American Road & Transportation Builders Association

Senate Two-Year Reauthorization Bill: MAP-21
Overview and Analysis

The surface transportation reauthorization legislation authored by Senate Environment and Public Works (EPW) Committee Chairman Barbara Boxer (D-Calif.) and Committee Ranking Republican James Inhofe (R-Okla.), entitled "Moving Ahead for Progress in the 21st Century Act" or "MAP-21", S.1813, would preserve current levels of federal highway investment plus inflation for FYs 2012 and 2013. The federal public transportation and transportation safety programs are under the jurisdiction of other Senate Committees and are expected to follow the parameters of the EPW proposal—current investment levels plus inflation and a two-year duration.

This product of all involved Senate Committees would produce a total, two-year funding level of $109 billion. As this amount is above current Highway Trust Fund revenues, the Senate Finance Committee would be responsible for bridging this gap by coming up with $12-13 billion in new resources .

MAP-21 Highway Program Funding Summary

	FY 2011 (actual)	FY 2012 (proposed)	FY 2013 (proposed)
Authorizations			
Core Highway Program	$40,707,727,419	$39,143,000,000	$39,806,000,000
TIFIA	$122,000,000	$1,000,000,000	$1,000,000,000
Fed lands and tribal programs	$1,019,000,000	$1,000,000,000	$1,000,000,000
Territorial & Puerto Rico Highway Program	$200,000,000	$180,000,00	$180,000,000
Administrative Expense	$454,425,000	$480,000,000	$480,000,000
Projects of National Significance			$1,000,000,000
Emergency Relief	$100,000,000	$100,000,000	$100,000,000
Research & Education	$439,000,000	$400,000,000	$400,000,000
Total Authorizations	$43,042,152,419	$42,303,0000,000	$43,966,000,000
Annual Investment Level			
Obligation Limitation	$41,107,000,000	$41,564,000,000	$42,227,000,000

The structure of the EPW proposal is a significant departure from the policy construct established in the 1991 Intermodal Surface Transportation Efficiency Act and continued in the 1998 and 2005 reauthorization bills. The proposal includes a number of policy and programmatic reforms intended to make federal surface transportation investments more efficient and accountable and encourage greater involvement from the private sector. Specifically, the measure would: accelerate the transportation project review and approval process; reduce the total number of categories within the highway program by two-thirds and focus remaining activities on national priorities; expand funding for the Transportation Infrastructure Finance and Innovation Act (TIFIA) program; create a new federal goods movement program; and establish an outcome-oriented performance process to achieve specific national goals.

Highway Formula Programs

MAP-21 would restructure and consolidate much of the existing core federal highway program into six main areas (see depiction on page 7). As a result of these reforms and the bill's lack of earmarks, MAP-21 would substantially increase the ratio of highway program funds distributed by formula to the states.

National Highway Performance Program (NHPP)

The Senate proposal combines the existing National Highway System (NHS) and Interstate Maintenance Programs, and a portion of the Bridge Program into a new formula program that focuses on maintaining/improving the National Highway System. Although the EPW Committee has not released funding specifics for individual programs, <u>the NHPP is estimated to receive a little over $20 billion per year</u>. This section of the bill has two primary goals: defining how states can spend NHPP funds and establishment of a performance process to improve pavement and bridge conditions.

The measure would limit the amount of new capacity for single occupancy vehicles a state may fund with NHPP funds to not more than 40 percent of its combined NHS Program apportionments for the three most recent consecutive years. While new capacity is certainly an eligible activity, MAP-21 emphasizes maintenance of existing assets.

<u>Eligible Activities</u>. States would be allowed to use NHPP funds for: construction, reconstruction, resurfacing, restoration, rehabilitations, preservation or operational improvements of segments of NHS (including bridges and tunnels); inspection of bridges and tunnels; training of bridge and tunnel inspectors; ferry boats; bicycle and pedestrian activities; safety improvements; traffic and traveler monitoring programs; state asset management programs; intelligent transportation systems; environmental restoration; control of noxious weeds; and natural habitat and wetlands mitigation efforts. In addition, funds can be spent on federal-aid highways not on the NHS and eligible transit projects under certain conditions.

<u>Performance Process</u>. The bill directs the U.S. Secretary of Transportation (hereafter referred to as "secretary") to develop, in consultation with state DOTs and stakeholders, metrics to measure the performance and pavement condition of the IHS and NHS, and bridge conditions on the NHS. One year later, states would be required to establish "risk-based asset management plan for the NHS" and targets that address these performance measures. Four years after the bill is enacted, states would be required to submit biennial performance reports to the Secretary. Failure to achieve performance targets, for two consecutive reports, would result in penalties—requirements that state spend NHPP funds on activities related to missed performance targets.

