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HIGHWAY INFRASTRUCTURE

Preliminary Information on the Timely Completion of Highway Construction Projects

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Mr. Chairman and Members of the Committee:

We appreciate the opportunity to testify today on the timely completion of highway projects that receive federal financial assistance from the Federal Highway Administration (FHWA) under the Transportation Equity Act for the 21st Century (TEA-21). My testimony today will discuss (1) the time involved in planning, gaining approval for, and constructing federally financed highway projects; (2) events that arise that affect completion time; and (3) federal and state initiatives to improve the completion times of highway projects.

The United States is the most mobile nation on the planet. Constructing, improving, and repairing roads and bridges is fundamental to meeting the nation's mobility needs to facilitate commerce, national defense, and pleasure use and to promote economic growth. Therefore, it is important that highway projects using federal financial support are completed in as timely a manner as possible. My statement presents preliminary results of our ongoing work for this committee on the construction of new roads. My statement is based on our review of federal laws and regulations governing the construction of federally funded highway projects; studies and other analyses of the time it takes to complete new federally financed roads; and discussions with various federal agency officials who have responsibilities relating to the construction of federally financed roads, transportation engineering organizations, transportation professional associations, and state transportation officials in seven states. We also reviewed the time it took to complete six new highway construction projects in California, Florida, and Texas.

Federal and state governments do not maintain information centrally (or, in some cases, at all) on the time it takes to complete highway projects; and there is no accepted measuring stick with which to gauge whether project performance is timely. Our discussion of the typical amount of time it takes to complete major construction projects that involve building new roads is based on a best estimate prepared by FHWA. According to FHWA, it based its estimate on the professional judgment of its staff and several state departments of transportation. We also discussed typical times to complete major new highway construction projects with several professional associations and state departments of transportation. In those instances where they had anecdotal information, their estimates fell within the FHWA time frames. (See app. I for additional details, including how we picked the six projects to review.) We are continuing to examine this issue and expect to report to you on the final results of our work in Spring 2003, to aid in your consideration of the reauthorization of TEA-21.

In summary:

- According to FHWA, and based on its professional judgment, it typically takes from 9 to 19 years to plan, gain approval for, and construct a new, major federally funded highway project that has significant environmental impacts. However, these projects constitute only about 3 percent of all federally funded projects, according to FHWA. These highway projects are often carried out in four phases. (See table 1.)

Table 1: Typical Time Necessary to Complete a Federally Financed Major New Construction Highway Project

Phase	Time to complete, in years
Planning	4–5
Preliminary design and environmental review	1–5
Final design and right-of-way acquisition	2–3
Construction	2–6
Total	**9–19**

Note: The durations of the phases are approximate. The preliminary design/environmental review steps and the final design/right-of-way acquisition steps often overlap.

Source: FHWA.

The time required varies with the size of the project, its complexity, and the public interest in the project. Some projects may take as few as 3 years or as many as 20 years or more to complete. The six new highway construction projects that we reviewed ranged from a $1.7 million project in Florida to upgrade an existing dirt road to a two-lane paved road, which took 8 years to complete, to a $50 million project to build a six-lane, 15 mile divided highway in Texas, which took over 15 years to complete (excluding the planning phase, for which information was not available). Constructing a new, major roadway typically takes this long to complete because there can be as many as 200 major steps involved throughout a project's life, with approvals or input required from a number of federal, state, and other stakeholders.

- Not surprisingly, officials in federal and state agencies and other knowledgeable organizations indicate that delivering larger, more complex or controversial projects may take longer to complete than is typical for most highway projects. In addition to needing more time because of their size and complexity, they often take longer to complete because they must comply with more federal and state requirements and because of the public interest that they may generate. A survey of 33 state departments of transportation conducted by the American Association of State Highway

and Transportation Officials agree that larger projects take longer to complete.[1] However, both our work and the association's survey are based on anecdotal information and officials' memories, as no federal or state baseline information exists on how long highway projects take. While there are many reasons for new highway construction projects to take a long time to complete, most studies on the topic focused on the timely resolution of environmental issues to improve project completion times, rather than examining all aspects of highway projects. The officials we contacted generally stated that environmental reviews resulted in better project decisions; but reaching those decisions was difficult and time consuming, complicated by such factors as incomplete permit applications, limited resources at environmental agencies, and environmental opposition to projects.

