

Accelerating Federal Program and Project Delivery

final report

prepared for

Orange County Transportation Authority

prepared by

Cambridge Systematics, Inc.

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Executive Summary

High unemployment in these difficult economic times brings into sharp focus the potential benefits of improving the efficiency of accessing and using Federal highway and transit funding to accelerate the creation of jobs. Expediting the delivery of programs and projects that use Federal transportation funds can secure the goals of these investments sooner, including the direct employment benefits, and at lower cost to the public. This study presents a comprehensive list of legislative, regulatory, and policy options that could be undertaken to expedite Federal projects. These options are based on the understanding of current barriers to timely delivery as perceived by direct grantees and other grant recipients who use the funds.

The study team conducted interviews of public officials at all levels, practitioners within and outside implementing agencies, and industry leaders who have extensive experience in both the public and private sectors. We discussed the full range of challenges that are routinely faced in providing transportation infrastructure and in operating well-performing transportation systems. These discussions took a critical look at the existing processes in order to identify sources of delay and solutions to the problems presented within the Federal system. These frank interviews were an opportunity to develop insights into the dynamics in play between grantors and grantees. They provided a constructive basis to develop options to improve the processes.

Throughout this study, there is a recognition that many of the features of Federal programs that lengthen Federal project delivery time were, and continue to be, well-intentioned; that they were originally put in place and further evolved to provide assurances that public funds are well-spent. However, there is a strong consensus that the Federal government can modernize its approach to program and project delivery. Further, there is a strong consensus that there is a high price to be paid by the public due to delay implicit in many of these processes, and that this delay can be explicitly addressed without undermining the meritorious intent of the requirements.

Participants in the study universally understood that the vast majority of the individuals who manage Federal grant programs carry out their responsibilities, as demanded by agency policy and law, in a highly professional manner. As a result, some of the findings may be difficult for these Federal officials to hear without being defensive. However, hearing these messages is an important first step to understanding the implications of the current systems. The options were developed in the spirit of integrating the ability to deliver cost-effective programs as a legitimate policy outcome into the programs' explicit functional policy goals.

Over the years since these Federal programs were first designed, the transportation industry has changed and many would say has matured both technically and from a public administration point of view. Going as far back as the 1950's, governance of Federal programs evolved to help a fledgling public works sector put into place an extensive set of high-quality transportation assets. Some of those governance assumptions and practices need to be reviewed in light of changes in both the public and private sectors. For example:

- **The capabilities of major recipients have grown and become more sophisticated** - Although there is variation among State DOTs and other agencies, many have strong technical staff and resources. Those capacities might even be considered to rival the Federal agencies themselves. One of the roles of the Federal programs has been to advance public works competence, particularly in the design and execution of major civil works projects, and this can be seen as a success. The close scrutiny of routine actions by agencies could be considered to be no longer justified for the full range of grantees and might be streamlined by adjusting oversight processes to focus on accountability and good project control rather than micromanagement.
- **A greater sensitivity to impacts of transportation decisions on communities has been instilled in local and State decision-making** The laws and policies that have been put in place at Federal, State, and local levels have been extremely effective in focusing the attention of transportation officials and professionals. In particular, an ethic of integrity and environmental awareness has strengthened and developed since the earliest days of public works construction. There is still significant variation among grantees in these areas, but it can be argued that many grantees have internalized these values. Therefore, based on grantees and approaches with proven track records, prescriptive and time-consuming processes may be able to give way to new and more efficient processes and still assure that such values are integrated in program delivery.
- **Modern business practices recognize the value of time** - The contribution of transportation to a healthy economy has encouraged the public sector to be particularly sensitive to the costs imposed by delay. Competitive pressures, internationally and domestically, have prompted adoption of cost-cutting and value-added practices unheard of only decades before and the time span for adoption is accelerating along with other features of modern life.
- **Modern construction practices are spreading into public works** - Even among public works infrastructure, barriers to new technologies, new contracting relationships, and new funding partnerships are falling. Systems that are sequential in nature (traditional design, bid, build) are giving way to other models that still maintain fairness and transparency in public dealings. These changes are not undertaken "on faith" but with risks identified and protections built into new processes.

Changes to the Federal program that could speed up the implementation of projects have been debated over several Federal reauthorization cycles. This effort takes a somewhat different approach as it does not dissect the stages in program delivery to determine blame for delay that could be avoided if different laws or policies were in place. Past debates have often focused almost exclusively on the environmental permitting phases. This study goes beyond to consider all phases of transportation program delivery.

No single finding or option presents a “silver bullet” to address unnecessary delay. However, in identifying options that could accelerate program and project delivery, the approach was to think creatively as to how the following program features could be retained and enhanced while improving program efficiency:

- Oversight and accountability would not be undermined;
- Costs of delay and relative risk would be brought into consideration;
- Credibility of planning activities would be increased along with the quality of information for good decision-making;
- Public participation would not be reduced;
- Environmental and other analyses would not be substantively compromised.

The report presents findings and options organized around three major themes.

Approach 1: Federal focus on outcomes.

- Concentrating Federal engagement in a manner that amounts to micromanaging projects, instead of fostering good program management by grantees, will misplace resources and be counterproductive overall. Redundancies in required processes could be eliminated in favor of outcome-based protections. Due diligence on the part of oversight agencies does not equate to protracted processes or lengthy documentation. Recognizing that many owners/operators of transportation systems contribute well-beyond the majority of system resources is an important first step in identifying new roles that could result in refocusing and leveraging the Federal contribution.
- Twelve high potential actions are identified which could “modernize cumbersome processes to shift Federal actions toward improving transportation systems faster.”

Approach 2: Teaming partners for performance.

- Federal oversight can be improved if it embraces effective partnership efforts to replace the highly risk-averse attitudes that often prevail. If a partnership relationship more akin to a “customer service” attitude were instilled, mutual benefits could be achieved from both a national and the local perspective.
- A second set of 12 high-potential actions are identified which could result in “improvements to grant programs [which] will clarify the respective roles of

Federal, state, and local agencies for accountability and efficiency in achieving jointly developed milestones.”

Approach 3: Internal recipient focus for efficiency.

- A valuable Federal role could be to coach and facilitate grantee progress by bringing “lessons learned” to peer exchanges, rather than issuing mandates. This may not require explicit statutory direction and instead might be accomplished through administrative or policy changes alone. Institutional changes and business practices may be as much of a “new frontier” as the technology challenges upon which public works programs have historically focused. Rewarding and spreading innovations that bring new efficiencies to industry practice would be well-received.
- A final set of eight high-potential actions are identified that would support “grant recipient-based strategies [that] can reap program-wide time and cost savings on both routine and major projects and ultimately change industry practices.”

1.0 Introduction and Overview

1.1 BACKGROUND

This study was undertaken for the Orange County Transportation Authority which is seeking to shorten the time it takes to apply Federal transportation funds to its priority projects in order to accelerate the economic and productivity benefits of those investments. This “Breaking Down Barriers Initiative” is in large part motivated to serve economic recovery in the form of jobs. The Authority sees the potential of partnering with like-minded agencies and the Federal government itself to tackle the job of addressing unnecessary project delivery delays. It has joined the chorus of grantees who want to squeeze out inefficiency from regulatory processes that systematically add time and drain resources through duplication and waste but in no way does it call for a reduction in accountability or environmental responsibility. This initiative seeks to understand sources of delay in surface transportation program delivery, identify approaches to combat that delay, and identify specific program features that if adopted would encourage expedited use of the Federal funding available.

1.2 SCOPE AND METHODOLOGY

Delays can occur at any stage of the transportation funding relationship with the Federal government. This delay pervades processes for program planning, programming, project development and environmental review, project design and contracting, and project implementation. Therefore, this work has employed a comprehensive perspective: across surface transportation modes and across the full extent of program and project phases. In this effort, we have analyzed both transit and highway systems from an owner and user perspective and have looked at the entire range of activities from planning through operations.

The findings are in large part based on a series of over 40 confidential interviews with industry leaders, including practitioners, state and local officials, former Federal officials, industry associations, and other interested parties. Our questions probed their experiences, both positive and negative, in securing approvals to use, and implement projects with, Federal funds. We sought to understand techniques that have been used to accelerate delivery and the broader lessons learned. The intent was not to catalogue or quantify delays but to gather the insights and perceptions that often drive industry and government practice and as such, are the expectations and reality that decision-makers face.

1.3 ACTIONS OPTIONS OVERVIEW

Our findings are grouped under three approaches that relate to what we have determined are the underlying sources of unnecessary delay. In the paper that follows, we discuss each approach and offer a series of high-potential actions that could address these barriers to expedited delivery. An immediate observation is that the most significant barriers are a function of institutions and adopted roles rather than law or policy, as exhibited by the acceleration that comes with emergency conditions. In this overview, we briefly provide those actions which are discussed in more depth in the following pages.

Several items are identified as “best practice.” In this paper, that phrase is used to identify a strategy that practitioners have adopted with some success to address the shortcomings under current law, regulation, or policies that contribute to delay. Such best practices are not universal but elements may have been integrated into Federal processes by some recipients. They are particularly instructive since the strategies that recipients have initiated could provide the experience to justify incorporation into improved Federal processes.

Approach 1 – Federal Focus on Outcomes

Modernize cumbersome processes to shift Federal actions toward improving transportation systems faster.

1. Extend pre-award spending authority in Title 49 to the Federal-aid Highway Program that exists under other modes.
2. Administratively clarify that Transportation Improvement Program (TIP) Amendments can and should be expedited by metropolitan planning organizations (MPOs).
3. Extend through statute the pilot Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6005 that delegates authority to conduct the requirements of the National Environmental Policy Act (NEPA) on behalf of the Federal government to any state who can demonstrate the capacity to do so.
4. Remove redundant steps in the current system of processing Environmental Impact Statements (EIS): Draft EIS, Final EIS, and then a Record of Decision (ROD) in sequence. Modernize communication techniques required for circulation.
5. Conduct research to determine whether a modular or scenario approach to conformity is feasible.
6. Expand the availability and use of programmatic agreements for additional categorical exclusions (CEs).
7. Streamline and coordinate reporting requirements to reduce redundant reporting to multiple entities.

8. Simplify Federal approval processes when Federal formula grants are one-third or less of project costs.
9. Require in statute that United States Department of Transportation (U.S. DOT) initiate an effort to develop consistent expectations for environmental permitting and procurement requirements across all of the modes' formula grant programs.
10. Advance as full partners the teaming practices and “work-arounds” that have been opportunistically used by sponsors and agencies to make Federal processes work. (Best Practice)
11. Establish Administratively clear, up-front criteria for Federal eligibility and project approval to build an understanding of what information is necessary to advance a successful project. (Best Practice)
12. Develop multiagency stewardship agreements to set ground rules and manage expectations as individual projects move through the approval pipeline. (Best Practice)

Approach 2 – Teaming Partners for Performance

Improvements to Grant Programs will clarify the respective roles of Federal, state, and local agencies for accountability and efficiency in achieving jointly developed milestones.

1. Establish in Federal law a “Program Delivery Partnering Plan” option for Federal grant recipients and agencies.
2. Establish in Federal law a comparable optional “Project Delivery Partnering Plan” for Federal grant recipients and agencies.
3. Establish in Federal law or regulations a “prompt action” provision for Federal agencies.
4. Establish in law a partnering recognition and award program.
5. Utilize the new Executive Order 13563 to review rules to remove those that “stifle job creation and make our economy less competitive.”
6. Establish in law and provide dedicated funding for a “Transportation Delivery Academy” and certification program.
7. Take fuller advantage of provisions which permit recipients to supplement staff at Federal Highway Administration (FHWA) Division offices and/or Resource Agency field offices, to expedite high-priority projects for environmental reviews (Best Practice); extend that statutory authority to other reviews.
8. Expand the use of integrated analysis and permit approvals such as National Environmental Policy Act (NEPA) and Clean Water Act Section 404 procedures.

9. Initiate early and ongoing teaming between Federal transportation agencies, Resource Agencies, and grant recipients/program sponsors to create high-performance teams with shared goals and outcome expectations on major projects. (Best Practice)
10. Require relevant Federal agencies to participate with recipients as standard protocol in establishing and managing to a time line as a serious component of their oversight and stewardship responsibilities across the board. (Best Practice)
11. Ensure that interagency working groups have understandings in place as to “elevation” to higher authorities to break impasses. (Best Practice)
12. Apply “practical design” philosophies, along with context-sensitive solutions-style techniques that bring the public to the table earlier. (Best Practice)

Approach 3 – Internal Recipient Focus for Efficiency

Grant recipient-based strategies can reap program-wide time and cost savings on both routine and major projects and ultimately change industry practices.