Transportation Mobility Program

The purpose of the Transportation Mobility (TM) Program is to provide states and localities with funds to improve the conditions and performance of federal-aid highways and bridges, as opposed to the National Highway System focus of the NHPP. This program would be an even more flexible version of the current Surface Transportation Program and recipients would be able to spend funds on virtually any transportation related activity. It is estimated the Senate proposal would dedicate approximately $10 billion annually for its mobility program.

The program would distribute funds by formula amongst the states. Within each state, 50 percent of TM Program funds would be distributed by population (proportionally by the relative share of areas with more than 200,000 people to areas with more than 5,000 people). The remaining 50 percent could be spent anywhere in the state.

Eligible Activities. TM Program funds could be used for: construction, reconstruction, resurfacing, restoration, rehabilitations, preservation or operational improvements of highways; replacement, rehabilitations, preservation, protections and other improvements to bridges and tunnels; bridge and tunnel inspections; training bridge and tunnel inspectors; transit capital costs; carpool projects, electric vehicle infrastructure, and bicycle and pedestrian activities; highway and transit safety improvements; research and development; traffic and traveler monitoring programs; congestion pricing and electronic toll collection projects; planning; transportation enhancement activities; recreational trails; ferry boats; border infrastructure projects; scenic byways; truck parking; safe routes to school; transportation control measures; asset management plans; natural habitat and wetlands mitigation efforts; intelligent transportation systems; environmental restoration; control of noxious weeds; and freight railroad and marine highway improvements (these modes are not currently eligible for federal highway funds and states may not spend more than five percent of their TM funds in these areas).

The bill would limit the ability to spend mobility program funds on local and rural minor collectors. The measure would also eliminate the off-system bridge set-aside, but replace it with a penalty that would require states to spend funds on these projects if the total deck area of deficient off-system bridges increases for two consecutive years. States would be allowed to credit 80 percent of state and local funds spent on replacing or rehabilitating off-system bridges after the enactment of this bill toward their non-federal share of federally-eligible bridge projects elsewhere in the state.

Highway Safety Improvement Program

Unlike the program consolidation included in other parts of the legislation, MAP-21 would largely retain the Highway Safety Improvement Program (HSIP) established by SAFETEA-LU. The bill would, however, make a number of policy reforms to this program. The bill would dedicate approximately $2.5 billion per year for the infrastructure safety program.

Eligible Activities. The measure clarifies and broadens the existing activities that constitute a “highway safety improvement project” to include: items that maintain minimum levels of retroreflectivty; geometric improvements to roadways for safety purposes; roadway safety audits; roadway safety infrastructure improvements to assist older drivers; truck parking facilities; systemic safety improvements (improvements that address particular crash types); and data collection.

Under the program, states will still be required to develop a strategic highway safety plan to achieve reductions in traffic fatalities and serious injuries on public roads. Data collection and linking targeted safety improvements to these findings would remain a significant component of this program. The secretary would be directed to require regular updates of each state's strategic highway safety plan that would be submitted for his/her approval. States without an approved plan would not be eligible to participate in the annual redistribution of unused spending authority from other states and in subsequent years would have funds transferred from their TM Program apportionments to their HISP apportionments (the amount of the transfer would be the equivalent of 10 percent of that year's HSIP apportionment).

States would continue to be able to use up to 10 percent of their HSIP apportionments in each fiscal year for non-infrastructure safety projects in their strategic safety plan. States would have to use at least eight percent of their HSIP funds in fiscal years 2012 and 2013 for data improvement activities and not less than four percent in 2014.

Performance Process. Within one year of enactment of MAP-21 the secretary would be required to develop performance measures relating to serious injuries and fatalities. States would have one year from the issuance of that guidance to develop performance targets related to addressing these metrics. States would then submit reports to the secretary demonstrating the progress made toward the performance targets. If the secretary determines a state has not made progress on those targets within two years, that state would be required to use a portion of its HSIP funds—equal to its prior year HSIP apportionment—only for highway safety improvement projects and submit annual reports until those targets have been met.

MAP-21 would eliminate the current set-asides for high risk rural roads and rail-highway grade crossings. The bill, however, would institute performance criteria that would impose penalties on the state if fatalities on high risk rural roads or grade crossings in the state increase over a two-year period. If these increases occur, states would be required to spend an amount of HSIP funds equal to 200 percent of their 2009 high risk rural road funding or 120 percent of their 2009 rail-highway crossing funds.

