

Missouri Statewide Transportation Improvement Program

Introduction

General

The Missouri Department of Transportation (MoDOT), in accordance with state and federal law, has prepared this Statewide Transportation Improvement Program (STIP), for state fiscal years 2011 through 2015 (July 1, 2010 through June 30, 2015). The STIP is prepared annually and includes all projects proposed for funding under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Vision 100-The Century Aviation Reauthorization Act and state revenue. SAFETEA-LU was signed into law August 10, 2005. It funds highways, highway safety and transit improvements for the five-year period of 2005 through 2009. Extensions of SAFETEA-LU continue to provide funding until a new transportation bill is enacted and Missouri's specific reauthorization amounts are known. This document meets all state and federal requirements and is fiscally constrained.

The STIP identifies specific projects MoDOT will undertake in the next five years. It covers highways, bridges, transit, aviation, rail, waterways, enhancements and other projects. It is a project-specific document that tells Missourians what improvements to expect on their transportation system during this period of time.

Results Mean Progress

MoDOT has made great strides in improving Missouri's transportation system, and in rebuilding trust and credibility with citizens. Fatalities continue to decline for the fourth consecutive year and are at the lowest level since 1950. The New I-64 project in the St. Louis area was completed ahead of schedule and \$11 million under budget. The kcICON project, which is rebuilding about 4 miles of interstate and constructing a new Missouri River bridge in Kansas City, is on schedule. One hundred fifty-two of the 802 identified Safe & Sound bridges have been replaced or repaired as part of the effort to improve the state's poorest bridges. MoDOT is also being recognized nationally by other DOTs for the department's performance management system and practical design efforts. During the past few years, MoDOT has been able to bring 86 percent of the major roads to good condition and achieve an overall customer satisfaction rating of 85 percent.

The Challenge

Due to stagnant state revenues, uncertain federal funding and no more bond proceeds from the Amendment 3 voter-required bonds, the STIP reflects a dramatic decrease in highway and bridge construction. Many of the larger-scale projects included in last year's STIP, such as the Mississippi River Bridge project in St. Louis, many of the Safe & Sound Bridge Improvement projects and the federal American Recovery and

Reinvestment Act of 2009 projects are now under construction. While this STIP contains any remaining Amendment 3 major projects and the remaining Safe & Sound Bridge Improvement projects, the five-year construction program shrinks to less than half the size of the previous five years. MoDOT's challenge is to maintain the progress gained on the system along with a high overall customer satisfaction rating in spite of a declining construction program. (Refer to Section 5 for more details on funding.)

Next Steps: A Five-Year Direction

To cope with this funding challenge, MoDOT has outlined a five-year direction that focuses on keeping Missouri's good roads in good condition rather than building new highways and bridges. This direction also focuses on improving the condition of minor roads (often called farm-to-market roads found in the rural areas) and keeping pace with needed bridge repairs and maintenance. In addition, these goals will be met while working within the commission-approved funding distribution formula and while also delivering the commitments as outlined in the STIP – 89 percent of Missourians say they trust MoDOT to do so.

Forging this five-year direction requires radical changes in the way MoDOT operates. As a result, significant cost-saving strategies are being implemented including a reduction in the number of salaried employees and a reduction in operating expenditures in areas like mowing and fleet. These cost-saving measures are estimated to save \$203 million over the five-year period – funds that will be returned to the state's transportation system. This will result in keeping the transportation infrastructure, with existing revenues, in good condition through fiscal year 2015.

MoDOT's objective is to maintain customer satisfaction even though there is a declining construction program. However, there are disconcerting consequences of operating with insufficient funds. It means the department will not be able to make significant safety improvements or address congestion. It also means MoDOT will not be able to assist and support the state's economic development. The department will not be able to afford the use of longer-term pavement treatments, deliver corridor improvements or replace major bridges.

STIP Project Initiatives



- **Amendment 3**

On November 2, 2004, the voters of Missouri approved Amendment 3, which provided additional funds for transportation projects. These additional funds made possible the Smoother, Safer, Sooner program. This program consists of three elements: the Smooth Roads Initiative (SRI), the Accelerated Projects and the New Major Projects (original and additional). The STIP identifies the remaining projects made possible by Amendment 3 funding with a special logo.

