Executive Summary

- MAP-21, the federal surface transportation authorization passed by Congress in the summer of 2012, incorporates a series of provisions for accelerating transportation project delivery and streamlining an environmental review process, which some believe has become a major contributor to project delays. MAP-21 stands for Moving Ahead for Progress in the 21st Century, the name of the legislation.
- Many of these provisions have long been sought by state departments of transportation. Some have been tried on a limited basis as part of previous authorizations and some have been encouraged by an ongoing Federal Highway Administration initiative called Every Day Counts.
- A number of provisions seek to impact the environmental review process required under the National Environmental Policy Act of 1970 and the common practices that are a part of it. These include:
  - Establishing new decision-making deadlines and fines;
  - Allowing the use of planning documents;
  - Expanding categorical exclusions for certain types of projects from environmental requirements;
  - Consolidating environmental paperwork;
  - Allowing state governments to assume federal responsibilities in the environmental act process;
  - Allowing early acquisition of rights-of-way prior to the completion of environmental requirements; and
  - Encouraging the development of programmatic mitigation plans to address the potential environmental impacts of future transportation projects on more than a project-by-project basis.
- Among the MAP-21 project delivery provisions unrelated to the National Environmental Policy Act are those that encourage the use of innovative construction methods and technologies and contracting procedures.
- MAP-21 sets a 180-day deadline for the conclusion of permitting decisions by federal agencies after the environmental review process has been completed and would extract penalties from those agencies for every week a project is not allowed to proceed. Transportation experts believe the new approach will encourage agencies at all levels of government to take stock of existing resources and set more realistic project timetables. Some in the environmental community worry such one-size-fits-all deadlines may lead to hasty reviews and bad project decisions.
- MAP-21 allows the use of certain state, regional and metropolitan planning documents in environmental review proceedings. Transportation construction experts say that can reduce delay by avoiding duplication of effort and could produce greater buy-in among stakeholders. But others caution that bringing environmental review processes into planning would be a mistake and that statewide and regional planning documents shouldn’t be used to predetermine environmental decisions on individual projects because such documents seldom receive much public input.
- MAP-21 allows federal agencies to issue a combined document that incorporates two documents required under the National Environmental Policy Act: the Final Environmental Impact
MAP-21 gives government agencies added authority to acquire rights-of-way for transportation projects prior to the completion of the environmental review process. It allows for the use of federal and state funds for advanced purchase of rights-of-way on a project if there is agreement the review will not be affected. Early acquisition is part of an effort to have various aspects of transportation projects run concurrently rather than in a linear fashion which requires more time.

MAP-21 allows states to interpret and use the legislation’s tools also will be important.

MAP-21 encourages the use of innovative contracting methods. These include the design-build delivery method, in which one company assumes responsibility for both the design work and all construction activities; and the construction manager/general contractor method, in which the government agency has the option of continuing the relationship with the company contracted for the project design phase or choosing a different company for actual construction.

The U.S. Department of Transportation is in the process of creating guidance and regulations to implement MAP-21 that will have a significant impact on how successful and useful the accelerating project delivery provisions may be. The way states interpret and use the legislation’s tools also will be important.

Most believe MAP-21 will not be the last word on accelerating project delivery. It will likely be on the agenda for the next authorization bill in 2014 and beyond. In the interim, states have the opportunity to demonstrate progress.

**Introduction**

A 2011 report from the Congressional Research Service said major highway projects can take 10 to 15 years to plan and build. Project delays can be the result of complications in any of the five main phases of a project: planning, preliminary design and environmental review, final design, right-of-way acquisition and utility relocation, and construction.1

The passage of the new federal surface transportation authorization legislation, known as MAP-21, this year brings with it a series of provisions for accelerating project delivery and streamlining an environmental review process that some say has become a major contributor to project delays. The bill includes provisions to allow more processes to run concur-
rently, to encourage earlier agency collaboration, to reduce paperwork and to enforce deadlines.

These provisions include many long sought by state departments of transportation and some that already have been part of an ongoing Federal Highway Administration initiative called Every Day Counts. Environmentalists and others warn, however, that it will be important that environmental impacts, community concerns and property owners’ rights continue to be taken into account even as the process to ensure speedier transportation projects take shape.

Transportation analysts, meanwhile, warn that it’s far too early to assess the potential impact of the MAP-21 provisions without knowing how the law will be interpreted, the guidance states will receive from the federal government, and the various ways states will choose to adopt and make use of the new accelerated project delivery tools.

MAP-21 is likely to be just the start of a longer conversation on ways to improve the project delivery process. That conversation will likely continue as the next authorization bill due in 2014 is discussed and beyond.

Still, as the process of implementing MAP-21 gets underway, it’s worth examining what was in the bill, why specific strategies for accelerating project delivery were emphasized and what it could all mean for state governments and for the length of transportation projects going forward. That is the focus of this brief.

**Streamlining Environmental Processes**

The new federal transportation authorization known as MAP-21, for Moving Ahead for Progress in the 21st Century, includes a number of provisions focused on streamlining the environmental review process required under the National Environmental Policy Act, the 1970 legislation that put in place an interdisciplinary, environmental impact-focused approach to project planning and decision-making for projects that receive federal funding.3

The review process includes three levels of analysis of the environmental effects of a project. First, a federal lead agency—the Federal Highway Administration, for example—often in coordination with other federal, state, local or tribal agencies, determines whether a project may be categorically excluded from a detailed environmental analysis due to a previous determination that similar projects have no significant environmental impact. Secondly, if categorical exclusion isn’t an option, the agency produces a written environmental assessment to determine whether the project would significantly affect the environment. If it is determined the project would not, the agency issues a Finding of No Significant Impact. Finally, once it’s determined that the environmental consequences may be significant, the agency prepares an Environmental Impact Statement, which is a more detailed evaluation of the proposed project and alternatives. Through the draft versions of the statement, the public, federal agencies and outside parties all have an opportunity to provide input. A Final Environmental Impact Statement incorporates that input and later a Record of Decision is prepared by the lead agency to address how the findings of the statement, including project alternatives, were incorporated into the agency’s decision-making process.3

“Since NEPA was adopted about 40 years ago, the average time it takes to go through the environmental review process has increased from about two years in the 1970s to over eight years in 2011,” said Petra Todorovich, director of the America 2050 national infrastructure planning program for the New York-New Jersey-Connecticut Regional Plan Association, at a June conference hosted by the Bipartisan Policy Center in Washington, D.C. Todorovich co-authored a recent report for the Regional Plan Association called “Getting Infrastructure Going: Expediting the Environmental Review Process” that is the product of a 2011 roundtable discussion among experts on the process.