Congestion Mitigation and Air Quality (CMAQ) Program

The CMAQ program distributes funds amongst the states to help improve air quality issues associated with congestion. CMAQ funds can be spent on a variety of different projects associated with improving air quality, but cannot be used on single-occupancy lane construction. MAP-21 would make several revisions to the CMAQ program aimed at increasing flexibility for how CMAQ funding, estimated at more than $3 billion annually under MAP-21, is spent and also attempts to ensure that areas not in attainment with federal clean air act (CAA) standards are prioritized for receiving CMAQ funds.

Diesel Retrofit. One important change for the transportation construction community is how diesel retrofit projects would be eligible for CMAQ funding. Under current law, states may spend CMAQ funds on projects involving retrofitting diesel-powered construction equipment with newer, cleaner engines. MAP-21 would set aside a portion of money (not more than 7.5 percent of the total CMAQ funds) dedicated for areas which do not meet the federal government's standards for particulate matter (PM) or soot to be used specifically for retrofitting construction equipment with technology that reduces PM emissions. Specifically, this includes options such as diesel engine upgrades, repowers, idling control technology and exhaust control technology. MAP-21 also requires a subsequent report to Congress from DOT detailing how the clean construction equipment funds from CMAQ have been used.

<u>Reserved Funds.</u> MAP-21 would add a new component to the CMAQ Program, to fund a host of non-infrastructure activities. The bill would require states to dedicate an amount equivalent to their FY 2009 Transportation Enhancement Program set-aside from their future CMAQ Program apportionments. These funds could be used for transportation enhancement activities, the recreation trails program, SAFETEA-LU's Safe Routes to Schools Programs, planning/design and construction of boulevards, and other non-motorized transportation alternatives. Furthermore, the definition of transportation enhancement is expanded to include additional mitigation activities, but transportation museums are no longer an eligible activity.

If after the second year of enactment of MAP-21 a state has accumulated an unobligated balance of these set aside funds in excess of 150 percent of the yearly apportioned amount, the state may thereafter use these funds for any activity eligible under the CMAQ Program or other activities approved by the secretary.

National Freight Program

MAP-21 would create a new federal program to distribute <u>an estimated $2 billion per year</u> by formula to the states for the sole purpose of improving the flow of goods throughout the nation. The secretary would be directed to establish a Primary Freight Network (PFN) within one year of enactment of MAP-21 which, in conjunction with segments of the Interstate Highway System (IHS) not designated as part of this primary network and rural freight corridors (designated by states for roadways meeting certain conditions), would constitute a National Freight Network.

The PFN would be developed based on an inventory of national freight volume and in consultation with stakeholders and be limited to 27,000 centerline miles of existing roadways. After the initial designation, the secretary may add an additional 3,000 miles to the network (existing or planned roads).

Once the PFN is designated, the program would fund projects in the following locations: on the PFN; portions of the IHS not designated as part of the primary network; on roads off the IHS that will benefit freight movements; on a national highway system freight intermodal connector; on critical rural freight corridors; and within public and private intermodal facilities.

<u>Eligible Activities (post PFN creation)</u>. States would be allowed to use freight program funds for: preconstruction activities; construction, reconstruction, rehabilitation, acquisition of real property, and operational improvements that improve system performance; intelligent transportation systems and a wide variety of other technologies related to freight and cargo; activities to reduce the environmental

impact of freight movement; environmental mitigation; rail-highway grade separation; geometric improvements to ramps and interchanges; truck-only lanes; climbing and runaway truck lanes; adding or widening shoulders; truck parking facilities; work zone management; data collection and analysis; and any other activity to improve freight flows.

States would have the ability to use up to 10 percent of their freight program apportionments for public or private freight rail or maritime projects, if they demonstrate these projects would improve goods movement and the public benefit "exceeds federal investment and provides a better return than a highway project on a segment of the primary freight network."

<u>Eligible Activities (pre PFN creation)</u>. Prior to the designation of the PFN, states would be allowed to use freight program funds for the following activities: construction, reconstruction, restoration and rehabilitation of the Interstate Highway System; operational improvements on the interstate system; construction and operational improvements of a federal-aid highway not on the interstate system and construction of transit projects (with certain conditions); highway safety improvements on interstate system; transportation planning; data collection; truck parking facilities; infrastructure-based intelligent transportation systems; environmental restoration; and natural habitat and wetlands mitigation efforts.

