	T-1 & T-2	T-3	T-4

7.1.1. Significance of NEPA process in stakeholder involvement

Generally, megaprojects are initiated when certain needs are observed in society by the project sponsors. In other words, megaprojects are often selected for development, unilaterally, by project sponsors based on the perceived benefits that those projects bring for society and the urgency of those needs from the projects' sponsors perspective (Flyvbjerg, 2014). In the development process, these projects are required to meet the statutory requirements of the NEPA process including mandatory stakeholder involvements. Therefore, project sponsors often view the NEPA process as a one-time "get

the project approved” process. In other words, they perceive stakeholder involvement requirements of the NEPA process as a requirement to fulfill during project implementation (Shepherd & Bowler, 1997).

Table 7.4 quantifies NEPA and non-NEPA related involvements in each phase/period for each case. In this table, more passive involvements are removed such as press releases and reports; it reflects the involvements where project sponsors and stakeholders actively exchange information through participatory and non-participatory mechanisms such as: public meetings, public hearings, community meetings, and stakeholder committee meetings.

In each of the cases, the NEPA process established a baseline for stakeholder involvement, and the project sponsors typically employed different involvement mechanisms (i.e. public meetings and hearings) to meet the statutory requirements. Each case deviated from this baseline to one degree or another.

- TZBR utilized non-NEPA public meetings, community meetings and stakeholder committees in its earliest stages to engage stakeholders particularly in the Detailed Planning Phase (T-2) as shown in Table 7.4; however, the involvement strategy changed when Governor Cuomo took office and expedited the environmental process (in period T-3). Consequently, the stakeholder involvement strategy adopted was streamlined to meet the minimum requirements of the NEPA process. Hence, the benefits of involvement activities were limited to speed up the process. Once the Final EIS was published in the procurement phase (T-3) though, the sponsors initiated a series of formal and informal stakeholder engagements strategically to rally support and placate several stakeholder concerns. Gov. Cuomo assigned Lawrence Schwartz, his secretary and the former deputy Westchester County executive, as his personal “on-the-ground representative” to rally support for the project with local officials in Westchester and Rockland Counties. Additionally, the sponsors held a considerable number of community meetings to enhance community support; these involvement activities were initiated in the Procurement Phase (T-3) and continued through Construction (T-4) as reflected in Table 7.4. Additionally, the Cuomo administration established the Mass Transit Task Force (MTTF) consisting of members of the project sponsors and the stakeholders to consider transit options on the bridge and in the corridor. These actions by the TZBR sponsors are consistent with existing literature such as Irvin and Stansbury (2004) and Jolley (2007); sponsors must make tradeoffs with respect to stakeholder involvement.
- ERT’s non-NEPA activities are less pronounced; a few engagements are identified throughout the project’s lifecycle. Yet, the IRP process adopted to comply with the state’s PPTA law exemplifies selective and structured involvement where representatives were identified to evaluate the project and make recommendations regarding its advancement. In addition, as tolling concerns mounted project sponsors did initiate a travel/tolling survey once the IRP recommended advancement to obtain data about the impacts of tolls on travel patterns.
- OHRB project sponsors employed non-NEPA public meetings, public hearings, stakeholder committees, open houses and surveys. These mechanisms were used in the Preliminary Planning and Detailed Planning Phases (in T-1 and T-2) and Design & Construction Phase (in T-4) of the project. In the Preliminary Planning and Detailed Planning stages (period T-1 and T-2), non-NEPA involvements supplemented NEPA involvements to unite the community with regard to the need for

DTC and EEC projects, legitimize the project, and define its scope. Such involvements were critical to establish the purpose and get the project off the ground. In the latter stages (particularly in Design & Construction Phase), non-NEPA involvements were supplemented to garner stakeholders' input on tolling mitigation strategies and alleviate lingering tolling issues. These involvements are illustrated in Table 7.4. Overall, OHRB utilized non-NEPA involvements more consistently throughout the project's lifecycle.

Table 7.4. Active involvement mechanisms employed in each phase/phase across the cases

Case	Pr. Planning (T-1)		Det. Planning (T-2)		Procurement (T-3)		Design & Const. (T-4)		Total	
	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA	NEPA	Non-NEPA
TZBR	11	2	11	72	6	18	0	9	28	101
ERT	12	1	3	10	0	3	0	0	15	14
OHRB	18	44	6	8	0	9	0	18	24	79

Considering TZBR, OHRB and ERT overall indicates that NEPA requirements for involvement activities are central; however, project sponsors supplemented these requirements often strategically to advance their projects and to satisfy lingering stakeholder concerns. Both TZBR and OHRB employed stakeholder committees in the earliest stages to garner stakeholder input, but the impacts of these committees appears mixed; representatives interviewed indicated that these committees were beneficial, but in both cases these committees contributed to generating projects with unrealistic scopes. Interestingly, if the number of stakeholder committee involvements are removed from the Non-NEPA totals in Table 7.2, then the total NEPA to Non-NEPA involvements across all cases is 83 to 43. Still, the evidence does suggest that Non-NEPA involvements were employed; what is less clear is their overall value. Given this, the case evidence is not strong enough to categorically support proposition 1A: *Responsible stakeholders base their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process*. Table 7.5 summarizes the findings with regard to proposition 1A across the cases.

Table 7.5. Summary of results for proposition 1A across the cases

Cases	NEPA	Non-NEPA	Observation
TZBR	<ul style="list-style-type: none"> • In Pre. Planning (T-1), primary focus of involvement was on NEPA involvements; 11 NEPA involvements were held in T-1. • In Det. Planning (T-2), 11 NEPA related public meeting were held. • NEPA involvements were utilized to meet the minimum requirements of NEPA in T-3; fast-tracked NEPA in T-3. • Fast-tracked NEPA was completed in T-3 	<ul style="list-style-type: none"> • SAWGs introduced in Detailed Planning (T-2); 72 total meetings • Until FEIS issued Non-NEPA ceases in procurement (T-3) • Post FEIS comprehensive involvement in proc. & const. phases through informal & formal channels (in T-3 & T-4) including on the ground representative, outreach centers, website, hotline and significant number of community meetings • MTTF established to recommend transit on the bridge 	+/-
ERT	<ul style="list-style-type: none"> • Involvements were heavily relied on NEPA involvements in T-1 • Three NEPA related public hearings were held in Det. Planning (T-2) • NEPA was completed in T-2 	<ul style="list-style-type: none"> • Only one non-NEPA involvement in Pr. Plan. (T-1) • Five IRP meetings were held in T-2 as required by PPTA as selective and structured stakeholder involvement to evaluate & recommendation • A tolling survey utilized in T-2 after IRP recommendation • In Procurement (T-3) active involvements limited to two open house and one community meeting • Non-NEPA active involvements ceased in Design & Construction phase (T-4) 	+
OHRB	<ul style="list-style-type: none"> • NEPA involvement were considerably utilized in Pre. Planning (T-1) • Less NEPA involvement were utilized in in T-2 as Supplemental EIS was in progress in T-2 • NEPA concluded in T-2 	<ul style="list-style-type: none"> • Stakeholder committees established in Pr. Planning (T-1); total 44 meetings to unite the community & legitimize & define scope • Stakeholder committee meetings supplemented NEPA involvements in Det. Planning (T-2); 8 meetings to unite the community & legitimize & define scope • In T-3 & T-4 non-NEPA involvements used to garner input on tolling mitigation & alleviate lingering tolling issues • Two PPP related public hearings (for EEC) and one open house (for DTC) and one survey, and five stakeholder committee meetings utilized in T-3 • Four open house were held for DTC in T-4 	+/-

Evidence from the stakeholder involvement strategies in the cases indicate that non-NEPA involvements were utilized in all the cases. In TZBR, SAWGs were established and heavily utilized during the planning phase; subsequently, in the procurement phase (in T-3) involvements were strategically and heavily supplemented by formal and informal engagements to garner stakeholder support. When the issue of transit escalated, the project sponsors established the Mass Transit Task Force (MTTF) consisting of members from the stakeholders and the sponsors to recommend transit options for the project. In ERT case, project sponsors primarily relied on the NEPA required engagements in the early stages (i.e. Preliminary Planning Phase). In Detailed Planning Phase, however, the sponsors utilized non-NEPA involvements to solicit input regarding the delivery method. Moreover, the IRP process represents a formal and highly structured method for involvement; this process likely influenced the overall strategy in ERT. In the procurement phase a few non-NEPA involvements were utilized. In OHRB, the sponsors established four types of stakeholder committees (i.e. AAT, RAC, IHPAT, and KHPAT) at the early stage (Pre. Planning Phase) to solicit input, define scope, and legitimize the project. These stakeholder committee meetings continued throughout the development process and were supplemented by the NEPA involvements as needed throughout the development stages.

The case evidence demonstrates that NEPA required involvements were supplemented by non-NEPA involvements often strategically to solicit input, legitimize the project, and rally support in all of the cases. The evidence suggests that the complexity of megaprojects and the issues that accompany such projects renders NEPA mandated involvements insufficient, necessitating supplemental involvements by the sponsors in these projects. Therefore, these findings support a new proposition:

- Proposition 1A': *NEPA mandated involvements are insufficient for megaprojects given their nature, complexity and magnitude since such projects create stakeholder issues that necessitate a broader and more comprehensive stakeholder involvement strategy that must continue throughout a project's lifecycle.*

7.1.2. Benefits of participatory involvement mechanisms

As discussed, stakeholder committees were used to facilitate participation in the cases, and arguably the IRP played this role in ERT. Table 7.6 quantifies participatory and non-participatory involvements in each project phase/period for each case. An examination of Table 7.1 and Table 7.6 shows that project sponsors in TZBR and OHRB projects utilized participation extensively.

In the case of TZBR, participation occurred in the Detailed Planning Phase (period T-2 as shown in Table 7.6), from 2007 until 2011. These committees were involved as the scope of the project was under development, and it subsequently ballooned; a public representative interviewed attributed this in part to the fact that responsible stakeholders “*never dealt with the issues and options in a conclusive way.*” When Governor Cuomo took office (in T-3), he viewed the planning process up to 2011 as “dysfunctional”, so his administration reduced the scope and fast-tracked the project, so the overall significance of the input that these committees had provided is questionable. As a result, broad-based *participation* involvements ceased; however, once the NEPA process concluded, Governor Cuomo designated Lawrence Schwartz, his secretary and the former deputy Westchester County executive, as his personal “on-the-ground representative” to engage with stakeholders and rally support for the project in Westchester and Rockland counties, where the County executives demanded transit on the

project and threatened to block approval of project funding requests. This ground level activity represents informal participation between responsible and impacted/interested stakeholders, although it is not captured in Table 7.6 since little information was available about these activities.

As shown in Table 7.6, ERT made limited use of participation; in the Preliminary Planning Phase (T-1), project sponsors held one public hearing where concurrent dialogue was possible – although the five IRP meetings required by Virginia’s PPTA are a meaningful, but limited, form of participation. Moreover, a public representative interviewed in hindsight indicated that they should have utilized participatory involvement early on in the project.

In the OHRB case, four types of stakeholder committees were established in preliminary planning phase (in T-1) and extensively utilized in the planning phase (in T-1 as shown in Table 7.6) to assist with scope definition and historical preservation issues; similar to TZBR, scope creep became an issue, so project sponsors were forced to reconsider the OHRB’s scope to make the project financially feasible. Subsequently, a supplemental environmental study was initiated (in T-2) to reflect the changes and participation diminished. However, these committees had provided the project sponsors with meaningful input on bridge design, aesthetics and historical preservation issues, and their involvement tapered once their input became less essential. This is consistent with the literature; as the planning phase is completed and cases advance into procurement and construction, the value of participation declines since fewer matters require deliberation (Irvin & Stansbury, 2004), so communication becomes more suitable for involvements (El-Gohary et al., 2006).

Table 7.6. Participatory and non-participatory involvements in each phase/period across the cases

Case	Pr. Planning (T-1)		Dt. Planning (T-2)		Procurement (T-3)		Design & Const. (T-4)		Total	
	Non-Par.	Par.	Non-Par.	Par.	Non-Par.	Par.	Non-Par.	Par.	Non-Par.	Par.
TZBR	13	0	11	72	24	0	9	0	57	72
ERT	12	1	13	0	3	0	0	0	28	1
OHRB	20	42	6	8	4	5	13	5	43	60

The overall assessment of TZBR, ERT, and OHRB cases with respect to the benefits of participation are inconclusive; OHRB provides the strongest evidence of participatory benefits while ERT had limited evidence. Even in the case of OHRB, the participatory stakeholder committees contributed toward development of an unrealistic scope. Consequently, the evidence is not strong enough to support proposition 1B: *Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project’s phase or delivery method.* Table 7.7 summarizes the findings with regard to proposition 1B across the cases.

Table 7.7. Summary of results for proposition 1B across the cases

Cases	Communication / Consultation	Participation	Observation
TZBR	<ul style="list-style-type: none"> • In Pre. Planning (T-1), 7 of 13 involvements were com./con. (i.e. public meetings) • In Pre. Planning (T-1), 6 of 13 involvements were com. (i.e. workshop) • In T-2 (Dt. Planning Phase), eleven com./con. were utilized (public meeting) • In T-3 (Procurement Phase) all formal involvements are com./con.; 24 involvements total • In T-4 (Des. & Const. phase), all formal involvements are com./con.; 9 involvements total 	<ul style="list-style-type: none"> • No participation happened in T-1 (Pre. Planning Phase) • SAWGs established in Det. Planning (T-2) to facilitate participation; 72 meetings utilized to define scope but the scope ballooned • Formal participation cease in Procurement (T-3) until FEIS • Post FEIS in T-3, informal participation through on-the-ground representative • Informal participation continued in procurement and construction (T-3 & T-4) 	+/-
ERT	<ul style="list-style-type: none"> • In Pre. Planning (T-1), 12 of 13 involvements were Com./Con. • In Det. Planning (T-2), 12 of 13 involvements were Com./Con.; One involvement was Con. (i.e. a survey) • In Procurement Phase (T-3); all three involvements are Com./Con. • No active involvement exist in D&C phase (T-4) 	<ul style="list-style-type: none"> • Only one participation in Pre. Planning phase (T-1) • IRP meetings as selective participation (limited) in T-2 • No participation in T-3, and T-4 • On the hindsight, Public representative recommended participation. 	+
OHRB	<ul style="list-style-type: none"> • In Pre. Planning (T-1), 14 of 62 involvements were Com./Con. • In Pre. Planning (T-1), 6 of 62 involvements were Com. (i.e. workshop) • Com. / Con. involvements decrease in Det. Planning (T-2); 6 of 14 involvements were Com./Con. • Com. / Con. in procurement decreases to three involvement; one Con. (i.e. a survey) was done in T-3 • Com. / Con. involvements increase in Des. & Const. Phase (T-4); 12 of 18 involvements were Com./Con. • One Con. (i.e. a survey) conducted in T-4 	<ul style="list-style-type: none"> • Four stakeholder committees established in Pre. Planning Phase (T-1); 42 of 62 involvements were participation primarily defining scope • Participation in T-1 led to unfeasible scope • In Det. Planning Phase (T-2), participations were utilized; 8 of 14 involvements were participation • Participation in T-1 & T-2 provided input for bridge design, aesthetic, and historic preservation. • In Procurement Phase (T-3) participations were utilized as needed; 5 of 9 involvements were participation mainly discussion historic preservation • In Des. & Const. Phase (T-4), participations were utilized as needed; 5 of 18 involvements were participation mainly to discuss historic preservation. 	-

The evidence indicates that although participation may enhance stakeholder input and potentially legitimize a project, it can lead to more challenges for project sponsors. Evidence from TZBR and OHRB in particular indicates that the stakeholder committees employed contributed to unfeasible project scopes. In TZBR, the SAWGs provided input that was viewed as meaningful; however, a process for evaluating this input appears lacking – as an interviewee indicated the responsible stakeholders “*never dealt with the issues and options in a conclusive way.*” In OHRB, the sponsors utilized participation throughout the design and implementation process and did a better job in managing these participatory involvements since committees with defined purposes were established; still, participation led to an unfeasible scope. On the other hand, evidence from ERT indicates limited utilization of participation as well as potential reliance on the structured IRP process to facilitate this type of engagement; unfortunately, this process did not preclude a subsequent lawsuit against the project that had to be settled by the Virginia Supreme Court.

Therefore, the evidence indicates that to garner the potential benefits of participation, these engagement mechanisms must be carefully managed to define clear: (1) boundaries (scope) for the input being solicited and (2) decision-making criteria with respect to this input and a feedback process to stakeholders regarding the inclusion, refinement or exclusion of input. Despite this evidence, the basis for offering a new proposition is not strong enough since the case evidence, particularly the interviews with public and private representatives, lacks clarity with respect to the marginal benefit of participatory mechanisms. Consequently, an observation is proposed:

- Observation 1B’: *Stakeholder involvement through participatory mechanisms may enhance and legitimize a project if the purpose of these mechanisms is well-defined and the process and criteria for evaluating the input are transparent and clear.*

7.1.3. Impact of delivery method on involvement strategy

Overall, differences exist between the PPP and Non-PPP cases; as just discussed, TZBR and OHRB utilized stakeholder committees and *participation* during their planning phases. Alternatively, ERT relied heavily on *communication* within public hearings and meetings. Further, Table 7.3 shows that *communication* is the main form of information exchange in the construction phase across all of the cases.

However, Table 7.2 indicates that two public hearings were held exclusively for the EEC case once the preferred concessionaire was selected in period T-3 (as shown in Table 7.3). In addition, ERT had five IRP meetings; these were required at that time for all projects implemented under PPTA. Thus, PPP delivery introduced additional engagements in both projects.

Once selected, PPP concessionaires were active in both EEC and ERT cases; the same is true for TZBR – once the design-build team was chosen, the team was active. In ERT, the concessionaire participated in the involvement process and coordinated involvement activities with the public sector. Additionally, the ERT concessionaire launched a new project website and issued news communications from it. For EEC, the concessionaire responded to public inquiries and took responsibility for advance public notification for certain events like utilities shutoffs and lane closures. In TZBR, the private contractor assigned fulltime outreach personnel to respond to stakeholder inquiries and participated in the involvement process. Table 7.8 lists and categorizes these activities on an involvement continuum.

The evidence from the EEC and ERT cases indicates that a PPP delivery influences the involvement strategies; however, the cases do not reveal that PPP delivery has “markedly” changed the involvement strategy. The actions taken in these cases were comparable to TZBR. What took place is not uncommon in a megaproject; the concessionaires assumed responsibility for activities that normally, or should normally, occur. Therefore, the evidence supports proposition 1C: *The decision to deliver a project as a PPP does not markedly change the stakeholder involvement plan nor the mechanisms employed.*

Table 7.8. Summary of results for proposition 1C

Case			observation
TZBR	<ul style="list-style-type: none"> • Real-time noise & vibration monitoring • \$10 million contribution for soundproof doors & windows 	<ul style="list-style-type: none"> • Fulltime outreach personnel • Launch website • News feed & project updates • Respond to stakeholders' inquiries 	+
ERT	<ul style="list-style-type: none"> • Scholarship program for high school graduates in Hampton Roads • Sending tweets to commuters 	<ul style="list-style-type: none"> • Five IRP meetings (in four months) • Fulltime outreach personnel • Launch website • Sending news feeds & updates • Administrating involvements 	+
OHRB-EEC		<ul style="list-style-type: none"> • Fulltime outreach personnel • Launch website • News feed & project updates • Respond to stakeholders' inquiries 	+
OHRB-DTC		<ul style="list-style-type: none"> • Fulltime outreach personnel • Respond to stakeholders' inquiries • Holding open house activities • Construction tours to stakeholders 	+

Considering the evidence from the Non-PPP deliveries as well, the role of private contractors during stakeholder engagement in megaprojects becomes clearer and further supports the conclusion about proposition 1C.

This study showed that in TZBR (non-PPP case), the private contractor assumed a meaningful role in the involvement strategy, such as dedicating \$10 million to a Community Benefit Program Fund to minimize construction noise for the people in the community, assigning a fulltime public relations person to respond to stakeholders’ inquiries 24/7, and establishing a website and issuing communications. Additionally, to further minimize the construction impacts, the private contractor used floating concrete batch plants to take concrete trucks off local roads; they also agreed to use vibration, where possible, for pile driving. In the ERT case, the private partner not only participated and administered involvement activities, it also provided scholarships for high school graduates in the Hampton Roads region to build goodwill. In EEC case, the private partner assigned fulltime public outreach personnel to respond to stakeholder inquiries and to communicate advanced notification of project events. While in the DTC case, the private contractor held open house events to inform stakeholders about upcoming construction events. They also hosted construction tours for impacted and interested stakeholders, such as the media, to inform them about the construction process.

This evidence indicates that when the private partners/contractors are involved in megaprojects, they become an important player in communicating and mitigating design & construction impacts and promoting goodwill. These actions are also aligned with their interests in the project and their business strategy since by minimizing the impact on stakeholders they ultimately minimize the impacts on themselves. Therefore, the evidence suggests that the proposition 1C to be modified:

- Proposition 1C’: *Once private contractors are selected in megaprojects, they assume meaningful roles in the stakeholder involvement through communication and mitigation of design & construction impacts and initiatives to foster goodwill with the community.*

7.1.4. Summary

Table 7.9 summarizes the findings with regard to propositions 1A, 1B, and 1C across the cases. It also indicates the overall conclusion for the propositions across the cases.

Table 7.9. Summary of findings on proposition 1A, 1B, and 1C across the cases

Case	1A: NEPA Dictates Involvement	1B: Participation Not Beneficial	1C: Private Delivery Contractor Does Not Shift Strategy
TZBR	+/-	+/-	+
ERT	+	+	+
OHRB (DTC & EEC)	+/-	-	+
Across the cases	+/-	+/-	+

7.2. Stakeholder issues raised

Table 7.10 lists the seven main issues expressed by stakeholders in the cases along with their frequency percentages. These issues comprise more than 75% of the total expressed issues in each case. This

“ordering” is likely impacted by lack of records in early stages of several projects where shaping of the projects started; nonetheless, issues likely to be raised in the early stages such as "purpose" and "scope" are still among the top of those cited. Issues are color coded, so each issue has its own color, i.e. Scope is blue.

As discussed in chapter 6, DTC and EEC share stakeholder involvement activities except for those occurring during Procurement (Period T-3) where the only expressed stakeholder comments available are a consequence of two public hearings about selection of EEC’s preferred proposer; these records introduced 59 additional comments. When these issues were included with the balance of the issues in OHRB, it did not impact the top seven issues; consequently, a decision was made to reflect all expressed issues for OHRB in Table 7.10 while subsequent analyses will consider the comments exclusive to EEC.

Table 7.10. Summary of seven top issues in the cases

Case	TZBR	ERT	OHRB / DTC-EEC
Issue 1	Scope (41%)	Tolls (33%)	Tolls (25%)
Issue 2	Impacts (15%)	Funding (9%)	Purpose & Need (13%)
Issue 3	Process (8%)	Impacts (9%)	Impacts (11%)
Issue 4	Bridge Design (8%)	Scope (7%)	Scope (9%)
Issue 5	Land use (5%)	Purpose & Need (6%)	Bridge Design (6%)
Issue 6	Public involvement (3%)	PPPs (6%)	Funding (6%)
Issue 7	Tolls (2%)	Public involvement (5%)	Public involvement (6%)

Table 7.11 summarizes the main expressed stakeholder issues by phase and period. In this table, cases are parsed into Preliminary Planning, Detailed Planning, Procurement, and Design & Construction phases to facilitate comparison of cases within similar phases. As discussed in chapter 6, DTC and EEC are the same in Preliminary Planning, Detailed Planning, and Design & Construction phases (i.e. T-1, T-2, and T-4); therefore, these projects are collectively presented as OHRB in Table 7.11. In the Procurement phase (period T-3), the only involvement record available was related to the EEC project, so issues in T-3 are shown in red. Table 7.11, also, illustrates the top 5 issues along with relevant actions taken by responsible, impacted and interested stakeholders.

Table 7.11. Summary of stakeholder issues and lines of evidence relevant to significance of megaprojects' common issues and tolls (Propositions 2A & 2B)

Case	Source of evidence	Preliminary Planning (T-1)	Detailed Planning (T-2)	Procurement (T-3)	Design & Construction (T-4)
TZBR	Expressed comments	Scope (52%) Impacts (20%) Purpose (6%) Funding (4%) Process (4%)	Scope (37%) Impacts (13%) Design (10%) Process (10%) Land use (6%)	Scope (39%) Impacts (15%) Draft EIS issues (12%) Funding (5%) Public involvement (5%)	Tolls (38%) Scope (30%) Funding (28%) Public involvement (4%)
	Actions	Joint project leadership by NYSTA & MTA/MNR	NYSDOT takes over project leadership role Spitzer appoints Glynn as NYSDOT Commissioner	State of NY contributes \$500 million for environmental mitigation	Cuomo contributes \$1 billion and enacts toll freeze until 2020 Cuomo establishes MTTF Cuomo allows buses during rush hours on bridge
ERT	Expressed comments	Impacts (39%) Tolls (10%) Public involvement (9%) Flooding (6%) Social Equity (6%)	Tolls (26%) Funding (14%) Scope (11%) Purpose (9%) Impacts (7%)	Tolls (33%) Accountability (17%) Free alternative (17%) Diversion traffic (11%) PPPs (11%)	Tolls (58%) PPPs (14%) Accountability (10%) Legitimacy (8%) Customer service (2%)
	Actions	No significant action taken	Decision to implement tolls made. Decision to deliver as PPP made.	McDonnell delays tolls until Feb. 2014; eliminates MLK tolls for local commutes Lawsuit filed over tolls despite action to delay tolls; ruling in favor of VDOT/ERC	McAuliffe reduces toll rates McAuliffe eliminates MLK tolls. Legislative/regulative reforms for tolled projects in Hampton Roads
OHRB	Expressed comments	Impacts (20%) Design (16%) Scope (11%) Public involvement (8%) Purpose (7%)	Tolls (30%) Purpose (22%) Scope (11%) Funding (7%) Impacts (5%)	PPPs (23%) Transparency (18%) Purpose (12%) Tolls (11%) Process (7%)	Tolls (71%) Social equity (4%) Funding (4%) Public involvement (4%) Impacts (4%)
	Actions	A lawsuit was filed in 2009 by NTHP and River Fields to stop EEC project.	Scope was reduced by the sponsors to make the project feasible. Decision on Tolling was made.	Lawsuit filed by CART for lack of transit. CART's lawsuit was dismissed by the U.S. District Judge. NTHP and River Fields lawsuit settled. Project sponsors provide \$20 million for bus service enhancements.	Project sponsors provide: 1. toll-free crossing for buses 2. free transponders for local commuters

7.2.1. Significance of megaproject common issues and tolls

Overall, the issues of *Scope* and *Impacts* appear among the top four by frequency for all the cases while *Tolls* is the top issue for the ERT and OHRB/DTC-EEC cases as depicted in Table 7.10. Further examination reveals that multiple top issues are shared among the cases.

In TZBR, stakeholders were initially concerned about mass transit and environmental impacts. Given the established mass transit culture in the region where many people use transit in their daily commute, this is not unexpected. This is shown in Table 7.10 and Table 7.11 where *Scope* and *Impacts* are most prevalent in Planning and Procurement phases (T-1 through T-3). The significance of these expressed comments was reinforced by public and private representatives interviewed; these representatives indicated that the people in the region were highly concerned about environmental impacts as well as construction impacts. The magnitude of these issues caused project sponsors to take several actions to mitigate them, as shown in Table 7.11, these actions included: creation of an environmental impact mitigation plan that dedicated \$500 million to minimize the impacts on the Hudson River and establishment of Community Benefit Program Fund which dedicated \$10 million to minimize construction noise impacts on the residents. Additionally, the transit issue drove the Cuomo administration to allow buses to use emergency lanes on the bridge during rush hours; the administration also created the Mass Transit Task Force (MTTF) to study the issue and recommend short- and long-term transit options. When the project advanced to the Design & Construction phase (T-4), *Tolls* became quite pronounced as uncertainties about the project's financial plan mounted, so stakeholders became concerned about the affordability of future toll rates.

As shown in Table 7.10, *Tolls* is not pronounced in the Planning and Procurement phases (T-1 through T-3); it is ranked seventh in frequency overall. The case design suggested the presence of existing tolls and a tolling culture as a rival explanation. Hence, its lesser significance was predicted. However, when the project advanced into construction and uncertainties remained over funding structure, the prospect of a significant increase in future toll rates – tolls were expected to rise from \$5 to \$15 per vehicle – “rate shock” set in as stakeholders began to worry about the affordability of tolls. *Tolls* became the main issue in Design & Construction phase (T-4) as shown in Table 7.11. The importance of the issue pressured Governor Cuomo to dedicate \$1 billion from state funds to freeze the tolls until 2020. This drastic executive action indicates how significant *Tolls* became in the TZBR case.

In ERT case, *Tolls* was a main issue throughout the project. Stakeholders were concerned about the tolls from the early stages when the environmental studies of Midtown Tunnel and MLK Extension projects started. As shown in Table 7.11, stakeholders were primarily concerned about the project's impacts on their community in the Preliminary Planning phase since VDOT had a poor track record in the region with regard to ROW acquisitions and eminent domain. Other concerns include *Impacts*, *Scope*, and *Purpose & Need*. When the individual components of the project were merged in the Detailed Planning phase – effectively creating the ERT project – and the decisions to impose tolls and deliver the project as a PPP were announced, *Tolls* emerged as the main issue and continued throughout the project. Additionally, issues specific to PPPs did emerge, but overall these were sixth in frequency, and period by period, such issues never rose toward the top.

The ERT case illustrates the significance of the tolling issue very well; once the tolling decision was made, stakeholders expressed a number of concerns ranging from general affordability, tolling during construction and tolling of the MLK Extension. The severity of the issue led to a lawsuit by a number of stakeholders over the constitutionality of the tolls. They argued that the facilities had already been paid for by their taxes; therefore, tolling was double-taxation and unfair (Arnold et al., 2012). The lawsuit failed, but the extent of the issue drove consecutive governors to take several executive actions to delay, reduce, and eliminate the tolls.

In the Preliminary Planning phase of OHRB case, the stakeholder dialogue was related to *Impacts, Design, and Scope* – this is reflected in Table 7.11. However, when the decision was made to toll the facilities in the Detailed Planning phase, *Tolls* emerged as the prevailing issue, and it was the top issue overall. Given the demographics of the region and lack of established tolling culture, existing literature predicts such an observation. *Purpose & Need* was the second major issue in OHRB/DTC-EEC project. The ascendancy of *Purpose & Need* is explained by the NIMBY phenomenon (McClymont & O'hare, 2008) since people in the downtown area opposed DTC and suggested EEC for the region and people in the east end area opposed EEC and suggested DTC for the region. Indeed, a lawsuit was filed by two advocacy groups (NTHP and River Fields) on the east end to block the project. As shown in Table 7.11, in the Procurement phase (period T-3), *Tolls* is not in the top three issues. This is not surprising since the only expressed stakeholder comments available are related to two public hearings following the selection of the preferred PPP concessionaire. The purpose of the hearings was to solicit stakeholders' comments on the selection process as well as the proposal submitted by the preferred concessionaire. In the Design and Construction phase (period T-4), *Tolls* became the dominant issue again.

In OHRB case, stakeholders were concerned about affordability of tolls and argued that tolls prevented low-income populations from accessing public services; this observation is also consistent with the literature (Davies & Eustice, 2005). The tolling issue motivated project sponsors to initiate a tolling mitigation plan for low-income populations. As a result, the sponsors took several measures to alleviate the burden of the tolls such as dedicating \$20 million for bus transit improvements in the region, providing toll-free access to buses, and providing free and accessible transponders for local commuters.

By comparing the main issues raised across the cases in Table 7.10 and Table 7.11, the majority of the issues are common between PPP and non-PPP projects. In the case of ERT, PPP specific issues ranked sixth by frequency and comprise only a small portion of the issues overall (about 6% of the total issues). While in the case of OHRB/EEC, PPP specific issues do not appear. This is partially attributable to the limited opportunity stakeholders had to provide input on the delivery approach, which will be addressed subsequently. On balance, though, PPP specific issues pale in comparison to other issues raised, so the findings support proposition 2A: *stakeholder issues that are common to non-PPP and PPP megaprojects are more prevalent than PPP specific issues.*

The prominence of *Tolls* in ERT and OHRB is clear based on expressed comments, stakeholder actions, and project sponsor and executive actions. Further, the emergence of *Tolls* in TZBR and the subsequent strong executive action provides further support to the overall sensitivity of this issue. Therefore, the overall evidence supports proposition 2B: *Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues.*

Evidence from stakeholder issues in the cases shows that *Impacts* and *Scope* are common across the top issues in the cases (as shown in Table 7.10). In TZBR, *Scope* and *Impacts* are the top overall issue. In the Planning and Procurement phases (T-1 through T-3) stakeholders discussed and requested transit which attributed the prevalence of *Scope* in these phases. In the Design and Construction phase (T-4), although *Tolls* became the main issue, *Scope* remained a top issue. The magnitude of the transit issue prompted the Cuomo administration to allow buses on the bridge during rush hours and to establish the MTTF to recommend transit options on the bridge. In ERT case, *Impacts* and *Scope* are the third and fourth by frequency (as shown in Table 7.10). In the Preliminary Planning phase (T-1), the main concern of the stakeholders was related to community impact because of the way that VDOT had handled ROW acquisition in the previous projects. In the Detailed Planning phase (T-2), tolls emerged as the main issue; nonetheless, *Scope* and *Impacts* remained among the top issues. In Procurement and Design & Construction phases (T-3 and T-4), Impact and Scope are not present among the top issues shown in Table 7.11; however, the issues shown in these phases are extracted from stakeholders' online comments which is likely not representative of stakeholder opinion. Similarly, in OHRB, *Scope* and *Impacts* are the third and fourth top issues (as shown in Table 7.10). In the Preliminary Planning phase (T-1), environmental impacts were the main concern along with the inclusion of transit. According to a public representative interviewed, transit was requested by the stakeholders during the Planning phase (T-1 and T-2), but it finally was excluded to lack of sufficient support from the stakeholder community. In the Detailed Planning phase (T-2), although *Tolls* emerged as the decision to toll was made, *Scope* and *Impacts* remained among the top issues (as shown in Table 7.11). *Scope* and *Impacts* are not among the top issues in the Procurement phase (T-3); however, these issues were extracted from involvement activities related directly to the delivery method decision. In Design & Construction phase (T-4), although the involvement activities were related to tolling mitigation and the tolling operator, *Impacts* is still among the main issues. Therefore, the evidence suggests a new proposition:

- Proposition 2A': *In megaprojects, scope and impact issues are among the most frequently cited by stakeholders during the planning phase, and they remain top issues throughout the project development process.*

Evidence from the cases also indicates that toll affordability is a major stakeholder concern. In the ERT and OHRB cases, the root of the affordability issue is likely regional demographics. In ERT, annual income in the affected regions was \$46,239 (Norfolk) and \$44,150 (Portsmouth) while in OHRB annual income in affected regions was \$47,692 (Jefferson County, KY) and \$51,182 (Clark County, IN). National annual income was \$53,482, so annual income in the affected areas ranged from 82.5% to 95.7% of the national average. In ERT case, the state originally contributed \$308 million in up-front funds to keep the negotiated starting toll rates low; however, the issue lingered, and a lawsuit was filed over tolling that ultimately led to a ruling by the Virginia Supreme Court in favor of VDOT/ERC. Additionally, consecutive governors contributed: (1) \$112 million to delay the tolls and eliminate them for commutes on the MLK Extension; (2) \$82.6 million to reduce the starting toll rates; and (3) \$78 million to eliminate tolls on the MLK Extension altogether. Collectively, the state contributed approximately \$580 million to address this issue with \$272 million supplied after the project had reached financial close. In OHRB case, the root of the affordability issue was similar since concerns over social equity were raised; project sponsors took several actions to mitigate the impact of tolls including: contributing \$20 million to enhance bus services

in the region, providing toll-free access to buses, and providing free and accessible transponders for local commuters. In TZBR case, toll affordability is primarily a consequence of “rate shock.” The affected regions have significantly higher median annual incomes, 160% and 155.9% of the national average. *Tolls* was not a prominent issue until the Design & Construction phase (in T-4); as the project’s funding gap became clearer, the prospect of significant toll hikes emerged (potentially rising from \$5/trip to \$15/trip), and stakeholders became increasingly concerned. The significance of the issue compelled Gov. Cuomo to contribute \$1 billion from state funds to freeze tolls until 2020.

Toll affordability in each case was a central stakeholder concern, and responsible stakeholders responded to the sensitivity of this issue through actions that ranged from contributing funds to enhance bus service to buying down the toll rates (at least temporarily) through a \$1 billion transfer from state funds. The circumstances observed are consistent with the literature about user fee sensitivity among lower income populations Yusuf et al. (2014) and in areas where tolls are not prevalent Lemp and Kockelman (2009) and Bain (2009). The significant measures taken in the ERT and TZBR cases, however, demonstrate the lengths that political actors will take to mitigate such concerns among their constituents. The implications of these findings are noteworthy for megaprojects and stakeholder engagement. First, toll affordability is a predictable stakeholder concern in areas where: (1) tolls are not common and income levels are comparatively low or (2) tolls already exist, but rate increases have not occurred over time. Second, this situation can challenge tolling regimes particularly in PPPs where revenue-maximizing structures are utilized or where tolls are designed as the sole source of revenue. The case evidence supports two new propositions:

- Proposition 2B’: *Tolls will dominate other stakeholder concerns in megaprojects when tolls are imposed or rate shock occurs. Further, affordability is a chief stakeholder concern, and this phenomenon is predictable based on affected area demographics and past rate increase practices.*

7.2.2. Significance of toll collecting agency

Table 7.12 lists the seven top PPP related issues in ERT and OHRB/EEC projects by frequency along with their percentages – these issues compose more than 95% of the issues related to PPPs raised in expressed stakeholder comments.

Table 7.12. PPP related issues in ERT and EEC projects

Cases	ERT	EEC
Issue 1	Profiteering (38%)	Profiteering (27%)
Issue 2	Oppose PPP (21%)	Foreign profits (23%)
Issue 3	PPP benefits (9%)	PPP benefits (19%)
Issue 4	Contract period (8%)	Private control (12%)
Issue 5	Private control (8%)	Oppose PPP (8%)
Issue 6	Foreign profit (6%)	Availability Payment (8%)
Issue 7	Lock-in effect (4%)	Contract period (4%)

ERT and OHRB/EEC are compared to examine the impact of the toll collector on PPP issues, in the former the private concessionaire collects the tolls while in the latter the public sector has contracted with a private company for toll collection. Table 7.12 does not illustrate a decidedly different outcome in either case; in both, *Profiteering* is the main concern of stakeholders. Several other shared issues are depicted. Somewhat surprisingly, *Foreign profit* and *Private control* are more pronounced in EEC than ERT. One might expect these issues to be more prominent in ERT where tolls are controlled by the private sector. The ascendancy of *Profiteering* in ERT is aligned with the work done by Ortiz and Buxbaum (2008), Ho and Tsui (2009), and Skelcher (2005) who discuss profiteering and opportunistic behaviors of the private sector in PPPs and suggest that the private-sector tends to set tolls at profit maximizing levels which can reduce productive efficiency (Ortiz & Buxbaum, 2008). Interestingly, *Profiteering* is the main PPP related issue in OHRB/EEC despite the fact that toll rates are set by the public sector. The presence of “*lock-in effect*” in ERT is possibly related to the inclusion of a “non-compete clause” in the PPP agreement which limits the state from future improvements in the proximity of ERT; this observation reinforces existing literature (DiNapoli, 2013; G. Hodge, 2006). This issue was not present in EEC.

Certainly, the comparison made is imperfect since the decision to deliver ERT as a PPP was announced in 2005 while notice to proceed (NTP) occurred in 2012 and the decision to deliver EEC as a PPP was announced in 2012 and NTP occurred in 2013. Consequently, stakeholders in EEC had far less opportunity to voice concerns about PPPs. In fact, there are 178 expressed comments about PPP in ERT case compared to 59 expressed comments in EEC. While this is a limitation of the research, the nature of the issues raised in each case are similar and strong enough to conclude that the “toll collector” does not have an appreciable effect on stakeholder concerns. Therefore, this observation rejects proposition 2C: *A PPP megaproject where the toll is collected by a private entity will generate more PPP specific issues than a PPP megaproject where the toll is collected by a public entity.* However, the issues raised in the OHRB/EEC case may have been influenced by the fact that the public sector planned to and did hire a private entity to do the actual toll collection while it retained the toll setting authority; perhaps, collection services and toll setting authority were conflated by stakeholders, which might be an area of future research.

7.2.3. Summary

Table 7.13 summarizes the findings with regard to propositions 2A, 2B, and 2 across the cases. It also indicates the overall conclusion for the propositions across the cases.

Table 7.13. Summary of findings on proposition 2A, 2B, and 2C across the cases

Case	2A: Common Issues Regardless of Delivery Method	2B: Tolling Is Dominant Issue	2C: Public vs. Private Toll Collector
TZBR	Not applicable	+	Not applicable
ERT	+	+	-
OHRB	+	+	-
Across the cases	+	+	-

7.3. Additional case findings and observations

Beyond the initial propositions, several additional findings emerged from the case studies.

7.3.1. *Role of political actors in megaprojects*

Foremost, the role of political actors, particularly executives, in the shaping and implementation of megaprojects is clear. These projects often become artifacts of aspiration for such political actors to add them to their legacy or advance their political career. The findings from this research enrich the current knowledge of this phenomenon, particularly the extent that such actors will go to see projects through.

- In TZBR, the project was initiated when Gov. Pataki established the I-287 task force for improvements of I-287 corridor. Subsequently, when Gov. Spitzer was elected to office in 2007, he appointed Glynn, a known proponent of transit, as NYSDOT Commissioner and made NYSDOT the leading agency; this intervention changed the involvement strategy and the development process. When Gov. Cuomo took the office in 2011, he initiated a number of changes: the scope was reduced to replacing the bridge, federal approval was obtained to fast-track the environmental studies, the project was re-branded as the “New NY Bridge”, concessions were negotiated with transit advocates to obtain their support, and \$1 billion in state funds were transferred to freeze tolls along the Thruway corridor through 2020.
- In ERT, Gov. McDonnell recognized the mounting issues related to tolling, so he delayed tolls for two years until Feb. 2014 and eliminated tolls on the MLK extension for local commuters by allocating funds from state resources. When Gov. McAuliffe was elected to office in 2014, he reduced the tolls as he had promised during his gubernatorial campaign. Finally, McAuliffe eliminated tolls from MLK extension indefinitely.
- In OHRB, the impact of political actors was somewhat less pronounced; however, Gov. Daniels of Indiana and Gov. Beshear of Kentucky were instrumental in forging the bi-state relationship necessary to deliver two bridges across the Ohio River. Certainly, the future holds more circumstances of this sort in the future. Bridge projects that span state boundaries will be needed as deficient or obsolete bridges are replaced or renovated and new bridges are constructed to expand capacity. While not the focus of this research, the bi-state cooperation was evident and is worthy of future research.

7.3.2. *Reactive rather than proactive stakeholder management*

In each case, responsible stakeholders reacted to particular stakeholder issues rather than handling them proactively. In TZBR, planned improvements in the I-287 corridor ballooned as both responsible and interested/impacted stakeholders promoted highway and transit improvements throughout the corridor. The Cuomo administration recognized that this was unfeasible, so they acted swiftly to prioritize, scope and permit just the replacement of the bridge. However, the financial plan for the “new” project remained in flux; when the TIFIA loan was approved for less than anticipated, the project had a large funding gap, so Cuomo allayed rising fears of toll rate escalation by transferring \$1 billion to hold tolls constant through 2020. During initial planning, no one seemed to recognize that the corridor improvements being considered were actually a program of projects (or a gigaproject) rather than a single project; moreover, the process adopted and the stakeholder input encouraged the scope creep.

While Cuomo took the steps necessary to get the bridge replaced, his toll freeze has created a significant future issue for the state when the freeze expires.

In ERT, responsible stakeholders were aware of the sensitivity of toll affordability; however, they underestimated the severity of the issue, and perhaps the willingness of consecutive governors to intervene as they did. Earlier and greater awareness of this issue may have led them to adopt an alternative financial structure or reconsider a revenue risk PPP delivery altogether.

In OHRB, tolls were once again an issue, and responsible stakeholders were aware of this. After planning was complete and procurement was underway, however, they commissioned studies to assess and recommend measures to mitigate the impacts of tolls on economically disadvantaged populations. Fortunately for the sponsors, waiting so late in the project to develop these measures did not cause any apparent problems.

Certainly, responsible stakeholders need to adapt as the project environment evolves; unforeseen issues or events are likely to occur. Evidence assembled in this research, however, suggests that the emergence of particular issues is predictable (or at least foreseeable), so sponsors should anticipate and plan for them.

7.3.3. *Role of executive authority and active involvement*

TZBR, ERT and OHRB clearly faced challenges from stakeholders as the projects evolved. Organized opposition surfaced in ERT and OHRB, which ultimately led to legal challenges in each of these cases. TZBR certainly faced its share of problems as well; yet, significant legal action against the project did not result. Why? One explanation is the active role taken by Cuomo in the project's evolution starting in 2011. Through direct action or empowerment of representatives, his administration was able to quickly orchestrate mitigation measures or concessions that satisfied various stakeholders. While executives were involved in the other two cases, they were not nearly as active as Cuomo. The combination of executive authority and active involvement appears to have precluded legal actions against the project.

7.4. Benefits and challenges of involvement strategies

Public and Private Representatives interviewed in the study suggested multiple benefits obtained from their stakeholder involvement activities; they also expressed the challenges they faced in the development process. Table 7.14 lists a number of these benefits and challenges. For example, a Public Representative for ERT project expressed that stakeholder involvement assisted the project sponsors to foster trust and good will among the stakeholders and to inform the stakeholders about the PPP agreement. In TZBR project, a Public Representative stated that stakeholder involvement enabled project sponsors to enhance transparency in the project and attain public support. In DTC and EEC projects, a Public Representative communicated that by involving stakeholder in the design process project sponsors were able to create a sense of community pride and ownership of the project in the community.

According to a Public Representative, the project sponsors experienced a number of challenges in ERT project. First, VDOT had a poor track record during past projects in the region; therefore, the mainstream media and some regional stakeholders were against the project from the very early stages.

This created a great challenge for the sponsor to restore the stakeholders' trust (Public Representative). Second, many of the stakeholders were not familiar with a PPP concept and the involvement of a private entity (Private Representative); therefore, the sponsors had to educate the stakeholders about PPPs. Third, ERT project emerged as the improvements in Midtown Tunnel; but later in the planning process, when the sponsors made the decision on the delivery method the two other parts were added to the project – the Downtown Tunnel and the MLK Extension; this issue also contributed to the complexity of

Furthermore, a lawsuit was filed against the project on behalf of a number residents and businesses in the region in July 2012. The lawsuit challenged the constitutionality of the tolls arguing that the tolls are taxes and imposing such taxes by VDOT is unconstitutional (Sizemore, 2012). Although, the Virginia Supreme Court ruled in favor of the project; nonetheless, the mainstream media picked up on the issue of tolls and questioned the legitimacy of the agreement.

In the OHRB project, project sponsors faced a divided community who opposed EEC and DTC projects; therefore, the sponsors had to unite the stakeholders to provide them with a project that addressed their needs. According to a Public Representative, project sponsors created a sense of community pride and ownership of the project with the help of their stakeholder involvement plan by involving stakeholders in every aspect of the development process. The other challenge of the sponsors was the lawsuit filed by the National Trust for Historic Preservation (NTHP) and River Fields, Inc. Although the plaintiffs argued that the project team had not follow all necessary environmental guidelines; the suit was widely perceived as a plot to kill the East End Bridge. The lawsuit invoked public anger against River Field and NTHP arguing that they planned to block the project for the interests of their groups. Later in the development process River Fields and NTHP settled the lawsuit with the project sponsors in exchange for additional commitments by the states to historic preservation and public involvement.

