

Pilot Test of the TCAPP Collaborative Decision-Making Framework Including a Self-Assessment Methodology: Washington State's SR 509 Project

DETAILS

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SHRP 2 Capacity Project C18A

Pilot Test of the TCAPP Collaborative Decision-Making Framework Including a Self- Assessment Methodology

Washington State's SR 509 Project



TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

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TRANSPORTATION RESEARCH BOARD

Washington, D.C.

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Executive Summary

The Second Strategic Highway Research Program (SHRP 2) selected the Washington State Department of Transportation's (WSDOT) I-5/SR 509 Corridor Completion and Freight Improvement Project for pilot testing the collaborative decision-making tool "Transportation for Communities – Advancing Projects through Partnerships (TCAPP)".

The WSDOT project team has worked collaboratively with the stakeholders using the tools and techniques provided under the TCAPP corridor planning protocol. We have successfully defined Phase 1 of the project. The resulting design reduced the initial project implementation cost by approximately \$400 million while preserving most of the project benefits.

Project Background

The SR 509 project is "ready to go" with its preliminary design completed and a federal Record of Decision issued in 2003. The project's master plan calls for three lanes (two general purpose lanes and one HOV lane) in each direction with more than 6 miles of widening on Interstate 5 to mitigate the traffic brought on by the extension. The project provides greatly improved access to the Seattle-Tacoma International Airport (Sea-Tac Airport) and the Port of Seattle from the south with congestion relief on local arterials and creates a greater opportunity for stimulating economic development.

With a price tag of well over \$1.2 billion and many other competing priorities in the region, several attempts at funding the project using traditional revenue sources have failed. As a result, the state legislature and local partners have concluded that in order to implement this important regional project, toll funding is needed, even though tolling has not been used in this area. The application of tolling to the SR 509 project not only can generate funds for the project but also limit initial demand, allowing the WSDOT to scale and phase the project.

The goal of this pilot test was to demonstrate how the TCAPP tools could help facilitate the project stakeholders and local partners in defining the Phase 1 scope of the project by taking tolling into consideration.

Features and Functionality of TCAPP Used

This pilot test was conducted by a project team consisting of WSDOT, the Washington State Transportation Center (TRAC), and the consulting firms of Baillie & Associates and Parsons Brinckerhoff. The project team worked collaboratively with the stakeholders using many of the tools and techniques provided by the TCAPP corridor planning protocol:

- Stakeholder involvement techniques;
- Decision-making authority definition;

- Corridor planning Decision Guide;
- Stakeholder collaboration assessment; and
- Examples included in case studies.

Value of TCAPP to the Project

Through this pilot test, the WSDOT project team found TCAPP to be helpful in many ways.

Identifying and Involving Key Stakeholders Early On

The WSDOT project team found the TCAPP program to be most helpful in identifying and involving key project stakeholders early on in the planning process. The project had already begun key stakeholder involvement with its steering and executive committees, but TCAPP helped us refine and improve early involvement of those key stakeholders. The earlier version of the TCAPP tool provided various techniques under the stakeholder collaboration assessment module. Following these techniques, the project team conducted a thorough assessment of the project stakeholder committee, assembled during the development of the environmental impact statement (EIS), to determine if the full range of interests and perspectives were represented. Using the TCAPP tool, the project team included the following key questions in the assessment:

- Who are the key stakeholders?
- Who has the ability to stall the project and on what grounds?

Based on the assessment results, the committee membership was expanded to include representatives from three new interest groups: freight, local business, and residents. In addition, members of the state legislature's transportation committees were invited since the legislature is the ultimate decision maker for tolling and funding needed for project completion. The addition of these new committee members has proven to be instrumental in achieving a high level of consensus on the preferred phasing option.

Decision-Making Authority Definition

According to TCAPP, decision-making authority is the ability of stakeholders and the team as a whole to make key decisions regarding the project outcomes and to have those decisions respected and upheld by the agencies they represent as well as other decision-making partners. State law gives decisions related to tolling and project funding to the legislature, whereas the Washington State Transportation Commission sets toll rates and exemptions.

At the start of the pilot test, the project team made it clear to the committees regarding their role in the tolling decision-making process and that a strong recommendation of the stakeholders on a preferred phasing plan and toll option would facilitate the legislative decision-making greatly. These clarifications enabled both committees to focus on making sensible recommendations based on the data and information provided to them. However, the legislative

decision-making constraint does limit the “ability to move forward” of the project team, as no matter how great a local desire there is to accept and support the project team’s consensus recommendations, the final decision to move forward rests with the full state legislature and the governor.

Stakeholder Collaboration: Building Consensus around Key Decision Points

The project team found the sequence of corridor planning key decision points (KDPs) as provided online to be very helpful.

The KDPs were tailored to this unique project situation. KDPs COR-2, COR-3, COR-4, COR-5, COR-6, COR-7, COR-8, COR-9, and ENV-1 were utilized in the pilot test. Each of these KDPs contains information on the purpose and outcomes of the decision point:

- The roles of each stakeholder;
- The questions that policy makers must address in order to make decisions; and
- The data, tools, and technology that may be used to support the decisions.

Additionally, the policy questions documented under the “Decision-Making Questions” tab helped the project team to consider if the scope of analysis was sufficiently comprehensive to recognize and evaluate impacts in the study corridor. The team used the decision-making questions in TCAPP as a checklist to work through various issues and situations. The policy questions also helped the project team consider both direct and indirect project impacts in selecting the study boundary.

Stakeholder Collaboration Assessment Survey

The project team found the sample surveys available under the Collaboration Assessment tab of TCAPP to be useful for monitoring the effectiveness of the collaboration process. The project team selected specific questions from the TCAPP website and developed their own questions, using ideas provided by the TCAPP questions that were pertinent to this project.

The project team conducted a collaboration assessment survey at the end of each stakeholder meeting using paper copies of this instrument because it was not easy to perform a web-based survey at the meeting. The surveys helped the team and committee members evaluate how well the project was progressing. Using the survey results, the project team was able to identify and address issues early, before they developed into bigger issues. This too has proven to be instrumental in achieving the final consensus.

One addition the project team made to the surveys was to obtain contact information (on a voluntary basis) from those individuals expressing concerns as part of their survey responses. This allowed the project team to contact those individuals directly, but informally, in order to address those concerns. For example, if an individual indicated they did not feel that they had an adequate opportunity to voice their concerns, the project lead would talk with that individual the

week following the meeting to listen to his or her concern and determine how future meetings could be modified to make sure all stakeholders had sufficient chance to be heard.

Case Studies

The project team found the case study examples helpful. The team reviewed all the case studies to find guidance on evaluation criteria, project methodology, and performance measures. Using the TCAPP guidelines, evaluation criteria and performance measures were developed for the SR 509 project keeping in mind broader issues in transportation, community, and environment. These criteria and performance measures considered the items used in the original EIS to ensure consistency and continuity across the entire decision-making process.

Conclusions and Recommendations

The TCAPP website contains a wealth of information, tools, and techniques for how to make planning decisions collaboratively. The information is provided in a stratified structure which makes it easy to find and follow. The project team found that selectively using the survey materials after each meeting was very informative and helpful. We believe that anyone involved in transportation planning or project development can benefit from the information and resources provided on this website.

For example, the policy questions under each decision point are clearly stated and provide insights into how to refine, address, and include various issues in the study process. The folders under each key decision point contain information on the purpose and outcomes of the decision, the roles of each partner, the questions that policy makers must address in order to make decisions, and the data, tools, and technology that may be used to support the decisions. The project team found the information provided on the website to be very helpful. The team has a few suggestions to improve the TCAPP web pages and make them more useful:

- Provide downloadable web content by key subject areas that can be used as handouts;
- Include an in-depth discussion, perhaps through case studies, on how performance measures, including quantitative and qualitative measures, are integrated to help reach consensus and decisions;
- Include more real world examples, perhaps by commonly encountered corridor study types on key subjects (i.e., problem statements, goals and objectives, performance measures, and analysis methodologies); and
- Provide examples of decision-making structures for studies led by different entities (MPO, local jurisdictions, State DOTs, etc).

CHAPTER 1

Introduction

The Second Strategic Highway Research Program (SHRP 2) selected Washington State Department of Transportation's (WSDOT) "I-5/SR 509 Corridor Completion and Freight Improvement Project" as a test bed for pilot testing the collaborative decision-making tool, Transportation for Communities – Advancing Projects through Partnerships (TCAPP). The goal of this pilot test was to demonstrate how the TCAPP tool could help facilitate the project stakeholders and their local partners in making key decisions in order to move the project forward. For the SR 509 project this included:

- Defining Phase 1 of the project for implementation by taking tolling into consideration; and
- Making recommendations on a preferred tolling option for legislative consideration (this was contingent on additional funding from the 2011 Washington State legislature that did not happen).

This pilot test was conducted by a project team consisting of WSDOT, the Washington State Transportation Center (TRAC), and the consulting firms Baillie & Associates and Parsons Brinckerhoff. TRAC served as the project independent evaluator for assessing the TCAPP tool and methodology deployed in this pilot test.

The project team worked collaboratively with the stakeholders using the tools and techniques provided under the TCAPP corridor planning protocol, and successfully defined Phase 1 of the project. The resulting design reduced the initial project implementation cost by about \$400 million while preserving most of the project benefits.

Project Background

The SR 509 project is "ready to go" with its preliminary design completed and a federal Record of Decision (ROD) issued in 2003. Figure 1.1 shows the location of the project within the larger metropolitan area. Figure 1.2 shows the new roads (highlighted in yellow) that would be built under the plan described in the federal ROD.

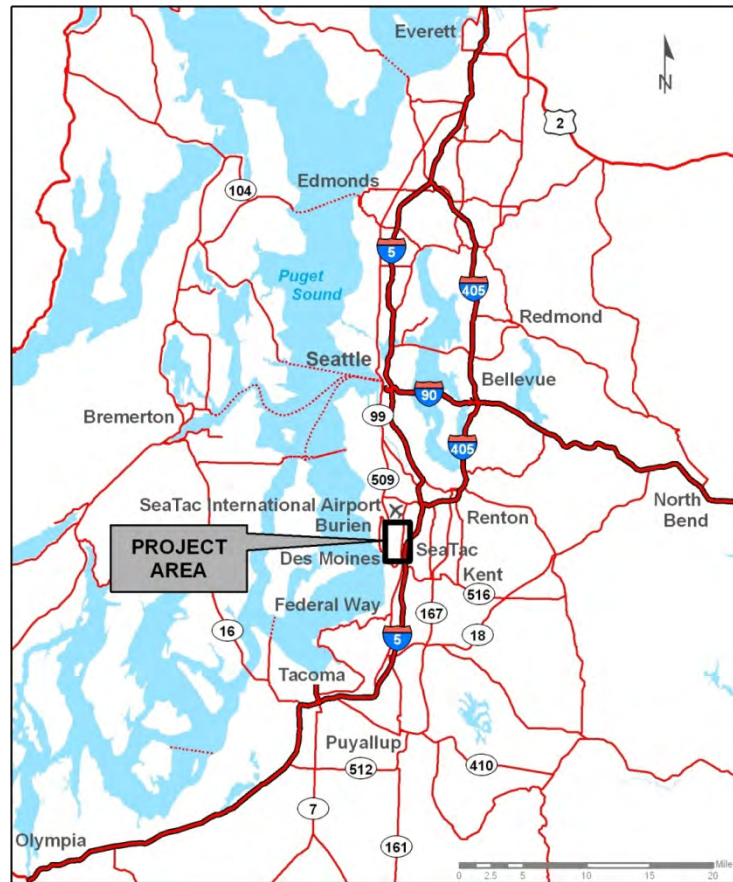


Figure 1.1. Vicinity map of the SR 509 project.

The project was originally developed under a toll-free assumption because, at the time the corridor master plan was developed, tolling was not an acceptable option among the public. The full scope of the SR 509 project incorporated in the federal ROD includes the following major components:

- Complete the SR 509 corridor by building 3 miles of missing freeway and connecting to I-5. The completed section of SR 509 would include three lanes in each direction (two general purpose lanes and one HOV lane);
- Widen more than 6 miles of I-5 from the SR 509 extension to the south in Federal Way including rebuilding several interchanges;
- Provide a freeway connector that provides direct and more convenient access to Sea-Tac Airport from the south; and
- Provide a direct connection from SR 509 to the Kent Valley via S 228th Street, a major freight corridor.



Figure 1.2. Aerial view of the I-5/SR 509 Corridor Completion and Freight Improvement Project.

The project is expected to provide clear and tangible benefits to multiple transportation modes including:

- Reduced congestion on I-5;
- Establishment of a direct freight route from a major seaport (the Port of Seattle) to the fourth largest regional warehousing district in the country (Kent Valley);
- Improved access to Sea-Tac International Airport;
- Cost savings through reduced fuel consumption and improved travel times; and
- Environmental benefits including reduced greenhouse gas emissions.