“According to the experts that we consulted though, the lengthy timelines of environmental review are not due to the NEPA law itself,” Todorovich said. “It’s more about the policies and procedures that have developed over time and become common practice that the agencies are expected to go through that really are the cause for delay.”4

A number of provisions included in MAP-21 seek to have an impact on the common practices that have become a part of the National Environmental Policy Act process. Among them:

- It establishes a framework for setting deadlines for decision-making in the environmental review process, with a process for issue resolution and referral, and penalties for federal agencies that fail to make a decision.
- It allows for the use of planning documents in the environmental review process.
- It offers technical assistance from federal agencies for projects stalled in the process to speed completion within four years.
- It expands the number and types of projects qualifying for categorical exclusions from environmental act requirements.
It allows, under certain conditions, for the consolidation of two key environmental documents, the Final Environmental Impact Statement and the Record of Decision.

It allows for the delegation of federal environmental review responsibilities to state governments.

It places limits on judicial challenges and reduces the statute of limitations on claims from 180 days to 150.

It encourages development of programmatic mitigation plans by states or metropolitan planning organizations as part of the transportation planning process.

Accelerating Project Delivery

Beyond the provisions related to environmental process streamlining, MAP-21 also includes a number of other provisions aimed at accelerating project delivery by increasing innovation and improving efficiencies in government operations, contracting, right-of-way acquisition and construction. The legislation:

- Encourages early coordination between relevant agencies;
- Encourages the use of the construction manager/general contractor procurement method;
- Encourages innovative project delivery methods and construction techniques, such as prefabricated bridge elements and high-tech construction equipment. The federal share of project costs may be increased to 100 percent for projects that use innovative project delivery methods, capped at 10 percent of allowable apportionments;
- Allows for purchase of right-of-way and design work to begin prior to final environmental clearance; and
- Provides for a demonstration program to streamline the relocation process by permitting a lump sum payment for the acquisition and relocation of property if elected by the person displaced by the project.

Many of these provisions mirror strategies emphasized in the Federal Highway Administration’s Every Day Counts initiative. The agency effort to identify and deploy innovations for shortening project time frames and accelerating technology development launched in 2010 with 13 specific initiatives that have already seen significant support and success. Every state transportation agency has applied one or more of the technologies encouraged by the first phase of the program and many of the strategies are now widely used.

In July 2012, the Federal Highway Administration announced it will promote 13 new innovations to state, local and regional transportation agencies, as well as to the design and construction industries. The inclusion of Every Day Counts strategies in the text of MAP-21 allows them to be even more firmly ensconced as best practices in project delivery, transportation officials say.

Deadlines and Penalties

MAP-21 sets a federal permitting deadline of 180 days after the lead agency on a project—typically the U.S. Department of Transportation and any state or local governmental entity serving as a joint lead agency—has issued its final decision and a complete permit application is filed.

Funds would be rescinded from the relevant office at the delinquent federal agency for every week beyond the 180-day deadline. On major projects—that require a financial plan—the penalty would be $20,000 a week. The penalty would be $10,000 a week for all other projects. No funds, however, would be rescinded if the state concurs that the delays are not the fault of the federal permitting agency.

Attorney William Malley explained the deadline and penalties concept in MAP-21 evolved from an issue resolution process in the previous authorization bill, SAFETEA-LU, that never really got off the ground. Malley is a managing partner at the Perkins Coie law firm in Washington, D.C., and has represented state transportation agencies and other project sponsors during the environmental review process.

“The concept (of the issue resolution process in SAFETEA-LU) was to, in a sense, give each side an obligation to put its cards on the table in the process at an early stage,” Malley said in a September telephone interview. “For the lead agency, that means disclosing what they’re seeing in terms of impacts, here’s the routes we’re looking at, etc. And then for the participating agencies, if they see something that would suggest you’re going to run into a major problem getting your permits, then they have to say that at one of these (early) stages.

“If you fast forward to MAP-21, Congress comes back at it with a slightly different angle and more emphasis on deadline, timeliness of agency decision-making. They set this 180-day deadline... There was actually a 180-day deadline of the same nature in SAFETEA-LU, but there the consequence for missing it was essentially, ‘Report to Congress.’ Now they’ve established a more consequential impact, which is to say these financial penalties.”

But are there underlying agency capacity issues that have prevented federal agencies from making timely decisions in the past and what impact are
weekly $10,000 or $20,000 fines likely to have if the manpower simply isn’t there?

“I think that’s always a question,” Malley said. “Do agencies have enough capacity to handle the permitting and review, the workload that they have?”

Malley noted Congress has put in place a variety of tools to help federal and state agencies meet their staffing needs, including allowing state departments of transportation to use a portion of their federal highway funds to support highway project reviewer staff positions at resource agencies.

But Malley said the ultimate impact of MAP-21’s deadlines and fines likely will be to encourage agencies at all levels of government to take stock of their existing resources and set more realistic timetables for transportation projects.

“I think we could certainly imagine that agencies will want to avoid being in a position where they have funds rescinded from the head of the agency,” Malley said. “Nobody wants that to happen. And so the question is: How do they avoid having funds rescinded? My guess is that they will pay close attention to project schedules so that they don’t end up agreeing to a schedule that they ultimately can’t meet.”