Table 7.14. Benefits and challenges of involvement activities (synopsis of interview points)

Cases	Benefits of involvements	Challenges
TZBR	<ul style="list-style-type: none"> • Transparency • Educating stakeholders • Legitimacy and stakeholder buy-in • Mass Transit Task Force (MTTF) • Minimize environmental impacts • Minimize construction impacts • Community Benefit Program Fund • Environmental impact mitigation plan • Political support from Gov. Cuomo 	<ul style="list-style-type: none"> • Large number of stakeholders • NYSTA’s bad track record • Uncertainty in financial structure • First design-build in the state • Elimination of transit from the project • Stakeholder involvement in fast-track project
ERT	<ul style="list-style-type: none"> • Foster trust and good will • Legitimacy and stakeholder support • Educating stakeholders • Minimize surprise for stakeholders • Established relationship with stakeholders 	<ul style="list-style-type: none"> • Media was opposed to the project • VDOT’s poor track records in the region • Complexity of the project • Lack of initial interest by stakeholders • Tolling during construction • Foreign ownership • Lawsuit by stakeholders
DTC	<ul style="list-style-type: none"> • Transparency • Legitimacy • Unify stakeholders • Recognize stakeholders’ issues • Foster trust • Create sense of community pride and ownership of the project 	<ul style="list-style-type: none"> • Divided community • High cost of Spaghetti Junction • Lawsuit by stakeholders
EEC	<ul style="list-style-type: none"> • Transparency • Legitimacy • Unify stakeholders • Recognize stakeholders’ issues • Foster trust • Create sense of community pride and ownership of the project 	<ul style="list-style-type: none"> • Divided community • High cost of Drumanard tunnel • Lawsuit by stakeholders

7.5. Discussion of case findings and current literature

Analyzing the stakeholder involvement strategies of the projects shows that project sponsors base their stakeholder involvement strategies on the requirements of the NEPA process. This is aligned with the literature that suggests practitioners base their stakeholder involvement strategies on satisfying requirements needed for advancing projects (Bryson, Quick, Slotterback, & Crosby, 2013; Heikkila &

lsett, 2007). While NEPA is a baseline, the findings of the cases did indicate the deployment of supplementary stakeholder engagements for strategic or targeted purposes; this does not contradict the literature, but it does signify the importance of such engagements.

Furthermore, Irvin and Stansbury (2004) outline certain drawbacks of stakeholder involvement in megaprojects and argue that these involvements may bring unwarranted costs for the project without a palpable benefit. Similarly, Jolley (2007) argues that in certain situations higher levels of stakeholder involvement are not beneficial and may delay the project and increase the project's cost. However, interviews with public and private representatives in the cases challenged this literature somewhat. In all cases investigated in this study, project sponsors extended their involvement activities beyond the requirements of NEPA. Moreover, all the representatives that were interviewed, without exception, expressed that they received benefits from stakeholder involvements; indeed, all the interviewees stated that they would expand their stakeholder involvements in the future to attain greater benefits. For example, stakeholder involvement in the OHRB case enabled project sponsors to unite the divided community and actually deliver the project. In TZBR case, project sponsors were able to understand the stakeholders' concerns on construction noise and environmental impacts and take remedial action to mitigate those issues. Moreover, stakeholder involvement in TZBR case enabled the sponsors to communicate the challenges associated with including significant transit services within the project's scope and to establish MTTF to facilitate its subsequent inclusion.

These cases also demonstrate how megaprojects are influenced by politically powerful figures. For example, in TZBR project Governor Cuomo impacted the way that the project was shaped and developed. Certainly, the election of Cuomo in 2011 was a turning point in the delivery and realization of TZBR project. In the case of ERT project, Governor McDonnell was an advocate of the project who moved the project forward as part of his legacy (Chesly, 2015). When Governor McAuliffe took office, he blamed his predecessor for the agreement and called it "a bad deal" (Virginia-Pilot, 2014). He subsequently reduced the tunnel tolls and eliminated the MLK tolls. Similarly, in the case of the OHRB project – EEC and DTC cases – the relationship between Governor Mitch Daniels of Indiana (2005 to 2013) and Governor Steve Beshear of Kentucky (2007 to 2015) impacted the way EEC and DTC projects were shaped (Karman, 2012). In this case, the governors sought to leave the OHRB project as part of their legacies and increase their popularity (Richardson, 2012). These observations across the cases align with research by Flyvbjerg (2014), Wen Feng et al. (2013), and M. D. R. Lessard et al. (2013). These scholars argue that megaprojects are "media magnets" that appeal to politicians because such projects lend them more public visibility and help them get re-elected or attain prominence that helps them otherwise (move into national arena, etc.). As Flyvbjerg (2014) puts it "Megaprojects are manifest, garner attention, and lend an air of pro-activeness to their promoters." Therefore, politicians actively seek out megaprojects to add them to their legacy and elicit support for their political career.

Opposing interests of stakeholders in megaprojects are studied by Fiori and Kovaka (2005) and Mok et al. (2015). Also, NIMBY is discussed by McClymont and O'hare (2008) in megaprojects. In OHRB case, the people in the downtown and the east end had opposing interests in the project. Both of the communities did not want highway improvements in their backyard; subsequently, people in the downtown opposed DTC and people in the east end opposed EEC. Additionally, a lawsuit was filed by

two networked organizations (i.e. National Trust for Historic Preservation and River Fields) against OHRB. River Fields was highly supported and managed by the people in the east end. This legal action was perceived as an attempt to stop EEC. This is also aligned with the work of Lin et al. (2008).

The cases in this study demonstrated that indeed megaprojects demand a long time to develop, over multiple phases, through actions of project sponsors and the engagement of various stakeholders (M. D. R. Lessard et al., 2013). In TZBR, the project was initiated in 1997 and it was not until September 2012, when planning was finalized and procurement started. There are great examples in this project that shows how the project got shaped through actions of the stakeholders. For example, at the beginning, stakeholders were interested in mass transit, as a result, the scope contained multiple transit modes on the bridge as well as the entire corridor. When Governor Cuomo took office in 2011, he realized that the scope was not feasible and excluded the highway improvements as well as transit from the project. Subsequently, a number of local officials (i.e. county executives) warned that they would use their power to prevent the project from federal funding. As a result, Governor Cuomo guaranteed to include bus transit on the bridge and created a task force (MTTF) to study and provide transit options.

Chapter 8. Conclusion

8.1. Summary of approach and findings

Non-PPP and PPP Megaprojects generate a range of potential issues such as negative externalities, opportunistic behavior and profiteering of the private sector, and unintended consequences. These projects take shape through actions of project sponsors and the involvement of various stakeholders who are either interested or impacted by the projects.

This research has examined stakeholder involvement strategies and stakeholder issues raised in four megaprojects; two delivered as PPPs and two as non-PPPs. First, each of the cases was examined individually through a chronological analytical technique using project documentation as the principal source of data. In these examinations, pre and post milestone analyses were utilized to capture how project sponsors involved stakeholders and how stakeholders responded to the events within each project. Furthermore, a series of semi-structured interviews with projects' representatives were conducted to complement the documents analyzed and to corroborate findings from the documentation. More importantly, the semi-structured interviews were utilized to understand the benefits that the project sponsors sought and challenges they faced in their stakeholder involvement practices.

Across case synthesis and comparison was completed to examine stakeholder issues raised and involvement mechanisms used across the cases. In these analyses, patterns of themes for stakeholder issues and patterns of involvement mechanisms for each case were compared against other cases using replication logics. Moreover, interview points that were raised during the interviews, by projects' representatives, were examined across the cases to understand contextual commonalities and differences. A summary of the findings from the research follows:

The findings for the propositions derived from the research questions posed are summarized below:

- **Proposition 1A:** *Responsible stakeholders base their stakeholder involvement plan predominantly on the public involvement requirements of the NEPA process.*
 - The case findings were **inconclusive (+/-)**; however, the cases demonstrated that NEPA requirements established a baseline for involvement, but responsible stakeholders supplemented these requirements – rather extensively in some cases. Consequently, a new proposition is offered that can guide subsequent research.
 - Proposition 1A': *NEPA mandated involvements are insufficient for megaprojects given their nature, complexity and magnitude since such projects create stakeholder issues that necessitate a broader and more comprehensive stakeholder involvement strategy that must continue throughout a project's lifecycle.*
- **Proposition 1B:** *Responsible stakeholders do not view participatory involvement mechanisms as beneficial regardless of the project's phase or delivery method.*
 - The case findings were **inconclusive (+/-)**; the cases illustrated that responsible stakeholders did make use of participatory mechanism; yet, the evidence of their benefits versus costs

was unclear. Given the mixed evidence and limited specificity of the participation benefits from interviewees, an observation is made:

- Observation 1B': *Stakeholder involvement through participatory mechanisms may enhance and legitimize a project if the purpose of these mechanisms is well-defined and the process and criteria for evaluating the input are transparent and clear.*
- **Proposition 1C**: *The decision to deliver a project as a PPP does not markedly change the stakeholder involvement plan nor the mechanisms employed.*
 - The case findings provided **support (+)**; private contractors/concessionaires across the cases assumed meaningful roles, they did not significantly alter stakeholder involvement; this led to a new proposition:
 - Proposition 1C': *Once private contractors are selected in megaprojects, they assume meaningful roles in the stakeholder involvement through communication and mitigation of design & construction impacts and initiatives to foster goodwill with the community.*
- **Proposition 2A**: *Stakeholder issues that are common to non-PPP and PPP megaprojects are far more prevalent than issues that are specific to PPP megaprojects.*
 - The case findings provided **support (+)**; while PPP specific issues emerged in the ERT and OHRB/EEC cases, they were far less prominent than other issues; at the time that delivery decisions are made, issues raised earlier in the stakeholder involvement process continued to be cited frequently. Consequently, a new proposition is made.
 - Proposition 2A': *In megaprojects, scope and impact issues are among the most frequently cited by stakeholders during the planning phase, and they remain top issues throughout the project development process.*
- **Proposition 2B**: *Stakeholder issues related to decisions about funding and specifically the decision to impose a toll will dominate all other issues.*
 - The case findings provided **support (+)**; the significance of this issue was clear across project phases in ERT and OHRB, and it became very prominent in TZBR once the severity of the issue was clear. Moreover, affordability emerged as the major theme related to tolls; this led to a new proposition that can guide future research.
 - Proposition 2B': *Tolls will dominate other stakeholder concerns in megaprojects when tolls are first imposed or rate shock occurs. Further, affordability is a chief stakeholder concern, and this phenomenon is predictable based on affected area demographics and past rate increase practices.*
- **Proposition 2C**: *A PPP megaproject where the toll is collected by a private entity will generate more PPP specific issues than a PPP megaproject where the toll is collected by a public entity.*
 - The case findings indicated **rejection (-)**; the toll collector did not have much bearing on the PPP specific issues raised. In ERT, the concessionaire both collected the tolls and had control over the rates (subject to contractual constraints) while in OHRB/EEC, a private contractor collected the tolls, but the states of Indiana and Kentucky had control over the rates. Perhaps, stakeholders conflated collection with toll setting authority.

In summary, the delivery method, PPP vs. non-PPP, did NOT impact the stakeholder involvement strategies or issues considerably in the cases examined. This does not mean that the delivery

approach had no effect; rather, its effect was far less prominent than other conditions and issues in the megaproject cases. Further, the timing of the delivery decision may have impacted its significance. Additionally, how the responsible stakeholders framed the delivery choice could have impacted this as well. This was not examined directly in this research, but it is certainly an avenue to explore in the future.

Key additional findings from the cases include: (1) political actors play a significant role in megaprojects; (2) responsible stakeholders are more reactive than proactive when it comes to stakeholder engagement; and (3) executive authority and active executive involvement allows crafting mitigation measures that can preclude significant stakeholder opposition.

8.2. Contributions of the research

This research has expanded or reinforced knowledge of stakeholder involvement and issues in megaprojects in several areas.

8.2.1. *NEPA engagements are central but not sufficient*

The findings indicated that NEPA mandated involvements were central in the involvement strategies of each case. Hence, the research is consistent with Bryson et al. (2013) and Heikkila and Isett (2007) who suggested that complying with statutory NEPA requirements is a main purpose of stakeholder involvement in megaprojects. For instance in the ERT case, the sponsors primarily focused on NEPA requirements in their involvement strategy. Although the sponsors utilized non-NEPA involvement mechanisms (e.g. stakeholder committee meetings) in TZBR and OHRB cases, the involvement strategy still followed the requirements of the NEPA process.

Moreover, Slotterback (2008) in a survey of Department of Transportation (DOT) officials from 46 states in the U.S. suggested that the NEPA required involvements were effective in identifying additional stakeholders and enhancing scoping content and outcomes. While the primary focus of Slotterback (2008) is on NEPA related involvements, this study signifies the importance of both NEPA and non-NEPA involvements in enhancing stakeholder input in the scoping process. In fact, in TZBR case, project sponsors established SAWGs in the scoping process to supplement NEPA related involvements to enhance stakeholder input and define the scope. Similarly, in OHRB case, the sponsors utilized AAT and RAC stakeholder committees during the NEPA process to identify the design, aesthetics, and scope in the planning phase. Although, in both cases, the scoping processes led to defining unfeasible scopes, project representatives interviewed in both cases indicated the significance of these non-NEPA involvements in enhancing input. Further, each case demonstrated that stakeholder involvement continued once the required NEPA approvals were obtained. In some cases, these engagements were extensive and proved necessary to handle lingering stakeholder concerns and to communicate important design & construction phase information to stakeholders in the project area.

8.2.2. *Shaping of megaprojects and role of stakeholders*

Flyvbjerg (2014); D. R. Lessard and Miller (2013) and Flyvbjerg (2014) suggested megaprojects are shaped over time through strategic moves by project sponsors to mitigate emerging issues, attract resources, and garner support. Flyvbjerg (2014); D. R. Lessard and Miller (2013) argued that shaping occurs through involvement and negotiations of multiples parties with different stakes and interests

who try to exercise leadership, impose requirements, or suggest solutions. The case evidence reinforces and enriches this perspective. The TZBR and ERT cases are particularly illustrative of project shaping and the role of stakeholders.

TZBR was initiated in 1997 when Gov. Pataki established the I-287 Task Force to address mobility and safety issues of the I-287 Corridor, and planning was not finalized until 2012; even then, some significant details remained unsettled. Early on, the “project” was jointly led by the NYSTA and MTA/MNR, and its scope was the I-287 corridor from the I-287/I-87 interchange in Suffern to the I-287/I-95 interchange in Port Chester. When Gov. Spitzer took office in 2007, assigned NYSDOT as the leading agency and appointed Astrid Glyn (a transit advocate) as the NYSDOT Commissioner to lead the development of the Tappan Zee Bridge/I-287 Corridor project, which influenced the direction of the project’s development. During this time, project proponents and stakeholder groups, including the SAWGs, focused on highway and transit improvements throughout the corridor. Absent clear decision-making authority and criteria, the scope of the project ballooned. In 2011, when Gov. Cuomo was elected, to make the project happen, his administration: (1) focused the scope to replacing the Tappan Zee Bridge, excluding the planned highway and transit improvements throughout the corridor, (2) got federal approval to expedite the environmental process, and (3) re-branded the project as the New NY Bridge. Subsequently, when faced with stakeholder opposition and threats from certain local authorities to block the project, Cuomo’s administration negotiated two concessions with the opposing stakeholders to mitigate their concerns and move the project forward: (1) allowing buses on emergency lanes during rush hours, and (2) establishing a regional Mass Transit Task Force (MTTF) to study and recommend transit options. Then, in 2014, when stakeholders became concerned about possible significant toll hikes in light of funding uncertainties, the Cuomo administration allocated \$1 billion from state funds to freeze the tolls on the Tappan Zee Bridge as well as the entire NYSTA’s network.

In the ERT case, the project was initiated in 1987 and the planning was finalized in August 2011. Initially, the focus was on improvements to the Midtown Tunnel and the MLK Extension. However, safety issues with Downtown Tunnel escalated, so an additional need emerged to bring the tunnel to current safety standards. In 2005, VDOT saw the opportunity to merge Midtown Tunnel, Downtown Tunnel, and MLK Extension into one project and deliver it as a PPP. Once the decision was made to toll the project and begin tolling during construction, tolling concerns became dominant among impacted stakeholders. The City of Portsmouth objected to the project and opposed the new MLK Extension’s location; consequently, the sponsors (i.e. VDOT) negotiated and resolved the issue by providing two concessions: (1) providing a compassionate relocation process for impacted residents in the region and (2) including representatives from the City of Portsmouth in the IRP process. Meanwhile, Gov. McDonnell, who advocated and moved the project forward as his part of his legacy, faced growing opposition over tolling the tunnels during construction, so his administration allocated \$112 million to delay the tunnel tolls for two years. Nonetheless, in July 2012, a lawsuit was filed against the project over tolling by a group of stakeholders; in addition, the City of Portsmouth stopped or delayed issuing permits during the project’s construction, which caused delays. Ultimately, the lawsuit was won on appeal when the Virginia Supreme Court ruled in favor of the defendants (VDOT and ERC), so the project moved forward. In January 2014, when Gov. McAuliffe was elected to office, he called the project a “bad deal” and allocated \$82.5 million to reduce the tolls. Then, when the 460 Improvements project was cancelled in

2015, Gov. McAuliffe re-allocated \$78 million from the 460 project to remove the tolls from MLK Extension indefinitely.

The OHRB project was initiated in 1998 and the planning continued until June 2012, when the environmental studies of the OHRB were completed. In March 2012, just before the completion of the environmental studies, the states of Indiana and Kentucky executed a Memorandum of Understanding (MOU) to split delivery of the OHRB project. KYTC would deliver the DTC project and INDOT and IFA would deliver the EEC project. With the execution of the MOU, the two states also agreed to equally split the toll revenue. Indeed, the relationship between Governor Mitch Daniels of Indiana (2005 to 2013) and Governor Steve Beshear of Kentucky (2007 to 2015) impacted the way the OHRB project – EEC and DTC cases – was shaped (Karman, 2012). In this case, the governors sought to leave the OHRB project as part of their legacies and increase their popularity (Richardson, 2012). However, the decision to toll the bridges created stakeholder concerns, primarily social equity and affordability of low-income populations. To mitigate these issues, the two states agreed to: (1) allocate \$20 million to enhance bus transit services in the region, (2) provide free transponders to local commuters, and (3) allow toll-free crossings for buses.

These observations across the cases align with research by Flyvbjerg (2014), Wen Feng et al. (2013), and M. D. R. Lessard et al. (2013) and vividly illustrate the actions that political actors will take in such projects. These scholars argue that megaprojects are “media magnets” that appeal to politicians because such projects lend them more public visibility and help them get re-elected or attain prominence that benefits them otherwise (move into national arena, etc.). As Flyvbjerg (2014) puts it “megaprojects are manifest, garner attention, and lend an air of pro-activeness to their promoters.” Therefore, politicians actively seek out megaprojects to add them to their legacy and elicit support for their political career.

8.2.3. Stakeholder involvement in PPPs

De Schepper et al. (2014) examined stakeholder involvement in PPPs and argued that a PPP approach made the stakeholder involvement more complex to manage because the introduction of the private consortium as a partner complicated the allocation of stakeholder involvement responsibilities between the public and private partners. They further argued that the imbalance of reactive and proactive approaches to stakeholder management by the public-sector and the private-sector respectively as well as an absence of any guidance on the responsibility and accountability for stakeholder management were the main sources of stakeholder issues in PPPs. These issues were not found in any of the PPP or non-PPP cases in this study. In all the cases, when the private partners/contractors became involved they assumed meaningful roles in engaging stakeholders to minimize construction impacts and promote goodwill. They also typically followed and supported the stakeholder involvement strategy of the public-sector. For example, in ERT case, the private partner participated in the involvement activities during the Interim Agreement; when the project advanced to the Comprehensive Agreement, the private partner became part of the project team and the involvement activities were coordinated and managed by the project team. Both the private and public partners employed a single stakeholder involvement strategy. When the project was legally challenged or the City of Portsmouth delayed permitting processes, the project team was actively involved to defend the lawsuit and resolve the permitting challenges. Also, the

private partner launched a project website and began communicating with stakeholders and provided scholarship to high school graduates in Hampton Roads region to promote goodwill.

In TZBR case, before the design-build team was selected, Howard/Stein-Hudson Associates provided consultant services for outreach activities of the project. When Tappan Zee Constructors was selected as the design-build contractor in January 2013, the private sector became quite involved in the stakeholder involvement strategy, and the consultant's services were discontinued. In this case, the private contractor used fulltime public outreach personnel to respond to stakeholder inquiries. Additionally, the private contractor dedicated \$10 million to install soundproof doors and windows through a Community Benefit Program Fund to minimize construction noise and launched a project website in 2013. Further, they provided real-time noise and vibration monitoring on the website as well as issuing news communications about the project.

In OHRB case, the private partner provided fulltime public outreach personnel to respond to stakeholder inquiries and communicate advance notices for potential construction impacts. Additionally, the private contractor coordinated and participated in stakeholder involvement activities. In all the cases (i.e. TZBR, ERT, and OHRB), when the private partners/contractors were involved in the project, the public-sector and the private-sector developed a coordinated involvement approach. Hence, the confusion over roles and responsibilities observed by De Schepper et al. (2014) was not evident.

Boyer et al. (2015), through analysis of survey data collected from public and private sector professionals, found that stakeholder involvement in PPPs can improve local support for such projects as well as better tailor project designs to meet local needs. Boyer et al. (2015) further indicated that deliberative activities were likely effective to enhance project designs to customize projects to local conditions. Although the findings of this research support the significance of stakeholder involvement, the cases provided a different perspective with regards to utilizing participatory (or deliberative) involvements in projects. Evidence from TZBR and OHRB cases indicated that participatory involvements contributed to scope escalation to a point where the planned scope were unfeasible. To prevent the issue of scope creep and obtain maximum benefits, this study suggests employing well-defined decision making criteria in these activities for evaluating and refining inputs provided by stakeholders.

Furthermore, while Boyer et al. (2015) focused on project sponsors' perspectives in their analysis of stakeholder involvements through a survey study from public and private professionals, this research provided a more comprehensive perspective on stakeholder management by utilizing grounded data through analysis of expressed statements and actions of project sponsors and impacted and interested stakeholders. Moreover, the findings were validated and enhanced by twelve interviews with project representatives from the public- and the private-sectors.

Finally, El-Gohary et al. (2006) examined stakeholder involvement in PPPs, where the authors provided a semantic framework to recommend suitable involvement mechanisms in PPP projects. Their work suggested that, in the planning phase, utilizing mechanisms such as "public meetings" and "open-house" were highly recommended while "project website", "workshops", and "stakeholder outreach centers" were less significant. Additionally, their framework did not recommend the utilization of the following involvement mechanisms in the planning phase: posters and press releases; TV and radio announcements/ads; surveys; and hotlines. Evidence from the cases in this study found alignment

between some of the recommendations by El-Gohary et al. (2006); however, the case-based approach of this study uncovered the need for a rich and robust set of involvement practices beyond what is conventional not only in the planning phase but also throughout the project lifecycle. For example, in ERT case, project sponsors utilized “public meetings”, “public hearings”, “industry meeting”, and “community meetings.” The sponsors also employed stakeholder advisory committee through the IRP process which have not been considered by the proposed framework. Additionally, “press release” and “survey” were utilized in the planning phase while the framework does not recommend such mechanisms.

In the OHRB case, “public meetings”, “public hearings”, “workshops”, and “open-houses” were employed in the planning phase by the project sponsors. Furthermore, the sponsors utilized four types of stakeholder committees quite extensively during the planning phase to define the purpose and scope of the project. While the use of stakeholder committees are not suggested by the framework, the sponsors used considerable number of press releases in this case which is not recommended by the framework.

8.2.4. Stakeholder involvement practices and tradeoffs

Irvin and Stansbury (2004) outlined certain indicators for ideal and non-ideal conditions for stakeholder participation in agency decision making processes. For example, they suggest stakeholder participation is ideal when citizens show interest and volunteer to participate; stakeholders are not geographically dispersed; the topic does not require stakeholders to master complex technical information; hostility exists towards the responsible stakeholders; and stakeholder representatives with strong influence in the community are willing to serve as representatives. All the cases in this study entailed design and implementation of major fixed crossings in their regions; not surprisingly, stakeholders were highly interested and participated in the involvement activities.

In TZBR case, representatives from environmental advocacy groups, River Keeper and Scenic Hudson, as well as a transit group, Tri-State Transportation Campaign or TSTC, participated SAWGs. These groups were well-resourced, had influence in the community, and provided educated representatives in SAWGs. Subsequently, when transit was excluded by Gov. Cuomo from the project’s scope, strong opposition emerged from transit advocates such as TSTC and a number of local officials including county executives of Westchester and Rockland. Hence, a Mass Transit Task Force (MTTF) was established to mitigate the transit issue. Representatives throughout the area were selected to constitute the task force to examine and recommend transit options on the bridge: Westchester, Rockland, and Putnam County Executives; New York State Senators; South Nyack, Tarrytown, and White Plains Mayors; TSTC representatives; Nyack Chamber of Commerce representatives; and MTA representatives. The establishment of MTTF was rather effective since it allowed the interested stakeholders to study the issue. Hence, TZBR represents an example where the conditions for participatory involvement (Irvin & Stansbury, 2004) were present and in fact the project’s sponsors utilized this form of stakeholder engagement.

Similarly, OHRB utilized four stakeholder advisory committees, the AAT, RAC, IHPAT and KHPAT, which facilitated stakeholder participation in the decision making process. The IHPAT and KHPAT consisted of the regional town and county officials, neighborhood associations, and historical preservation groups;

these committees contributed input for project decisions related to historic preservation. AATs were established to discuss issues at a community level and consisted of representatives from neighborhood and community associations, local town councils, and chambers of commerce; the general public was also able to attend AATs. RAC meetings were designed to discuss issues at a regional level and consisted of representatives from government agencies, non-governmental organizations and interest groups, chambers of commerce, and other organizations. Like TZBR, OHRB is indicative of conditions where participatory involvement was sensible and employed (Irvin & Stansbury, 2004).

Unlike the other two cases, ERT had limited participatory involvement; although conditions may have indicated the need for such engagement. As discussed, stakeholder interest particularly in the City of Portsmouth turned out to be quite high, evidenced by the organized legal challenge that emerged. In the ERT case, though, the Independent Review Panel (IRP) was formed as required by statute; this panel was a rather selective and structured form of participation. The rationale for its utilization is perhaps consistent with the perspective that participatory mechanisms are not appropriate in complex technical settings as suggested by Irvin and Stansbury (2004). In hindsight, the lack of more extensive participatory involvement may have contributed to the rise of significant stakeholder opposition. Indeed, a project representative interviewed expressed that stakeholder participation could have helped stakeholder management in the project. Hence, the level of project complexity may need greater attention as an indicator for participatory engagement conditions.

Jolley (2007) argued while participatory involvements provide a high degree of stakeholder input, these involvement mechanisms may delay the decision making process whereas non-participatory involvements where less input is possible are less time consuming and recommended when expeditious decision making is preferred.

Utilization of participatory involvements was more apparent in TZBR and OHRB cases while ERT case had limited participation. Although participation in TZBR contributed to long planning process and realization of unfeasible scope, these involvements were not the only cause of the delay in planning; the joint leadership of the MTA/MNR and NYSTA likely contributed to this circumstance as well. Moreover, public representatives interviewed expressed that they obtained benefits from such involvement methods. In fact, after the project was fast-tracked and these involvements were stopped for the sake of expediency, informal participatory mechanisms were utilized subsequently to rally support for the project.

In the OHRB case, participatory involvements through the aforementioned stakeholder committees enabled the project sponsors to unite a divided community since the committees help define the purpose and need for the project as well as its scope. While these participatory involvements led to scope escalation, project representatives interviewed expressed that these participatory mechanisms enhanced stakeholder input and the project. In fact, such involvements were utilized throughout the project's lifecycle (during planning, procurement, and design & construction phases). Thus, despite their drawbacks, these engagements were beneficial.

8.2.5. *Tolling as a dominant issue in megaprojects*

Yusuf et al. (2014) examined commuters' acceptance and willingness to pay tolls and factors that influence this behavior. Through their survey study they argued that the willingness to pay tolls was related the value of time and levels of income. Moreover, Bain (2009) and Lemp and Kockelman (2009)

studied uncertainties in tolled infrastructure projects and claimed that in regions where a “tolling culture” exists, citizens are less sensitive to tolling. Findings generally reinforce this literature. In ERT and OHRB cases, median annual income of the regions was less than the national average income where median annual income of ERT and OHRB regions were 84% and 92% of the national average income respectively. Further, tolls were not prevalent in these regions. In both ERT and OHRB cases, tolling emerged as the main stakeholder issue when the tolling decision was made by the project sponsors. The significance of the issue in ERT case resulted in legal action against the project over tolls and prompted three executive actions by two consecutive governors to delay, reduce, and eliminate the tolls. In OHRB case, the significance of the tolling issue caused sponsors to allocate \$20 million to enhance bus services, provide free transponders to local users, and allow toll-free travel for buses.

Observations in TZBR case, however, provided a different perspective. In TZBR, the median annual income was substantially higher than the national average income (median annual income was 158% of the national average income); moreover, the original facility had tolls along with several other facilities in the region, so the area had established tolling culture. In this case, the issue of tolling was not apparent during the early stages of the development process (i.e. planning and procurement phases); however, when uncertainties over funding structure emerged in the design & construction phase and stakeholders became concerned about significant future toll hikes (tolls were expected to increase from \$5/trip to \$15/trip), tolling became the main stakeholder issue. This case demonstrated that although the income level of the region was relatively high and tolling culture existed, tolling emerged as the major issue when the stakeholders faced a rate shock. The significance of the issue forced Gov. Cuomo to allocate \$1 billion to freeze the tolls until 2020.

Hence, the case evidence suggests that the prominence of tolling as a stakeholder issue is predictable; if tolls are first imposed in areas with moderate to low incomes or if rate shock will occur, then stakeholders are likely to make tolling a serious issue for project sponsors to address.

8.2.6. Additional contributions

Moreover, circumstances in OHRB supports the work by McClymont and O'hare (2008) regarding NIMBY issues in megaprojects. This shows how interest of certain stakeholder groups with sufficient resource can influence the project. In OHRB case, the people in the downtown and the east end had opposing interests in the project. Both of the communities did not want highway improvements in their backyard; subsequently, people in the downtown opposed DTC and people in the east end opposed EEC. Additionally, a lawsuit was filed by two networked organizations (i.e. National Trust for Historic Preservation and River Fields) against OHRB. River Fields was highly supported and managed by the people in the east end. This legal action was perceived as an attempt to stop EEC. This is also aligned with the work of Lin et al. (2008).

8.3. Guidelines for stakeholder involvement in megaprojects

Based on the findings and observations from the cases, a set of guidelines are presented to aid practitioners (the responsible stakeholders) during stakeholder involvement in megaprojects. First, a set

of overarching principles are proposed, and these are followed by more specific guidance for each phase of a megaproject.

8.3.1. Overarching stakeholder involvement principles

Before embarking on any megaproject, responsible stakeholders should consider the following principles; these are critically important to the planning and implementation of megaprojects.

- **Negotiate and agree on the project's purpose and value proposition before any significant implementation activities start.** Doing so provides the project with social acceptability and support to advance in the development process. This also increases the probability of the project's success.
- **Carry out the due diligence required to recognize and understand stakeholders at the outset.** Megaprojects do not happen in a vacuum, so responsible stakeholders must do their due diligence to identify and understand stakeholders as well as the sociopolitical contexts of these projects. It is critical for the project sponsors to identify prevailing concerns and interests among the stakeholders or the presence of any legacy issues. This will assist the sponsor to distinguish potentially sensitive areas in a project and make attempts to resolve such issues before implementation.
- **Be agile as project's evolve and the issues shift, but maintain consistency.** Project sponsors need agility in their development process to adapt as the project environment evolves internally and externally and as the stakeholders' needs and project requirements change in each development phase. While adaptation is important, stability and consistency are equally significant. Lack of consistency in stakeholder involvement can send the wrong signals to stakeholders that they are selectively engaged in the process; as a result, they may perceive the process as not transparent and unfair or they may lose interest in the project.
- **Prioritize and set boundaries.** Project sponsors must identify priorities and set boundaries for project parameters. With limited resources available, sponsors not only need to make tradeoffs, but they also need to set boundaries to have a realistic outcome. Furthermore, project sponsors must reduce the variance of a project's parameters as quickly as possible to reduce the possibility of stakeholder turmoil. The longer the parameters – footprint, scope, funding, tolling, etc. – stay in flux the higher the levels of uncertainty in the project. For example, finalizing the scope (with proper stakeholder input) in a timely manner reduces the likelihood of stakeholder turmoil, but it also facilitates confirming other details such as a project's financial plan.
- **Balance local, regional and global requirements.** Megaprojects are interrelated with other infrastructures and can have implications beyond their local territories. For example, the Tappan Zee Bridge not only facilitates cross river mobility for the communities on each side of the river, but it is also a critical artery for the movement of freight (it is part of one of the North American Free Trade Agreement (NAFTA) corridors); hence, decisions on the project can have local, regional and global implications. Therefore, project sponsors need to be mindful of the implications at all these levels. Most importantly, they should not let the broader implications cause them to neglect the local issues and concerns.
- **Anticipate advocacy for transit and resistance to tolls.** Transit and tolling are common issues in megaprojects. Therefore, project sponsors need to be mindful of the issues and negotiate and finalize them early on in the process (to address them in pre-planning and planning phases).

Otherwise, these issues can become extremely difficult and costly to address when the project advances into its procurement and construction phases.

- **Expect interventions from external actors.** Project sponsors should expect and be prepared for interventions from external actors such as politically powerful individuals. These changes can often be significant. Therefore, sponsors have to be prepared with contingency plans to cope with the changes and subsequently stakeholders' reactions.

8.3.2. Preliminary and detailed planning phase guidelines

In the planning phase, the principal goals for a megaproject are related to project development and stakeholder engagement:

- Project development: delineate the value proposition and define a feasible scope and funding structure
- Stakeholder engagement: enhance and legitimize the project through stakeholder input

Megaprojects do not happen in vacuum, one of the main goals in the preliminary phase is to recognize stakeholders and understand the context of the project. Project sponsors must do their due diligence to understand who the main players are in terms of power, legitimacy, and urgency. This is an iterative process where project sponsors recognize potential impacted and interested stakeholders and initiate engagements with them. For that purpose, the sponsors should catalog potential impacted and interested stakeholders in the development areas. Through the engagement process, the sponsors can improve their understanding of stakeholder salience (Mitchell et al., 1997) and better identify the main players in the project. For example, project sponsor, in ERT case, utilized a number of public information meetings for the MTT and MLK sections. In OHRB case, the sponsors held a series of public meetings and stakeholder briefing to catalog interested and impacted stakeholders as well as certain government agencies that were interested in the project such as: the National Register of Historic Places, U.S. Army Corps of Engineers. In TZBR case, the sponsor identified impacted and interested stakeholders through a series of pre-scoping public meetings.

After identifying stakeholders, project sponsors should expand their due diligence to recognize any preexisting issues and stakeholders' concerns. For example, if legacy issues exist as a consequence of past actions by responsible stakeholders or their representatives, project sponsors need to recognize this early and start mending relationships and building trust before advancing to other steps in the development process. Project sponsors must recognize this issue does not get resolved overnight, and trust will be earned through an incremental engagement process. For that purpose, project sponsors should engage with impacted stakeholders through targeted communication/consultation involvement channels such as community meetings as well as more inclusive communication/consultation channels such as open houses to rebuild trust among the parties. It is also critical for the sponsors to identify existing prevailing cultures in the region and incorporate them in the preliminary scope. For example, the sponsors should know whether stakeholders are sensitive to environmental impacts or whether there is a prevailing transit culture in the region. For example, in ERT case, project sponsors faced legacy issue because the way VDOT had handled ROW acquisitions and eminent domain for previous projects in the region. Therefore, the sponsors utilized a series of community meetings with the impacted community meetings to earn their trust and assure them about a compassionate and fair transition

process. According to a public representative interviewed, the sponsors arranged customized meetings with the impacted citizens to hear their concerns, earn their trust, and mend their relationships.

Perhaps, the most important objective in this phase is to communicate and agree upon the project's purpose and value proposition with the stakeholders. These parameters should be negotiated and agreed upon with the impacted and interested stakeholders to enhance legitimacy and provide sufficient support from the stakeholder community. The legitimacy and social support are vital for successful development. Responsible stakeholders should consider a variety of channels to achieve this, and they should expect to expend significant time and resources for this purpose. Deliberate and participatory involvement mechanisms are certainly appropriate during this phase; stakeholder committees with defined objectives and boundaries can certainly support this process. A stakeholder committee provides an environment for dialogue where needs and concerns can be expressed, and stakeholders have the opportunity to influence the decision making process. Committee composition should likely include general and selected representatives from the interested/impacted stakeholder community as well as trained facilitators from the sponsors' camp. The stakeholder representatives are selected from salient stakeholder groups (Mitchell et al., 1997) and are trained (if necessary) to get familiar with subject matters. Most of the stakeholder meetings should also be open to the public.

Responsible stakeholders should supplement participatory involvements with various communication and consultation mechanisms such as community meetings and open houses as well as stakeholder polling and surveys to obtain broader stakeholders input as preliminary decisions are made. For example, if the participatory involvements have suggested and agreed to impose tolls, a supplemental survey study or opinion poll may provide a more realistic picture of stakeholders' perspectives on tolls. Which may assist project sponsors to take necessary measures to refine the decision if necessary. Further, social media and other emerging technological platforms can prove useful for disseminating information and collecting input. These engagement channels provide an opportunity for the stakeholders to express their main concerns about the subject matter which can guide the sponsors for better recognizing social context of the stakeholders.

For example, in TZBR and OHRB cases a number of stakeholder committees were utilized to enhance stakeholder input and negotiate and agree upon the projects' purposes and value propositions. These stakeholder committees consisted of salient stakeholders (i.e. interest groups, NGOs, and local authorities) as well as representatives from the project sponsors camp; additionally, the general public were allowed to participate in these stakeholder committee meetings. In TZBR, SAWGs were established to negotiate and determine four particular areas of the project development: land use, finance, environment, and transit. In each of these SAWGs meetings, representatives from each stakeholder groups were present to participate in the decision making. In OHRB case, AAT and RAC stakeholder committees were established to define project's purpose, value proposition, and scope in the planning phase. Representatives from interest groups (i.e. environmental and transit advocacy groups) and local authorities were present as well as project representatives to participate and deliberate on the issues. Additionally, IHPAT and KHPAT stakeholder committees were utilized to make decisions about historic preservations. Similarly, these committees consisted of representatives from the project sponsor's camp as well as historic preservation advocacy groups such as: NTHP and Historic Landmarks Foundation of

Indiana. Moreover, in these cases a number of public meetings, public meetings, workshops, and open-house events were utilized to obtain broader stakeholder input as the preliminary decisions were made through these stakeholder committees.

In addition, key project parameters such as scope, funding, financing and delivery need to be addressed and defined as well as issues such as environmental and potential construction phase impacts. One critical point in this process is that project's constraints must be clearly outlined and candidly discussed with stakeholders during deliberations. This ensures developing feasible and practical outcomes. Further, project sponsors need to have an outlined schedule for the planning process with specified milestones to ensure efficiency of the planning process. NEPA milestones (i.e. Draft EIS, Final EIS, etc.) can be used as a baseline to ensure timely progress of the process. Both constraints and process milestones should be broadly communicated.

The amount of emphasis given to stakeholder involvement in planning phase is important because changes if necessary in early stages of the development process are far less costly than later phases as the project has taken shape. Additionally, funding schemes, implementation of tolls, and possible innovative delivery methods (i.e. PPP) must be deliberated and finalized during planning phase to the greatest extent possible before the project advances into procurement. This will enhance support for the project and reduce the probability of stakeholder opposition in the future, which can be costly.

8.3.3. Procurement phase

The main goals related to project development and stakeholder engagement in the procurement phase are:

- Project development: select a qualified service provider with the best value proposal
- Stakeholder engagement: provide maximum transparency while considering confidentiality

In this phase, the project sponsors' objective is to select a qualified service provider with the best value proposal for the community. For that purpose, project sponsors need to issue RFQs and RFPs to identify qualified proposers and solicit proposals. The scope and project requirements must be outlined in the RFPs which have been previously identified in the planning phase.

From the stakeholder engagement perspective, it is critical to provide maximum transparency of the process to the stakeholder community while providing proper confidentiality measures in the proposal evaluation and selection process to preserve any proprietary proposer information or ideas.

Transparency can be facilitated through communication and consultation mechanisms. Sponsors might consider including a stakeholder advisory committee during procurement; the role of this committee must be clearly defined. This committee could provide input into the selection process or serve in an oversight capacity; however, responsible stakeholders need to decide if they are seeking "approval" or "input". Approval can introduce uncertainty into the procurement process, and the need for such is arguable if the responsible stakeholders were able to achieve the goals set forth in the planning phase. To ensure confidentiality in the review process, a protocol must be outlined by the project sponsors to be followed by the advisory committee members.

Stakeholder advisory committees were utilized in ERT and TZBR cases. In both cases, the advisory committees "input" in the selection process. In ERT case, the Independent Review Panel (IRP) reviewed

and examined the private sector's (ERC's) qualifications from financial, technical, and operational stand points and whether the ERC's proposal was in the interest of the Commonwealth of Virginia. After several internal and public meetings, the IRP suggested their recommendations to the Commonwealth Transportation Board (CTB) to advance the proposal into an Interim Agreement. Subsequently, the CTB approved the recommendations and suggested the Commonwealth Transportation Commissioner to enter into an Interim Agreement with ERC in January 2010. In TZBR case, qualification of the design-build proposers were determined by the project team through the RFQ process. Subsequently, a Blue Ribbon Selection Committee (BRSC) was established to evaluate three design-build proposals that were submitted through the RFP process; the BRSC was commissioned to recommend the best value proposal to the NYSTA's executive board of directors. Subsequently, the Blue Ribbon Selection Committee (BRSC) suggested Tappan Zee Constructors as the best value proposer. NYSTA's executive board concurred with BRSC's recommendation and executed the design-build contract with Tappan Zee Constructors in January 2013.

Utilizing the advisory committees in this phase can address the transparency and legitimacy issues that may raise with regard to the selection of private partner/contractor.

8.3.4. *Design and Construction phase*

The main objectives in this period is to ensure timely delivery of the project while minimizing impacts in the community and on the environment. Accordingly, real-time communication and consultation channels are critical.

A communication channel can be used to disseminate construction related information to stakeholders such as road closures, construction schedule, etc. Social media (i.e. sending tweets) can be very efficient and effective for this purpose. Similarly, establishing a consultation channel is vital in this phase to allow stakeholders to inform the project sponsors and/or the private contractor about potential impacts. Consequently, the sponsors and the private contractor must be responsive in mitigating and addressing such issues. The consultation channel may be utilized through project outreach centers, social media (i.e. Facebook or twitter) and a project hotline. For example, in ERT case, in addition to the news updates that were communicated frequently, the private partner used tweeter to provide updates to commuters with regard to construction updates, roadblocks, and congestions. The private partner has also established customer service center and hotline to respond to stakeholder inquiries. In TZBR case, in addition to regularly news feed communications through an enhanced project website, the sponsors established two public outreach centers on each sides of the river as well as a project hotline to receive and respond to stakeholder inquiries.

Finally, unanticipated construction impacts can happen, which can be difficult and costly to mitigate; therefore, the project team should have a contingency plan as well as funding sources in case of such events to swiftly mitigate the impacts.

8.4. Research Limitations

The cases in this study were initiated in the late 1980s, 1990s, and the early 2000s; therefore, availability of data relevant to the early stages of the projects was limited; these data gaps were filled for the most part through the interview process.

The stakeholders' expressed comments analyzed in this study are not necessarily representative of the stakeholder community. These comments were made in the involvement activities as well as online sources such as news articles, blogs, and forums. Comments in these venues is optional and self-selecting; therefore, the expressed comments may not be entirely representative of the impacted/interested stakeholder population.

In EEC case, the delivery decision was made late in the process; this limited the richness of relevant data since less opportunity was given for stakeholder input.

An additional limitation of this research is that certain involvement activities have not been fully considered. For example, a number of informal involvement activities were mentioned during the interviews with project representatives but they provided very little detail about the activities, and not surprisingly no record of such activities was available.

Finally, the sensitivity of the subject matter in all the cases impacted the willingness of public and private representatives to interview and candidness of those who did participate. Several potential interviewees declined the interview and one chose to provide a written response to interview questions instead of participation in an interview.

8.5. Possible future research

This research examines four fixed crossing tolled megaprojects where a free alternative route is not conveniently available for the facility users. One possible future research is to examine a case set of tolled PPP and non-PPP megaprojects where a free alternative route is conveniently present for the facility users in all cases. A set of High Occupancy Toll (HOT) lane projects can be an example of a future case study to specifically examine what are the main stakeholder issues and whether tolls are still critical for these projects.

One possible future research opportunity is to examine the stakeholder involvement strategies in TZBR and ERT cases to determine how the sponsors in TZBR controlled the opposition and prevented potential lawsuit while in ERT case, the project was challenged by a legal action.

Informal and formal involvement channels were utilized in TZBR to rally support; these involvements were effective to mitigate issues. However, the value and effectiveness of informal versus formal engagements is not clear. One possible future research opportunity is to examine and determine the effectiveness of the formal and informal involvements.

Stakeholder committees facilitate participation involvements and can add value to the stakeholder involvement process. These mechanisms are resource intensive; therefore, there is tradeoff in utilizing these involvements. One possible future research avenue is to identify a balance between participation and efficiency in megaprojects.

8.6. Reflections

Stakeholders and more particularly the public are the ultimate beneficiaries and financiers of infrastructure projects. Also, these projects can significantly improve the quality of life of the people as well as the economic prosperity of a greater region. Nonetheless, these projects are often influenced by

powerful stakeholders with sufficient authority and/or resources who may not be a representative of the greater public. These projects often become artifacts of aspiration for such political actors to add them to their legacy or simply accumulate support for their political careers. Similarly, certain groups of stakeholders with sufficient resources may influence these projects to their benefit which may diminish social welfare. Consequently, these projects face stakeholder oppositions which may delay or add unnecessary costs. Therefore, it is extremely important to efficiently build infrastructure projects that effectively address the needs and concerns of the stakeholders and enhance social welfare.

For that purpose, certain regulatory requirements (i.e. NEPA) have been considered when developing these projects to ensure stakeholder input. Nonetheless, often megaprojects face stakeholder opposition for various reasons such as insufficient stakeholder input or issues related to scope. Moreover, the process is extremely lengthy and inefficient, which may defeat the purpose. Currently, the required involvements suggest traditional methods of engagement while emerging methods, such as use of social media, virtual participation, and 3D-modeling can significantly enhance the quality as well as the quantity of stakeholder input. Use of informal methods of involvement is not specified in the requirements. Additionally, the required involvements stop when the environmental studies are completed. As a result, project sponsors supplement their engagement program with additional engagements in hope for enhancing project support.

A broader and more advanced involvement guidelines are necessary for these complex projects to not only suggest more contemporary methods of involvement but also include the broader project's lifecycle. It is hoped that this study offers a contribution toward identifying more efficient and effective involvement protocol to be followed by project sponsors in megaprojects.