Statement of the Planning Problems Addressed in the Pilot Test

Transportation Context

The Federal Highway Administration (FHWA), WSDOT, the Port of Seattle, King County, and the cities of Des Moines and SeaTac propose to improve regional highway connections with an extension of SR 509 to serve future transportation needs in southwest King County, including enhancing southern access to and from Sea-Tac International Airport. The extension of SR 509

would also serve as a reliable alternative to I-5 for moving freight from the Port of Seattle marine port terminals to the region's major warehouse district in the Kent Valley.

Since 2003, state and local partners have made several unsuccessful attempts to fund and build this critical missing link in the regional transportation system. With a total project cost in excess of \$1.2 billion and many other competing priorities in the region, finding dollars from traditional funding sources to implement the project will continue to be a challenge for WSDOT and its local partners.

In 2009, the state legislature directed WSDOT to conduct a toll feasibility study to analyze how much revenue could be generated to help implement the project if the corridor is tolled. The study, which was completed in October 2010, found that:

- Tolling is expected to generate a significant amount of revenue to help fund the project's construction, ranging from \$250 million to \$600 million depending on how the roadway is tolled and the market conditions under which tolling is applied.
- Tolling aimed at generating maximum revenue is expected to reduce traffic demand by approximately 50% compared to the toll-free condition, creating the opportunity to reduce, downsize, or phase project construction. This improves corridor efficiency, reduces upfront construction costs, and makes the project financially feasible given the predicted toll revenues and expected contributions from other funding sources.

It is clear that a tolled facility could be a smaller facility than originally envisioned, delivering a subset of previously identified benefits, causing a subset of identified impacts, and costing less than the original estimated project cost. Therefore, additional work is required, although this work must build on previous analyses and agreements.

The funding from the SHRP 2 program of the National Academy of Sciences enabled the WSDOT project team to work with the stakeholders collaboratively to advance the SR 509 project by developing phasing options under tolled conditions.

Environmental Context

The proposed alignment of the SR 509 corridor includes natural and built environments, a number of sensitive noise receivers, public parks, wetlands, and wildlife habitats. Consequently, the phasing of this project must be done in a way that minimizes:

- Conversion of other land uses to roadway right-of-way;
- Impacts on the natural and built environment, including residential and commercial displacements;
- Noise impacts on sensitive noise receivers;
- Right-of-way acquisition in Des Moines Creek Park;

- Impacts on wetlands and wildlife habitats; and
- The amount of new impervious surfaces.

Institutional Context

The Washington State Transportation Commission sets toll rates and exemptions. However, the legislature directs what facilities can be tolled and how tolling revenues can be spent.

CHAPTER 2

Description of the Pilot Test and Summary of Results by TCAPP Task

The project team worked collaboratively with the stakeholders using many of the tools and techniques provided on the web under the TCAPP corridor planning protocol. The most important features and functionalities we used included the following:

- Stakeholder involvement techniques;
- Decision-making authority definition;
- Corridor Planning Decision Guide;
- Stakeholder collaboration assessment; and
- Examples included in Case studies.

Stakeholder Involvement

The current corridor master plan for the SR 509 project is the result of many years of collaboration among the project partners and stakeholders.

Partners

Partners were defined as entities that provided a funding contribution to the project or are responsible for implementing a portion of the project. The local partners in this project include the Port of Seattle, and the cities of SeaTac and Des Moines. The local partners have been active participants in the SR 509 Corridor Completion and Freight Mobility Project since its inception in 1992. The local partners were active participants in this pilot test and contributed staff-time and resources.

Stakeholders

Based on recommendations found in the TCAPP documentation, the SR 509 project's stakeholders group was revised for this project. The new stakeholders group consists of local agencies in the vicinity of the project, as well as a few other regional, state and federal agencies. They include:

- City of SeaTac;
- City of Des Moines;
- City of Burien;
- City of Federal Way;
- City of Kent;
- City of Normandy Park;

- Port of Seattle;
- Sound Transit;
- King County;
- Puget Sound Regional Council;
- Federal Highway Administration;
- Federal Aviation Administration;
- Washington State Department of Transportation; and
- Business, freight, and citizen representatives.

The project team also paid particular attention to the inclusion of representatives from environmental agencies on the steering committee. However, the resource agency representatives approached preferred coordinating with the project team outside of the steering committee, because they believed it was the most efficient process for this project. The focus of this project is not the question of committee representation but the fact that all of the key stakeholders are effectively involved in the study process.

The SR 509 corridor master plan is the result of many years of collaboration among the project partners and stakeholders. It was developed with the help of a steering committee and an executive committee. The steering committee provided ongoing guidance on technical and process issues while the executive committee was the decision-making body for the project. The steering committee was originally comprised of local and regional agencies as well as FHWA, the Federal Aviation Administration, and the Port of Seattle. The original steering committee did not include representatives from special interest groups and resource agencies. The executive committee consisted of local and state elected officials and executives from partnering agencies affected by or benefiting from the project. The key decisions were coordinated with the resource agencies separately.

Expansion of Stakeholders Representation

Following the TCAPP process steps, the project team conducted an initial assessment to determine if the full range of stakeholder interests and perspectives was represented on the steering and executive committees.

Steering Committee

The steering committee assessment included a series of interviews with staff members of the original EIS team to understand how well the steering committee functioned, and if the committee needed to be expanded to include representatives from resource agencies. Using the TCAPP tool, the key questions the project team asked in the assessment included:

- Who are the key stakeholders?
- Who has the ability to stall the project and on what grounds?

Based on the results of the assessment, the project team decided to revise the existing committee. Following the ideas provided by the NJ Route 31 case study, the project team expanded the steering committee membership to include representatives from three interest groups - freight, local businesses, and local residents. After consulting with environmental experts within WSDOT, the project team approached the resource agency representatives to see if they preferred to be on the steering committee or wished to continue to coordinate with the project team outside of the steering committee. Due to the unique situation of this project, they preferred the latter and believed it was the most efficient process for this project.

Executive Committee

The project team took similar steps in examining the need for expanding the executive committee as was done for the expansion of the steering committee following the TCAPP protocol. With the final environmental documentation in place, the legislature is the ultimate decision maker in moving this project forward since they must authorize the use of tolling and/or other funding needed to complete the project.

An important lesson was learned early in this project when the legislature did not allocate funding for conducting a comprehensive toll study of this corridor. This reinforced the idea that key legislators needed to be included in the executive committee. Based on the assessment results, the project team decided to expand the existing executive committee and invited two key state legislators from the project area, who also serve on the transportation committees to participate in the committee.

Decision-Making Authority

According to TCAPP, decision-making authority is the ability of stakeholders and the team as a whole to make key decisions regarding the project outcomes and to have those decisions respected and upheld by the agencies they represent as well as other decision-making partners. Washington state law gives decisions related to tolling authorization and project funding to the legislature, and the State Transportation Commission sets toll rates and exemptions (Figure 2.1). These statutes place some limits on the project committee's ability to make decisions. However, a tolling initiative backed by a consensus-based stakeholder recommendation is essential for obtaining legislative approval. On the other hand, it is entirely possible that the committees will develop plans that are agreeable to all involved agencies and stakeholders, but that are not acceptable at the legislative level for policy reasons that are beyond the scope of the project itself.

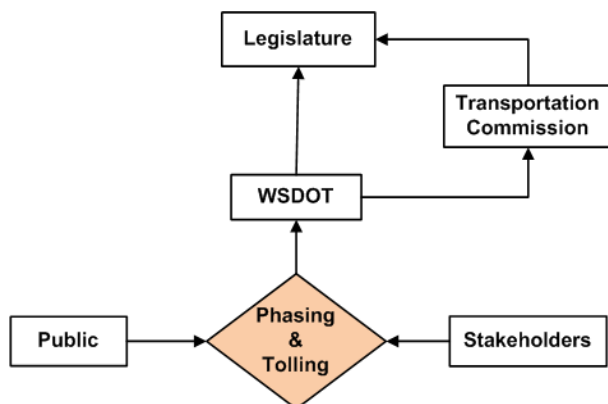


Figure 2.1. Organizational structure for project decisions.

How Did the Two Committees Work?

The expanded steering and executive committees worked very well throughout the study process. The newly added steering committee members representing freight, businesses, and citizens attended all of the meetings of the committee. Both legislators also attended the executive committee meetings and were very active participants in the meeting discussions. The addition of these new committee members has proven to be instrumental in achieving a high level of consensus on the preferred phasing option.

Stakeholder Collaboration Assessment

After every stakeholder meeting, the independent reviewer handed out a one-page, paper survey modeled after the TCAPP partner collaboration surveys. The survey questions used in this project are shown in Table 2.1. The survey was used to ensure that the goals of that meeting had been achieved, and that the progress called for in TCAPP was in fact being achieved. For example, the survey performed after the initial steering committee meeting concentrated on whether the stakeholders understood and were comfortable with the goals and objective of the project, and whether they felt that the process they were participating in was truly collaborative. In contrast, the fourth meeting’s survey concentrated on whether the steering committee members felt that they were obtaining the information they needed to provide the project team with the direction required by the team.

Some questions were asked at several consecutive meetings with the intent to track the steering committee’s attitude over the course of the project. For example, we asked whether the stakeholders felt that they had adequate opportunity to voice their concerns in each of the first four surveys to ensure that as the project progressed, the process did not marginalize specific stakeholders.

Table 2.1. Stakeholder Survey Questions

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The problem I am helping to solve is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I agree with the problem statement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am clear about my role in the project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The SR 509 project goals and objectives are clearly defined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The decision-making process is defined correctly so that it will achieve the goals and objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the decision-making process, the proposed plans, and the purpose of those plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the process I can use to influence the decision-making process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I will have adequate opportunity to voice my concerns and inputs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident my opinions and those of the people I represent will be effectively considered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The data and information presented in this meeting is clear and logically organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to identify, recognize, and accept interests of others and work from common interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The second survey removed a few questions while added the following:

- I have the authority to represent my agency/jurisdiction/group so that decisions I make to support or not support this project represent that group’s position on the project;
- I have access to the information I need to make informed choices;
- I understand the roles of others (other stakeholders, decision makers) in the decision-making process;
- The data and information are current, reliable, valid, and answer the questions I need answered about this project; and
- I understand how the decisions made will affect my special interest.

The third survey added:

- I am willing to compromise on my agency/group’s special interest in order to reach a common ground to move the project forward;
- The team members exhibited willingness to compromise on individual interest in order to reach a common ground to move the project forward;

- The team members advocate for the project; and
- Changing requirements and/or expectations are clearly communicated in a timely manner.

The fourth survey added:

- Tools and technology that the team has available are supportive of decision making;
- There is a high level of buy-in among team members;
- Agencies respond to requests for clarification from the team members; and
- Key decisions are supported by the data and information presented.

The fifth survey added:

- I am comfortable with where the study is going given the available resources.

The survey results were summarized by looking at both the mean score for each question and the number of responses for each question that were “disagree” or “strongly disagree.” The survey responses were examined both for all responses combined and based on a simple organizational split (WSDOT, other agency) of the agencies represented by the respondents. The split by organization was done specifically to determine if issues existed inside or outside of WSDOT. The results were also summarized separately for those individuals participating as members of the committee and those who were attending the meeting as non-committee members. These summaries were possible because “check boxes” that indicated whether respondents were WSDOT employees and if they were members of the committee were added to the paper copies of the survey used, as they are not questions/options within the TCAPP surveys.

The responses from the first survey indicated that the vast majority of participants were comfortable with the process being followed, understood their role in that process, had confidence in their ability to both participate and represent their agency/jurisdiction/organization, felt that their concerns would be heard and considered, and believed that they could thus influence the project’s development. However, in several cases at least one individual, and sometimes more than one, did not agree with the one of the survey statements. The most important of these negative responses was that three individuals (one of whom was on the committee) were not certain that they understood the process by which they could influence the decision-making process.

The project team took these results to mean that the majority of the participants were happy with both the execution of the TCAPP process and the information being provided to the project participants, but that there were at least a few areas where improvements could be made in the project team’s approach. The project team understood that unless these issues were addressed, they would become detrimental to the project’s success. A limitation of our approach,

however, was that we did not know which individuals had concerns/issues and therefore the project team could not communicate directly with those individuals to learn the specifics of their concerns or directly address those concerns.

The first survey was designed to be anonymous in order to encourage honest answers. As noted above, we found that several participants had concerns on a few issues. Unfortunately, because we had made the survey anonymous, the project team did not know who the individuals were and therefore were unable to directly follow up with the individuals to address their specific concerns. The project team modified the later surveys to give the option to those who have issues/concerns to identify themselves on the survey or talk to the project manager directly so the issues can be addressed in a timely manner.

The results of the second and third surveys indicate that the committees agreed with the direction of the project team and the proposed future direction of the work to be performed. At the third steering committee meeting, the project team added a question to gauge the stakeholders' willingness to compromise in reaching consensus if there is disagreement among different jurisdictions. This helped to pinpoint key issues on which stakeholders would not compromise.

