



# MAP-21: Moving Ahead for Progress in the 21st Century Act

by M. Myint Lwin, Federal Highway Administration

On July 6, 2012, President Obama signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21). This is a two-year act with funding for surface transportation programs for fiscal years 2013 and 2014, which began October 1, 2012.

MAP-21 creates a streamlined, performance-based, and multi-modal program to address the many challenges facing the U.S. surface transportation system. This article provides a summary of the major funding and policies affecting the bridge and tunnel programs.

## Program Restructuring

MAP-21 restructures core highway formula programs. Activities carried out under some pre-MAP-21 formula programs, such as, the National Highway System Program, the Interstate Maintenance Program, and the Highway Bridge Program, are now incorporated into the following new core formula program structure:

- National Highway Performance Program (NHPP): \$21.8 billion
- Surface Transportation Program (STP): \$10 billion
- Congestion Mitigation and Air Quality Improvement Program (CMAQ): \$2.2 billion
- Highway Safety Improvement Program (HSIP): \$2.4 billion
- Railway-Highway Crossings (set-aside from HSIP): \$0.2 billion
- Metropolitan Planning: \$0.3 billion

Most of the SAFETEA-LU discretionary programs, including the Highways for LIFE, the Innovative Bridge Research and Deployment, and the National Historic Covered Bridge Preservation Programs, have been consolidated into broader programs.

The new bridge and tunnel programs are now covered under the new provisions in section 1106 NHPP, section 1108 STP, and section 1111 National Bridge and Tunnel Inventory and Inspection Standards. These three sections of MAP-21 that address bridges and tunnels are discussed in further detail below.

## MAP- 21 Highway Funding for Two Years

	SAFETEA-LU Average Per Year	MAP-21 Average Per Year
Apportioned by Formulas	\$34.3 billion	\$37.7 billion
Earmarks	\$4.4 billion	\$0

## National Highway Performance Program

Under MAP-21, the enhanced National Highway System (NHS) is composed of approximately 220,000 miles compared to 160,000 miles pre-MAP-21. It includes the U.S. Interstate System, all principal arterials, border crossings on interstate and arterial routes, and highways that provide motor vehicle access between the NHS and major intermodal transportation facilities.

The NHPP is authorized at an average of \$21.8 billion per year to support the condition and performance of the enhanced NHS, for the construction of new facilities, and to ensure that investments of federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in an asset management plan of a state for the NHS.

The NHPP funds may be used for the following purposes for bridges and tunnels:

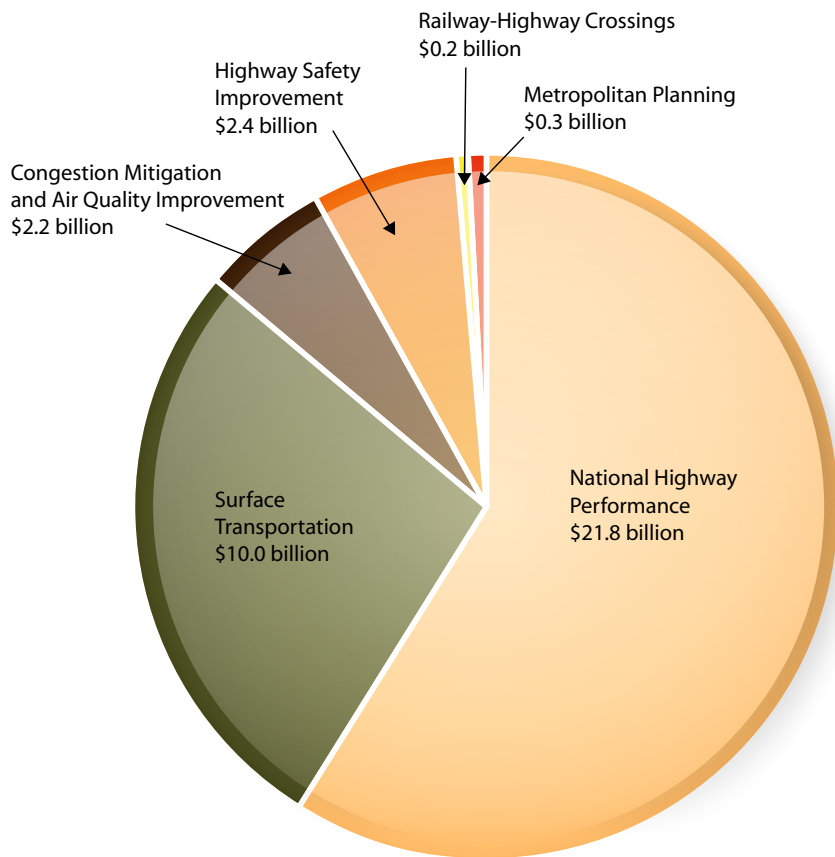
- Construction, replacement, rehabilitation, preservation, and protection (including scour countermeasures, seismic retrofits, impact protection measures, security countermeasures, and protection against extreme events) of bridges and tunnels on the NHS.
- Inspection and evaluation of bridges and tunnels on the NHS, and inspection and evaluation of other highway infrastructure assets on the NHS, including signs and sign structures, earth retaining walls, and drainage structures.
- Training of bridge and tunnel inspectors.
- Development and implementation of a state asset management plan (AMP)