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Appendix A. TZBR project

A.1. Comments on Scoping public meetings in January 2003 in period T-1

Table A.1. Stakeholder comments in scoping public meeting

Comment	Type	Theme / sub-theme
A thorough and complete analysis of any proposed project must include an analysis of impacts of any proposals upon compliance with Clean Air Act requirements on emissions for the New York Metropolitan area.	Written comments	Impacts / Environmental
A thorough and complete analysis of any proposed project must include an analysis of a viable light rail way system connecting eastern bank of the Hudson River Communities with Metro North, Harlem and Hudson Lines and communities in Westchester County.	Written comments	Scope / Transit
[We] feel strongly that before any new bridge or tunnel is approved, rail service must be included.	Written comments	Scope / Transit
[We] need a bridge connecting Rockland and Westchester, but there should be focus on public transportation.	Written comments	Scope / Transit
[We] support further consideration of Bus Rapid Transit using an added HOV lane.	Written comments	Scope / Transit
If Pataki and NY State are "broke" how can they think about tearing down the "newest" bridge in NY?	Written comments	Funding
Is it not true that the aim of these meetings is to get Federal money? How can we be guaranteed that the funds for a rail connection won't evaporate while the bridge is being built and that the cost of the old bridge doesn't become too much of a burden? How can we qualify for funding if we don't have the needed ridership for the rail component, particularly while competing with projects in much more populated areas? How is this project more qualified for money than the GW Bridge? The GW Bridge has worse congestion, why is no one proposing an expansion or rail on the GW Bridge?	Written comments	Funding
If there is a tunnel rail Hudson crossing north of Poughkeepsie and the Thruway replaces the current bridge, does that mean there will be two separate projects, two owners and the money has to be split in half?	Written comments	Funding
The bridge is vital. Collect as much money as possible from the state and federal government then raise as much as possible to repair the bridge.	Written comments	Funding
What is the methodology for determining the budget that will be required to build the bridge? What are typical methodologies for determining budgets for bridges of this scale? Should study potential cost overruns and study the correct mathematically based probabilistic model that will best estimate how much additional funding a new bridge/tunnel will require. A study is needed to determine the economic impact on Tarrytown's non-retail business sector and to determine the amount of local, state and county monies	Written comments	Funding

Comment	Type	Theme / sub-theme
required to engage in the usual legal battles that ensue during development process.		
Without undertaking major improvements on I-287, Route 119, Saw Mill Parkway, Route 9, etc., there will be bottlenecks if a new bridge is implemented.	Written comments	Impacts / Congestion
The State should investigate acquiring the former GM Plant along the Hudson and North Tarrytown. It is ideal for use as a construction staging area and could be sold back after project completion.	Written comments	Impacts / Construction
Tarrytown has tremendous traffic problems. Any expansion of lanes or second bridges will bring more traffic to Tarrytown.	Written comments	Impacts / Congestion
Concerned about putting eight lanes of traffic on the bridge where each landside only has four lanes.	Written comments	Impacts / Congestion
More and bigger highways in and out of cities worsen the very problem they were intended to solve.	Written comments	Impacts / Congestion
Concerned with noise impacts of building a new bridge. Need to understand what the current epidemiological baseline trends are within a representative population of persons living within 5 miles of the bridge, on either side of the bridge, by major diagnostic categories. A study is needed to determine what the baseline is today and what the trends have been over the past 20 years to determine in the course of building a new bridge, what the impacts of that building are on the residents of those areas and how to rectify medically any of those issues. Need to understand how residents' sleep patterns would be disrupted during construction and what are the impacts of that sleep disruption.	Written comments	Impacts / Noise
Supports the request for an epidemiological study for the region. Rockland and Westchester are non-attainment zones for levels of ozone population and other contaminants and it stands to worsen. It is necessary to wait until it has been determined how many power plants are going to be built and what effect they will have on the region's air quality before region can consider bringing more automobile, truck and rail traffic to Rockland and Westchester.	Written comments	Impacts / Environment
Need a noise barrier prior to construction. It would beautify the area and make it a more desirable living location. The trucks shake the houses and the yards are non-existent.	Written comments	Impacts / Noise
Lives near the bridge and states that over the years the traffic has increased greatly and therefore is sure the emissions have increased as well.	Written comments	Impacts / Environment
With two bridges, the air pollution would be unbearable.	Written comments	Impacts / Environment
Visited a house in Nyack, just below the span of the bridge. To converse, one had to shout because of the roar of the traffic. With two bridges, the pollution of the eye and ear would be virtually unbearable.	Written comments	Impacts / Environment

Comment	Type	Theme / sub-theme
Study is needed to determine how pollutant levels will affect town youth and adult activities along the waterfront.	Written comments	Impacts / Environment
Need to study how construction of a new bridge will impact movie-making revenue of Tarrytown, to determine where construction debris will go and to determine speed limit of area under construction. How will construction impact EMS' and fire department's capability to service the bridge? How will new bridge and construction noise affect ability of hunters to hunt game in lower Hudson Valley? Need a study to estimate noise levels during construction for neighboring residents. How would organized events of 15+ people be transported during construction?	Written comments	Impacts / Construction
Study is needed to determine how noise levels will affect town youth and adult activities along the waterfront.	Written comments	Impacts / Environment
There is a lack of understanding in the draft of the Hudson River as a recreational resource. The west side of the Hudson has regional scenic designation; the east side is a local regional recreational hub, yet to reach its full potential, recreationally speaking.	Written comments	Land use
A useful draft of a comparison of the cost of repairing the bridge vs. replacement has not been seen. The Thruway's study of the bridge condition and an independent study of the bridge condition are needed to claim to know the cost for repair. It is impossible to discuss the cost of replacement vs. repair when there are so many variables for replacement. To say, at this stage, that repairing the bridge would cost the same as replacing it is dishonest and manipulative at worst and confusing at best. More hard, provable data is needed before costs can be compared.	Written comments	Process
Process of hand waving and talking has been going on for 10 years or more. Does not believe the NYS Thruway is being honest about the process because they must have schemes and proposals they've worked out. Must take a detailed map and do layovers of the various schemes. For all the various schemes that have come and gone there has never been an indication of the process involved in the replacement. We must be shown the interfaces at both sides of the river. There is nothing to talk about until someone shows the details of each plan.	Written comments	Process
Study is needed to determine the best management process for managing bridge development process and to identify which methodologies are best used in determining need for a replacement bridge. Need a study of which cost-benefit methodology should be used. Want to know what percentage of the people using the bridge live in each county, broken down by day of the week.	Written comments	Process
Must look at improving the Indian Point evacuation capacity and add this as an objective of this project.	Written comments	Purpose & Need
Increased vehicular capacity always results in increased vehicle numbers. The goal should be to reduce the need for capacity.	Written comments	Purpose & Need

Comment	Type	Theme / sub-theme
Over 300 seniors are living in Salisbury. If the land is taken, the seniors will have nowhere to go. There is no affordable housing in Rockland County.	Written comments	ROW
There are houses on the old rail right-of-ways all the way up to Ulster County	Written comments	ROW
Need a study to understand how the construction of a new bridge affects the real estate markets of all residential units, commercial units and rental units within 5 miles of either end of the current bridge, 3 years prior to the construction of the new bridge, during the construction of the bridge and 3 years after the construction of the bridge. Need a study to determine that additional land needed for construction is available.	Written comments	ROW
Focus on other alternatives, not a new bridge. With a new bridge, where would all the traffic go once in Westchester?	Written comments	Scope / Replacement
Provide service from Rockland County to Manhattan.	Written comments	Scope / Transit
Consider adding a bicycle and pedestrian lane to existing bridge.	Written comments	Scope / Bike lane
A tunnel is needed in case of a nuclear leak; it should be half way between the TZ Bridge and the GW Bridge. The Cross County should be rebuilt to accommodate this. The tunnel would connect 95 north of New Rochelle, come across the Cross County enter the tunnel in the Saw Mill River Valley and come out in a natural valley behind the Hudson Palisades. This eliminates congestion on the existing bridge, provides a connection from I-95 from the north directly to the NJ Turnpike and relieves traffic on the GW Bridge.	Written comments	Scope / Tunnel
Where are the entrances? Where are the exits? How many houses are going to be taken down to accommodate the plan? How many people will be displaced? If the problems can be addressed, advocates a tunnel.	Written comments	Scope / Community
A tunnel makes sense for several reasons: it is not impacted by weather, people can't jump off it to commit suicide and it has lower road maintenance costs for the road and structure.	Written comments	Scope / Tunnel
Bee-Line, in Westchester, does not do a very good job. There has only been one bus per hour during rush hour from Sleepy Hollow to White Plains. Start working with Bee-Line to provide better service.	Written comments	Scope / Transit
Expand bus service from Rockland County to Tarrytown and points south.	Written comments	Scope / Transit
Mass transit should be given more priority than highways or increasing the lanes of traffic.	Written comments	Scope / Transit
Mass transit should be expanded on both sides of the Hudson. Increase the trains on the Hudson line and expand the light rail service in northern NJ up into Rockland County. Expand service on the MTA line up to Suffern and points north.	Written comments	Scope / Transit

Comment	Type	Theme / sub-theme
If the elevated river crossing roadway concept is implemented, Metro-North could have a shelf along one side of this elevated structure at a fairly constant height to keep the trains within their grade limitations. Keeping the railroad at a lower height than the road would allow for building passenger stations on the West Shore.	Written comments	Scope / Transit
Construct a rail station on the Hudson Line under the bridge to provide transfer to the existing bus service.	Written comments	Scope / Transit
Rail portion of the project should run from Suffern to Port Chester with transfer points at Port Jervis, Pascack Valley, Hudson, Harlem and New Haven Lines. It could connect to Stewart Airport via a monorail or Magnetic Levitation (MAGLEV). The rail and additional traffic lanes should be elevated to avoid expanding I-287 footprint. Some portions of the rail may have to be tunneled to meet grade requirements (Palisades Center to Hudson River west shore).	Written comments	Scope / Transit
Rail service is absolutely essential. The placement of rail stations might rearrange housing patterns in a more sensible way.	Written comments	Scope / Transit
Proposes a light rail or commuter rail that tunnels under the Hudson River and connects with the Croton or Tarrytown stations on the Hudson Line. The tunnel would start at the west shore, connecting with the Harriman stop or the one below it. It could connect with the freight line that runs up the west shore. A rail crossing would provide access for Westchester commuters going to Rockland, NJ and lower NJ stations. The biggest benefit would be for the west Hudson commuters having access to the Metro-North Hudson Line. It would take a substantial load off the TZ Bridge.	Written comments	Scope / Transit

Representative graphs are presented in the case chapter because these are the only records available for the involvement activities in period T-1

A.2. Comments made on SAWGs meetings in period T-2

Table A.2. Stakeholder comments in SAWGs meetings in T-2

Comment	Type	Theme / sub-theme
How deep are the piles expected to be driven?	Summary	Design
Will fish migration periods be considered in the analysis?	Summary	Design
Where would the noise walls begin given the huge, 100-foot drop as the replacement Tappan Zee Bridge would approach the Westchester landing?	Summary	Design Impacts
What would the elevation of the shared use path be?	Summary	Design
Will you need ventilation facilities for the BRT?	Summary	Design

Comment	Type	Theme / sub-theme
Will the varying degrees of environmental impacts associated with the number of piers in the Hudson River be a factor in the decision about which bridge option will be advanced?	Summary	Design
How do you patrol the proposed separation on the shared use path?	Summary	Operation
What is the expected life of the proposed new bridge?	Summary	Operation
Who operates the Newburgh-Beacon Bridge and is it possible to have the ownership extended to the Tappan Zee Bridge?	Summary	Operation
It was indicated that a larger market exists for an east/west movement not a north/south movement. Why is the north/south movement considered for the CRT only?	Summary	Demand management Scope / Transit
I am concerned about the built-in assumptions to the modeling process, of a continuation of growth patterns and travel patterns 30 years into the future. What adjustments are you making?	Summary	Demand management
In response to data noting the number of Rockland and Westchester County residents or workers commuting and using the Tappan Zee Bridge: what are the totals of other through traffic on the bridge?	Summary	Demand management
Has the potential ridership for the transit alignment options been modeled? Will NYMTC be responsible for modeling ridership?	Summary	Demand management
What about the impacts of driving multiple piles at once? Will this affect the distance over which the sound is heard? Will the sound reach as far as the Piermont or Croton marshes?	Summary	Construction process
Aren't there alternative pile-driving methods that could minimize the noise?	Summary	Construction process
The sheeting for cofferdams consists of steel sheets that interlock. Are these driven like the pier support piles?	Summary	Construction process
How many people will be employed on the possible replacement bridge construction?	Summary	Construction process
How is this thing going to behave during construction and in the long run?	Summary	Construction process
What happens in the middle of the construction process when a substantial Nor'easter occurs?	Summary	Construction process
Will the piles be socketed into rock? What methods would be used and what is the sound energy?	Summary	Construction process
What are the costs associated with the project?	Summary	Funding
What are the costs associated with maintaining the existing bridge for another extended period of time, and how does that play out in the financing question?	Summary	Funding
Where is the rolling stock cost in the project budget?	Summary	Funding
Will the transit be funded at the same time? Our timeline indicate a finance plan for only the bridge and highway design portion, and not necessarily the transit?	Summary	Funding

Comment	Type	Theme / sub-theme
What is the yearly annual revenue from the Tappan Zee Bridge itself and the Thruway as a whole?	Summary	Funding
I attended a meeting at the Rockland County Legislature, where a representative from the New York State Comptroller’s office spoke. Does the project team have a response to the message that issuing future debt will be a problem?	Summary	Funding
Aren’t there alternative pile-driving methods that could minimize the noise?	Summary	Impacts / Noise
Wouldn’t the constant construction noise drive fish away from the work zone?	Summary	Impacts / Construction
Is there a difference in the range over which pile driving will be heard when occurring on the river, as opposed to on land?	Summary	Impacts / Noise
During spawning season, striped bass are sometimes so laden with eggs that they are radically damaged if handled. Might a single pile-hammer blow cause fish to discharge their eggs in the Tappan Zee Bridge instead of continuing on to their normal spawning grounds?	Summary	Impacts / Environmental
Will the open house include information on the transit station locations?	Summary	Public involvement
You (the project sponsors) do not want to get the locals’ backs up. You do not want to get rumors going –especially those false ones. You need to keep the public informed.	Summary	Public involvement
When will public find out about air, noise, etc., mitigation?	Summary	Public involvement
When does the commenting period close?	Summary	Public involvement
The CSX rail line abutments are very close to the ROW.	Summary	ROW
How much of the current housing stock will be lost?	Summary	ROW
Stop and Shop will be moving from its location in the plaza on South Broadway to Route 119. Could that location be used for the proposed bus rapid transit (BRT) station instead of the location currently proposed (at the Troop T headquarters, north of the toll plaza and west of South Broadway)? An overpass could be built to connect the Stop and Shop area. This would minimize the impacts north of the toll plaza and west of South Broadway because there are a lot of important elements and facilities at that location.	Summary	Scope / Transit
Would the new bridge have sightseeing points along the bicycle/pedestrian path?	Summary	Scope / Visual
Given how much is happening with the BRT on the north side of Tarrytown, wouldn’t it make sense to select the short tunnel option to connect the CRT with Metro-North’s Hudson Line?	Summary	Scope / Transit
This is the first time I’ve heard you use the term —transit-ready bridge. Is that a reflection of tiering? It seems you are taking on a lot of risk planning for a transit system that might not come to fruition.	Summary	Scope / Transit

Comment	Type	Theme / sub-theme
How close are you in identifying the number and locations of the Bus Rapid Transit (BRT) stations?	Summary	Scope / Transit
Will we be taking measures now to secure property for the future transit facilities?	Summary	Scope / Transit
Can feeder buses get onto the BRT trunk-line?	Summary	Scope / Transit
With CRT well in the future, will there be a link to the Tarrytown Station?	Summary	Scope / Transit
If the CRT were in the center of a reconstructed highway but CRT is never built, would this provide opportunities for BRT?	Summary	Scope / Transit
What about the elimination of the toll booth, not the toll collection, but the booth itself. Is anyone looking at alternative ways to collect tolls?	Summary	Tolls
If you regionalize tolling, there will be additional wear and tear and increased maintenance costs to a new Tappan Zee Bridge (e.g., truck drivers currently use the Newburgh-Beacon Bridge because it is cheaper).	Summary	Tolls
The study team confirmed that the NYSTA was moving forward with high-speed tolling but was not aware of the future plans for the toll plaza at the TZB.	Summary	Tolls

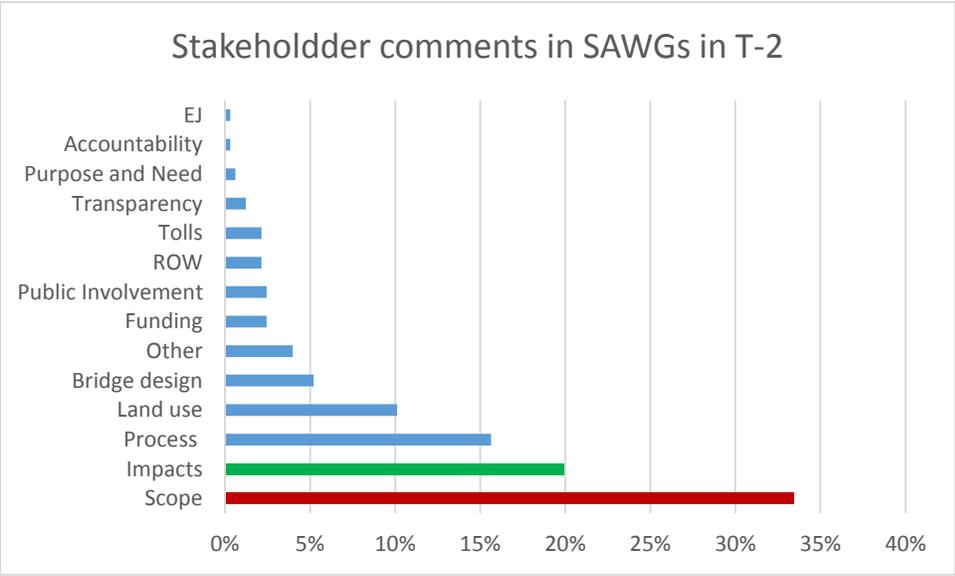


Figure A.1. Distribution of comments made in SAWGs meetings

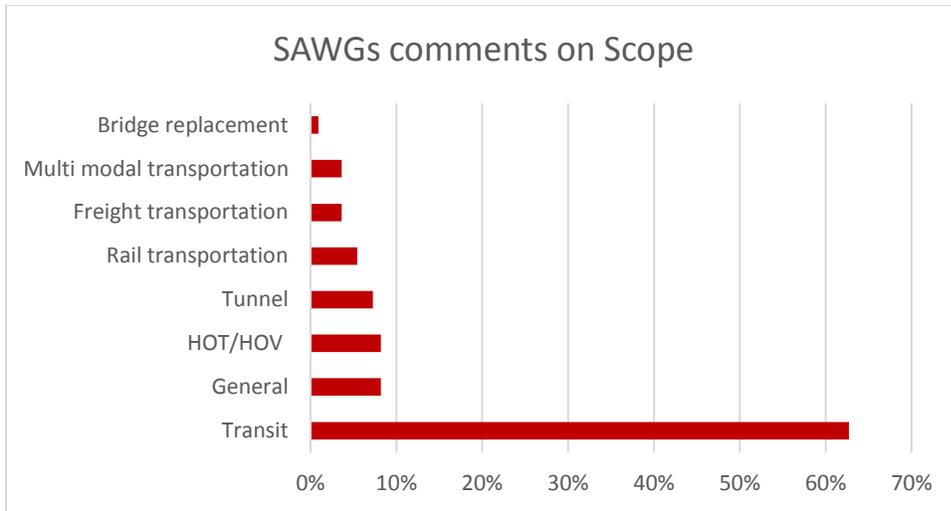


Figure A.2. Distribution of comments made on Scope in SAWGs meetings

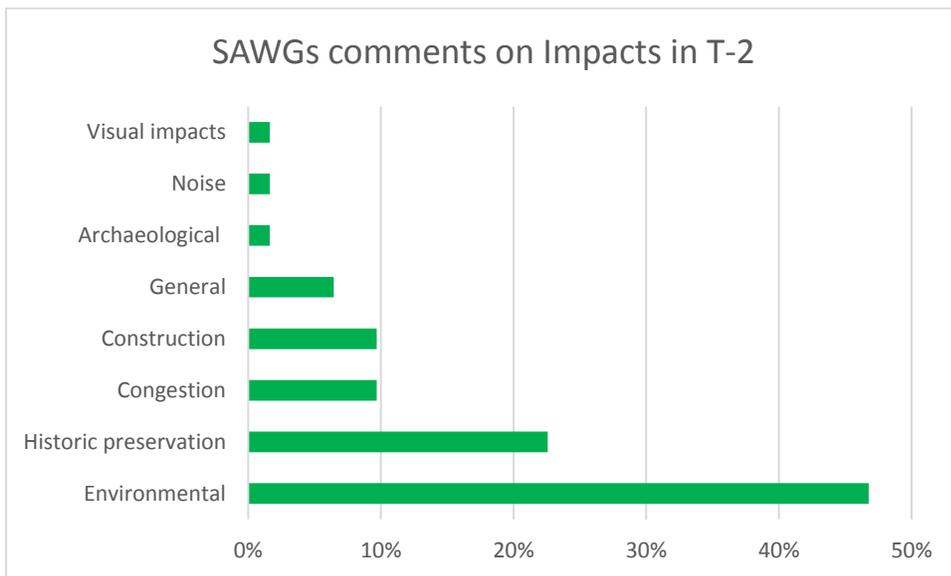


Figure A.3. Distribution of comments made on Impacts in SAWGs meetings

A.3. Comments on public information meetings in February 2008 following issuance of Revised NOI in period T-2

Table A.3. Stakeholder comments in scoping public meetings in Feb. 2008

Comments	Type	Theme / sub-theme
New tunnel drilling technologies should make adding a hi speed rail component to the I-287 corridor more not less feasible.	Written comments	Scope / Tunnel
Would also like dedicated lanes for ecofriendly vehicles if a new bridge is constructed, and a bike path to connect with newly constructed paths throughout Rockland and Westchester Counties.	Written comments	Scope / Bike lane

Comments	Type	Theme / sub-theme
Provide bus lanes on the outside lanes with a bus station under the toll plaza that has a vertical connection escalator and elevator) to the Hudson Line.	Written comments	Scope / Transit
Favors full-corridor CRT that connects with each of the north-south Metro-North lines. An east-west train across the corridor suburbs is more necessary than a train to Manhattan.	Written comments	Scope / Transit
Supports bridge rehabilitation Option 3 but include the road modifications as given in Alternative 3, for Rockland County only.	Written comments	Scope / Rehabilitation
Suggests two separate new bridges for motor vehicles. Rehabilitate the current bridge, for light rail.	Written comments	Scope / Transit
Why isn't anyone asking about a tunnel option from below the Palisades Center to a destination in Westchester County anymore?	Written comments	Scope
It is obvious that BRT would provide greater flexibility at lower cost to taxpayers, but it should incorporate diesel hybrid buses or other clean fuels to limit pollution. Unlike CRT, BRT might also preserve the possibility that if ridership fails to meet goals, then the bus roadway could be used for cars and trucks to mitigate congestion.	Written comments	Scope / Transit
Favor tunnel options, which have been shown to be financial, environmental, and engineering successes elsewhere. Urge the lead agencies to reconsider tunnel options, bringing in tunnel engineering expertise.	Written comments	Scope / Tunnel
Oppose Rockland County transit stations east of the Palisades Mall area and oppose any on/off ramps in South Nyack. The residential communities can't accommodate parking needs, and the increased traffic and parking garages would destroy the quality of village life.	Written comments	Scope/ Transit
Favors a full-corridor bus rapid transit route (BRT) from Suffern to Port Chester. It would be more flexible than fixed rail in navigating low-density, rugged topography, much less expensive than rail, and can be implemented more rapidly. Also, rail lacks demand now and into foreseeable future.	Written comments	Scope / Transit
There should be no ferry as part of this project. Only when the corridor is no longer congested, other crossings for commuters exist, and parking and traffic problems in Nyack are solved should Nyack consider a local ferry stop.	Written comments	Scope / Ferry service
Build a new eight-lane bridge -- it will cost approximately the same as a rehabilitated bridge and will last well into the 21st century.	Written comments	Scope / Rehabilitation
The Scoping Packet doesn't acknowledge that population density -- both residential and worksite -- is what supports efficient point-to-point public transit, and it makes the unsupported assumption that if west-to-east transit is built, drivers would abandon cars.	Written comments	Scope / Transit
NYSTA politically manipulated the alternatives to eliminate the tunnel option(s), which is the best solution. It would free up land to restore the street grid, provide safe bicycle ways, and allow pollution from	Written comments	Scope / Tunnel

Comments	Type	Theme / sub-theme
vehicles using the crossing to be concentrated and scrubbed by a ventilation system.		
We should build it with Transit on it. Because the cost of introducing transit will cost a whole lot more if we need to do it after the fact.	Written comment	Scope / Transit
Bridge plans do not show the clearances for boats that could travel to Albany. Would like more structural information.	Written comment	Design
Incorporate lighter, stronger, and modern materials into construction, such as carbon fiber.	Written comment	Design
Advocates a study to consider other routes and methods of transportation to divert traffic from Nyack and Tarrytown.	Written comment	Demand management
Congestion pricing in NYC may change bridge traffic.	Written comment	Demand management
Would like to try to get federal money to pay for the bridge since toll prices are too high.	Written comment	Funding
Find creative ways to finance the project that do not rely on steep toll increases	Written comment	Funding
Would like federal funding to be used.	Written comment	Funding
Would like to consider private financing.	Written comment	Funding
Finance the whole project with a loan for 3050 years, with interest-only payments for the construction period. Then pay off the loan from the tolls collected.	Written comment	Funding
Compensation to the River Villages and to the property owners must be included in any plan because they are most affected by pollution and noise and will receive the least benefits.	Written comment	Impacts / Community
Would like greenhouse gases to be taken into consideration for the options. Also consider the time/speed of commute.	Written comment	Impacts / Environmental
Would like a mural on the road to the existing Tappan Zee Bridge.	Written comment	Impacts / Visual
Concerned about the disruption to daily life, about access, noise, restriction impacts, and dislocation of homes in the neighborhood due to construction in the vicinity of Van Wart Avenue. What type of screening and landscaping will be done to preserve privacy from construction and the bike path? How will noise and lighting problems be managed during and after construction? Will homes' foundations need to be reinforced before the construction? What if the construction damages the homes?	Written comment	Impacts / Construction
Concerned with construction impact on the Nyack Rural Cemetery and the West Nyack Historic District.	Written comment	Impacts / Construction
The tiered planning system is not adequate for public comments.	Written comment	Process

Comments	Type	Theme / sub-theme
The project is taking too long, with too many delays with implications for cost, environmental impacts, lawsuits, etc.	Written comment	Process
Would like to know why the Authority is taking so long on the Tappan Zee Bridge. What about Columbia University students' free study results? Where is the leadership and financial responsibility?	Written comment	Process
Notice for February open house arrived too late.	Written comment	Public involvement
Would like a forum to allow more speaking time for public comments.	Written comment	Public involvement
The project's public communication provisions are dysfunctional: Email for the Web site is not working; the phone number doesn't allow messages to be left; and the mailed notice of the Open House was received after the last of the three meeting dates had already passed.	Written comment	Public involvement
Is there any provision to buy people out of their homes during the period of scoping and planning?	Written comment	ROW
Would like compensation for property owners in the immediate vicinity of the bridge, who are already living with noise and pollution effects above accepted Federal standards. The Thruway MUST purchase these nearby properties.	Written comment	ROW

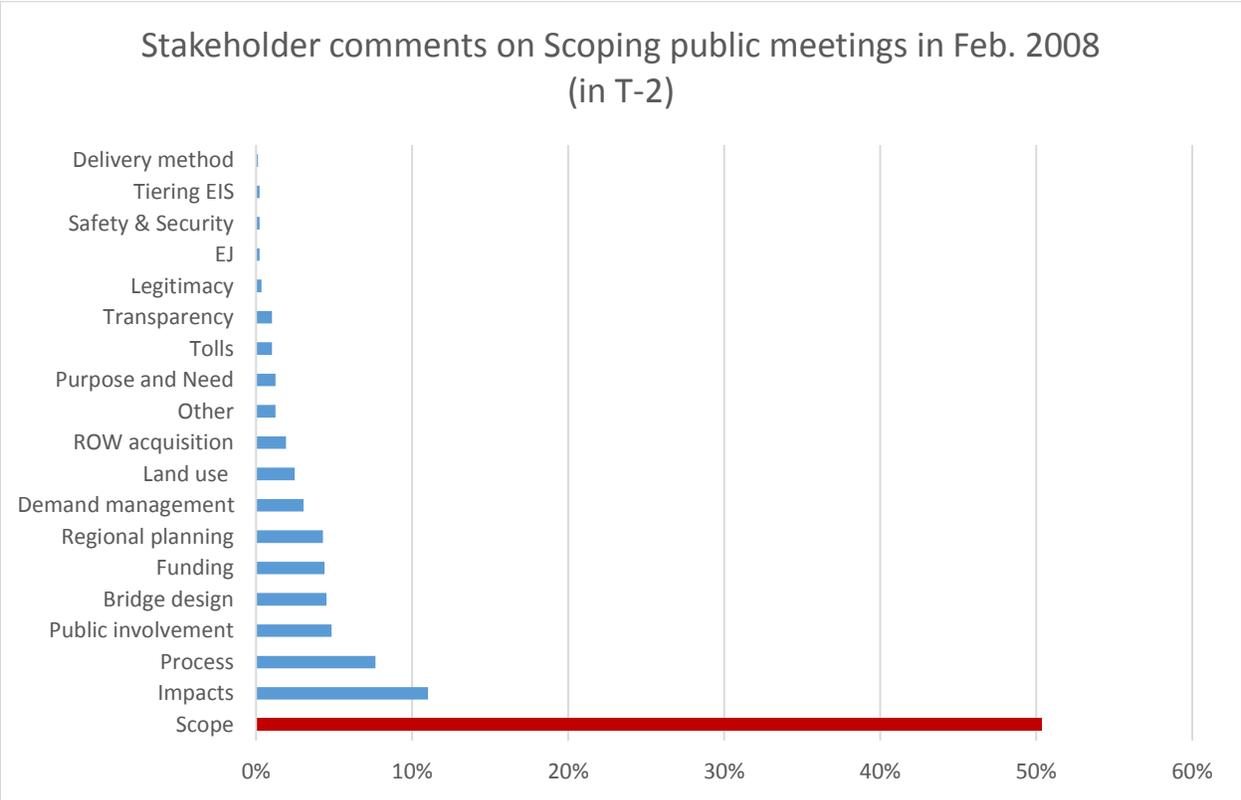


Figure A.4. Stakeholder comments on scoping public meetings held in Feb. 2008 (T-2)

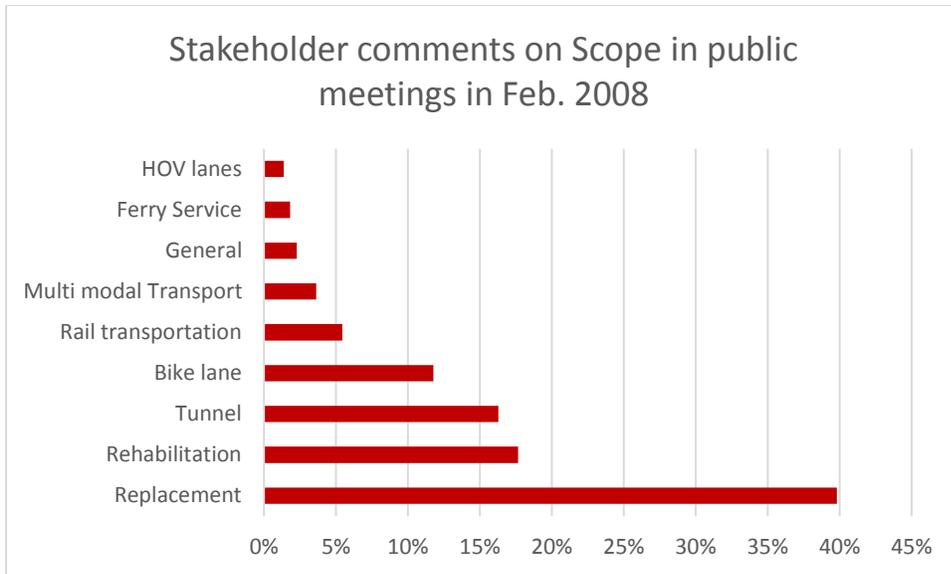


Figure A.5. Distribution of comments on Scope in public meetings held in Feb. 2008

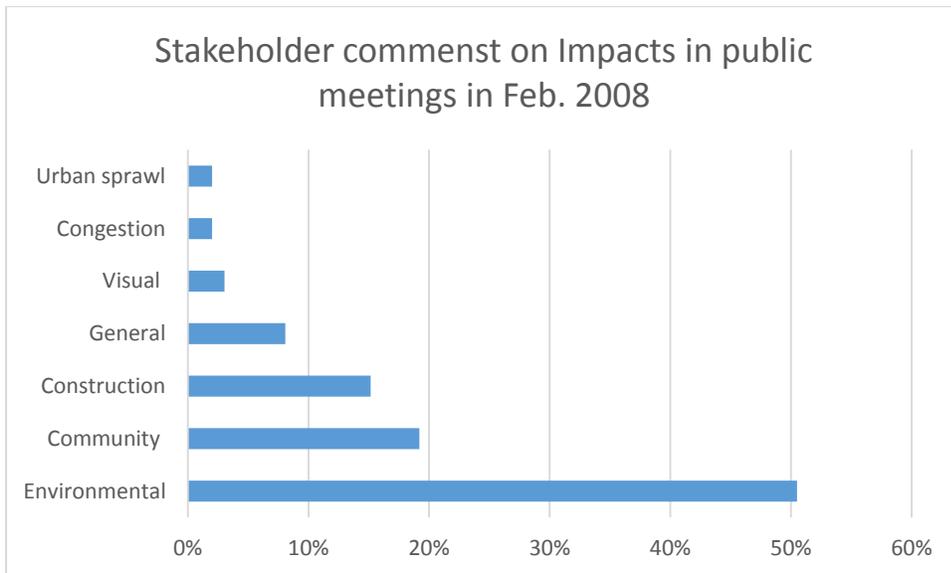


Figure A.6. Distribution of stakeholder comments made on Impacts in public meetings held in Feb. 2008

A.4. Comments on public information meetings in October 2008 following publication of AAR and TMS reports

Table A.4. Stakeholder comments made in public information meetings in Oct. 2008 (in T-2)

Comment	Type	Theme / sub-theme
The highest priority must be given to creating the express roadway option for BRT in Westchester, thereby mitigating the negative impacts of BRT on already-congested local roadways.	Written comments	Scope / Transit
[We] support at least building bridge now with the capacity to add a rail component.	Written comments	Scope / Transit

Comment	Type	Theme / sub-theme
Noise barriers are needed, given construction work on Thruway and the increase in truck traffic once the work is finished, both of which will impact the neighborhoods.	Written comments	Impacts / Construction & Community
Where do you think you will get the money for all of the ideas you have been considering for this project?	Written comments	Funding
So I'm wondering what that's going to mean because, for one thing, one of my priorities is to be sure that the bridge for 100 years is a beautiful bridge befitting the majestic Hudson River and befitting the Empire State that we are.	Written comments	Design
I just want to give my opinion on the two types of bridges they showed. The arch bridge fits in with the area better than the cable thing, the cable one looks manmade, the arch one at least mimics what nature has done out there with the curves.	Written comments	Design
And, also, knowing what's going on the west side of the bridge all the way down to Exit 14, the narrowing of the road from four lanes to three lanes, it's a chronic problem. And you're going to make a wide bridge, but you're not going to solve that problem. That problem has to be tackled along with the new bridge. You cannot just exclude having a three-lane highway feeding and taking traffic off the bridge on the Rockland side. It is totally inadequate.	Written comments	Demand management
I understand that the 30-mile corridor is not going to be included, but I do think that the congestion at the approaches has to be avoided by including some highway improvements at the approaches with climbing lanes, and take that into consideration.	Written comments	Demand management
Now, the Port Authority just raised the tolls for not only cars but trucks. For a 6-axle tractor trailer, it went up from 60 to \$78 per trip or \$10 to \$13 per axle on the truck. The Tappan Zee Bridge is \$7 per axle. If there is a \$36 difference, they'll use the Tappan Zee Bridge.	Written comments	Demand management
After a decade of studying the many transportation options, now is NOT the time to dismiss BRT, commuter rail and light rail as part of the transportation alternatives on a new Tappan Zee Bridge and for the Rockland to Westchester travel corridor as a whole. We do not support constructing a new highway -only bridge on which none of these public transportation options are included.	Written comments	Deception
I feel that the Thruway has contradicted itself on a number of points. I'm holding here last year's report, and it said that CRT, commuter rail transit, was the only way to reduce congestion. It said that what happened to the ARC would not happen to the Tappan Zee Bridge. Yet, we see the same thing happening. I even saw an option, one of the alternatives, to put, at a later date, on the south side of the bridge another structure for rail which they eliminated last year because of its substantial property impact and impact on the aquatic region.	Written comments	Deception
The Governor, NYS DOT and the FHWA deserve credit for finding a way to accelerate the Tappan Zee Bridge replacement project and	Written comments	Fast-tracking

Comment	Type	Theme / sub-theme
making it one of only six transportation projects selected by President Obama to be expedited. Swift replacement of the bridge will help us avert a dreary era of accidents, vehicle weight limits, lane closures and increasing traffic congestion and perhaps worse, as nature and heavy usage cause the bridge's continued deterioration. In addition, the accelerated project will boost employment in the construction trades that have been so alarmingly affected by our economic doldrums.		
We applaud the Administration's collaborative efforts to expedite replacement of the Tappan Zee Bridge, a vital crossing to our State and the Metropolitan Region.	Written comments	Fast-tracking
Finally, we must see a financial plan. A viable financial plan is more vital now than ever and we must ensure that the cost of this project does not rest on the backs of commuters.	Written comments	Funding
I'm also obviously concerned about how we'll pay for this, as everybody should be. There have been a number of funding sources suggested by the state, and it's incumbent on the involved agencies to look at what is best for the taxpayers. And we cannot be afraid of the public/private partnership.	Written comments	Funding
I also need more clarity on the \$5.2 billion because over the past years it's been said that the bridge alone would be at least \$6 billion. And we were talking then in terms of, I don't know, 2009 dollars or 2008 dollars. I don't recall what it was. But this is now 2011 and 5.2 billion is substantially less. So I'm wondering what that's going to mean because, for one thing, one of my priorities is to be sure that the bridge for 100 years is a beautiful bridge befitting the majestic Hudson River and befitting the Empire State that we are.	Written comments	Funding
I know that the funds will only go so far. I would hope that the agencies involved now can partner in creative thinking to find, when funds become available from collateral agencies, not necessarily the transportation departments but from other agencies, ways that we can mitigate the effects of the Hudson crossing on the river communities.	Written comments	Funding
And I think you're concerned about the money. This is not deficit spending. This is an asset. This can be borrowed against. There will be a public/private partnership to deal with this. But let's not think about five billion. Think about ten or fifteen. Now is the time to do it. We need the jobs and interest rates have never been lower. It should be done the right way.	Written comments	Funding
Also, the plan for funding that we're hearing in the newspapers is totally unrealistic. Funding through loans and bonding may not be feasible because I don't think that the NYSTA has the revenue stream to support the debt service that would occur. What we're really going to need is an allocation from Congress as part of the	Written comments	Funding

Comment	Type	Theme / sub-theme
<p>upcoming Five-Year Transportation Funding Act. We're not chopped liver here in Rockland County and we should be able to get some of that money. And that's very important. And our Congressional representatives have to make sure that it's done. If Frank Lautenberg can do that for New Jersey, we should be able to get it here in New York.</p>		
<p>We live at The Quay of Tarrytown condominium and are extremely concerned regarding the proposed new TZ Bridge that is outlined in the above scoping document. We are requesting a "hard look" during the environmental Review Process at the impact this will have on our health, quality of life and the financial impact on our home.</p>	Written comments	Impact / Community
<p>The review must also take a hard look at the marginal environmental benefits, in particular those related to energy consumption and greenhouse gas emissions, derived from the reuse of the materials and reduced demolition activities, were a rehabilitated bridge to replace the new southern structure.</p>	Written comments	Impact / Environmental
<p>Giving our children and their children and so on, more congested highways with lengthy commutes will only drive more and more people out of this region; not to mention the environmental impact of increasing greenhouse gas. This is a horrible legacy, and should be an embarrassment to government officials who would allow.</p>	Written comments	Impact / Environmental Legitimacy / Congestion
<p>I also understand your desire to delay construction of a mass transit project or to consider the mass transit elements either because of cost or because it has a tendency to bog down the whole project. But I suggest that that's not acceptable to the community.</p>	Written comments	Scope / Transit
<p>As a NYS taxpayer I can not support the proposed \$5.2 billion dollar Tappan Zee bridge replacement. It's not that I have no reason to cross that part of the Hudson. I traveled over the Tappan Zee just last week for a company retreat at Mohonk. We rented a bus, transported 60 people, and put a good chunk of money into the local economy. My problem is that the billions you want to spend will do nothing to improve the access of millions of people like me to the region. I'd like to go back to Mohonk on my own time and spend a weekend at the resort, but I can't get there. It's too slow and complicated for those of us who spend our money on things other than automobiles and gas.</p>	Written comments	Legitimacy
<p>Section 1-6: The penultimate objective of the third goal calls for pedestrian and cyclist access to the bridge. While I believe that this is normatively a 'good' thing, the EIS should consider the relative costs associated with providing this 'good' versus providing for BRT, another public good. This is especially true if the primary purpose of the crossing is transportation rather than recreation, as very few, if any, pedestrians will use the crossing for transportation purposes</p>	Written comments	Process

Comment	Type	Theme / sub-theme
and the number of cyclists engaged in transportation, as opposed to recreation, is also likely to be small.		
The Scoping Information Packet we were provided has very little information regarding the long-term solution to growth and congestion. The document does not have a proposed action as would be typical for a Scoping Report. It has only two alternatives, don't build a bridge or build a bridge, which is no choice at all.	Written comments	Process
There are some other items that should be considered: The construction and design duration; design/build needs some legislation in Albany; the funding mechanisms to have this project move forward quickly may require some legislation in Albany. So we'd ask our legislators to identify and look at those issues.	Written comments	Process
We were probably all taught as children not to rush through projects just to get them done. Instead, we were taught to do the job right. This is especially true in the case of replacing the Tappan Zee Bridge-- a structure that will impact this region for many decades. We know better, in 2011, than to build a bridge that serves only automobile traffic. It is bad for the community, bad for the environment and extremely short sighted. I cannot believe that what we could do more than 100 years ago when the Brooklyn Bridge was erected, can no longer be done today. Let's do this thing the right way and build something that we can be proud of -- something forward thinking.	Written comments	Process
[M]y first suggestion would be to improve the NYSTA's radio station that does not work in Suffern... Updating the websites regularly would be helpful. Newspapers and TV and radio would be very helpful to have regular communication with the public.	Written comments	Public involvement
As we work to identify the best route forward, it's critical we acknowledge the concerns of the communities affected; the mistakes that have been made in the past; and the importance of community involvement in getting this rebuild right. It was over half a century ago when the Tappan Zee first crossed the Hudson and cut the South Nyack in-two, forever blighting and dividing the community. While we cannot change mistakes that were made, we do have a unique and unprecedented opportunity to undo some of this damage and, hopefully, to make this community whole again.	Written comments	Public involvement
The proposed design of the replacement bridge solves many of the problems associated with today's accident and congestion-prone bridge. It will moderately add capacity with a permanent eighth lane, will be much safer with wide shoulders and emergency access lanes, will be less susceptible to congestion caused by slow-climbing trucks, and will provide ample space for crossings by pedestrians and bicyclists.	Written comments	Purpose & Need
Again, I truly believe that this rebuild represents one of our region's greatest opportunities to maximize our economic potential while	Written comments	Purpose & Need

Comment	Type	Theme / sub-theme
ensuring responsible redevelopment and cultural and environmental stewardship. I thank the Governor for moving this project forward, and I look forward to working with the state and our local communities to ensure we get this project right, and appreciate your consideration.		
Giving our children and their children and so on, more congested highways with lengthy commutes will only drive more and more people out of this region; not to mention the environmental impact of increasing greenhouse gas. This is a horrible legacy, and should be an embarrassment to government officials who would allow it.	Written comments	Scope / Transit
The Westchester county Planning Department is currently preparing an update to the County's comprehensive plan, entitled Westchester 2025: plan together. The placement of BRT along 1-287 has the potential to follow the proposed policies of "Enhance corridors", "Support transportation alternatives", and "Join regional initiatives" of Westchester 2025: plan together. The EIS should discuss how the Hudson River Crossing Project respond to the County's proposed policies.	Written comments	Scope / Transit
The Tappan Zee Bridge Hudson River Crossing Project is a completely new plan - what we will call the "New Project." The plan for the New Project is to replace the Tappan Zee Bridge with two new spans that do not increase capacity and do not preclude addition of transit in the future.	Written comments	Scope / Transit
Without some type of rapid transit, preferably in my mind bus rapid transit, a new bridge will increase congestion and air pollution at the bottlenecks off the bridge. I would suggest to you that all Westchester-bound commuter buses crossing the bridge should be destined for White Plains Transportation hub, not for Tarrytown like they go today.	Written comments	Scope / Transit
The idea of truck pricing on the bridge during the peak hours of traffic, that was a really smart idea and that's certainly something you could look into in the scope of the report.	Written comments	Tolls
The toll right now today to cross the Tappan Zee Bridge is five dollars and the George Washington Bridge is twelve. Because the Tappan Zee Bridge is usually one-third of whatever the George Washington Bridge is. Which makes me wonder how the NYSTA comes up with their toll pricing, cost of maintaining the bridge based on how much toll you're charging, based on your closeness to New York City because the New York Stay Bridge Authority in Highland, New York operates four bridges across the Hudson for a dollar a toll.	Written comments	Tolls
The scoping document is inadequate and must be modified. It states that funding was not available for the full project so public transportation was eliminated. It's not clear how this decision was made or whether this presumption includes both bus rapid transit	Written comments	Transparency

Comment	Type	Theme / sub-theme
and rail. There is no clear funding source for any part of the project so new revenue will have to be generated no matter what. Why is part of the project affordable but other parts are not? Bus rapid transit was the cheapest of the components and it's likely an improved design could further drive costs down. This must be included going forward.		
Exactly where will the funds come from and will the Merrill-Lunch financing study completed at least 18 months ago be released?	Written comments	Transparency