The one major addition the project team made to the surveys was the ability to obtain contact information (on a voluntary basis) from those individuals expressing concerns as part of their survey responses. This allowed the project team to contact that individual directly, but informally, in order to address those concerns. For example, if an individual indicated they did not feel that they had an adequate opportunity to voice their concerns, the project lead would talk with that individual the week following the meeting to listen to their concerns and determine how future meetings could be modified to make sure all stakeholders had sufficient chance to be heard.

Overall survey responses were good. Most steering committee members responded to the surveys with the exception of the second survey which was to be administered during a meeting that ran too late. The number of questions asked in each of the surveys and the number of people responding to these surveys are shown in Figure 2.2. Figure 2.3 shows overall satisfaction of the participants. The committee members were generally satisfied with the process throughout the study period. They rated the overall process at or around 4 where ratings ranged from 1 (strongly disagree) to 5 (strongly agree).

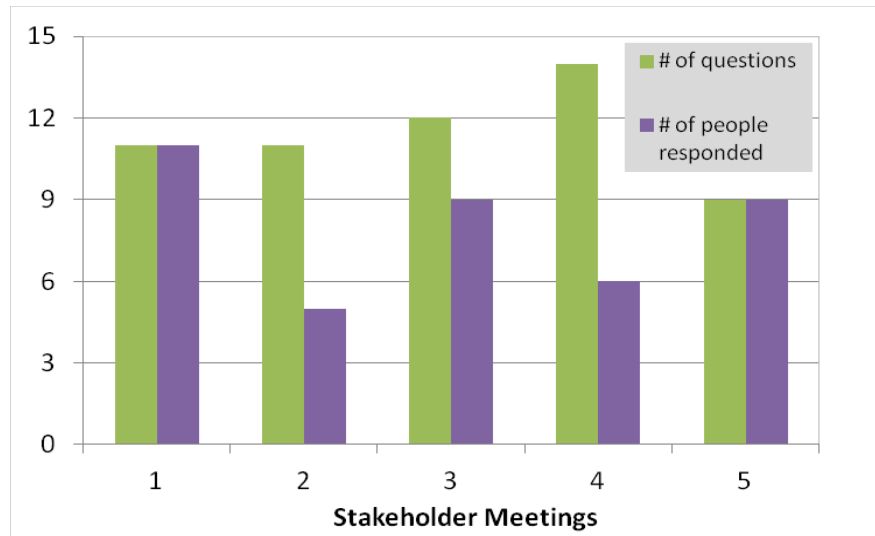


Figure 2.2. Stakeholder survey responses.

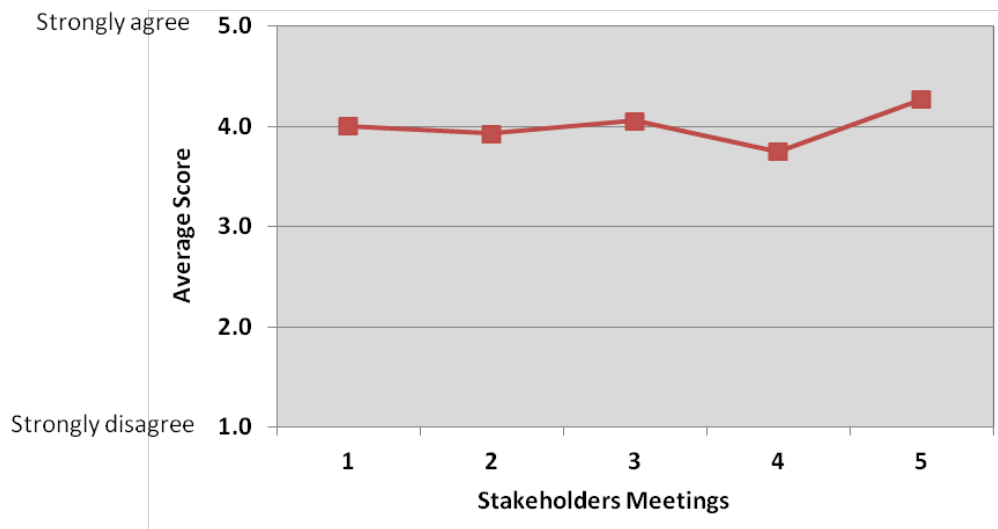


Figure 2.3. Summary results of stakeholder surveys.

By proactively designing the collaboration assessment survey for each meeting, the project team was able to determine whether specific meeting objectives were being accomplished, whether stakeholders had specific concerns that were not being addressed (and that therefore needed additional attention), and whether stakeholders continued to have faith in the process being followed to develop project recommendations. The survey served as an excellent management tool for the project team. It provided information that helped the project team identify project weaknesses before they became critical issues, and ensured the stakeholders that their views were of importance to the project leadership.

Public Outreach – Opinion Survey

Since legislators often make decisions based on public opinion in addition to technical results, the project team thought that it was important to understand public opinion about tolling as well as the overall project. As a result, a statistically valid phone survey of residents in the vicinity of the SR 509 project was conducted in June, 2011. The findings from the opinion survey helped the project team to develop public involvement strategies, and served as key information to be given to the legislative decision makers.

The survey asked about support for the project, travel behavior, and attitudes toward tolling. It also included questions about income to help with addressing environmental justice issues associated with tolling. The survey results indicate substantial public support for the project.

- Approximately two-fifths of those surveyed indicated the SR 509 project was a priority and a similar percentage indicated it was about the same priority as other highway projects.
- Only 17% indicated the project was not a priority.
- The survey results suggest that construction of the SR 509 extension would result in adjustments to travel behavior.
- Almost three out of four respondents indicated they would use the SR 509 extension.
- Only 11% said they would never use the facility. However, almost half of those who would use the SR 509 extension would take another route if tolls on the extension were about \$3.00 during peak hours.
- Overall support for tolls on the facility is limited. More than a third of respondents indicated they were not at all supportive of tolls on the facility.
- Respondents showed a greater willingness to support tolls if the revenue was used exclusively to fund the project and if no tolls were charged after 8:00 p.m.

The survey results provided important information for the project team in our efforts to formulate a public involvement plan. The survey also helped describe what information might need to be effectively delivered to the public to help them make informed decisions.

Key Decision Point Based Project Schedule

This pilot focused on applying and testing the tools and protocols, particularly the KDPs developed under the Corridor Planning Guide (Figure 2.4). Since the SR 509 project's EIS and ROD were completed prior to this effort, some of the KDPs did not apply to this project. For those KDPs that do apply, the project team modified them slightly to better suit the project. Some of the KDPs have been combined into one, whereas some others have been revisited. For example, COR-2 and COR-3 have been refreshed and COR-5 and COR-8 have been combined into one. The project team tested all KDPs in the Guide except COR-1, "approve the scope of

corridor planning process”, which had already been defined in the original EIS. Additionally the team tested and evaluated one KDP from the “Environmental Review/NEPA Merged with Permitting” section of TCAPP. This environmental KDP was applied to test how to reach consensus on scope of further environmental review.

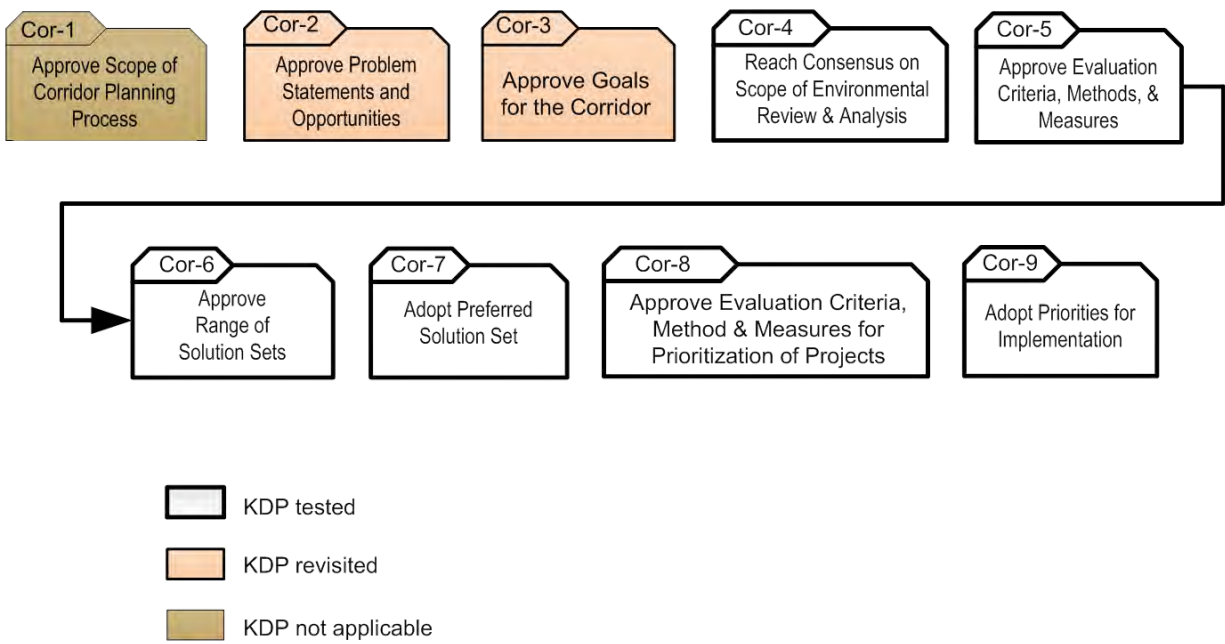


Figure 2.4. The key decision points in the TCAPP Corridor Planning Guide.

At the beginning of the study, the project team developed a schedule (Figure 2.5) for collaborating with the steering committee, the executive committee, and the public by following the corridor planning KDPs depicted under the TCAPP Decision Guide.

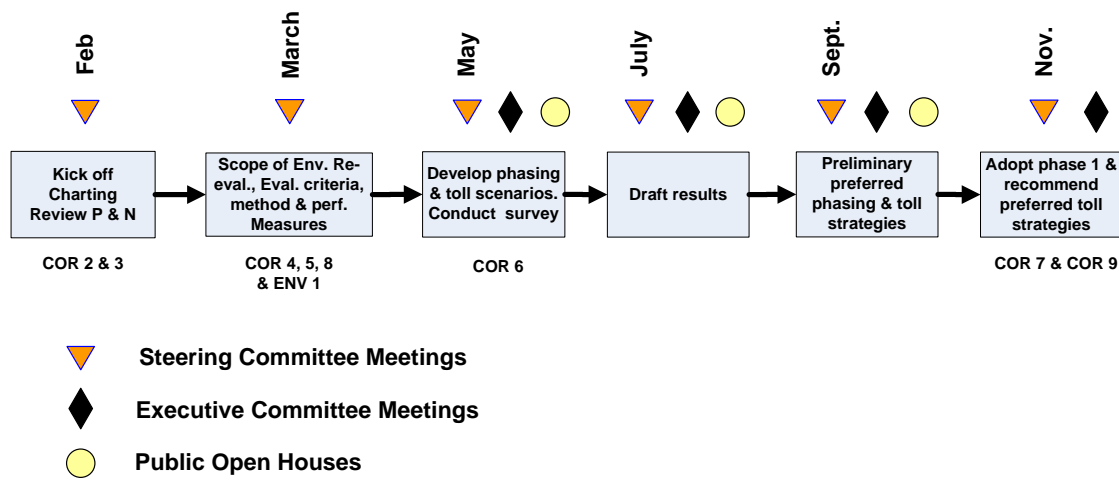


Figure 2.5. SR 509 project collaboration schedule.

The first steering committee meeting was intended to refresh the previously developed project problem statements and opportunities (COR-2), as well as the goals for the corridor (COR-3). The second steering committee meeting was for reaching consensus on environmental review and analysis (COR-4 and ENV-1) and developing evaluation criteria, methodology and performance measures (COR-5 and COR-8). The third steering committee meeting followed by the first executive committee meeting was to develop project phasing and tolling options (COR-6) to share with the public at the first public open house. The fourth steering committee meeting and the second executive committee meeting respectively were intended for review and approval of the draft results prior to sharing the results at the second public open house. At the fifth steering committee meeting and the third executive committee meeting, members would review/approve the preliminary preferred phasing and tolling strategies to be shared at the third public open house. The last steering committee meeting and the last executive committee meeting, respectively were designed to review and adopt the Phase 1 plan and recommend a preferred toll strategy (COR-8 and COR-9).

This collaboration plan evolved as it progressed through various decision points. The first major change was caused by the fact that the project did not receive funding from the legislature to perform the proposed financial analysis, hold public open houses, and refine the previously performed environmental work. In response, the project team modified the collaboration plan to adapt to the funding reality. The project team conducted a public opinion survey instead of public open houses. The financial and environmental information was not developed due to the lack of funding for those analyses, therefore the need for committee meetings changed. Consequently, by following the TCAPP philosophy of “right information at the right time” the project team reduced the number of steering committee meetings to five and executive committee meetings to two. The project team added a meeting with the transportation commission to inform them about the Phase 1 scoping recommendation.