<u>Performance Process</u>. Within two years of enactment of MAP-21 the secretary would be directed to develop quantifiable performance measures for freight movement on the PFN. States would then have one year to produce updated state performance targets (in consultation with public and private stakeholders) and use the performance measures developed by the secretary. The performance targets are required for states to be able to use freight program funds. States would be required to report every two years on progress made toward meeting these targets. If the secretary determines a state has not made progress toward meeting its performance targets within two years, the state would be required to submit biennial freight performance improvement plans. <u>This penalty is less severe than what the bill would impose for noncompliance with the NHPP and HSIP performance targets</u>.

Finally, the secretary would be required within two years, and biennially thereafter, to develop a report on freight transportation conditions and performance.

Metropolitan Planning

<u>MAP-21 continues the Metropolitan Planning Program and is estimated to dedicate over $300 million per year to these activities</u>.

The proposal takes a performance based approach to the transportation planning process. Five national goals are set for the planning process. These goals are safety, infrastructure condition, system reliability, freight movement and environmental sustainability. All state and metropolitan long range transportation plans must describe how project selection decisions will help meet performance targets related to national goals. Failure to establish performance targets and comply with other elements of the planning process can result in a plan not being certified and up to 20 percent of planning funds being withheld.

Highway Program Structure

SAFETEA-LU	MAP-21 (proposed)
• National Highway System • Interstate Maintenance • Bridge (Portion)	• National Highway Performance Program
• Surface Transportation • Bridge (Portion) • Border Infrastructure • Appalachian Development Highway System • Equity Bonus	• Transportation Mobility Program
• Congestion Mitigation & Air Quality • Transportation Enhancement • Safe Routes to School • Recreational Trails	• Congestion Mitigation & Air Quality Program
• Highway Safety Improvement	• Highway Safety Improvement
NEW	• National Freight Network

Generally, MAP-21 changes the definition of Metropolitan Planning Organizations (MPOs) by splitting them into "Tiers" based on population, with the DOT establishing minimum standards for Tier I and Tier II MPOs. MPOs are encouraged to participate in interstate planning compacts as well as coordinate their planning activities with other, adjacent MPOs on regional transportation projects.

Equity

MAP-21 does not have a separate equity program for the distribution of federal highway funds among the states like the Minimum Guarantee Program in the 1998 reauthorization measure, TEA-21, or the Equity Bonus Program from the 2005 SAFETEA-LU reauthorization bill. The Senate proposal does, however, have a significant if confusing provision designed to guarantee at least a 95 percent return of federal highway funds to all states.

The provision has two parts. First, each state's share of apportionments (formula disbursements) under MAP-21 will initially be set equal to its share of total apportionments and allocations (funds provided administratively or through earmarks) between FY 2005 and FY 2009 under SAFETEA-LU. If a state received one percent of total apportionments and allocations under SAFETEA-LU, it would continue to receive one percent of apportionments under MAP-21. The second component applies if a state's MAP-21 apportionment total is less than 95 percent of the tax payments attributable to highway users in the state. In that instance, the state's apportionment total would be raised to meet that target. Every state, thus, would be guaranteed a 95 percent return of contributions to the Highway Trust Fund.

This provision, however, provides no details and leaves some unanswered questions. The main question relates to the $12 to $13 billion of resources needed to supplement current Highway Trust Fund revenues needed to fund MAP-21. If those revenues are not highway user fees that can be attributed to individual states—e.g., general fund transfers—will they count in the 95 percent return calculation? Also, there are no provisions for how equity funds are to be divided among programs or can be used by recipients.

Project Delivery

Environmental Reviews

MAP-21 would make significant improvements to the project delivery process in an effort to shorten the amount of time involved in the review and approval process. The legislation establishes a "project delivery initiative" which directs the secretary of transportation to advance methods of accelerating project delivery. It establishes a clearinghouse for collecting different approaches to accelerating project delivery and directs the secretary to engage stakeholders, disseminate information and provide technical assistance in order to improve project delivery time.

In terms of specific changes to the project delivery process, project sponsors may acquire property necessary for a project prior to the completion of NEPA reviews. There are, however, qualifications placed on this type of acquisition, including that it must not cause any "significant adverse environmental impact" and does not prevent the lead agency from making an impartial decision on alternatives to be considered.