The SRI program was completed in December 2006, one year ahead of schedule. The SRI program improved the pavement, striping and shoulders on the 2,200 miles of the most heavily traveled roads. The Smooth Roads Initiative represents a significant beginning in MoDOT's effort to improve Missouri's major roads even though much more still needs to be accomplished.

- **Better Roads Brighter Future**



The major highway system is composed of Missouri's most traveled highways and consists of approximately 5,600 miles. It carries nearly 80 percent of the state's traffic, and approximately 95 percent of Missouri's residents live within 10 miles of these roads. The Better Roads Brighter Future program picks up where the Smooth Roads Initiative left off, making more roads smoother and safer. The Better Roads Brighter Future program started in January 2007 with the goal of bringing 85 percent of Missouri's major highways to good condition by the end of 2011 and keeping them in good condition. MoDOT exceeded this goal by bringing 86 percent of these highways to good condition in 2010. The focus now turns to keeping them in good condition. Better Roads Brighter Future projects have been programmed and identified with a special logo. Additional projects will be added in future STIPs to continue meeting this goal.

- **Safe & Sound Bridge Improvement Program**



This STIP includes the remaining Safe & Sound Bridge Improvement projects, which is an initiative to improve 802 bridges around the state that are in poor condition. This project was started in state fiscal year 2009. A team of contractors and designers was selected to replace 554 bridges as part of a single design-build package. The remaining 248 bridges will be rehabilitated using a design-bid-build approach. One hundred fifteen of these structures (quick-start bridges) were awarded in state fiscal year 2009. An additional 66 were awarded in state fiscal year 2010. The remaining 67 structures will be awarded between state fiscal years 2011 and 2013. The remaining Safe & Sound bridges are identified with a special logo and symbol in the project description. (See the Safe & Sound Bridges tab at the end of Section 4 for more information on the Safe & Sound Bridge Improvement Program projects.)

Public Involvement

Public involvement in project development and programming activities is a key element in gaining public acceptance critical to the success of any transportation improvement program. The recent multi-year federal transportation bills have emphasized the necessity of public involvement. In Missouri, the approach is primarily to seek involvement from four groups. These groups are: (1) metropolitan planning organizations, (2) regional planning commissions, (3) local officials and (4) the general public. Through public involvement, Missourians have a say in how transportation dollars are spent.

Metropolitan planning organizations represent urbanized areas with populations over 50,000. They are responsible for transportation planning within their regions. Regional planning commissions represent multi-county rural regions and are charged with coordinating functions of local governments, including transportation planning. The public is involved in the planning process in two ways: 1) through election of the local officials who comprise the regional planning commission and metropolitan planning organization boards of directors; and 2) through direct contact with MoDOT, metropolitan planning organizations, regional planning commissions or local officials. (See Section 1 for contact information regarding metropolitan planning organizations, regional planning commissions and MoDOT district offices.)

Public involvement for development of transportation improvements begins several years before the projects actually appear in the Statewide Transportation Improvement Program (STIP).

Transportation planning consists of a series of decisions that direct the use of current and future available resources to accomplish Missouri's transportation goals. The current transportation planning process can be summarized in the following steps.

1. Develop the state's transportation vision and a plan to accomplish it
2. Identify and prioritize needs
3. Develop solutions and design projects
4. Prioritize and select projects for the STIP's Highway and Construction Schedule

Develop the State's Transportation Vision and a Plan to Accomplish It

MoDOT's long-range transportation plan identifies the state's transportation vision. The plan also identifies what the public expects of the state transportation system, including high-priority statewide corridors and goals for taking care of the system. It identifies the values that guide needs and project prioritization for a 20-year planning horizon.

The vision is Missouri's ideal transportation system. However, Missouri cannot afford all the components of this ideal system. The long-range transportation plan also includes policies and goals, and a fiscally constrained strategy for achieving the highest-priority components of the transportation vision within an agreed-upon timeframe. This requires working with planning partners to determine where Missouri's transportation dollars should be spent.