Web Content

This section provides general comments and suggestions on the technical issues of the TCAPP website based on the experience of the project team.

Downloadable Web Contents

The TCAPP website contains a large amount of information organized by subject area. However, the initial version of the TCAPP tool did not allow downloading directly usable forms and contents without reformatting. There should be an easier way to download any form (or portion of that form) for electronic distribution. For example, downloading practitioner and stakeholder survey questionnaires under the Assessment tab would save time required to redesign/retype those forms.

On the computer screen, the initial version of TCAPP’s information was reader friendly, but in a meeting environment, most participants did not have access to a computer. While the information on the website is readable, that is not the case when the information is printed from the website. Printing the information was essential since most meeting participants did not have access to a computer during the meeting. The current version of TCAPP has included print options for some of the forms, which is a great improvement.

Clarity of the Information

It is easy to find information on the TCAPP website because of its stratified structure. For example, the policy questions under each decision point are very clearly stated and provide insights into how to refine, address, and include various issues in the study process. This is very helpful.

Access to TCAPP Modules

The first view of the earlier TCAPP Decision Guide displayed a file folder version of the Guide (Figure 2.6), which helped to visualize the transportation decision-making process by showing the 42 key decisions that constitute the Decision Guide. The folders in each key decision contained information on the purpose and outcomes of the decision; the roles of each partner; the questions that policy makers must address in order to make decisions; and the data, tools, and technology that may be used to support the decision. These were very good features. It would be even more helpful if hyperlinks are provided so the more detailed information can be accessed through the click of a mouse.

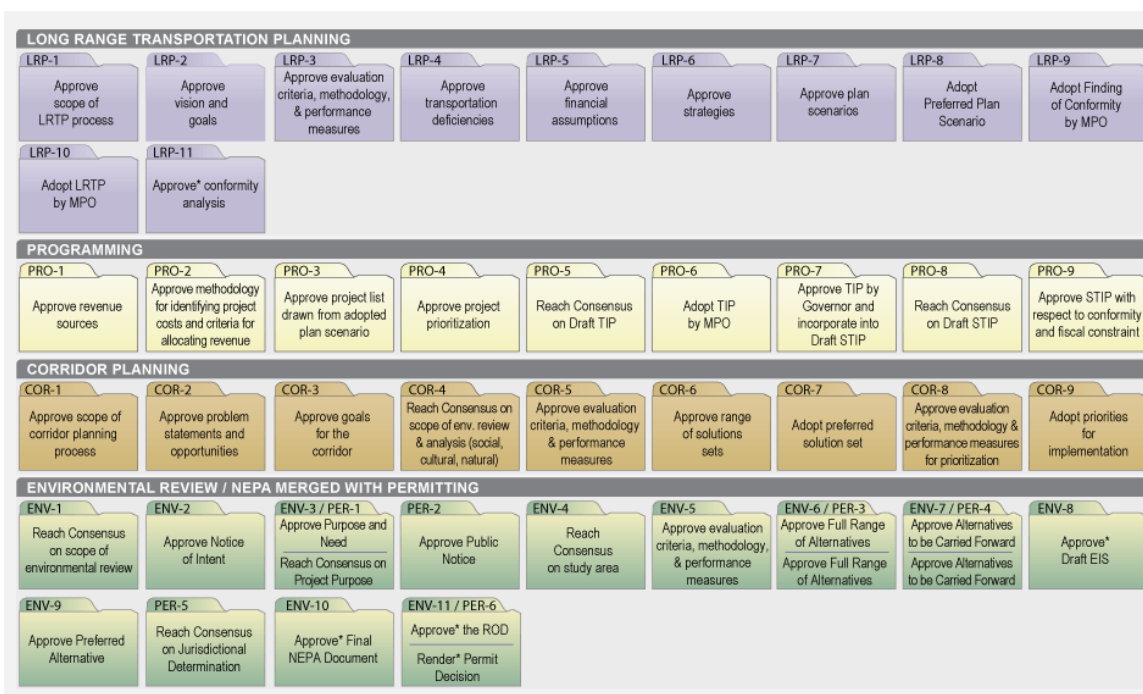


Figure 2.6. TCAPP key decision points (does not allow drill down or access).

The second view of the Decision Guide, which appeared throughout the site (see Figure 2.7), provided access to each of the 42 key decisions and the information that supports them. Actually, the views in Figures 2.6 and 2.7 could be combined into one that could look like Figure 2.6, but allow clicking on any folder and accessing information contained in it.

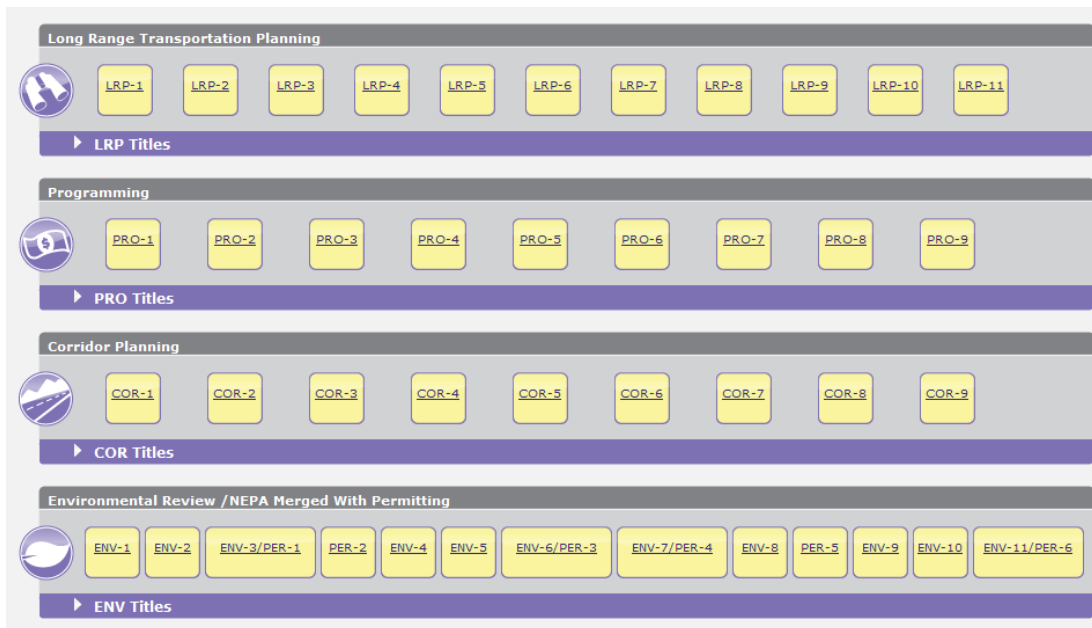


Figure 2.7. TCAPP key decision points (allows access).

The current version of website appears to have resolved this issue. The project team would like to thank the SHRP 2 Team for being so responsive to our early project recommendations. This change makes it easier to access TCAPP information.

Missing Information

The project team found that some of the links in the initial TCAPP website did not have information or did not connect properly to the desired web pages. A few examples are provided below.

The reference link “Leading and Facilitating Discussions” on the Decision-Making Authority page (as shown in Figure 2.8) of the Collaboration Assessment section did not seem to work properly. When clicking the link, users received an error message stating that the webpage cannot be found.

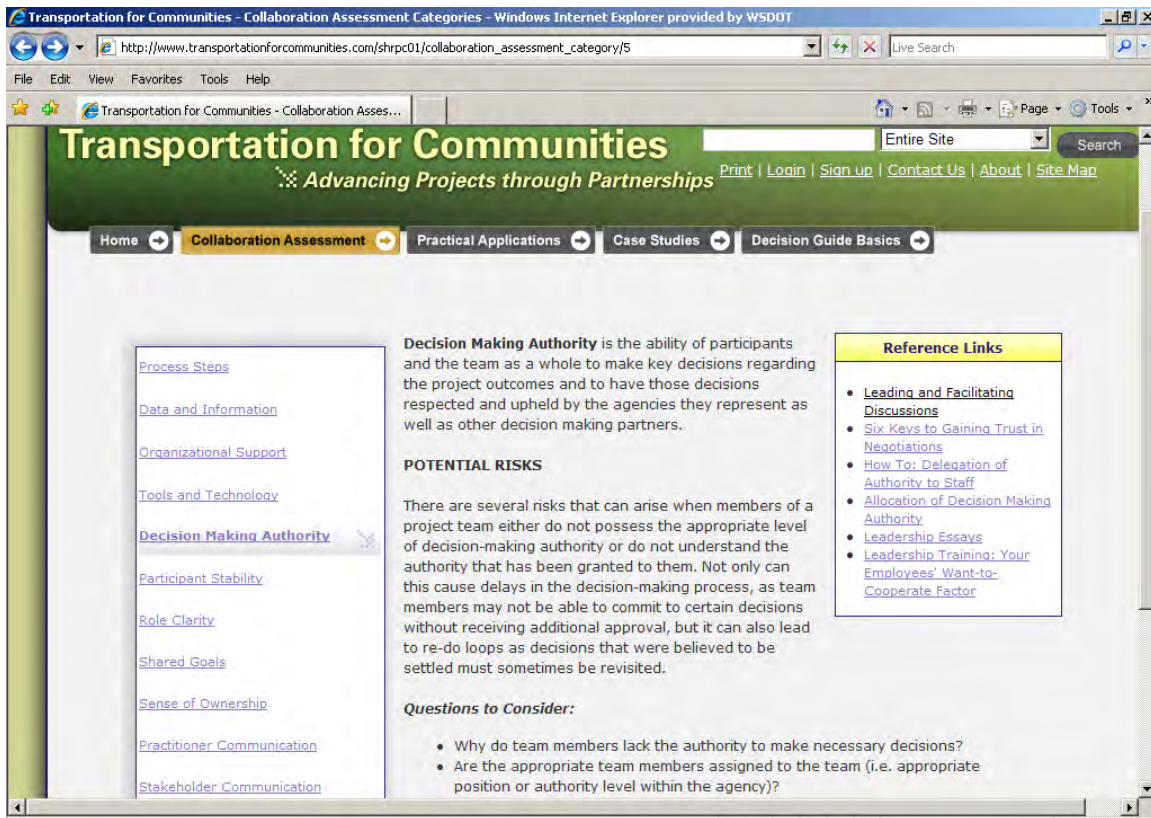


Figure 2.8. Link to Decision-Making Authority.

The reference links on the Decision-Making Authority page provided good information (see Figure 2.9). The reference provides six keys to gaining trust in negotiations provided very good suggestions for effective negotiations. All other links provided useful information as well. However, these links took users to websites outside the TCAPP website, which may be a problem for many public agency users since agencies often have URL filters that block some outside links. For example, WSDOT does not allow visiting the link “Leadership Essays” (see Figure 2.10).

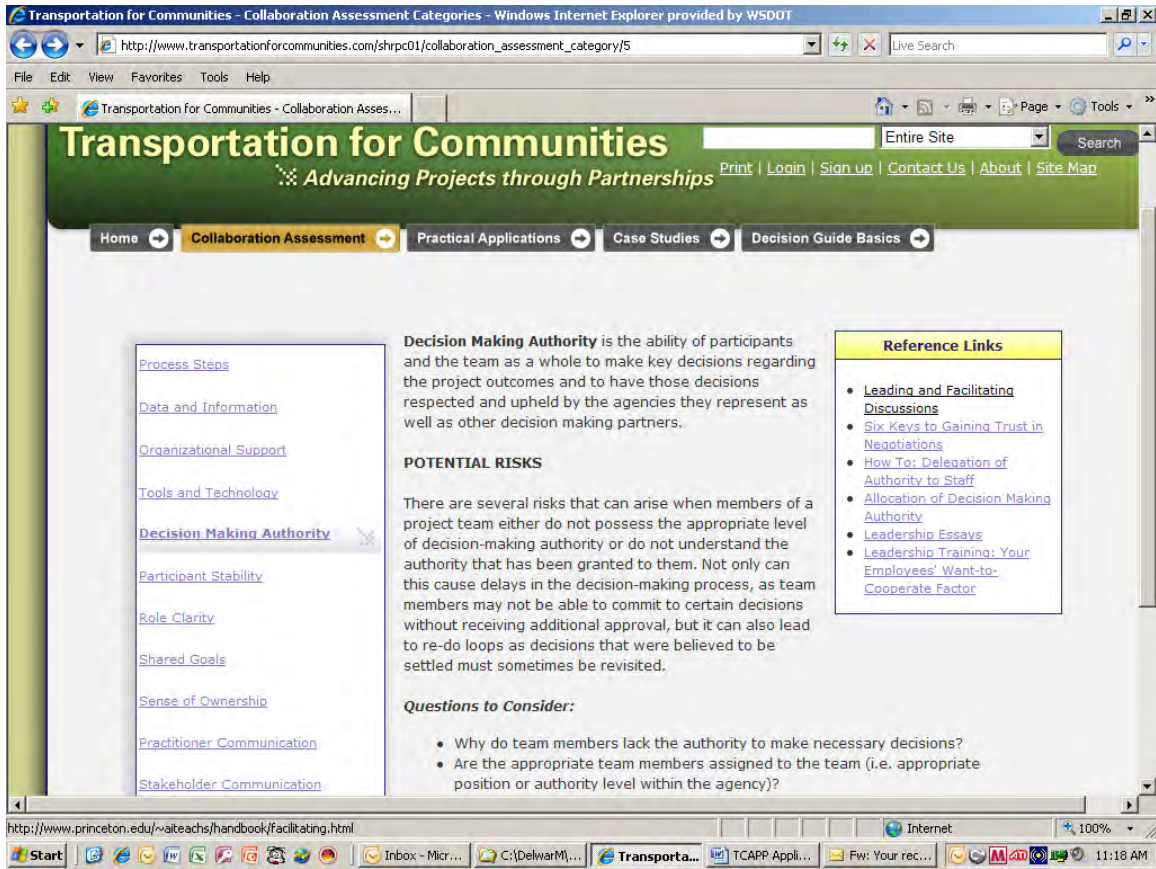


Figure 2.9. Link to Decision-Making Authority.