1. Incorporate into Federal partnership agreements explicit commitments that will help projects remain on schedule and on budget. Back up those commitments with allocation of U.S. DOT’s research agenda and budget to deploy appropriate tools and techniques.
2. Seek a Federal research budget line-item that would sponsor a peer review and/or develop a model Statewide Transportation Improvement Program database that could serve to increase transparency and access to project information while minimizing special purpose reporting.
3. Establish a partnering grant initiative between Federal Agencies and grant recipients to help transportation agencies apply quality innovative contract management principles.
4. Foster investments by public agencies to support their internal operations such as information systems at program and/or system levels that speed decisions in the long run.
5. Invest in the internal capabilities to effectively use innovative contracting mechanisms such as Design/Build and construction management innovations that foster acceptance in the local industry. (Best Practice)
6. Revise current Federal guidance and regulation to encourage quality partnerships between utilities and DOTs by making it feasible for DOTs to develop this business line and allowing DOTs to maintain control over project schedules. (Best Practice)
7. Employ integrated project-based teams, including participating agencies and local governments. (Best Practice)
8. Improve internal processes to leverage greater trust with external partners. (Best Practice)

2.0 Findings and High-Potential Actions

2.1 APPROACH 1 – FEDERAL FOCUS ON OUTCOMES

Modernize cumbersome processes to shift Federal actions toward improving transportation systems faster.

Findings

- To some degree, regardless of the funding source, officials and professionals tolerate and expect delays in putting transportation investments in place. As an industry, public works construction suffers from a culture where delays are considered an acceptable tradeoff for the size, complexity, cost, and life span of the products. Unnecessary delays during preconstruction and construction phases are further reinforced by Federal practices where time is tolerated as a cost of obtaining Federal funding. Comparable private construction enterprises and recent changes in Federal project management philosophy reflect recognition of the true cost of delay and place value on successful efforts to eliminate unnecessary time spent.
- Grant recipients who incorporate strategies to minimize the sequential approaches that are vulnerable to delays that themselves can reverberate through projects often meet resistance – their efforts may not present themselves as “clean” or “straightforward” in terms of the work load for Federal review. However, grant recipients that manage at the program level can take advantage of the opportunity to work a series of projects in parallel and are better prepared for contingencies. Experienced Federal managers are tolerant of such complexity and can be supportive of the “juggling act” that is necessary for such sizeable enterprises.
- So-called “fiscal constraint” requirements can unnecessarily complicate program management. Well-intentioned Federal criteria were originally incorporated in the Intermodal Surface Transportation Efficiency Act (ISTEA) to assure discipline and transparency in program development by requiring a demonstration that capital plans are consistent with the level of revenues available including funding needed to operate and maintain the system. Some flexibility has been provided in applying this test during times of Federal funding uncertainty. A strict interpretation that addresses non-Federal revenues in essence removes the “ease” in budgeting necessary to deal with economic forces. Full disclosure of a reasonable “margin of error” might be

sufficient to meet the spirit of the law without undermining the credibility of the basic test.

- As conducted in many regions, TIP approval and TIP amendment approval processes are inconsistent with dynamic program management.
 - The cumbersome change process undermines transparency as it assumes that all issues relating to funding and scope are settled in advance. It appears that streamlining the amendment process is more a relic of the operating procedures of individual MPO Boards than standard Federal requirements. Unfortunately, this is an area where there is variation in interpretation across the country that could benefit from clarification in the direction of permissive simplified procedures. (See Case Study in North Central Texas COG at right.)
 - An “honest” TIP could essentially be considered “unstable,” which itself can lead to further delays resulting from processing documents rather than advancing the program.
 - Planners may be motivated to “low-ball” total project costs in TIP estimates to avoid sticker shock on the part of legislature/funding agencies/public. (See Case Study in Maryland at right.)
- Unfortunately, a quality Federal environmental review is too often equated to a lengthy one.
 - Federal environmental reviews are generally superimposed upon state environmental review processes. Depending upon the rigor of the state statutes and processes, this redundancy can mean time-consuming duplication. Combined Federal/state review process are particularly cumbersome in metropolitan areas. The number of entities who must be engaged in the approval process multiply.
 - Too often, grant recipients must resort to managing NEPA documents rather than managing for outcomes. Grant recipients frequently complain that Federal agencies are looking for “bullet-proof” documents to minimize risk of lawsuits. In many cases, they are suspicious that assuming a defensive legal posture is meant to protect the Federal government from risk or to stop projects altogether. Grant recipients often argue that they are willing to accept some legal risk in order to accomplish transportation goals.

The North Central Texas COG, the MPO for Dallas, Texas has drafted specific guidance, in concurrence with their DOT and Policy Board, to define and set thresholds for amendments and modifications. When a change occurs, the MPO can decide internally whether a change is an amendment or a modification. By not having to seek approval from DOT or their respective Policy Boards on every decision, the process moves faster.

In Maryland, the State Highway Administration (SHA) and the MPOs coordinate and complete (when possible) the planning and NEPA phases before obtaining funds so that cost estimates and schedules are more accurate.

- Sequential preparation and circulation of voluminous documents for comment can misapply resources and add time without adding true value to the decision-making process.
- Some have argued that DEIS are slow to process due to Quality Control issues. Since the authors, sponsors, and reviewers believe that there are subsequent opportunities to revise and improve the documents, they do not place high value on getting it right the first time.
- The length of the Federal review cycles are commonly attributed to lack of Federal staff, other Federal resources, or lack of motivation (e.g., for non-transportation agencies, such reviews are not their main mission) at the Federal level to process reviews quickly. The result is an inability for DOTs to manage the environmental and related review schedule.
- Regulatory determinations can lack credibility because project sponsors are aware of the lack of consistency in interpretation of NEPA regulations across regions of the country or between states. Regional Federal offices vary in how they interpret regulations, and Federal transportation agencies (FHWA, FTA, and FRA) do not have consistent processes; this becomes particularly visible and is an impediment for jointly funded projects
- Unfortunately, “good” cost control is too often equated with Federal staff micromanaging construction contracts when grant recipients are capable of overseeing these activities.
 - » Federal staff are often more comfortable with the traditional Design/Bid/Build contracting process because each sequential step can be easier in the short run to review and control. Unfortunately, with such an approach, there is great potential to misdirect attention and resources to change orders, particularly in the hand-off between design and construction, in an attempt to control costs.
 - » Design-Build and its variations instead focus on managing in terms of outcomes established by the facility owner. Incentives that explicitly deal with cost and schedules may appear to have more risk since there are ranges of acceptable price based on meeting criteria such as delivery time, but in the long run are more effective for the owner.

High-Potential Actions

1. Extend pre-award spending authority in Title 49 to the Federal-aid Highway Program that exists under other modes. Eligible costs can be reimbursed once/should an approval take place. This would be conditional and on the clear articulation of the risk borne by grant recipients and disclosure of potential bias.
 - a. This approach has a long history with transit projects. A Letter of No Prejudice (LONP) was a document issued by the FTA that allowed a

- grantee to be reimbursed (with Federal funds) for activities that occurred prior to being awarded a grant. As this has become common practice, an individual letter is no longer required.
- b. Such pre-award spending would be much more direct and faster than the approach provided in Federal highway law, known as “advance construction” (AC). Under AC, all of the Federal approvals must already be in place as if the project was to use Federal funds.
 - c. Section 115 of Title 23, Advance Construction, could be amended to allow recipients to avoid losing eligibility should they choose to take actions in advance of receipt of Federal funds. It would clarify that the recipient would assume any risks associated with actions prior to Federal approval.
 - d. The comparable provision 49 USC 5307(g) and 5309(i) have been interpreted to allow approval for formula funds at the program level based on an overall program of projects and eligibility understandings.
2. Administratively clarify that TIP Amendments can and should be expedited by MPOs.
 - a. A Transportation Improvement Program (TIP) is a programming document that is updated at least every four years, containing projects that require a Federal action or that are regionally significant. Once approved by the MPO and Governor, the TIPS is incorporated into the State Transportation Improvement Program (STIP). The STIP requires joint approval from FHWA and FTA under 23 CFR Parts 450.324 and 450.326. Once the TIP is adopted, changes (administrative modifications or amendments as defined in 23 USC 450.104) are subject to approval based on procedures established by the MPO, state DOT, and U.S. DOT. State DOTs and the MPOs within each state have developed the internal procedures for adopting such “modifications” and “amendments,” so that projects can move forward in what is perceived as a timely fashion.
 - b. Guidance memoranda could be issued by FHWA and FTA to clarify an understanding that Federal requirements do not restrict procedures that afford timely action on TIP amendments – that these procedures are a matter of local determination and are not only acceptable but encouraged.
 - c. Methods at the MPO level for expediting such changes without jeopardizing public input could include:
 - i. Redefining the level of change that triggers an amendment;
 - ii. Reducing the length of the public comment period;
 - iii. Grouping amendments; and
 - iv. Holding more frequent “virtual” Policy Board meetings.

3. Extend through statute the SAFETEA-LU Section 6005 pilot that delegates authority to conduct NEPA on behalf of the Federal government to any state who can demonstrate the capacity to do so.
 - a. SAFETEA-LU Section 6005, codified as 23 United States Code (USC) 327(h), established a project delivery pilot program for five states, allowing them to apply to U.S. DOT to assume all U.S. DOT environmental responsibilities under NEPA and other environmental laws (excluding the Clean Air Act and transportation planning requirements). California is the only State participating in the Pilot Program. The program is now scheduled to terminate on August 10, 2012.

California is the first, and only, state granted responsibility under the NEPA Designation Pilot Program to assume the Federal Highway Administration's (FHWA) responsibilities for the National Environmental Policy Act (NEPA) and other Federal environmental laws. This program allows California to accelerate transportation projects without compromising environmental protection standards. Benefits of participation include:

 - Eliminates one layer of document review;
 - Retains all project review authority within the State;
 - Caltrans consults directly with Federal Resource Agencies;
 - Technical Reviews/consultations occur at the local level, eliminating back and forth transmittals with FHWA;
 - Builds relationships with resource agencies; and
 - Builds DOT staff capabilities.
 - b. In the fifth annual report submitted to Congress for the period through August 10, 2010, FHWA observed that “During the past year, the California Department of Transportation (Caltrans) has functioned successfully under the Pilot Program and has worked on continuous process and procedural improvements, in response to feedback from the FHWA audits and their self-assessments.”
 - c. The provisions contained in Section 6005 could be made permanent and the option extended to other states who qualify. A regulatory action would need to take place to define qualifications; there would be benefit to provide policy direction as to those qualifications in report language as well as to grandfather California.
 - d. An alternative approach could be State certification for all or some of the Federal responsibility. A statutory change could allow Federal NEPA requirements to be met simultaneously with State “NEPA-like” statutes if it can be demonstrated that both State and Federal policy goals are equivalent.
4. Adopt the recommendation of the National Surface Transportation Policy and Revenue Study Commission that observed the redundancy and waste associated with the current system of Environmental Impact Statements (EIS): a full Draft EIS, followed by a Final EIS, and then a Record of Decision (ROD) are prepared and processed in sequence. One of these steps could be eliminated without reducing the credibility of the public comment and disposition steps.