MoDOT's current long-range plan, Missouri Advance Planning (MAP), was completed in April 2007. Information regarding the long-range plan can be found at www.modot.org/plansandprojects/index.htm. Projects identified in the STIP have been given priorities based on, and are consistent with, the long-range transportation plan.

Identify and Prioritize Needs

There are many transportation problems, often called needs, on Missouri's transportation system. Identifying these needs is a continuous process and crucial for successful planning. For example, one need might be redesigning a high-accident location, such as an intersection; another need might be a location improvement that helps a new business move products more efficiently. There are two levels of needs identification, regional and statewide, and they are classified in two groups – physical system condition needs and functional needs. Physical system condition needs target the state of repair of road and bridge components. Functional needs target how well the transportation system is operating.

Statewide needs are identified formally through the long-range transportation plan process, and public outreach is done in conjunction with the long-range transportation plan development. These needs typically cross several county lines, and involve interstates and major highways.

MoDOT districts work with planning partners – such as local and regional elected and community officials, and representatives of the metropolitan planning organizations and regional planning commissions – to identify regional transportation needs. Specific methods and timeframes are discussed in the implementation section of MoDOT's planning framework for guiding transportation decisions and investments.

Prioritizing needs is the process of deciding which problems, from the list of identified needs, should be addressed first. This can be a difficult task given a wide variety of needs. Not only do needs have different subject matter – safety, maintenance or economic development – they have varying time horizons. A structurally deficient bridge might be a more immediate need than a resurfacing project. However, simply being an immediate need does not imply higher priority. These complicated decisions require a coordinated effort from many groups.

Needs prioritization is based on the goals in Missouri's long-range transportation plan. MoDOT districts work with planning partners to prioritize regional needs annually. Statewide needs are prioritized periodically as funds become available; however, emerging needs can be added to the needs priority list between updates. Both regional and statewide needs will be prioritized using the processes established in MoDOT's planning framework, which are based primarily on objective data. Information regarding the planning framework can be found at www.modot.org/plansandprojects/index.htm. Using the results of the prioritization process as a starting point, MoDOT districts work with planning partners to divide needs into three categories.

- High – Resources are focused on addressing these needs first. They are the first to be selected for preliminary engineering.
- Medium – These needs may be addressed as additional resources become available.
- Low – No work is in progress to address these needs at this time.

The high-priority needs list is fiscally constrained to about 10 years of funding and is not a commitment to design or construct projects. Existing needs will be re-evaluated each time needs are prioritized. Some high-priority needs may never be designed or constructed due to prohibitive costs, changing priorities or other reasons. Needs from the high-priority list will be selected for preliminary project design.

Develop Solutions and Design Projects

When the high-priority needs have been identified, they are evaluated to find the best solution to the problem based on engineering expertise, public input and financial considerations. Environmental impact is another factor that influences the development and selection of a solution. There are a variety of environmental reviews that must occur for the proposed solutions. Some solutions may be less desirable or eliminated from consideration due to the extent of the environmental impacts. After a solution is agreed upon, design plans are started.

Determining the cause of a problem is often more complicated than might be expected. For instance, a high incidence of accidents at a given intersection might be due to poor sight distances, weather conditions, signal timing, roadway geometry or even reckless driving. Identifying the primary reason or combination of reasons for the problem is key to developing effective solutions.

When a problem is identified, the natural tendency for any problem-solver is to immediately offer the solution. Effective planning requires developing many possible solutions in order to capture the most efficient and effective solution. MoDOT engineers and planners are experts at generating good solutions to transportation problems. MoDOT staff is even more effective when working with local and regional officials to generate the solutions. This process reveals issues and concerns that may not have previously been evident.

The public's involvement in defining needs and determining the appropriate solutions will take several forms. The public may actually initiate the investigation of needs by contacting MoDOT or its planning partners. The public, through its local officials, has representation in determining the best solution for the transportation need. As MoDOT develops public involvement plans for specific projects, the public will have further opportunity to review concepts and provide input.