Malley said the aim of the provisions in MAP-21, as well as earlier iterations of issue resolution, is “to create a structure and process in which both transportation and environmental agencies have to work together and sort of think through (issues like) ‘what are the constraints we’re under? What can we reasonably do?’ And then put that into a schedule.”

Some in the environmental community worry, however, that deadlines and fines could have potentially negative effects on the quality of transportation projects.

Deron Lovaas, director of federal transportation policy for the Natural Resources Defense Council, wrote in a June 2012 blog post that those provisions in MAP-21 are “likely to yield hasty reviews and awful decisions.”

Lovaas argues that environmental reviews do and should take time if the goals are thoroughness and accomplishing their intended goal.

“If reducing project delays is the name of the game, tools other than broad legislative changes that invite unintended consequences, such as one-size-fits-all deadlines, imperious default approval of projects or limits on (the review of project alternatives) should be considered,” he wrote in another June 2012 blog post. “And, as I’ve said many times before, states and the federal government need to perform more robust statistical analysis of project delays and not rely wholly on anecdotal evidence.”

Lovaas said such statistical analysis would reveal that, in addition to environmental reviews, a vast array of other issues can delay projects, including local controversies, sheer project complexity and financing.

Malley countered that Lovaas’ concerns about MAP-21’s emphasis on deadlines are misplaced.

“I think that the notion that the existence of this 180-day clock is going to lead to rushed decisions or what have you, is not really recognizing what this
review process, it was all financing and that’s what was holding everything up, that’s the reason it was taking 10 years to get a project (done),” Oakley told CSG in a telephone interview. “Typically what happens is the environmental process takes so long that you can’t get the financial commitment because of the uncertainty of the environmental process and not only uncertainty in terms of outcome, but also uncertainty in terms of how long it’s going to take. There are very few legislatures that want to tie up a commitment of funds for 10 years. It’s really not that you get the environmental assessment done and you wait around for the funding.”

The aforementioned Regional Plan Association report said that while some external factors—such as shifts in state or local political and funding priorities—can cause delays, they are more often caused by four aspects of the process and institutions involved. They include:

• Lack of stakeholder consensus over fundamental aspects of a project during the planning phase, which are not efficiently resolved during the environmental review process;
• Differing and conflicting interpretations of National Environmental Policy Act requirements, as well as inconsistent implementing policies and procedures among the multitude of government agencies involved in a project;
• Administrative bottlenecks and outdated procedures within agencies that have insufficient staff capacity and training to efficiently complete environmental studies or reviews; and
• Misdirected response to the threat of environmental litigation, which leads to overly complex and technical environmental analysis and rigorous documentation efforts.14

But Lovaas of the Natural Resources Defense Council argued that even when the environmental review process takes a while, it can ultimately lead to a better transportation project. He cites as an example the Glenwood Canyon section of Interstate 70 in western Colorado, where planners initially envisioned blasting through the mountains, adding artificial supports and channeling the Colorado River to accommodate the road.

“A citizens’ advisory committee, with better local knowledge than larger government agencies and bureaucracies, recognized the serious impact of the proposed plan,” Lovaas wrote. “Thanks in large part due to NEPA’s procedural protections, the committee became an active part of the process. The result is a 12.5-mile stretch of highway with lower environmental impacts, the addition of rest stops, bike and jogging paths and rafting support.”

Environmental reviews can allow for the consideration of alternative project designs that ultimately result in more context-sensitive approaches that take into account the needs of the community, Lovaas said.15

Integration of Planning & Environmental Review

MAP-21 allows for the use of certain planning documents in environmental proceedings. Planning documents that qualify are those that result from an evaluation or decision-making process, such as detailed corridor plans or analyses of impacts on mobility, adjacent communities and the environment. The document has to be approved by the state, all local and tribal governments where the project is located, and by any relevant metropolitan planning organization.16

Pete Ruane of the American Road and Transportation Builders Association said this type of integration can help avoid duplication of effort.

“This would reduce delay by allowing, where appropriate, the use of material already created instead of reinventing the wheel,” Ruane wrote in American City and County magazine.17

Malley, the Washington attorney, agreed. He said in addition to saving time, the integration of planning documents in the National Environmental Policy Act process may have the added benefit of inviting greater buy-in to the planning process at all levels of government.

“What (the Federal Highway and Federal Transit Administrations) have been saying in policy for a long time and now Congress is saying in (MAP-21) is that planning processes should be meaningful, that the general intent of (planning) should be to make some broad policy decisions that then can be carried forward and that you don’t start over in NEPA,” he said. “The more weight that is given to the decisions that are made in planning, I think the more you’ll also see that planning process becoming more robust and having more participation in it because if the decisions are going to be ignored, no one is going to pay much attention to it.”

Some caution, however, that while incorporating existing planning work into the environmental review process may have benefits, states and metropolitan planning organizations should guard against bringing National Environmental Policy Act-like processes into planning.

“If NEPA acts as a clearinghouse and in effect strangles project development, … you’re going to slow down planning,” said Binder of Cambridge Systematics. “I think there are enough states that are worried about that and hoping that will not be the picture and that the
picture will be that you do a lot of work in planning and then that planning work has standing.”

Binder also warned it’s important that state and regional planning documents not be used to “pre-cook the decision” on individual projects before they go through the review process.

“If we collectively as a community start to do that, then the environmentalists are right,” she said. “Then it’s a backroom deal, because who’s paying attention at that stage? It’s very hard to get the public involved in writ-large planning (i.e. planning done at the state or regional level). But if what you analyze in that planning process does not have to be repeated in the corridor (planning) particularly or at the project level, then that would be (a) very good (outcome).”