In practice:

- Draft EIS prepared and cleared by agencies for circulation and comment;
 - Agency(s) review and comment, including review of public comments on DEIS itself;
 - Final EIS prepared and cleared by agencies for circulation and comment;
 - Agency(s) review and comment, including review of public comments on FEIS itself; and
 - Agency prepares a ROD which addresses public and agency comments as well. Another public comment period is usually provided for.
- a. Addressing such inefficiencies should be placed on the agenda for the new Executive Order described in Approach 2 below for administrative action as many of the specific requirements are functions of interpretation/regulation rather than statute. Cooperation with CEQ could drive regulatory change and/or policy direction could be addressed by Congress in statute and report language. The CEQ regulations could be adjusted (along with the agency level implementing regulations) without violating the spirit of NEPA. A combined process could eliminate duplication and reopening the issues once specific matters were addressed unless facts have changed in the interim.
 - b. Background - Council on Environmental Quality (CEQ) issues Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR §§1500-1508). To address the NEPA responsibilities established by CEQ, FHWA issued regulations (23 CFR §771), Environmental Impact and Related Procedures. The citations pertinent to this proposal from the CEQ regulations include:
 - i. Section 1502.9 draft, final, and supplemental statements. Requires both draft and final EISs, both of which “must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act.”
 - ii. Section 1505.2 Record of decision (ROD). Requires that “At the time of its decision...each agency shall prepare a concise public record of decision.” The regulation spells out that the ROD should essentially contain the decision, all alternatives and factors taken into account, explain how harm is avoided/minimized by way of the decision. In practice, this is not a concise record but a restatement.
 - c. Modern communication media such as the Internet are sufficiently ubiquitous to be embraced as the major means to solicit input and comment. This would avoid the cost and delay associated with printing volumes of materials or holding multiple meetings that add little public access value. Implementing regulations from CEQ should acknowledge that consideration can be given to situations where access to electronic media is so limited as to significantly hinder public input from affected communities. Public participation plans should address those audiences on an exception basis.

- d. Archaic communication requirements such as legal notification postings, formal public hearings, extensive mailings, etc., should be reviewed and updated in light of the acceptance and effectiveness of new media and other communication techniques.
 - e. The publication of environmental decisions which trigger a 180-day statute of limitations for lawsuits challenging Federal agency approvals should be made standard practice on the part of the lead agency. Alternatively, the statute that created this period could be amended to start the 180-day period automatically upon signature of the ROD.
5. Direct and provide specific funding for USEPA and U.S. DOT to conduct research to determine whether a modular or scenario approach to conformity (rather than numerous incremental approaches) is feasible, provided that local impacts can be taken into consideration. In order to encourage programming that provides full information in a timely manner as to the combination of projects contained in a TIP/STIP, an approach to conformity calculations should be explored that is not exclusively linked to specific projects but instead to geared toward various scenarios.
- a. A Transportation Improvement Program (TIP) is a programming document that is updated at least every four years, containing projects that require a Federal action or that are regionally significant. Once the TIP is adopted, changes (administrative modifications or amendments as defined in 23 USC 450.104) are subject to approval which could include a redemonstration of conformity (if in maintenance or nonattainment) for the proposed change to be considered.
 - b. Frequent analytical “runs” of the conformity model are time and resource intensive; the perception is strong among transportation practitioners that AQ advocates at the Federal level consider such delays to be acceptable and appear to be biased toward “no-build” approaches. In contrast, such iterative analyses are often considered by project sponsors to be unnecessary and unjustified, depending upon the scale of the change. Since timeliness and tradeoff understandings are more important to decision-makers at a larger scale particularly considering the limited precision provided by conformity models. Thus, the implications might be able to be determined at the scenario level and still be influential to the decision process.
 - c. There is no off-the-shelf model available for such an approach at this time; thus new or refined models are a key component of the research. Incorporate into statute explicit policy direction to USEPA/U.S. DOT to support the revision of air quality regulations in a manner that is intended to avoid analytical burdens that preclude officials from understanding the implications of alternative combinations of transportation projects, policies, and operations.
 - d. A “Test and Evaluation” approach could be initiated jointly by FHWA and FTA with EPA to test the feasibility of such modeling and administrative procedures, and in the meantime, allow recipients to receive timely conformity approval. An interagency MOU could be establish as

- an initiative to minimize unnecessary delay due to iterative conformity determinations while encouraging recipients to build the capacity to undertake necessary analyses.
6. Expand the availability and use of programmatic agreements for additional CEs. States currently develop agreements with FHWA that allow them to essentially determine classes of improvements that will be CEs, eliminating the need to review individual projects. Now that there has been a long period of experience with CEs, there are likely to be additional improvement types that could be defined in such a way as to be added to the list and used with confidence that due diligence is taking place. This is happening in a piecemeal fashion at the individual grantee level (mostly by FHWA Divisions for items that are noncontroversial in their locations). FHWA and FTA could initiate a solicitation from their grantees as to the areas that could benefit from additional programmatic CEs.
 - a. Background – The technique of programmatic agreements is contained in CEQ regulations 40 CFR 1508.4 and represents categories of actions which do not individually or cumulatively have a significant effect on the environment and, therefore, neither an environmental assessment (EA) nor an EIS is required. A specific list of CEs that normally do not require any NEPA documentation or FHWA approval is set forth in 23 CFR 771.117(c). Other projects, pursuant to 23 CFR 771.117(d), also may qualify as CEs if appropriately analyzed, documented, and approved by FHWA at the Division level. States currently develop agreements with FHWA that allow them to essentially determine classes of improvements that will be CEs, eliminating the need to review individual projects.
 7. Streamline and coordinate reporting requirements to reduce redundant reporting to multiple entities.
 - a. Particularly considering the relative size of the Federal transportation grant programs, Administrative actions should take into consideration the multiple uses of grant information. The challenges associated with new reporting requirements under ARRA should be considered “lessons learned” and duplication should be avoided.
 - b. Evolving reporting requirements under the Recovery Act (U.S. DOT program reporting, OMB standardized reporting, supplemental reports required by the Congress) demonstrated extra resource requirements. As reported by the GAO, “The existing Federal surface transportation structure has well-established programs and processes that were understood by state departments of transportation, local transit agencies, and others. The Recovery Act requirements and supplemental guidance have created many challenges for state highway and transit program officials who were only accustomed to meeting normal reporting requirements.”
 8. Simplify Federal approval processes when Federal formula grants are less than one-third of the project costs.
 - a. Titles 23 and 49 could be amended to provide authority for recipients of formula grants providing more than two-thirds of the project funding to

certify that they will comply with all Federal statutory requirements and be permitted to proceed without further approvals.

- i. These actions would be subject to recall, or a “shut-down” notice should the Federal agency make a finding that a particular Federal statutory requirement is not being met.
 - ii. Require in statute that U.S. DOT, along with other regulatory agencies, initiate an effort to develop consistent expectations for environmental permitting and procurement requirements across all modal formula grant programs.
 - iii. This would not only promote an “even playing field” such that grant recipients would be able to manage on a more intermodal basis, but would give such projects more flexibility to choose from the appropriate funding source.
 - iv. The degree of judgment in applying these processes to specific contexts should not be reduced by the statute.
- b. Background - One of the advantages of formula grants is their efficiency - a characteristic that is critical to public works programs that have a long planning and implementation horizon.
 - c. In contrast, discretionary programs create a “supplicant role” for potential grant recipients - large discretionary awards require specialized applications with large, up-front costs and long waiting periods between decisions. Technical reviews are often blended with policy and political priorities. These may be justified for the largest of mega projects. Simplified criteria should be used for smaller investments and particularly for those which are relatively routine and where the authority to select projects within program purposes rests with the recipient. This has been the longstanding approach under Title 23. Expectations for Title 49 programs have been less so, strongly influenced by the New Starts processes.
 - d. Reauthorization is the appropriate setting to reinforce longstanding expectations for conducting Federal approvals in both highway and transit programs under the highway formula model. Authorizers can make clear that during implementation, the temptation to apply large discretionary application rules to more routine, formula grants where the Federal funds are only one of many sources are to be avoided.
9. Require in statute that U.S. DOT initiate an effort to develop consistent expectations for environmental permitting and procurement requirements across all modal formula grant programs.
 10. Advance as full partners the teaming practices and “work-arounds” that have been opportunistically used by sponsors and agencies to make Federal processes work. These are discussed in more detail in Approach 2 but are repeated here as they could reflect a Federal commitment to outcomes. (Best Practice)
 11. Establish Administratively clear, up-front criteria for Federal eligibility and project approval to build an understanding of what information is necessary

to advance a successful project. Formula funding with clear financial matching requirements help grant recipients be more realistic as they have “skin in the game.” (Best Practice)

12. (Best Practice)

13. Development of multiagency stewardship agreements can help set ground rules and manage expectations as individual projects move through the approval pipeline. (Best Practice)

2.2 APPROACH 2 – TEAMING PARTNERS FOR PERFORMANCE

Improvements to Grant Programs will clarify the respective roles of Federal, state, and local agencies for accountability and efficiency in achieving jointly developed milestones.

Findings

- Relationships between and among Federal agencies, grant recipients, and subgrantees are key to timely program delivery and implementation. Strong relationships built on trust are critical to supporting innovative processes that accelerate program and project delivery.
- Effectiveness of Federal investment suffers when oversight is equated with risk aversion. In effect, control is valued over timeliness or budget. Delay is considered acceptable by the grant makers and regulators and even seen as evidence of diligence. This is out of step with today’s business environment which recognizes the value of time for both public and private investments.
 - Federal agencies are not accountable for delays or cost increases imposed by the approval processes.
 - Federal agencies frequently engage in numerous and iterative critiques and are not assessed on their ability to establish and communicate criteria and directions “up front,” particularly for formula grants. Combining reviews rather than conducting them sequentially have been shown to have benefits for all involved (for example: NEPA/404).
 - In contrast, emergency situations demonstrate that repair and replacement of facilities require minimal processing and that Federal skills and experience can add significant value. When public consensus and pressure are present, barriers to expedited processing essentially disappear because Federal agencies’ priorities are in sync with those of their Grant recipients. It can be argued that should be the case even in “slow” emergencies such as predictably deteriorating facilities.

- Grant recipients can improve timeliness when they work to find common goals with Federal agencies. When grant recipients work to understand and address agency policies, priorities, and other concerns (for example, by initiating progressive management and accounting practices), their efforts are usually well received. (See Case Study in Utah at right.)

In Utah, the transit agency, UTA strives to have complete buy-in on all projects. All stakeholders are involved from the beginning of a project and they identify mutual interests. UTA also meets with the FTA regional office once a month to understand what is working and what is not on any given project. If there is a major issue, UTA will ask for a longer meeting with FTA so they can work everything out together. This way, paperwork is not transferred back and forth multiple times, saving administrative time.

- Timely regulatory reviews and actions are valuable even if the result is “no.” Accelerating program and project delivery is particularly critical when resources are stretched thin and immediate employment benefits are available. The worst situation for potential grant recipients is to be “strung along,” i.e., they must expend scarce resources to make progress under a process that leaves projects and programs in limbo or they cannot move to consider alternatives because it would undermine their negotiation position.

High-Potential Actions

1. Establish in Federal law a new “Program Delivery Partnering Plan” option that would clarify expectations for Federal grant recipients and agencies. At the option of the potential grant recipients, at the time that a class of projects is being considered for inclusion in the (S)TIP, the grant recipients can submit a Program Delivery Partnering Plan and/or convene an interagency meeting to develop such a plan, including a time line and process agreement.
 - a. This provision could be either in an amendment to 23 USC 106 or contained in report language to accompany reauthorization.
 - b. Federal formula funds would be eligible to pay the expenses of such planning, including conduct of the meetings and procuring high-quality facilitation. Features of the Project Delivery Partnering Plan (below) could be adopted as appropriate.
 - c. Model for Consideration – The authority to conduct program oversight is contained in 23 USC 106 and has been interpreted as requiring FHWA and the State to enter into an agreement documenting the extent to which the State assumes the responsibilities of FHWA under Title 23. The Stewardship/Oversight Agreement formalizes these delegated responsibilities and agreements to address how the Federal-aid highway program will be administered in the State. FHWA Divisions currently develop tailored Stewardship Plans, individual to each state, which document such expectations and working relationships.
 - d. The Program Delivery Partnering Plan envisioned here would include a broader set of partners, including Federal and state resource agencies and others as locally applicable. It could be useful in working across modes

as well since at the request of the grant recipients, modal agencies would be compelled to participate.