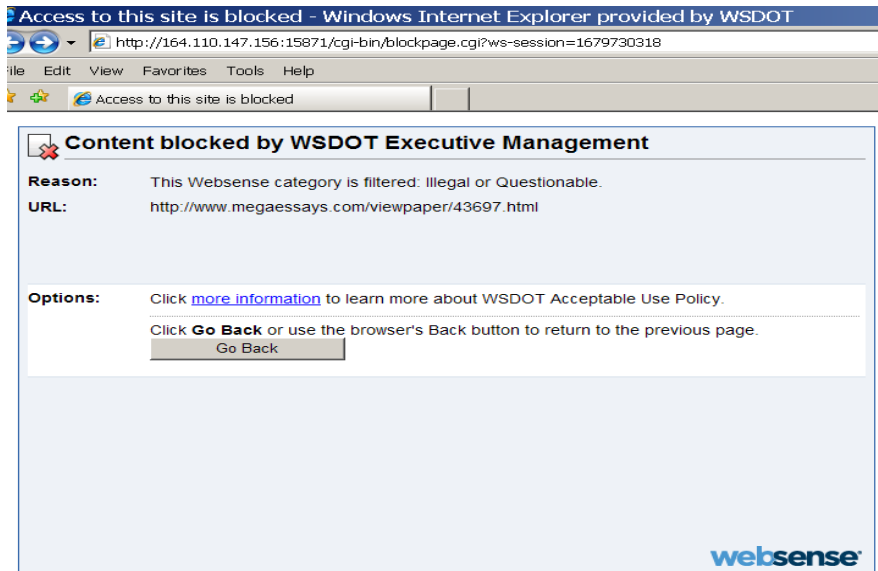


Figure 2.10. Message when clicking the “Leadership Essays” link.

The case studies posted under the Library tab of the TCAPP tool showed if there were any case studies for a specific subject area (see Figure 2.11). For a few subject areas (like Performance Measures), there were no case studies listed. In addition, some case studies were only presented as brief summaries. For example, there were ten case studies listed under Land Use and Economic Impacts of Transportation Projects, but each of them included only a brief summary of the study. The project team suggests including more details on what information was developed and how impacts were assessed.



Figure 2.11. Case Studies in TCAPP.

The link for economic development measures under Performance Measures under Special Topics of COR-6 listed four case studies. If you clicked the link to the first case study, it showed a brief summary with a link to the detailed document, which was located on an outside server. When this link was clicked, an error message (“file not found”) appeared as shown in Figure 2.12. The links to the second and third case studies also popped up the same message. In order to avoid such error messages, the project team suggests incorporating the contents of these links directly into the TCAPP website and not relying on outside websites to host the content.

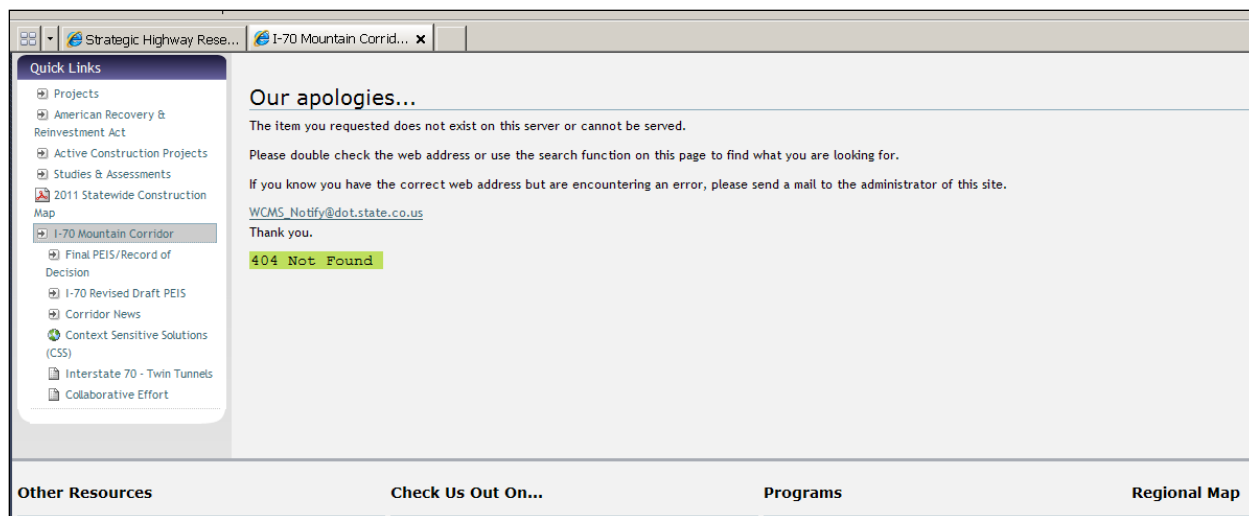


Figure 2.12. Messages when clicking the links for case studies.

Opportunities for Improvements

Some information in the initial TCAPP website was not necessarily valid in all cases. For example, the project partner’s roles under Basics in the Decision Guide Basics module of the TCAPP corridor planning tool were not valid for the SR 509 project. Specifically, the tool indicates that the MPO is the decision maker and the state DOT is the advisor in urban areas. This may be applicable to corridor studies in some states, or for projects that focus on local arterials or studies led by MPOs. However, in Washington, WSDOT is the owner and operator of the state highways. Hence WSDOT is often the decision maker of the studies that focus on state highways.

In this case, WSDOT, with collaboration with its stakeholders, is the decision maker for technical issues such as alternatives development, and selection of analysis tools, methodologies, and alternatives for projects on state highways. The state legislature is the ultimate decision-making authority for project funding, tolling decisions, etc. The project team recommends editing TCAPP so that the decision makers or advisors are not presumed. Furthermore, the project team suggests the webpages be redesigned to make them more useful by:

- Enabling printing any page without changing formats and without using other tools such as screen capture (the current tool allows printing of some forms such as partner and stakeholder survey questions);
- Allowing downloading any form in an electronic format for distribution and use; and
- Incorporating the contents of all links into the TCAPP website.

An example of how the Decision Guide basic information could be furnished for printing for handouts is shown in Figure 2.13.

Decision Guide Basics

Key Decision Name: COR-1
Key Decision Title: Approve Scope of Corridor Planning Process

Description: This is a crucial first step of corridor planning. It involves a process of assessing what data, decisions and relationships need to be considered, acquired or made throughout corridor planning. The corridor planning scope is informed by long range transportation planning and informs environmental review. This is a key point to form or acknowledge existing relationships with partners in transportation decision-making and other decision-making processes.

Purpose: To initiate a corridor planning process, either in a rural or metropolitan area. Issues considered should inclusive of transportation, environment, and community in order to agree on a comprehensive scope and overall direction of the process.

Outcome: A clearly defined scope to guide the corridor planning process.

Partner Roles

MPO:	Decision Maker (urban), No Role (rural)
FHWA:	Advisor
State DOT:	Advisor (urban), Decision Maker (rural)
Resource Agency:	Advisor

Key Decision Name: COR-2
Key Decision Title: Approve Problem Statements and Opportunities

Description: The full range of deficiencies and opportunities within a corridor are defined at this key decision. Deficiencies and opportunities extend beyond transportation, for this reason, the key decision is integrated with other planning processes such as land use planning and natural environment planning. Input from stakeholders also informs the key decision. The problem statements and opportunities resulting from this key decision are informed by the transportation deficiencies identified in long range planning and inform the purpose and need during environmental review. There is information developed in prior key decisions that informs this step.

Purpose: To develop a common understanding of deficiencies as well as opportunities that exist within the corridor, including transportation, community, and environment.

Outcome: Agreement on the deficiencies and potential opportunities that will be considered during the corridor planning process.

Partner Roles

MPO:	Decision Maker (urban), No Role (rural)
FHWA:	Observer
State DOT:	Advisor (urban), Decision Maker (rural)
Resource Agency:	Advisor

Figure 2.13. The Decision Guide Basics information as handouts.

COR-2: Approve Problem Statements and Opportunities

Since the SR 509 project already had problem statements and opportunities approved as part of the previously conducted EIS, the project team refreshed the original statements and along the way evaluated the functionality of the TCAPP tool. A brief description of that functionality assessment follows.

What Did the Project Team Use?

The project team reviewed the Decision-Making Questions in the COR-2 module of TCAPP. This module provides a good sample of questions covering a wide range of issues related to policy and stakeholders' interests. Most of these questions seem to be appropriate for corridor studies.

The team also reviewed the corridor planning protocol under the Integration tab in COR-2 that indicates deficiencies and opportunities of transportation projects extend beyond transportation. Since this project already has a completed EIS, the problem statements and opportunities are already integrated with other planning processes such as land use, natural environment, and human environment planning as well as safety and security.

How Did the TCAPP Tool Work?

The TCAPP tool helped to cross-check if major items such as land use, natural environment, human environment planning, and safety/security were included in the problem statements and opportunities statements.

One TCAPP section is missing information: There are no questions listed under Technical Questions (only related to Cumulative Effects Assessment and Alternatives). No case study examples were found under the COR-2 module of TCAPP.

Recommendations for Improvements

It would be helpful if TCAPP included some case studies in full length, or even significant sections of those full reports showing problem statements and opportunities. The project team recommends including air quality and greenhouse gas emissions information in the COR-2 module of TCAPP. It may also be helpful to edit the tool so that the roles of decision maker and advisor can be assigned by users so that these roles are consistent with their local practice.

COR-3: Approve Goals for the Corridor

During the EIS process of the SR 509 project, the executive and steering committees collaborated to identify and agree on the following project goals:

- Support local and regional comprehensive planning and development;
- Maintain the efficiency of existing roadways in the immediate vicinity of the airport terminals and parking garage;
- Relieve local congestion;
- Serve harbor freight (port) operations;
- Improve regional mobility and safety;
- Be compatible with connections to high capacity transit (HCT);
- Develop broad public and political support for the preferred alternative;

- Design the project in an environmentally responsible manner; and
- Provide cost-effective alternatives and solutions.

What Did the Project Team Use?

The project team reviewed COR-3 of the TCAPP to identify applicable stakeholder collaboration techniques to refresh the original project purpose and needs statement to bring all stakeholders to a common ground for decision making.

The project team presented the original project goals and purpose and need statement as documented in the EIS. The steering committee then discussed if anything was outdated and needed to be revised. The committee believed that all the major issues identified in the goals and purpose and need statement were still valid. Although some improvements could be made, the steering committee concluded any changes would be trivial and hence kept the goals and purpose and need statement unchanged.

COR-4: Reach Consensus on Environmental Review and Analysis

Environmental elements that could potentially be affected by the SR 509 project include air quality, noise, geology and soils, water quality, wetlands, vegetation, wildlife, fish, threatened and endangered species, social quality of life, and visual aesthetics. The project team coordinated with the resource agencies and WSDOT environmental offices, and came up with a list of environmental issues for re-evaluation including:

- Air quality;
- Greenhouse gas emissions;
- Social/environmental justice; and
- Stormwater.

This was presented to the steering committee for their review, input, and approval. The project team anticipated the following challenges in accomplishing this task:

- The public and the legislature may not be ready to embrace the idea of tolling the corridor;
- Local jurisdictions may oppose the phased approach to project implementation fearing that the project scope beyond Phase 1 may never be implemented; and
- Environmental justice and geographic equity issues associated with tolling could create resistance to the project.

What Did the Project Team Use?