Categorical Exclusions. The legislation also expands the use of categorical exclusions (CEs) as part of the environmental review and approval process required for transportation projects under the National Environmental Policy Act (NEPA). CEs are the least burdensome form of environmental review required under NEPA and are reserved for projects with minimal environmental impacts. Projects with greater impacts are required to undergo more time consuming environmental assessments (EAs) or environmental impact statements (EISs). The difference between a CE and an EIS can be multiple years in additional time spent on project review. MAP-21 would attempt to expand the use of CEs by adding new classes of transportation improvements which would automatically qualify for CE status. Specifically, MAP-21 would allow multi-modal projects and projects within an existing right-of-way to qualify for CE status. Further, the secretary is directed to promulgate regulations which will also grant CE status to highway modernization projects (resurfacing, restoration, rehabilitation, reconstruction and adding shoulders or auxiliary lanes), highway safety projects and bridge rehabilitation projects.

State Delegation. The concept of delegating the responsibility for environmental reviews to the states, started in SAFETEA-LU, is continued and expanded upon in MAP-21. Under SAFETEA-LU, a pilot program was established allowing five states (Calif., Alaska, Ohio, Texas and Okla.) to assume the role of the federal government during the NEPA process. This, in essence would allow the states to conduct environmental reviews, potentially saving time as a result of not having to go through multiple federal agencies. Of the five states allowed to participate in the delegation pilot program under SAFETEA-LU, only California chose to do so. While the reason for non-participation by the other states varied, potential liability and litigation costs were an overriding issue, as the state would also be assuming federal responsibilities for litigation over any project where delegation was used. MAP-21 expands upon the SAFETEA-LU program by allowing all states the option of assuming federal environmental responsibilities. MAP-21 would also extend SAFETEA-LU's option for all states of assuming responsibilities for just CEs as opposed to the entire NEPA process. Further, MAP-21 would authorize states to use CMAQ funding for litigation costs associated with delegation of either the entire NEPA program or just CEs.

Process Efficiencies. The legislation would make a number of procedural fixes to reduce delay during the review and approval of a project. During preparation of a final EIS, if changes from the original EIS are minor, the agency may simply do an errata sheet as opposed to an entire new document. Also, lead agencies are directed to combine final EISs and records of decision into a single document. MAP-21 would strengthen "lead agency" status for agencies in charge of projects by directing memorandums of agreement with participating agencies, project sponsors and state and local governments. These memorandums would coordinate activities and attempt to prevent unnecessary duplication of efforts by all of the parties involved. It is also significant to note that MAP-21 would allow—but not require—the setting of timelines on participating agency decisions during the review process. Finally, MAP-21 establishes a dispute resolution process allowing the lead agency to set deadlines for participating agencies and creating a system by which any dispute can be resolved if deadlines are not met or problems cannot be reconciled.

Finally, MAP-21 calls for reports by the secretary, the Government Accountability Office (GAO) and the DOT inspector general evaluating and assessing the changes made to the project delivery process.

Procurement Reform

MAP-21 also allows states to utilize the "construction manager; general contractor" (CM/GC) method of contracting. This is a two-phase contracting method which allows pre-construction and construction elements of a project to be bid separately. It also allows the party selected for pre-construction to bid on the project's construction work. While DOT, through the Federal Highway Administration (FHWA), has previously authorized the use of CM/GC for highway projects (most notably in Utah) on a relatively narrow basis, this provision would give states much wider discretion in using it, provided it is authorized in state law. The MAP-21 provision would allow a state to move forward with the pre-construction phase of the project prior to the completion of the NEPA review process, but would not allow the awarding of the construction contract until the NEPA review process is completed.

MAP-21 encourages the use of "innovative project delivery methods." The measure allows the federal share for any of the approved innovative project delivery methods to be 100 percent, rather than the customary 80 percent, for federal-aid highway projects, as an incentive for states to introduce "innovative technologies and practices." Examples of approved innovative project delivery methods include prefabricated bridge elements and systems, in-place recycling technology, design-build and CM/GC contracting methods, intelligent compaction equipment and incentives for early completion of a project. There are limitations on the total federal costs for innovative project delivery methods, though. A maximum of 10 percent of a state's total federal apportionment may be used and the total federal share of any project may increase up to five percent.

Highway Policy Provisions

Public-Private Partnerships

MAP-21 would make strategic investments to attract private infrastructure investment. Specifically, the proposal would increase funding for the TIFIA program from $122 million per year to $1 billion annually. The financial leverage reflected in TIFIA's statutory formula demonstrates that $1 billion in program loans has the potential to support more than $20 billion in project activity. This outcome, however, would require full utilization of the program's capacity.

Of the $1 billion annual allocation for TIFIA, 10 percent would be set aside for rural infrastructure improvements, defined as projects of $25 million or more in non-urbanized areas with populations of less than 200,000 individuals. TIFIA credit assistance to rural infrastructure projects would also include loans at rates more preferable than TIFIA projects in large metropolitan areas.