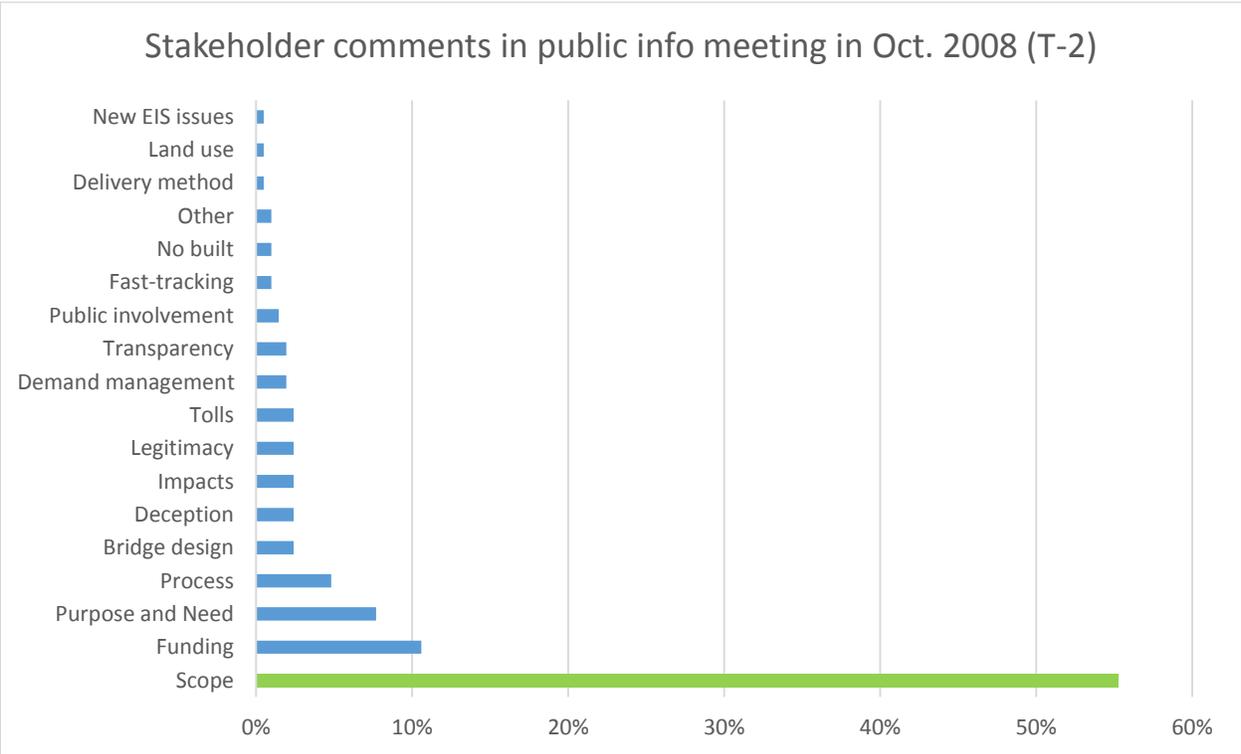


Figure A.7. Distribution of stakeholder comments in public meetings in Oct. 2008

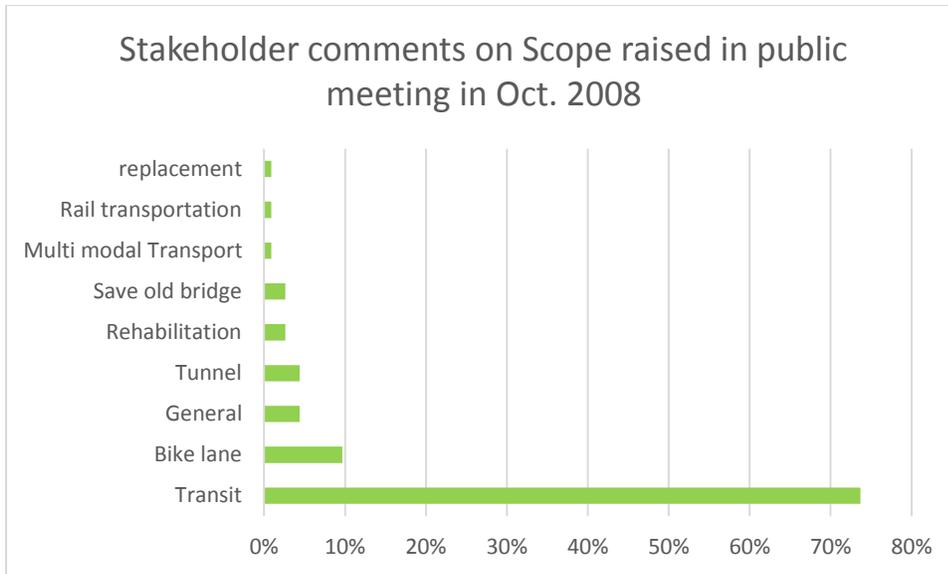


Figure A.8. Distribution of stakeholder comments on Scope raised in public meeting in Oct. 2008

A.5. Stakeholders’ written comments in public scoping briefings held on October 25 and 27, 2011

Table A.5. Stakeholder written comments on Public Scoping Briefings (in T-3)

Comments	Type	Theme
A bus lane seems to make sense. Most people would ride a bus from say White Plains. It would also potentially reduce traffic. Why is it not being considered on a minimal level?	Written comments	Transit
The submitted scoping document is inadequate and must be modified. It states that funding was not available for the full project so public transportation was eliminated. It's not clear how this decision was made or whether this presumption includes both bus rapid transit and rail.	Written comments	Transparency / Transit
I believe the design should show vision, be a destination site leading as an invitation to the Hudson Valley, and anticipate future demands beyond today's requirements.	Written comments	Design
Secondly, I just wanted to know why can't the federal money that's being used to replace the current project be used to fund the current project so that we could have the mass transit options that the community has requested? Basically, I feel the project has been turned from phase one of three to phase one of one. They pretty much, instead of putting money into the proper project, they have put money -- they have just created a new project.	Written comments	Deception
And I'm going to give you a source of funding, because the MTA got a payroll tax included in their piece of the saving of the MTA that is paid for by everybody in Rockland, Westchester, and this corridor... You should be working right now, and those of you who talk to the federal level and the state level, to the governor, you should be saying to them that four years from now or five years from now, the source of that money gets diverted to	Written comments	Funding

Comments	Type	Theme
this project, to mass transit this project. And you should engineer it now because, I agree, if you make the decisions now and it's part of the project and the federal government and the state government make a commitment to rail transit, it will happen. If you do not make such a commitment, you will solve your immediate problem and you will do nothing for this region.		
My question is whether you have considered exploring the possibility of having private companies bid on that right-of-way which would help reduce the amount of subsidies required to build this bridge. And I think this is a very important issue. And it goes beyond just the Tappan Zee corridor. It's also the entire Thruway system. If you allow a private company to bid on that right-of-way, it won't just reduce the subsidies, but it will also allow for new types of technology to be developed because the Tappan Zee Bridge, as it's been noted, carries such a high volume of traffic. If you allow private companies to come in and bid on that right-of-way, they can invest in new types of transport technology. What technology am I talking about? Maglev mainly.	Written comments	Funding
The review must also take a hard look at the marginal environmental benefits, in particular those related to energy consumption and greenhouse gas emissions, derived from the reuse of the materials and reduced demolition activities, were a rehabilitated bridge to replace the new southern structure.	Written comments	Impacts / Environment
This proposed project is to the ADVANTAGE OF RESIDENTS ON THE ROCKLAND/ORANGE/JERSEY side of the river while we, IN TARRYTOWN WILL BEAR THE BRUNT OF WORSENING AIR QUALITY, ADDED TRAFFIC ISSUES, INTRUSION INTO OUR LIVING AREAS, NOISE AND GENERAL POLLUTION.	Written comments	Impact / Noise
Unless you expand 87/287 to four lanes to the Palisades Parkway the traffic will still back up going west at the top of the hill in Nyack. This has to be part of the project or a new project after this is finished.	Written comments	Impact / Community
And I think one of the things we need to consider is the more you build this bridge to make it easier for people to go across, the more it will attract traffic from elsewhere, like the George Washington Bridge, and only make the conditions worse here in Rockland County.	Written comments	Impact / Congestion
The new bridge should not waste any money for mass transit. If they're not going to build it now, they might not build it the future, don't waste our money on something that's not going to happen. If you're going to do it, do it. If not, don't waste the money to provide for it.	Written comments	Deception
I also understand your desire to delay construction of a mass transit project or to consider the mass transit elements either because of cost or because it has a tendency to bog down the whole project. But I suggest that that's not acceptable to the community.	Written comments	Legitimacy
As everyone involved in this project over the last 10 years is aware, there was an enormous amount of analyses conducted by the project team. This resulted in numerous comprehensive studies, including for example, the Transit Mode Selection Report cited earlier, that were to form the basis for subsequent decisions. Now that the design and construction of mass transit has been separated from the replacement bridge project, when will the planning process for mass transit and the improvements to the rest of the corridor recommence and what will it entail? Will the previous analyses be considered valid? What is the proposed timetable for constructing mass transit? Which agency will shepherd this process?	Written comments	Legitimacy
The 30-mile scope of the original study was shortsighted. This is the largest metropolitan area in the United States, and the fact that more	Written comments	Process

Comments	Type	Theme
comprehensive traffic solutions were and are not being considered is, frankly, absurd. The policy planners and decision makers must consider the economic, quality of life, and environmental issues, not just replacing a bridge.		
Section 1-6: The third goal of the project calls for maximizing the public investment in this project. In order to do that, an evaluation of providing for BRT service over the bridge must be included. It is clear that it is more cost-effective to move people via public transit than in personal automobiles. The EIS should review the relative costs of moving people, not vehicles, over the crossing in both private automobiles and via BRT.	Written comments	Process
With government budgets stretched thin, privatization of big-ticket infrastructure such as the Tappan Zee Bridge is a highly attractive option, we believe. The private/public model for infrastructure funding is one we have been advocating for since 2007.\.. There are private equity partners here and abroad with plenty of liquidity, and the time is right to foster a partnership with them and others, such as public sector pension funds, to create a long-term solution for the Tappan Zee Bridge, not really one that is a quick fix.	Written comments	Funding
Ways of funding the construction of the new bridge must be resolved quickly. The options, including NYSTA bonding, infrastructure loans, private and public pension loans, and private and public partnerships as well as traditional federal and state funding are all possibilities. The lead agency for the project must resolve this quickly because some options will require state legislation to go forward.	Written comments	Funding
Three, cost. In these precarious economic times over pricing infrastructure has very long change reaching effects diverting money from personal shopping, housing and necessary public services.	Written comments	Funding
After having followed for some years and now reviewed your proposed Tappan Zee Hudson River Crossing Project plan, I believe that it is not a feasible one for two reasons, not counting the uncertainty of its financing.	Written comments	Funding
I understand some of the proposals for businesses and a green space are far too expensive for government to fund at this time, but I nevertheless ask that current planning not forfeit any option for this to be realized in the future. Some of this future development can be modular, in a piece-by-piece fashion, as proven successful by projects such as New York City's High Line development. In fact, the mere construction of this bridge will attract possible private funding, so that the concept South Nyack has for mixed-use development may ultimately be realized. I'm optimistic that the business community will in fact realize this opportunity once the bridge becomes a reality.	Written comments	Funding
Thank you for giving me the opportunity to submit written comments on the subject of the possible rebuilding of the Tappan Zee Bridge. I have travelled over the Tappan Zee Bridge many times in my life and am quite familiar with its usefulness as a major transportation link between communities to the northwest of New York City and communities to the north and northeast of New York City, as well as to the city itself and to points further afield.	Written comments	Purpose & Need
I am also familiar with the traffic congestion which occurs on the bridge and, over the last ten or so years, have become aware that the bridge is reaching the end of its designed-for life.	Written comments	Purpose & Need
Plus, it (a tunnel) would eliminate, sadly, the many suicides that take place on this bridge every year, or attempted suicides, that use police and first responders' resources, not to mention the human cost.	Written comments	Scope / Tunnel

Comments	Type	Theme
As taxpayers, we have to realize there's three costs to this project: The cost to build it; The annual cost to maintain and operate it over the next 100 years or more; And the cost to the environment and wildlife that depend on the river. And the tunnel option has by far, by far the lowest cost to maintain and operate and the lowest impact on the environment.	Written comments	Scope / Tunnel
...what we seem to be doing now is planning as we would in the 1950s, looking only -- right now on the table, all that's being built is something to deal with cars. And we know this is a dead end from a regional planning perspective, from an environmental perspective. It would be a painful mistake not to think big and try to create something that would last and be useful and be celebrated by 20 generations.	Written comments	Scope / Transit
We also need to recognize that the expansive population growth we need to tackle is not here, not just in Clarkstown, but west and north. Rockland should not be treated as a pass-through or the last stop as it has in the past. It needs a bridge and a long-term plan and a solution worthy of its people.	Written comments	Scope / Transit
It would also be helpful for us to understand the estimated costs for the now delayed mass transit alternatives and improvements to the rest of the corridor. DOT commissioner Joan McDonald stated in the public hearing for the Scoping Session that a BRT system could cost from \$2-4 billion but offered no explanation of those costs.	Written comments	Scope / Transit
You have declared that it's too expensive to accommodate transit in a Tappan Zee rebuild, to any degree—but, we've got over 5 billion dollars just lying around to pay to accommodate more people in personal cars? I don't think so. We can't afford it either way, but you want to borrow money for some people and not others. Please: stop what you're doing, and give proper consideration to the very real alternative of not building a boondoggle. Control demand to the existing bridge with a toll. Some people will carpool, some people will take buses. Everyone will make accommodations, because that is what people do. This is going to happen no matter what we do with the bridge. It's just a question of whether we are \$5.2 billion poorer because we went all in on 20th century transportation, in 2012.	Written comments	Scope / Transit
How is this bridge going to be paid for? I don't know. I wasn't here for part of the meeting so I don't know whether that was discussed. But if the bridge tolls are doubled and something like what's happened on the George Washington Bridge is happening, people aren't going to be able to afford it. It's going to be a hindrance to business in this region, a serious hindrance to business. We've got to be business friendly.	Written comments	Tolls
I also think that we need to keep the tolls down as best we can, and I suggest one way of doing that is by selling naming rights to the bridge. I think that would be an excellent source of revenue, as it's something that's on television multiple times of the day, many days of the weeks during every month, during every year. I think there can be a lot of money made from the naming rights.	Written comments	Tolls
It would also be helpful for us to understand the estimated costs for the now delayed mass transit alternatives and improvements to the rest of the corridor. DOT commissioner Joan McDonald stated in the public hearing for the Scoping Session that a BRT system could cost from \$2-4 billion but offered no explanation of those costs.	Written comments	Transparency
Exactly a year ago, Governor Christie canceled the Access to the Region's Core Plan. And the Access to Region's Core was three billion dollars' worth of federal funding. Now, New Jersey transit took up 187 million to get the	Written comments	Transparency

Comments	Type	Theme
<p>project started before it got stopped. They're now going to repay the federal government \$95 million. That was approved at their October 4th board meeting. So we still have approximately \$2.8 million worth of federal transportation funding that nobody can tell me what happened to it. And we can't understand why some of that money, the people from the United States Department of Transportation can't give us information about that and why that can't be used for funding of transit alternatives in the Tappan Zee I-287 corridor.</p>		

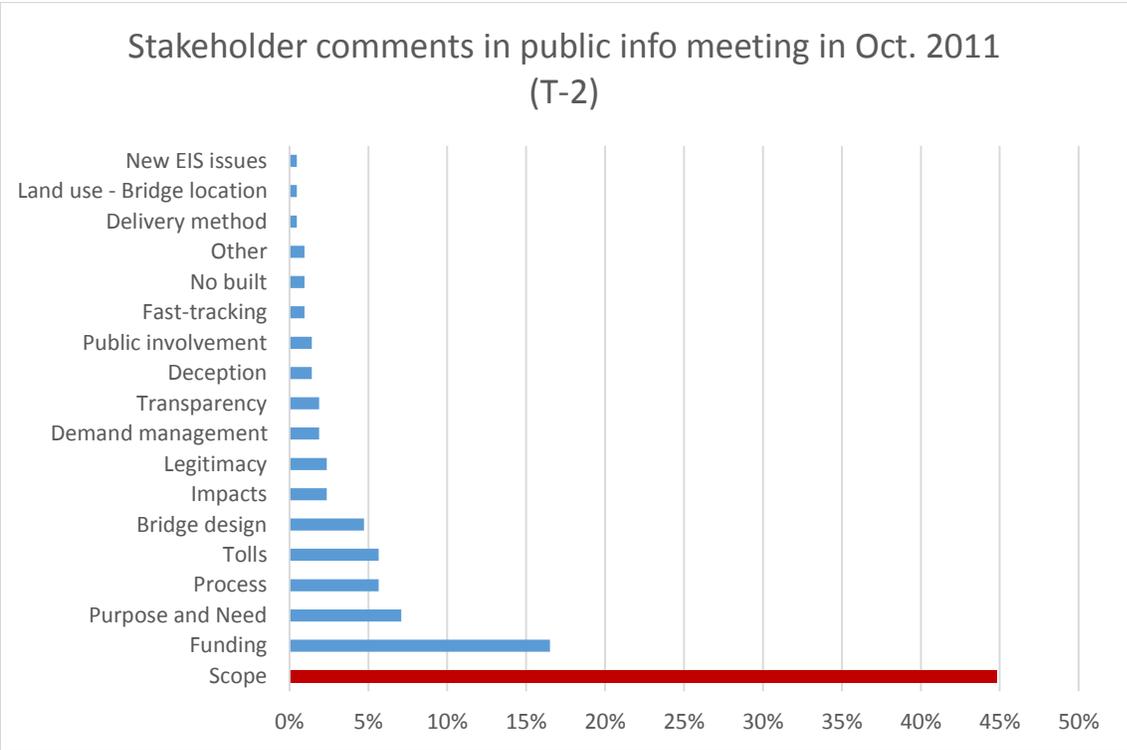


Figure A.9. Distribution of stakeholder comments on public meeting in Oct. 2011

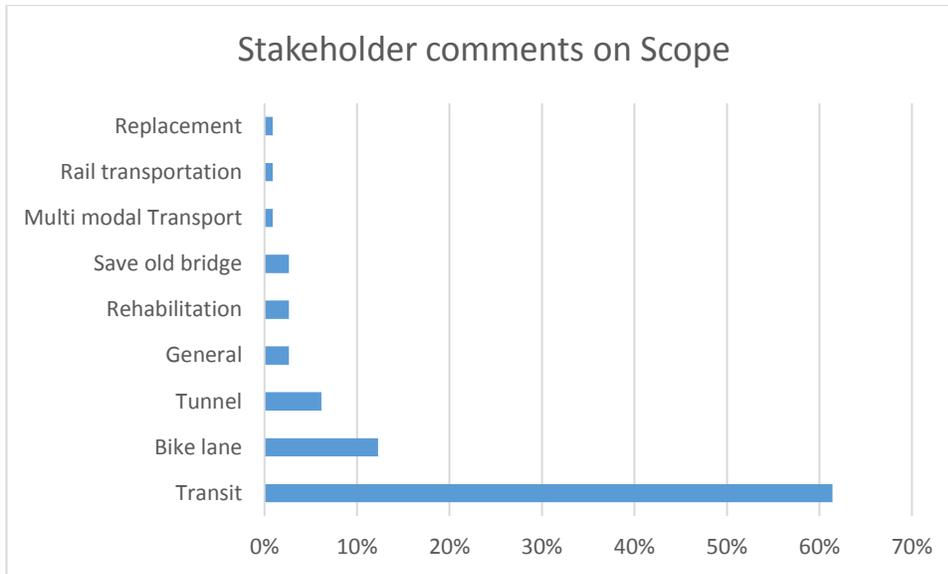


Figure A.10. Distribution of stakeholder comments on Scope

A.6. Stakeholder comments in four public hearings following the publication of Draft EIS on February 28th and March 1st 2012

Table A.6. Stakeholder comments on Draft EIS public hearings (T-3)

Comments	Type	Theme / Sub-theme
First, the amount of time that the public has been given to review and comment on the DEIS is wholly insufficient. We have been given the minimum number of days as required by law to comment and read this DEIS that is very long and addresses a multitude of complex issues.	Public meeting	Draft EIS Issues
The cost estimates for the alternatives mentioned in the DEIS have no accompanying cost studies to show how these figures were calculated.	Public meeting	Draft EIS Issues
We do hope that in the final analysis there will be provisions for transit and that whatever transit service is provided will include provision for bikes on buses.	Public meeting	Scope / Transit
In fact, just two years ago, the DOT Scoping Summary stated that mass transit offers the only realistic means of addressing the requirements of improving mobility in the corridor.	Written comments	Scope / Transit
There are beautiful cable-stayed bridges and there are also beautiful arch bridges. The two examples that were shown are sadly uninspiring. I hope that there is some enforcement of real quality design to the bridge that is eventually done.	Written comments	Design
The other thing is, if you'd like to see a beautiful design of a stayed cable construction bridge, you should take a look at the Ravenel Bridge in Charleston, South Carolina. This used a stayed cable construction design that has made an elegant structure that has been an asset to the community. And if you look a	Written comments	Design

Comments	Type	Theme / Sub-theme
little more into the history, it took down old bridges that kind of looked like the Tappan Zee Bridge. So I say that we should really look into a good, impressive stayed cable.		
State officials recently stated that the bridge would be designed not to preclude transit. I would like to be clear about something. There are no plans at this point in time to build public transit as part of this project. The State has confused people by combining two transit ideas; a rail line into Manhattan from Rockland and cross-border bus rapid transit.	Written comments	Deception
The Draft Environmental Impact Statement raises more questions than it answers and it must detract these deficiencies before this project moves forward. It does not fully consider the economic impacts of this project, and it is not transparent about project financing. As of now, there is no money identified for this project and no one knows how much tolls are going to be up or who is going to be paying for this project. In fact, one estimate by Charles Komanoff shows that tolls could triple to pay for this bridge. If we are going to be paying \$15 to cross the bridge, it better be a bridge that is designed for the future.	Written comments	Funding
It's no secret that people would make more trips, I don't think that's a bad thing, into Rockland County to come to this mall, for instance, if the toll was lower or less. But yet, here we are talking, some of the people have talked earlier at the previous hearing that tolls might be \$15 if they build a new bridge to pay for the cost of the bridge, because there is no money, there is no federal money. Someone hinted at \$2 billion dollars. That's actually not money from the feds. That's a loan that will have to be paid back by the residents here. And Andrew Cuomo is not making any effort to get real federal money towards this project.	Written comments	Funding
However, I also fear that the negative impact of new construction on the present residents is not being given enough consideration. For the time the new bridge is under construction, anywhere from four to six years, there will be increased dirt, noise, and traffic issues, such as heavy machinery and detours. Our property values have declined since the construction of a new bridge was announced and only a few units have been sold since the public has known that our development will be severely impacted by this project.	Written comments	Impacts
No investigation has been done regarding the structural impact of drilling on our retaining wall along the river or on the foundations of our buildings. Our in-ground pool will be negatively affected by the dirt and air pollution caused by the project.	Transcripts	Impacts / Construction
We are concerned about the dust, the dirt, the noise, the vibration, and the overall upsetment the building and the final product of the new bridge itself has on our residents. And, sadly, as of today, we have no answers. How will the staging for the construction impact our residents?	Transcripts	Impacts / Noise
I do want to raise one environmental issue, which I raised at the scoping, which is climate change. I tried my best to find in this DEIS any mention of it, any mention of what would happen if sea levels rise 10 feet, 30 feet, 50 feet. What will it do to the salinity and the chemical content of this water surrounding the bridge? What tidal forces will be changed by that?	Written comments	Impacts / Environmental
The Draft Environmental Impact Statement raises more questions than it answers and it must detract these deficiencies before this project moves forward. It does not fully consider the economic impacts of this project, and it is	Written comments	Draft EIS issues

Comments	Type	Theme / Sub-theme
not transparent about project financing. As of now, there is no money identified for this project and no one knows how much tolls are going to be up or who is going to be paying for this project. In fact, one estimate by Charles Komanoff shows that tolls could triple to pay for this bridge. If we are going to be paying \$15 to cross the bridge, it better be a bridge that is designed for the future.		
The other issue is that if loans and if money is borrowed to build this bridge, we have to know the cost of the debt service. We have to know the impact of this debt service on the tolls that are going to be charged on the bridge and on the taxpayers that may have to make up the difference if that be so.	Transcripts	Draft EIS issues
We have reviewed the DEIS, the thousand pages, the many appendages, and we have hired a professional civil engineer to help us understand the contents of this weighty document as it is really couched in professional language and not for the layman.	Transcripts	Draft EIS issues / Transparency
We encourage the State to make public a complete financing plan. Planning for future transit services should be done openly and include peer reviews to fully vet planning, design, and engineering assumptions.	Transcripts	Draft EIS issues
But I first wanted to discuss a couple of quick legal and procedural problems that we see in the DEIS. First, the 45 days that the public has been given to comment on this does a disservice to a project that has been in the works for over a decade now. We have filed FOIL, Freedom of Information Law, requests that we think are critical to our meaningful review and assessment of the environmental and ecological impacts of the project. And we have been given no time to review these. We have been told that they will be given back to us after the deadline for the comments period. And our 60 day extension has been completely ignored.	Written comments	Draft EIS issues
Second, the DEIS suffers from many fundamental legal and procedural flaws that must be addressed in the Final Environmental Impact Statement. It does not adequately take a hard look at all the reasonable alternatives and quickly eliminates without sufficient justification other feasible options, like a large diameter tunnel, which is not discussed at all, a single structure, and the rehabilitation options. They do this by citing to data from the previous I-287 corridor project which was not subject to a public comment period in a DEIS or an FEIS.	Written comments	Draft EIS issues
Additionally, the DEIS failed to describe the basis for the cost estimates, like why a tunnel would cost \$8 billion or why a rehabilitation option would cost a billion dollars more than a replacement option. The DEIS falsely assumes that the replacement alternative will not generate additional volume or capacity. There's no basis for this. They use this assumption to short circuit or avoid studying the other critical impacts on transportation, air, and energy impacts. Reasonably, whenever there's a breakdown on the current bridge, a new bridge will lead to more capacity in that regard.	Written comments	Draft EIS issues
We have reviewed the DEIS, the thousand pages, the many appendages, and we have hired a professional civil engineer to help us understand the contents of this weighty document as it is really couched in professional language and not for the layman.	Transcripts	Draft EIS issues
Please do the right thing and listen to what the public is saying. We need a transit-ready bridge now. Make this a legacy project, something we can be proud of for the future.	Transcripts	Public involvement

Comments	Type	Theme / Sub-theme
Safety-wise, this thing needs to be done now. We can't wait any longer. The financing is available. We have to take advantage of it now. As long as mass transit is able to be added at a later date, we should be able to get this thing going and get it moving.	Transcripts	Purpose & Need Transit
We are pleased that New York State is moving ahead aggressively with plans to replace the Tappan Zee Bridge. The current bridge is severely outmoded and requires expenditures of tens of millions of dollars a year to maintain it in good working order.	Transcripts	Purpose & Need
That is an unacceptable economic burden to be put on local people that live in this area and work in this area. People that commute across that bridge should not have to pay \$15 tolls.	Transcripts	Tolls
Today it is \$5. Should I assume in 50 years when my kids are just a little older than myself that it's going to be \$50 to cross the bridge? It's unreasonable to base tolls as the way to fund a bridge. That is just not realistic looking in the future.	Transcripts	Tolls
In the building of this new Tappan Zee Bridge, we're only duplicating, and very poorly at that, what has already been shown to not work. If the new bridge is built with only the same premise in mind, to get cars across the bridge without supplemental mass transit options that could be built in, such as magnetic rail trains, we will be in exactly the same situation in future years. As more cars are accommodated to cross the river.	Written comments	Scope / Transit
We do hope that in the final analysis there will be provisions for transit and that whatever transit service is provided will include provision for bikes on buses.	Written comments	Scope / Transit
If we don't have a dedicated bus lane right now, then we're missing the bet because the future is now. We are selling in our terminal one and-a-half times as many bus tickets as we did a year ago. Everybody is witching to buses and we need to have a dedicated lane.	Written comments	Scope / Transit
Tonight we're here to say that we have long supported replacing the Tappan Zee Bridge, but we believe New Yorkers deserve a better plan than the current one. The current plan will promote unsustainable growth and saddle our children with our problems.	Written comments	Scope / Transit
<p>However, Route 119 is not a bicycle safe roadway. A few years back, the State and County probably together improved the road. They put up a very nice landscaped central median buffer and narrowed the side lanes so that there's no space for cyclists -- for motorists to overtake safely, to overtake bicycles. The lanes are too narrow.</p> <p>This is a life safety issue that exists on several of the other roads and paths connecting the bridge. These need improvements such as route signs, crosswalks, traffic signals, sidewalks, and bicycle lanes. Most of this can be done at very low cost, but it's a critical element.</p>	Written comments	Scope / Transit
We also have outstanding information requests from the government which are valid and reasonable requests for good information that will inform the public. And we need to have that extra time. That extra 60 days will not doom this project, it will not delay it unjustifiably. And so we repeat the request for additional time to comment.	Written comments	Transparen cy

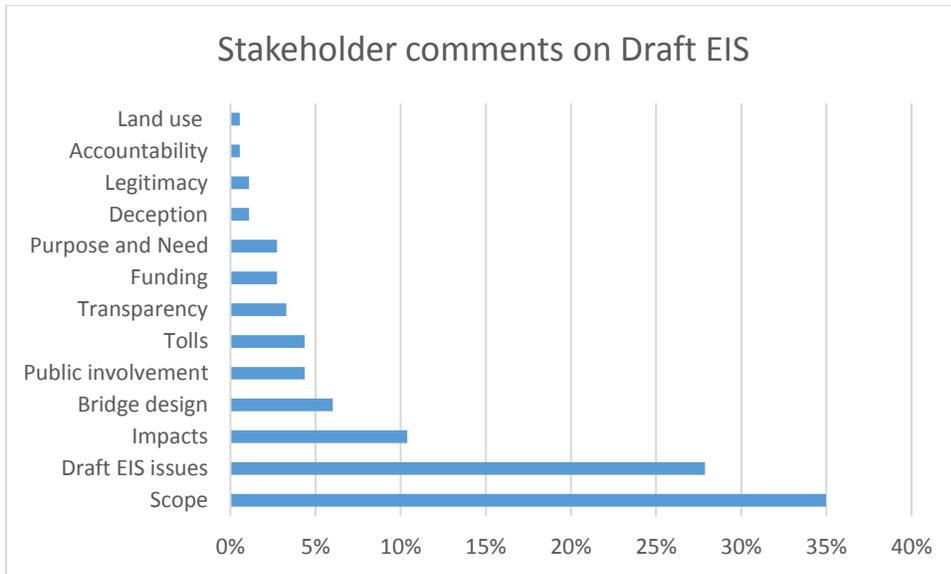


Figure A.11. Distribution of stakeholder comments in Draft EIS public hearing (T-3)

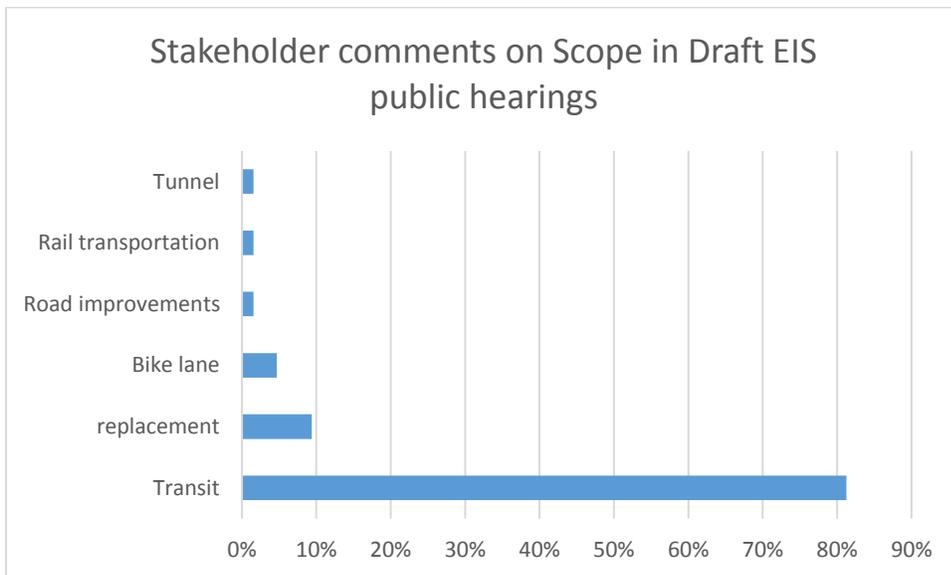


Figure A.12. Distribution of comments made on Scope

A.7. Stakeholders' written comments following the publication of Final EIS

Table A.7. Stakeholder written comments on Final EIS

Comments	Type	Theme
To date, the NYSDOT has not addressed the ongoing noise pollution caused by the Tappan Zee Bridge or its proposed Short- and Long-Span alternatives.	Written comments	Impacts

Comments	Type	Theme
All efforts must be made to further reduce impacts to oyster habitat and live oysters. An impact of this magnitude could have serious repercussions for the much larger ecosystem of fledging oyster research and restoration efforts.	Written comments	Impacts
When the construction phase for the bridge begins, where will the staging areas be located on the Tarrytown side of the river to support the project? Specifically, how will the workers and the equipment be delivered to the worksite on a daily basis.	Written comments	Impacts / Construction
Obviously as this framework was defined after release of the final EIS, its very significant components setting forth how mass transit needs are to be considered immediately are not reflected in the final EIS. It is critical that this framework be acknowledged.	Written comments	Scope / Transit
The Governor has discussed forming a Blue-Ribbon Panel with some of its tasks being to assist in reviewing the RFPs, obtaining and providing community input for construction and staging impacts, and to have meaningful input to the visual design selection. As one of two impacted host communities, we look forward to participating in this panel.	Written comments	Design
The new Tappan Zee Bridge will serve as gateway to the majestic Hudson Valley from the New York metro area, and as such, having an aesthetically pleasing design is an important feature. The Hudson River is a highly valued scenic resource for residents and visitors alike, and the profound impact the new bridge will have on the viewshed should be taken into account in choosing the bridge design.	Written comments	Design
What are the inspection, reporting, and enforcement mechanisms involved with respect to scheduling and frequency?	Written comments	Construction process
What are the inspection, reporting, and enforcement mechanisms involved with respect to scheduling and frequency of equipment use?	Written comments	Construction process
A very important question, to which we did not see answered in the Design Build documents, or explained in the FEIS is: what are the consequences to the contractor of non-compliance with the noise mitigation plan?	Written comments	Construction process
In addition, the governor and county executives agreed to establish a working group of Thruway, state, federal and local officials to examine ways to keep toll increases to the minimum necessary, including maximizing federal support, expanding discount programs for regional residents and financing mechanisms that lower the cost of credit and borrowing.	Written comments	Funding
In my opinion, since there has been NO APA/AICP meetings or comments made by the LHVWest members on the new TZBridge..The NYS Thruway-DOT proposed planning (their planning comes from what Planning Firm source?) on the TZBridge should be eliminated until the NYS Governor, State Legislature State Comptroller Office fully look into this matter. By NYS Licensing AICP Planner would also bring in License fee Revenues to the NYS yearly BUDGET.	Written comments	Funding
To construct the Project as proposed, it is anticipated that approximately 1.9 million cubic yards of sediment over approximately 175 acres of River bottom will be dredged to enable water access during construction and demolition.1This represents an extremely large impact to this area of the River – the most significant dredging project in the Hudson River since the navigation channel was dredged. The dredged area will be “armored” with approximately 400,000 cubic yards of sand	Written comments	Impacts / Environmental

Comments	Type	Theme
and stone to prevent vessel prop wash from dispersing bottom sediment into the water column. This “armoring” will temporarily alter the benthic habitat in that 175 acres and not allow it to be immediately recolonized.		
The communities surrounding the bridge on either side of the River will be greatly impacted not only during construction, but for the life of the bridge, as the new approaches and span designs will change neighborhood character, views and quality of life for many residents.	Written comments	Impacts / Environmental
Use of impact devices such as jackhammer, pavement breakers and pneumatic tools shall be limited where practicable and feasible.	Written comments	Impacts / Construction
Second, the cumulative negative impacts that are likely from the simultaneous development and construction of the 96-acre General Motors site in Sleepy Hollow. In the latter case, the Village of Sleepy Hollow has approved this project and its construction in the Tappan Zee Bridge Replacement Project period is a virtual certainty.	Written comments	Impacts / Construction
In general, the fact that many details that could potentially impact valuable resources are being left to future planning and are therefore not analyzed in the FEIS make it difficult to fully evaluate all potential impacts. Given the significant environmental and community impacts that have not yet been fully investigated or mitigated, Scenic Hudson urges the State to slow down its fast-track process and conduct a Supplemental EIS in order to fully analyze and minimize the significant impacts described above.	Written comments	Final EIS issues
The FEIS is insufficient because it does not fully address the numerous, significant concerns raised by Riverkeeper in its comments to the DEIS, including the lack of an adequate alternatives analysis.	Written comments	Final EIS issues
Only at the end of July did the state begin making a push to meet with the public to address their concerns in more detail. Despite this effort, the lack of information and accessibility from the issuance of the new NOI in October 2011 through July 2012 critically impacted the public's ability to comment on the project as is desired and required under NEPA.	Written comments	Public involvement
Will the public or local municipalities be afforded the opportunity to comment on the noise monitoring protocols? If not, why not? If s what will the process be?	Written comments	Public involvement
Who makes the decisions as to which are “unusual or important”? This concern is less an issue if all comments and responses would be posted on the public website in a timely fashion.	Written comments	Public involvement
With higher tolls and absence of public transit, a new bridge would in effect create a block between Rockland and Westchester, rather than allowing for easier flow of traffic for work, entertainment and shopping trips. I believe the Governor can do better. This is a time for creative thinking, to take advantage of federal funding while simultaneously including a REQUIREMENT, with a SPECIFIED TIMEFRAME, for adding public transit if it cannot be afforded upfront.	Written comments	Tolls / Transit
Consider future use of temporary construction access road as Bus Rapid Transit access road to Tarrytown station.	Written comments	Scope / Transit
Obviously as this framework was defined after release of the final EIS, its very significant components setting forth how mass transit needs are to be considered immediately are not reflected in the final EIS. It is critical that this framework be acknowledged.	Written comments	Scope/ Transit

Comments	Type	Theme
Please see that at least a train crossing over the river from Tarrytown into Rockland over the new Tappan Zee bridge, i.e. it need not go any further than where the bridge starts in Rockland, this will cut the costs of having to put tracks for miles into Rockland, this can be done later. For now just get the train just over the river to the entry point in Rockland.	Written comments	Scope / Transit
I cannot support any bridge plan that does not include, at the very least, detailed design plan for supporting public transit, whether train or bus. With higher tolls and absence of public transit, a new bridge would in effect create a block between Rockland and Westchester, rather than allowing for easier flow of traffic for work, entertainment and shopping trips. I believe the Governor can do better. This is a time for creative thinking, to take advantage of federal funding while simultaneously including a REQUIREMENT, with a SPECIFIED TIMEFRAME, for adding public transit if it cannot be afforded upfront.	Written comments	Scope / Transit
I am curious as to what bases and format will be used to determine the final design/built team. I know it will not be merely based on the lowest dollar value. I'm sure the presentation, adherence to the requirements, strength of the team and look of the structure all play a role in the decision process. Where on the web site is the selection process of the design/built team defined.	Written comments	Transparency
The communities surrounding the bridge on either side of the River will be greatly impacted not only during construction, but for the life of the bridge, as the new approaches and span designs will change neighborhood character, views and quality of life for many residents.	Written comments	Impacts / Community - Construction
The existing noise barrier located adjacent to Van Wart Avenue (south of the toll plaza and New York State Thruway work area) is currently inadequate to address the noise issues in the adjacent neighborhood.	Written comments	Impacts / Noise
To date, the NYSDOT has not addressed the ongoing noise pollution caused by the Tappan Zee Bridge or its proposed Short- and Long-Span alternatives.	Written comments	Impacts / Noise
The NYSDOT may accomplish a goal of restoring ongoing noise to pre-2005 levels by, for example: considering a smaller, less expensive bridge; a single bridge with mass transit; a tunnel; or, more informed selection of surface materials.	Written comments	Impacts / Noise
The FEIS assesses the potential impacts of pile driving and identifies EPCs (i.e., shrouds to reduce pile driver noise, quiet compressors and generators, and use of portable or other noise barriers and/or enclosures) to minimize the potential noise impacts to the extent feasible.	Written comments	Impacts / Noise
This EIS disregards the impact an increase in capacity can have on people's expectations. No analysis has been done as to whether and how expanding part of a roadway affects the portion of the roadway with less capacity. For example, the Garden State Parkway in New Jersey was wider in the north than in the south, with a significant amount of growth happening just at the end of the wider portion in the south. Eventually the volume became too great, and another lane was added. The FEIS should give more consideration to how the addition of capacity to part of a roadway impacts subsequent growth in other areas of the roadway.	Written comments	Impacts / Urban sprawl

Comments	Type	Theme
The Pile Installation Demonstration Program had noise and vibrations impacts on the Ihabod Condominiums in Sleepy Hollow. Somehow the very last pile was the loudest and noisiest and had to be close to 90 to 100 decibels outside, and inside everything was vibrating and thumping.	Written comments	Impacts / Construction & Noise

A.8. Frequency charts from stakeholders’ written comments on Final EIS

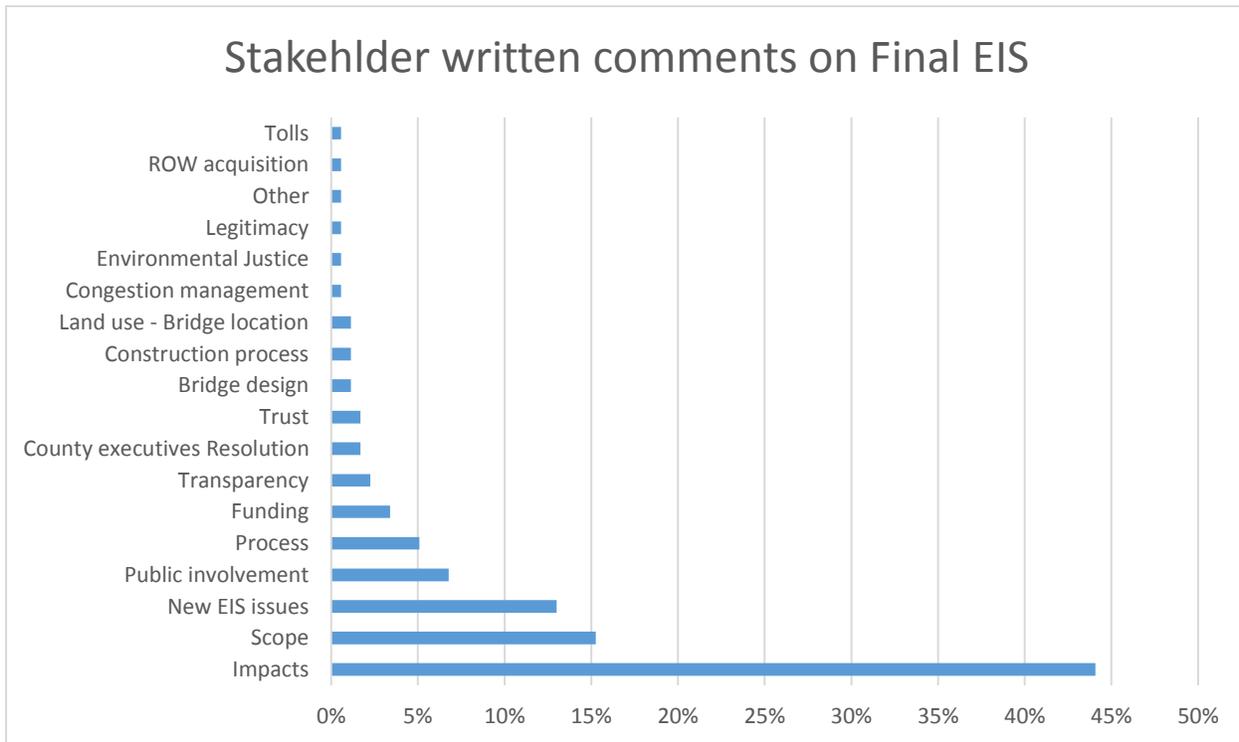


Figure A.13. Issues raised from stakeholder comments on Final EIS

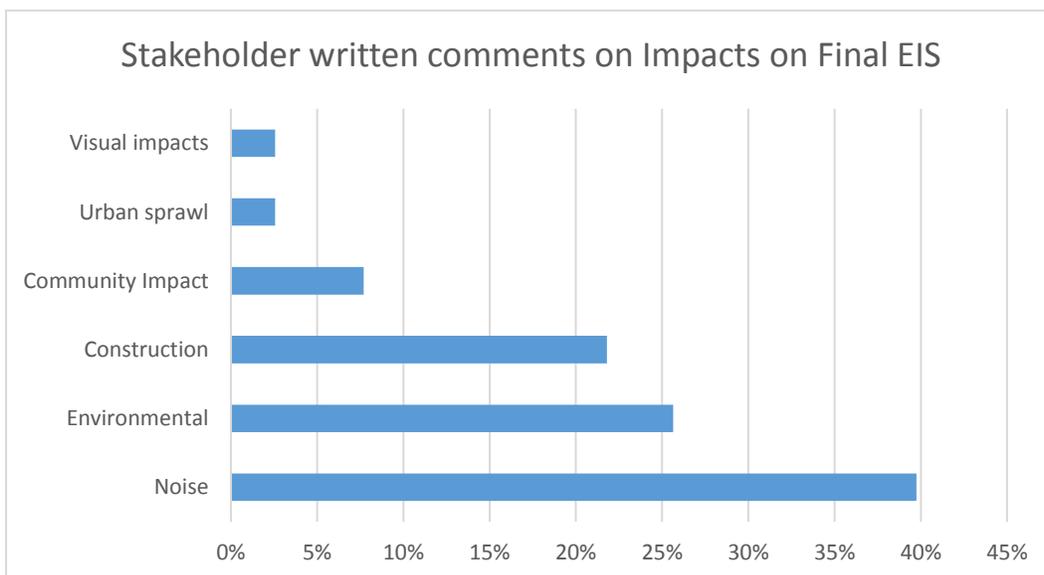


Figure A.14. Stakeholder comments on Impact on Final EIS

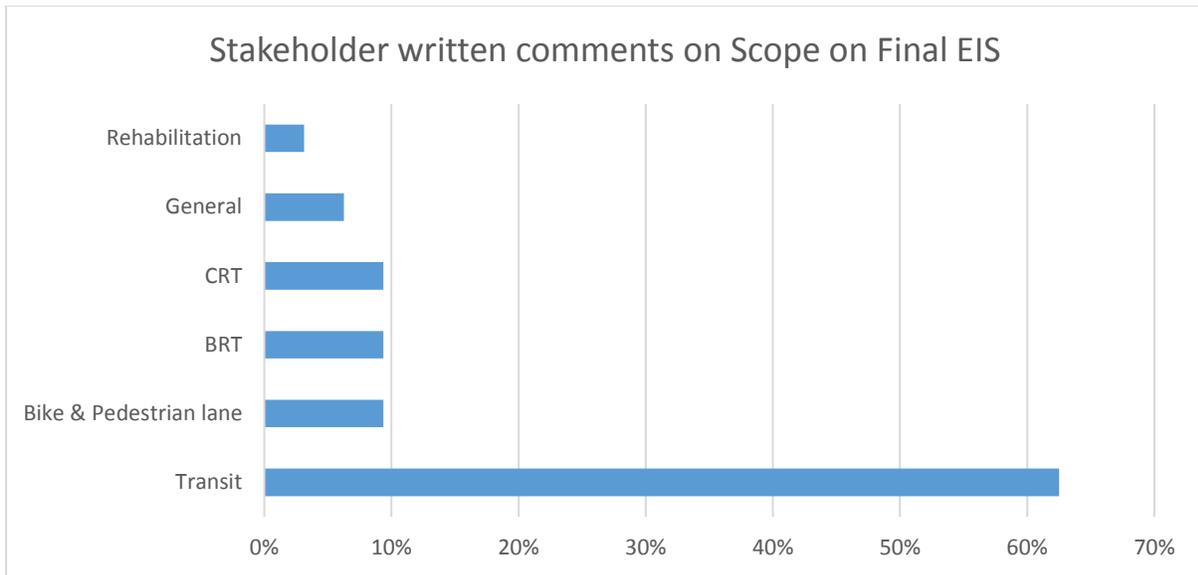


Figure A.15. Stakeholder written comments on Scope following Final EIS

A.9. Stakeholder online comments (T-4)