- Federal and state agencies have undertaken several initiatives to improve completion times for highway construction projects. Most of these initiatives address opportunities for reducing the time required to obtain environmental approvals. For example, FHWA is working with federal agencies that conduct environmental and historic preservation reviews to promote uniform practices and to clarify and update guidance. At the state level, according to FHWA, 34 states are using interagency funding agreements to hire additional staff at state and federal environmental agencies to facilitate environmental reviews and approval. With respect to nonenvironmental issues, North Carolina and Texas, for example, are identifying utilities that need to be moved earlier in the design phase than was previously done. This is intended to reduce delays during the construction phase. Texas and Florida are providing monetary incentives to contractors to finish construction more quickly.

Background

In fiscal year 2001, FHWA obligated over $20 billion to the states for roadway projects.[2] Generally, states are required to use their own funds to pay up to 20 percent of the project costs. Federally funded highway projects vary in size, from new lane striping to resurfacing an existing road

[1]TransTech Management, Inc., *Environmental Streamlining: A Report on Delays Associated with the Categorical Exclusion and Environmental Assessment Processes* (Washington, D.C.: Oct. 2000).

[2]Most of the funding for roadway projects comes from the Highway Trust Fund. The Highway Trust Fund is derived from highway user taxes such as excise taxes on motor fuels, tires, and the sale of trucks and trailers, and from taxes on the use of heavy vehicles.

to building a new road or interchange. Most federally funded highway projects are minor rehabilitation or reconstruction projects rather than major new road construction projects. Of the approximately 27,000 miles of roadway projects funded in 2000 (latest data available), about 26,000 miles (96 percent) involved either the addition of capacity, preservation, or improvements (such as widening lanes, resurfacing, and rehabilitation of roadways). Only about 1,100 miles of new road construction projects were underway.

Although federal, state, and local governments all have a role in the construction of federally financed highway projects, the state department of transportation is typically the focal point for these activities. It is responsible for setting the transportation goals for the state. To do so, it works with the state's transportation organizations and local governments and metropolitan planning organizations.[3] State departments of transportation are responsible for planning safe and efficient transportation between cities and towns in the state. They are also responsible for designing most projects, acquiring property for highway projects, and awarding contracts for highway construction. Local governments also carry out many transportation planning functions, such as scheduling improvements and maintenance for local streets and roads. Citizens and community action organizations also generally have the opportunity to provide their views and have them considered.

At the federal level, FHWA is the primary agency involved in transportation project decisionmaking. FHWA oversees the transportation planning and project activities of state departments of transportation and metropolitan planning organizations by approving state transportation plans, certifying that states have met requirements involving environmental protection, and approving acquisition of property for certain state highway projects. FHWA also provides advice and training on transportation topics ranging from pavement technology to efficient operations of highway systems, and it provides funding to the states for transportation planning and projects. Because any transportation project using federal funding must be examined for potential effects on the environment before federal decisions are made, FHWA also works with other federal agencies and state, local, and tribal governments; public and private organizations; and the public to understand a project's potential

[3]Among other things, metropolitan planning organizations propose short- and long-term solutions to transportation and transportation-related concerns.

impact on the environment and historic properties.[4] Other federal agencies with environmental and historic preservation responsibilities that often are affected by federally funded highway projects include

- the Environmental Protection Agency (air and water quality; wetlands preservation);
- the Fish and Wildlife Service (endangered species) and the Bureau of Land Management (may own lands on which a highway is to be constructed) within the Department of the Interior;
- National Marine Fisheries Service (for example, effects on fish and spawning grounds) within the Department of Commerce;
- the Army Corps of Engineers (effects on wetlands);
- the Coast Guard (bridge and navigation responsibilities); and
- the Advisory Council on Historic Preservation (protecting historic sites).