NEPA Document Consolidation

Under MAP-21, federal agencies are allowed to issue a combined document that incorporates two documents required under the National Environmental Policy Act: the Final Environmental Impact Statement and the Record of Decision.20

The Federal Highway Administration previously has allowed a condensed final impact statement. The Council on Environmental Quality, the agency that ensures federal agencies meet their environmental review obligations, has required 30 days between the final impact statement and the Record of Decision.

Malley, the Washington attorney, explained the thinking behind the change.

“I think the logic of doing so is that the real public involvement component of NEPA is in the comment period on the draft (Environmental Impact Statement),” he said. “Essentially, that’s where the real decision making occurs and what (Congress is) basically saying is by the time you get to the final EIS, that really effectively is your decision and so you can combine that with the actual decision document itself.”

While it might seem like a relatively minor policy change, the document consolidation is one of the more concrete changes in MAP-21 with the potential to improve efficiency and accelerate processes, Malley and others believe.

“As NEPA documents have grown more complex, the process of producing a final EIS and a record of decision is a time-consuming process,” Malley said. “There is often a lag of much more than 30 days between a final EIS and a ROD. And so what (Congress is) basically saying here is you can have a more condensed final EIS that essentially is just your draft EIS plus individual pages that have changed and then have the record of decision issued alongside it. And I think this is one where it’s very much about reducing time and reducing paperwork associated with that process.”

Categorical Exclusions from NEPA

MAP-21 allows the U.S. Secretary of Transportation to declare certain projects excluded from the requirements related to environmental assessments or environmental impact statements under the National Environmental Policy Act. These categorical exclusions include:

- Highways and bridges damaged in emergencies;
- Projects within an existing operational right-of-way;
- Projects that receive less than $5 million in federal funds, or those with a total estimated cost of not more than $30 million and federal funds comprising less than 15 percent of the total estimated project cost; and
- New categorical exclusions decided upon by the secretary and state governments.

Transportation experts say it’s far too early to know what impact these new categorical exclusions will have or how much states will take advantage of them for transportation projects.

“(It’s) going to require rulemaking and it’s going to be highly dependent on how (the Federal Highway Administration) interprets (MAP-21) and so it’s hard to say,” said Shannon Eggleston of the state highway transportation group.

But Malley points out these categorical exclusions aren’t entirely new territory. There already are exclusions for emergency projects, projects within the right-of-way and projects with limited federal funding, he said.

“I think (the new categorical exclusions) will, to some extent, overlap with some existing categorical exclusions,” Malley said. “So I don’t think of it as being somehow fundamentally new, but what it is doing is probably expanding to some extent the types of projects that fall within (categorical exclusions) and maybe also simplifying the process for determining if (one) applies.”

But some in the environmental community argue such exclusions wreak havoc with the intent of the National Environmental Policy Act and have the potential to limit public oversight and accountability.

“Such loopholes allow projects to be built with minimal or no participation by the affected public,” Lovaas of the Natural Resources Defense Council wrote in a June 2012 blog post. “(MAP-21) pokes many holes, two of the most egregious being exclusion of projects in an existing right-of-way (what’s to stop a highway agency from building a second interchange next to another one if it’s in the right-of-way, without getting public feedback?) and categorical
exclusion of projects that receive less than $5 million of federal funding which means your taxpayer dollars could help build a highway and without you having a say in its design.\textsuperscript{23}

Oakley, of the state highway officials’ group, counters there still will be plenty of opportunities for community involvement and consideration of better solutions. Such things are ingrained into the transportation planning process in every state.

“Notwithstanding what those advocates are maybe claiming, … (the categorical exclusions) are going to have absolutely no impact on that,” she said.\textsuperscript{24}

Malley notes, however, that projects that qualify for categorical exclusions by their very nature often don’t fit the mold of the traditional project delivery process.

“The fact is a (categorical exclusion) one way or the other does not involve the same level of public involvement as an (environmental assessment),” he said. “A (categorical exclusion) pretty much by definition is something that has been shown by experience not to have significant environmental impact. So if in fact that’s the case, then it’s going to warrant a lower level of documentation and a different kind of public involvement process than one that has the potential for significant impacts. So it’s all about trying to keep the process and keep the paper in proportion to the kind of project you have.”\textsuperscript{25}

Others say while public involvement is an important part of the process generally, there must be limits and it can’t go on forever. Binder, the Cambridge Systematics senior associate whose career has included stints at both the Federal Highway Administration and on Capitol Hill, said environmentalists are overreaching in suggesting anything will be lost if they only get “three and four bites at the apple” rather than five or six.

“Their technique of construing citizen participation as constantly reopening issues, constant opportunities to critique, constant opportunities to stall and delay—I think that’s bad all around,” she said.

Binder hopes if the opportunities for public participation are reduced for a particular project, citizens will decide to get involved earlier in the process rather than waiting until “there’s a backhoe poised in their front yard.”\textsuperscript{26}

“If you know that there are going to be … five passes at something, you don’t take it seriously on the first three,” she said. “That’s why I think that some of these multiple actions really undermine good planning.”

**Delegation of Federal NEPA Responsibilities to State Governments**

MAP-21’s predecessor, the 2005 authorization legislation known as SAFETEA-LU, included a pilot program to permit five states to assume certain federal environmental review responsibilities, such as those required under the National Environmental Policy Act and other federal laws.

Alaska, California, Ohio, Oklahoma and Texas were all permitted to participate, but only California chose to do so. Eventually, the Federal Highway Administration opened the pilot program to all states, while still limiting participation to five states.