Prioritize and Select Projects for Construction

Deciding which projects to do and when to do them is a complicated and often controversial matter. Gathering and discerning public input is crucial to realizing the full benefit of available funds for Missouri's transportation system. MoDOT relies on local and regional planning agencies for this process.

The project prioritization processes are based primarily on data and serve as a starting place for determining the best candidates for funding. There are separate project prioritization processes for each category in MoDOT's funding distribution method.

MoDOT recognizes the need for a balance between taking care of the current transportation system and expanding the system to accommodate anticipated future demand. As a result, transportation funding is divided accordingly. The nature of this balance is adjusted through the level of funds in each category. The project prioritization processes include the following.

- Safety
- Taking care of the system
- Major projects and emerging needs (Regional)
- Major projects and emerging needs (Statewide)
- Interstates and major bridges
- Amendment 3

Projects are divided into three categories - high, medium and low - within each funding category. Each time projects are prioritized, existing projects not yet programmed for construction are re-evaluated.

Projects are prioritized against other projects in the same funding category. Larger projects of statewide significance are compared with one another. Smaller projects and those intended to take care of the existing system are compared with one another. MoDOT works with local and regional officials to determine the priority of the projects in each funding category. Projects on the high-priority project list are candidates for funding. The projects selected for funding are shown in Section 4.

Additionally, each of Missouri's seven metropolitan planning organizations (MPO) located in Columbia (Columbia Area Transportation Study Organization - CATSO), Jefferson City (Capital Area Metropolitan Planning Organization - CAMPO), Joplin (Joplin Area Transportation Study Organization - JATSO), Kansas City (Mid-America Regional Council - MARC), St. Joseph (St. Joseph Area Transportation Study Organization - SJATSO), St. Louis (East-West Gateway Council of Governments - EWGCOG) and Springfield (Ozarks Transportation Organization - OTO) prepares a Transportation Improvement Program (TIP) and a long-range transportation plan (LRTP) for its MPO area. These TIPs are the accumulation of federally funded projects proposed by their local governments and MoDOT. These projects are consistent with the goals and objectives of the LRTP. MoDOT uses public input received throughout the year to develop its submittal for the MPO's TIP. Each MPO has an approved public involvement plan for its respective area that allows for review and feedback from individual citizens, organizations, agencies and local area governments. Using public input as one of its decision factors, the MPO determines the projects in its area that will be programmed for construction.

These TIPs are incorporated by reference into the five-year STIP without modification. (See Section 9.)

Public Review Period

Comments from the public and the planning partners are considered throughout the year in an effort to maximize Missouri's resources. Based on public and engineering input, a draft of the STIP is published, followed by a 30-day public review period. During this public review period, the program is distributed to MoDOT districts for public access, and the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) for review. The STIP is also available on MoDOT's Web site at www.modot.org/plansandprojects/index.htm. Citizens have the opportunity to provide comments by mail, email or telephone (by calling 1-888-ASK-MODOT) to district representatives during this time period. MoDOT responds to the comments received through an acknowledgement or by providing additional information, depending on the nature of the

comment. Most answers or acknowledgements are sent within five business days of receiving the comment. Some comments require more time for research before an answer can be provided. Changes are made as appropriate in response to comments before a final STIP is developed and presented to the Missouri Highways and Transportation Commission (MHTC) for approval. Input from this part of the process will be used to measure the effectiveness of the program and to begin making improvements on next year's program. The STIP becomes effective when approved by the MHTC as well as the FHWA and FTA.

Program Amendments

Projects can be amended to the STIP and to a TIP. The public involvement process for STIP amendments occurs prior to incorporating the project in the program. Public involvement for projects inside a MPO area will be coordinated by the MPO according to its approved TIP amendment process.

A seven-day public comment period is provided for all proposed amendments and administrative amendments to the STIP. Administrative modifications do not require a seven-day public comment period. All projects, regardless of proposal time, follow the public involvement processes and policies defined in MoDOT's planning framework.