MAP-21 would increase the maximum potential TIFIA share of total project costs from 33 percent to 49 percent of total project costs. This change would make finding sources of financing for the remaining project costs less burdensome—currently, project sponsors must find 67 percent of project costs from non-TIFIA sources whereas the proposed law would lower that burden to 51 percent.

MAP-21 would also allow a group of related transportation improvements to apply together as a unified program for TIFIA assistance rather than limiting credit assistance to individual projects. This change will enable state and local governments to potentially use a revenue-generating infrastructure project, such as a popular toll road, to finance other improvements that cannot feasibly generate its own revenues.

MAP-21 does not make changes affecting the establishment or funding of state infrastructure banks and does not include language establishing a National Infrastructure Bank.

Bridge and Tunnel Inspection Standards

The measure would direct the secretary to inventory all bridges on public roads and classify them according to "serviceability, safety, and essentiality for public use." The secretary would then assign a risk-based priority for upgrading these bridges. The secretary would be charged with developing a national inventory of highway tunnels, which would be revised annually, and reports would be required from federal and state authorities on bridge inspections.

The secretary would also be directed to develop national inspection standards for bridges and tunnels. The standards would: specify inspection methods; establish time periods between inspections; set qualifications for inspectors; create a procedure for national certification of inspectors; and require reports on results of inspections to the secretary. The secretary would annually review state compliance with these standards. States that did not comply with these standards, after being provided an opportunity to remedy the noncompliance, would be required to dedicate NHPP and TM funds to meet the standards.

As noted earlier, bridge and tunnel inspections and the training of inspectors would be eligible for federal highway funding under the NHPP and the TM Program. The secretary would be required to maintain a program to train bridge and tunnel inspectors.

This section would also make any bridge owned or operated by an agency that does not have taxing powers and that operates a federally assisted public transportation system eligible for federal highway funds (up to the amount which the agency has expended for transit capital and operating costs).

Projects of National and Regional Significance

MAP-21 would authorize $1 billion for FY 2013 to support large-scale transportation projects of national and regional significance and allow the secretary to distribute the funds. These resources, however, would need to be made available in the annual appropriations process. The projects must be eligible to receive federal highway or public transportation funds (including freight rail) or be for infrastructure improvements that facilitate access to intermodal facilities, including ports. A project must also have a cost of the lesser of; $500 million or more; 60 percent of a state's annual federal highway apportionments (for projects located in one state); or, 75 percent of a state's federal highway apportionments of the participating state that receives the most federal-aid highway funds (for projects in more than one state).

Eligible project costs include; preconstruction activities; construction, reconstruction, rehabilitations, acquisition of property, environmental mitigation, acquisition of equipment to improve system performance; operational improvements; and financing costs, including TIFIA subsidy costs.

The funds would be distributed by the secretary through an application process. The grants could support up to 50 percent of a project's total cost, although applicants would be allowed to use other eligible federal funds for an additional 30 percent of a project's cost. If the project is for a private facility, the federal share would be whichever amount is smallest: 50 percent of a project's cost or the "quantified" public benefit (this clause is most likely related to potential freight rail projects).

Highway Safety

The bill would make a number of extensions and modifications to existing requirements which mandate states to create and enforce a variety of driver safety laws. The regulations typically follow a process stating that for every year a state does not have the law in place, it will be penalized by losing or transferring a percentage of its formula funds to safety programs or funds are held back until the specified law is enacted and/or enforced. The following are modified by the bill:

- If "Open Container" laws are not in place, 2.5 percent of the state's apportioned funds are held in reserve. Once funds are released, they are eligible for use in safety behavior-based programs (seat belt use, preventing driving under the influence, etc.) or through the HSIP. This is a one percent increase from the penalty of 1.5 percent contained in SAFETEA-LU.
- If a state does not have "Minimum Penalties for Repeat Offenders for Driving while Intoxicated or Driving Under the Influence" laws, six percent of the states apportioned funds will be reserved. Once funds are released, they are eligible for use for safety behavior programs or through the HSIP. This is a substantial increase over the SAFETEA-LU penalty of three percent.
- For a state that has not enacted or is not enforcing vehicle weight limitations, 50 percent of its NHPP formula funds would be withheld until the law is enacted or enforced. This is a change from prior withholding of 100 percent of funds.
- Other withholding penalties would be changed as follows for states that do not enforce and enact specified federal requirements:
    - *Control of Junkyards* – penalty withholding is reduced from 10 percent to seven percent;
    - *Enforcement of Vehicle Size and Weight Laws* – penalty is reduced from 10 percent to seven percent;
    - *Proof of Payment of the Heavy Vehicle Use Tax* – penalty is reduced from 25 percent to eight percent;
    - *Use of Seat Belts* – penalty is reduced from three to two percent; when released, funds would be transferred for use on behavioral safety activities;
    - *National Minimum Drinking Age* – penalty withholding amount is reduced from 10 percent to eight percent of apportioned funds;
    - *Drug Offenders* – penalty withholding amount will be increased from three to eight percent of apportioned funds;