Since the EIS and ROD were already complete, and the team was exploring a phased approach to project implementation, it needed only re-evaluation of a few environmental issues instead of going through the entire list of environmental issues. In order to provide a clear linkage to the

environmental review process, the project team reviewed the information in TCAPP procedures with regard to the acceptable level of detail for the corridor study analysis. This was done to determine the data, information, and level of analysis needed for the environmental re-evaluation, which includes re-evaluation of the social, cultural, and natural environment.

How Did the TCAPP Tool Work?

The policy questions documented in the Decision-Making Questions helped the project team consider whether the scope of analysis was sufficiently comprehensive to recognize and evaluate impacts in the study corridor. The project team, in coordination with environmental resource agencies, selected air quality and greenhouse gas emissions among other things for re-evaluation. This KDP shows air quality as an item to integrate into the process, but does not provide any information regarding what air quality issues to consider, nor does it provide information on greenhouse gas emissions. This KDP does not provide any guidance as to how to select a subset of environmental items for re-evaluation.

Recommendations for Improvements

It would be helpful if TCAPP included some case studies containing environmental issues and problems, and how consensus was reached when dealing with those issues. Providing information regarding air quality and greenhouse gas emissions as well as guidance on how to select a subset of environmental items for re-evaluation would also be helpful.

COR-5&8: Approve Evaluation Criteria, Methodologies, and Performance Measures

The project team conducted a brainstorming session to obtain steering committee input on potential criteria for use in the evaluation of phasing and tolling options. The committee helped develop list of draft evaluation criteria containing 18 items. The project team then refined and regrouped the criteria, and enhanced the list by adding performance measures, data needs and sources, analysis methodologies, and application details. This list of evaluation criteria, methodologies, and performance measures was presented to the steering committee for their review and approval.

Due to the unique situation of this project, the project team combined criteria for options evaluation and component prioritization to address phasing and tolling issues concurrently.

What Did the Project Team Use?

The project team reviewed the information in the performance measures section under the applications tab of the tool. The team also reviewed TCAPP's basic information, process integration, decision-making questions, and the case study examples pertaining to evaluation criteria, methodology, and performance measures. The performance measure checklist in TCAPP allows selection of any combination of measures and makes it easier to design a customized checklist for a project. Drawing from the checklist in the TCAPP website and other resources, the project team designed a draft set of evaluation criteria, methodologies, and performance measures for the steering committee's review and comments. The steering committee reviewed and refined the performance measures and forwarded them to the executive committee for adoption. The executive committee endorsed the evaluation criteria unanimously. These adopted performance measures are shown in Table 2.2.

Table 2.2. Performance Measures for the SR 509 Project

Criteria	Measure	Data/Methodology	Applications	
			Initial Screening	Alternative Analysis
Consistency with local, regional, and state plans and standards	Yes, or No. If no, would the plan need to be amended for the SR 509 project alternative to move forward?	Stakeholders input	Yes/No	Yes/No
Return on investment	Value of mobility benefits relative to project cost (estimated for 30 years)	Benefit-cost ratio		B/C
Funding gap	Difference between toll revenue and total costs	Self explanatory		Q(\$)
Subarea	% Change in traffic volume on arterials in the immediate vicinity	Regional model		q
Daily VMT change	Sub-region/subarea	Regional model		Q
Support economic development	Travel time between economic/industrial centers	Stakeholders input	q	
Person Throughput/Capacity	Persons or vehicles/hour served on the Extension and I-5	Model		Q
Corridor travel time change (GP, HOV/HOT, transit)	Average travel time between selected points in the AM/PM peak	Regional model		Q
Air quality/GHG emissions	Change in particulates, Carbon Monoxide and Nitrogen Oxides emissions	MOVES 2010		Q
Social/environmental justice	Households affected by low income and minority populations, including tribes	Census data, federal, state, and local organizations		Q
Water quality/flood control	Changes in treatment/quantity assumptions for stormwater, effects to groundwater	Highway Runoff Manual		q
Ecosystems	Change in effects to streams, wetlands, surface water, habitat, floodplains, etc.	Field work, data collection		q
Cultural resources - archaeology and historic structures	Change in ground disturbance or effects to historic buildings	Field work, data collection		q
Energy	Change in energy consumption	information analysis and design		q
Cumulative/indirect effects	Changes in cumulative/indirect effects	information analysis and design		q
ESA	Change in effects to listed species	information analysis and design		q
Section 4(f)	Change in effects to 4(f) protected resources (parks, historic structures, etc.)	information analysis and design		q

Note:

Q = Quantitative

Q(\$)= Quantitative that can be measured in dollar value

B/C = Benefit-cost ratio

q = Qualitative or quantitative but not expected to be significantly different across alternatives

Analysis of return on investment (Table 2.2) includes a number of performance measures. These measures are:

- Daily travel time change;
- Change in freight travel time;
- Project cost;
- Cost of toll collection;
- Forward compatibility of investments; and
- Noise impact.

The project team grouped the adopted performance measures into two major types – area wide and corridor specific. Figures 2.14 and 2.15 show the study area and corridors selected for this purpose.

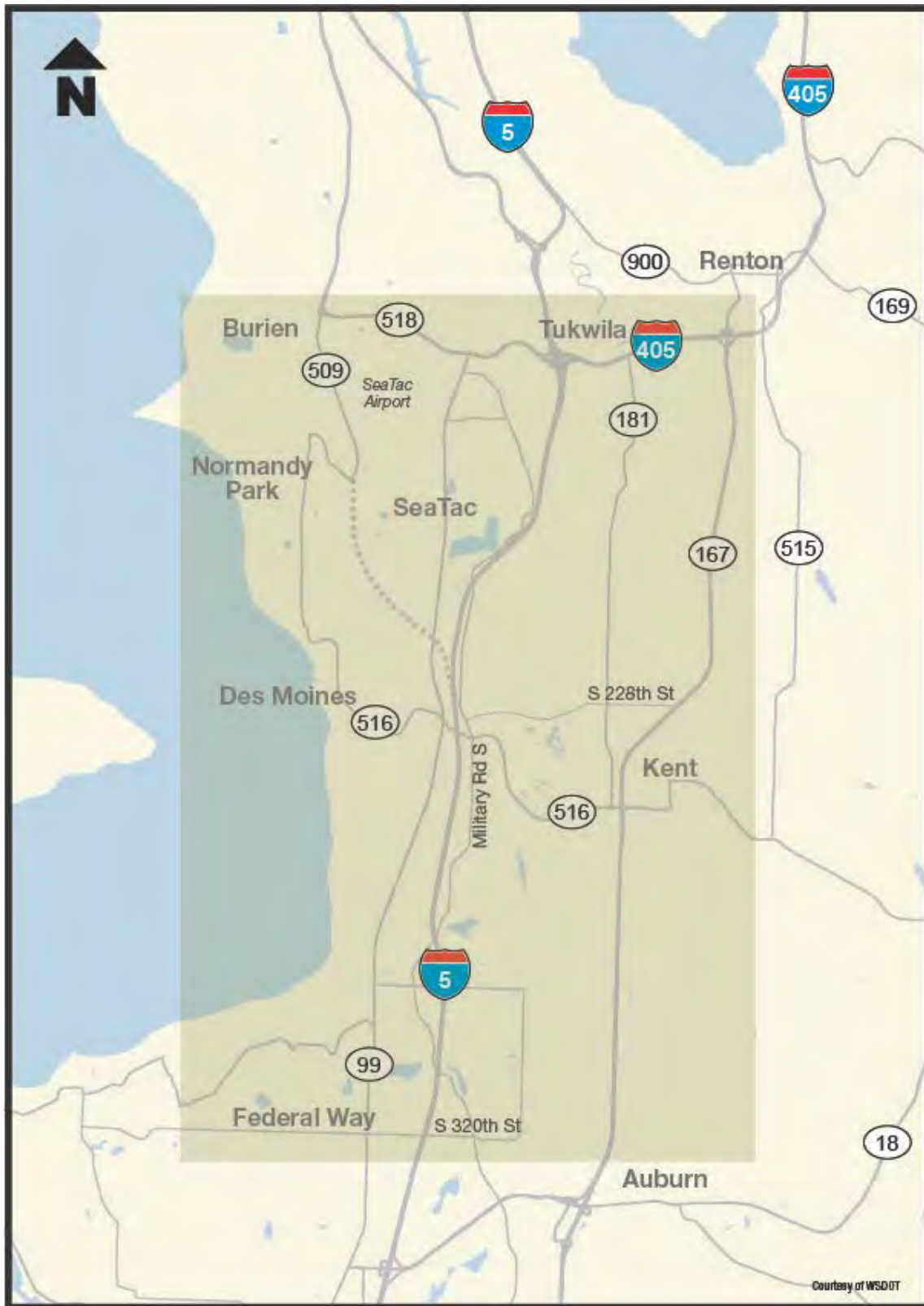


Figure 2.14. SR 509 study area.



Figure 2.15. Selected corridors for performance measures.

How Did the TCAPP Tool Work?

The TCAPP tool provides performance measures that cover areas such as transportation, environment, economy, community and project cost. The project team found these performance measures to be very helpful.

The TCAPP corridor planning protocol under the Integration tab in COR-5 suggests integrating other planning processes such as land use, natural environment, and human environment planning as well as safety/security into the corridor plan. Although the site listed air quality, capital improvement, and safety and security to be included in the decision-making process, it does not provide a description of how to effectively incorporate these items, so it is not clear what to include and how to include it in the process. Furthermore, the tool does not mention greenhouse gas emissions at all even though transportation agencies often consider the impacts of a project on greenhouse gas emissions as one of the criteria for project decision making or at least for initial screening.

The checklist in the TCAPP module COR-5 provides the user with options to choose a description of each measure. If the description option is checked, it presents a detailed description of each measure selected. In addition, it provides details on how to use the measure, data requirements, and the analysis scale appropriate for the measure.

The Basics tab under both COR-5 and COR-8 shows the MPO as the decision maker and the state DOT as an advisor in urban areas. For this study, the decision-making framework is different than the one presented in the TCAPP tool. As discussed earlier in this report, the MPO is only one of many stakeholders.

The Decision-Making Questions tab under COR-8 has only three policy questions and lacks in-depth discussion. There is no case study provided under this key decision point. From the SR 509 project standpoint, the cost-benefit ratio and the amount of staging cost should be among the important factors considered in project components prioritization.

Although TCAPP provides performance measures covering broad areas such as transportation, environment, economy, community, and project cost, the tool does not provide any suggestion or discussion about how to combine these performance measures to evaluate and prioritize the project alternatives. In absence of any guidance from TCAPP, the project team focused on objective and quantifiable factors such as monetizable benefits, cost, and potential toll revenue. The team struggled to determine how to handle non-quantifiable factors. In the end, the team resolved to weight very different criteria, with 40% assigned to return on investment (B/C ratio), 40% assigned to the funding gap that needed to be addressed, and 20% to other non-monetizable or not-easily-monetizable factors including local street impacts, changes in daily vehicle miles traveled, and support for economic development.

Recommendations for Improvements

The process of developing evaluation criteria and performance measures could be easier if the TCAPP website included:

- Sample sets of criteria, methodologies and performance measures. This would be even more helpful if sample sets of criteria/measures are provided to match different project types such as existing roadway improvements, constructing new links/roads, etc.
- Guidance on combining monetizable and non-monetizable performance measures to evaluate and prioritize the project alternatives.

The project team suggests revisiting and modifying the COR-5 and COR-8 modules of TCAPP to show how the decision makers can vary for different studies, so that different entities are shown leading projects on different types of roadways.

COR-6: Approve Range of Solution Sets

What Did the Project Team Use?

TCAPP suggests developing “*a group of compatible and complimentary solutions that are feasible to implement and wholly address the corridor's problems and opportunities.*” Based on the TCAPP philosophy, the project team developed a solution set with input from stakeholders while keeping in mind the corridor goals as defined in the final EIS.

How Did the TCAPP Tool Work?

Using the TCAPP collaborative approach, the project team worked with the stakeholders to discuss a variety of phasing options, and developed two project phasing options to implement the SR 509 extension project as defined in the final EIS. The executive committee endorsed the two options recommended by the steering committee and added a hybrid option. The process worked well. The team has no recommended changes.

COR-7&9: Adopt Preferred Solution Set and Priorities for Implementation

What Did the Project Team Use?

At this key decision point, a preferred solution set was recommended by the steering committee and adopted by the executive committee. The selection of this solution set was based on an evaluation using the evaluation criteria (Table 2.2), methods, and measures approved earlier by the steering and executive committees. Essential information developed under COR-5 relating to evaluation criteria, methods, and measures, and under COR-6 providing the full range of solution

sets for the corridor was used to inform this key decision. This key decision was a shared decision by project partners and stakeholders.

How Did the TCAPP Tool Work?