Reference Information

Administrative Amendment – This is the addition of federally-funded scoping projects, state-funded regionally-significant scoping projects, hardship right of way purchases, emergency projects, major scope changes without budget changes or the addition of right of way to construction projects already in the Statewide Transportation Improvement Program (STIP) with no net budget change (uninflated). Administrative amendments do not require Missouri Highways and Transportation Commission approval, but they do require Federal Highway Administration / Federal Transit Administration approval. Administrative amendments occur between annual updates of the STIP.

Administrative Modification – This is a fiscally-constrained change in an existing project, such as splitting or incorporating projects or changing fiscal years. This also includes the addition of state-funded non-regionally-significant scoping projects. Administrative modifications do not require Missouri Highways and Transportation Commission approval or Federal Highway Administration / Federal Transit Administration approval. Administrative modifications occur between the annual updates of the Statewide Transportation Improvement Program.

Advance Construction – This is a mechanism that allows a project to be funded with state funds now and preserves a project's eligibility for federal reimbursement in the future.

Amendment – This is the addition of a new project to the Statewide Transportation Improvement Program (STIP) or a major change to a project already in the STIP. Amendments require Missouri Highways and Transportation Commission and Federal Highway Administration / Federal Transit Administration approval. Amendments occur between the annual STIP updates.

Amendment 3 – This is a bonding referendum passed by voters in November 2004 that provides additional funds for transportation projects. The funding made available resulted in three initiatives: the Smooth Roads Initiative, the Acceleration of Projects and New Major Projects (original and additional).

American Recovery and Reinvestment Act (ARRA) – On February 17, 2009, President Barack Obama signed this federal act to help spur the national economy. ARRA included funding for shovel-ready transportation projects.

At-grade Intersection – This is an intersection of two or more roadways that provides for vehicular and pedestrian traffic movement on the same level of the riding surface.

Better Roads Brighter Future – This is a MoDOT initiative to improve and maintain the pavement condition and safety on Missouri's busiest 5,600 miles of state roads. This initiative followed the completion of the Smooth Roads Initiative, which improved the busiest 2,200 miles of state roads.

Culvert – This is a drainage structure constructed beneath the roadway. Box sections, pipes and arches are examples of various culvert shapes.

Deck – This is the portion of a bridge that provides the riding surface for vehicular and pedestrian traffic. The deck distributes loads to the superstructure elements.

Engineering – This is the work required to develop a project’s scope and detailed design, as well as the inspection of a construction project.

Expressway – This is a multilane, divided highway where access is allowed at public roads via at-grade intersections.

Fiscal Constraint – This is the demonstration that sufficient funds are reasonably expected to be available to cover the anticipated project costs within the five-year window of the Statewide Transportation Improvement Program.

Fiscal Year – This is a 12-month period to which the annual operating budget applies, and at the end of which a government determines its financial position and the results of its operations. The State of Missouri fiscal year is July 1 through June 30. The federal fiscal year is October 1 through September 30.

FFOS – Funding From Other Sources – These are funds applied to a project that are from sources other than the funding distribution categories available for district use.

FHWA – Federal Highway Administration – This is the federal agency that provides financial and technical support for the construction, improvement and preservation of the highway system.

Freeway – This is a multilane, divided highway where access is provided only at grade-separated interchanges.

Geometric Improvement – This is a roadway improvement other than a surface treatment, such as adding turn lanes or widening an intersection.

Intersections – This is where two or more roadways meet. An interchange has two or more roadways that provide for the movement of traffic on different levels (grade separated). An at-grade intersection has two or more roadways that provide for traffic movement on the same level.

Lane – This is the travel path of one vehicle on a roadway and usually delineated by a dashed or solid stripe.

Let – This means to advertise projects and take bids from contractors to perform the work.

Long-Range Transportation Plan (LRTP) – This is a multimodal transportation plan covering a period of at least 20 years developed through the statewide transportation planning process.

MAP – Missouri Advance Planning – This is Missouri’s 20-year long-range transportation plan, which analyzes transportation trends, system conditions, and customer input and expectations. The plan makes recommendations for addressing or meeting these expectations through policies and strategies.