Concerned about how long the completion of highway projects takes, Congress included provisions in TEA-21 to streamline environmental review. These provisions require FHWA to identify and work with federal agencies that have environmental and historic preservation jurisdiction over highway and transit projects to cooperatively establish realistic project development time frames among the transportation and environmental agencies and to work with these agencies to adhere to those time frames. Because transportation projects are also affected by state and local environmental requirements, TEA-21 allows individual states to participate in these streamlining initiatives, as long as all affected

[4]Environmental review is governed by the National Environmental Policy Act of 1969, which established a national environmental policy requiring that any project using federal funding or approval, including transportation projects, examine the effects of the proposal and alternative choices on the environment and historic properties before a federal decision is made.

For federally funded highway projects that FHWA determines will have a significant impact on the environment, FHWA must prepare a statement that describes the project, characterizes the surrounding environment, analyzes the environmental effects of all reasonable construction alternatives, and indicates plans for complying with applicable environmental laws and mitigating environmental damage. Other federal agencies with responsibilities for these laws, such as the Environmental Protection Agency, Army Corps of Engineers, and Fish and Wildlife Service, often cooperate in the preparation of these statements. If it is clearly known that a highway project will not individually or cumulatively have significant environmental impacts, FHWA issues a statement indicating this. However, if it is not initially clear whether significant impacts would occur, FHWA must conduct additional analysis. If significant impacts are then identified, FHWA must prepare a statement for significant impacts as described above. Otherwise, FHWA issues a statement that it found no significant impacts.

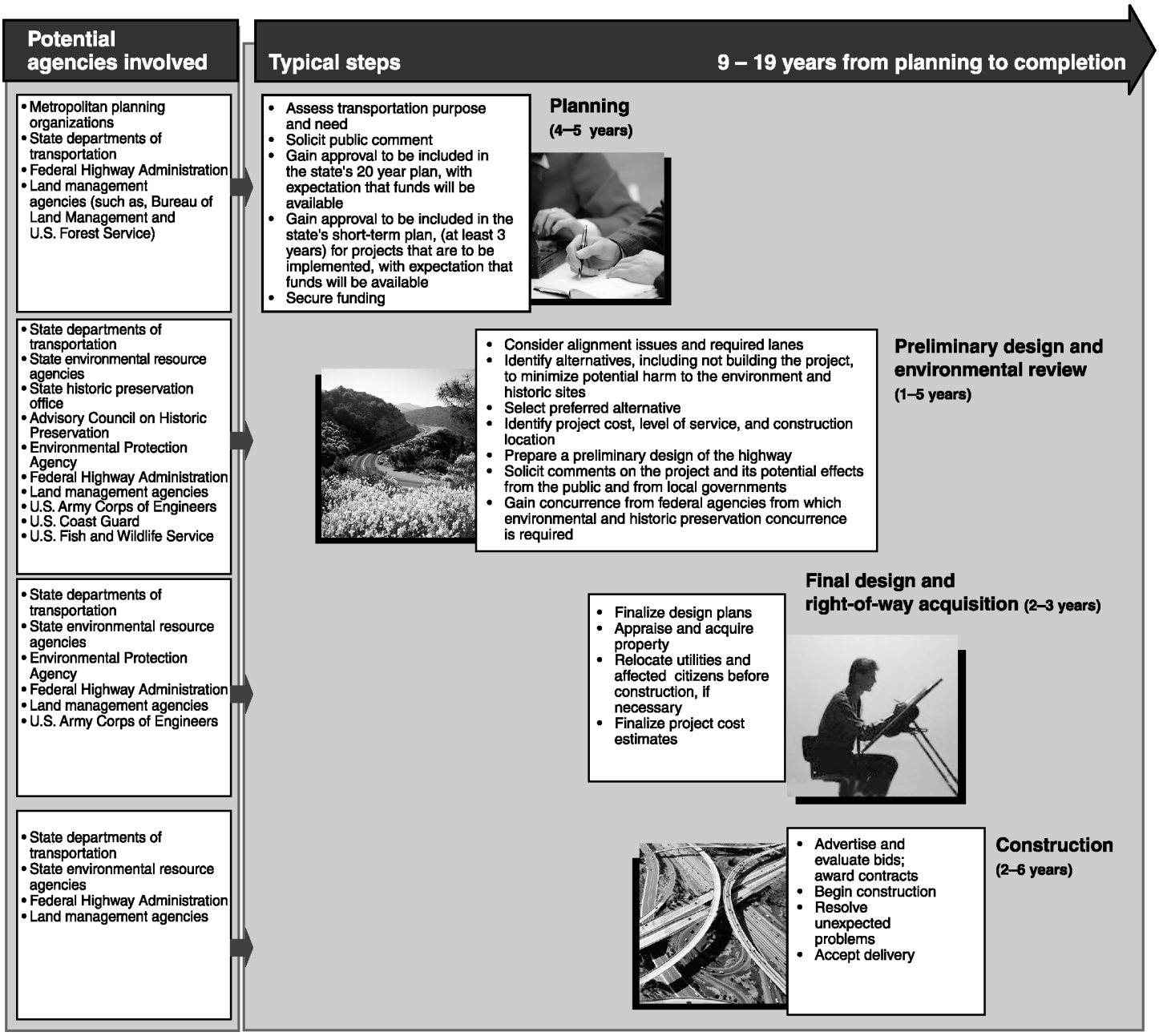
states' agencies participate. Finally, FHWA can approve state requests to use their federal-aid highway and mass transit funds to provide additional federal environmental personnel to help expedite environmental reviews.