Since California was the only state to participate in the pilot program, the potential benefits of the program are difficult to quantify. But according to a 2012 Government Accountability Office report, the California Department of Transportation—known as Caltrans—reported that highway projects requiring an environmental assessment now take about 30 months less to complete.\textsuperscript{27}

“Caltrans has decreased the amount of time required for environmental document approvals,” a 2007-08 department report said. “Draft review went from more than six months, to less than two months. That’s a time savings of 69 percent on draft review and 68 percent for final document review (from 2.5 months to less than a month). These savings were achieved after eliminating FHWA environmental document review and working directly with federal resource agencies to meet their requirements.”\textsuperscript{28}

But other states said they did not participate in the pilot program under SAFETEA-LU due to a requirement that they would have to waive sovereign immunity and accept federal court jurisdiction for the environmental review decisions they make under the program, the GAO report said. Staffing concerns may be an issue for states as well. At least two states told GAO that they like having the Federal Highway Administration making the environmental decisions because the agency has the staff and expertise to make informed decisions on environmental impacts.\textsuperscript{29}

Still, the American Association of State Highway and Transportation Officials in 2009 recommended expanding the program under which state transportation agencies can assume these responsibilities.

“The limited experience to date suggests that delegation is effective at delivering improved performance as well as faster environmental reviews,” said the group’s authorization recommendations.\textsuperscript{30}

Oakley, of the transportation officials group, is confident more states are now ready and willing to take on the role.

“The states recommended that and the (AASHTO) board of directors adopted that so I’m not sure if there hadn’t been interest that they would have pursued that as a policy that they were advocating,” she said. “If the
states themselves didn’t feel like they had the capacity, I don’t think they would have been recommending it … In most states, they have environmental laws that are comparable to NEPA. They have their own laws at the state level that they have to comply with, so I don’t think capacity is really an issue.”31

But Cambridge Systematics’ Binder doubts many states can follow in California’s footsteps.

“How many other states have a fully fleshed-out state environmental framework and, dare I say, ethic to cover what it seems like the activist public and others really want?” she asked. “California was on the same wavelength with the federal NEPA and so it worked. I don’t see a lot of states stepping in and taking the whole ball of wax like that.”32

Malley said the willingness of states to undertake the federal government’s environmental review responsibilities under MAP-21 likely will be dependent on whether they see the potential for significant benefit.

“You are [taking on] an additional burden because you would be the principal defendant in any litigation that’s filed challenging a NEPA decision,” he said. “So what is the benefit that goes along with that burden? And I think California’s experience shows there is a considerable benefit. They have found that they have shortened the time needed to produce their NEPA documents. And as they have gained more experience with it, I think the benefits that they’ve been able to achieve are now going to give states some additional information and some states may say ‘OK, based on those benefits, we’re willing to take on the burden that comes with this delegation of (federal agency) decision-making.””33

Programmatic Agreements and Mitigation Plans

A programmatic agreement, which both the Federal Highway Administration’s Every Day Counts initiative and the American Association of State Highway and Transportation Officials recommend expanded use of, defines the terms of a legally binding agreement between a state department of transportation and other state and/or federal agencies and establishes a process for consultation, review and compliance with one or more federal laws. Such agreements can shorten project delivery time by allowing those building a project to avoid, minimize and mitigate impacts on the environment. The agreements specify roles and responsibilities, standardize coordination and compliance procedures, improve agency-to-agency relationships, and make limited staff and resources more focused and effective, according to the Federal Highway Administration.34

MAP-21 allows states and metropolitan planning organizations to develop one or more programmatic mitigation plans to address the potential environmental impacts of future transportation projects. These can be developed on a regional, ecosystem, watershed or even statewide scale. If a plan is developed in the way described in the legislation, any federal agency responsible for environmental reviews, permits or approvals for a transportation project may use the recommendations in the plan when carrying out National Environmental Policy Act responsibilities.35

The Federal Highway Administration highlights success in several states in expanding the use of programmatic agreements.

- Nebraska’s Department of Roads developed one such agreement for a biological evaluation process. The department is no longer required to coordinate with the highway administration, the U.S. Fish and Wildlife Service and the Nebraska Game and Parks Commission once programmatic conditions are met for a specific project. Officials say the agreements result in a minimum savings of five weeks in the project schedule for an estimated 80 percent of projects in the state.

- Oklahoma’s Department of Transportation put in place a programmatic agreement to deal with what happens when a type of critically endangered species of beetle turns up at a transportation construction project site. A standardized process allowed the department to remove schedule uncertainties and avoid lengthy delays once caused by the presence of the beetles. As a result, projects have been expedited by as much as one year.36

According to a 2012 GAO report, some state departments of transportation have used programmatic agreements for more than a decade; at least four states have used them since the 1990s.37

“Honestly, this is something that we’ve always viewed as a win-win situation for both the environment and for the transportation community,” said Eggleston of the state highway transportation officials’ group. “Rather than doing piecemeal mitigation project by project, it’s better to reserve an entire area for a certain type of mitigation instead of having bits and pieces of it all along the project corridor. You can do things on a watershed basis and do it on more of a large scale. It actually improves the environment and it’s more cost effective. And then on the transportation side of things, if you have those resources already designated for mitigation, then the project can move through permitting more quickly.”

Malley cautions, however, not to expect dramatic results overnight from the expanded use of programmatic mitigation plans.
“I think that they have a potential long-term benefit,” he said. “I think what you’ll see in the short term is that it’s not going to just immediately yield benefits. ... Similar to the planning-NEPA linkage, the programmatic mitigation plan (is just a) smart idea. ... (But) all the (MAP-21) statute says is ... agencies may consider those programmatic mitigation plans in making their decisions. Well, it’s really just providing information. It’s not imposing a new mandate or limiting an agency’s authority. So the concept I think would be that this provides a new tool and it will be used and it could lead to more effective and more value-added mitigation.”

Early Right-of-Way Purchase

One key goal of MAP-21’s accelerating project delivery provisions is to create a process in which the various project stages run more concurrently and less in a linear fashion, which requires signoffs on various aspects of the project before work can proceed in another area.

Oakley said that doesn’t mean it’s about skipping important steps in the process.

“When you’re doing it more concurrently, it’s not that you’re not coordinating with resource agencies,” she said. “It’s not that you’re not getting community input. It’s not that you’re not doing any of that. You’re just doing it further upstream in the process.”