- *Zero Tolerance Blood Alcohol Concentration for Minors* - penalty withholding amount is reduced from 10 percent to eight percent of apportioned funds;
- *Operation of Motor Vehicles by Intoxicated Persons* – penalty withholding amount will be dropped from eight percent of apportioned funds to six percent; and
- Commercial Drivers License - penalty withholding amount would increase from four percent of apportioned funds for the first instance of state non-compliance to eight percent.

The bill contains a new provision on "Highway Worker Safety" which would require the use of "positive protective measures" on highway construction projects where no means of escape for workers is available, such as tunnels and bridges (unless an engineering study determines otherwise). This provision would supplement the new FHWA regulation "Subpart K" mandated in SAFETEA-LU. This section also requires use of longitudinal traffic barriers when work is performed on high-speed roadways and workers are laboring near a vehicle travel lane (unless the project sponsor determines otherwise or average daily traffic is less than 100 vehicles per hour). There is language which requires protective devices to be paid for on a unit-pay basis unless doing so conflicts with innovative contracting practices or when performance based contracts are used where risk allocation and payment is generally made on a lump-sum basis. This is not significantly different than the current provisions of Subpart K.

Other Policy Provisions

- Activities to maintain minimum levels of retroreflectivity of roadway signs and markings and install shoulder and centerline rumble strips and stripes would be eligible for 100 percent federal funding.
- The secretary would no longer be allowed to enter into agreements with states to reimburse the federal share of preliminary and construction engineering in lieu of the actual engineering costs of a project.
- Any non-highway/transit funds provided to a state may be used to pay for the non-federal share of a transportation project related to federal lands.
- The ability of states to transfer formula funds from one highway program category to another would be reduced from 50 percent to 20 percent (exceptions for funds provided to metropolitan areas).
- The bill would require rescissions of unobligated highway contract authority of $2.391 billion in FY 2012 and $3.054 billion in FY 2013.
- MAP-21 would require states to develop and carry out a value engineering program. The state would conduct a value engineering analysis for required projects before completion of final design, document findings in a final report for each such project, and submit an annual value engineering report to U.S. DOT. Required projects for such a value engineering analysis would include federal-aid highway projects on the NHS estimated at $25 million or more; federal-aid bridge projects on the NHS estimated at $20 million or more; and any other project as determined by the secretary.

- The bill would prohibit the secretary from assigning his project oversight responsibilities to a state transportation department when he/she determines an Interstate project to be in a "high risk category," as defined by the secretary himself.
- States would be allowed to use CMAQ funds for oversight of local transportation agencies on federal-aid highway projects, if done according to an annual work plan for such oversight.
- For major federal-aid highway projects (i.e. those with an estimated total cost of $500 million or more, or otherwise required by the U.S. secretary of transportation), MAP-21 would maintain existing requirements that states submit a project management plan and annual financial plan to DOT. However, the measure would also allow the state to include a "phasing plan" as part of the project's financial plan, which presents options for completing the project short of its original scope if funds become insufficient for completing the entire project as planned.
- DOT would be required to help ensure the efficient use of funds through "practical design solutions" on federal-aid highway projects when appropriate. This concept is defined as "a collaborative interdisciplinary approach that results in a transportation project that fits its physical setting, preserves safety, and balances costs with the necessary scope and project delivery needs of the project, as well as with scenic, , historic, and environmental resources."

Research

MAP-21 authorizes a total of $400 million per year for FY 2012 and FY 2013 for the transportation research and education programs, including:

- $90 million per year for the Highway Research and Development Program;
- $90 million per year for the Technology and Innovation Deployment Program;
- $24 million per year for Training and Education;
- $100 million per year for the Intelligent Transportation Systems Program;
- $70 million per year for the University Transportation Centers Program; and
- $26 million per year for the Bureau of Transportation Statistics.