Time to Complete Highway Projects

According to FHWA, and based on its professional judgment, planning, gaining approval for, and constructing a federally funded major highway project that involves new construction and has a significant environmental impact typically takes from 9 to 19 years. However, these projects constitute about 3 percent of all federally funded projects, according to FHWA. Some projects may take as few as 3 years or as many as 20 years or more to complete. The six new construction projects that we reviewed did not all meet FHWA's criteria yet fell within the time range FHWA estimates that it takes to complete more complex projects. These six projects ranged from 8 years to upgrade an existing dirt road in Florida to a two-lane paved road to over 15 years to build a six-lane, 15 mile divided highway in Texas (excluding the planning phases on both projects, for which information was not available).

Completing a new, major highway construction project takes a number of years because of the many tasks, requirements, approvals, and stakeholders involved. As many as 200 major steps can be involved in developing a transportation project from the identification of project need to the start of construction, depending on the project type and complexity. (See fig. 1.) Smaller projects (such as new lane striping) as well as larger projects (such as constructing a new highway) must go through many steps that require multiple stakeholder reviews and approvals. Because most federally funded highway construction projects are minor rehabilitation or reconstruction projects rather than major new road construction projects, these projects generally will not require extensive planning studies and will not have significant environmental impacts. As a result, according to FHWA, most federally funded highway construction projects advance from planning to construction within 1 year but may take up to 4–6 years, depending on the individual project's characteristics.

Figure 1: Typical Amount of Time Involved in Planning, Approving, and Building a Major New Highway Project



Note: The durations of the phases are approximate. The preliminary design/environmental review steps and the final design/right-of-way acquisition steps often overlap.

Source: FHWA.

According to FHWA, the planning phase for a major new construction project typically takes from 4 to 5 years. In this phase, most projects must first be identified in long-range (for example, covering a 20 year period) and short-range (for example, covering a 3 to 5 year period) state transportation plans.[5] Planners look at transportation alternatives and work with the public to select the alternatives that make the most sense for their areas and that are consistent with federal requirements, such as helping to adhere to air quality standards for the area. Short-range plans may have some citizen involvement and must be approved by state and local transportation officials as well as FHWA. States and metropolitan areas must demonstrate that funding is available for the projects included in the short-range plans. Finally, the length of the planning phase for a project will depend on whether the project is located in an urbanized area that does not meet federal air quality standards.[6]