MPO – Metropolitan Planning Organization – This is the entity responsible for transportation planning in urbanized areas with populations greater than 50,000. The seven MPO’s in Missouri serve the Columbia, Jefferson City, Joplin, Kansas City, St. Joseph, St. Louis, and Springfield metropolitan areas.

Major Highway System – This system includes all of Missouri’s most traveled roads. It consists of approximately 5,600 miles that carry nearly 80 percent of the state’s traffic. Approximately 95 percent of Missouri residents live within 10 miles of these roads.

Major/Unusual Bridge – Any bridge over the Missouri or Mississippi Rivers or any bridge with a single span of 500 feet or more, regardless of total bridge length, or any bridge with unusual features, including bridges with (1) difficult or unique foundation problems, (2) new or complex designs with unique operational or design features, (3) bridges with exceptionally long spans, or (4) bridges being designed with procedures that depart from currently recognized acceptable practices.

Minor Highway System – This system includes any road that is not on the Major Highway System. This system consists of approximately 27,000 miles, which carry nearly 20 percent of the state’s traffic. These roads are often referred to as farm-to-market roads in the state’s rural areas.

National Highway System – This is a system of major highway networks established by the federal government that includes interstate routes, many urban and rural principal arterials, the defense strategic highway network and strategic highway connectors.

Planning Framework – This is MoDOT’s process of involving the general public and planning partners, which represent regions of the state and local areas, in the identification and prioritization of transportation needs and projects.

Programmed – This means a project has right of way and/or construction funds committed for expenditure in state fiscal years 2011-2015 in the Statewide Transportation Improvement Program.

Reconstruction – This is a type of improvement designed to replace the existing roadway or bridge when it has reached the end of its useful life. Reconstruction is often accompanied by improvements to the highway’s functional and operational capacity.

Regionally Significant Project - This is a transportation project that is on a facility which serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as new retail malls, sports complexes, or employment centers; or transportation terminals) and would normally be included in the modeling of the metropolitan area's transportation network. At a minimum, this includes all principal arterial highways and all fixed guideway transit facilities that offer a significant alternative to regional highway travel.

Rehabilitation – This is a type of improvement designed to preserve and extend the service life and enhance the safety of an existing roadway or bridge when total replacement is not warranted.

Right of Way – This is land or property used specifically for transportation purposes.

Safe & Sound Bridge Improvement Program – This is an initiative to improve more than 800 bridges throughout the state within five years of award and then maintain them for 25 years. (See Section 4, Safe & Sound Bridges tab.)

SAFETEA-LU – On August 10, 2005, President George W. Bush signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU authorizes the federal surface transportation programs for highways, highway safety and transit for the five-year period from 2005 through 2009.

SRI – Smooth Roads Initiative – This is one of the elements of Amendment 3 funding that improved pavements and safety on the 2,200 busiest miles of major roads. It was completed in December 2006.

STIP – Statewide Transportation Improvement Program – This is a fiscally constrained five-year listing of transportation projects in Missouri.

STP – Surface Transportation Program – This is one of several categories of federal transportation funds.

Substructure – This is the abutments, piers or other bridge elements built to support bridge superstructure. The substructure transfers loads from the superstructure to the ground.

Superstructure – This is the portion of a bridge that supports the bridge deck and traffic loads. The superstructure transfers these loads to the bridge substructure. Examples of superstructure types include trusses, concrete I-beams and steel I-beams.

TEA-21 – The U.S. Congress passed the Transportation Equity Act for the 21st Century (TEA-21) on June 9, 1998. It provided authorizations for highways, highway safety and mass transit for six years. TEA-21 expired September 30, 2003.

TIP – Transportation Improvement Program – This is a fiscally constrained four-year listing of transportation projects within metropolitan planning organizations.

TMA – Transportation Management Area – This is the entity responsible for transportation planning in urbanized areas with populations greater than 200,000. Missouri's three TMA's serve the Kansas City, St. Louis, and Springfield metropolitan areas.

Work Zone – This is a designated area where highway construction or maintenance is taking place.