Table A.8. Stakeholder online comments on news articles and blogs in period T-4

Comments	Type	Theme
Yes on distortion caused by federal funds. Repayment of Tifia loans doesn't start until up to five years after a road/bridge starts producing revenue. That means a governor can get years of political benefit from all the new jobs and be out of office before the repayment pain. Re: TZ transit, it's bad fiscal and political math. In TZ corridor, motorists will produce lots of toll revenue, transit riders will require large operating subsidies per rider. Every dollar in transit operating subsidies is \$14 dollars the state/Thruway can't borrow. More construction jobs now are worth much more politically than 1/14th as many transit jobs later.	Online comments	Funding
This shows the distortionary effect of federal transportation funding. On interstate bridges it's tricky, but with any federally funded transit project, the priority becomes spending as much money as quickly as possible rather than rational, cost-effective, infrastructure investments. Transportation is 99% local, and with the federal government as out-of-tune with local needs as it is, it's important the focus of transportation funding match its impact and be local.	Online comments	Funding
The Tri-State Transportation Campaign greeted yesterday's news with caution, while calling the commitment to rush-hour bus lanes "a real victory." "Construction, at a minimum, is going to take five years," said executive director Veronica Vanterpool. "There's still some time, theoretically, to incorporate whatever outcomes or recommendations will come from this task force." After the task force makes those recommendations, TSTC wants the state to implement lowcost improvements that bring BRT service to the counties on either side of the Tappan Zee. "A system requires more than just	Online comments	County Exec. Agreement

Comments	Type	Theme
a 3.1 mile bus lane on a bridge," Vanterpool said.		
These recommendations ignore the vast number of commuters between Northern NJ and Rockland.	Online comments	Public involvement
Disgusting. NO freight rail which would provide an alternative to detours to Sedkirk and the trucks on the existing too few crossings.	Online comments	Scope / Rail transportation
Is there absolutely no mention of the existing cross-Hudson ferry service at Haverstraw/Ossining? Why not boost ferry capacity/service? There is a petition calling for increased ferry service, but for some reason, ferries get ignored by NYS.	Online comments	Scope / Ferry service
"He's a lucky guy," Komanoff said of Cuomo. "The financial-settlement money plowed into the Thruway Authority will enable him to reduce the amount of debt from building the bridge. And the plunge in gas prices is going to bump up the volume of cars on the Tappan Zee. Both changes shrink the toll hike.	Online comments	Tolls
Having high tolls without having an alternative is an equity issue — you're pricing people out of certain counties.	Online comments	Tolls
I don't feel too good about it but what are you going to do? It's relatively cheaper than some of the other bridges.	Online comments	Tolls
You know, nothing's free in the world. Who's going to pay for it otherwise?	Online comments	Tolls
It's basically the same footprint but with a new structure. I don't know if that was the best concept. I certainly think I'd rather have it stand than to fall when I'm driving across it.	Online comments	Purpose
"I expect the usual position of people on this blog is "high tolls = awesome!" Right. That's what surprised me. Now in my case there is a limit on how high tolls can be to be awesome, but I was surprised how low the TZ bridge tolls are now compared with all the other tolls.	Online comments	Tolls
No one objected to raising tolls to pay for the bridge Larry. They objected to the fact that the new bridge was projected to be so expensive, tolls alone couldn't cover the cost.	Online comments	Tolls
Worthless as BRT is in a situation like this, the only reason carheads like Cuomo entertain it at all is they perceive BRT lanes as convenient space that can one day be "reclaimed" by automobiles.	Online comments	Scope / Transit
Awful design. No rail. No lower deck that was the most cost effective means for rail options. With stupid outward canted chopstick towers that cant into the median area hence probably blocking double-stacked rail freight cars, and an EIS that illegally excluded the lower deck from its cost benefits analysis. Cuomo should hang his head in shame, along with anyone voting for him.	Online comments	Scope / Transit
"I think a more robust bus service would be welcomed by a lot of people. The sense I get is there is a lot of frustration among my fellow commuters."	Online comments	Scope / Transit
Until a convenient mass transit system was in place, "having high tolls without having an alternative is an equity issue — you're pricing people out of certain counties."	Online comments	Scope / Transit
Now BRT is up in the 11 figures? Jeeze, usually it's really "cheap." Makes ya wonder if they're snowballing costs to avoid building transit or having to seriously consider it.	Online comments	Scope / Transit

Appendix B. ERT project

B.1. Period T-1

Table B.1. Detailed list of Stakeholder comments in T-1

Comment	Type	Theme
The reason we are so sensitive about this is the fact that we were in our current home when VDOT or the state government constructed the highway I-264 in the late 50s, and we remember how it tore up the neighborhood then. So we just feel uncomfortable and uneasy about the whole process, and quite naturally, we think it's unfair.	Written comments	Impacts
If the MacArthur Ave is taken in the Route 58 extension project, the road will be too small for trucks or ambulances to get to our home. There will be no egress. The street is not presently wide enough for two way traffic. How much additional traffic is anticipated on the expressway?	Written comments	Impacts
Construction vibrations (especially from pilings driven into the ground) could create cracks or otherwise damage the sanctuary of our church, which VDOT has determined to have merit as a historic structure.	Written comments	Impacts
At the current time the speed limit is 35 mph. raising higher speed limits will create more noise, especially in terms of going up and down the High Street overpass.	Written comments	Impacts
The EA does not address the removal of standing mature trees along the main path of the freeway extension (along I-264 and ramps to the MLK Extension). These serve as visual and sonic buffers to adjacent residences and their loss will affect quality of life for remaining residences.	Written comments	Impacts
Who will be responsible for the shrubby and trees that are situated along the borders between the church's property and the expressway? At the present time there is a huge overgrown red tip hedge and a large broken tree limb lying on the ground...	Written comments	Impacts
The economic impacts of the toll system created for the project could have a substantive negative impact on the city and must be accounted for in the impact documents. The City requests this particular aspect of the proposal be developed and the potential impacts analyzed in much more definitive detail.	Written comments	Tolls
(We support the project) only if toll profits are utilized within the community infrastructure to repair roads/sidewalks & bridges.	Written comments	Tolls
Since the container truck/port facilities traffic would be a big beneficiary of this project, I would hope that they would be required to pay their fair share of moving this project forward and not unfairly placed on the local citizens and already burden tax payers.	Written comments	Tolls
The MLK freeway extension will need a minimum of a \$3.00 toll to pay its own costs and give the private partner an attractive rate of return.	Written comments	Tolls
How are the tolls going to affect people who work in and around Portsmouth, coming and going on a daily basis? How is it going to cost them coming and going to work? Consideration should be given to citizens who live here are already heavily taxed? How would it affect tourists, people that want to come into the city?	Written comments	Tolls
This is the first time we've heard about it. I understand there were some meetings in the '90s. Our neighborhood was not informed or I was not informed of any such. This is my first time hearing about this.	Written comments	Public involvement

Comment	Type	Theme
If the overpass is constructed to carry the Expressway over High Street, it will probably require the use of concrete pilings. We would recommend that piling to be drilled. Because...	Written comments	Design
The South Street on-ramp to I-264 is the only means of egress during flooding, the flooding in the vicinity of the South Street ramp is an issue and have to be addressed.	Written comments	Operation and Maintenance (O&M)
If vibration tests are conducted by VDOT, we would like to be informed of the results, their potential impact upon our facilities and how VDOT intends to protect our building from being negatively impacted during construction of the overpass.	Written comments	Transparency
Environmental Consequences (Noise) – Traffic traversing elevated structures generate noise that transmits vertically as well as laterally. Sound walls may attenuate the lateral noise, but the sonic transmissions moving downward will not be contained in that manner. Anyone located near the elevated sections of the freeway extension, therefore, may experience traffic noise at higher levels, due to an echo effect, than someone proximate to a ground-level expressway. The Environmental Assessment should address strategies for mitigating that noise.	Written comments	Impacts
Environmental Consequences – The EA does not address the removal of standing mature trees along the main path of the freeway extension (along I-264 and ramps to the MLK Extension). These serve as visual and sonic buffers to adjacent residences and their loss will affect quality of life for remaining residences.	Written comments	Impacts
Concerned about increasing congestion and declining levels of service on I-264 after the project is open for a while.	Written comments	Impacts
Construction vibrations (especially from pilings driven into the ground) could create cracks or otherwise damage the sanctuary of our church, which VDOT has determined to have merit as a historic structure.	Written comments	Impacts
If vibration tests are conducted by VDOT, we would like to be informed of the results, their potential impact upon our facilities and how VDOT intends to protect our building from being negatively impacted during construction of the overpass.	Written comments	Impacts
I-264 Ramp Closures will remove access to local residents and require longer drive times	Written comments	Impacts

B.2. Period T-2

Table B.2. Detailed list of stakeholder comments in IRP meetings

Comment	Type	Theme
However, we'd ask you to look hard at the idea that VDOT plans to shift its annual operations and maintenance costs, \$17 million annually, and pass on this backlog of deferred maintenance, \$46 million, to the private operator, and we would ask you to look hard whether that's an appropriate shifting of those responsibilities and a burden to place on our citizens.	Transcript	Funding
My other point there is I'd like to know, even though I haven't heard, who's going to be the -- who is going to cover liability in case of legal lawsuits in case something should happen like -- which we hope doesn't happen -- but something happens inside the tunnel? Is it the state's responsibility as far as	Transcript	Accountability

Comment	Type	Theme
the legality part or is it the private contractor?		
The state, it seems to me, has done a poor job of addressing our regional transportation needs in the past several years, but the region needs to come to the gate and do what is necessary.	Transcript	Accountability
I've seen the fabrication of Mr. VDOT. They killed the ferry. The businesses in Portsmouth on High Street collapsed. They also converted the tunnel and that took away revenue and people would use the Jordan Bridge and ferry as long as the ferry operated.	Transcript	Accountability
Now, if we need the tolls to fund the project, I have no problem or we should have no problem some setting the toll once the project is paid for.	Transcript	Funding / Tolls
Number two, we think it's part of a state highway system, a state roadway system that the state has been unable to fund, and we are, I think, very open to participating, as a community, in a partnership relationship to make this happen, but it's been referenced before, this tunnel is not serving just Hampton Roads. It's not serving just the users of it. It serves the entire state in supporting commerce throughout the state of Virginia, and I'd like for us not to continue to think of it as a South Hampton Roads or a Hampton Roads project. It is a state network problem, and we see this needs to be addressed and we're prepared to cooperate in that.	Transcript	Funding
We recognize the cost. The construction cost is somewhat controllable, but we're concerned, many of us are concerned about the maintenance and operation, and especially, the deferred maintenance operation. These are picking up tabs that should have been paid some time ago, and certainly, if you were closing on a new project, you would attribute past costs to the past and adjust the value accordingly. We would like to be supporting a value-based project and not engaging in some of the State of Virginia's responsibilities.	Transcript	Funding
And the reason of this I ask, this would help show why public/state/federal funding are more desirable than a private company which must make a problem -- which must make a profit, I'm sorry, and that's my question.	Transcript	Funding
<p>If the construction is going to go forward and they're not going to take our houses, we would like to know, is there going to be some sort of maybe wall put up to kind of block the noise? We're assuming there might be more traffic. We're not really sure, since we haven't seen the plans, exactly how that's going to look.</p> <p>But most of us have spent a lot of money in recent years updating our homes and we'd love to keep them and stay there. We love that part of Norfolk and we love these houses.</p>	Transcript	Impacts
Our concern is, like Susan expressed, just supporting what she said, a barrier, a wall, a jersey wall, a sound bearing wall to protect the neighborhood, our children, you know, because there is a play park also, and, you know, to keep our neighborhood safe. Again, I hope that you will consider us and the historic Raleigh Row houses, which we all dearly love and hope to stay there.	Transcript	Impacts
We have, to the right of my home is the entrance to the Midtown Tunnel on one side, and to the left, it comes in from Hampton Boulevard, and we have concerns on how the new construction is going to be done. Is it going to impact our houses? Are they going to be taken by eminent domain? If so -- well, we're hoping that's not going to happen, but we would like to know what is going to happen to our row.	Written comments	Impacts

Comment	Type	Theme
If the construction is going to go forward and they're not going to take our houses, we would like to know, is there going to be some sort of maybe wall put up to kind of block the noise?	Written comments	Impacts
Will trucks be going through our backyard, literally? I don't want to be caught like a deer in headlights when this whole thing goes down and would like to take appropriate measures to protect our family interests	Written comments	Impacts
With that said, would you consider incorporating a partnership in the comprehensive agreement to possibly have the potential to share, if there are, any excess revenues? I'd suggest that openly in the form of a reduction in tolls or a monetary transfer if we were fortunate enough to have such a thing occur.	Transcripts	PPPs
MR. FLORIN: What is your expected concession period, and is there a minimum period that makes this project work for you financially?	Transcripts	PPPs
But the way this thing is being orchestrated, the private companies that are building the roads will -- each one of us in this room, every one of us in this room will be dead in 50 years. We'll be in a box. It's your children that are coming behind you, and they'll think that's the normal operation way to fund tolls -- to fund highways to operate the tolls. And their children, of course, the private companies, their kids will be enjoying life in Tahiti. Our kids will be scrapping for a slice of bread.	Transcripts	PPPs
And my question is, what is the estimated profit that ERC expects to make from this project over the estimated costs of 1.1 to 1.4 billion construction costs?	Transcripts	PPPs
If they're going to go ahead on a private partnership, it needs to be done at the lowest cost possible, which would be eliminating the Martin Luther King Extension, which would serve no purpose other than to congest traffic on the city streets around the Midtown Tunnel.	Transcripts	PPPs
Actually, I just have a question ... what is the estimated profit that ERC expects to make from this project over the estimated costs of 1.1 to 1.4 billion construction costs? [... Publishing this information] would help show why public/state/federal funding is more desirable than a private company which must make a profit...]	Transcripts	PPPs
There are different plans being looked at for expanding the tunnel and other infrastructure improvements for commuters. How important is the feedback you receive in whatever VDOT decides to do?	Written comments	Public involvement
Many of the questions focused on my willingness to pay tolls to fund the infrastructure improvements. What are the surveys trying to gauge with regards to tolls?	Written comments	Public involvement
How long is the surveying being done? How many people are being surveyed? And approximately when do you expect to have the information distilled for use in your decision-making?	Written comments	Public involvement
How is the survey being distributed? (The reporter stated that several of her colleagues received postcards directing them to a Web site to complete the survey.)	Written comments	Public involvement

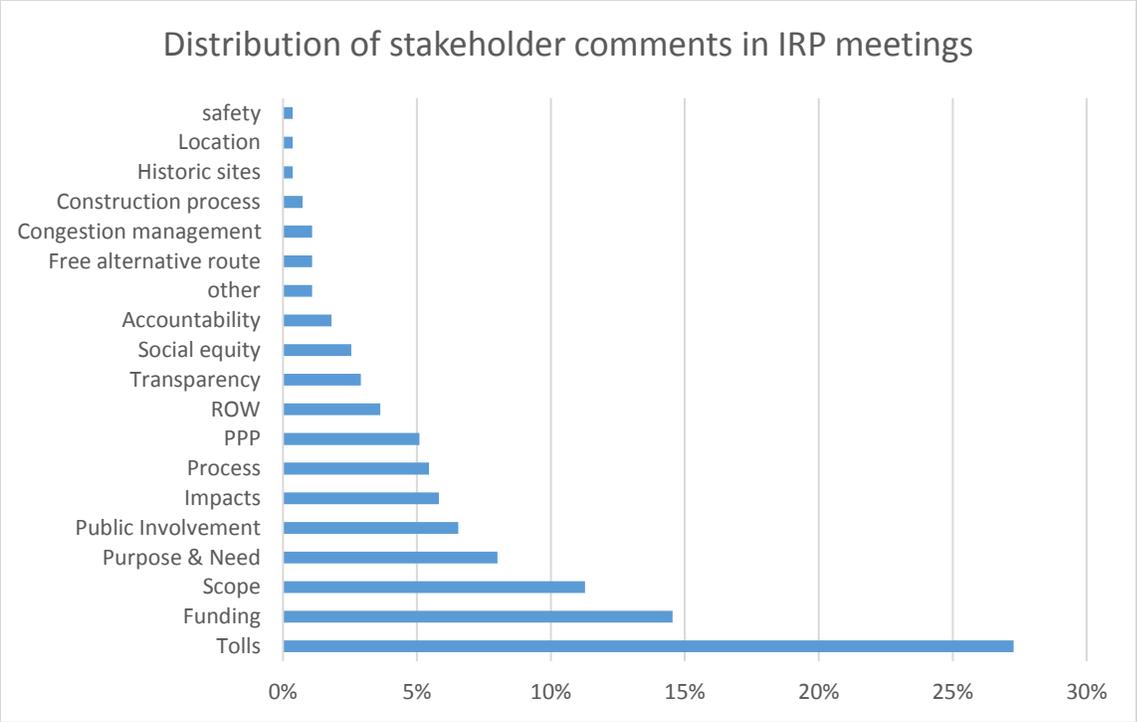


Figure B.1. Distribution of comments on IRP meetings

Table B.3. Detailed list of comments made EA public hearings

Comment	Type	Theme
Why has the Virginia Department of Transportation chosen to violate Federal Government Highway standards with regards to the London Boulevard exit ramp beside Calvary Baptist Church that empties onto the MLK Expressway heading north towards Norfolk	Transcript	Project Design
It appears to be a little bit confusing because it has the extension of the Martin Luther King Expressway whereas there is no exits for you to get off. It just connects to 264 which can either go to back towards the Downtown Tunnel or go towards the other end interstates, but to me, there is no exit ramp. It's just a straight shot.	Transcript	Project Design
I think there's several issues in the current 10 plan. The on-ramp from 264 going east to the proposed 11 MLK Extension is too costly and I think where the weave 12 of the on-and-off traffic between the Frederick 13 Boulevard Exit entrance and the proposed intersection 14 could be changed and save a lot of money.	Transcript	Project Design
Please "vault" the ceilings of the tunnels like the west-bound Downtown Tunnel was recently "lifted". It gives a feeling of "space" as opposed to the "trapped enclosed" sense one feels with the "flat ceiling. Drivers go through the "arched" tunnel at a steady pace rather than slowing with fear. (An increase in the 35 mph speed like other tunnels would also be helpful!)	Transcript	Project Design
If we want to go to Norfolk for work, for the military bases, for shopping or to Virginia Beach, we have no real alternative route except for the High-Rise Bridge which is way out of the way to get to Norfolk or going through the Monitor Merrimac and then the Hampton	Transcript	Free Alternative

Comment	Type	Theme
Why don't you just put it on the Midtown Tunnel and give us a choice whether to pay the toll for quicker access or to come right through the Downtown Tunnel and 4 wait in traffic?	Transcript	Free Alternative
While I do agree that another crossing is going to be necessary to keep traffic in the future moving, simply adding lanes to a tunnel will not help. This money will be better spent elsewhere.	Transcript	
Why has the Department of Transportation wasted thousands and thousands of dollars on these public presentations, trying to convince us that a flawed and expensive design for the MLK Expressway Extension is somehow beneficial to the citizens of Portsmouth, especially those whose homes, businesses, and places of worship reside in close proximity to this project?	Transcript	Funding / Public Involvement
Expansion of the Midtown Tunnel would certainly be a helpful transportation improvement for the region, but is neither worth the proposed cost nor an efficient use of tax revenues or citizens' capacity for paying tolls, both of which are extremely limited.	Transcript	Funding
Since VDOT is considering turning over these tunnels -- and all of their maintenance and operation expenses -- to a private company for 50 years, they NEED to provide a written-instone promise to spend that money they will be saving on other specific toll-free transportation projects in THIS region.	Transcript	Funding / PPPs
To encourage it as such, any VDOT financial contribution to this project should go first to eliminating a toll from the MLK Extension, and then to reducing the toll at the tunnels.	Transcript	Funding / Tolls
Obtain the proper funding, build it, then place tolls on the new structures. We already are paying enough road taxes for the maintenance and the right to use the existing structures.	Transcript	Tolls
My concern is how the project is being funded. I think that tolls should be a last resort and I would think that a project which is so important for the local area and is recognized as being one of the top projects in the Commonwealth, greater public funds should be available for it.	Transcript	Funding
The 21 only issue I have is the cost, and why should we be 22 responsible for paying for anything? This should be 23 something that the government does or the State.	Transcript	Funding
I think some of the lottery money should go towards building the tunnel.	Transcript	Funding
If the improvements benefit all of Tidewater economically by rerouting traffic and trucking and other things, then it seems that everyone in Tidewater should help to pay for it. So to me, a tax would be a better alternative than tolls at the tunnels themselves, that way the load is shared by many people instead of only a few of us.	Transcript	Tolls
Yes. I would just like it on record that I'm very much opposed to the tolls. I recognize the fact 5 that the State does need money for transportation and I'm perfectly willing to support that; however, I do think there are other sources to look at, other options 8 that should be viable alternatives rather than imposing a toll on top of already all-time-high travel expenses in the form of the highest prices of gas that I can ever remember.	Transcript	Tolls
My last request on this matter is that other sources of funding be considered. I'm perfectly willing to pay, if the roads have to be paid for by the citizens, than I understand that's a reality, I'm not opposed to that. But I do think that even if it has to be a transportation or road tax imposed on the citizens in Hampton Roads, I'm not saying that it will be fair to take it all over the state because certainly those people don't benefit from our roads; but I think that	Transcript	Tolls

Comment	Type	Theme
would be more amenable to the general public than imposing tolls on roads that have not had them, to my knowledge, have never had tolls on them.		
As the tolls go up a portion of the traffic will simply divert to these options to avoid them	Transcript	Impacts
How will the traffic patterns on London Boulevard and High Street be affected during the construction of the Martin Luther King Expressway Extension?	Transcript	Impacts
What consideration has been given with regards to the impact of this project upon the well-being of Calvary Baptist Church both during and after this project is completed?	Transcript	Impacts
In addition, VDOT has already ruined the Portsmouth waterfront in Port Norfolk where there are many beautiful historic homes. Those people only have the West Norfolk bridge concrete pilings to view from their homes	Transcript	Impacts
Please share with me the area of the environmental study and the weight given to impacts on the local streets (especially Hampton Blvd) and neighborhoods (Gent in particular). Will the sequencing/timing of traffic signals in the area to incorporate Hampton Blvd be included in the scope of the project.	Transcript	Impacts
My statement is in reference to property that I own at 3409 Trexlar Avenue. That property is going to be negatively impacted by traffic noise, construction noise, environmental pollutants which are going to be a health issue. As it stands now the interstate is within a few yards of my home.	Transcript	Impacts
We would just like our concerns of the noise level to be addressed, and our concerns are for the noise level when the actual construction begins with the project and also our concern is for the foundation when the construction.	Transcript	Impacts
Tolling the crossings before construction is completed, or for that matter even begun, is patently unfair. It takes away any incentive for early or on-time completion of the project, it's bad public relations, and it's just plain cruel to the commuters who will be losing about \$1000 of their gross annual income to tolls on paid-off tunnels without any decrease in congestion for many years before seeing a benefit.	Transcript	Legitimacy
I have already help pay for these tunnels once in my lifetime. We were promised when the bond was retired (in 1986?) that we would never have to pay for them again. To reinstate tolls on projects already paid for is nothing short of criminal. If VDOT wants to go through the proper channels and secure loans/bonds for new projects then I'd approve paying for them. However, to reinstate tolls on old, long paid for tunnels is ludicrous.	Transcript	Legitimacy
I simply ask that other sources of funding be looked at and considered because I really think this 18 particular toll on the Midtown and Downtown Tunnels is 19 not going to be acceptable to the public.	Transcript	Legitimacy
From my experience, another tunnel will not relieve rush hour congestion in any appreciable way. The downtown tunnel (2 lanes each way) is still congested at rush hour. I realize that traffic volumes are increasing, but the tunnels are only congested at rush hour (4 hours on weekdays), at other times there is little traffic.	Transcript	Purpose & Need
I think the plan is a bad idea and should be abandoned as soon as possible before becoming another black mark on VDOTs record. Unlike the majority of the comments I have read on the subject I am not opposed to tolls or a public-private partnership. My concerns are that the proposed plan will not fix any of the traffic issues. If the proposed plan had been built 10 years ago, we would still have the	Transcript	Purpose & Need

Comment	Type	Theme
almost same traffic concerns in the area that we have today. There is no way this plan would fix any the traffic problems the Downtown area will be experiencing 10 to 15 years from now. Secondly, as proposed, this plan will do little or nothing to fix the heavier west bound traffic.		
Build the MLK extension. This is necessary and helps move traffic across Portsmouth. I do not feel this is going far enough though. The MLK extension should be extended to elm avenue and connect into the new Jordan Bridge that is currently being built.	Transcript	Purpose & Need / Scope
Expansion of the Midtown Tunnel would certainly be a helpful transporation improvement for the region, but is neither worth the proposed cost nor an efficient use of tax revenues or citizens' capacity for paying tolls, both of which are extremely limited.	Transcript	Purpose & Need
I do not think that the building of new tunnels will fix anything except to back up traffic even more. We need at least a new 4-lane tunnel and the roadways to handle it instead of dumping traffic in downtown Norfolk and Portsmouth. Stop putting band aids on major gashes.	Transcript	Purpose & Need
Build a bypass around Downtown Norfolk. Coming from 464 just north of Poindexter Street and connect to 264 just north of Ballentine. To make this affordable the Campostella Bridge should be reconfigured instead of building a new crossing.	Transcript	Scope
Try eliminating some of the cars by providing alternate mass transportation, and get the trucks off the streets in heavily populated areas during rush hour. All the cities need to come together and agree on a proper mass transit system instead of building roads and tunnels!	Transcript	Scope / Transit
I would like it to be reflected in the plans in the project that mass transit is being focused on, being considered, and the room for it is being included in the plans because as it stands now, that is not the case, and that's all I'd like to say.	Transcript	Scope / Transit
We're ignoring the fact that light rail should be going through Portsmouth all the way down to Suffolk instead we're going to stop, continue with unsustainable integrated technology and put in nothing but traffic lanes, so continuously now we'll be working on putting in a Midtown Tunnel expansion project for light rail.	Transcript	Scope / Transit
My solution: provide commuter parking lots at each tunnel (downtown & midtown), with "tunnel bus" service at 15 minute intervals (during rush hours) and HRT "Max" express bus service to major employment centers.	Transcript	Scope / Transit
Provide free bike/ pedestrian lane. This show VDOT's support of a "greener" future.	Transcript	Scope

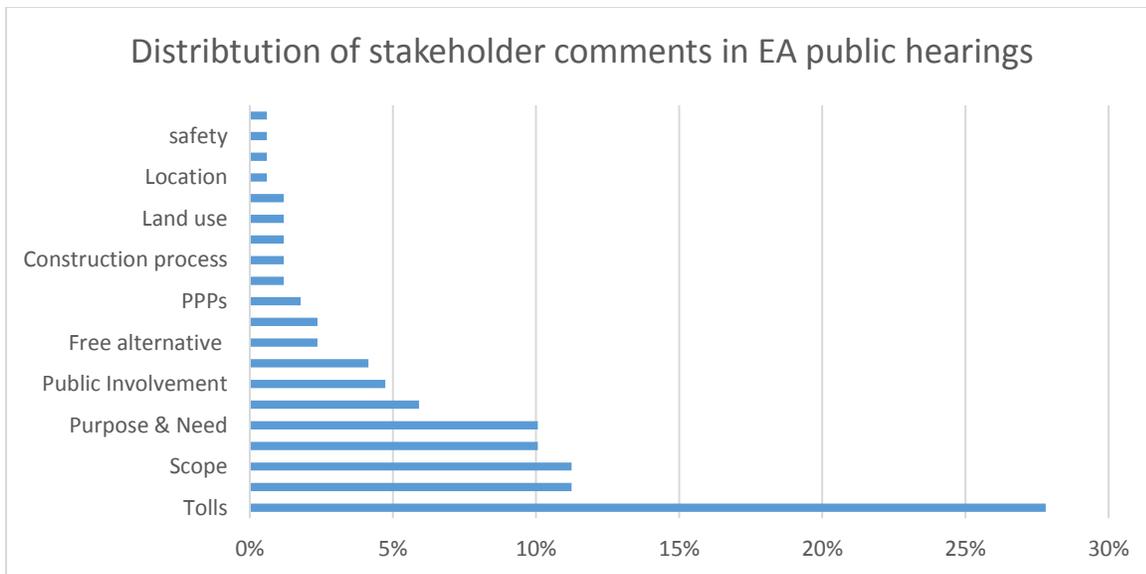


Figure B.2. Stakeholder issues raised in EA public hearings

B.3. Period T-3

Table B.4 provides a detailed list of stakeholders’ online comments on news article on the issue of tolls before tunnel tolls started

Table B.4. Stakeholder online comments on news articles on the issue of tolls

Comment	Source	Type	Theme
Many people like me, will drive around rather than pay their stupid tolls. For residents who were considering bypassing the tolls and using either Battlefield Boulevard or George Washington Highway instead, the added 4.4 miles and 4.9 miles, respectively, would cost about 72 cents or 80 cents per trip.	Citizens	Online comments	Diversion of traffic / Tolls
THANKS to Their CROOKED- UNDER the TABLE DEALS with Elizabeth River Crossings.. WHY would they CARE if other Roads are to be FLOODED with Traffic...	Citizens	Online comments	Legitimacy / PPPs
The way the gas prices fluctuates no one would have known the difference, instead we are now going to have 58 years of tolls with most of the profits going to overseas companies. Thanks toll booth Bob McDonnell and our elected representatives who follow McDonnell’s lead and allowed this to happen.	Citizens	Online comments	PPPs
It's not the current toll that the issue. It’s that the company is allowed to raise the toll whatever they want with no recourse.	Citizens	Online comments	PPP & Tolls
Instead of looking at other options our elected officials seem to think it is easier just to put tolls on everything instead of doing a little work to cut unnecessary funding to other projects. They keep	Citizens	Online comments	Purpose and Need & Funding & Legitimacy

Comment	Source	Type	Theme
build and building around here without thinking about roads and schools, THIS NEEDS TO STOP. Stop the building until the area catches up with roads and schools. But that would require a little common sense and our elected officials seem to have none.			
So, if these idiots have their way, pretty soon there will be no way to get out of Hampton Roads without paying a toll.	Citizens	Online comments	Tolls
I do believe that a few die hards will use alternative routes to avoid the tunnel toll. But after a while of using more gas (@ 3.25 a gal.) they will coincide because of cost. To make it fair on everyone, put tolls on all the river crossing lower them to 25 cents and the new tunnel will be paid for in way less time. This 58yrs is just way too long.	Citizens	Online comments	Diversion of traffic & Tolls
Virginia CROOKED Politicians SHOULD be on NOTICE that the People are NOT going to TAKE IT ANYMORE at THEIR PROFIT... I say that the Commonwealth of Virginia is NOW CROOKED as the States of New York and New Jersey PUT TOGETHER....	Citizens	Online comments	Accountability
So, if these idiots have their way, pretty soon there will be no way to get out of Hampton Roads without paying a toll. We need to get rid of idiots like these and start electing officials that care about the public. All our elected officials had to do was raise the gas tax 5 cent a gallon.	Citizens	Online comments	Accountability
I Would Love to KNOW HOW MUCH BIG MONEY the Communistwealth of Virginia is GETTING behind KISSING the HIND PARTS of Elizabeth River Crossings.... Virginians SHOULD wake up and take a STAND on Richmond..	Citizens	Online comments	Accountability
If the High Rise Bridge wind up getting tolled, then the VA Supreme Court will have to reverse its decision on the legality of the tunnel tolls because they justified their ruling because the users of the tunnels still have "free & reasonable" options to get to Norfolk / VA Beach. And it will no longer be reasonable because we'll be down to one option, the Gilmerton Bridge.	Citizens	Online comments	Free Alternative
"People will move to parallel free facilities," he said. "We think the High Rise and Gilmerton will by far see the majority of that traffic that is diverted or changed because of the effect of the toll."	Gov. Officials	Statement	Diversion of Traffic
"The additional traffic will likely result in additional congestion, longer delays. I think what it will also do is underscore the need to replace the High Rise	Gov. Officials	Statement	Diversion of Traffic

Comment	Source	Type	Theme
Bridge and to widen 64 on the Southside,” said Earl Sorey, Assistant Director of Public Works in Chesapeake			Purpose & Need
“Come February 1, we’re going to have empirical data to look at, so we’ll be working with our state and regional partners to get a handle on the traffic, to get a handle on the associated impacts, and to respond accordingly,” Sorey said.	Gov. Officials	Statement	Diversion of Traffic
"This Midtown project I've said from the start, those tolls were just too high,"	Gov. Officials	Statement	Tolls
“I think almost immediately, overnight, people will change their traffic patterns and will change their time of day usage,” he said. “Once the trip is much more bearable, much more predictable, the question is will the attitudes change?”	Gov. Officials	Statement	Tolls Diversion of Traffic

Graphs related to these comments are shown in the summary section of Period T-3.

B.4. Period T-4

B.4.1. Stakeholder online comments following announcement of 25% tunnel toll reduction

Table B.5. Stakeholder online comments following announcement of 25% tunnel toll reduction

Comment	Type	Theme
Exactly.... people need to have these public roads that I pay for from tax dollars but now I have to pay more. Virginia government does not represent the people. Virginia government only looks out for their own interests. Shame on them!	Online comments	Legitimacy / Tolls
Just another way for Virginia to take some more money from us... I personally think they all a bunch of thieves.	Online comments	Accountability / Tolls
Why should citizens who pays taxes should pay tolls anyways... the greed in the state of va.	Online comments	Legitimacy / Tolls
Not a chance that ERC will walk away from the 58 year cash cow contract.	Online comments	PPPs
Remember...The rate will go up yearly...ERC GOAL is to make 22 Billion Dollars over 58 years...for a 2.1 Billion Dollar Tunnel....plus ERC receive 13.5% of the tolls each year.....	Online comments	PPPs
Amazing! Got off work at the shipyard and 10 minutes after that, was completely thru the tunnel and up and over the Berkley Bridge. Thanks everyone that decided to take the detour and sit in traffic. Enjoy spending that extra money on gas rather than getting an E-ZPass.	Online comments	Tolls
Response: Don't buy into this comment he's probably getting a piece of the tolls to!!!! Snake!		

Comment	Type	Theme
<i>Response:</i> Wasn't obeying the Master soooooo easy??? All they ask is that you let them control you....		
I hope the people that went another way, stay away. My drive in to work has been wonderful the last couple of days.	Online comments	Tolls
<i>Response:</i> It won't last. When they figure out that they're spending more money on gas avoiding the toll than the toll costs, and when they get tired of wasting time and enduring the frustration of driving to alternate crossings, they'll be back. 95% of those "diversion traffic" vehicles will be back within six weeks.		
Blaming errors on computers is merely a way to weazel out of accepting responsibility. Computers do not act with their own free will, they simply send out what some person has entered.	Online comments	Accountability
What people need to do it pack a cooler with lunch and do a sit in or a park in in the tunnel. Imagine hundreds of cars parked in the tunnels to protest the tolls? These people aren't qualified or capable to do simple billing. But yet we're allowing them to repair and keep the tunnels safe and in working order? Who's keeping tabs on that part of "the deal" Tollbooth Bob rammed up our posterior?	Online comments	Accountability / Tolls
This vital monopoly transportation contract controls us and our local economy for 58 years and guarantees an 18% profit for it's in the shadows and foreign investors etc. (Chinese financing which is control and is treason in my opinion) is outrageous and no real business or businessman would sign such a one sided unfair deal.	Online comments	PPPs
States have a budget from taxes. With more people NOT working, there are less tax revenues. Yet, there are still needs that must be addressed and resolved. Does anyone really think that bringing our existing bridges and tunnels up to safety standards is not a good idea?	Online comments	Tolls
Tolls should be on the CBBT to keep it maintained and safe after the recent tile/metal fall. If VDOT can't keep our Bridges and Tunnels maintained then that job needs to be outsourced, which means a toll.	Online comments	Tolls
I think most of us predicted traffic would be down; Some of us changed our route. I used my own analysis to determine the extra five miles to work via the High Rise equals about the same cost in gas as cost in tolls. Having determined that, I will use the Downtown tunnel to spare the wear and tear on my vehicle.	Online comments	Tolls
Heck yeh, no traffic. Best idea ever. Good job ERC. Screw the 3 people on high street who can afford it and still want to bicker about it. Smooooooth sailing to work.	Online comments	Tolls
The sheeple have VERY short attention spans. Soon they will slowly begin to adjust to the toll and be assimilated.... Resistance is futile.	Online comments	Tolls
That makes no sense. I work in few of the down town tunnel. There is traffic and backups many times during the day before the tolls, now it's smooth sailing. 25% I highly doubt that!	Online comments	Tolls
It won't last. When they figure out that they're spending more money on gas avoiding the toll than the toll costs, and when they get tired of wasting time and enduring the frustration of driving to alternate crossings, they'll be back. 95% of those "diversion traffic" vehicles will be back within six weeks.	Online comments	Tolls

Comment	Type	Theme
I have been using the Jordan Bridge from Chesapeake to Portsmouth since it opened. I would much rather see what my money is paying for.	Online comments	Tolls
Choices are available. Luckily the people in the Western Branch and Suffolk area, they can easily pass up the toll. For most people they will return to the route they have traveled. Otherwise, ERC will be able to increase the tolls even more. (the built in safe guard)	Online comments	Tolls
Why should citizens who pays taxes should pay tolls anyways... the greed in the state of va.	Online comments	Tolls
I don't understand why this is being allowed to happen. This is truly a rip off and who can we call on to help us? I got an invoice and tried to pay using the invoice # and the account # and it keeps saying the numbers are wrong. (It's their numbers!!) My sons are trying to earn a living and every time they go to pay are told the price is higher and that additional fees to process are being added. People shouldn't have to loose money just to be able to work. I hope 10 on yoursides can help the good people of Virginia with this travesty.	Online comments	Tolls

B.4.2. Stakeholder comments following the announcement of tolling issues

Table B.6. Stakeholder comments following the announcement of tolling issues

Comment	Source of comments	Type	Theme / Sub-theme
This is a corrupt effort to make money. ERC, Vdot, and our leaders who approved this are splitting a cut of the profits. We all know it, and they know we don't care enough to do anything to stop them so we just drive the long way around.	Citizens	Online comments	Accountability / Legitimacy
Look at N.C. with their bridge problems. How many of you would wait in line for a ferry, should our current structures be deemed unsafe? If the State doesn't have the money, then private partnership is a viable answer. Should there be a grand profit above what would be considered adequate compensation? Deals like this one sat on VDOTs game plan for several years with Tolls, as approved by the State.	Citizens	Online comments	PPPs / Benefits
Imagine that people have a problem paying to cross a bridge they already paid for. we pay taxes for this kinda stuff and to say the taxes to cover it simply isn't enough.	Citizens	Online comments	Tolls
Farmer's [HRTPO's Executive Director] an idiot w/ his self-fulfilling prophecies. A dunce could have determined the outcome. We already get taxed to support the highways. Viva le resistance!	Citizens	Online comments	Tolls
I couldn't help but add my story. I received an invoice (2 months after going through the tunnel) on a vehicle that is registered with EZPass. I was being charged \$2.25 so I called ERT customer service. Once the representative looked at my EZPass account and confirmed the vehicle	Citizens	Online comments	Tolls

Comment	Source of comments	Type	Theme / Sub-theme
<p>was registered with EZPass they reduced the fee to .75 but then proceeded to tell me that if I wanted my EZPass account charged, it would take 60-90 days to process and additional fees and fines would accrue. Otherwise, I needed to pay through the mail via credit card or check. What is the point of having her look at my account to verify it if it isn't possible to charge it to EZPass at the same time or for me to be able to do it to begin with? There has got to be a better way to manage the tolls for this tunnel. The amount of time and money that is being spent on a toll booth-less road cannot be worth this much pain.</p>			
<p>Earlier this month my father got a toll ticket for this tunnel. The thing is he lives in Central Maryland for a vehicle that he hasn't owned since 1988. The ticket says the tag is from Hawaii, but he had never been there let alone lived or owned a vehicle in Hawaii.</p>	Citizens	Online comments	Tolls
<p>I just got a violation notice today for our sailor and now the balance is \$71.25, whereas I paid his last "Total Amount Due" of \$9.00 last week. This is nuts. And I got the same response, and guess what, I am going to fight this too!</p>	Citizens	Online comments	Tolls
<p>If the toll provider will NOT provide a place to pay the toll, just plain IGNORE the toll altogether. Just who the heck does Virginia think they are to extort a mail processing fee on out-of-state drivers (me from Charlotte, NC to attend a Tides ballgame) because the state was too stupid to provide a proper toll facility to pay the toll. If they had, the mail fee would not even be a thought.</p>	Citizens	Online comments	Tolls
<p>Just got a bill from them. Why don't they put in a toll booth. It's not fair to those who don't know it exists to have to pay \$1.50 processing fee each time they go through. You don't even have to put a person in, you can use a coin operated booth that takes your money. You could even rig it so that if you go through without paying they can track you.</p>	Citizens	Online comments	Tolls
<p>Each time I go thru the tunnel, I give the camera the finger. Both of them. I know they aren't going to see it, but it just feels right at the time.</p>	Citizens	Online comments	Tolls
<p>I understand the need for tolls, but not to be forced by manipulation.</p>	Citizens	Online comments	Tolls
<p>I received a bill yesterday that had charges dated back to March. I have paid invoices during and after that time and</p>	Citizens	Online comments	Tolls

Comment	Source of comments	Type	Theme / Sub-theme
not to mention they want it paid on the 13th!!! Mind you I just got the bill. i think this is a rip off and I shouldn't have to pay for their mistake. i am beyond disgusted.			
Blaming errors on computers is merely a way to weazel out of accepting responsibility. Computers do not act with their own free will, they simply send out what some person has entered.	Citizens	Online comments	Accountability
They need to get someone to Manage their business and get these problems resolved. Actually train people in customer service as well as problem solving.	Citizens	Online comments	Accountability
They also just sent an email out about a phishing scam where someone (???) is allegedly sending out emails saying that drivers owe more than they really do. What a mess!	Citizens	Online comments	Tolling
Let's hear it for public private partnership. Where the private gets the big bucks and the public has no recourse except to pay the bill.	Citizens	Online comments	PPPs
The contract in place with the state guarantees 18% profit a year with any shortfalls to be made up by the State and we taxpayers...this project had been rejected by voters and than back-doored in with the help of elected officials and VDOT big wigs, who we can be assured have received something very nice in return.	Citizens	Online comments	PPPs
Lack of accountability in so many ways. They have become the joke of Hampton Roads. Hope their construction is better without the flaws...that would put us all in deep water!!	Citizens	Online comments	Accountability
EZ pass should have been handling this from the get go, the more reports that come out about ERC, just further cements my view of that entity as an incompetent money grabbing scheme and it seems doubtful to me that the toll money collected is actually going to be applied correctly to maintaining the tunnels. The whole thing is just shady.	Citizens		Tolls / Legitimacy
This not needed transportation project, Elizabeth River Crossing con, was back door-ed in after citizens voted it down, how about investigating that fact in addition to their ability to collect tools honestly, efficiently and maintain the transportation infrastructure that they pirated by hook and crook. Investigate if there has or will be any payoffs to the vermin and filth career politicians, or their family members with jobs , investments, off-shore accounts, gifts, campaign contributions, no show jobs and board seats and etc. and the VDOT mucks.	Citizens		Purpose & Need / Legitimacy
I received a bill for \$10 I didn't pay it right away so they tacked	Citizens	Online	PPPs

Comment	Source of comments	Type	Theme / Sub-theme
on 70 some dollars. I called and explained the reason why it wasn't paid immediately and they said oh ok, we'll take \$30 off. What are they doing with all these extra fees they're charging? They certainly aren't putting it back into the company to hire more people or to improve their system.		comments	
Almost \$75,000 in one day. Sheesh. Just think had the rates been at \$1.84 that amount would be 177,825.00 in one day multiply that by the next 58 years = over 3.7 million	Citizens	Online comments	PPPs
My issue with ERT below has not been resolved until now. I was able to get hold of someone in their customer service dept after my 4 th call and she took my payment over the phone for the \$2.25 toll fee (not \$2.50 as posted below) but DID NOT waive the \$25 fee. She said that it will be looked at in the order the complaint was received and there's a lot of them, according to her. I also received a response online from the dispute I submitted and I was told it will take 30 to 60 days to be reviewed. I was very dissapointed that they cannot rectify their own error by removing the unwarranted fee immediately especially since this has been happening to a lot of people and the issue is not complicated. As of this writing, I haven't heard from ERT as to the \$25 fee they wrongly charged me.	Citizens	Online comments	Tolls
Yesterday, I received a violation notice for non payment of toll when I HAVE NOT gotten any bill for it. We passed through the tunnel on December 26, 2014 and never received a bill in January until this violation notice arrived yesterday. The toll fee is \$2.50 and was charged an additional \$25.00. I have no problem paying if they had sent me the bill.	Citizens	Online comments	Tolls
I am so frustrated. I did submit a dispute online but I want this matter settled and corrected immediately. I will never drive through this tunnel again.	Citizens	Online comments	Tolls
This issue with late billing with an administrative fee continues. I have paid every past toll bill immediately after receiving the bill. I just received a bill for tolls in November that has a \$25 administrative fee tacked on. This is my first bill for the dates listed. I disputed the fee and paid the tolls.	Citizens	Online comments	Tolls
This is extremely frustrating. I rarely take the toll as it is. Then when the bill shows up saying I'm 30 days past due but I never received it in the first place. The total for the bill was \$24. I then proceeded to call the customer service number. The lady on the phone said that it got sent. That's what the computer said. She then proceeded to give me the "first time late discount" which brings my total to \$14. It was clear I wasn't going to win this argument. I wish I would've seen this article weeks ago.....ERT ripped me off \$14, hope they use it wisely.	Citizens	Online comments	Tolls
I had the same thing happen to me. Went through the tunnel in March and the first bill arrived in September with a \$25 late fee. Called the number and paid the toll and they are going to have their managers look into the \$25 violation fee. I will hear back from them in 2-3 weeks (I hope).	Citizens	Online comments	Tolls

Comment	Source of comments	Type	Theme / Sub-theme
This is a real mess. I have to admit I never agreed with the re-tolling of these tunnels after all these years.	Citizens	Online comments	Tolls
The traveling public of Hampton Roads had this toll rammed down their throats and in my opinion is nothing more than a "legal" form of money laundering or extortion.	Citizens	Online comments	Tolls
These tolls have placed a lid on some of the area's businesses as one poster has already stated.	Citizens	Online comments	Tolls
Just take the tolls down because all it has really done is cause traffic to increase on routes used to get around them.	Citizens	Online comments	Tolls
Well I would to start by saying that it was there plans in the first place. They just want us to pay for what they thought was going to be just fine. People is out here looking for Jobs, putting food on the table, and also trying to pay other bill's. We are the people are not rich and they want us to send out more money then what we can make. What the people need is more money not tolls and be tax again on top of tax what kind of state are we living in.	Citizens	Online comments	Tolls
This just happened to my husband and I this week for a trip through the tunnel. We received a bill for a trip that was on April 18th, 5 months ago. We have received bill from Elizabeth River Tunnels for more recent trips over the summer but this was the first bill we've ever gotten for the month of April. EZPASS and the ERT need to get this billing process together or to put tellers at the tunnels. It is ridiculous. We will be calling the customer service line for sure tomorrow.	Citizens	Online comments	Tolls
EZ Pass is not new technology...been used for years in the northeast and others. Most of these seem to be issues with ERC's accounting software although there are a few postings that seem to indicate hardware/software problems with EZ Pass devices or their systems. Either way, maintenance, software, and accounting need in-depth analysis and a corrective action plan immediately. Hold their feet to the fire Mr. Secretary.	Citizens	Online comments	Tolls
"[Elizabeth River Crossing has] been having issues with timely billing ever since they have put the tolling in place, and it certainly is not a good implementation of tolling and billing policy for the Commonwealth" Layne	Gov. Officials	Statement	Tolls / billing issues
"People value their time much more during the rush hour," Farmer said. "They are more tolerant of a toll during rush hour, and are willing to pay it."	Gov. Officials	Statement	Tolls
"There is a red flag that we should be cautious of how we price off-peak," he said. "Those trips can be significantly impacted in a negative way with tolling, specifically if tolling gets high."	Gov. Officials	Statement	Tolls / Toll Rates
"You are getting no congestion, no congestion, and we think for many people, especially during rush hour, that is very valuable," Farmer said	Gov. Officials	Statement	Tolls
I think folks are going to realize a dollar during rush hour	Gov.	Statement	Free