As with the rest of the legislation, Map-21 tries to compensate for limited resources by emphasizing performance goals to improve the real-world impact of federal transportation research. Program changes focus on setting plans and priorities, coordinating research, investing in development and technology transfer, and spelling out specific objectives for federally-funded research.

Intelligent Transportation Systems (ITS) Research

MAP-21 would authorize $100 million each year of the bill for ITS research and projects. Of that $100 million, at least $50 million would be allocated to a new competitive grant program entitled the "Systems Operations and ITS Deployment Grant Program". This program is intended to accelerate the deployment of ITS tools and strategies to "measure and improve the performance of the transportation system; reduce traffic congestion and its economic and environmental impacts; minimize traffic fatalities and injuries; enhance mobility of people and goods; improve traveler information and services; and optimize existing roadway capacity."

SAFETEA-LU authorized $110 million per year for the ITS research program, so MAP-21 would lower funding levels by $10 million a year. However, with a minimum $50 million per year dedicated to a new grant program, investment in the traditional ITS research program, which remains largely unchanged from SAFETEA-LU (with the exception of eliminating two mandatory programs – the Road Weather Research and Development Program and funding for the establishment of four Centers for Surface Transportation Excellence), could see reductions of at least $60 million a year.

Transportation Research, Deployment and Education Programs

The Surface Transportation Research Program would be renamed the "Surface Transportation Research, Development and Technology Program" and the focus of the program would be changed to emphasize outcome-oriented results. New goals added to the program include coordinating research and technology transfer activities, partnering with State highway agencies to facilitate research and technology transfer activities, setting long-range plans and priorities, educating transportation professionals, and leveraging federal funds through public and private partnerships, all with the ultimate goal of improving the performance of the transportation system. The federal share of collaborative research would be increased from 50 percent to 80 percent. A prize competition would be authorized to develop innovations that advance the FHWA's "research and technology objectives and activities to improve system performance."

The Technology Deployment Program is replaced by a new "Research and Technology Development and Deployment Program." The purpose is to conduct research and development technologies to address current and emerging highway transportation needs. The bill instructs the Secretary to carry out a highway research and development program to (1) improve highway safety, (2) improve infrastructure integrity, (3) strengthen transportation planning and environmental decision-making, (4) reduce congestion, improve highway operations and enhance freight productivity, (5) assess policy and system financing alternatives, (6) explore next generation solutions and capitalize on the Turner-Fairbanks Highway Research Center; and (7) align national challenges and disseminate information. Under each topic, the bill provides a comprehensive list of research objectives and recommended activities. The bill would also establish a new "Technology and Innovation Deployment Program" for the purpose of "significantly accelerating the adoption of innovative technologies by the surface transportation community" and providing leadership and incentives to promote adoption of state of the art technologies and business practices in highway construction and construction of longer-lasting highways. In carrying out the program, the secretary is instructed to implement the findings of the Future Strategic Highway Research Program authorized under SAFETEA-LU. The bill would also continue to require publication of the biennial *Conditions and Performance Report* to Congress and specifies some improvements. The bill does a complete rewrite of this section and none of the current programs in this section would be continued.

The Training and Education Program receives only a few noticeable changes. One is a section that sets a 50 percent cap on the federal share of activities of Local Technical Assistance Centers, while establishing some flexibility in sources of funding for the local match. The bill would also create five university-based

“Regional Surface Workforce Development Centers” to promote a “skilled, technically competent surface transportation workforce at all levels of education.” Finally, the bill would authorize the Secretary to “establish and maintain centers for surface transportation excellence to promote strategic national surface transportation programs relating to the work of State departments of transportation in the areas of environment, surface transportation safety, rural safety and project finance,” although the bill provides no details of how this is to be done or financed.

University Transportation Centers

The University Transportation Centers (UTCs) Program would be continued with some changes. The bill states that the purpose of the program is to advance transportation expertise through education, research and technology transfer, to provide a knowledge base outside the DOT and to educate the next generation of transportation leaders. All UTCs would be selected through a competitive process based on criteria listed in the bill. Up to 15 “Tier One” UTCs would receive annual grants of $3.5 million, with the grantee required to provide a 100 percent match. Another 20 “Tier Two” UTCs would receive $2 million annually, with the grantee providing a 50 percent match. There are no provisions for continuing SAFETEA-LU’s National University Transportation Centers, regional centers or earmarked centers.

Other changes made by the bill include repeal of the International Highway Transportation Outreach Program and the Surface Transportation-Environment Cooperative Research Program and a rewrite of the operations of the Bureau of Transportation Statistics.