2. Establish in Federal law a comparable optional “Project Delivery Partnering Plan” requirement for Federal grant recipients and agencies. At the option of the potential grant recipients, at the time that a project is being considered for inclusion in the (S)TIP, the grant recipients can submit a Project Delivery Partnering Plan and/or convene an interagency meeting to develop such a plan, including a time line and process agreement.
 - a. This plan would clarify expectations for Federal grant recipients and agencies. This could be either in an amendment to 23 USC 106 or contained in report language to accompany reauthorization.
 - b. Policy direction in accompanying report language to agencies would be explicit in support of the constructive use of elevation to resolve problems expeditiously.
 - c. Policy direction to agencies also would explicitly allow for a “default” value in the arranged time lines; i.e., failure to take a Federal approval action according to schedule means Federal concurrence with advancement to the next stage unless Federal agencies identify specific concerns and specific remedies in accordance with the time line.
 - d. Federal formula funds would be eligible to pay the expenses of such planning, including conduct of the meetings and procuring high-quality facilitation.
 - e. Extend the option to transit and other modes of using Federal formula funds to supplement resources for project reviews (environmental and otherwise), with clear interagency MOUs.
 - f. Model for Consideration – Requirements currently in law for Financial Plans for mega highway projects. 23 USC 106(h) currently requires recipients of Federal financial assistance to develop an annual financial plan for Major Projects of \$500 million or more and projects with a total cost of between \$100 million to \$500 million. The focus of the existing requirements are financial planning whereas the Project Delivery Partnering concept could extend to the full development and execution cycles for projects and include the full set of Federal agencies in the understandings.
3. Establish in law a “prompt action” provision with Federal budget consequences. Under such a provision, Federal agencies would be required to act on project approvals within a set deadline.
 - a. Baselines would need to be established through a rulemaking process.
 - b. Failure to deliver could result in delay costs charged to the agency. For example, the penalty for delay in approving a document could be set as a fixed percentage of the cost to prepare the document.
 - c. Alternatively, failure to deliver could be considered approval and acceptance to move to next implementation step.

- d. Such “prompt payment” requirements could be waived if a “Program Delivery Partnering Plan” were in place. This would motivate agencies to participate in such interagency agreements.
 - e. Model for Consideration – “Prompt payment” act under which the Federal government would pay interest should it fail to pay legitimate invoices on a timely basis. “Prompt payment” provisions exist throughout Federal programs which apply to both recipients (in payment of their contractors and subcontractors) and the Federal government. For example, under the Federal-aid Highway Program, the Federal government must pay interest should it fail to pay legitimate invoices on a timely basis.
4. Establish in law a partnering Recognition and Award Program. Demonstrate the value of partnering and problem avoidance by setting up an Award program within the Federal establishment that highlights and rewards collaborative practices with exceptional outcomes, including strong grant recipients partnering relationships and Federal agency value added, resulting in accelerated program delivery through problem avoidance.
- a. The Federal Government has the authority under Title 5 USC to conduct such programs to recognize and motivate both Federal employees and grant recipients/the public. The degree to which such programs would be established in statute would be a function of the high visibility that sponsors would want to create.
 - b. Goal would be not only to reward outstanding performers but to help replicate key features of such constructive experiences. A panel of peers would determine the selections based on applications. Award money could be made directly to individuals on staff of either agencies and/or recipients.
 - c. Partnering across modal lines and jurisdictions would be encouraged with specific categories of best practices established to showcase these aspects.
 - d. In our interviews, we frequently heard that constructive working relationships particularly with customer-focused Federal field offices recognize the “win-win” relationship at both the agency and personal levels – that Grant recipients success is Federal success. It would be stifling to dictate “how” such relationships would develop but the features of successful models exist; holding regular meetings to discuss projects, issues, and advance trust and partnerships were frequently cited.
 - e. Partnering across modal lines and jurisdictions would be encouraged with specific categories of best practices established to showcase these aspects.
 - f. Model for Consideration – FHWA has numerous award and recognition programs that reward collaborative performance – this would be tied specifically to acceleration as well as quality results.

5. Utilize the new Executive Order that requires Federal agencies to review their rules to remove those that “stifle job creation and make our economy less competitive.” Work with the Obama Administration to apply the Regulatory Review embodied in EO 13563, issued January 18, 2011, to those regulations and agency practices that impact timely surface transportation grant delivery.
 - a. Issuance of an EO is the prerogative of the White House and then has the force of law with respect to Executive Branch agencies.
 - b. Model for consideration with lessons learned:
 - i. EO 13274 Environmental Stewardship and Transportation Infrastructure Project Reviews (originally issued by President Bush in September 2002) had the purpose to “emphasize the importance of expedited transportation project delivery while being good stewards of the environment.”
 - ii. Under the Bush era EO, a *continuing* set of activities was established which brought the various executive branch departments together as a Task Force to address the issues that exist due to coordination and communication failures. The Task Force has continued at a staff level, including environmental toolkit development and capacity training by FHWA and FTA.
 - iii. What appears to be missing is continuation of the eight agency Task Force charged with developing policy recommendations regarding aspects of the environmental review process or the designation of new priority projects and serving as a means to elevate issues to the highest decision points.
 - c. Alternatively, the interagency Task Force established under the EO could be established by Congress, making these Task Forces and activities permanent.
6. Establish in law and provide dedicated funding, a “Transportation Program Delivery Academy.” The purpose would be to improve the training and understanding among senior officials at Federal/state/local levels, not just within the transportation agencies, but in the other regulatory agencies as well.
 - a. “Slots” in the program would be reserved for non-transportation regulators and this policy direction would be provided for in report language accompanying the statute. Support from the Administration at the highest levels (such as the Council on Environmental Quality) would be beneficial. “Swaps” of personnel under interagency memoranda would limit the out of pocket training costs for such a program.
 - b. Certification could be established as demonstration of qualification for senior-level rating in the Federal Civil Service to motivate participation.

- c. The scope would not be limited to mega projects but to program management at the executive level. Participation would be open to private sector professionals through tuition.
 - d. Through rotational assignments and certification programs, greater exposure and greater competency would be developed among program administrators. Coursework would sensitize program managers to development and implementation issues and provide opportunity to experience integrated planning and other techniques.
 - e. Model for Consideration – The National Highway Institute (NHI), a staff office in FHWA Headquarters was established by Congress in 1970 as the training arm of FHWA, and develops technical training for FHWA, state, and local employees associated with Federal-aid highway work. This training is conducted primarily through a program of short courses both in the classroom and on-line. Tuition and direct educational expenses (excluding salaries) are an eligible use of Federal-aid formula funds. Participation in these courses is voluntary.
 - f. Model for Consideration – Several topical “centers for excellence” were established as part of SAFETEA-LU’s research programs. Under this program, AASHTO conducts its Center for Environmental Excellence in cooperation with FHWA to promote environmental stewardship, encourage innovative ways to streamline the transportation delivery process, and serve as a resource for transportation professionals. Such a center could be directed to establish and execute a certification program.
7. Take fuller advantage of provisions which permit recipients to supplement staff at FHWA Division offices and/or Resource Agency field offices, to expedite high-priority projects for environmental review; extend that statutory authority to other reviews.
- a. When grant recipients have chosen to use Federal-aid formula funds to supplement staff at FHWA Division offices or other regulatory agency field offices, a clear benefit has been shown when an understanding (with written Memoranda of Understanding) between the agencies is developed as to the priorities to be addressed and the projects that those staff will be working on. The expectations are clearly to address workload issues rather than to introduce a bias in the analysis or favorable treatment in the Federal decisions. (Best Practice) (See Case Study in Missouri at right.)
 - b. 23 USC 139(j) codifies the eligibility established in SAFETEA-LU, permitting Federal-aid formula funds or Title 49 funds to provide additional resources to Federal agencies (including U.S. DOT), state agencies, and tribes participating in the environmental review process. This could be amended to extend beyond environmental work to other aspects and modes of program and project delivery.

Many DOTs fund positions in resource agencies and retain consultants for positions in other agencies to expedite the review and approval process. In Missouri, the DOT shares office space with the Department of Natural Resources, which facilitates conversation and creates a good working relationship.

8. Expand the use of integrated analysis and permit approvals such as National Environmental Policy Act (NEPA) and Clean Water Act Section 404 procedures.
 - a. As explained on FHWA’s website: “In 1992, the U.S. DOT, EPA, and the Department of the Army issued a Memorandum of Agreement (MOA) entitled “Implementation of the Intermodal Surface Transportation Efficiency Act (ISTEA).” This MOA established initiatives to improve the regulation and reduce inefficiencies under Section 404 of the Clean Water Act. ... Merging the FHWA NEPA and Section 404 permit processes expedites project decision-making and leads to one overall public interest decision, at one point in time, for a Federal-aid project. Both the NEPA and Section 404 processes involve the evaluation of alternatives, the assessment of impacts to resources, and the balancing of resource impacts and project need.” This is an opportunity for sponsors to adopt best practice. In practice, regional efforts to adopt and tailor the integration more locally are key to making the process successful and are highly dependent upon regional leadership and relationships.
 - b. Transportation law does not require the NEPA/404 process. The decision to use a formalized merger process or other formal streamlining mechanism is in practice essentially the option of the sponsor such as the state DOT.
 - c. The Council on Environmental Quality (CEQ) issued *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR §§1500-1508). The citations pertinent to this proposal from the CEQ regulations include:
 - i. Section 1506.4 combining documents. “Any environmental document in compliance with NEPA may be combined with any other agency document to reduce duplication and paperwork.”
 - ii. Section 1502.25 “To the fullest extent possible, agencies shall prepare [environmental impact analyses] concurrently with and integrated with... related surveys and studies required by... other environmental review laws and executive orders.”
9. Initiate early and ongoing teaming between Federal transportation agencies, Resource Agencies, and Grant recipients/program sponsors to create high-performance teams with shared goals and outcome expectations on major projects. Joint planning and awareness begins well in advance of requests for “official action.” Early identification of potential issues and strategizing for results creates trust, credibility, opportunity for innovation, and mutual respect. Sponsoring agencies have the benefit of more complete information so that they can make decisions that avoid wasting time pursuing unachievable program or project goals. (Best Practice) (See Case Study in North Carolina at right.)

The North Carolina DOT (NCDOT) began the Low-Impact Bridge Replacement Program to plan, design, and replace bridges within one year, from start to finish. To accomplish this, NCDOT created an Interagency Leadership Team, bringing resource agencies together to jointly develop a streamlined environmental process for rapid delivery.

10. Require relevant Federal agencies to participate with recipients and project sponsors as standard protocol in establishing and managing to a time line with a series of clear milestones. Federal agencies adopt this step as a serious component of their oversight and stewardship responsibilities. Lessons learned and relationships developed around large and complex projects are then applied across the board. (Best Practice)
11. Ensure that interagency working groups have formal agreements or informal understandings in place as to when decisions can be “elevated” to higher authorities to break impasses, and a clear expectation that such elevation options will be used by project sponsors only if the working group cannot resolve the issues in a timely manner. It has been observed that agency staff prefer to handle issues at as low a level as possible, closest to where the direct responsibility lies, and thus the pressure to avoid elevation can be constructive. Professional facilitators are often employed to promote progress on highly visible projects. (Best Practice)

12. Apply “practical design” philosophies, along with context-sensitive solutions-style techniques.

- a. Bringing the public to the table early in the transportation planning process, through context-sensitive solutions (CSS), ensures that there are no surprises or public outcry at later stages in the project development process. (Best Practice) (See Case Study in Michigan at right.)

The Grand Vision in Michigan is one of the most comprehensive citizen-led initiatives in the country to address growth and transportation issues in a six-county Michigan region. The group originated over a disagreement with a proposed highway and bridge project. The lack of initial collaboration caused the funding to move from the transportation project to this community planning effort. The Grand Vision now provides an open and transparent process so consensus can be reached and projects can advance.

- b. Whether it is under the umbrella of “Practical Design,” “Smart Transportation” as in Pennsylvania, or CSS, a growing number of States have embraced flexibility in design standards as a means to bring environmental and community-based concerns into the forefront.
- c. The AASHTO guidelines at the design level, for example, have consistently provided flexibility in design however, culturally, engineering judgment has almost always favored a conservative approach that avoids deviating from the highest standards whether from fear of tort liability or the desire to provide the public with long-lasting quality products or both.

A number of State Departments of Transportation, including Pennsylvania, New Jersey, Massachusetts, Vermont, Missouri, Washington, and Oregon are using a new, *practical design approach* to accelerate transportation projects. Known specifically as Smart Transportation in Pennsylvania, the program advances projects by:

- Identifying opportunities for cost savings by making sure that existing infrastructure investments are taken care of first;
- Ensuring that all project needs are clearly understood and defined;
- Approaching design standards, with more flexibility;
- Prioritizing high-value/low-cost projects;
- Creating opportunities for sharing resources (across jurisdictions and across agencies); and
- Utilizing Context Sensitive Solutions (CSS) principles to involve the community early in the planning process.