Comment	Source of comments	Type	Theme / Sub-theme
and 75 cents off-peak actually is better than going ten miles out of your way, spending a \$1.50 in gas, and spending 15 to 20 minutes more on the road, and in the end they may come back."	Officials		Alternative Route
"These [Tolling systems] are complex components of a system and will work satisfactory once corrected,"	Gov. Officials	Statement	Tolls
"Many cities and metropolitan areas around the country have a toll system in place, for a traveler, a toll system is really nothing new."	Gov. Officials	Statement	Tolls
The tunnel toll operator's delays in billing thousands of motorists is "unacceptable" and endangering the future of tolling elsewhere in Hampton Roads.	Gov. Officials	Statement	Tolls / Billing Issues
"This has been going on for eight months, and I'm not convinced they got it fixed yet," Layne said.	Gov. Officials	Statement	Tolls / Billing Issues
Layne said that while he's concerned with how the late bills are burdening motorists, his primary worry is the damage being done to public support for tolling. "We're going to need tolls to further these major projects in Hampton Roads, and the performance of ERC is not helping that," he said.	Gov. Officials	Statement	Tolls / Billing Issues
David Caudill, administrator of VDOT's tolling operations division, said in a July 9 letter to Woodsmall that the request was denied. Caudill wrote that he was "greatly concerned with ERC's continued problems with properly managing toll transactions" and told Woodsmall that it "reflects poorly on your company and fosters continuing mistrust of the reliability of your operations."	Gov. Officials	Statement	Tolls / Billing Issues
"The processing of this backlog is likely to elicit a negative reaction from the public and lead to heightened customer dissatisfaction and negative press," Caudill wrote.	Gov. Officials	Statement	Tolls / Billing Issues

B.4.3. Statements from Gov. Officials extracted from news articles

Table B.7. Statements from Gov. Officials extracted from news articles

Comment	Source of comments	Type	Theme / Sub-theme
"I think one of our challenges with ERC is not knowing the magnitude of the errors," Kilpatrick said last week	Gov. Officials	Statement	Tolls / Billing Issues
Layne said, "I don't think they know how widespread it was."	Gov. Officials	Statement	Tolls / Billing Issues
Caudill wrote at the time that he was "greatly concerned with ERC's continued problems with properly managing toll transactions" but added that it was VDOT's	Gov. Officials	Statement	Tolls / Billing Issues

Comment	Source of comments	Type	Theme / Sub-theme
understanding that the company's performance had improved and that tolls were being processed promptly.			
"Even though most drivers will grumble, they'll pay," Koch, a professor of economics and former president of the university, said in an email		Statement	Tolls
"The performance of this project's tolling operation has fallen far short of Good Industry Practice," Kilpatrick wrote in his letter. He added that ERC has provided "insufficient information to track toll transactions and toll system improvements" as part of its plan to improve.	Gov. Officials	Statement	Tolls / Billing Issues
"Should there be issues, we expect you will identify them early and take all action necessary to correct problems," Kilpatrick wrote. "I expect solutions and not explanations. As partners, I also expect complete and full transparency into your operational processes."	Gov. Officials	Statement	Tolls / Billing Issues
"Furthermore, there is insufficient information to track toll transactions and toll system improvements," Kilpatrick noted in the Oct. 9 letter. "Added oversight and accountability are clearly needed concerning your tolling operator."	Gov. Officials	Statement	Accountability
"From a contractual standpoint, it's either very vague or very draconian" regarding sanctions, Layne said. "I think any future contract with the commonwealth will be pretty specific regarding performance markers."	Gov. Officials	Statement	Accountability
"This is an issue I ran on. I've done all I can do," he said at a press conference on transportation initiatives. "I did what I could to buy down the tolls early on."	Gov. Officials	Statement	Tolls / Toll Rates
McAuliffe repeated his criticism of the deal under his predecessor, former Gov. Bob McDonnell, on Tuesday as "one of the worst deals I've ever seen negotiated." But he added: "We've got to honor our commitments. We've signed agreements, and we now have to move forward and make the best situation with what we have."	Gov. Officials	Statement	Legitimacy
Perhaps the most significant finding is an estimate showing the city is missing out on \$24 million in taxable revenue a year. "The danger for Portsmouth is what that number is likely to increase to in the future if businesses go out of business," said James Koch,	Gov. Officials	Statement	Impacts / Community
"The estimation of the impact on taxable sales is not positive," said interim City Manager Brannon Godfrey	Gov. Officials	Statement	Impacts / Community
"The biggest takeaway from this is, yes, people are changing habits, and it's impacting Portsmouth more dramatically than anywhere else," said Tony Goodwin, president of the Olde Towne Business Association.	Business	Statement	Impacts / Community

Comment	Source of comments	Type	Theme / Sub-theme
"If you look at individual business, I'm quite sure some are seeing difficulties, but citywide that hasn't translated into a major downturn," he said. "We're kind of holding our own."	Gov. Officials	Statement	Impacts / Community
"This project, as you know, called for collecting tolls before any new capacity had been built," McAuliffe said at a press conference. "I felt this placed an undue burden on the citizens of the Hampton Roads region, particularly those in Portsmouth who use the tunnels every day."	Gov. Officials	Statement	Tolls / Affordability
"HRT said they are (enhancing transit), but I don't have any verification," Layne said. "All I have is their word, and I've asked for documentation."	Gov. Officials	Statement	Scope / Transit
"We got jammed with that project," said longtime Norfolk Mayor Paul Fraim, adding that local officials were excluded from negotiations as top leaders worked with the private firms.	Gov. Officials	Statement	Public Involvement
"The whole idea was to keep the political people out of this business deal, that they'd just sort of muddy the water," he said. "It turns out there was no check on the guys who were trying to strike the deal."	Gov. Officials	Statement	Public Involvement Legitimacy
"We have worked with our private sector partner to ensure there will be no tolls on the MLK extension," McAuliffe said. "Imposing a toll to finance the improvements would have placed an unfair burden on the citizens of Portsmouth. It is not good policy for Portsmouth to bear the cost of this project when it is also sharing the tolling burden with other motorists in the region who travel the Midtown and Downtown tunnels."	Gov. Officials	Statement	Tolls / Imposition of tolls

Appendix C. OHRB project

C.1. Period T-1

C.1.1. A detailed list of written comments made by stakeholders on Final EIS in April 2003

Table C.1. Stakeholder written comments on Final EIS

Comment	Reference (DTC / EEC)	Theme / Sub-theme
The identification of the Selected Alternative, including a discussion of Alternative A-15 in the East End, is detailed in Section 3.7 of the FEIS. Additionally, Alternative A-15 was the direct result of an intensive public involvement campaign involving citizens from the town of Utica, the City of Prospect and other affected communities. Therefore, Alternative A-15 has been determined to be in the best interest not only of the State, but also of the public in general.	EEC	Alternatives Analysis (AA)
The study of the impact of the new ramps for I-64 at Mellwood/Story Avenues and I-71 at Ohio/Frankfort Avenues is incomplete. Two way traffic on Story and Mellwood Avenues is important to the Butchertown Historic District and the Clifton Historic District.	DTC	Impacts / Historic
The FEIS does not specifically address how any of the alternatives in the vicinity of St. Francis in the Fields Church will be constructed so as to avoid interfering with access to and from the church or interference through noise, vibration and other construction concerns with the church's religious activities.	EEC	Impacts / Community
Supports building an additional bridge in eastern Clark and Jefferson Counties to connect the LMA outer beltway. Strongly urges that the advantages of any eastern bridge be maximized as much as possible in view of its predicted impacts.	EEC	Purpose & Need
Plans should be drafted to provide for emergency, ambulance and fire response.		Design
We continue to recommend an underpass for Court Avenue to reduce the required height of the U.S. 31 approach lanes, reducing impacts to the Clark Memorial Bridge and the Ohio Falls Historic District. This option should be included in the comprehensive engineering study, which will be done for this part of the Project.	DTC	Design
Endorses the need for two bridges and that the project be approached as one project and not two fragmented projects.	OHRB	Design Scope
The construction of the bridge at an angle other than normal flow will cause eddies to develop on the downstream end of the piers.	OHRB	Design
Concerned about cost of building the project, revenue required for the project, impacts on the current program and sequencing contained in the Financing Options Plan.	OHRB	Funding
The Financial Plan required for mega projects (per Section 1305(b) of TEA-21, and in accordance with FHWA Guidance – Financial Plans, May 2000) must be completed and accepted to demonstrate KIPDA compliance with federal transportation planning requirements.	OHRB	Funding
Direct taking of Belleview Historic District by the A-15 alignment has not been acknowledged.	EEC	Historical sites

Comment	Reference (DTC / EEC)	Theme / Sub-theme
In addition to the constructive uses of the Allison-Barrickman property, the historic boundaries of this property continue to be erroneously shown on project maps.	DTC	Historical sites
Inadequate historic property mitigation – for direct, indirect and cumulative impacts.	OHRB	Historical sites
The Technical Report on Proximity Impacts to Section 4(f) Properties failed to identify increases in noise levels for the Drumanard Estates Historic District, Country Estates of River Road Historic District, Belleview Historic District, Rosewell, Merriwether House, Allison Barrickman, Determan House, and Schildknecht House and overlooked constructive use of these properties because of noise.	DTC / EEC	Historical sites
Noise mitigation should not be limited to barriers, but include other methods to cumulatively reduce impacts.	DTC	Impacts / Noise
The ROD should provide firm commitments for actual locations of barrier construction and a schedule for that construction.	OHRB	Impacts / Noise
The ROD should identify mitigation measures to minimize impacts to flora and fauna of floodplains; wildlife habitat and movements through floodplains should be of high priority.	OHRB	Impacts / Environment
Truck percentages used in the noise modeling should have been included in the FEIS.	OHRB	Impacts / Noise
Due to increasing urbanization within the Project area, we would prefer that all of the mitigation be placed within the Project vicinity only if the mitigation area(s) buffer other existing protected lands. Otherwise, we believe that the mitigation area(s) should be located outside of the LMA in order to adequately replace the fish, wildlife, and habitats that are lost.	EEC	Impacts / Environment
Connecting a federal highway with the INAAP property would be questionable use of federal funds until the contamination of that property is resolved.	OHRB	Legitimacy
The mitigation funding commitment levels for neighborhood, community and environmental impacts appear grossly inadequate at approximately 1% of the total project cost.	OHRB	Legitimacy
The ROD must document that the Selected Alternative is included in the conforming Long Range Transportation Plan (LRTP).	OHRB	Process
Groundwater Protection Plans (GPP) are required before construction and must be in place during all phases of construction.	OHRB	Process
Will other projects be ignored due to the costs allocated to this project? Please put more effort into responding to the public's questions.	OHRB	Public involvement
Construction of the downtown bridge should proceed first, based on funding projections and demonstrated need.	DTC	Purpose & Need
Inclusion of the eastern bridge in the Bi-State Regional Transportation Plan of 1969 was based on a major premise of constructing a new regional airport in Clark County and the plan included numerous projects, which have never been built.	EEC	Purpose & Need
Endorses the need for two bridges and that the project be approached as one project and not two fragmented projects.	DTC / EEC	Purpose & Need
Neither the DEIS or FEIS cite any data to support the need for an eastern bridge to address "inefficient" mobility between eastern portions of the Louisville/Jefferson County Metro Government area and southeastern Clark	EEC	Purpose & Need

Comment	Reference (DTC / EEC)	Theme / Sub-theme
County.		
Supports building an additional bridge in eastern Clark and Jefferson Counties to connect the LMA outer beltway. Strongly urges that the advantages of any eastern bridge be maximized as much as possible in view of its predicted impacts.	EEC	Purpose & Need
There remains no traffic justification for the eastern project.	EEC	Purpose & Need
The FEIS should be modified to not preclude the possible renovation and conversion of the Big Four Bridge into a pedestrian and bicyclist facility. Such a facility might obviate the need for a pedestrian and bicycle facility on the new I-65 Bridge, which has the potential to increase adverse impacts on Jeffersonville. Recommended to determine the location(s) of these facilities.	DTC	Scope / Bike lane
The future utilization of either the Clark Memorial or Kennedy Bridge is key to the future extension of the Transportation Tomorrow South Central Corridor Light Rail project into southern Indiana. The acknowledgement in the FEIS that any conceptual designs for the Preferred Alternative thus far do not preclude such options is encouraging.	DTC	Scope / Transit
The DEIS and MOA made no mention of the 17-foot wide pedestrian and bicycle path on the upstream side of the bridge. The incorporation of the pedestrian and bicycle path would encroach further into the Old Jeffersonville Historic District. The use of the Big Four Bridge as a pedestrian and bicycle path is recommended instead of the expansion of Alignment C-1.	DTC	Scope / Bike lane
Plans should be drafted to provide for emergency, ambulance and fire response. Construction of the tunnel would create additional concerns for evacuation and communications.	EEC	Scope / Tunnel
Is there any protection against use of an open trench in case the tunnel is not constructed?	EEC	Scope / Tunnel
Toll analysis was issued late in the process and demonstrated 78% to 99.5% of the purported future users of an eastern bridge do not value their time savings from the bridge enough to pay a one-way toll of \$1 - \$2. Additional comment in Section 1-1 of the River Fields, Inc. letter was offered concerning the different values used in the preliminary toll analysis and the user benefit analysis included in the FEIS.	EEC	Tolls
Traffic projections are based on erroneous and non-standard professional practices.	OHRB	Demand projections
Request for a concise written summary of any factually supported growth assumption and traffic studies, which clearly demonstrate the benefits of an eastern bridge costing the taxpayers more than \$500 million.	EEC	Demand projections Purpose & Need

C.1.2. Representative graphs for written comments made on Final EIS

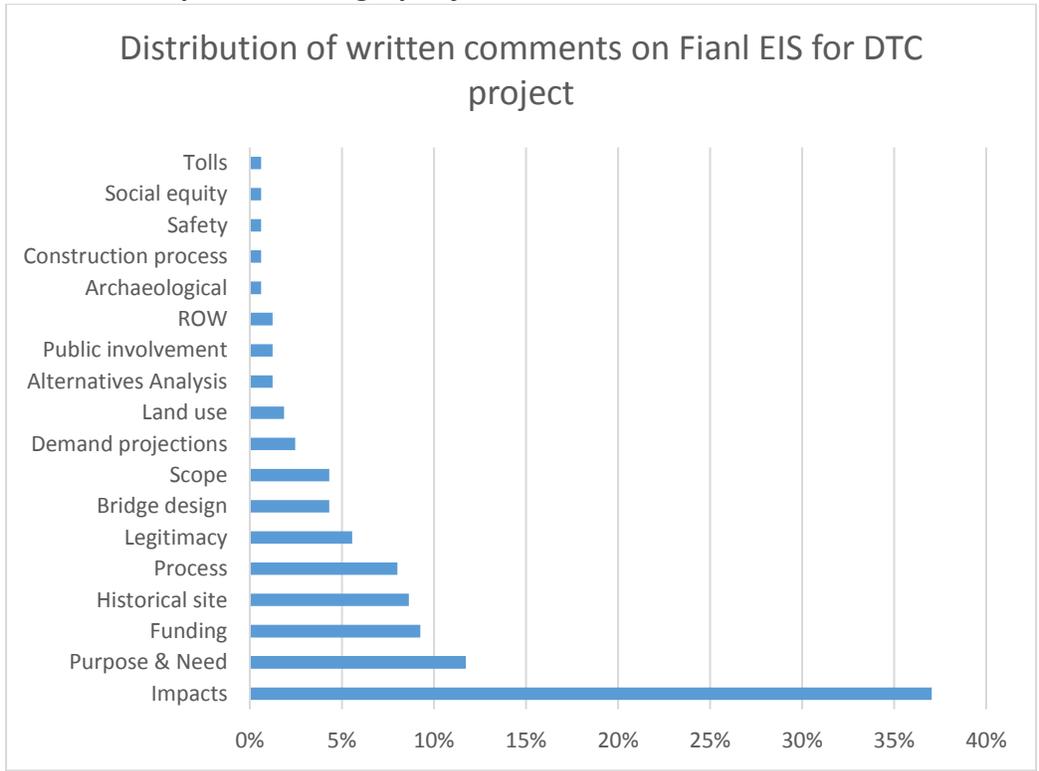


Figure C.1. Distribution of written comments on Final EIS for DTC project

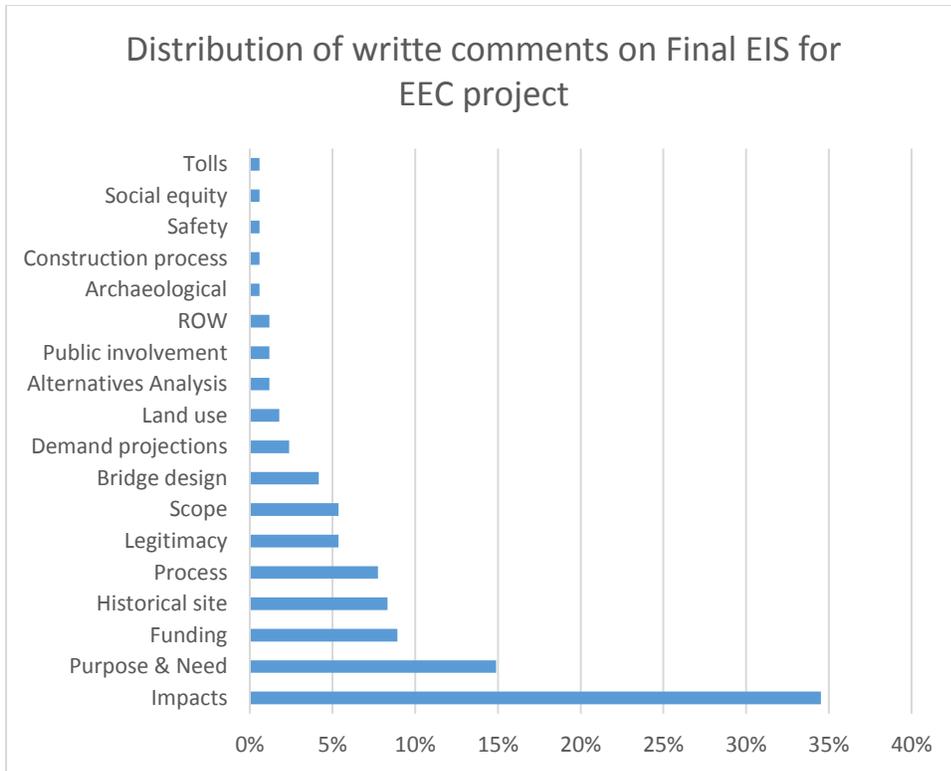


Figure C.2. Distribution of written comments on Final EIS for EEC project

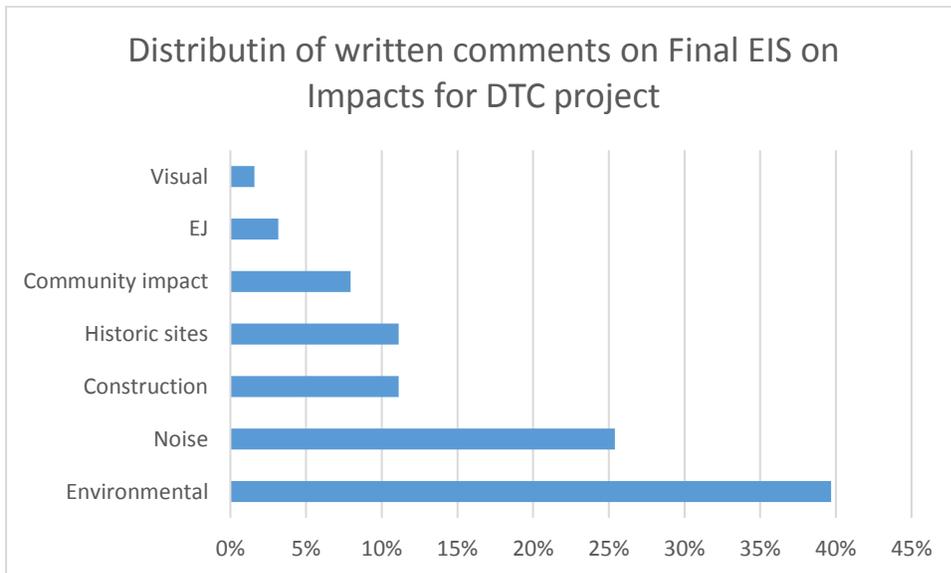


Figure C.3. Distribution of written comments on Final EIS on Impacts for DTC project

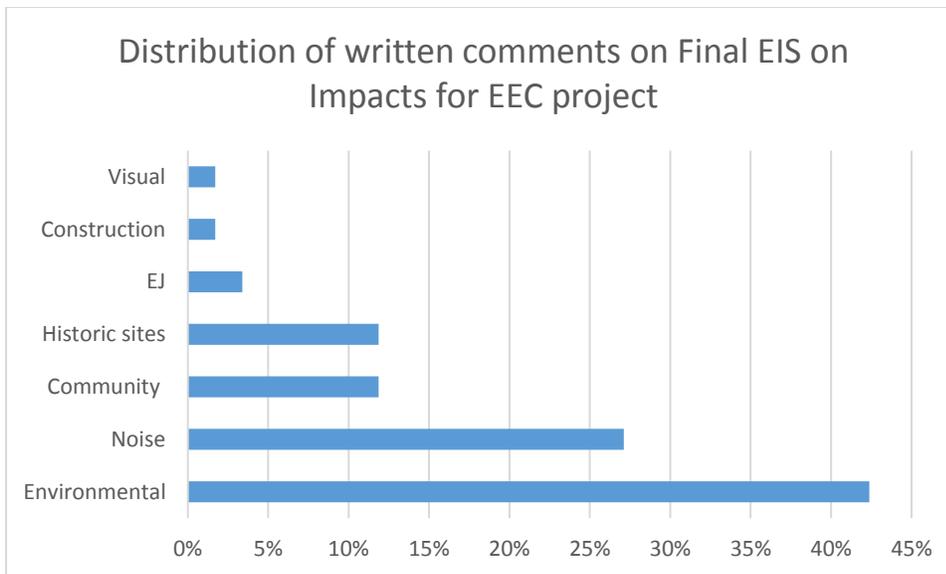


Figure C.4. Distribution of written comments on Final EIS on Impacts for EEC project

C.1.3. Stakeholder comments made in AAT & RAC meetings (T-1)

Table C.2. Stakeholder comments made in AAT and RAC meetings

Comment	Reference (DTC / EEC)	Theme / Sub-theme
The plan is fantastic. Is anyone working on the sub-water level? Also, are you coordinating your work with the waterfront parks?	DTC	Design
What issues come first when selecting a bridge type - safety or aesthetics?	DTC / EEC	Design
With the railings, the concrete block precludes a lot of visual aspects. I find it hard to think people would like the concrete railing.	DTC / EEC	Design
We think the issue of sound proofing should be considered more.	DTC / EEC	Impact / Noise
Has KYTC's approval for the contractor to work weekends had been communicated to the neighborhoods?	DTC	Public involvement
The process worked very well. Each alternative has different elements and fits with the other bridges. Could live with any of the three.	DTC / EEC	Alternatives Analysis
What is the comparable cost of the 3 alternatives?	DTC / EEC	Alternatives Analysis
Under the scenario where a new, single interchange is constructed and Mellwood and Story are converted to two-way, will the Story Avenue Ramps go away?	DTC	Design
In the Waterfront Impact Reduction Study, Layout 5M, what happens to the River Road segment south of the new exit ramp?	DTC	Design
I want to commend you on selecting cottonwood and sycamores for our area because they fit so well. I would like to see pictures of another urban area where you have done this so we can see where landscape architecture has worked. I would like see smaller trees because they are healthier in the long run.	DTC / EEC	Design
Mayor Falk voiced his concerns of a natural disaster such as a massive earthquake from the New Madrid fault. He asked if seismic activity is taken into account in the design of the tunnel. Larry explained that unless the fault	DTC / EEC	Design

Comment	Reference (DTC / EEC)	Theme / Sub- theme
directly intersects the tunnel, it is unlikely that there would be an adverse impact on the tunnel structure or operations. Risk analyses and seismic analyses are included as part of the tunnel design process.		
A member asked if open cutting the tunnel had been considered.	EEC	Design
How long will work continue with the current funding? Based on the current state and federal budgets, is it wise to move forward if funding is uncertain? The state hasn't passed a budget yet and the transportation bill has yet to be passed. Should we begin work on this project with the possibility of work being interrupted because funding isn't available?	DTC / EEC	Funding
Will the financial plan be based on detailed design plans?	DTC / EEC	Funding
Can Congresswoman Northup specifically earmark funds for this project?	DTC / EEC	Funding
Explain funding. What about bonds issued by the government? Will you work through the mechanics of the plan?	DTC / EEC	Funding
Is one type of bridge more expensive than another?	DTC / EEC	Funding Design
Regarding the financial plan, will there be an element of public participation?	DTC / EEC	Funding Public Involvement
What is the budget? We see big numbers in newspaper stories – at what point do you know what the budget is?	DTC / EEC	Funding
A member asked what happens to the Exploratory Tunnel if the funding for the project is cut off. Jerry explained that the Financial Plan will be in place at that point and loss of funding shouldn't be an issue. The person then asked what might stop the Exploratory Tunnel. Jerry said that we don't anticipate stopping on this project.	DTC / EEC	Funding
Were the noise walls for section 5 (south of I-64, approximately between Cabel Street and Story Avenue) eliminated based on a cost / benefit analysis? Noise walls should not be tied to a cost / benefit analysis. There should be additional considerations because of historic preservations.	DTC / EEC	Impacts / Noise
With the railings, the concrete block precludes a lot of visual aspects. I find it hard to think people would like the concrete railing.	DTC / EEC	Impacts / Visual
We think the issue of sound proofing should be considered more.	DTC / EEC	Impacts / Noise
Members pointed out that they are very interested in noise and lighting impacts and asked when that information would be presented.	DTC / EEC	Impacts/Noise Public Involvement
Concerns with lighting were reemphasized and the request was made to add lighting to the Design Guidelines list of issues.	DTC / EEC	Impacts / Visual
Elaine Bordogna questioned how the walls and barriers can only be evaluated according to aesthetics. Sound and lighting blocking performance must also be considered for the proposed walls. She feels that more information is needed on how each type will perform for sound and lighting.	DTC / EEC	Impacts / Visual
Mayor Falk asked if sound barriers can be designed to be "undulating" so as to be varied and more interesting.	DTC / EEC	Impacts / Visual
Another member emphasized that he didn't want to be able to see the traffic through the transparent sound walls.	DTC / EEC	Impacts / Visual

Comment	Reference (DTC / EEC)	Theme / Sub- theme
A member asked how much terracing would be required for the cut slopes.	EEC	Impacts / Visual
A member questioned the height from the driving surface to the top of the sound walls in the Bridgepointe area.	EEC	Impacts / Noise
We still won't meet deficits with maintenance costs going up due to the energy crisis. If the highways leading up to the bridges are impassable, the bridges are no good.	DTC / EEC	O & M
Are maintenance costs figured into the life-cycle cost analysis?	DTC / EEC	O & M Funding
Is the DBE program set up to be bi-state? Will businesses be requalified and trained in both states?	DTC / EEC	Process
Is there bi-state training and prequalification?	DTC / EEC	Process
A member asked when the ramp relocation would begin.	DTC	Timeline
A member asked when right-of-way acquisitions will take place.	DTC / EEC	Timeline ROW
Leslie Barras of River Fields asked if the ROD and the MOA could be added back to the project website in an easier to find location.	DTC / EEC	Public Involvement
A member asked what guarantees are there that the designs preferred by the AAT and the community at large will be implemented in the design of the project. What if financing isn't available to build the amenities chosen?	DTC / EEC	Public Involvement
What is the public involvement process for the financial plan?	DTC / EEC	Public Involvement
A member asked if the need for the East End Bridge will be reevaluated in light of current fuel prices and if there is money set aside now for construction.	EEC	Purpose & Need
A member questioned if there is a means of letting local residents know not to build in an area that will be impacted by the project. The specific concern was the new home being built beside Rosewell on Transylvania Avenue.	EEC	ROW
Jim Halvatgis asked how much property would need to be acquired.	DTC / EEC	ROW
Mayor Falk asked if there were cases where bouncing off the barrier is more dangerous than not.	DTC / EEC	Safety
A member commented that something needs to be done concerning the excessive speed on US 42 from the intersection with Wolf Pen Branch Road down the hill to Harrods Creek entrances and approaches to US 42.	DTC	Safety
A member asked what design methods are there for dealing with possible terrorism and earthquakes.	EEC	Safety
Would the new bridge types include pedestrian walkways and bike paths?	DTC/EEC	Scope / Bike lane
Where do things stand with enhanced bus service? When will we have updates?	DTC	Scope / Transit
Could there be a briefing on enhanced bus service given through KIPDA, to augment the Regional Advisory Committee briefings?	DTC	Scope / Transit
A member asked if air inflow lines are necessary for the proposed tunnel.	EEC	Scope / Tunnel
Another member asked how the proposed tunnel compares in length to the Cochran Tunnel.	EEC	Scope / Tunnel
What about (using) tolling?	DTC/EEC	Tolls

Comment	Reference (DTC / EEC)	Theme / Sub-theme
The length of the Exploratory Tunnel was questioned as to whether it would extend the full length of the ultimate tunnel.	EEC	Scope / Tunnel
A member questioned if there would be a speed reduction upon entering the tunnel?	EEC	Scope / Tunnel

C.1.4. Representing graphs for stakeholder comments in AAT and RAC meetings

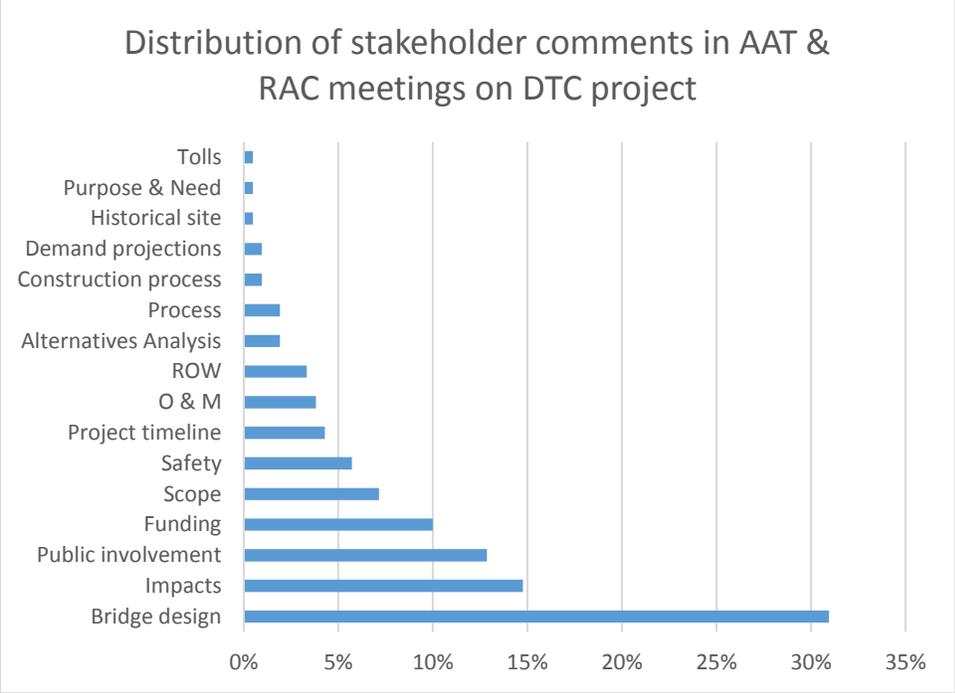


Figure C.5. Distribution of stakeholder comments in AAT & RAC meetings in DTC project

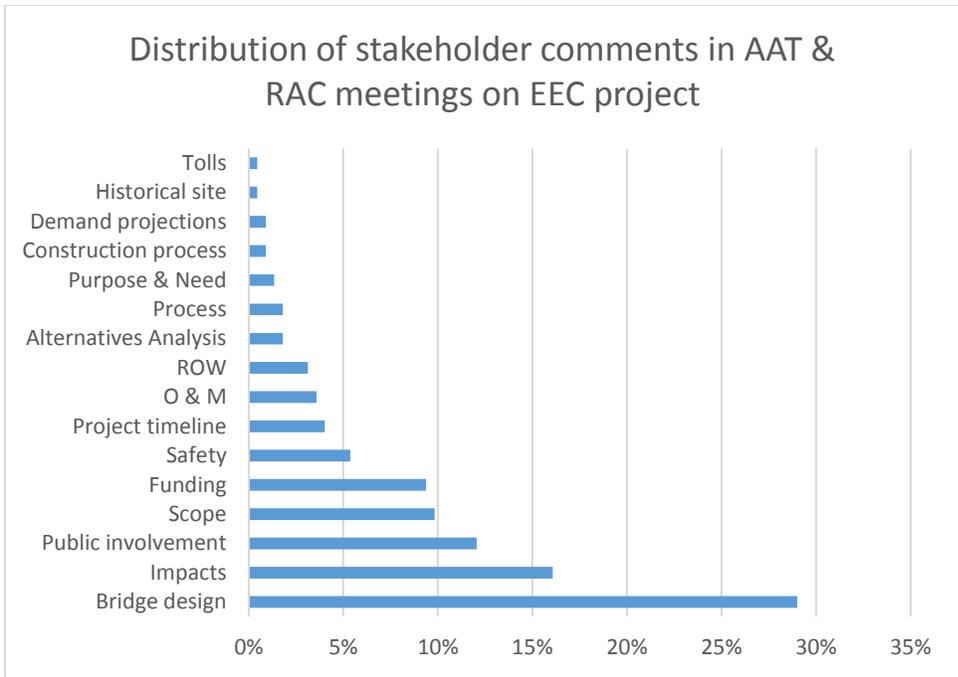


Figure C.6. Distribution of stakeholder comments in AAT & RAC meetings in EEC project

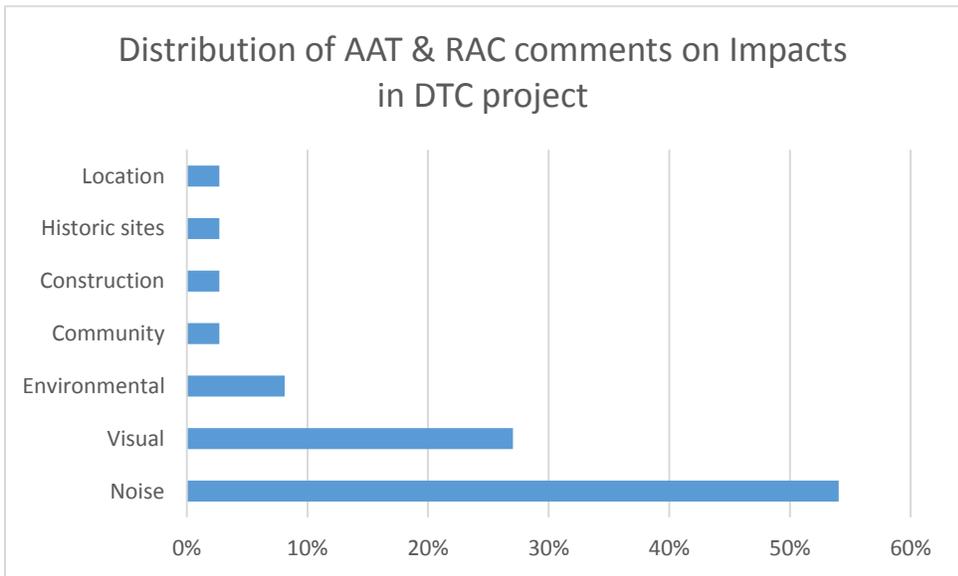


Figure C.7. Distribution of stakeholder comments in AAT & RAC meetings on Impacts in DTC project

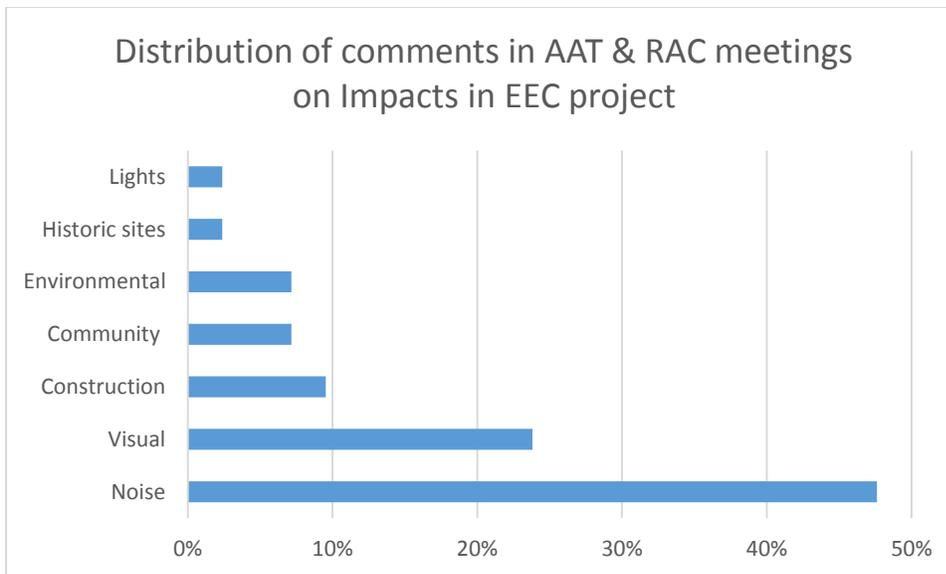


Figure C.8. Distribution of stakeholder comments in AAT & RAC meetings on Impacts in EEC project

C.1.5. Stakeholder comments made in IHPAT & KHPAT meetings

Table C.3. Stakeholder comments in IHPAT & KHPAT meetings

Comment	Reference (DTC / EEC)	Theme / Sub-theme
Do the owners of Colgate-Palmolive understand they will receive a tax rebate if they agree to the National Register of Historic Places (NRHP) Nomination?	DTC	Historic
Where is the Project in regards to Drumanard [estate]?	EEC	Historic
Will the concrete in the structure be colored? Is there still time to make comments on the choice of color? Are the colors that are proposed for use the choices preferred from the prior Workshops?	DTC & EEC	Bridge Design
Could the roadway lighting fixture be more of an oval shape like the towers rather than the square?	DTC & EEC	Bridge Design
The Restore 64 project has reduced vibration and noise by about 98% for the Riverfields office. Is there a professional preference for concrete over asphalt?	DTC	Impacts /Noise Bridge Design
Is the flare at the top of the anchor pier structural or aesthetic?	EEC	Bridge Design
What is the distance between the vertical posts on the pedestrian railing?	DTC & EEC	Bridge Design
Archaeological sites that will need investigation include: the location of Fort Finney/Fort Steuben, the sites of the four homes to be relocated and the Old City Cemetery. Michael Striker described the work necessary to investigate the location of the Old City Cemetery beneath the Colston softball field.	DTC & EEC	Archaeological
The City currently enforces design guidelines for a local historic district that includes portions of Spring Street and Riverside Drive. Design guidelines for the entire National Register Historic District of Jeffersonville will be developed through the HPP.	DTC & EEC	Bridge Design
Mr. Sanders asked that since the plan itself will include suggestions for future measures that have no commitment from the MOA to fund, can the HPP identify possible funding sources for the non Project-funded items. He noted that the preparation of the HPPs is a great opportunity to	DTC & EEC	Funding

Comment	Reference (DTC / EEC)	Theme / Sub-theme
pull all the current projects such as the Big Four Bridge and the Greenway Project together into one comprehensive plan. It was confirmed that the HPPs will identify possible funding sources for long-term goals and that it will take into account current projects.		
Five houses are slated for relocation within the neighborhood; Ratio discussed how recommendations would be made determining new locations. This process would require the proper context for the houses and the ability to purchase the lots. HLFi asked that the HPPs identify specified location options for each home to be moved.	DTC & EEC	Historic sites
The participants discussed their hope that the HPP for the Utica Lime Kilns would identify possible uses for the property and options for private owners who wanted to donate their kiln property.	EEC	Historic sites
HLFI commented on rumors that owners of properties on Riverside Drive that are within the alignment of the Indiana Downtown approach are considering removing the interior features of these structures. The question was raised as to whether any coordination has occurred with these property owners to request the structures remain intact to preserve integrity. It was noted that it has always been the intention of the Project to relocate the structures intact. This is first time CTS-GEC was made aware of the issue.	DTC & EEC	Historic sites
If Colgate-Palmolive changes ownership, will the Project attempt nomination again? It is a Project obligation and, if the ownership changes, the Project will contact the new owners for possible nomination. The preparation of the current nomination does not preclude a future NRHP nomination.	DTC	Historic sites
What is the status of the preservation easements for the Edison House and Wesley House? Concern was expressed about the potential loss of the Wesley House as an historic property as it has been recently converted to condominiums. The owners of the properties can be approached at any time with regard to providing the easements. Mr. Jett and Mrs. Neary indicated that they would make contact with the property owners.	DTC & EEC	Historic sites
Noise Abatement was discussed as an issue to be included in the HPP. The Association asked about the increase in noise due to the construction and new traffic. Ratio and CTS spoke about the possible use of new materials for the bridge that could assist in keeping the noise to a minimum.	DTC & EEC	Impacts/Noise
There was concern within the Association about the view from the neighborhood to the bridge and the actual design of the bridge. CTS explained that there would be public workshops to discuss such issues, but at later date. The Indiana approach designers and the bridge designers have not been selected.	DTC & EEC	Impacts/Visual
Judy Travis asked if the footings for the bridge that are located within the neighborhood on private property could be removed and if there was funding to do so. If they must stay could signage be created to explain their significance? Ratio stated that there was no particular funding for this and that the property owners could remove them at will.	DTC & EEC	Impacts/Community Funding
The Swartz Farm was discussed next and Jay Ellis expressed the need to protect the rural area from growth that will follow the bridge. He mentioned the inclusion of the Central Passage House within the rural historic district.	DTC & EEC	Land use

Comment	Reference (DTC / EEC)	Theme / Sub-theme
The participants felt that there was a need to promote investment and development in downtown not in rural areas. Sprawl was a significant concern and the group felt that careful land use planning along the east end bridge route was important for the long term viability of the Smith Farm, Swartz Farm and Lime Kilns as historic resources. They will look to the HPP to raise a flag about land usage issues and the relationship between land use choices and historic resource preservation. Clark County is currently in the process of updating its comprehensive plan and land use ordinances.	DTC & EEC	Land use
Finally, it was discussed that the Charter is in no way meant to override the MOA and where there might be disparity, the MOA will take precedent. The draft Charter will be refined based on the Advisory Team members' oral and written comments and will be presented again at the next meeting.	DTC & EEC	Process
A state permit as well as permission from the City of Jeffersonville would be necessary, after a scope of work is submitted. Les Merkley stated that the Parks Board runs the park and approval from them would also be necessary.	DTC & EEC	Process
What is the proposed timeline for the noise studies for the Edison House, Wesley House, St. Joseph's Church, Franklin Street Baptist Church, Marcus Lindsay Methodist Church, and Grace Immanuel United Church of Christ? The noise studies will be developed as the construction plans evolve.	DTC & EEC	Project timeline
Mr. Sanders brought up that at the Jeffersonville stakeholder meeting concern was raised about the lack of studies on the African American heritage in this area. In light of this issue, Mr. Sanders questioned why the request from an African American organization to be included on the INHPAT was denied. Mr. Carr stated that Maxine Brown's request focused on two points. The first point referred to her involvement on the Historic Landmarks Foundation of Indiana's (HLFI) African American Advisory Committee; however, HLFI is already represented on the IHP AT and they are free to name whomever they wish to serve as the representative and the alternate.	DTC & EEC	Public involvement
When will the right-of-way acquisition phase begin on the Old Jeffersonville houses? This process will not begin for the next couple of years; however if suitable lots are found within the district, they can possibly be purchased and held until the houses can be relocated.	DTC & EEC	ROW
Land is being developed for a residential community in the right of way for the Project. Greg Morrison mentioned the interest of the developer for annexation of this development by the Town of Utica.	EEC	ROW
Another request made by the Association was the general improvement of infrastructure (sidewalks, curbs, etc ...) and relocation of overhead electrical and telephone wiring underground along the Ohio River.	DTC/EEC	Scope/General
Henry Sanders mentioned that he would like the Jeffersonville HPP to include features like those found in the DePauw and Evansville Studies available at CTS. Ratio mentioned that they produced these studies and that the Jeffersonville study could definitely have similar features.	DTC/EEC	Scope/General

C.1.6. Representative graphs for stakeholder comments in IHPAT & KHPAT

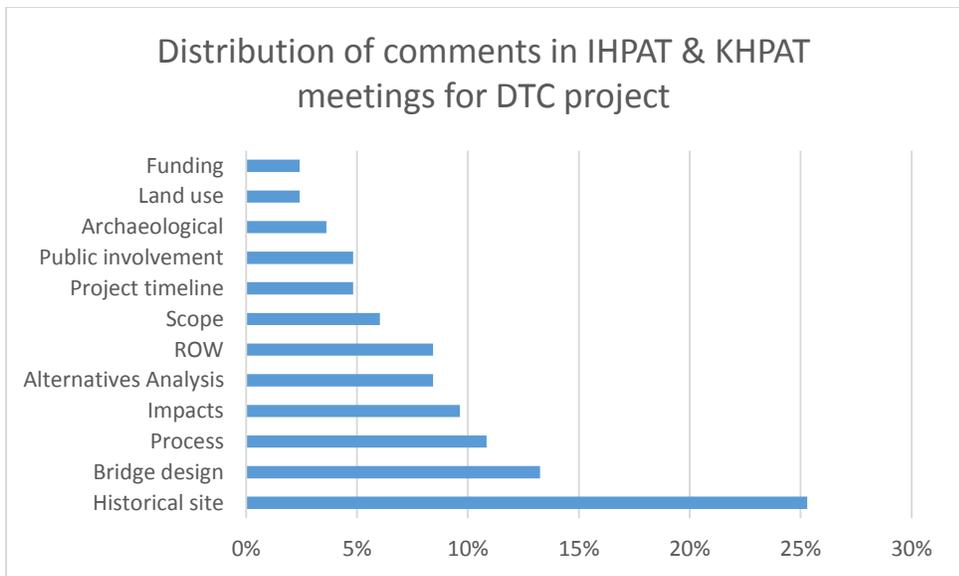


Figure C.9. Distribution of comments in IHPAT & KHPAT meetings for DTC project

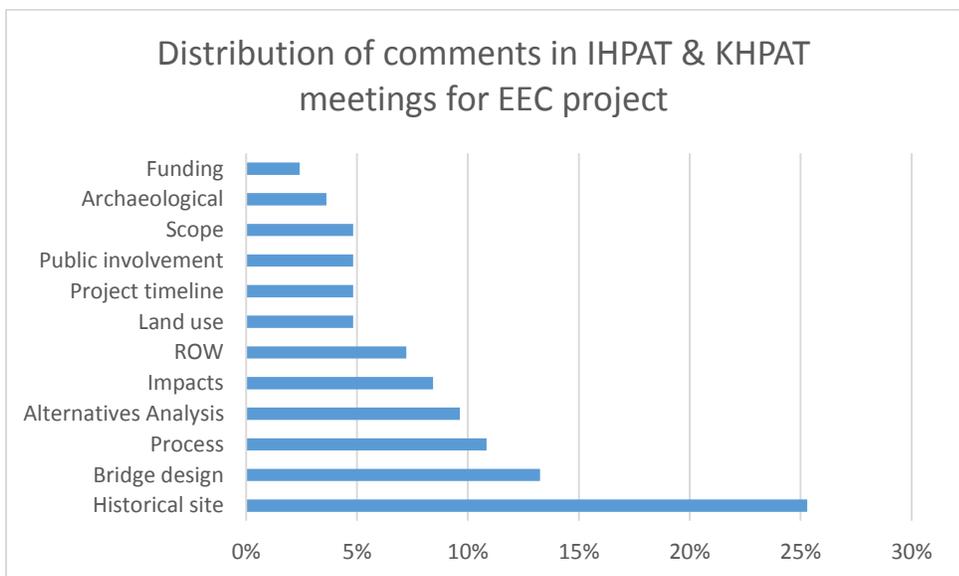


Figure C.10. Distribution of comments in IHPAT & KHPAT meetings for EEC project

C.1.7. Stakeholder comments in open house on December 13th and 15th 2005

Table C.4. Stakeholder comments in open house on December 13th and 15th 2005

Comment	Reference (DTC / EEC)	Theme / Sub-theme
The cables look incomplete, with the missing cables in the middle.	EEC	Bridge Design
Would this accommodate a rapid transit system in the future?	EEC	Bridge Design Transit
The towers look more attractive, it is more symmetrical, and the cables go to the edge, which looks better.	EEC	Bridge Design