One example of this movement toward more simultaneous processes is a provision in MAP-21 that will give government agencies added authority to acquire right-of-way for a transportation project prior to the completion of the environmental review process.

“States already have the authority to do early right-of-way acquisition,” noted Malley. “They do it now primarily with state funding. (MAP-21) gives them a bit more flexibility to do it with federal funding and I think that they may take advantage of that.”

MAP-21 will allow the use of federal funds for advanced right-of-way on a project if the state certifies, and the U.S. Department of Transportation concurs, that the environmental review will not be affected. The use of state funds for early acquisition is also allowed and can now be reimbursed with federal funds at the time of construction if the U.S. DOT concurs that the review was not affected.

“The policy behind (early right-of-way acquisition) is that NEPA takes a long time and oftentimes the cost of acquiring right-of-way goes up or it may simply become unfeasible to acquire it if you wait too long,” Malley explained. “So the Congress is basically saying ‘Here’s a little more flexibility to use federal funds, but you have to make sure that you do it in a way that does not predetermine the outcome of your NEPA review.’

Representatives of the American Association of State Highway and Transportation Officials say that won’t be a problem for state transportation agencies.

“We think that states are fully capable of having projects go through the NEPA scrutiny in an unbiased way, even with advanced acquisition of right-of-way,” Oakley said.

Eggleston points out fewer transportation projects are undertaken these days that are true greenfield projects—that is, projects in rights-of-way where no structures existed before.

“A lot of projects are additional lanes or things of that nature where there are not going to be a lot of options (for the project’s design or routing),” she said. “That makes it less important that right-of-way acquisition take place late in the process, once environmental assessments are complete and a final project design is accepted.

Malley also noted safeguards are built into the early right-of-way acquisition provisions included in MAP-21.

“The key to it is that early acquisition cannot limit your consideration of alternatives,” he said. “Essentially, it you don’t choose that alternative, you sell off that right-of-way. ... But it’s not at all unusual when you’re going through NEPA for the state to own some portions of right-of-way for one or more of the alternatives that they’re looking at.”

The American Association of State Highway and Transportation Officials, in its 2009 authorization recommendations, said advanced right-of-way acquisition had the potential to produce time savings of several months to a year, as design and construction can start without delays due to negotiation, relocation and condemnation.

The group said it also could produce cost savings, as Malley suggested, since the land purchased prior to development is likely to be cheaper than it would be later. Less disruption to the community is an added benefit, the recommendation noted.
Innovative Project Delivery Methods

In addition to its many provisions related to the process required by the National Environmental Policy Act, MAP-21 also hopes to speed transportation projects by encouraging the use of innovative project delivery methods.

“Congress declares that it is in the national interest to promote the use of innovative technologies and practices that increase the efficiency of construction, improve the safety of, and extend the service life of highways and bridges,” the legislation reads.

Among the innovative technologies and practices the bill refers to are state-of-the-art intelligent transportation system technologies, elevated performance standards and new highway construction business practices that improve highway safety and quality, accelerate project delivery and reduce congestion related to highway construction.

The bill specifically mentions:

- Prefabricated bridge elements and systems;
- Innovative construction equipment, materials or techniques, including in-place recycling and digital three-dimensional modeling;
- Innovative contracting methods, including the design-build and construction manager/general contractor methods;
- Intelligent compaction equipment; and
- Contractual provisions that offer a contractor an incentive program for early completion of the project, program or activity, subject to the condition that the incentives are accounted for in the financial plan of the project, when applicable.41

The next few sections of this brief describe a few of these strategies.

Prefabricated Bridge Elements & Systems

When the new Veterans Memorial Bridge opened in June 2012 in Portland, Maine, one reason cited for the project’s on-time delivery in just two years was the use of precast concrete. The $65 million bridge—a collaboration among local, state and federal entities—was built using 361 pieces of precast concrete, each weighing more than 60 tons.42

The Federal Highway Administration has encouraged the use of prefabricated bridge elements and systems as part of its Every Day Counts initiative. According to the federal government, prefabrication saves time by allowing different bridge components to be assembled concurrently and often in offsite, climate-controlled environments, which limits delays due to weather. Prefabrication also can produce cost savings, safety advantages, easier construction, reduced inconvenience for travelers and reduced environmental impact, the agency notes.43

In 2011, the Massachusetts Department of Transportation was able to replace 14 bridges along Interstate 93 in Medford over the course of just 10 weekends between June and August. The effort was made possible due to the use of accelerated bridge construction techniques, including prefabricated bridge elements. According to the department, it would have taken at least four years to replace the 14 bridges using conventional construction tech-

Innovative Construction Equipment, Materials or Techniques

MAP-21 makes specific mention of in-place recycling technology as an innovative construction technique worthy of promotion. The technique involves rehabilitating road pavement by milling up existing asphalt and mixing in additional cement, then laying it back down without hauling it off-site to be processed. A variation called hot in-place recycling mixes in additional aggregates and rejuvenating agents.45

Digital, three-dimensional modeling technologies also are mentioned in the legislation. These technologies are also a focus of the Federal Highway Administration’s Every Day Counts initiative. According to the administration’s website for the initiative:

“The technology allows for faster, more accurate and more efficient planning and construction. … With 3-D modeling software, design and construction teams can connect virtually to develop, test and alter project designs throughout the design and construction phases. Intricate design features can be viewed geospatially, or in a 3-D view, from multiple perspectives, and simulations can be run to detect design flaws before construction begins. Data, exported from the 3-D models, can be transferred to a global positioning system machine control that guides and directs construction equipment like bulldozers and excavators. The connectivity allows workers to receive and work with the most accurate, up-to-date models even if mid-cycle design changes are made.”

The Federal Highway Administration also notes that GPS-enabled construction equipment can run all day and night with the guidance of 3-D modeling data and achieve first-pass accuracy. The technology...
allows many manual tasks to be completed automatically and with machine-like precision, reducing the number of onsite workers required.