Due to lack of sufficient budget within this study to perform the full analysis of toll options and outcomes, the project team focused on only key performance measures approved by the stakeholders (Table 2.2) including:

- Consistency with plans and standards;
- Daily travel time changes in the study area;
- Truck (medium and heavy) volume;
- Change in freight travel time between selected points;
- Project cost;
- Cost of the toll collection system;
- Forward compatibility of investments;
- Cost of required noise walls;
- Toll revenue and the funding gap between total project cost and expected available revenues;
- Percent change in traffic volume on arterials;
- Change of daily vehicle miles traveled in the study area;
- Roadway utilization (percent V/C ratio); and
- Support economic development (travel time between economic/industrial centers).

Since most of these performance measures were found to be comparable between alternatives, the stakeholder group focused primarily on the local economic development and job growth potential of alternatives to choose a preferred option. The executive committee unanimously endorsed the steering committee recommendation of the preferred Phase 1 of the project.

Recommendations for Improvements

The project team suggests that TCAPP include in-depth discussion, perhaps through case studies, on project component prioritization. The project team is particularly interested in methodologies on how to combine monetizable and non-monetizable performance measures for prioritization purposes.

ENV-1: Reach Consensus Scope of Environmental Review

What Did the Project Team Use?

Since the final EIS was prepared eight years ago, many of the environmental aspects needed to be revisited to ensure the original assessments and conclusions are still valid and, if needed, identify additional impacts and mitigation strategies. Additionally, the introduction of tolling is expected to bring about new impacts such as environmental justice issues that were not part of the current Record of Decision. To address these issues, the project team studied the TCAPP procedures to determine the data, information, and level of analysis needed for the environmental re-evaluation, which includes the social, cultural, and natural environment.

Using the collaboration protocol of TCAPP, the project team coordinated with the resource agencies and WSDOT environmental services to develop a list of environmental issues for re-evaluation. Since the full impact of the project has been assessed in the EIS process, the team expects that the impact from Phase 1, which will be a subset of the full project, will be less than the impacts identified in the EIS, except for issues related to tolling. Accordingly, the team decided to focus on the potential impacts associated with tolling including:

- Traffic impacts (especially due to diversion away from the tolled roadways) ;
- Air quality;
- Greenhouse gas emissions;
- Social/environmental justice; and
- Stormwater.

At the time the project work plan was prepared, the project team expected additional funding would be available to conduct a more detailed study, including an environmental re-evaluation. Since that expectation did not materialize, the team decided to postpone most of the environmental re-evaluation work to a future time when more resources are available. The team believes this is a sensible decision made not only from a budget perspective, but also from a TCAPP perspective. The TCAPP philosophy is of providing the right information at the right time, and since there is no funding to implement the project at the moment, conducting an environmental re-evaluation now may prove to be ill-timed should funding to implement Phase 1 not become available before the environmental re-evaluation expires.

How Did the TCAPP Tool Work?

The TCAPP tool helped the project team in a number of ways. The team used the decision-making questions in TCAPP as a checklist to work through various issues and situations. For example, the policy questions helped the project team to consider direct and indirect impacts in selecting the study boundary.

TCAPP includes one case study in this module. When clicked, the case study takes a user directly to the scope of the environmental review section. This saves time by not making the users read the entire document.

In addition, the option to Post a Comment in the earlier TCAPP tool was useful in communicating ideas and suggestions among professionals. It allowed posting text messages just by clicking the appropriate button as shown in Figure 2.16 below.

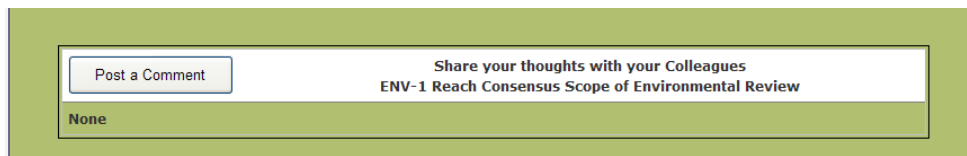


Figure 2.16. Easy communication between professionals.

Recommendations for Improvements

Although this module of TCAPP is very well organized and useful, there are still opportunities for minor improvements to a few sections. For example, the key decision title reads “Reach Consensus Scope of Environmental Review” as shown in Figure 2.17. The project team suggests changing this title to read “Reach Consensus on the Scope of the Environmental Review.”

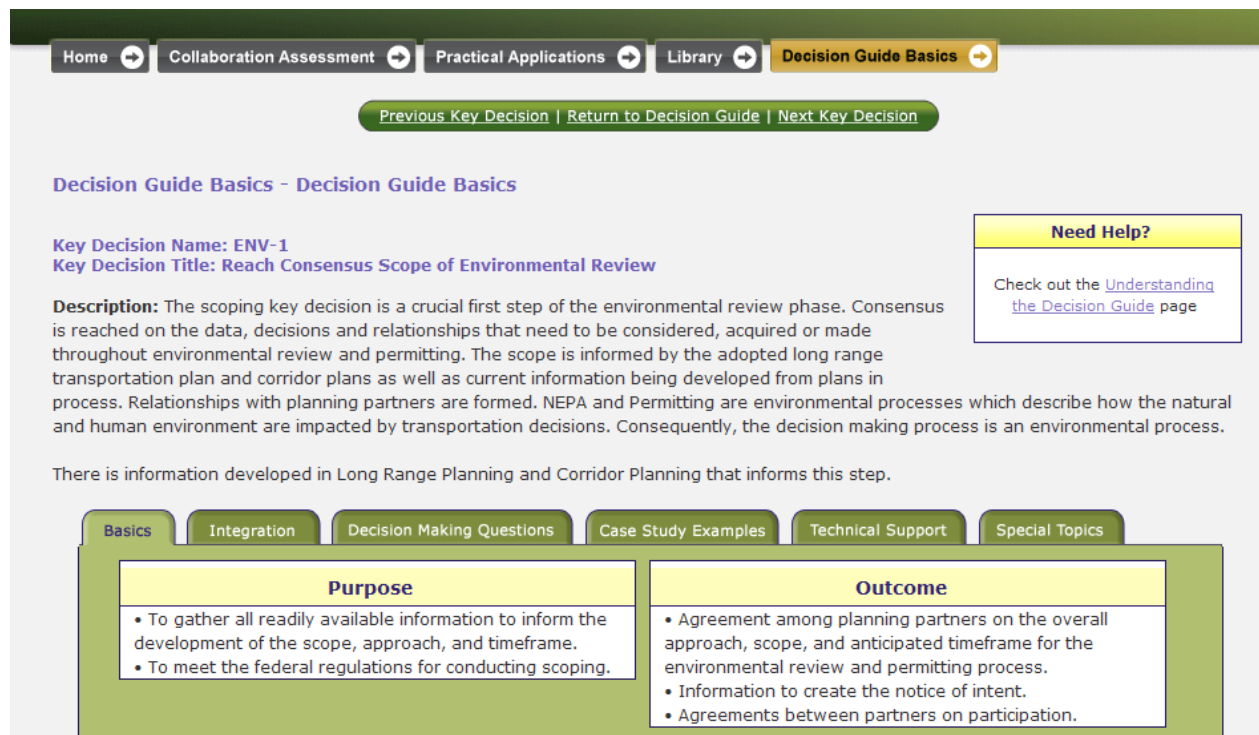


Figure 2.17. Key Decision Point ENV-1.

Some of the information in the TCAPP website does not seem to be applicable to all situations. For example, the tool identifies FHWA as the decision maker while reaching

consensus on the scope of the environmental review under the KDP of ENV-1 (Figure 2.18). This may be applicable to projects that involve interstate highways, federal funding, or 4F issues. However, for state and locally funded projects which are not on interstate highways and do not involve 4F issues, the state environmental agency and relevant federal regulation/permit agencies are the key decision makers. The project team recommends that TCAPP be modified to cover these different situations. Additionally, it would be helpful if TCAPP included a few more case studies on this subject, preferably led by different entities as noted above.

Key Decision Name: ENV-1
Key Decision Title: Reach Consensus Scope of Environmental Review

Description: The scoping key decision is a crucial first step of the environmental review phase. Consensus is reached on the data, decisions and relationships that need to be considered, acquired or made throughout environmental review and permitting. The scope is informed by the adopted long range transportation plan and corridor plans as well as current information being developed from plans in process. Relationships with planning partners are formed. NEPA and Permitting are environmental processes which describe how the natural and human environment are impacted by transportation decisions. Consequently, the decision making process is an environmental process.

There is information developed in Long Range Planning and Corridor Planning that informs this step.

Need Help?

Check out the [Understanding the Decision Guide](#) page

Basics
Integration
Decision Making Questions
Case Study Examples
Technical Support
Special Topics

Purpose	Outcome
<ul style="list-style-type: none"> To gather all readily available information to inform the development of the scope, approach, and timeframe. To meet the federal regulations for conducting scoping. 	<ul style="list-style-type: none"> Agreement among planning partners on the overall approach, scope, and anticipated timeframe for the environmental review and permitting process. Information to create the notice of intent. Agreements between partners on participation.
Partner Roles	
MPO	Advisor
FHWA	Decision Maker
State DOT	Decision Maker
Resource Agency	Decision Maker

Figure 2.18. Decision makers on the scope of environmental review.

Collaboration Assessment Module

To develop a communication strategy, the project team reviewed the process documented under the Collaboration Assessment tab of the initial TCAPP tool. In addition, the team reviewed the information in the Decision Guide to understand who needs what information at what point to provide appropriate support for making collaborative decisions. This helped in developing an effective communication strategy to adapt to the changing circumstances.

The project team found the sample surveys available under the Assessment tab of TCAPP to be very helpful. The project team both selected specific questions from the TCAPP website and used ideas provided by reading the TCAPP questions to develop additional questions pertinent to the specific ideas being discussed with our stakeholders. Using paper copies of this instrument the project team conducted a collaboration assessment survey at the end of each stakeholder meeting.

The surveys helped the team and committee members evaluate how well the project was progressing. Using the survey results, the project team was able to identify and address issues at their early stages before they developed into bigger issues. This too has proven to be instrumental in achieving the final consensus. One addition the project team made to the surveys was to obtain contact information (on a voluntary basis) from those individuals expressing concerns as part of their survey responses. This allowed the project team leads to contact those individuals directly, but informally, in order to address those concerns. For example, if an individual indicated that they were not confident that they had an adequate opportunity to voice their concerns, the project lead would talk with that individual the week following the meeting both to make sure that the project leaders understood the specific concern that the stakeholder felt had not been properly voiced and also determine how future meetings could be modified to make sure all stakeholders had sufficient chance to voice concerns. Furthermore, based on survey responses the tool generated specific recommendations that the project team used to identify changes resulting in potentially greater collaboration.

The project team found it very helpful and informative to selectively use the survey materials after each meeting. We believe that anyone involved in transportation planning or project development can benefit from the information and resources provided on this website.

CHAPTER 3

Overall Outcomes of the Pilot Test

TRB selected WSDOT to perform the pilot test of the TCAPP corridor planning tool. WSDOT applied the methodologies and techniques of the tool in making collaborative decisions regarding Phase 1 of the SR 509 project. The TCAPP process helped develop a phasing plan that was agreed to by all stakeholders. That plan has now been placed before the legislature and is awaiting funding action.

What Happened As a Result of Using TCAPP?

TCAPP is loaded with a wealth of information for effectively managing projects in the planning phase and for collaborative decision making. The project team derived a number of benefits from using TCAPP as a planning tool. These include but are not limited to:

- Reshaping the steering and executive committee for effective and collaborative decision making throughout the study process;
- Generating the right information at the right time by illustrating the appropriate sequence of KDPs along with the information needed for each of those decision points;
- Providing lists of KDPs helped in developing project and meeting schedules and agendas;
- The collaboration assessment survey questions helped the project save time, as the questions helped guide the project team's interactions with the stakeholders, and ensured that stakeholder issues were identified early in the decision-making process, thus allowing the project team time to address the issues before they evolved into bigger problems;
- Other information included in the TCAPP case studies and lessons learned discussions also helped us to identify potential problems and issues that might hinder the project decisions later in the process and taking necessary steps to avoid those;
- Case study examples helped us to understand various issues and to apply the lessons appropriately;
- The lists of performance evaluation criteria and measures helped the project team identify potential measures and then develop our own customized list of criteria and measures for this study;
- Policy issues and questions provided within TCAPP helped us to think about and prepare data to address these issues; and
- The information in the Decision Guide, located in each key decision point of TCAPP, helped us to understand who needs what information at what point to provide appropriate support for making collaborative decisions.

Project Outcome

In addition to conducting the pilot test of the TCAPP decision-making tool developed under the SHRP 2 program corridor planning element, the project team had two goals for the I-5/SR 509 Corridor Completion and Freight Improvement Project in order to move the project forward:

- Define Phase 1 of the Project for implementation by taking tolling into consideration, and
- Make a recommendation on a preferred tolling option for legislative consideration (this was contingent on additional funding from the 2011 Washington State legislature that did not materialize)

The project team achieved the first goal through the consensus decisions made by the stakeholders group regarding the first phase of the project. The second goal has not been fully achieved since the legislature did not allocate the proposed funding. However, detailed modeling and other information has been developed towards achieving this goal when funding becomes available.