Comment	Reference (DTC / EEC)	Theme / Sub-theme
If any of the piers are struck by barge traffic, would one type of pier hold up better than another?	EEC	Bridge Design
It looks more to scale and fits the flow of the land and water, while some of the others seem too tall.	EEC	Bridge Design
Is this being designed exclusive of the downtown bridge, i.e. they will not be the same bridge?	EEC	Bridge Design
Is there a difference between the bridge types in cost initially or in maintenance over the years?	EEC	Bridge Design
Why don't any of the designs use a truss underneath the bridge?	EEC	Bridge Design
Are the towers built from the deck up and are they hollow?	EEC	Bridge Design
The construction schedule depends on the funding, and it's not clear where the funding is coming yet.	EEC	Funding
Lighting makes a bridge spectacular – will this one be lit?	EEC	Scope/General
This bridge has a wow affect, good height, sleekness and lightness.	EEC	Impacts/Visual
Is there any way to keep development away from this site?	EEC	Impacts/Community
Is there a difference between the bridge types in cost initially or in maintenance over the years?	EEC	Alternatives Analysis
We should build a bridge that takes the least amount of paint.	EEC	Operation & Maintenance
Would the truss bridges be painted or weathering steel?	EEC	Operation & Maintenance
Is there more maintenance in a truss bridge?	EEC	Operation & Maintenance
What is the time for construction? Between the Brent Spence bridge and the East End bridge, which will be built first?	EEC	Project Timeline
Will the walkway continue along the interstate on either side, or will it connect to local roads?	EEC	Scope / Bike lane
Would this accommodate a rapid transit system in the future?	EEC	Scope / Transit
Would this bridge be able to have light rail in the future?	EEC	Scope / Transit
Will pedestrian and bicycle traffic be allowed?	EEC	Scope / Bike lane
Will this be a toll bridge?	EEC	Tolls
Has the future traffic been taken under consideration?	EEC	Demand projections

C.1.8. Representative graph for public open houses held on December 13th and 15th 2005 for EEC

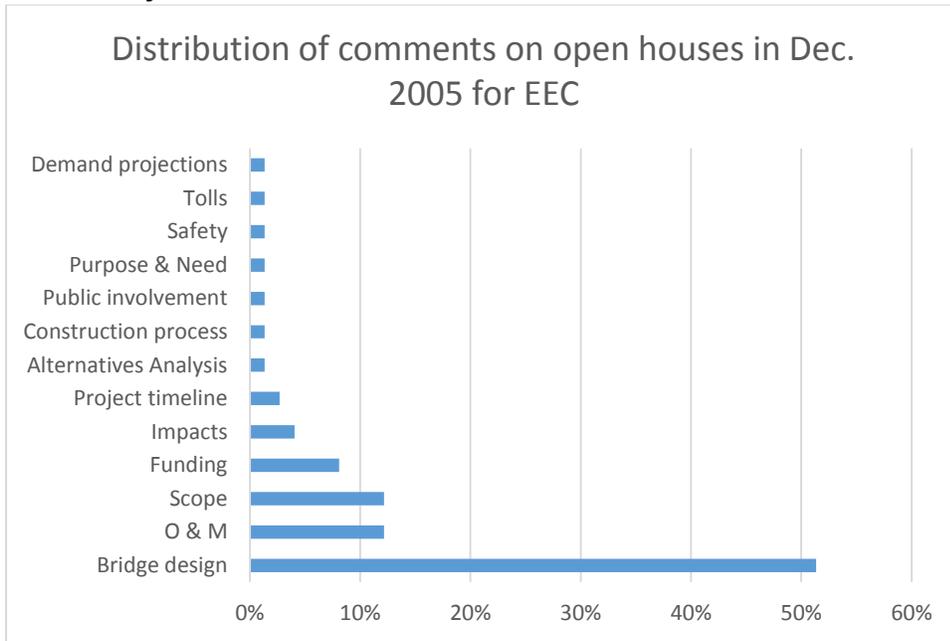


Figure C.11. Distribution of comments on open houses in Dec. 2005 for EEC

C.2. Period T-2

C.2.1. Stakeholder comments in public hearings held on June 27th & 28th 2011

Table C.5. Stakeholder comments made in public hearings held on June 27th and 28th

Comments	Reference (EEC/DTC)	Theme
There's an overwhelming belief that tolls will have a tremendous negative impact on the well-being of southern Indiana. In essence, they create a barrier to people coming to southern Indiana and, over a period of time, will have a negative impact on business over here.	EEC/DTC	Tolls / Oppose tolls
I feel that the historic designation of the Drumanard Estate was done to stop the east-end bridge, and that the entire estate should not have been declared historic, only the home; and that the tunnel will cause problems for hazardous materials, cost overruns, and potential expansion in the future.	EEC	Scope / Tunnel
I did feel the entire project needs to be 5 built, but I think the east-end bridge should be completed first to alleviate pressure on Spaghetti Junction during the rebuild.	EEC	Purpose & Need
I don't understand people who are saying that if you build another bridge downtown and you change Spaghetti Junction, it creates more congestion downtown. It's terrible right now. Right now you have pickup trucks that are trying to get off of at a 45-degree angle and they're falling down. Every day at 5:00 there's a 23 big jam. I wish those trucks could keep moving.	DTC	Purpose & Need

Comments	Reference (EEC/DTC)	Theme
We've been given a choice of nothing happening, which is unacceptable to me as a citizen, unacceptable to almost everyone I know. And the other in this spectrum, a \$4 billion fantasy project that we can't afford. And now in the middle, with a very short time fuse, we have a \$3 billion what I would say is also a fantasy project.	DTC/EEC	Alternatives Analysis (AA) Funding
Remember, we've had the funds available a number of times over the past four years, especially Indiana. It's the folks across the river, who want to charge us the tolls now, who drug their feet.	DTC/EEC	Funding
This system's cost could be partly funded through the implementation of congestion pricing on the existing bridges. The use of congestion pricing would help alleviate the current congestion by providing an incentive to time bridge crossings at times when the bridges are not congested, and providing an incentive to using public transportation which uses the existing infrastructure much more efficiently than single-occupant cars.	DTC/EEC	Funding
Tolling would have a negative impact on both of those things. It would not improve the situation at all.	DTC/EEC	Impacts/Tolls
So there are several things that need to be addressed. I also believe it's crucial that we really give consideration to making sure that cross-river mobility does not eliminate cross-river commerce. And -- and again, I think these are all things that can be addressed. I think these are all issues that can be overcome.	DTC/EEC	Impacts / Community
I come to you today as a resident of Jeffersonville, Indiana, and also a resident of a very dear neighborhood that is tremendously impacted by this proposed downtown bridge. It 13 didn't make me warm all over when you-all decided 14 to go with the upstream side downtown bridge. I felt like, "How dare you."	DTC	Impacts / Community
But what we're asking is that you please help us preserve the inte -- integrity of Riverside Drive and a very, very beautiful historic neighborhood. 6 And please stop by any time. Thank you.	DTC/EEC	Impacts / Environmental
This project has passed every state and federal hurdle with flying colors. From every 20 environmental study that's been placed in its path, it has shown that it will not adversely affect the environment.	DTC/EEC	Impacts / Environmental
We don't want -- we don't trust the gillians 9 [phonetic] to represent us. They have abandoned us. We don't trust the system. It has abandoned us.	DTC/EEC	Legitimacy
They're working for Doe-Anderson. That's your tax money paying for a public relations firm to answer your questions the way they want you to be educated. I mean, you know a project's screwed up if they need a PR firm to -- to push it down your throats.	DTC/EEC	Legitimacy
And I'm -- you know, I would hate to see any special interest that lives in that community prevent that progress. You know, I -- I think the people in the east end should be treated fairly, but we need a bridge to connect the expressways to keep traffic from going downtown.	EEC	River Fields lawsuit
One of the things we realize, that in 2009, River Fields, a national historic trust, filed suit 11 against the Federal Highway Commission. And if this suit still continues next year when we go out to sell the bonds, the experts tell us that it will add a half a basis point to this issue. A half a basis point on a \$2 billion bond issue is \$10 million a year. Over the course of 30 years, that is \$300 million. You have seen on the video, we are trying to speed construction and reduce the cost. All this suit does, simply by being there, is add money to the project, which adds money to the tolls, which adds money to everything and slows	DTC/EEC	River Fields lawsuit

Comments	Reference (EEC/DTC)	Theme
down the project. So we are asking everyone to help us ask River Fields to drop the suit.		
But they need to get past this lawsuit. They need to get -- they need to get these people out of our -- our business and bridge building to begin 5 with in the east end. It's ruining our country. It's -- it's -- it's not just an east-end bridge. It's interstates. This is, what, 256 and 65? It's all involved together. And the longer we wait for this thing, the worse it's going to get.	EEC	River Fields lawsuit
I'm very concerned -- I've looked at toll bridges that work throughout the world. Toll bridges do not cost money. Toll bridges make money. The question I have is: For whom will the toll bridges make money? Foreign investors? I really fear that we rush into building what is proposed will end up with the Chinese not only maybe managing the bridges, they're very good at bringing work crews here to build it. So for whom does the bridge toll? For Chinese profits and American unemployment, or will it toll for the people of Indiana and Kentucky? We need answers to this. Do not spend another \$1 million on Wilbur Smith Associates. They're very fine people.	EEC	PPPs / Private control
If we build this project with tolls, we're going 9 to control of our bridges. They are going to sell the right to collect toll revenues to a private company. They're going to insulate that with 12 another level, the Bridges Authority.	EEC	PPP/ Profiteering
We will have the ability to make public comments every time we decide to get off and take the Ken -- the Clark Memorial Bridge across - across that river and not use the downtown toll bridges. And we can make public comments 365 days a year by avoiding downtown toll bridges. Thank you very much.	EEC/DTC	Public involvement
And they -- they say that this is the last 9 public comment period, but they've been ignoring our public comments since the beginning of this 11 process. And instead of revising the project to priorities that reflect the will of the community, we are remove -- we are retaining the quarter-billion-dollar tunnel; we are removing two cost-effective lanes from the east-end bridge; and we are removing all of the estate treatments to the 18 downtown portion of the project.	EEC/DTC	Public involvement
And I just want to speak about the importance of an east-end bridge, even more than downtown. Obviously, we need two bridges, but tha -- the east-end bridge should have proprietary for the simple reason that it will direct traffic away from downtown.	EEC	Purpose & Need
I think we need to have the east-end bridge built. Traffic is just horrible.	EEC	Purpose & Need
I support building the 9 east-end bridge first, then evaluate and determine if a downtown bridge is needed. I don't believe it will be needed. I am against an expanded Spaghetti Junction.	EEC/DTC	Purpose & Need
One of the things that -- that I've been trying to get the media to understand for the last probably month and a half is that -- that we really have a crisis on our hands. We have a crumbling infrastructure. And I've said it again and again: Don't take my word for it. Take a walk under the bridges.	EEC/DTC	Purpose & Need
I think we need to have the east-end bridge built. Traffic is just horrible. If they was to have to drive across that candy bridge every day, they'd be wanting to build that bridge right now. And -21 and I need the job. Is that all I need to do?	EEC	Purpose & Need

Comments	Reference (EEC/DTC)	Theme
They wanted -- this was Mitch Daniel's idea, but he said he would cut back on the lanes on the east bridge, and that he was also going to cut something from the improvement of Spaghetti Junction and something from the new bridge that was going to be built downtown. Well, I think that's a mistake. They need three lanes each way at the east-end bridge, and that should not be cut to two lanes like Mitch Daniels was suggesting. That would be a big mistake.	EEC/DTC	Scope / Re-scoped
The design and scope of this project must be farther reduced to a scale that can be built in affordable phases without tolls. The pro -- the proposal alternative of 2.9 billion is still an oversized project that is bloated with pork and waste with a \$260 million tunnel under the backyard of one east end estate. Something must be done to bring this project to an affordable level.	EEC/DTC	Scope / Tunnel
I want to thank the Bridges Authority for their due diligence over the past year in listening to the community and responding with a reduced-sized project.	EEC/DTC	Scope / Re-scoped
Finally, we're absolutely 100% supportive of the development of the Big Four pedestrian bridge, 9 taking the funds from the Ohio bridge and -- and moving to that location. Thank you for your time.	DTC	Scope / Bike lane
I resent paying this kind of tax on a structure that taxes have already paid for and continue to pay for. Of course, if tolls were doubled or even reach \$3, a percentage of my salary going to this tax could rise to 2% or 3% tax for me. This kind of tolling represents a flat tax, and, as such, is regressive. Someone who makes just \$30,000 a year, who also makes the same 300 round-trip crossings on the Kennedy Bridge with a \$1 toll, will pay a 2% tax. In other words, it would cost that person making half as much as I do twice as much in taxes.	EEC/DTC	Social equity
I do think that, as an Indiana resident, I do believe that there is validity to the concern that people from Indiana tend to cross the bridge going from Indiana to Kentucky more so than people from 13 Kentucky to Indiana. And I do believe we need to 14 treat people fairly in terms of, you know, it wouldn't be fair if -- if tolls are a significant portion -- which I don't know any other way.	EEC/DTC	Social equity
I listened to the -- all the comments at yesterday's meeting over in Clarksville, Indiana about the tolling. To me, I think that's pretty petty. Because this is a road that we're all driving on, and if we don't pitch in to repair what stuff that is necessary for us, we'll never get anywhere. Thank you.	EEC/DTC	Tolls
I am against tolls. The project is des -- is designed to reduce traffic congestion and to increase mobility. Tolling would have a negative impact on both of those things. It would not improve the situation at all.	EEC/DTC	Tolls
And I would just like to highlight that in the only scientific poll done on this issue in the last 15 years, greater than 60% of Louisville residents opposed the toll-funded downtown portion of the Ohio River Bridges Project.	EEC/DTC	Tolls
I can tell you about the toll. It's going to dampen traffic. We may want to dampen traffic.	EEC/DTC	Tolls

C.2.2. Representative graphs for comments made on public hearings made on June 27th and 28th 2011

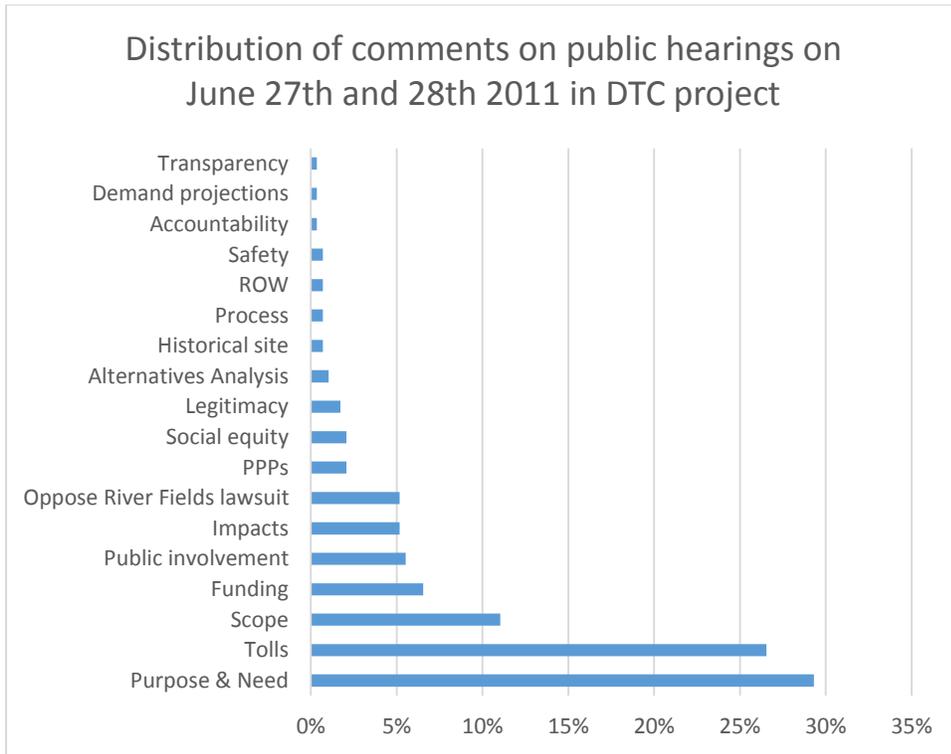


Figure C.12. Distribution of comments on public hearings on June 27th and 28th 2011 in DTC project

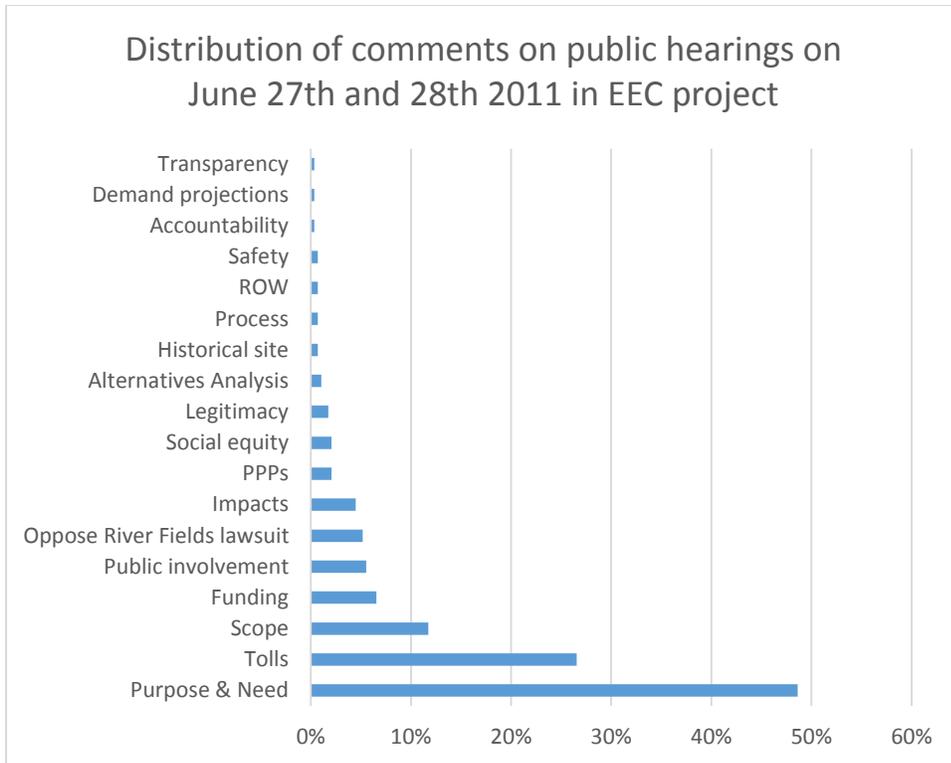


Figure C.13. Distribution of comments on public hearings on June 27th and 28th 2011 in EEC project

C.2.3. Stakeholder comments in public hearings held on December 19th and 20th 2011

Table C.6. Stakeholder comments made in public hearings held on December 19th and 20th 2011

Comments	Reference (EEC/DTC)	Theme / Sub-theme
Simply put, as some speakers have mentioned earlier, this project represents our economic development lifeline, as the Sherman Minton Bridge closure has demonstrated. LDDC is convinced that the Bridges Project, two bridges, and the improvements to Spaghetti Junction will provide essential access to downtown, the region, and the state in the future.	EEC/DTC	Purpose & Need
Another idea that, you know -- so I -- so I've talked to the guys about it here, and if we build just an East End and don't build downtown, downtown's still a problem. It's less of a problem. Steve Weiser (phonetic) had an idea of a local access bridge.	EEC	Purpose & Need
Tolling a major throughway to the community, I-65 -- putting tolls on a 49 year old bridge seems a bit ridiculous and will serve as a barrier to commerce, visitor spending, and create an added burden to the local community -- and I mean both sides of the community.	DTC	Tolls
The point is, public transit is a significant factor and deserves more than three words in a draft statement for a \$2.9 billion project.	DTC/EEC	Scope / Transit
unlike this -- unlike the distiller millionaire here, the ideas were put forward years and years ago, much better than the current 0 project, and they've been given short trip. That's why 1 there's all the empty seats here, and that's what the 2 politicians rely on. They rely on people tuning out 3	DTC/EEC	Accountability

Comments	Reference (EEC/DTC)	Theme / Sub-theme
because they're treated this way. It's not democratic. 4 They don't care about the best for the public or the 5 public interest. It's -- it's about making a deal. They're power brokers.		
This is significant because if you underestimate the volumes that are going 6 to occur at a particular toll level, you're going to underestimate your revenues you're going to need to pay off the debt, too.	DTC/EEC	Funding
We don't need to bundle two or even, 1 really, three projects into one finance -- one, to 2 finance them all at once. That makes no common sense, 3 especially in this economy with the st -- the State of Kentucky in the shape it is financially. The project 5 should have never happened. It was a -- a dumb idea, a boondoggle to begin with.	DTC/EEC	Funding
The potential impact here in southern 7 Indiana of tolls is going to be immense. If you talk 8 to the business people in this community, they're 9 scared to death of the impact of tolls. Restaurants 0 down on the Ohio River are probably one of the one of 1 the first ones here are going to impacted.	DTC/EEC	Impacts / Community
We're talking about putting a barrier to 5 people coming into southern Indiana and not to people 6 who are traveling in Kentucky through Spaghetti 7 Junction, which incidentally would not be tolled.	DTC/EEC	Impacts / Community
And why delete the future safety lanes on the new East End bridge when safety lanes are a priority for the new downtown bridge? This does not seem logical. If we spend \$3 billion and end up with a less safe, less desirable situation than we have today, then this process will have failed this community.	DTC/EEC	Legitimacy
Putting a burden on our entire community to build things that we do not need will be an extreme expense for generations to come while not improving the traffic 6 flow is exactly what we have on the table. And basically we're supposed to take it because we are all 8 so darn fed up, okay? And I'm as fed up as any of you are with this circumstance.	DTC/EEC	Legitimacy
I just want them to build the bridges because my union brothers need the carpentry work. That's all I want to say.	DTC/EEC	Purpose & Need
The Kennedy is in extreme bad shape, and to build any long term project that has to include the Kennedy, to me is a bad idea because I see that the Kennedy itself will have to be replaced. So why build a long term project if you know that bridge has to come out? If you -- if you allow more bridges being parallel, and one going north and one going south.	DTC/EEC	Purpose & Need
I am definitely in favor of the Bridges Project as it's laid out. In fact, any form, just build them. Decide, go build them.	DTC/EEC	Purpose & Need
You'll probably hear people talk tonight about alternative transportation, you know, including light rail, things that -- sure, I agree. I would love to have that opportunity in the 1 future. I think we should look for alternative forms of transportation to help us cross the bridge.	DTC/EEC	Scope / Transit
We want the toll money to go not only to retire the debt on new bridges and maintenance of the old bridges, but also the subsidized public transit. My big beef with the SDEIS is it has three words about transit: enhanced bus service.	DTC/EEC	Scope / Transit
The point is, public transit is a significant factor and deserves more than three words in a draft statement for a \$2.9 billion project.	DTC/EEC	Scope / Transit
Tolling a major thoroughway to the community, I-65 -- putting tolls on a 49 year old 2 bridge seems a bit ridiculous and will serve as a 3 barrier to	DTC/EEC	Tolls

Comments	Reference (EEC/DTC)	Theme / Sub-theme
commerce, visitor spending, and create an 4 added burden to the local community -- and I mean both sides of the community.		
I would like to express my displeasure on the tolls. I somewhat understand the toll on the new East End Bridge, but for the I-65, I am totally against that. I'm afraid it's going to be a burden on my community of Clarksville, Indiana. I'm going to pay a toll to go on the -- the newly built bridge, but I don't think it's right that we have to pay on 65. If you go on that bridge right now, the potholes and the -- the structure of it, anyway, is in 4 disrepair. And I think that's about all.	DTC/EEC	Tolls
We've got people 5 here that's not making enough money to pay a toll. I work for a bus company right now. It's a small mom and pop bus company and another extra toll that we're going to have to raise the prices to the customers, which is 4 going to drive, you know, the price to where it's going 5 to make it unaffordable right now.	DTC/EEC	Social equity

C.2.4. Representative graphs for comments made in public hearings held in December 2011

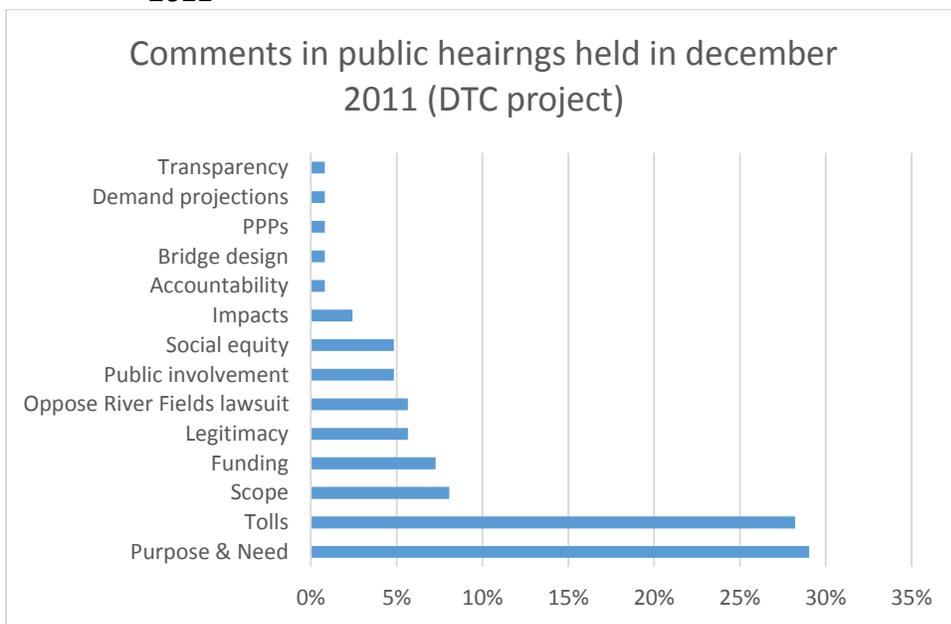


Figure C.14. Distribution of comments made in public hearings DTC proejct

C.2.5. Stakeholder written comments on Supplemental Final EIS document in T-2

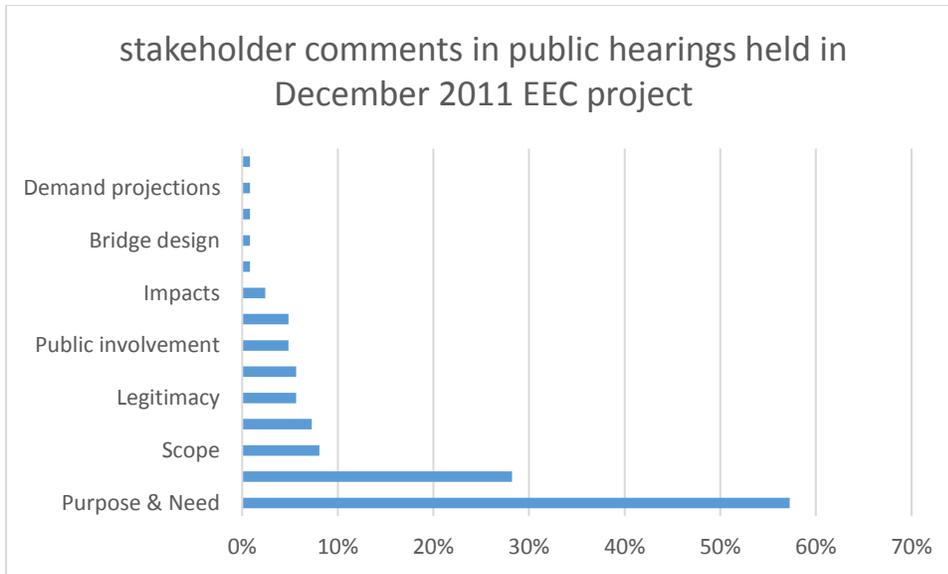


Table C.7. Stakeholder written comments on Supplemental Final EIS document

Comments	Reference (EEC/DTC)	Theme / Sub-theme
Proposing a toll on any of the bridges is totally lopsided as Indianans will bear the larger part of the burden. Hundreds of people travel from Indiana to Kentucky to work or school every day, anything more than a nickel toll will pose a hardship as it is hard enough to pay for the gas to get across the bridge. The tolls will continue long after the bridges are paid for and Indianans will pay for them for many generations. Louisvillians will just choose not to cross the bridge and utilize Indiana businesses....thereby causing Indianans to pay in a second way.	DTC	Tolls
A downtown bridge is not needed! Reroute all through north and south bound trucks to the east end bridges, as is done in most cities i.e. Atlanta, Georgia, Cincinnati, Ohio, Indianapolis, Indiana. In these austere times, more taxes and tolls are not needed.	DTC	Purpose & Need
The east end bridge was proposed in the 1950s when I was on the jeff city council How much easier and cheaper it would be now if that proposal would have been activated Tolls are a threat to both sides of the river.	EEC	Purpose & Need
My daughter and her husband lived in New Albany and worked in Louisville. This would be an unfair burden on them. This area has always been considered a "Metro" area with both sides of the river dependent on each other.	DTC	Social equity
The American taxpayers of Indiana and Kentucky need 2.6 billion to build new bridges and improve existing infrastructure of its interstate highways. We are being told there is no money for us. We are being told to just shut-up and pay the tolls. Well, we can pay the tolls but we should not have to. At some point, someone in this government needs to take care of the hardworking taxpayers of this country instead of the people of other countries and banks and businesses that do not know how to run themselves properly.	DTC/EEC	Accountability
The Federal Government needs to take an interest in the fraud being perpetrated on the people of the Louisville metro area.	DTC/EEC	Accountability
The viability of the Federal Highway Trust Fund to meet future obligations to the States is highly questionable and undermines the economic validity of this	DTC/EEC	Funding

Comments	Reference (EEC/DTC)	Theme / Sub-theme
project.		
The LIORBP itself is consuming many of the regional funds that would normally go to support transit.	DTC/EEC	Funding
Has there been any consideration of other methods of financing the bridge? I have followed this closely and seen from the start that tolling was given first priority for funding.	DTC/EEC	Funding
Sierra Club would urge the consultant to conduct a new biological assessment of the cumulative impacts of the proposal because of the White Nose Syndrome affecting the bat population in Kentucky. All direct and indirect impacts on possible cave and foraging bat habitat need to be carefully evaluated, as does the potential for the fungus that causes white nose syndrome.	DTC/EEC	Impacts / Environmental
Climate Change could have long term impacts on the financial health of this project and the nation.	DTC/EEC	Impacts / Environmental
It is not legal or ethical to intentionally distort important financial projections. The only reasonable conclusion from the facts presented is that those who support the downtown Ohio River Bridge Project are endorsing fraud.	DTC/EEC	Legitimacy
We will demand financial measures be made to somewhat balance the undeniably regressive and economically detrimental budgeting priorities in the overall project. We will not allow our city's leadership to live in a childish fantasy world where Louisville can compete with a 1950s style elevated waterfront expressway on the city's central business district riverfront.	DTC/EEC	Legitimacy
The first economic benefit study on this project was completed this spring and shows job "growth" is actually job shifting to suburban facilities, resulting in more travel, increased sprawl, decreased job access, and urban disinvestment.	EEC	Purpose & Need
i know that you are making plans for rebuilt spaghetti junction why not make plans to make lanes in ky and ind for stright therw louiville and jeffsonville with no getting off. This would help until the bridge is builded and add lane for getting off.	DTC	Purpose & Need
I think it is absolutely ludicrous and an outrage that we would spend 200 million additional dollars in this tough economic times for the tunnel to save 1 estate & to satisfy the wealthy East end families.	EEC	Purpose & Need
I believe the East End Bridge should have been built long before now and I support building it.	EEC	Purpose & Need
FHWA is inherently biased against transit alternatives that compete for funding and reduce VMT's, and therefore fuel taxes – FHWA's principle revenue source. Their bias against transit is blatant in this project in their repeated failures to rigorously and objectively consider alternatives, and resistance to support even the most minimal transit investments.	EEC/DTC	Scope / Transit
Enhanced bus service referred to on page 5-43, and in Comment Response C.2 is a band-aid for the economic collapse in the west end. It is not sufficient to mitigate the scope of the economic redistribution caused by the modified alternative.	EEC/DTC	Scope / Transit
Further, that this fund pays for operational expenses as well as capital investments of TARC – involved in providing public transit/public transportation over the Ohio River bridges - for the life of all toll arrangements made by the States of Indiana and Kentucky, and not just for a limited period of construction.	EEC/DTC	Scope / Transit

Comments	Reference (EEC/DTC)	Theme / Sub-theme
I also think that if you look at projections, there will be less car traffic on our roadways in the coming decades. For a fraction of the cost of the ORBP, we could fund a world-class public transit system. Now, that would indicate some true vision and forward-thinking for our community.	EEC/DTC	Scope / Transit
SFEIS admits that the Modified Selected Alternative puts a disproportionate burden on EJ and Title VI populations, but fails to address the issue.	EEC/DTC	Social equity
Proposing a toll on any of the bridges is totally lopsided as Indianans will bear the larger part of the burden. Hundreds of people travel from Indiana to Kentucky to work or school every day, anything more that a nickel toll will pose a hardship as it is hard enough to pay for the gas to get across the bridge. The tolls will continue long after the bridges are paid for and Indianans will pay for them for many generations. Louisvillians will just choose not to cross the bridge and utilize Indiana businesses....thereby causing Indianans to pay in a second way.	EEC/DTC	Social equity
Proposing a toll on any of the bridges is totally lopsided as Indianans will bear the larger part of the burden. Hundreds of people travel from Indiana to Kentucky to work or school every day, anything more that a nickel toll will pose a hardship as it is hard enough to pay for the gas to get across the bridge. The tolls will continue long after the bridges are paid for and Indianans will pay for them for many generations. Louisvillians will just choose not to cross the bridge and utilize Indiana businesses....thereby causing Indianans to pay in a second way.	EEC/DTC	Tolls
I feel the traffic pains first hand. I do not feel that an additional downtown toll bridge would benefit me or any of my family living on either side of the bridge and don't understand how the bridge issue became a decades long bloated and over-thought process.	EEC/DTC	Tolls
Toll rates are undecided and could be at almost any level, with or without accommodations for frequent users or low income/Title VI populations.	EEC/DTC	Tolls
I agree with the comments below and have copied them into my email because I think the points are well taken. As an individual who lived in Southern Indiana and worked in downtown Louisville for over 25 years - I would have been horribly impacted by tolls. I had to work and I was raising a family. Because of gas prices, I am not sure I would be able to do this now but while my children were teens.	EEC/DTC	Tolls
Has there been any consideration of other methods of financing the bridge? I have followed this closely and seen from the start that tolling was given first priority for funding.	EEC/DTC	Tolls
Kentucky and Indiana state officials must be honest with the public and admit to the inevitable tolling of the existing Sherman-Minton bridge. In fact, the Beshear/Daniels ORBP Memorandum of understanding allows for not just tolling of the existing Sherman-Minton bridge, but other points as well.	EEC/DTC	Transparency

C.2.6. Representative graphs for comments on Supplemental Final EIS document in T-2

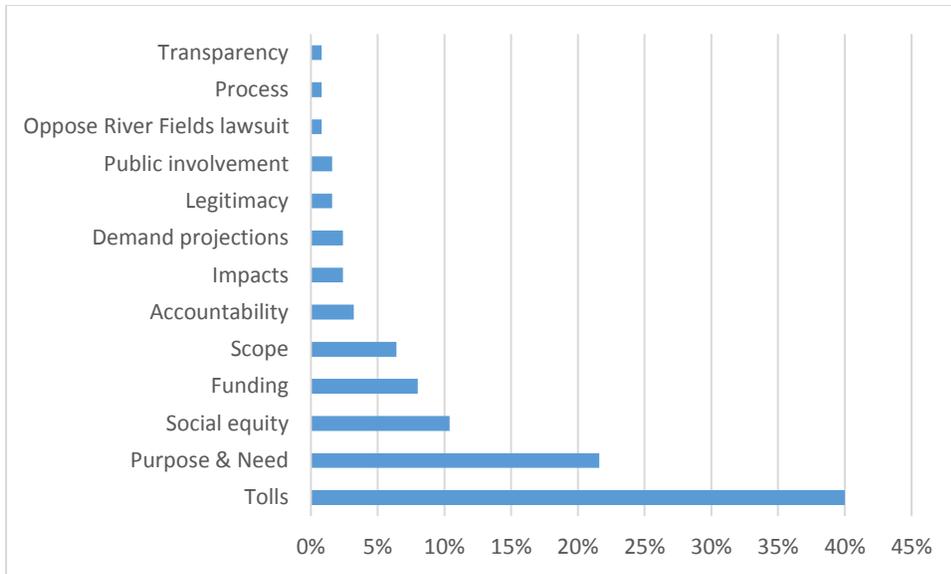


Figure C.15. Stakeholder comments on Supplemental Final EIS T-2 for DTC project

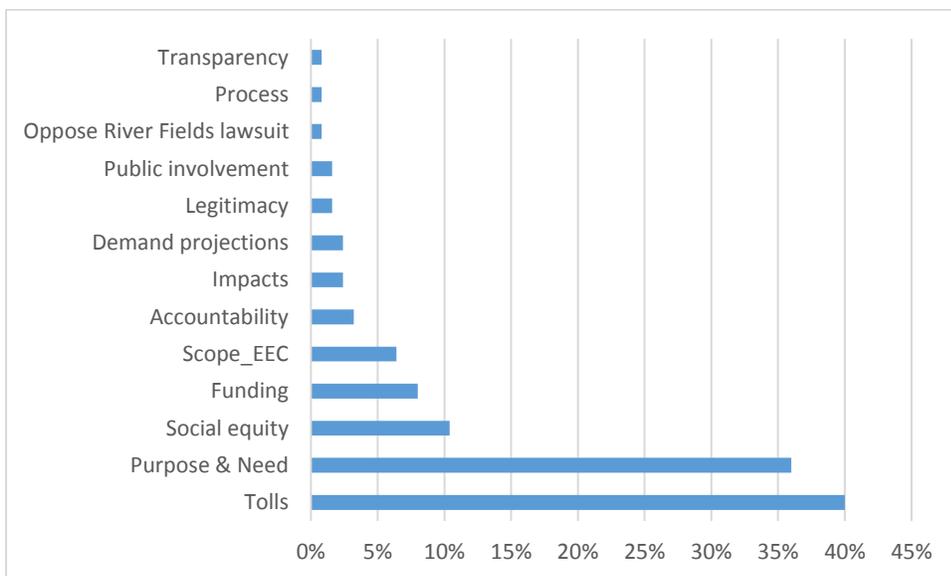


Figure C.16. Stakeholder comments on Supplemental Final EIS T-2 for EEC project

C.3. Period T-3

C.3.1. Stakeholder comments in public hearings on selection of the preferred proposer for EEC project

Table C.8. Stakeholder comments in public hearings on selection of the preferred proposer

Comments	Reference (EEC/DTC)	Theme / Sub-theme
[When] project finished, instead of being the \$2.9 billion that had been much publicized in the newspapers, would rise to the level of almost	EEC	PPPs / Profiteering

<i>Comments</i>	<i>Reference (EEC/DTC)</i>	<i>Theme / Sub-theme</i>
\$10 billion collected in tolls from the local community. That toll funding would go to investors, and the cure seems to be worse than the disease in this case.		
It's apparent from the amount of the bid that this process has resulted in significant savings and an -- an accelerated timeline for the completion of the East End Bridge.	EEC	PPPs / Benefits
Investors or Walsh Construction, as it has been accused of in the past, performs shoddy work or uses concrete that doesn't meet spec? Does that mean if it does that on the East End Bridge that it throws the downtown construction into question? What will be the effect?	EEC	Quality
We also ask that the IFA make public, investigate, and disclose any current and existing court action that the Walsh Correction Company, Walsh Investors, or the brothers are involved in 8 alleging defective construction practices in other 9 contracts that the -- that the Walsh brothers and their companies have been in involved in.	EEC	Quality
And if we're going to announce today that a -- a reduction of 23% in the cost of building the East End Bridge, why are we not going back and looking at the funding of building the bridge with conventional funding sources? Certainly, it would be possible to build a free-standing East End Bridge on a proper route without erecting a massively costly tolling body and using tolls to pay for it.	EEC	Funding
One of the things I think we all need to look at in the financial considerations is how much of this project is predicated upon promises by FHWA to continue funding at the projected levels. FHWA 6 has been bankrupt since 2006, and has been forced to borrow money to meet their existing 8 obligations.	EEC	Funding
As you know, there is significant blasting that's going to be done in Kentucky. Originally, it was projected to be 3 million cubic yards of rock blasted, much of in residential subdivisions or very near them; however, there's been no analysis of the blasting danger zone that's going to be projected on the individual homeowner properties.	EEC	Impacts / Construction
I've 12 also been involved with the creation of public-private partnerships around military installations and the com -- communities where they live. One of the important things that you need to have is the right partners. I spent part of the past week looking at the partners in this project, WVB East End Partners, and they are all strong teammates. I think you'll get a good project from them, and I think it's a good selection. Thank you.	EEC	PPPs / Benefits
Instead of being the \$2.9 billion that had been much publicized in the newspapers, would rise to the level of almost \$10 billion collected in tolls from the local community. That toll funding would go to investors, and the cure seems to be worse than the disease in this case.	EEC	PPPs / Profiteering
It's a -- it's a lose-lose situation, folks. The only people that are really going to benefit from this project are the initial investors, the immediate bankers, and those who are directly connected 2 with the -- with this project.	EEC	PPPs / Profiteering
Utilizing an effective public-private partnership model that will result in considerable cost savings while shortening the project's overall construction timeline substantially.	EEC	PPPs / Benefits

Comments	Reference (EEC/DTC)	Theme / Sub-theme
Clarksville does fully support the State of Indiana's decision to build and construct the East End Bridge, also its decision to engage in the public-private -- private agreement savings hundreds of millions of dollars.	EEC	PPPs / Benefits

C.4. Period T-4

C.4.1. Stakeholder comments in public meetings held on July 22nd and 23rd 2012

Table C.9. Stakeholder comments on Economic effects of tolling and potential mitigations

Comments	Reference (EEC/DTC)	Theme / Sub-theme
But I just wanted to state that this particular bridge tolling will highly affect the economy, the citizens' pocketbooks. The people that are coming from Louisville to our new River Ridge Commerce Center, the employees will have to take into account the tolling fee before they come. And I just think that's seriously going to hurt our new development in the east end.	EEC/DTC	Tolls
The tolling of the bridges to these groups is simply another manifestation of the economic, educational, and political disenfranchisement of these low-income people. So that's another issue.	EEC/DTC	Social Equity
The global warming is the most important problem we face as a society and as a generation, and the bridges as planned currently exacerbate that problem...	EEC/DTC	Impacts / Environment
Would prefer that the toll gantry is placed outside the Jeffersonville Historic District. Concerned about the aesthetics and lighting.	DTC	Design
I watched the video on tolling. The reason specified for tolling the bridges is to make up for the construction funding gap. Therefore, I think a great solution is that the tolling on the bridges should stop after the construction funding gap has been filled.	EEC/DTC	Funding Tolling
So we feel that incurred with the subtest as locals will be encouraged to use the Sherman Bridge and the Second street Bridge, which is neither a sustainable proposal because it will encourage people to use more gasoline and create more pollution to avoid tolls.	EEC/DTC	Impacts / Environment Tolls
Global warming is the most important problem we face as a society and as a generation, and the bridges as planned currently exacerbate the problem, and the bus pas proposal might mitigate that a little.	EEC/DTC	Impacts / Environment Scope / Transit
I also wonder about the increase in traffic especially in the Shawnee neighborhood, and the additional pollution that I would expect to be there.	EEC/DTC	Impacts / Environment
The entire history of this project has been characterized by ineptitude and ignorance. A project this massive should have been voted on by	EEC/DTC	Public involvement

Comments	Reference (EEC/DTC)	Theme / Sub-theme
local residents.		
My comment is the downtown bridge is a waste of money, because they've already got two bridges down there. How many bridges do they need? When the east end bridge is complete, it will alleviate the traffic downtown.	EEC/DTC	Purpose & Need
But I just wanted to state that this particular bridge tolling will highly affect the economy, the citizens' pocketbooks. The people that are coming from Louisville to our new River Ridge Commerce Center.	EEC/DTC	Tolls

C.4.2. Representative graphs for public meetings held Economic effects of tolling and potential mitigations

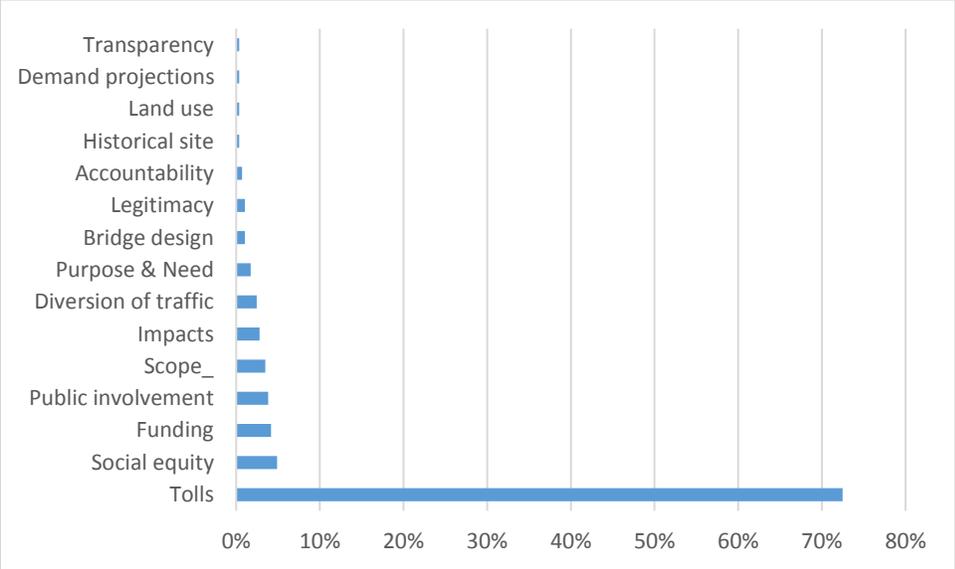


Figure C.17. Distribution of stakeholder comments on tolling mitigation in DTC project