“With growing reception to 3-D technology, the transfer and use of 3-D model data in GPS machine control equipment has been successfully demonstrated and used in numerous states nationwide,” the website says. “The technology proves to be a cost effective method for accelerating highway pavement construction.”

Intelligent Compaction Equipment

Compaction is the final process in road construction. It’s used to produce a uniform surface texture to pavement. While conventional compaction equipment can result in non-uniform densities of pavement material, intelligent compaction equipment uses special vibrating rollers, uniformity-measuring devices called accelerometers, map-based GPS and onboard computers to collect, process and analyze measurements in real time to produce a more uniform, long-lasting pavement. The key to quicker project delivery acceleration is intelligent compaction rollers can do more work with fewer passes than traditional static rollers, often in a much shorter time.

According to the Federal Highway Administration: “(Intelligent compaction) efficiencies produce time, cost and fuel savings. With more efficient paving processes, production can increase and state departments of transportation can construct greater amounts of roadway daily.”

Innovative Contracting Methods

In August 2012, the New York State Department of Transportation awarded the state’s first design-build contract. The $29.3 million contract will repair 13 bridges in the Hudson Valley region and create 410 jobs. Gov. Andrew Cuomo worked with the New York legislature in 2011 to get design-build legislation in place.

“By using the design-build method, New York state is changing the way we invest in job creating projects by cutting down on the time between when the bids go out and when the shovels are in the ground, while saving taxpayer dollars,” Cuomo said in a statement.

The traditional method of highway contracting and construction in the United States was design-bid-build. The contracts for the design and construction phases are separate contracts and the only criterion for final selection is lowest total construction cost.

With the design-build project delivery method, there is one contract and the designer/builder assumes responsibility for the majority of the design work, as well as all construction activities. Since the contractor is involved early on in the process, it has increased flexibility to be innovative and take greater risks. Certain aspects of design and construction can take place at the same time as well.

According to the Federal Highway Administration, design-build can accelerate project delivery in several ways:

“The contractor has flexibility in selecting the design, materials and construction methods based on the available equipment, workforce and resources. The contractor also works closely with the designer, sharing his or her expertise, to reduce the risk of design errors and the need for redesign, which can add to project costs and delays. Allowing the contractor to tailor the project design and apply appropriate innovations provides flexibility for the contractor to manage and compensate for cost increases in one area through efficiencies in another.”

The highway administration also notes that with only one contract to deal with, a design-build can allow for the overlapping of project phases:

“For instance, construction preparation can begin while the design is being created and finalized and the designer might need to be involved to assist with any redesigns if problems or concerns are encountered during the construction phase. Teamwork between the designer and contractor allows for greater collaboration and innovation and accelerated project delivery and often results in improved project quality.”

While 47 states authorize design-build authority for transportation procurement, 18 states place limitations on its use and three states—Iowa, Nebraska and Oklahoma—don’t have legislation specifically authorizing it. Moreover, a 2012 Government Accountability Office survey found that a majority of states use design-build contracting for less than 10 percent of all highway projects. Transportation experts say that may be because design-build is often more appropriate for larger-scale projects and not for the smaller, more routine projects states have emphasized during the tight budgets of recent years.
A middle ground between design-bid-build and design-build is the construction manager/general contractor method, under which the owners of a transportation project contract with a company to serve as the construction manager during the design process. As the design nears completion, the owner and the construction manager can revisit their arrangement. If they can agree on a price for construction, they can sign a construction contract and the construction manager then becomes the general contractor. If not, they can agree to part ways. Such a method allows the project owner—often the state department of transportation—to remain active in the process and make changes according to best value.53

The use of the construction manager/general contractor method on heavy transportation construction projects has been somewhat rare and has historically been more associated with building construction. Fifteen states still prohibit its use54 and some in the contracting community have resisted it. But some states are considering changing laws and policies to allow the construction manager/general contractor method and several have received special approval from the Federal Highway Administration to use it on specific projects.55

The Utah Department of Transportation is among the state agencies that have already found the method to have significant benefits over design-build. “We are able to begin the project earlier because we do not need a design to advertise and the selection process is simpler,” says a brief on the department’s website. “A typical (request for proposal) for a design-build process is over 500 pages and averages 250 days. A typical RFP for CM/GC is 30 pages and can be shortened to less than 90 days. It is possible to start the RFP development during the environmental process and reduce the selection time to about 70 days. Using this process we are also able to purchase select items early. Items like steel girders have a long lead-time and the cost frequently increases over time. With these benefits, many CM/GC projects have been able to save a construction season and reduce inflation costs because they could get started early.”56

Challenges Ahead for States in MAP-21 Implementation

MAP-21 covers a lot of ground in its 584 pages. Accelerating project delivery is just one of the legislation’s many goals. Those provisions that deal with it are sprinkled throughout the bill. So taken as a whole, will they make a difference? Experts say the jury is out and will be for a while.

“I think that there are some things in there that will make a difference,” said Binder of Cambridge Systematics. “Will they make a difference on the overall program soup to nuts? My expectations are lower. A number of things that are in there really just put in law what has been policy guidance for a while. What I am fond of saying is you can’t legislate good behavior. … But the Congress could and should and did say ‘Guys, you need to play well together. You need to have deadlines. You need to have collaboration.’

“One-size-fits-all deadlines don’t work, but if one-size-fits-all deadlines are meant to lean on people to get together and set up project-specific deadlines that they will then work on and they’ll be rewarded for that, fine. … Although I think these are very limited changes, the direction is clear. If the executive branch wants to take the ball, they’ve got enough here to really encourage people to do what are already becoming known as best practice.”57

Despite the anecdotal evidence that individual initiatives included in MAP-21 have seen success or have the potential for success, whether they actually achieve that potential depends on a lot of things. It’s now up to states and the federal government to take the ball and run with it, said Oakley of the American Association of State Highway and Transportation Officials.