The preliminary design and environmental review phase typically takes from 1 to 5 years depending on the complexity of the design and possible environmental impacts that must be considered, according to FHWA. During preliminary design, states identify the preliminary engineering issues, proposed alignment of the roadway, cost, and project details, such as turn-lane identification. The proposed project and alternatives to it are examined for any impacts on the natural environment (such as on endangered species) and public health and welfare (such as on safety and historic preservation). These environmental reviews require state and FHWA officials to address and comply with as many as 60 federal laws, as well as applicable state laws. More complex projects require more time for the completion of preliminary designs and environmental reviews. Transportation and environmental officials told us that reaching a decision on how to address projects with significant environmental impacts has taken several years. A 2001 FHWA study on the amount of time required for environmental reviews of projects with significant environmental impacts found that the average amount of time taken to complete these

[5]TEA-21 requires a Statewide Transportation Improvement Program or a metropolitan area's Transportation Improvement Program that contains individual transportation projects. FHWA requires the development of these improvement programs on at least a 2 year cycle.

[6]The Environmental Protection Agency sets maximum safe amounts of pollution that a region or state can have in the air. How much pollution is allowed from cars, trucks, and buses to the air will vary depending on the area's climate, wind, and other pollution sources and factors.

reviews in 1998 was about 5 1/2 years.[7] In comparison, these officials told us that projects in which the environmental impact was initially unclear and later determined to be insignificant took less time. These officials also told us that completing environmental reviews for projects that FHWA had determined as having no significant environmental impact from the start of the review process, including those categories of projects statutorily excluded from environmental review (for example, landscaping or installation of road signs), took only a matter of months. The previously cited anecdotal survey of 33 state departments of transportation conducted by the American Association of State Highway and Transportation Officials in 2000 found that reviews involving projects for which the environmental impact was determined to be insignificant or the initial environmental impact was unclear took an average of nearly 2 years and about 3 1/2 years, respectively. FHWA has found that 91 percent of federally funded roadway projects have no significant environmental impact and, in another 6 percent of the projects, the initial impact was unclear.

Final design and acquiring the right of way for a major new highway construction project typically takes from 2 to 3 years, according to FHWA. During this phase, state departments of transportation must develop detailed engineering plans consistent with environmental documents and updated environmental studies, and must finalize cost estimates. If a significant amount of time has passed since the preliminary design work was performed, right-of-way maps and other information may need to be updated. Acquiring property for the project includes determining any restrictions to state ownership of the property; determining the identities of property owners; making offers to property owners based on appraisal price; negotiating a purchase price; and sometimes invoking eminent domain.[8] This phase may take a significant amount of time, especially if residents must be relocated. Utilities must also be located, marked, and surveyed, which can be complicated if there are many underground utilities that require professional engineers, geologists, and licensed land surveyors for determining the exact location of utilities.

[7]Federal Highway Administration, *Evaluating the Performance of Environmental Streamlining: Development of a NEPA Baseline for Measuring Continuous Performance* (Washington, D.C.: Jan. 2001).

[8]Eminent domain is the right of a government to take private property for public use in exchange for just compensation by virtue of the sovereign power over all lands within its jurisdiction.

According to FHWA, the construction phase typically takes from 2 to 6 years. To begin construction, the state department of transportation must request and evaluate bids on the project and award a contract. Projects that receive federal-aid highway funds require FHWA concurrence on the award. During construction, the contractor and the state must resolve any unexpected problems that may arise, such as removal of hazardous waste discovered at the construction site. Once satisfied that construction has been carried out as agreed to with the contractor, the state must approve the final completion of construction.[9]

Many Events May Affect Project Completion Time

Not surprisingly, officials in federal and state agencies and other knowledgeable organizations indicate that larger, more complex or controversial projects take longer to complete than is usual for most highway projects. This is because large, complex projects are subject to more requirements, involve more federal stakeholders, and attract more public interest. For example, in the previously cited survey of 33 state departments of transportation, projects that involve many federal agencies took longer to complete than projects requiring only state-level review. The survey reported that state-only reviews typically occur for simpler, less complicated projects, which involve fewer stakeholders. However, both the information we collected and the state survey are anecdotal and based on interviewees' memories, because states do not maintain centralized information on project completion times. State officials told us that an effort to capture those data systematically would require resources that the state departments of transportation could use more productively to complete projects.