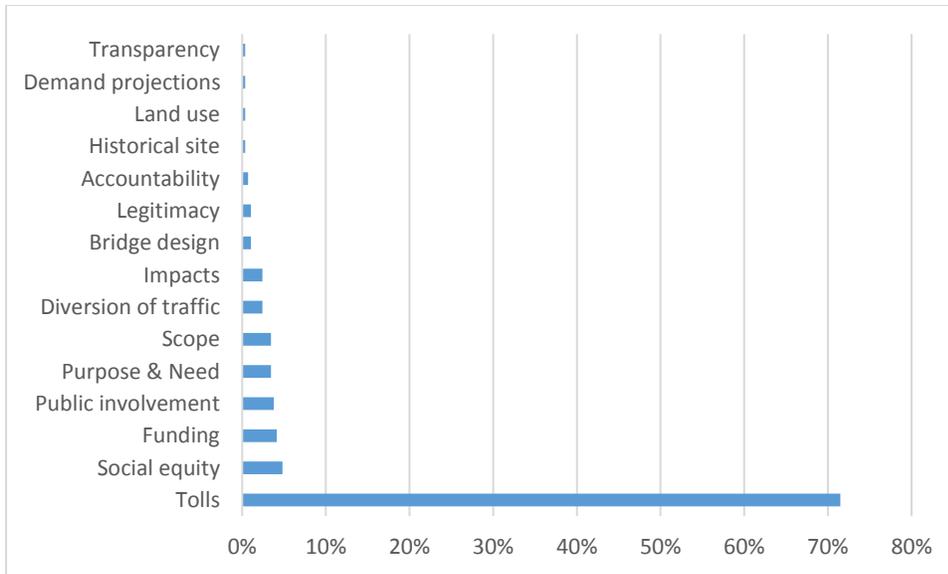


Figure C.18. Distribution of stakeholder comments on tolling mitigation in EEC project

C.4.3. Stakeholder comments on Economic Impact of OHRB project held on March 25th 2014

Table C.10. Stakeholder comments on Economic Impacts of the OHRB project

Comments	Reference (EEC/DTC)	Theme / Sub-theme
We need them for everything. Hospitals, schools, our -- our doctors, our shopping. But they [Louisville community] don't need us at all, and with -- and they're not going to go get that transponder, and they're not going to pay 11 or 12 bucks to come over here. So you have effectively cut the legs out of the retail business in the western part of this county.	EEC/DTC	Impacts / Community
The state needs to engage and proactively communicate with these businesses and try to come up with some sensible solutions that can mitigate their problems. I think there are some. We've -- we've talked at great length about these, but I think it's the state's turn to get active and try to engage. Thank you.	EEC/DTC	Public Involvement
Now, remember -- now, here are the tolls. And when this study was done, we didn't know what the tolls were, but as it turns out, the study is \$2 round trip if you're the most frequent user.	EEC/DTC	Tolls / Toll rates
We need them for everything. Hospitals, schools, our -- our doctors, our shopping. But they don't need us at all, and with -- and they're not going to go get that transponder, and they're 23 not going to pay 11 or 12 bucks to come over here. So you have effectively cut the legs out of the retail business in the western part of this county.	EEC/DTC	Impacts / Community Tolls
So, with that said, I really don't have anything else to say, but I think -- I think the impact for the western part of this county is egregious, and for us not to recognize that is -- is moronic. Thank you.	EEC/DTC	Impacts / Community
The state needs to engage and proactively communicate with these businesses and try to come up with some sensible solutions that can mitigate their problems. I think there are some. We've -- we've talked at great length about these, but I think it's the state's turn to get active and try to engage. Thank you.	EEC/DTC	Public involvement

Comments	Reference (EEC/DTC)	Theme / Sub-theme
It would be nice to have a little give and take before the -- before the public comments. I am disappointed that the opportunity for public comment comes only at the end of the study's work rather than during the period when the scope of the study was defined.	EEC/DTC	Public involvement
The most infrequent -- the second frequent user, the two to three times a week, is \$2 one way, so \$4 round trip. All right. Remember, both those guys have to have -- you have to have a transponder to get that done.	EEC/DTC	Tolls
Unintended consequences created by tolling are starting to come to light. More details emerge that there are businesses likely to move to Kentucky instead of expanding in Indiana, and that's -- that's -- some are transportation companies that make 1,000 trips a week have considered rather than paying 300 to \$500,000 a year in tolls, they may move or bilocate their company so that they avoid paying that toll and using that money as an investment in their company.	EEC/DTC	Tolls
Many industries will be affected, and yet only retail was mentioned. Transportation industry will -- will have an economic impact that's not been mentioned. Service industries and construction industries will have an impact that's not been mentioned. There's also the tourism industry.	EEC/DTC	Tolls
So I'd ask that the Indiana Finance Authority address the issues of tolling as they apply to the impact, the hardship on those who will be driving back and forth to work, and also the impact that it might have on commercial businesses in the region as far as the impact on loss of revenues and other in -- inconveniences that the tolling may have.	EEC/DTC	Tolls
The western part of this county, the retail businesses in this county are going to be devastated. No question about that.	EEC/DTC	Impacts / Community

C.4.4. Representative graphs for public hearing on Economic Impact

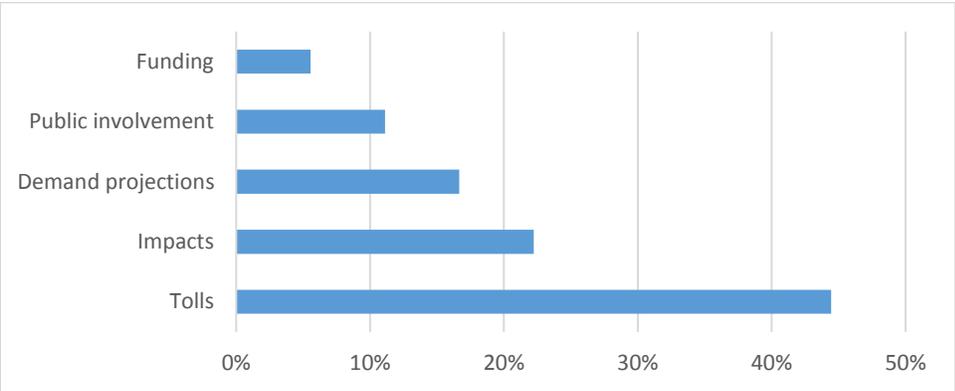


Figure C.19. Distribution of stakeholder comments in Economic Impact of Tolls in DTC project

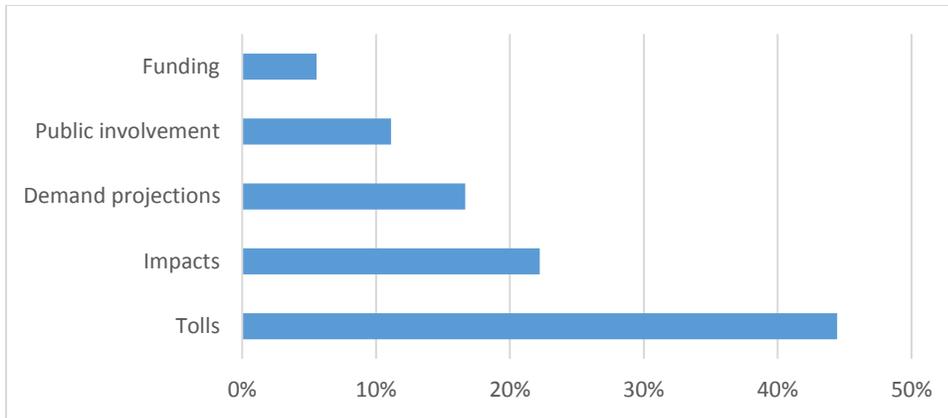


Figure C.20. Distribution of stakeholder comments in Economic Impact of Tolls in EEC project

C.4.5. Stakeholder comments made in public hearings for selection of ETC proposer

Table C.11. Stakeholder comments made in public hearings for selection of ETC proposer

Comments	Reference (EEC/DTC)	Theme / Sub-theme
As a part-time employee, it will cost me \$12 to cross 3 time -- or 3 days a week as opposed to the full-time employee crossing 5 days a week. Just seems a bit unfair the way you're approaching the tolls, setting the tolls. --	EEC/DTC	Tolls / Affordability
So I just hope that you-all give the due diligence to look at this project and think of the -the citizens and the workers who are at the lower end of the scale and are trying to hang on with their teeth, and think over this, and try to find a way to alleviate these people's concerns.	EEC/DTC	Tolls / Affordability
I'd like to thank you-all for having this meeting. I would like to, however, say that the starting time of the meeting at 5:00 I think is preventing a lot of people who are working from actually being at this meeting.	EEC/DTC	Public involvement
But my big concern is, what is this going to do economically to these businesses here in downtown Jeffersonville and Clarksville and the other surrounding areas that have really been in a Phoenix coming back? Will this prevent -- a \$6 toll prevent citizens from Louisville, Kentucky to come over, say, for Buckheads for dinner? You know, that's like adding an additional \$6 to a tab.	EEC/DTC	Impacts / Tolling
I -- I -- the State of Indiana right now has a giant budget surplus according to our governor. I don't know why some of that couldn't be redirected to help at least alleviate some of this tolling to get the cost of the tolling down to a more affordable level for the citizen.	EEC/DTC	Funding
But my big concern is, what is this going to do economically to these businesses here in downtown Jeffersonville and Clarksville and the other surrounding areas that have really been in a Phoenix coming back? Will this prevent -- a \$6 toll prevent citizens from Louisville, Kentucky to come over, say, for Buckheads for dinner? You know, that's like adding an additional \$6 to a tab.	EEC/DTC	Impacts / Community
Another comment is, why is the contract being given to an Australian company; thus those tax dollars generated by that company go out of the country and do nothing to help the taxpayer here in our state?	EEC	PPP / Foreign profit

Comments	Reference (EEC/DTC)	Theme / Sub-theme
I'd like to thank you-all for having this meeting. I would like to, however, say that the starting time of the meeting at 5:00 I think is preventing a lot of people who are working from 16 actually being at this meeting.	EEC/DTC	Public involvement
As a part-time employee, it will cost me \$12 to cross 3 time -- or 3 days a week as opposed to the full-time employee crossing 5 days a week. Just seems a bit unfair the way you're approaching the tolls, setting the tolls. I think they should be -- you know, these two areas are too closely connected economically to impose an added burden like that on -- on employees or shoppers or, you know, patients even 21 at medical offices for, you know. . . That's all I have to say.	EEC/DTC	Tolls / Affordability
Another question that was posed to me would be, as the speaker before me said, this -sometimes the rates of these tolls, depending on people's work schedules and should they be a night shift worker or a flex shift worker or something, some people won't get the discount of the 20 trips a week that was printed in the newspaper.	EEC/DTC	Tolls / Toll rates
So I just hope that you-all give the due diligence to look at this project and think of the -the citizens and the workers who are at the lower end of the scale and are trying to hang on with their teeth, and think over this, and try to find a way to alleviate these people's concerns.	EEC/DTC	Tolls / Affordability
These -- bridges that people have been wanting them for more than 30 years, and -- and I think, you know, since, you know, the fairest way to pay for them is -- is with the tolls. So I -- I am not in favor of using the state surplus to -- to reduce the tolls.	EEC/DTC	Tolls / Toll mitigation

C.4.6. Representative graphs for public hearings held for the selection of ETC proposer

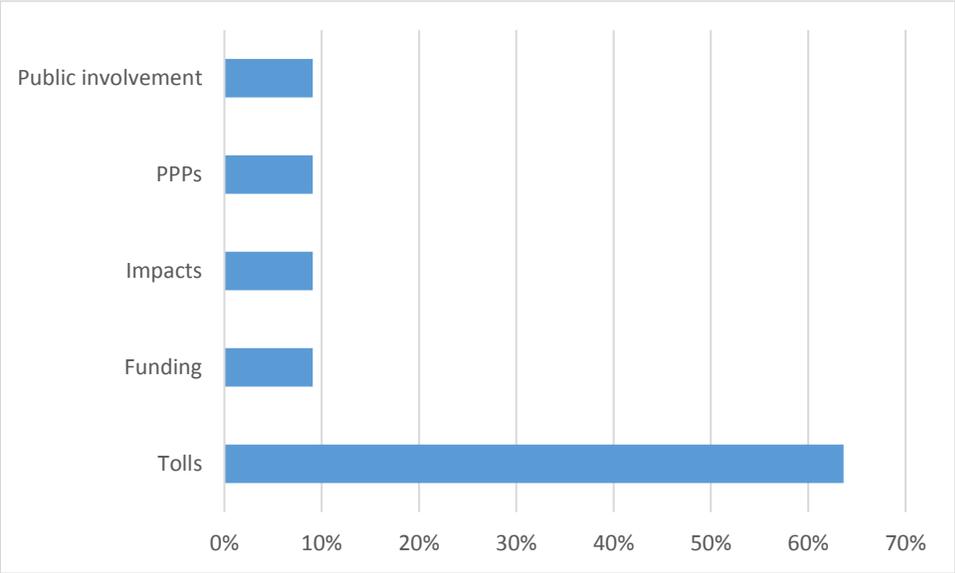


Figure C.21. Distribution of Stakeholder comments made in public hearings for selection of ETC proposer for OHRB project

Appendix D. The National Environmental Policy Act (NEPA) process

D.1. History and purpose of NEPA

Congress enacted NEPA in December, 1969, and President Nixon signed it into law on January 1, 1970. NEPA was the first major environmental law in the United States and is often called the “Magna Carta” of environmental laws. Importantly, NEPA established this country’s national environmental policies.

To implement these policies, NEPA requires agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are better informed decisions and citizen involvement, both of which should lead to implementation of NEPA’s policies.

D.2. Who is Responsible for Implementing NEPA?

Every agency in the executive branch of the Federal Government has a responsibility to implement NEPA. In NEPA, Congress directed that, to the fullest extent possible, the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in NEPA.² To implement NEPA’s policies, Congress prescribed a procedure, commonly referred to as “the NEPA process” or “the environmental impact assessment process.”

NEPA’s procedural requirements apply to all Federal agencies in the executive branch. NEPA does not apply to the President, to Congress, or to the Federal courts.

Because NEPA implementation is an important responsibility of the Federal Government, many Federal agencies have established offices dedicated to NEPA policy and program oversight. Employees in these offices prepare NEPA guidance, policy, and procedures for the agency, and often make this information available to the public through sources such as Internet websites. Agencies are required to develop their own capacity within a NEPA program in order to develop analyses and documents (or review those prepared by others) to ensure informed decision-making.⁴ Most agency NEPA procedures are available on-line at the NEPAnet website <http://ceq.eh.doe.gov/nepa/regs/agency/agencies.cfm>. Agency NEPA procedures are published in the Federal Register for public review and comment when first proposed and some are later codified and published in the Code of Federal Regulations.⁸ If you experience difficulty locating an agency’s NEPA procedures, you can write or call the agency NEPA point of contacts and ask for a copy of their procedures.

D.3. To What Do the Procedural Requirements of NEPA Apply?

In NEPA, Congress recognized that the Federal Government’s actions may cause significant environmental effects. The range of actions that cause significant environmental effects is broad and includes issuing regulations, providing permits for private actions, funding private actions, making

⁸ The draft agency implementing procedures, or regulations, are published in the Federal Register, and a public comment period is required prior to CEQ approval. Commenting on these agency regulations is one way to be involved in their development. Most agencies already have implementing procedures; however, when they are changed, the agency will again provide for public comment on the proposed changes.

federal land management decisions, constructing publicly-owned facilities, and many other types of actions. Using the NEPA process, agencies are required to determine if their proposed actions have significant environmental effects and to consider the environmental and related social and economic effects of their proposed actions.

NEPA's procedural requirements apply to a Federal agency's decisions for actions, including financing, assisting, conducting, or approving projects or programs; agency rules, regulations, plans, policies, or procedures; and legislative proposals.⁷ NEPA applies when a Federal agency has discretion to choose among one or more alternative means of accomplishing a particular goal.

Frequently, private individuals or companies will become involved in the NEPA process when they need a permit issued by a Federal agency. When a company applies for a permit (for example, for crossing federal lands or impacting waters of the United States) the agency that is being asked to issue the permit must evaluate the environmental effects of the permit decision under NEPA. Federal agencies might require the private company or developer to pay for the preparation of analyses, but the agency remains responsible for the scope and accuracy of the analysis.

D.4. When Does NEPA Apply?

NEPA requires agency decision makers to make informed decisions. Therefore, the NEPA process must be completed before an agency makes a final decision on a proposed action. Good NEPA analyses should include a consideration of how NEPA's policy goals (Section 101) will be incorporated into the decision to the extent consistent with other considerations of national policy. NEPA does not require the decision maker to select the environmentally preferable alternative or prohibit adverse environmental effects. Indeed, decision makers in Federal agencies often have other concerns and policy considerations to take into account in the decision-making process, such as social, economic, technical or national security interests. But NEPA does require that decision makers be informed of the environmental consequences of their decisions.

The NEPA process can also serve to meet other environmental review requirements. For instance, actions that require the NEPA process may have an impact on endangered species, historic properties, or low income communities. The NEPA analysis, which takes into account the potential impacts of the proposed action and investigates alternative actions, may also serve as a framework to meet other environmental review requirements, such as the Endangered Species Act, the National Historic Preservation Act, the Environmental Justice Executive Order, and other Federal, State, Tribal, and local laws and regulations.

D.5. Who Oversees the NEPA Process?

There are three Federal agencies that have particular responsibilities for NEPA. Primary responsibility is vested in the Council on Environmental Quality (CEQ), established by Congress in NEPA. Congress placed CEQ in the Executive Office of the President and gave it many responsibilities, including the responsibility to ensure that Federal agencies meet their obligations under the Act. CEQ oversees implementation of NEPA, principally through issuance and interpretation of NEPA regulations that implement the procedural requirements of NEPA. CEQ also reviews and approves Federal agency NEPA

procedures, approves of alternative arrangements for compliance with NEPA in the case of emergencies, and helps to resolve disputes between Federal agencies and with other governmental entities and members of the public.

In 1978, CEQ issued binding regulations directing agencies on the fundamental requirements necessary to fulfill their NEPA obligations.¹⁰ The CEQ regulations set forth minimum requirements for agencies. The CEQ regulations also called for agencies to create their own implementing procedures that supplement the minimum requirements based on each agency's specific mandates, obligations, and missions.¹¹ These agency-specific NEPA procedures account for the slight differences in agencies' NEPA processes.

The Environmental Protection Agency's (EPA) Office of Federal Activities reviews environmental impact statements (EIS) and some environmental assessments (EA) issued by Federal agencies.¹² It provides its comments to the public by publishing summaries of them in the Federal Register, a daily publication that provides notice of Federal agency actions.¹³ EPA's reviews are intended to assist Federal agencies in improving their NEPA analyses and decisions.

Another government entity involved in NEPA is the U.S. Institute for Environmental Conflict Resolution, which was established by the Environmental Policy and Conflict Resolution Act of 1998 to assist in resolving conflict over environmental issues that involve Federal agencies.¹⁵ While part of the Federal Government (it is located within the Morris K. Udall Foundation, a Federal agency located in Tucson, Arizona), it provides an independent, neutral, place for Federal agencies to work with citizens as well as State, local, and Tribal governments, private organizations, and businesses to reach common ground. The Institute provides dispute resolution alternatives to litigation and other adversarial approaches. The Institute is also charged with assisting the Federal Government in the implementation of the substantive policies set forth in Section 101 of NEPA.

D.6. Navigating the NEPA Process

Each year, thousands of Environmental Assessments (EAs) and hundreds of Environmental Impact Statements (EISs) are prepared by Federal agencies. This guide will assist the reader better navigate through the NEPA process and better understand the roles of the various other actors. Figure D.1 illustrates a flowchart of "The NEPA Process," which details the steps of the NEPA process. For ease of reference, each step of the process is designated with a number which is highlighted in the text discussing that particular step.

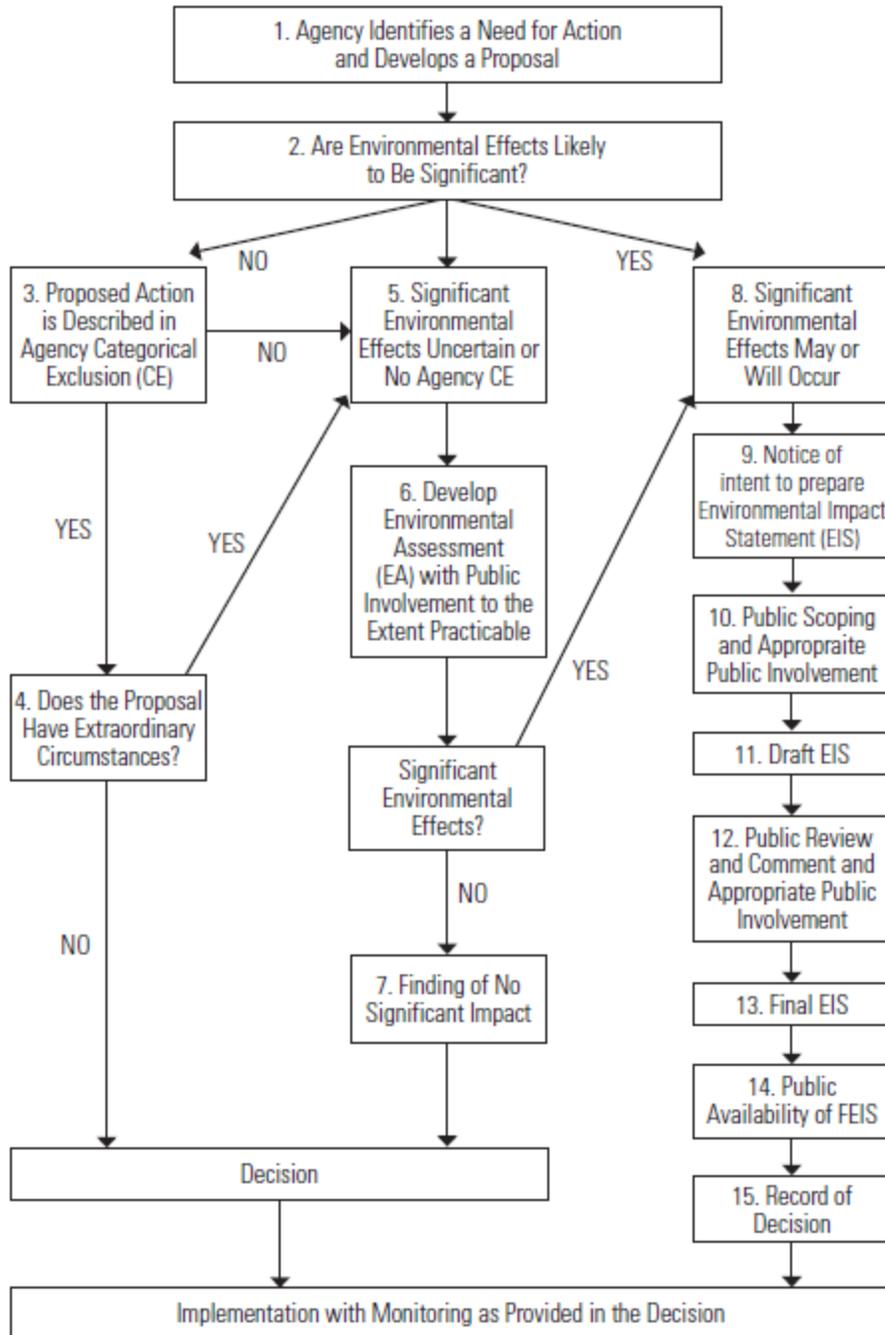


Figure D.1. The NEPA process flowchart

The NEPA process begins when an agency develops a proposal to address a need to take an action. The need to take an action may be something the agency identifies itself, or it may be a need to make a decision on a proposal brought to it by someone outside of the agency, for example, an applicant for a permit. Based on the need, the agency develops a proposal for action (Number 1 in Figure D.1). If it is the only Federal agency involved, that agency will automatically be the “lead agency,” which means it has the primary responsibility for compliance with NEPA.

Some large or complex proposals involve multiple Federal agencies along with State, local, and Tribal agencies. If another Federal, State, local, or Tribal agency has a major role in the proposed action and also has NEPA responsibilities or responsibilities under a similar NEPA-like law¹⁷, that agency may be a “joint lead agency.” A “joint lead agency” shares the lead agency’s responsibility for management of the NEPA process, including public involvement and the preparation of documents. Other Federal, State, Tribal, or local government agencies may have a decision or special expertise regarding a proposed action, but less of a role than the lead agency. In that case, such a Federal, State, Tribal, or local government agency may be a “cooperating agency.”

A “cooperating agency” is an agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative). Thus, a “cooperating agency” typically will have some responsibilities for the analysis related to its jurisdiction or special expertise.

Once it has developed a proposed action, the agency will enter the initial analytical approach (Number 2 in Figure 1) to help it determine whether the agency will pursue the path of a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS).

D.7. Implementing the NEPA Process

D.7.1. Categorical Exclusions (CEs) (Number 3 in Figure 1)

A CE is a category of actions that the agency has determined does not individually or cumulatively have a significant effect on the quality of the human environment.¹⁸ Examples include issuing administrative personnel procedures, making minor facility renovations (such as installing energy efficient lighting), and reconstruction of hiking trails on public lands. Agencies develop a list of CEs specific to their operations when they develop or revise their NEPA implementing procedures in accordance with CEQ’s NEPA regulations.

A CE is based on an agency’s experience with a particular kind of action and its environmental effects. The agency may have studied the action in previous EAs, found no significant impact on the environment based on the analyses, and validated the lack of significant impacts after the implementation. If this is the type of action that will be repeated over time, the agency may decide to amend their implementing regulations to include the action as a CE. In these cases, the draft agency procedures are published in the *Federal Register*, and a public comment period is required. Participation in these comment periods is an important way to be involved in the development of a particular CE.

If a proposed action is included in the description provided for a listed CE established by the agency, the agency must check to make sure that no extraordinary circumstances exist that may cause the proposed action to have a significant effect in a particular situation. Extraordinary circumstances typically include such matters as effects to endangered species, protected cultural sites, and wetlands (Number 4 in Figure 1). If there are no extraordinary circumstances indicating that the effects of the action may be significant, then the agency can proceed with the action.

If the proposed action is not included in the description provided in the CE established by the agency, or there are extraordinary circumstances, the agency must prepare an EA or an EIS, or develop a new

proposal that may qualify for application of a CE. When the agency does not know or is uncertain whether significant impacts are expected, the agency should prepare an EA to determine if there are significant environmental effects.

D.7.2. Environmental Assessments (EA) (Number 5 in Figure 1)

The purpose of an EA is to determine the significance of the environmental effects and to look at alternative means to achieve the agency's objectives. The EA is intended to be a concise document that (1) briefly provides sufficient evidence and analysis for determining whether to prepare an EIS; (2) aids an agency's compliance with NEPA when no environmental impact statement is necessary; and (3) facilitates preparation of an Environmental Impact Statement when one is necessary.

An EA should include brief discussions of:

- the need for the proposal,
- alternative courses of action for any proposal which involves unresolved conflicts concerning alternative uses of available resources,
- the environmental impacts of the proposed action and alternatives, and
- a listing of agencies and persons consulted.

Because the EA serves to evaluate the significance of a proposal for agency actions, it should focus on the context and intensity of effects that may "significantly" affect the quality of the human environment.²¹ Often the EA will identify ways in which the agency can revise the action to minimize environmental effects.

When preparing an EA, the agency has discretion as to the level of public involvement (Number 6 in Figure 1). The CEQ regulations state that the agency shall involve environmental agencies, applicants, and the public, to the extent practicable, in preparing EAs.²² Sometimes agencies will choose to mirror the scoping and public comment periods that are found in the EIS process. In other situations, agencies make the EA and a draft FONSI available to interested members of the public.

Some agencies, such as the Army, require that interested parties be notified of the decision to prepare an EA, and the Army also makes the EA publicly available. Some agencies keep a notification list of parties interested in a particular kind of action or in all agency actions. Other agencies simply prepare the EA. Not all agencies systematically provide information about individual EAs, so it is important that you read the specific implementing procedures of the proposing agency or ask the local NEPA point of contact working on the project about the process and let the appropriate agency representative know if you are interested in being notified of all NEPA documents or NEPA processes related to a particular type of action.

The EA process concludes with either a Finding of No Significant Impact (FONSI) (Number 7 in Figure 1) or a determination to proceed to preparation of an EIS. A FONSI is a document that presents the reasons why the agency has concluded that there are no significant environmental impacts projected to occur upon implementation of the action.²³ The EA is either summarized in the FONSI or attached to it.

In two circumstances, the CEQ regulations require agencies to make the proposed FONSI available for public review for 30 days. Those situations are:

- if the type of proposed action hasn't been done before by the particular agency, or
- if the action is something that typically would require an EIS under the agency NEPA procedures.

If this is the case, the FONSI is usually published in the *Federal Register*,²⁵ and the notice of availability of the FONSI will include information on how and where to provide your comments. If the requirement for a 30 day review is not triggered the FONSI often will not be published in the Federal Register. It may be posted on the agency's website, published in local newspapers or made available in some other manner. If you are interested in a particular action that is the subject of an EA, you should find out from the agency how it will make the FONSI available.

D.7.3. Environmental Impact Statements (EIS) (Number 8 in Figure 1)

A Federal agency must prepare an EIS if it is proposing a major federal action significantly affecting the quality of the human environment.²⁶ The regulatory requirements for an EIS are more detailed than the requirements for an EA or a categorical exclusion and are explained below.

D.7.4. Notice of Intent and Scoping (Numbers 9 and 10 in Figure 1)

The EIS process begins with publication of a Notice of Intent (NOI), stating the agency's intent to prepare an EIS for a particular proposal. (Number 9 in Figure 1). The NOI is published in the Federal Register, and provides some basic information on the proposed action in preparation for the scoping process (Number 10 in Figure 1).²⁷ The NOI provides a brief description of the proposed action and possible alternatives. It also describes the agency's proposed scoping process, including any meetings and how the public can get involved. The NOI will also contain an agency point of contact who can answer questions about the proposed action and the NEPA process.

The scoping process is the best time to identify issues, determine points of contact, establish project schedules, and provide recommendations to the agency. The overall goal is to define the scope of issues to be addressed in depth in the analyses that will be included in the EIS. Specifically, the scoping process will:

- Identify people or organizations who are interested in the proposed action;
- Identify the significant issues to be analyzed in the EIS;
- Identify and eliminate from detailed review those issues that will not be significant or those that have been adequately covered in prior environmental review;
- Determine the roles and responsibilities of lead and cooperating agencies;
- Identify any related EAs or EISs;
- Identify gaps in data and informational needs;
- Set time limits for the process and page limits for the EIS;
- Identify other environmental review and consultation requirements so they can be integrated with the EIS; and
- Indicate the relationship between the development of the environmental analysis and the agency's tentative decision-making schedule.

As part of the process, agencies are required to identify and invite the participation of interested persons. The agency should choose whatever communications methods are best for effective involvement of communities, whether local, regional, or national, that are interested in the proposed action. Video conferencing, public meetings, conference calls, formal hearings, or informal workshops are among the legitimate ways to conduct scoping. It is in your interest to become involved as soon as the EIS process begins and to use the scoping opportunity to make thoughtful, rational presentations on impacts and alternatives. Some of the most constructive and beneficial interaction between the public and an agency occurs when citizens identify or develop reasonable alternatives that the agency can evaluate in the EIS.

D.7.5. Draft EIS (Number 11 in Figure 1)

The next major step in the EIS process that provides an opportunity for your input is when the agencies submit a draft EIS for public comment. The Environmental Protection Agency (EPA) publishes a Notice of Availability in the Federal Register informing you and other members of the public that the draft is available for comment (Number 12 in Figure 1). The EPA notices are also available at <http://www.epa.gov/compliance/nepa/eisdata.html>. Based on the communication plan established by the agency, websites, local papers, or other means of public notice may also be used. The comment period is at least 45 days long; however, it may be longer based on requirements spelled out in the agency specific NEPA procedures or at the agency's discretion. During this time, the agency may conduct public meetings or hearings as a way to solicit comments.²⁹ The agency will also request comments from other Federal, State, Tribal, and local agencies that may have jurisdiction or interest in the matter.

One key aspect of a draft EIS is the statement of the underlying purpose and need.³⁰ Agencies draft a "Purpose and Need" statement to describe what they are trying to achieve by proposing an action. The purpose and need statement explains to the reader why an agency action is necessary, and serves as the basis for identifying the reasonable alternatives that meet the purpose and need.

The identification and evaluation of alternative ways of meeting the purpose and need of the proposed action is the heart of the NEPA analysis. The lead agency or agencies must, "objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."³¹ Reasonable alternatives are those that substantially meet the agency's purpose and need. If the agency is considering an application for a permit or other federal approval, the agency must still consider all reasonable alternatives. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. Agencies are obligated to evaluate all reasonable alternatives or a range of reasonable alternatives in enough detail so that a reader can compare and contrast the environmental effects of the various alternatives.

Agencies must always describe and analyze a "no action alternative." The "no action" alternative is simply what would happen if the agency did not act upon the proposal for agency action. For example, in the case of an application to the U.S. Army Corps of Engineers for a permit to place fill in a particular area, the "no action" alternative is no permit. But in the case of a proposed new management plan for the National Park Service's management of a national park, the "no action" alternative is the continuation of the current management plan.

If an agency has a preferred alternative when it publishes a draft EIS, the draft must identify which alternative the agency prefers. All agencies must identify a preferred alternative in the final EIS, unless another law prohibits it from doing so.³²

The agency must analyze the full range of direct, indirect, and cumulative effects of the preferred alternative, if any, and of the reasonable alternatives identified in the draft EIS. For purposes of NEPA, “effects” and “impacts” mean the same thing. They include ecological, aesthetic, historic, cultural, economic, social, or health impacts, whether adverse or beneficial.³³ It is important to note that human beings are part of the environment (indeed, that’s why Congress used the phrase “human environment” in NEPA), so when an EIS is prepared and economic or social and natural or physical environmental effects are interrelated, the EIS should discuss all of these effects.

In addition to the purpose and need, identification of reasonable alternatives, and the environmental effects of the alternatives, the draft EIS will contain a description of the environment that would be affected by the various alternatives.

The EIS will also have a list of who prepared the document and their qualifications,³⁵ a table of contents, and an index.³⁶ The agency may choose to include technical information in appendices that are either circulated with the draft or readily available for review.

D.7.6. Final EIS (Number 13 in Figure 1)

When the public comment period is finished, the agency analyzes comments, conducts further analysis as necessary, and prepares the final EIS. In the final EIS, the agency must respond to the substantive comments received from other government agencies and from you and other members of the public.³⁸ The response can be in the form of changes in the final EIS, factual corrections, modifications to the analyses or the alternatives, new alternatives considered, or an explanation of why a comment does not require the agency’s response.³⁹ Often the agency will meet with other agencies that may be affected by the proposed action in an effort to resolve an issue or mitigate project effects. A copy or a summary of your substantive comments and the response to them will be included in the final EIS.

When it is ready, the agency will publish the final EIS and EPA will publish a Notice of Availability in the Federal Register. The Notice of Availability marks the start of a waiting period (Number 14 in Figure 1). A minimum of 30 days must pass before the agency can make a decision on their proposed action unless the agency couples the 30 days with a formal internal appeals process.⁴¹ This provides time for the agency decision maker to consider the purpose and need, weigh the alternatives, balance their objectives, and make a decision.

There is an additional (but rarely used) procedure worth noting: pre-decision referrals to CEQ.⁴² This referral process takes place when EPA or another Federal agency determines that proceeding with the proposed action is environmentally unacceptable. If an agency reaches that conclusion, the agency can refer the issue to CEQ within 25 days after the Notice of Availability for the final EIS is issued. CEQ then works to resolve the issue with the agencies concerned. CEQ might also refer the agencies to the U.S. Institute for Environmental Conflict Resolution to try to address the matter before formal elevation.⁴³ There is no provision for citizens to formally refer an action to CEQ; however, CEQ typically provides an opportunity for public involvement in a referral.

D.7.7. Record of Decision (ROD) (Number 15 in Figure 1)

The ROD is the final step for agencies in the EIS process. The ROD is a document that states what the decision is; identifies the alternatives considered, including the environmentally preferred alternative; and discusses mitigation plans, including any enforcement and monitoring commitments.⁴⁴ In the ROD, the agency discusses all the factors, including any considerations of national policy, that were contemplated when it reached its decision on whether to, and if so how to, proceed with the proposed action. The ROD will also discuss if all practical means to avoid or minimize environmental harm have been adopted, and if not, why they were not.⁴⁵ The ROD is a publicly available document. Sometimes RODs are published in the Federal Register or on the agency's website, but if you are interested in receiving the ROD you should ask the agency's point of contact for the EIS how to obtain a copy of the ROD.

D.7.8. Supplemental EIS (Asterisk in Figure 1)

Sometimes a Federal agency is obligated to prepare a supplement to an existing EIS. An agency must prepare a supplement to either a draft or final EIS if it makes substantial changes in the proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. An agency may also prepare a supplemental EIS if it determines that doing so will further the purposes of NEPA.⁴⁶ A supplemental EIS is prepared in the same way as a draft or final EIS, except that scoping is not required. If a supplement is prepared following a draft EIS, the final EIS will address both the draft EIS and supplemental EIS.

D.7.9. EPA's Review

EPA plays a critical role in other agencies' NEPA processes. EPA is required to review and provide comments on the adequacy of the analysis and the impact to the environment.⁴⁷ EPA uses a rating system that summarizes its recommendations to the lead agency (see Appendix C). If EPA determines that the action is environmentally unsatisfactory, it is required by law to refer the matter to CEQ. The Office of Federal Activities in EPA is the official recipient of all EISs prepared by Federal agencies, and publishes the notices of availability in the Federal Register for all draft, final, and supplemental EISs. The publication of these notices start the official clock for public review and comment periods and wait periods.⁴⁸ In addition to the Federal Register, the notices and summaries of the EPA comments are available at <http://www.epa.gov/compliance/nepa/eisdata.html>.

Appendix E. NEPA involvement activities in cases

E.1. NEPA involvement activities in TZBR case

<i>Involvement activity</i>	<i>Date</i>	<i>NEPA related activity</i>	<i>Record's availability</i>	<i>Type of record(s) available</i>
Pre-scoping public meeting	10/23/01	Pre-scoping	Not available	Not available
Pre-scoping public meeting	10/24/01	Pre-scoping	Not available	Not available
Scoping public meeting	1/14/03	Publication of NOI	Available	Summary of comments
Scoping public meeting	1/15/03	Publication of NOI	Available	Summary of comments
Scoping public meeting	1/16/03	Publication of NOI	Available	Summary of comments + written comments
Scoping update public meeting	2/26/08	Publication of Revised NOI	Available	Summary of comments
Scoping update public meeting	2/27/08	Publication of Revised NOI	Available	Summary of comments
Scoping update public meeting	2/28/08	Publication of Revised NOI	Available	Summary of comments + written comments
Public information meeting	10/28/08	Publication of Alternatives Analysis report	Available	Summary of comments
Public information meeting	10/29/08	Publication of Alternatives Analysis report	Available	Summary of comments
Public information meeting	10/30/08	Publication of Alternatives Analysis report	Available	Summary of comments
Public meeting	11/10/09	Publication of 2 nd Alternatives Analysis report	Not available	Not available
Public meeting	11/12/09	Publication of 2 nd Alternatives Analysis report	Not available	Not available
Public meeting	11/18/09	Publication of 2 nd Alternatives Analysis report	Not available	Not available
Public meeting	12/1/09	Publication of 2 nd Alternatives Analysis report	Not available	Not available

Public meeting	12/9/09	Publication of 2 nd Alternatives Analysis report	Not available	Not available
Public scoping meeting	10/25/11	Publication of NOI (fast-tracked)	Available	Written comments (one set for both meetings)
Public scoping meeting	10/27/11	Publication of NOI (fast-tracked)	Available	Written comments (one set for both meetings)
Public hearing	2/28/12	Draft EIS	Available	Transcripts
Public hearing	3/1/12	Draft EIS	Available	Transcripts
Written comments	9/4/12	Final EIS	Available	Written comments (i.e. emails and letters)

E.2. NEPA involvement activities in ERT case

<i>Involvement activity</i>	<i>Date</i>	<i>NEPA related activity</i>	<i>Record's availability</i>	<i>Type of record(s) available</i>
Public information meeting (MTT)	7/1/87	Define scope	Not available	Not available
Citizen information meeting (MLK)	10/5/88	Define scope	Not available	Not available
Public meeting (MTT)	2/20/90	Draft EIS	Not available	Not available
Public meeting (MTT)	2/21/90	Draft EIS	Not available	Not available
Public hearing (MTT)	2/27/90	Draft EIS	Not available	Not available
Public hearing (MTT)	2/28/90	Draft EIS	Not available	Not available
Public hearing (MLK)	5/31/90	To define location	Not available	Not available
Public hearing (MLK)	9/10/90	Define location	Not available	Not available
Public meeting (MTT)	2/20/95	Major Investment Study / Congestion Management	Not available	Not available
Public hearing (MLK)	6/24/98	Interchange Justification Report (IJR)	Not available	Not available

<i>Involvement activity</i>	<i>Date</i>	<i>NEPA related activity</i>	<i>Record's availability</i>	<i>Type of record(s) available</i>
Written comments on IJR (MLK)	7/12/07	IJR	Available	Written comments (letter & email)
Public hearing (MLK)	1/31/08	EA	Not available	Not available
Public hearing (MLK)	5/14/08	EA	Available	Summary & written comments
Public hearing (MLK)	7/8/08	Define new location	Not available	Not available
Public hearing (ERT)	3/24/11	EA	Available	Written comments
Public hearing (ERT)	5/3/11	EA	Available	Written comments
Public hearing (ERT)	5/4/11	EA	Available	Written comments

E.3. NEPA involvement activities in OHRB case

<i>Involvement activity</i>	<i>Date</i>	<i>NEPA related activity</i>	<i>Record's availability</i>	<i>Type of record(s) available</i>
Public meeting	12/1/98	NOI	Not available	Not available
Public meeting	12/2/98	NOI	Not available	Not available
Public meeting	4/14/99	NOI	Not available	Not available
Public meeting	4/15/99	NOI	Not available	Not available
Workshop	6/8/99	NOI	Not available	Not available
Public meeting	9/1/99	Supplemental NOI	Not available	Not available
Public meeting	9/2/99	Supplemental NOI	Not available	Not available
Workshop	10/14/99	Supplemental NOI	Not available	Not available
Public meeting	5/10/00	Supplemental NOI	Not available	Not available
Public meeting	5/11/00	Supplemental NOI	Available	Written comments from gov. agencies
Workshop	3/13/01	Design concept	Not available	Not available
Workshop	3/14/01	Design concept	Not available	Not available
Workshop	3/15/01	Design concept	Not available	Not available
Open house	11/29/01	Draft EIS	Not available	Not available
Open house	12/4/01	Draft EIS	Not available	Not available
Public hearing	2/6/02	Draft EIS	Available	Summary
Public hearing	2/6/02	Draft EIS	Available	Summary
Written comments on FEIS	6/25/03	Final EIS	Available	Written comments
Open house	12/13/05	Following first ROD preparation for the next EIS	Available	Summary

<i>Involvement activity</i>	<i>Date</i>	<i>NEPA related activity</i>	<i>Record's availability</i>	<i>Type of record(s) available</i>
Open house	12/15/05	Following first ROD preparation for the next EIS	Available	Summary
Written comments	8/1/10		Available	Written comments (letter & email)
Public meeting	6/1/11	NOI (Sec. 106 meeting)	Available	Summary
Public hearing	6/27/11	NOI	Available	Transcript
Public hearing	6/28/11	NOI	Available	Transcript + written comments
Written comments	7/15/11	NOI	Available	written comments
Written comments	8/25/11	On Draft range of Alternatives	Available	written comments
Written comments	9/12/11	On Draft range of Alternatives	Available	written comments
Public meeting	9/29/11	Sec. 106 meeting	Available	Summary
Public meeting	11/18/11	Sec. 106 meeting	Available	Summary
Public hearing	12/19/11	Draft EIS	Available	Transcript + written comments
Public hearing	12/20/11	Draft EIS	Available	Transcript + written comments
Written comments	1/10/12	Draft EIS	Available	Summary
Public meeting	1/27/12	Sec. 106 meeting	Available	Summary
Written comments	2/19/12	Draft EIS	Available	written comments
Written comments	6/5/12	Final EIS	Available	written comments
Written comments	6/14/12	Final EIS	Available	written comments

Appendix F. A list of megaprojects initially reviewed

<i>Project</i>	<i>State</i>	<i>Payment mechanism</i>	<i>Contract Type</i>	<i>Project Cost (millions)</i>	<i>NTP</i>	<i>Contract length</i>	<i>Scope</i>
Presidio PW	CA	AP	PPP	\$ 365	2012	30	Arterial
I-4	FL	AP	DBFOM	\$ 2,877	2014	40	Managed lanes
I-595	FL	AP	DBFOM	\$ 1,834	2008	35	Managed lanes
Port of Miami Tunnel	FL	AP	PPP	\$1,113	2010	34	Fixed crossing
East End Crossing	IN	AP	DBFOM	\$1,319	2012	39	Fixed crossing
Downtown Crossings	KY	DB	Design-Build	\$1,412	2012	5	Fixed crossing
Tappan Zee Bridge Replacement	NY	DB	Design-Build	\$3,812	2012	5	Fixed crossing
Goethals Bridge Replacement	NJ	AP	DBFOM	\$1,436	2013	40	Fixed crossing
Dominion Blvd. Improvements	VA	DB	Design-Build	\$345.2	2013	4	Arterial
Portsmouth Bypass	OH	AP	DBFOM	\$634	2015	35	Arterial
Rapid Bridge Rep.	PA	AP	PPP	\$ 1,119	2015	25	Fixed crossing
Chicago Skyway	Chicago City	Lease	Lease	\$ 1,830	2005	99	Managed lanes
Colorado NW	CO	Lease	Lease	\$ 603	2007	99	Arterial
Indiana TR	IN	Lease	Lease	\$ 3,800	2006	75	Arterial
PR-22 & PR-5	PR	Lease	Lease	\$ 1,436	2011	40	Arterial

<i>Project</i>	<i>State</i>	<i>Payment mechanism</i>	<i>Contract Type</i>	<i>Project Cost (millions)</i>	<i>NTP</i>	<i>Contract length</i>	<i>Scope</i>
US-36	CO	Revenue Risk	PPP	\$ 208	2014	50	Managed lanes
I-77	NC	Revenue Risk	PPP	\$ 655	2015	50	HOT
I-635	TX	Revenue Risk	PPP	\$ 2,615	2008	52	Managed lanes
NTE (3A-3B)	TX	Revenue Risk	PPP	\$ 1,638	2013	52	Managed lanes
NTE (1-2A)	TX	Revenue Risk	PPP	\$ 2,047	2009	52	Managed lanes
SH-130	TX	Revenue Risk	PPP	\$ 1,328	2007	50	Arterial
SH-288	TX	Revenue Risk	PPP	\$ 1,064	2016	52	Managed lanes
Dulles Greenway	VA	Revenue Risk	DBFO	\$ 350	1993	40	Arterial
Elizabeth River Tunnels	VA	Revenue Risk	DBFOM	\$ 2,089	2012	58	Fixed crossing
I-495	VA	Revenue Risk	PPP	\$ 2,068	2008	85	Managed lanes
I-95	VA	Revenue Risk	DBFOM	\$ 923	2012	76	Managed lanes