- d. “Practical design standards” have been defined as a collaborative, interdisciplinary approach that involves interested entities to develop a facility that fits the physical setting, balances costs with scope, maintains safety and mobility, and preserves the scenic, aesthetic, historic and environmental resources.
- e. Another benefit is that this approach can decrease program and project delivery time and reduce project costs by scaling the project to the situation.

2.3 APPROACH 3 – INTERNAL RECIPIENT FOCUS FOR EFFICIENCY

Grant recipients-based strategies can reap program-wide time and cost savings on both routine and major projects.

Findings

- Across the transportation sector, project delays are often considered “standard practice” and “beyond the control” of the sponsoring agencies. There are many reasons for this perception. This research sought to look comprehensively at sources of delay associated with Federally funded transportation projects and to identify possible remedies. It should be noted that beyond the delays that are directly attributable to Federal laws and regulations, the perception can discourage private sector acceleration efforts when Federal funds are used. The remedies that are described here reflect an assessment that some delays are at least in part the result of industry practice rather than any specific Federal requirement. Without a specific statutory or regulatory impediment, there is greater potential for expediting Federally funded projects by smoothing the way for the adoption of techniques and management practices that move beyond traditionally low expectations by those working on transportation projects to higher ones befitting the public’s business.
- When Federal project delays are discussed, Grant recipients often attribute such delays to “lack of funding.” In reality, we have come to understand that sometimes sponsors begin work on development of projects in part to satisfy various constituencies, e.g., a region within a state. In such cases, project development may later be delayed intentionally, due to a lack of construction funds and thus cannot be fairly attributed to Federal requirements. A related observation is that it is the lack of predictability of future funding as much as the funding level that impacts how “project pipelines” are managed by both grant recipients and grant making agencies alike. Strategically managing acquisition and deployment of staff and other resources is significantly improved for projects with relatively long development phases when future program levels are predictable, even if only within a range of certainty.

- Operational policy varies among potential grant recipients as to whether there is sufficient value in developing and keeping current a set of “on-deck” and closer to “ready-to-go” projects to justify the investment. The American Recovery and Reinvestment Act (ARRA) gave us a window into the implications of these policies. Having a group of “shovel ready” projects paid off for grant recipients who, as a result of ARRA’s short advance time and tight deadlines, were in a position to be opportunistic. Others grant recipients have taken a more conservative approach and conserve overhead costs by delineating and designing only their top priorities. They argue that a “shelf” of “old” projects does not always conform to evolving priorities and builds unreasonable expectations among constituents.
- Grant recipients acknowledge that their experience with delay in using Federal funds can impact their program strategies. The degree to which grant recipients are dependent on Federal funds for their capital program has a great influence on these decisions as well. (See Case Study in San Diego at right.)
 - » For those grant recipients whose own regulations and requirements closely mirror Federal requirements, it is more efficient to treat all projects as if they will be Federalized, optimizing their ability to move across Federal program funding “silos.” This offers the advantage of being able to shift and substitute projects more easily should the Federal funding be delayed.
 - » For those who have significant capital funding sources beyond the Federal programs and desire to minimize delay from significantly slower Federal approval processes, they apply the Federal funding for less controversial, less environmentally sensitive, and simpler projects even if those projects may not be their highest priority. In such situations, concentrating non-Federal funding on more complex projects where local control of time and budgets is more easily maintained has great value.
- Looking inward, some grant recipients are changing their operating structure to better focus their limited resources. As with most organizations, particularly those with the size and impact of transportation agencies, leadership plays a critical role in preparing for and carrying out functional responsibilities. As DOTs have matured and missions have evolved, strong leadership at the top has been recognized as key to success. When communication of priorities is strong and work teams are empowered and accountable, program/project delivery benefits can be measured in both time and cost. A number of the interviewed DOTs argued that leadership is the key element to accelerating delivery, specifically including:

The San Diego Association of Governments (SANDAG), the MPO for the San Diego region, receives a half-cent local sales tax and partners with Caltrans, MTS, and NCTD to advance high-priority transportation projects.

- Setting priorities, following through with internal resources and consequences, and personally intervening with external partners to keep these priorities on schedule and within budget.
- Establishing internal structures that better balance the tendency of functional specialty units to inhibit a comprehensive project perspective. Top leadership is seen as critical to effectively establishing and using project management teams that are accountable for results, open to innovation, and create opportunities for better communication across functions along the entire “life” of a project. (See case study for Kansas at right.)

The Kansas DOT (KDOT), as well as several other agencies have adopted a “team approach” to major highway projects by organizing project teams with members representing different functional areas of the Department. The focus of the team is to develop a higher-quality project, on time, and within budget through better coordination and communication during the project development process. Alternatively, the Utah Transit Agency establishes one project manager for the life of a project to ensure that a project retains continuity as it moves between different departments.

- Some grant recipients have recognized that they can increase efficiency (and in the long run reduce costs, increase predictability, and accelerate individual projects) if they “bundle” projects with similar characteristics. In a sense, they can harness “economies of scale” if they can justify obtaining and organizing resources based on the common elements of a class of projects. Prime candidates for this treatment include asset preservation for a class of facilities (such as bridges or pavement), safety upgrades in a transportation corridor or corridors, or operations (such as installation and maintenance of traffic signals). This would still allow for projects to be customized for site and community conditions but the investment in addressing common features for priority classes of investments can be substantial. The key is finding the proper balance between standardization and customization to outweigh the costs associated with preparation as compared to those associated with “one-of-a-kind” efforts. Examples include:

- “Banking” various mitigation investments such as wetlands and other environmental features. (See case study San Diego at right.)
- “Templates” have been adopted to help standardize the project development process in a production-line fashion. The process of building a template not only has the advantage of developing an agreed-upon process that Federal agencies might accept on a streamlined basis but also helps develop technical proficiency by recipient staff. (See case study Maryland at right.)

The San Diego Association of Governments (SANDAG), the MPO for the San Diego region sets aside local funding for an Environmental Mitigation Program. When the environmental impacts of a transportation project need to be mitigated, the funds are already in place to do so, accelerating the project.

The Maryland State Highway Administration (SHA) cultivates their employees so they are proficient in their subject areas. This technique can accelerate projects because it offers one point of contact for a key area, ensures that tasks are executed correctly the first time, and builds trust among other agencies by allowing them to work with the same SHA personnel.

- Safety audits have helped identify corridor-wide improvements that can yield benefits across similar facilities in a state or other jurisdiction.
- Among the most difficult project phases on which to control budget and schedule for transportation agencies involves right-of-way acquisition, utility relocation, and railroad intersections. These activities can become turf wars between transportation interests and relatively independent third parties – “all” that can be accomplished from the point of view of some transportation agencies is to meet Federal uniform relocation and other “non-transportation” requirements as fast and as cheaply as possible. The challenges multiply if, because of location uncertainties, they are not addressed until late in the design phase or early in the construction phase. The lessons learned about interagency collaboration can be applied here as well.
 - Finding common ground in advance of individual project decisions can help grant recipients regularly work with these third parties. For example, utility companies have their own resource constraints and infrastructure management pressures. If transportation agencies and utilities can stake out a mutuality of interests, they can help each other find synergy or at least avoid direct conflict.
 - Particularly for subsurface utilities in congested and older urban areas, the exact location of these utilities may not be known. Developing a long-term relationship with these third parties, including developing mapping resources for shared use in advance of any particular project siting, can provide very valuable information in a timely manner.
 - Integrated internal teams which bring right-of-way specialists into the project development process as early as possible can help avoid delays due to insufficient time gaining access to residential and commercial properties where there are conflicts with the transportation right-of-way.

High-Potential Actions

1. Incorporate into Federal partnership agreements explicit commitments by their headquarters/resource center/regions/field offices in support of remaining on schedule and on budget. As an initiative of the U.S. DOT, these commitments would not be empty promises but backed up with allocation of U.S. DOT’s staff, research agenda and budget to deploy appropriate tools and techniques. Alternatively, Congressional support could be provided by appropriation or reauthorization line item or report language.
 - a. Based on that mission, U.S. DOT’s research agenda and budget would reflect a plan to concentrate Federal research and staff resources on support for technical assistance, cross-training, and tools to foster improved business practices.
 - b. This could be coordinated with the NCHRP and TCRP research agendas as well. As a complementary or alternative approach, a pooled fund

study or administrative initiative could increase exposure to tools or practices by:

- i. Sharing templates and other innovative techniques, including publishing successful experiences; and
 - ii. Sharing latest techniques in cost estimating and control of scope, including assisting agencies in determining the earliest possible time during program and project development to match cost with scope.
2. An initiative of the U.S. DOT could seek a Federal research budget line item that would sponsor a peer review and/or develop a model STIP/TIP database that could help recipients in presenting information and serve to increase transparency and access to project information while minimizing special purpose reporting. Alternatively, Congressional support could be provided by appropriation or reauthorization line item or report language.
- a. Sharing cost and scope information about projects in a centralized state system could ensure that the most up-to-date information is available to internal decision-makers, Federal partners, and the public.
 - b. Since a primary goal in creating STIPs and TIPs was facilitating coordinated planning, such tools could be a step toward streamlining the current STIP/TIP processes. (See Case Study Albany at right.)
3. Establish a partnering grant initiative between Federal Agencies and grant recipients to help transportation agencies apply quality innovative contract management principles. Congressional support could be provided by appropriation or reauthorization line item or report language.
- a. Upon application by a grant recipients, the partnering agencies would work together to prepare for such procurements that do not follow the traditional Design/Bid/Build approach, including a thorough and thoughtful approach to communicating a project's specific outcomes.
 - b. This represents a cultural change for both owners and contractors where a more proactive role by the Contractor and a less controlling, oversight role by the Owner is key to maximizing its benefits.
 - c. The literature shows that applying traditional Federal oversight criteria (developed for the Design/Bid/Build model) can be counterproductive in these newer relationships.

The Capital District Transportation Committee, the MPO for Albany, New York utilizes the centralized eSTIP program to update the STIP themselves once a TIP amendment has been processed. Although this adds an extra step for the MPO, it ensures that the amendment, particularly the financial information and the time line, are consistent across regional and state levels.

- d. In contrast, Federal agencies can add value in a Design-Build situation if they consider themselves part of a Project Quality Assurance team, documenting that proper Quality Control and Quality Assurance is being performed. This partnering initiative could be accomplished administratively or with Congressional direction. (See Case Study Missouri at right.)
- The Missouri DOT created the Partnership Development Process, which is a four-step process that encourages other agencies to partner with MODOT so that innovative financing methods can be developed for transportation projects.
4. Foster investments by public agencies to support their internal operations such as information systems at the program and/or system levels that speed decisions in the long run. Such investments should not be considered “excess overhead” – they can be worthy investments in their ability to leverage the ability to expedite program-wide priorities. A new Federal program, as a takedown from a national category, or Congressional appropriation or reauthorization line item would highlight such practices.
- a. Investments in ongoing program or system wide efforts can reap time benefits on multiple projects, foster expedited decision-making, and inspire partner confidence. These can include:
- i. GIS mapping of roadways and roadsides;
 - ii. Resource inventories;
 - iii. “Land banking” (buying land on the open market ahead of project development to reduce ROW acquisition costs and to protect transportation corridors); and
 - iv. Mitigation “banking” of environmental and historic assets.
- b. Developing stronger relationships with utilities can have a long-run payoff. Involving them early in the process; meeting with them to discuss the schedule of upcoming projects; creating a mutual understanding of priorities.
5. Invest in the internal capabilities to effectively use innovative contracting mechanisms such as Design/Build and construction management innovations that foster acceptance in the local industry. Forward thinking users of Federal funds have worked to align agency interests with contractor interests under innovative contracting mechanisms. Essentially, they identify the major risks/concerns for a given project (completing work in a certain period of time, keeping a certain capacity available during construction, etc.) and structure monetary incentives accordingly to incentivize contractor.
- a. To reap the benefits of such innovative contracting approaches requires these agencies to invest in the capacity to manage innovative contracting for quality as well as time. Design-Build and related innovative contracting procedures have become more widely accepted across the

industry and many states now have some experience using Design-Build or other innovative contracting practices on their transportation projects.