for NHS, including data collection; maintaining, updating, and licensing software; and equipment required for risk-based asset management and performance-based management. At a minimum, the state AMP must include:

- a summary listing of the bridge assets on the NHS in the state and a description of the condition of those assets,
- asset management objectives and measures,
- performance gap identification,
- life-cycle cost and risk management analysis,
- a financial plan, and
- investment strategies.

MAP-21 establishes a performance program for maintaining and improving the NHS:

- States are required to develop a risk- and performance-based asset management plan for the NHS to improve or preserve asset condition and system performance. The penalty for a state's failure to implement this requirement by the required date is a reduced Federal share for NHPP projects in that year (65% instead of the usual 80%).
- The Secretary of Transportation establishes performance measures for NHS bridge conditions, and system performance. States will establish targets for these measures, to be periodically updated.
- MAP-21 establishes a minimum standard for the condition of NHS bridges. If more than 10% of the total deck area of NHS bridges in a state is on structurally deficient bridges, the state



MAP-21 restructures core highway formula programs. Graphic: PCI.

must devote a portion of NHPP funds to improve the conditions until the minimum standard is exceeded.

## Surface Transportation Program

MAP-21 continues the STP of SAFETEA-LU, providing an annual average of \$10 billion in flexible funding that may be used by the states and localities for projects to preserve or improve conditions and performance on any federal-aid highway and bridge projects on any public road.

The STP funds may be used for the following purposes related to bridges and tunnels:

- Replacement, rehabilitation, preservation, protection (including painting, scour countermeasures, seismic retrofits, impact protection measures, security countermeasures, and protection against extreme events) and application of calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and deicing compositions for bridges and approaches to bridges and other elevated structures, and tunnels on public roads of all functional classifications.
- Construction of a new bridge or tunnel

at a new location on a federal-aid highway.

- Inspection and evaluation of bridges and tunnels, training of bridge and tunnel inspectors, and inspection and evaluation of other highway assets (including signs, retaining walls, and drainage structures).
- Development and implementation of a state asset management plan for the NHS.
- A portion of a state's STP funds (equal to 15% of the state's fiscal year 2009 Highway Bridge Program apportionment) is to be set aside for bridges not on federal-aid highways (off-system bridges), unless the Secretary of Transportation determines the state has insufficient needs to justify this amount.

## Bridge and Tunnel Inspection


MAP-21 requires inspection and inventory of highway bridges and tunnels on public roads. No dedicated funds are provided for inspections, but it is an eligible use of NHPP, STP, HSIP, FHWA administrative, tribal transportation, and research funds.

In addition to inspection and inventory of

highway bridges and tunnels, MAP-21 requires the following actions:

- Classify the bridges according to serviceability, safety, and essentiality for public use, including potential impacts to emergency evacuation routes, and freight and passenger mobility.
- Based on the classification, assign each a risk-based priority for systematic preventative maintenance, rehabilitation, or replacement.
- Determine the cost of replacing each structurally deficient bridge with a comparable facility or the cost of rehabilitating the bridge.
- Update the inventories annually and submit a report on the inventories to congress.
- Not later than two years after the date of enactment of the MAP-21, each state and appropriate federal agency must report to the Secretary of Transportation, element level data, as each bridge is inspected, for all highway bridges on the NHS.
- Conduct a study on the benefits, cost-effectiveness, and feasibility of requiring element-level data collection for bridges not on the NHS, and submit a report on the results of the study to Congress.

## Closing Remarks

MAP-21 represents a milestone for the U.S. surface transportation and the economy. MAP-21 provides the framework and direction for investment in the nation's railways and highways for continued safety and serviceability of the transportation infrastructure. FHWA will be working together with the state transportation departments on the implementation of the provisions of MAP-21. 

### EDITOR'S NOTE

*As space is limited, this article addresses only the provisions that have major impact on the bridge and tunnel programs. For more detail on the requirements of MAP-21, please visit <http://www.fhwa.dot.gov/IMAP21>.*