“(The U.S. Department of Transportation) will be putting out guidance and regulations and how they put out that guidance will have an impact on how useful some of the provisions may be,” she said. “Two, it’s just going to take some test driving (by state departments of transportation) and trying it out to know what will really be helpful.”58

While much of what ended up in MAP-21 may seem familiar, there are elements that are new buried in the legislation’s voluminous length that will require interpretation in the months ahead. Experts say that may present one of the biggest challenges for policymakers as they go about trying to implement it.

“There are always some challenges just in figuring out what’s new here and even if ultimately they are straightforward to implement, there’s just a lot of content here,” said Malley, the Washington attorney. “There’s a lot that Congress did. It takes a while to just figure it all out. … I think ultimately the changes should be beneficial for project delivery and that states will ultimately find that these do make the process better and faster, but it just takes a while to implement it all.”59
Binder co-authored a 2011 report for the Orange County, Calif., Transportation Authority, “Accelerating Federal Program and Project Delivery,” which included many recommendations ultimately included in MAP-21. She said the task of MAP-21’s interpreters is made more difficult by the fact that many provisions related to accelerating project delivery do require regulations to go into effect.

“The challenge, I think, with the states is going to be: (they) don’t want to wait for four years to get planning (regulations) revised,” she said. “What do (they) do in between? … For those states that have been at this and have shown a maturity and a common set of values, it won’t be a problem. It’s going to be a problem in this interregnum for some people (wondering) ‘What can I do? What can I start? Where should I go with this while this thing is percolating?’ That’s going to be an immediate challenge. Because I think some states are going to see some opportunities that they’d like to jump on right away.”

**Future Policy Avenues for Accelerating Project Delivery**

While MAP-21 included many provisions long sought by state departments of transportation, contractors and others related to accelerating project delivery, there were several provisions left out of the final legislation that some say could have had an even greater impact.

Binder and others believe MAP-21 will not be the last word on accelerating project delivery. The issue will more than likely resurface when it comes time to talk about the next federal authorization bill in two years.

“I think that it’s going to still be on the table (in 2014),” she said. “I think this couple of years can develop some poster children examples of places where things were able to be done faster and just as well if not better. … I think it’s an opportunity to say we’ve made progress, we’re going in the right direction and the world has not ended.”

As far as what shape policy in this area might take in the future, Binder said it may be worth studying what House Republicans and others sought to make a part of MAP-21 but were ultimately unsuccessful with.

“They would have had a much stricter series of deadlines where every phase would have had more of a cookie cutter kind of (approach) with sanctions and regimes,” she said. “And the measure of that I think was that would go too far. … (But) there may still be some appetite for that among some states because the sense of certainty is (still) missing (from project delivery).”

Malley has his own list of what didn’t end up in the bill. He said most of the items on it would have likely had a more significant impact than what Congress actually approved.

“I would say anything that involves exemptions (from NEPA), that involves changes in other agencies’ statutory authority, … those are the kinds of things that would go farther and those are things that did not ultimately get included,” he said. “What (Congress has) done is essentially have a series of changes that by and large preserve agencies’ existing authority. They create a somewhat more structured process to carry out those authorities, but they’re not changing the authorities that agencies have to review and comment and approve permits for projects.”

Malley noted that MAP-21 contains no deadlines for completion of National Environmental Policy Act reviews, no exemptions from the act, no increased authority for lead agencies over other agencies, and no changes to the standards for the sufficiency of environmental impact statements.

Others also have weighed in on policy avenues that could be explored in the future for accelerating project delivery.

Robert Thornton is a partner at Nossaman LLP, a law firm that practices in infrastructure and other areas. In July 2012, he wrote about MAP-21’s “missed opportunities.” Among them:

- MAP-21 excluded provisions modeled on the Clean Water Act that were included in the House bill to use certified state environmental reviews in lieu of National Environmental Policy Act reviews.
- MAP-21 fails to impose firm deadlines on the federal environmental review process and relies on collaboration with environmental agencies and the threat of funding penalties to encourage timely reviews and decisions by environmental agencies.
- MAP-21 fails to establish any safe harbor against environmental review litigation where the lead agency has followed approved regulatory approaches to environmental evaluations.
- MAP-21 does not limit the ability of project opponents to challenge individual project environmental documents that rely on corridor selection, mode choice and other transportation planning decisions.

The aforementioned 2012 report by the Regional Plan Association said what’s really needed to speed up environmental reviews and accelerate projects is establishing strong leadership and consensus on a project before even entering into the environmental review process. Among the report’s recommendations were:

- Establishing broad agreement among agencies
and stakeholders on project goals and carrying them forward into the environmental process to help prevent controversies from arising later on.

- Spending more time at the beginning of the process establishing memoranda of understanding among participating agencies on timelines, procedures, language and environmental outcomes.
- Strengthening federal leadership on major employment-generating projects and reducing federal involvement in minor projects.
- Training the next generation of environmental practitioners to adopt and share best practices.
- Increasing transparency and accountability with a focus on producing a more thorough administrative record, as opposed to excessive analysis of unlikely impacts.
- Modernizing outdated, inefficient procedures with web-based, data-sharing stakeholder involvement tools and digital submission of environmental documents.65

The Congressional Research Service in a 2011 report delivered some ideas on broad policy options Congress might consider for accelerating project delivery, none of which were actually included in MAP-21. Their recommendations included:

- Creating an office within the U.S. Department of Transportation responsible for expediting project delivery; and
- Developing new initiatives for encouraging and rewarding collaboration between federal, state and local agencies, such as a requirement in law for partnering plans, an awards program for outstanding collaboration, or a special research and technical training center devoted to transportation project delivery.66

There is clearly still plenty of ground to cover and plenty of debates to be had in the years ahead as state governments partner with their federal counterparts and others to shape a more efficient and timely process for delivering transportation projects.

Sean Slone, CSG Senior Transportation Policy Analyst
sslone@csg.org