- b. This system minimizes the project risk for an owner and reduces the delivery schedule by overlapping the design phase and the construction phase of a project. It is particularly important to the owner and the contractor that requirements for results to be clearly spelled out in the request for proposals. The owner needs to establish internally and in advance the criteria by which it will evaluate whether a proposal is responsive; subsequently, the owner needs to determine how the responsibility to assure that results will be assured. (See Case Study for Missouri at right.) Some (Best Practice) variations on the theme:

The Missouri DOT has enhanced the contractor/owner relationship by hosting quarterly meetings with representatives of the general contracting industry. By establishing a dialogue and including the contractors in the process, a mutual respect has formed. This translates into more efficient contracting methods.

- i. Design-Build - Allows construction to begin prior to completion of final design. “This parallel processing Accelerating project start-up. ... Risk is that construction might be started before all environmental permits/approvals have been granted.”
- ii. A+B Contracting - Includes built-in financial incentive for the contractor to complete a job on or ahead of schedule, as well as disincentives for not finishing on time.
- iii. Construction Manager - General contractor (CM-GC). Extends upon the Design-Build approach by bringing the contractor to the table even earlier in the design process.
- iv. Evergreen Contracts - “On-call” or task order agreements with pre-qualified technical consultants significantly abbreviate the procurement process when DOT staff need assistance on particular project issues.

- 6. Revise current Federal guidance and regulation to encourage quality partnerships between utilities and DOTs by making it feasible for DOTs to develop this business line, either via utility contactors or as “force account” work. Utilities could pay DOT to do work or vice versa, allowing DOT to achieve greater control over project schedules. Barriers are related to industry and administrative practice and perceived benefits to recipients rather than statute. (See Case Study Minnesota at right.)

The Minnesota DOT (MnDOT) implemented a Utility Coordination Process, which is meant to resolve utility conflicts early and help advance all utility work, prior to construction. MnDOT provides check lists to the project manager, the utility owner, and the local agency project manager so that all parties clearly understand their roles, responsibilities, and next steps to expedite the relocation.

7. Employ integrated project-based teams, including participating agencies and local governments. Some grant recipients have adopted business practices such as integrated project teams, to help ensure project management continuity across the various project phases, from start to finish. This can extend beyond DOTs to local levels of government who are the beneficiaries of grants and may have the capacity to administer them. The advantage of including on these teams members from the across all agency functions (and potentially Federal partners) lies in enhanced communication on a timely basis. Further, vesting such teams with accountability and empowerment has been shown to help meet time, budget, and quality standards. (Best Practice) (See Case Study for Maine at right.)

The Maine State Legislature passed the Local Bridge Program, which divided bridge repair responsibilities between MaineDOT and the towns. MaineDOT was responsible for the larger bridges and the towns were responsible for the smaller spans. This helped accelerate the large bridge projects since DOT no longer had to worry about calculating cost shares, preparing town billing, or other administrative functions that tend to slow down the process.
8. Improved internal processes can leverage greater trust with external partnerships. Stakeholder and partner confidence grows with demonstrated success. Some grant recipients have begun by standardizing the routine on less controversial projects and this has helped them gain support from Federal field staff for expedited treatment. (Best Practice)

A. Interviews for OCTA Federal Process Improvement Initiative¹

No.	Organization	Lead Interview	Title	Type
1	American Association of State Highway and Transportation Officials (AASHTO)	John Horsley	Executive Director	Association – Highways
2	American Council of Engineering Companies (ACEC)	Matthew Reiffer	Director, Transportation Programs	Association – Highways
3	American Public Transportation Association (APTA)	William Millar	Executive Director	Association – Transit
4	American Society of Civil Engineers (ASCE)	Brian Pallasch	Managing Director, Government Relations	Association – Highways
5	Caltrans	Rick Land	Chief Engineer	DOT – Highways
6	International Bridge, Tunnel, and Turnpike Association (IBTTA)	Neil Gray	Director, Government Affairs	Association – Highways
7	Kansas DOT	Deb Miller	Secretary of Transportation	DOT – Highways
8	Maryland State Highway Administration	Neil Pedersen	Administrator	DOT – Highways
9	Metropolitan Transportation Authority (New York)	Chris Boylan	Deputy Executive Director, Corporate and Community Affairs	Transit
10	Metropolitan Transportation Commission (California)	Alix Bockelman; Rebecca Long	Director, Programming and Allocations; Senior Legislative Analyst	MPO – Transit and Highways
11	Metropolitan Washington Council of Governments (MWCOG)	Ron Kirby	Director of Transportation Planning	MPO – Transit and Highways
12	National Association of City Transportation Officials (NACTO)	Eric Gilliland	Executive Director	Association – Cities
13	National League of Cities (NLC)	Leslie Wollack	Program Director, Infrastructure and Sustainability, Federal Relations	Association – Cities
14	North Carolina DOT	Calvin Leggett	Manager, Program Development Branch	DOT – Highways
15	Oklahoma DOT	Gary Ridley	Secretary of Transportation	DOT – Highways

¹ Note: More than 40 actual interviews were conducted as some individuals and agencies were interviewed multiple times. Several additional interviews were conducted on condition of anonymity.

No.	Organization	Lead Interview	Title	Type
16	Pennsylvania DOT	Larry Shifflet; Jim Ritzmann	Director of Programming; Deputy Secretary for Planning	DOT – Highways
17	San Diego Association of Governments (SANDAG)	Dan Martin	Principal Planner, Project Implementation Division	MPO – Transit and Highways
18	Transportation Consultant	Richard Doyle	Former Regional FTA Administrator	Transit
19	Transportation Consultant	Pete Rahn	Former Director of MODOT, Principal, HNTB	DOT – Highways
20	Texas DOT	Amadeo Saenz	Executive Director	DOT – Highways
21	Utah DOT	Carlos Braceras	Deputy Director of the Utah DOT	DOT – Highways
22	Utah Transit Authority	Michael Allegra	General Manager	Transit
23	Washington DOT	Kathleen Davis	Director, Highways and Local Programs	DOT – Highways

B. Case Studies

North Carolina Department of Transportation (NCDOT): Low-Impact Bridge Replacement Program

Accelerating Delivery with Early and Ongoing Teaming Efforts

In North Carolina, it was standard practice for simple bridge replacement projects to take the North Carolina Department of Transportation (NCDOT) three to five years to deliver.

This consumed time, but it also consumed funding. In the time it took to replace one bridge, two additional ones became deficient, and the financial resources could not keep pace.

To address these issues, DOT appointed an internal team to make recommendations for improvement. In doing so, they realized that there were two specific concerns. The scope of bridge replacement projects had expanded significantly over the years. Simple, or low-impact, replacements addressed a number of needs, such as bridge approach highway alignment and roadway width, instead of focusing on the immediate need, the bridge itself. As a result, simple replacements had become bigger and longer projects, with larger price tags, and more environmental impacts.

To accelerate bridge projects and maximize financial resources, the team made two recommendations; modify the design standards for bridge replacements, and plan, design, and construct simple replacements, from start to let, in a one-year timeframe.

The Department developed the “Subregional Tier Design Guidelines for Bridge Projects” to limit scope expansion. These guidelines directed planners and designers to minimize changes in the vertical grade, structure length and width, approach roadway limits and right-of-way for each site. The Guidelines helped focus the replacement process to the bridge itself, accelerating the project.

To reach the aggressive one-year goal for replacing these bridges, the Department knew that the biggest delay could result from the environmental review process. To address this early, the Department solicited the help of the North Carolina Interagency Leadership Team. The Team consisted of NCDOT, North Carolina Department of Environment and Natural Resources, North Carolina Department of Cultural Resources, North Carolina Department of

To be considered a low-impact bridge replacement, the project must:

- Have construction costs of \$1.2 million or less;
- Require minimal permits;
- Have minor right-of-way and Utility impacts;
- Not require a FEMA study or on site detour; and
- Meet other low-impact characteristics.

Commerce, North Carolina Wildlife Resources Commission, U.S. Department of Commerce NOAA Fisheries, North Carolina Agriculture and Consumer Services, U.S. Environmental Protection Agency, U.S. DOT Federal Highway Administration, U.S. Fish and Wildlife Services. Their goal was to work together and identify program efficiencies to accelerate transportation projects. In particular, they developed a streamlined environmental review process to help deliver low-impact bridge replacements in the one-year timeframe. The efforts of this group, as well as the internal group, led to the development of the Low-Impact Bridge Replace Manual, which provides specific guidance on how to deliver they bridges quickly and efficiently.

For more information on the Program, the Manual can be viewed at: <http://www.ncdot.org/download/projects/ncbridges/lowimpactbridge/finalmanual.pdf>.

The Grand Vision, Michigan

Incorporating Citizen Input Into the Planning Process

In early 2000, proposed projects in Traverse City, Michigan had reached the final stages of environmental review. The intent was to build a bridge over the Boardman River, and realign and widen a number of nearby roads. However, environmental groups contended that the projects would encourage sprawl, fail to solve regional traffic problems, threaten the safety of children at Sabin Elementary School, destroy vital wetlands and wildlife habitat, and degrade the county Nature Education Reserve. During public meetings to discuss the preliminary designs for these projects, community leaders, urged by growing public discontent, decided to take a new direction.

Using the Federal money that was originally allocated for the bridge and road work, Michigan leaders representing local and state government, business, environmental interests, and social services hired a consultant team to lead a two-year planning effort in place of this construction. The end result was a highly collaborative citizen-led effort called, the Grand Vision.

The consultant team, led by national experts in visioning, public involvement, and scenario planning hosted a number of workshops, to identify the best solutions for balancing transportation, land use, and housing opportunities in the region. By the end of the planning process, 15,000 people had participated in

Grand Vision Guiding Principles:

- Improve the region's existing network of roads and public transportation, and provide better infrastructure for bikers and pedestrians.
- Foster public and private investments to strengthen cities, villages and planned growth areas.
- Expand diverse and affordable housing options that fit the region's character.
- Encourage local food, farming and rural development as a vital part of our economy, culture and identity.
- Incorporate sustainable energy principles into building, transportation, power generation, and all aspects of the region's economy.
- Protect, preserve, and restore the water resources, forests, natural areas, and scenic beauty of the region.

workshops, served on volunteer committees, and ultimately created a vision for future growth.

Today, there are six county teams in Michigan (Antrim, Benzie, Grand Traverse, Kalkaska, Leelanau, and Wexford) that are working to implement the principles of the Grand Vision in their Counties. All future transportation and growth investments are based completely on this citizen led vision for the future.

A lot of time and resources were used to move the original bridge and widening projects through the environmental review process. Had the public been consulted earlier, that time and money could have been used more efficiently. The Grand Vision demonstrates how critical it is to involve the public and garner their support to advance critical projects.

For more information of the efforts of the Grand Vision, the web site is: <http://www.thegrandvision.org/>.

North Central Texas Council of Governments, Dallas, Texas

TIP Amendment and Modification Procedures

The North Central Texas Council of Governments (NCTCOG) is the designated Metropolitan Planning Organization (MPO) for the Dallas, Texas region. Every MPO is required by Federal law to develop a Transportation Improvement Program (TIP). The TIP is a programming document that lists and prioritizes Federal transportation projects, covering a period of four years. In recent years, the TIP has become a living document, being revised and updated constantly. If a project in the TIP requires a major change, it is called an amendment; for minor changes, it is called a revision or an administrative modification.

Basic Definitions for Revisions and Amendments:

Minor Revision – A minor change within the TIP to a project, project phase costs, to funding sources, or to project phase initiation dates.

Amendment – A major change to the TIP such as an addition or deletion of a project, a major change in the project cost or initiation dates, or a major change in the design concept or design scope. Amendments require a public review and comment period, a re-demonstration of fiscal constraint, and potentially an air quality conformity determination (if in a maintenance or non-attainment area) for the proposed change to be considered.

Federal regulations contain overarching definitions for what constitutes an amendment versus a modification, but it is left up to the individual MPO to coordinate with the state DOT, transit operators, and Federal transportation agencies to further define what actions specifically trigger an administrative modification or amendment. Over the last 20 years, state DOTs and MPO(s) within each state have worked out specific definitions for “modifications” and “amendments” and established the internal procedures for adopting them. This has resulted in approaches that streamline the general process so that projects can move forward in a timely fashion while still complying with all regional, state, and Federal requirements.