Although the six medium-sized and large highway projects in California, Florida, and Texas that we reviewed did not meet all of FHWA's criteria for a major project, they still took from nearly 7 years to over 15 years to complete, excluding the planning phase for which data were not available. (See table 2.) The time required to complete these six projects fell within the typical time FHWA has estimated that it takes to complete more complex projects. Only two of the six projects, both in California, were required to complete the preparation of an environmental impact statement.

[9]In some cases, FHWA approves the final completion of construction.

Table 2: Duration of Six Medium-sized and Large New Construction Highway Projects in California, Florida, and Texas

Dollars in millions

		Project duration				
Project	**Total cost**	**Planning**	**Preliminary design and environmental review**	**Final design and right-of-way acquisition**	**Construction**	**Total[a]**
Medium-sized project						
State Route 168 (California)	**$29.9**	N/A	3 years, 8 months	3 years, 4 months	2 years, 3 months	9 years, 4 months
Fort Green/Ona Road (Florida)	**1.7**	N/A	2 years, 7 months	4 years, 5 months	1 year, 6 months	8 years, 3 months
State Highway 146 (Texas)	**16.7**	N/A	4 years, 4 months	4 years, 5 months	2 years, 10 months	9 years, 8 months
Large project						
State Route 198 (California)	**42.9**	N/A	4 years	6 years, 8 months	3 years, 6 months	14 years, 3 months
State Road 115 (Florida)	**2.2**	N/A	1 year, 7 months	1 year, 2 months	2 years, 6 months	6 years, 7 months
U.S. Highway 290 (Texas)	**50.1**	N/A	9 years, 8 months	10 years	3 years, 1 month	15 years, 3 months

N/A – not available.

[a]Total time may not equal the sum of each phase. In some instances total time is less than the sum of each phase because phases overlap, most noticeably with the two projects in Texas. In addition, the State Route 115 project in Florida was a spin-off of an existing project. As a result, there is a 15-month gap between the end of the preliminary design and environmental review phase and the start of the final design and right-of-way acquisition phase for this spin-off project.

Source: GAO analysis of state documentation and discussions with state department of transportation officials.

Another way of assessing project timeliness is to compare how long it takes to complete a project with how long state transportation officials expected completion to take. For the six projects we reviewed, state officials established milestones for each phase of the project (excluding the planning phase, for which state officials could not provide information) but not always for the project overall.[10] We attempted to compare the time it took to complete each phase against the time expected for the projects that we reviewed. For the two California projects, the project phases were generally completed within a year of established time frames. However, aspects of the two projects in Texas took substantially longer to complete than planned. For example, the

[10]Florida officials could not provide information on planned completion times for the phases of the two projects we reviewed. Therefore, we could not determine if project phases were completed within planned time frames.

preliminary design and environmental review phase for the U.S. 290 project took 6 years and 7 months longer to complete than planned. In addition, the right-of-way acquisition for this project took 4 years and 7 months longer to complete than planned. For the Texas State Highway 146 project, the preliminary design and environmental review phase took 2 years and 8 months longer to complete than planned, and the right-of-way acquisition took 2 years longer to complete than planned. State officials were able to provide a qualitative recollection or in some cases documentation of events that affected their ability to complete highway projects on time. (See table 3.) For example, three of the six projects encountered problems in both the final design and right-of-way acquisition phase and in the construction phase.