Additional Comments from the Independent Assessment

While an excellent test of the TCAPP process, this project, like all projects, has a number of unique features that limit its applicability as a test of the TCAPP process as it will be applied for other projects. For example, this project had the great advantage that there was little direct opposition to the project among the primary stakeholders. There is no direct opposition to the project from the environmental community or from the communities through which the project passes. Instead, the stakeholder differences are matters of degree (how big should the road be, how much would tolls be, where tolls would be applied, what end points should be in Phase 1?) This meant that the project team did not have to work in a hostile stakeholder environment, which made consensus easier to obtain.

While this project did not experience open conflict among the stakeholders, if it had been led poorly, it could have had the potential to become a contentious project. The need to develop a plan for phased implementation of the originally adopted SR 509 project had the potential to generate significant friction between the various stakeholders, each of which represented different interest groups. In addition, the lack of funding for the detailed analytical tasks that would normally have taken place for a project of this magnitude left the project team very resource constrained in trying to supply answers to stakeholder questions about the impacts of different design decisions on their specific interests.

The TCAPP process provided a good framework for working within this environment. Using the TCAPP structure helped to keep the project team on track. The collaboration assessments supported the project timeline because they allowed the project team to quickly identify weak spots in their technical and political approach to the project.

Performing the routine collaboration assessments actually provided several benefits, some of them unintentional. One of the unintentional benefits was that the survey and response process helped build trust between the stakeholders and the project team. The questions asked and the responses of the project team to those questions reassured the stakeholders that their issues were being taken seriously. The project team was also very forthright in their delivery of information, and relied heavily on stakeholder input to direct where the limited analysis budget was spent. When taken together, this gave the stakeholders belief that they had a significant say in getting the most important issues identified and answered to the best of the project team's ability.

The project team had sufficient time to address stakeholder concerns since we were informed of issues early on in the project. In some cases, this meant analyzing specific roadway designs. However, these concerns could also be procedural. For example, one problem pointed out through the collaboration survey was that the stakeholders wanted technical information supplied prior to the stakeholder meetings, so that they could review that material and ask more productive questions at the meetings. While this put pressure on the project team to deliver products early, it ultimately benefitted them by making the stakeholder meetings more productive – especially in that it allowed the stakeholders to be more willing to make decisions and give recommendations at the end of those meetings – simply because the stakeholders felt better prepared to give that direction.

The open discussions of the stakeholder meetings and the willingness of the project team to respond to concerns (even those concerns mentioned only through the survey process) resulted in considerable trust between the stakeholders.

Finally, it was also apparent that early in the project the executive committee and the steering committee had different perceptions of the project. The openness of information sharing under the TCAPP process was instrumental in helping identify these differences, and encouraging the steering committee members to learn more about the issues and perceptions of their executive committee counterparts. This led to the development of additional project information (e.g., the public survey questions) which responded to those key executive committee concerns. The result was considerably easier and more effective transition from the technical project analyses to communications needed at decision maker levels - in this case the legislature.

CHAPTER 4

Conclusions and Recommendations

The TCAPP corridor planning tool provides step by step guidance for conducting corridor studies and reaching decisions collaboratively. The stakeholder collaboration techniques provided under the Collaboration Assessment tab of the initial TCAPP website were found to be very helpful. Specifically, the information in the Decision Guide, located in each key decision point of TCAPP, helps to understand who needs what information at what point to provide appropriate support for making collaborative decisions. Furthermore, TCAPP provides guidance on how to form a well represented stakeholders committee for effective and collaborative decision making throughout the planning process.

The stratified structure of TCAPP provides easy and quick access to the information needed at different stages of corridor planning. TCAPP helps in generating the right information at the right time by showing a sequence of key decision points (KDPs) and the information needed for each step. KDPs in TCAPP are helpful in developing project and meeting schedules.

The TCAPP tool comes with a list of survey questions that helps to save time since many questions are already there to pick from while developing stakeholders opinion surveys. The questions included in the current collaboration assessment survey in TCAPP are quite useful for monitoring the effectiveness of the project team. The survey questionnaire in TCAPP provides insights into how to refine, address, and include various issues in the study process.

The results help identify areas that represent the greatest challenge to collaboration. In addition, the TCAPP tool provides recommendations that a project team may use to identify changes resulting in potentially greater collaboration.

Every key decision point in TCAPP provides a comprehensive list of policy issues and questions. These policy issues and questions help us to think about and prepare data to address these issues.

TCAPP provides a comprehensive list of evaluation criteria and performance measures. A project team can save time by just selecting a subset of measures from TCAPP instead of developing one from scratch.

Case study examples provided in TCAPP are helpful to understand various issues and how those issues were applied or addressed in successful studies around the nation. This helps in identifying potential problems and issues that might hinder the project decisions later in the process and in taking the necessary steps to avoid those problems.

Overall, the project team found the TCAPP modules under corridor planning to be very helpful in conducting the corridor study and leading us to collaborative decision making. The team has a few suggestions to improve the TCAPP corridor planning tool to make it more useful by adding:

- Downloadable web content by key subject areas that can be used as handouts;

- In-depth discussion, perhaps through case studies, on how performance measures, including quantitative and qualitative measures, are integrated to help reach consensus and decisions; and
- More real world examples, perhaps by commonly encountered corridor study types on key subjects (i.e., problem statements, goals and objectives, performance measures, and analysis methodologies).

APPENDIX A

Public Opinion Survey Questions

SR 509 Extension – Survey Questions

Hello, my name is _____ and I'm calling for the Washington State Department of Transportation to get opinions on issues regarding a project that would extend State Route 509 from SeaTac to I-5 south of the airport. This is not a sales call. It's an opportunity to express your opinions.

May I please speak with an adult 18 years of age or older in your household who drives a personal vehicle at least once a month? Would that be you? (IF NO, ASK IF THERE IS A QUALIFIED PERSON AND, IF SO, REPEAT INTRO SECTION.

I'd like to ask you some questions on a strictly confidential basis. This will take about 10 minutes.

1. How frequently do you drive State Route 509 in the vicinity of Sea-Tac Airport? Would you say:
 - Never (skip to Q3)
 - Less than once a month
 - 1-3 times per month
 - 1 time per week
 - 2-3 times per week
 - 4 or more times per week

2. When you travel on State Route 509 what is the usual purpose of your trip? (DO NOT READ. ACCEPT ALL THAT APPLY.)
 - Travel to airport to catch or meet a plane
 - Travel to or from work
 - Travel to or from school
 - Errands/shopping
 - Non-commute work-related travel
 - Recreational or entertainment activities
 - Visit family or friends
 - Medical appointments
 - Other (specify)

3. What mode of transportation do you typically use for your daily travel? Would you say:
 - Drive alone
 - Ride with others (carpool or vanpool)
 - Take the bus
 - Take commuter rail

- Take light rail
- Bicycle
- Other (specify)

The Washington State Department of Transportation has been planning an extension of State Route 509 that would connect with I-5 south of Sea-Tac Airport. This connection would significantly improve access to the airport and surrounding businesses as well as creating a new highway corridor paralleling I-5. This connection would take traffic off I-5 and should help reduce congestion.

4. In your opinion should construction of this project be a priority? Would you say:
(ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)
 - Yes
 - No
 - Or, about the same priority as other highway projects
 - Don't know (DO NOT READ)

5. If this extension of State Route 509 were built, how frequently would you be likely to use it? Would you say:
 - Never
 - Less than once a month
 - 1-3 times per month
 - 1 time per week
 - 2-3 times per week
 - 4 or more times per week

The extension of State Route 509 is not fully funded. One possible source of funding is tolls. Right now tolls are collected on the Tacoma Narrows Bridge and on the High Occupancy Toll lanes on State Route 167. Electronic transponders mounted on car windshields allow the tolls to be collected automatically so cars don't have to stop at toll booths. These are called "Good to Go" passes. This technology will also be used to collect tolls on the State Route 520 Floating Bridge.

6. Do you have a "Good to Go" pass on any of your vehicles?
 - Yes
 - No

7. On a scale of 1-7, with 1 being ‘do not support at all’ and 7 being ‘very supportive’, how much would you support tolls on the new State Route 509 extension to help pay for the project?
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - Don’t know

8. Would you be more or less likely to support tolls to help pay for the State Route 509 extension if the existing gas tax was used to pay for a share of the project? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)
 - You are more likely to support tolls if gas tax revenue is also used
 - You are less likely to support tolls if gas tax revenue is also used
 - Or, the inclusion of gas tax revenue does not affect your support for tolls
 - Don’t know (DO NOT READ)

Another possibility is to convert the HOV lanes on I-5 to High Occupancy Toll Lanes such as on State Route 167. The HOT lanes on SR 167 are lanes for carpools and buses, and are also open to solo drivers who choose to pay a toll. Toll rates adjust based on traffic conditions. With HOT lanes you always have the choice to stay in the untolled general purpose lanes.

9. Would you support conversion of I-5 HOV lanes to HOT lanes if the toll revenue was used to help pay for the State Route 509 extension? Would you say you would: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)
 - Support converting I-5 HOV lanes to toll lanes to pay for State Rote 509.
 - Not support converting I-5 HOV lanes to toll lanes to pay for State Route 509.
 - Don’t know (DO NOT READ).

10. By varying the toll rate so it’s higher during rush hours and lower during off peak times it’s possible to smooth out traffic flows and reduce congestion. Would you be more or less likely to support tolls on the State Route 509 extension if the toll rate varied by time of day to reduce congestion?
 - More likely
 - Less likely

- Wouldn't matter either way
- Don't know

11. Would you be more or less supportive of using tolls to fund the State Route 509 project if transit, carpools, and vanpools were exempt or received a discounted toll? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)

- More supportive
- Less supportive
- Or, neither more nor less supportive
- Don't know

12. If a choice needs to be made between adjusting tolls to reduce congestion or using tolls to raise revenue for building the State Route 509 extension, what in your judgment should be the higher priority? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)

- Tolls to fund the project
- Tolls to reduce congestion and improve traffic flow
- Or, tolls should be used to do both
- Don't know (DO NOT READ)

13. Would you be more or less likely to support tolls on the State Route 509 extension if no tolls were charged at night after 8:00 PM? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)

- More supportive
- Less supportive
- Or, neither more nor less supportive
- Don't know (DO NOT READ)

14. Would you be more or less supportive of tolls on State Route 509 if the toll revenue was used exclusively to help fund that project and not used for anything else? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)

- More supportive
- Less supportive
- Or, neither more nor less supportive
- Don't know (DO NOT READ)

15. Would you be more or less supportive of tolls on the State Route 509 extension if tolls were charged on other highways around the State? Would you say: (ROTATE AND READ FIRST TWO RESPONSE CATEGORIES)

- More supportive
- Less supportive
- Neither more nor less supportive
- Don't know (DO NOT READ)

16. If the toll for using the new State Route 509 extension was about \$3.00 during peak hours what would you be most likely to do? Would you say: (ROTATE AND READ)

- Drive your vehicle and pay the toll
- Take transit
- Change travel time to a time of day when the toll amount is lower
- Carpool
- Vanpool
- Take another route
- Change destination
- Work at home, also known as telework or telecommuting
- Forgo the trip altogether
- Other (specify)

We have a few questions about you and your household. Your answers will be strictly confidential and will be combined with those of other respondents for statistical analysis purposes.

17. What is your home ZIP code?

18. How many registered vehicles do you have in your household?

- 1
- 2
- 3
- 4
- 5 or More
- Refused

19. Which of the following broad ranges includes your age?

- 18 – 24
- 25 - 34
- 35 – 44
- 45 – 54
- 55 - 64

- Over 65
 - Refused
20. Which of the following best describes your ethnic/racial background? Would you say:
- White/Caucasian (not Hispanic/Latino background)
 - White Caucasian (Hispanic/Latino background)
 - Black/African American
 - Asian/Pacific Islander
 - Hispanic/Latino
 - Native American
 - Multi-racial
 - Other (specify)
 - Refused
21. Finally, is your total household income above or below \$35,000 a year?
- Below \$35,000
 - \$35,000 and above (Skip to Q23)
 - Refused (Skip to Q24)
22. Ask only those whose HH income is below \$35,000 - Would that be:
- Less than \$10,000
 - \$10,000 to less than \$15,000
 - \$15,000 to less than \$25,000
 - \$25,000 to \$34,999
 - Refused
23. Ask only those whose HH income is \$35,000 and above - Would that be...
- \$35,000 to less than \$50,000
 - \$50,000 to less than \$75,000
 - \$75,000 to less than \$100,000
 - \$100,000 to less than \$150,00
 - \$150,000 to less than \$200,000
 - \$200,000 and over
 - Refused
24. Gender (ascertain without asking)
- Male
 - Female

Those are all the questions I have for you today. Thank you very much for your participation.