NCTCOG has worked with the Texas DOT to develop useful guidance and procedures on how to handle TIP amendments and modifications in a cooperative and efficient manner. They jointly developed the **Transportation Improvement Program Modification Policy: Policies and Procedures To Streamline Project Delivery**. By clearly defining all types of project changes (major and minor), what triggers a major or minor change, and the correct procedures for making the change, projects can move forward expeditiously. These procedures empower the MPO to categorize a change and move the project forward, instead of having to wait on a decision from the DOT or FHWA division office.

For more information on the NCTCOG TIP Procedures, the web site is: <http://www.nctcog.org/trans/tip/ModificationPolicy.pdf>.

Minnesota Department of Transportation: Utility Coordination Process

Working with Utility Companies to Resolve Conflicts Early and Advance Projects

One of the early hurdles for any large Federal transportation project is to successfully complete the environmental review phase. The next set of hurdles comes during the detailed design and construction phases, when a number of actions must take place, including utility relocation. This can easily derail or delay a project, but the Minnesota DOT (MnDOT) has created a Utility Coordination Process to minimize the potential problems associated with utility work.

Goals of the MnDOT Utility Coordination Process:

- Minimize project delays, construction costs, and contractor claims associated with utility issues;
- Optimize the project development process with greater emphasis on early coordination to reduce design and construction time later in the process;
- Strengthen relationships and cooperation with utility owners; and
- Foster consistent application.

According to the AASHTO web site on Accelerating Project Delivery During Detailed Design and Construction, the challenges that transportation agencies face with utilities are: state transportation departments have little or no administrative powers over utility companies that fail to relocate and clear utility conflicts to meet the project schedule. A history of transportation projects being shelved or postponed during the development process has caused many utility companies to be reluctant to commit funds for utility relocation until there is certainty that the project will be constructed. In many cases, the state transportation agency does not have authority to pay for the utility relocation, so it needs to be performed at the utility's expense; therefore, it becomes a lower priority for the utility company.

In 2005, MnDOT decided to address these challenges and created a set of goals to foster relationships and enhance coordination efforts with utility companies. The overall intent was to identify mutual benefits and accelerate project delivery. To

understand what was working and what was not, MnDOT formed an Implementation Team, consisting of DOT staff, private utility companies, city and county government, and consulting firms. The Team was charged with developing an Implementation Plan, with specific strategies and actions for achieving the utility coordination goals established in 2005.

The Team met with project managers to gather their insights into how well coordination efforts with utilities were progressing. It turned out that there were a number of barriers, so the Implementation Team devised strategies and specific action steps for overcoming each one. The recommendations in the Plan are useful to any transportation agency, struggling with utility issues on major projects.

The full Plan can be found on the MnDOT web site at: <http://www.dot.state.mn.us/utility/files/pdf/tools-forms/implementation-plan.pdf>.

Missouri Department of Transportation: Partnership Development Process

Leveraging Resources to Advance Transportation Projects

One of the major barriers to timely project delivery is the lack of full or adequate funding. The Missouri Department of Transportation (MoDOT) has recognized this need and created a number of funding programs to enhance existing resources and help build key transportation projects.

Under the Partnership Development Program, MoDOT offers a variety of financing options for public/public and public/private partnerships. They help finance transportation projects that serve a public purpose, including: highway and rail projects, transit equipment, air and water transportation facilities and elderly/handicapped vehicles.

The financial programs they currently offer include:

Benefits of Financial Partnerships:

- Jointly solve problems;
- Build and strengthen relationships;
- Increase efficiency;
- Develop innovative solutions; and
- Improve coordination.

Partnership Funding Programs

- **Cost Share/Economic Development Funding:** This money is meant to build partnerships with local entities by pooling efforts and resources to deliver state highway and bridge projects.
- **Cost Participation:** This program helps localities make improvements or add enhancements to a project that MoDOT is already constructing. Eligible entities can save on contractor mobilization and other costs by partnering with MoDOT.

MoDOT Partnership Debt-Finance Programs

- Missouri Transportation Finance Corporation (MTFC): Any highway project eligible for Federal assistance under Title 23 of the U.S. Code and any transit capital project eligible for Federal assistance under Title 49 of the U.S. Code can receive assistance under this program. The MTFC can provide financial support to both public and private sponsors of eligible transportation projects and can assist in financing any stage of the project's development.
- Statewide Transportation Assistance Revolving Fund (STAR): The STAR fund provides loans to local entities for nonhighway projects such as rail, waterway and air travel infrastructure. The STAR fund can also provide loans to fund rolling stock for transit and the purchase of vehicles for elderly or handicapped persons.

MoDOT Local Funding Options

- MoDOT encourages the development of local districts that can leverage tax or bond money to finance transportation infrastructure. These include Transportation Development Districts, Transportation Corporations, Community Improvement Districts, Neighborhood Improvement Districts, Tax Increment Financing, and Economic Development Sales Tax.

To learn more about the MoDOT Partnership Development Program, the web site is: <http://www.modot.mo.gov/PartnershipDevelopment/index.htm>.

C. Employment Effects

C.1 OBJECTIVE

The OCTA seeks to shorten the time it takes to apply Federal transportation funds to its priority projects in order to accelerate the economic and productivity benefits of those investments, primarily employment. This analysis addresses the question: What are the employment impacts from transport investments and what are the implications of acceleration of prompt program delivery on job creation?

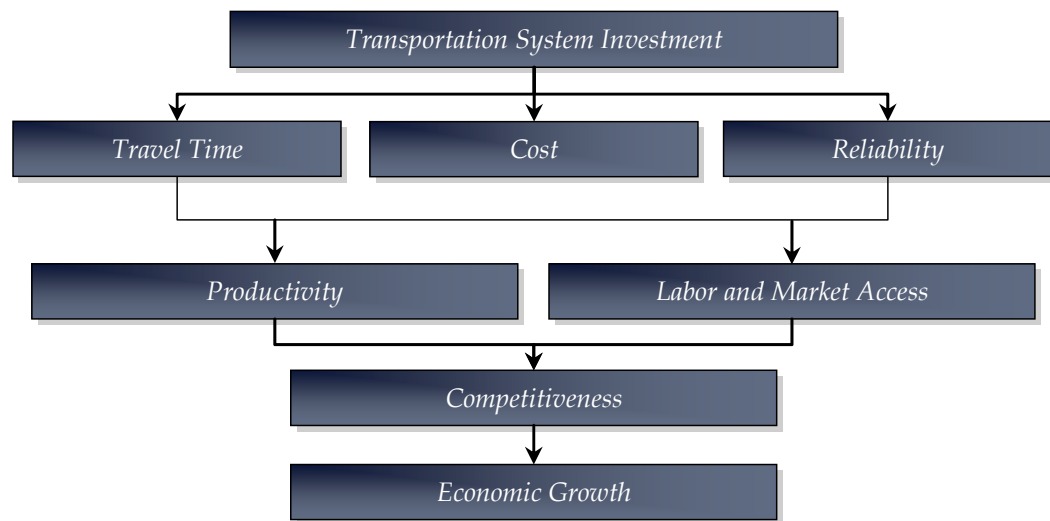
C.2 EVALUATION FRAMEWORK

Regional employment is often an important government objective. The impacts of construction, operation and maintenance of transport infrastructure on employment include both created and relocated jobs. Construction can be assessed by methods which allow the direct, indirect and induced employment impacts of transport infrastructure projects within the construction period to be assessed. Direct and indirect employment linked to the operation and maintenance of transport infrastructure is largely related to the level of traffic, which can also be assessed.

Direct benefit of transport infrastructure investment is improvement of travel conditions for its users. Users' behavior will thus change, with wider impacts on the transportation network and regional economy. The impacts on the regional economy include accessibility, level and location of employment and increased efficiency.

Analysis of the impact of transportation investments on employment in a regional economy is performed over the construction and operating phases of the infrastructure. Employment associated with construction period is termed short-term impact, and employment associated with the operating phase is termed long-term impacts. Figure C.1 shows the framework for this analysis.

Figure C.1 Analytical Framework for Employment Impacts



C.3 SHORT-TERM IMPACTS

Transportation projects confer specific economic benefits in the short term due to the purchase of goods and services; especially labor services (as shown in Figure C.1), which are required during the construction phase. However, the magnitude and distribution of these benefits may vary with the type and location of improvement undertaken and the specification of construction materials. When a major motorway construction or repair project occurs in a region, local resources available in that region can become exhausted. This can occur when the region is sparsely populated or lacks specific types of skilled labor. Also, when the number and size of local companies are inadequate to meet the requirements of the contracting authority, resources from outside the local region are harnessed.

Table C.1 shows the economic impact of REMI (Regional Economic Modeling Inc.) simulation of a proposed highway construction project of \$300 million to be started in 2011, with estimated construction period of three years. Table C.2 shows the results of a nine-year delay of the proposed project (assuming no cost escalation). The effect of nine-year construction delay is the difference in total impacts shown in Tables C.1 and C.2. From these tables, the delay accounted for loss of 3,050 jobs and \$92 million in GDP.

At 3 percent annual inflation, the cost of that same \$300 million investment rises to \$391.4 million and the economic impact associated with the revised project cost was the same as that shown in Table C.2.

Table C.1 Construction Impact of a \$300 Million Highway Project
Construction Period – 2011-2013

Economic Variables	Construction Period			Total
	2011	2012	2013	
Employment (Thousands)	2.650	2.650	2.580	7.880
GDP (2000 Dollars in Billions)	0.089	0.095	0.097	0.281

Table C.2 Construction Impact of a \$300 Million Highway Project
Construction Period – 2020-2022

Economic Variables	Construction Period			Total
	2020	2021	2022	
Employment (Thousands)	1.630	1.620	1.580	4.830
GDP (2000 Dollars in Billions)	0.060	0.064	0.065	0.189

Direct Jobs

Direct jobs are generated through the following operations: design, land clearance, earthworks, drainage, engineering structures, pavement, and safety equipment. Jobs relating to planning/design are created in the offices of the engineering or planning firm(s). The remaining jobs are created on-site. The number of jobs is determined by size and duration of the project.

Indirect Jobs

Site supplies mainly concern quarry materials, cement, power, transport, services, steel, wood, and equipment. Some of these materials are imported, while the remainder is produced in the region. The demand for products for the construction site generates demand for goods and services for the production of regional (non-imported) site supplies. This demand, in turn, generates demand for additional goods required to make the products; this continues until the effect is exhausted. This demand increases output of the production firms and generates additional jobs. The level of jobs created depends on the proportion of construction cost spent locally or in the region. The expenditure consists of domestic intermediary consumption, imported intermediary consumption and the value-added component of the supply sector (salaries and social charges, company profits, taxes). Domestic intermediary consumption is the main driver of indirect jobs.

Induced Jobs

These jobs are linked to additional expenditure corresponding to salaries paid at the construction site and to salaries paid to employees of the construction supply economy (value-added). This refers to additional business in the areas of food, housing, leisure and transport. Marginal changes in revenue mechanically create new consumption according to the marginal propensity to consume and import, and thus any additional production that generates new income.

C.4 LONG-TERM IMPACTS

Jobs associated with operating phase of the infrastructure are discussed below. These jobs are either generated directly by the operation of the infrastructure or by industry through improved competitiveness, derived from the operation of the infrastructure, see Figure C.1.

Competitive Impacts

Competitive impact is the major source of long-term job creation. Unlike the other impacts, jobs associated with competitive impacts are not directly related to construction or operation of the transportation infrastructure. They are generated from the impact of the improved infrastructure on regional or business competitiveness. Travel time savings and accessibility are the principal benefits that drive regional competitiveness, increased output and job creation.

Travel cost and time reduction, and reliability arising from transportation improvement translate into economic growth and job creation. This is attained through improved regional competitiveness, a derivative of increased productivity and access to labor and consumer/supplier markets.

Travel time savings are benefits resulting from improvement in the efficiency of the transport system (shortened routes, reliability, etc.). For freight, travel time savings lead to monetary savings due to reduced hourly costs of transport services (e.g., drivers' wages, insurance, etc.). Additional benefit to businesses, especially those that are freight dependent, is the conversion of travel time savings to reduced supply chain costs such as inventory carrying costs. These cost reduction translate into lower production cost, increased competitiveness, and higher output, thus creating job opportunities to support output growth in the short and long run.