Table 3: Events Affecting Selected Projects

Project	Planning	Preliminary design and environmental review	Final design and right-of-way acquisition	Construction
State Route 198 (California)	Funding shortages	No events cited	Following earthquakes, project shelved in favor of seismic retrofit work around the state	Weather delays; contract change orders; contractor performance issues
State Route 168 (California)	Not available[a]	No events cited	No events cited	No events cited
Fort Green/Ona Road (Florida)	Not available[a]	No events cited	Contractor had to devote time and resources to other ongoing projects; redesigns on account of drainage problems; property owners resisted right-of-way acquisition	Quality issues with paving material used; poor contractor performance; weather delays
State Road 115 (Florida)	No events cited	No events cited	No events cited	Weather delays; vibration damage complaints from adjacent homeowners necessitated change in construction equipment
State Highway 146 (Texas)	No events cited	Design changes to accommodate large truck vertical clearance necessitated changes to schematics and environmental documents	Lengthy process to hire design consultant; parcels of land had numerous title problems; one property owner died during negotiations leading to probate issues; unidentified natural gas line	No events cited
U.S. Highway 290 (Texas)	No events cited	Various access design changes to accommodate historic property; wetlands previously undiscovered at the site had to be addressed	Property owners refused state's purchase offer necessitating condemnation; utility adjustments	Slope stability problems required an extensive redesign effort

[a]State officials could not provide this information.

Source: GAO review of project documentation and discussion with state department of transportation officials.

Most studies we identified on timely completion of highway projects have examined the timely resolution of environmental issues for improving project completion times. For example, the previously cited 2001 FHWA study indicated that some larger, more complex projects tend to take longer than is typical in the preliminary design and environmental review phase. In an attempt to establish a baseline for evaluating project completion times, FHWA analyzed the time required for 37 projects with significant environmental impacts to complete the environmental review process. (As noted above, projects of this class are usually major projects rather than small, less complex ones.) This analysis indicated that the average amount of time taken to complete these reviews was 5 years and 7 months—exceeding the 5 years that a "typical" major highway project was expected to take for the entire preliminary design and environmental review phase. According to FHWA, these types of projects constitute only about 3 percent of all federally funded highway projects. Most federally funded projects are minor rehabilitation or reconstruction projects that do not have significant environmental impacts.

The survey of 33 state departments of transportation conducted in 2000 for the American Association of State Highway and Transportation Officials indicated that state departments of transportation may underestimate the time that completing an environmental review would require. The survey indicated that the environmental reviews for 31 to 48 percent of projects with no significant environmental impacts, and for 43 to 64 percent of projects with potential environmental impacts, took longer to complete than expected. According to the survey results, these projects took three times longer than planned to complete federal environmental review requirements related to public lands and historic resources, historic resources and cultural resources, and wetlands.

Federal and state transportation officials and transportation engineering organizations identified the timely resolution of environmental issues as providing the greatest opportunity for reducing the time it takes to complete highway projects. These officials generally stated that environmental reviews resulted in better project decisions, but that reaching the decisions was difficult and time consuming. For example, officials with the Army Corps of Engineers in Texas told us that the permit applications that it receives are sometimes incomplete or inaccurate, resulting in added time to process environmental permits related to waterways. In addition, officials with the Fish and Wildlife Service and the California Department of Transportation identified staffing shortfalls and workloads at the Fish and Wildlife Service as contributing to increased

time to perform environmental consultations. Finally, officials with the Environmental Protection Agency stated that public opposition to major transportation projects can result in greater scrutiny of environmental analyses or the proposed mitigation of environmental impacts, and therefore increases the length of the environmental review phase.

Initiatives to Improve the Timely Completion of Highway Projects

Federal and state agencies have undertaken several initiatives to improve completion times for highway construction projects. Most of these initiatives address environmental review; however, some states have undertaken initiatives to improve completion times in other aspects of a project, such as construction. Generally, the impact of these initiatives is unclear because of the brevity of time they have been in place.

At the federal level, FHWA environmental streamlining efforts have included working with federal agencies involved in environmental and historic preservation reviews to conduct agency-specific training workshops in 2001 and 2002. FHWA has conducted these workshops for field staff to promote uniform practices and to clarify and update guidance. In addition, FHWA has started tracking the time to complete environmental reviews of federally funded highway projects this year. A recent FHWA report indicated that since the enactment of the TEA-21 environmental streamlining provisions in 1998, the average review time for projects with significant environmental impacts has decreased from 70 months to 62 months.[11] FHWA officials told us that the improved review times could be a result of such things as reinvented processes, programmatic agreements, and accelerated review times. FHWA has also developed guidance for states on how to use federal-aid highway funds to reimburse federal agencies that meet agreed-upon targets for environmental reviews. FHWA has catalogued environmental streamlining best practices and publicized them on its Web site.