In addition to travel time savings, transportation improvement may provide enhanced access to key suppliers' and/or consumer markets or improved connections to intermodal facility. This may provide incentive for expansion of existing businesses or attraction of new businesses, thus creating job opportunities. In the case of passenger rail transit, agglomeration economies can lead to transit-oriented development that results in a net gain of land development-based economic activity in addition to the benefits arising from travel efficiencies.

Another mechanism for increase competitiveness is improved access to labor markets resulting in an increase in labor supply. This increases potential skill sets and levels and potentially more competitive wage rates, leading to increase competitiveness. Improved competitiveness leads to increased output and job creation.

Accelerated project implementation is expected to yield incremental employment and regional economic development (benefits) impacts. The incremental benefits stems from the reduced opportunity cost due to the acceleration. Due to discounting factors applied to future benefits to estimate its present value, total economic benefit to society is inversely related to the expected time interval for benefit realization. For example, at five percent discount rate, the present value of \$100, five years from today is \$78.35. This means that the opportunity cost of \$100, five years from today is \$21.64. Similarly, the net present value of benefit stemming from a delayed project is diminished. The longer the delay, the lower the present value of the associated benefit

Reduction in vehicle operating costs (VOC) may be another source of business competitiveness. For fixed trip matrices, improved transportation efficiency leads to less fuel consumption and vehicle wear and tear, thus reducing operating cost. However, the improved efficiency may induce new travels, reveal the latent demand for travel, or cause changes to trip destinations. These changes in trips may provide benefits (less VOC) or loss of benefits (increased VOC) to various road users. The latter deteriorates business competitiveness, leads to reduced output and job loss, all other factors remaining unchanged.

Accelerated Project Implementation

Similar to the short-term impacts, acceleration of project implementation will lead to long-term incremental benefits during the operating phase of the infrastructure. The analysis below shows the economic impact associated with the benefit derived by the retail sector from three-year operation of the proposed \$300 million highway infrastructure. The analysis assumes \$20 million reduction in operating cost of the retail sector.

Tables C.3 and C.4 show the results of economic impact associated with on-time implementation and that for a nine-year delay respectively. Based on the results, the nine-year delay in project implementation led to a loss of 680 jobs and \$10 million in GDP.

Table C.3 Economic Impact Arising from Efficiency Gains
2014-2016

Economic Variables	Operation Period			
	2014	2015	2016	Total
Employment (Thousands)	0.76	0.94	1.07	2.77
GDP (2000 Dollars in Billions)	0.04	0.05	0.06	0.15

Table C.4 Economic Impact Arising from Efficiency Gains
2023-2025

Economic Variables	Operation Period			
	2023	2024	2025	Total
Employment (Thousands)	0.56	0.71	0.82	2.08
GDP (2000 Dollars in Billions)	0.04	0.05	0.05	0.14

As businesses expand due to improved competitiveness, demand for input materials and services increases in tandem to accommodate the expansion, thus causing further expansion in its supporting activities downstream. Therefore, indirect jobs are those created in the expansion of the supporting businesses associated with primary beneficiaries of competitive impacts. The increased demand for goods and services from supporting activities further causes additional production of goods to make the products, thus creating further jobs. The level of jobs created depends on the local production capacity for the required goods or services.

Induced jobs associated with competitive impacts are generated by expenditure of salaries paid to employees associated direct and indirect jobs This additional expenditure increases output and jobs in retail, housing, recreation and food services sectors. Marginal changes in revenue create new consumption according to the marginal propensity to consume and import, and thus any additional production that generates new income.

C.5 OPERATIONAL IMPACTS

Direct Jobs

- **Toll Collection/Management** - These types of jobs are limited to toll roads/bridges. Tolled transportation infrastructure creates job opportunities for third-party toll collection/management agencies. The number of employees per toll station depends on the traffic level, number of road lanes and level of electronic or automation services.
- **Maintenance Works** - These jobs consist of work undertaken by companies independent of the infrastructure construction company. Jobs include work on carriageways, other fixed assets, and maintenance of road signs.
- **Public Safety** - The number of public safety and enforcement is, in part based on the system of transportation infrastructure.

Indirect Jobs

Indirect jobs associated with operating the infrastructure are generated by demand for goods and services by toll agencies, maintenance works, public safety.

Induced Jobs

Induced jobs are generated by expenditure of incomes paid to employees associated with direct jobs. Induced jobs are mainly generated in the wholesale and retail (including convenient shops), recreation and food services sectors.

D. Synopsis of Key Options Requiring Federal Action

	Proposal	Action	Law	Reg.	Policy
1-1	Extend pre-award spending authority currently in Title 49 to the Federal-aid Highway Program that exists for Federal transit programs.	Amend Section 115 of Title 23, Advance Construction. <ul style="list-style-type: none"> Allows recipients to avoid losing eligibility for actions taken in advance of approval to use Federal funds; and Would clarify that the recipient would take any risks associated with actions prior to Federal approval. 	●		
1-2	Administratively clarify that TIP Amendments can and should be expedited by MPOs.	FHWA and FTA issue memoranda to clarify that timely action on TIP amendments are a matter of local determination and are not only acceptable but encouraged.			●
1-3	Extend through statute the SAFETEA-LU Section 6005 pilot that delegates authority to conduct NEPA for highway projects on behalf of the Federal government to any state who can demonstrate the capacity to do so.	Amend SAFETEA-LU Section 6005 (23 USC 327(h)) as relates to the five-state pilot. In order of difficulty/urgency: <ul style="list-style-type: none"> Pilot beyond August 2012; Permanent status; Extended to any other states who qualify; and Remove sovereign immunity requirement. 	● ● ● ●		
1-4	Remove redundant steps in the current system of processing Environmental Impact Statements: Draft EIS, Final EIS, and then a Record of Decision (ROD) in sequence. Modernize communication techniques built on Internet-based systems.	In cooperation with Council on Environmental Quality (CEQ), revise their Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR §§1500-1508) CEQ to make regulatory change. The CEQ regulations could be adjusted (along with the agency-level implementing regulations) without violating the spirit of NEPA. Alternatively: policy direction by Congress.	●	●	●
1-5	Change air quality regulations to adopt a modular or scenario approach to conformity.	Establish through interagency MOU an initiative to minimize unnecessary delay due to iterative conformity determinations while encouraging recipients to build the capacity to undertake necessary analyses. A “Test and Evaluation” approach could be initiated jointly by FHWA and FTA with EPA to test the feasibility of such modeling and administrative procedures, and in the meantime, allow recipients to receive timely conformity approval.		●	●

	Proposal	Action	Law	Reg.	Policy
1-6	Expand the availability and use of programmatic agreements for additional CEs and focus on consistent prompt review/approval.	Revise programmatic agreements definition as contained in CEQ regulations 40 CFR 1508.4. A specific list of CEs that normally do not require any NEPA documentation or FHWA approval is set forth in 23 CFR 771.117(c). Other projects, pursuant to 23 CFR 771.117(d), may also qualify as CEs.		●	●
1-7	Streamline and coordinate reporting requirements to reduce overlapping reporting to multiple entities.	Administrative actions should take into consideration the multiple uses of grant information to minimize reporting burden.			●
1-8	Simplify Federal approval processes when Federal formula grants are one-third or less of project costs.	Amend Titles 23 and 49 to provide authority for recipients of formula grants providing more than two-thirds of the project funding to certify that they will comply with all Federal statutory requirements and be permitted to proceed without further approvals.	●		
1-9	Require U.S. DOT to initiate an effort to develop consistent expectations for environmental permitting and procurement requirements across all of the modes' formula grant programs.	U.S. DOT could initiate independently as part of regulatory review or Congress could require it through statute/report language.	●	●	
2-1	Establish a new "Program Delivery Partnering Plan" capability for Federal agencies and recipients.	Amend 23 USC 106 to establish a new "Program Delivery Partnering Plan" option that would clarify expectations for Federal grant recipients and agencies. Policy direction in accompanying report language to Agencies would be explicit in support of the constructive use of elevation to resolve problems expeditiously.	●		
2-2	Establish in Federal law a "Project Delivery Partnering Plan" requirement for Federal agencies and recipients.	Amend 23 USC 106 to establish a new "Project Delivery Partnering Plan" option that would clarify expectations for Federal grant recipients and agencies. Policy direction to Agencies would also explicitly allow for a "default" value in the arranged timelines, i.e., failure to take a Federal approval action according to schedule means Federal concurrence with advancement to the next stage unless Federal agencies identify specific concerns and specific remedies in accordance with the timeline.	●		
2-3	Establish in Federal law or regulations a "prompt action" provision for Federal agencies.	Establish in law a "prompt action" provision with Federal budget consequences. <ul style="list-style-type: none"> ● Baselines would need to be established through a rule-making process. ● Such "prompt payment" requirements could be waived if a "Program Delivery Partnering Plan" were in place. This would motivate agencies to participate in such inter-agency agreements. 	●	●	●

	Proposal	Action	Law	Reg.	Policy
2-4	Establish in law a partnering recognition and award program.	Highlight and reward collaborative practices with exceptional outcomes through a partnering Recognition and Award Program. The Federal Government has the authority under Title 5 USC to conduct such programs to recognize and motivate both Federal employees and grant recipients/the public. The degree to which such programs would be established in statute would be a function of the high visibility that sponsors would want to create.	●		●
2-5	Utilize the new Executive Order 13563 to review rules to remove those that “stifle job creation and make our economy less competitive.”	Issuance of an Executive Order is the prerogative of the White House and has the force of law for executive branch agencies. Regulatory review currently underway. Alternatively, an Interagency Task Force as in prior EO could be established by Congress, making the Task Force and its activities permanent.	●	●	●
2-6	Establish a “Transportation Delivery Academy” and certification program.	Establish in law and adequately fund a “Transportation Program Delivery Academy.” This could use the “centers for excellence” model which were established as part of SAFETEA-LU’s research programs. Such a center could be funded by Congress to establish and execute a certification program.	●		●
2-7	Take fuller advantage of provisions which permit recipients to supplement staff at FHWA Division offices and/or Resource Agency field offices, to expedite high-priority projects for environmental; extend that statutory authority to other reviews.	Amend 23 USC 139(j) to extend beyond environmental work to other aspects and modes of program and project delivery. Extend the option to transit and other modes of using Federal formula funds to supplement resources for project reviews (environmental and otherwise), with clear inter-agency MOUs.	● ●		
2-8	Expand the use of integrated analysis and permit approvals such as National Environmental Policy Act (NEPA) and Clean Water Act Section 404 procedures.	Council on Environmental Quality (CEQ) issued Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR §§1500-1508).			●
2-9	Initiate early and ongoing teaming between Federal agencies and grant recipients.	Advance as an Executive branch initiative. Congressional support could be provided with appropriation or reauthorization line-items or report language. Incorporate into Federal partnership agreements specific resources.	●		● ●
2-10	Apply “practical design” philosophies, along with context-sensitive solutions-style techniques that bring the public to the table earlier and use appropriate design standards.	Amend Titles 23 and 49 to Incorporate into definition of construction at the option of grantees.	●		

	Proposal	Action	Law	Reg.	Policy
3-1	Incorporate into Federal partnership agreements explicit commitments that will help projects remain on schedule and on budget. Back up those commitments with allocation of U.S. DOT's research agenda and budget to deploy appropriate tools and techniques.	Establish a Federal program either as an Executive branch initiative or Congressional action. Support could be provided with appropriation or reauthorization line-items or report language. Establish a partnering initiative between Federal Agencies and grant recipients to help transportation agencies apply quality innovative contract management principles.	●		● ●
3-2	Seek a Federal research budget line-item that would sponsor a peer review and/or develop a model Statewide Transportation Improvement.	Initiative to establish a program database that could serve to increase transparency and access to project information while minimizing special purpose reporting	●		●
3-3	Establish a partnering grant initiative between Federal Agencies and grant recipients to help transportation agencies apply quality innovative contract management principles.	Seek a Federal program either as an Executive branch initiative or Congressional action. Support could be provided with appropriation or reauthorization line-items or report language.	●		●
22	Revise current Federal guidance and regulation to encourage quality partnerships between utilities and DOTs by making it feasible for DOTs to develop this business line and allowing DOTs to maintain control over the schedule.	Barriers are related to industry and administrative practice and perceived benefits to recipients rather than statute. Utilities could pay DOT to do work or vice versa, allowing DOT to achieve greater control over project schedules.		●	●