State departments of transportation are using interagency funding agreements to hire additional staff at state and federal environmental agencies to facilitate environmental review and approval.[12] According to FHWA, 34 states are using these agreements. A 2001 survey by the

[11]Federal Highway Administration, *Highway and Transit Environmental Streamlining Progress Summary* (Washington, D.C.: Feb. 2002).

[12]Under these agreements, state departments of transportation are providing funding or positions to agencies that are involved in environmental and historic preservation reviews.

American Association of State Highway and Transportation Officials indicated that the people in these positions made permit reviews more efficient and consistent, improved communication between agencies, and fostered greater trust and understanding, thus facilitating project approvals and making the process less controversial.[13]

Forty-one states have some level of delegated authority for historic resources that allows them to process many projects quickly, according to FHWA. For example, the Vermont Agency of Transportation has an agreement with the state historic preservation office that allows the transportation department rather than the state historic preservation office to enforce historic preservation requirements. According to Vermont transportation agency officials, this agreement has resulted in, among other things, expedited permit acquisition, enhanced public participation, effective internal and inter-agency communication, and the best possible treatment of historic properties. These officials estimate that this agreement has shaved weeks from routine projects and will shave months from more complex ones.

Outside of the environmental review process, states such as Florida, North Carolina, and Texas are identifying utilities in certain urban areas earlier in the design phase, in order to avoid delays during construction. Texas and Florida have also developed strategies to accelerate construction for some projects by increasing contractor incentives for early completion, and Florida has documented savings in time and cost from this approach.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that you or Members of the Committee may have.

[13]Venner Consulting, AASHTO Standing Committee on the Environment, Natural Resources Subcommittee internal survey and white paper, July 2001.

Contacts and Acknowledgments

For further information on this testimony, please contact Katherine Siggerud at (202) 512-2834 or siggerudk@gao.gov. Individuals making key contributions to this testimony were Jennifer Clayborne, Kenya Jones, Heather Martin, James Ratzenberger, Deena Richart, Stacey Thompson, and Matthew Zisman.

Appendix I: Scope and Methodology

To perform our work, we reviewed laws and regulations governing the construction of federally financed highway projects. We discussed these requirements, the time required to complete projects, and initiatives to reduce this time with officials from FHWA, the Advisory Council on Historic Preservation, the Environmental Protection Agency, the Army Corps of Engineers, the Coast Guard, the Fish and Wildlife Service, the American Association of State Highway and Transportation Officials, the American Road and Transportation Builders Association, the American Society of Civil Engineers, private transportation engineering firms, and others. We also interviewed officials from California, Florida, North Carolina, Texas, Vermont, Washington, and Wisconsin departments of transportation about highway project completion times and initiatives to improve the timely completion of these projects. We chose these states either because they spent the most federal-aid highway funds or because officials we interviewed identified these states as making efforts to reduce project time. We also reviewed federal and private studies on highway project completion.

We reviewed the time it took to complete six new highway construction projects in California, Florida, and Texas. We selected three of the four states that spent the most National Highway System and Surface Transportation Program Funds in fiscal year 2000 (latest data available). These represent the primary sources of federal funds for new road construction. In each state, we selected two new construction projects that were completed between June 30, 1999, and June 30, 2002. In each state we selected the largest project (in terms of federal funds received) and a medium-sized project. In selecting these projects, we had no knowledge of the project itself or of how long it took to complete. We did not independently verify the information in the FHWA information system that contained these data. For the six projects, we obtained documentation and interviewed state department of transportation officials to determine how the projects were planned, approved, and carried out.

We conducted our work from May 2002 through September 2002 in accordance with generally accepted government auditing standards.