Statewide Transportation Improvement Program

-- Introduction --

The Missouri Department of Transportation, in accordance with state law and the federal Transportation Equity Act for the 21st Century (TEA-21), has prepared this Statewide Transportation Improvement Program, for state fiscal years 2005 through 2009 (July 1, 2004 – June 30, 2009). The Statewide Transportation Improvement Program prepared annually, includes all projects proposed for funding under TEA-21, Vision 100 - The Century of Aviation Act and state general revenue.

The Statewide Transportation Improvement Program sets forth the specific construction projects MoDOT will undertake in the next five years. It covers highways, bridges, transit, aviation, rail, waterways, enhancements and other projects. It is the project-specific product that tells Missourians what improvements to expect on their transportation system during this period.

The 2005-2009 Statewide Transportation Improvement Program continues MoDOT's transition from the expansion of the highway system to taking better care of the existing highway system. Both the development process of the 2005-2009 Statewide Transportation Improvement Program and the projects identified in the program are consistent with each of MoDOT's strategic priorities: take better care of the existing transportation system, finish what we started and build public trust.

The Missouri Highways and Transportation Commission approved a new funding distribution method in January 2003. This funding method was developed with extensive public involvement and is consistent with MoDOT's strategic priorities.

MoDOT will use the planning framework endorsed by the commission in March 2004 to identify transportation needs and prioritize projects. This framework provides guidelines that allow for both statewide consistency and flexibility recognizing regional differences. Each of MoDOT's ten districts and their local planning partners will have input in deciding how to use flexible funds.

On June 2, 2004, the commission approved a modification to the funding distribution method. MoDOT requested the modification based on the expected increase in federal funds due to reauthorization of the federal transportation bill. The projected increase will allow MoDOT to further fund the economic development and cost-sharing program from $20 million per year to $30 million per year, and increase the funds dedicated to interstates and major bridges from $100 million to $125 million per year. This modified distribution will be fully realized in state fiscal year 2006. This is a year sooner than the full implementation of the funding

distribution scheduled in the 2004-2008 Statewide Transportation Improvement Program. The districts will have access to flexible funds in 2006, a year sooner than projected in the 2004-2008 Statewide Transportation Improvement Program.

The funding level for taking care of the existing system will result in a marked improvement in pavement and bridge conditions over the next five years. Currently, 46 percent of major highways are in good or better condition. By the end of the five-year program, 60 to 65 percent of major highways should be in good or better condition. Currently, 71 percent of bridges are in good or better condition. By the end of the five-year program, 75 to 80 percent of bridges should be in good or better condition. Included in the taking-care-of-the-system category is dedicated funding for the new interstate rehabilitation program, which was expanded to include major bridges. Examples of the projects to be funded by this program include the following.

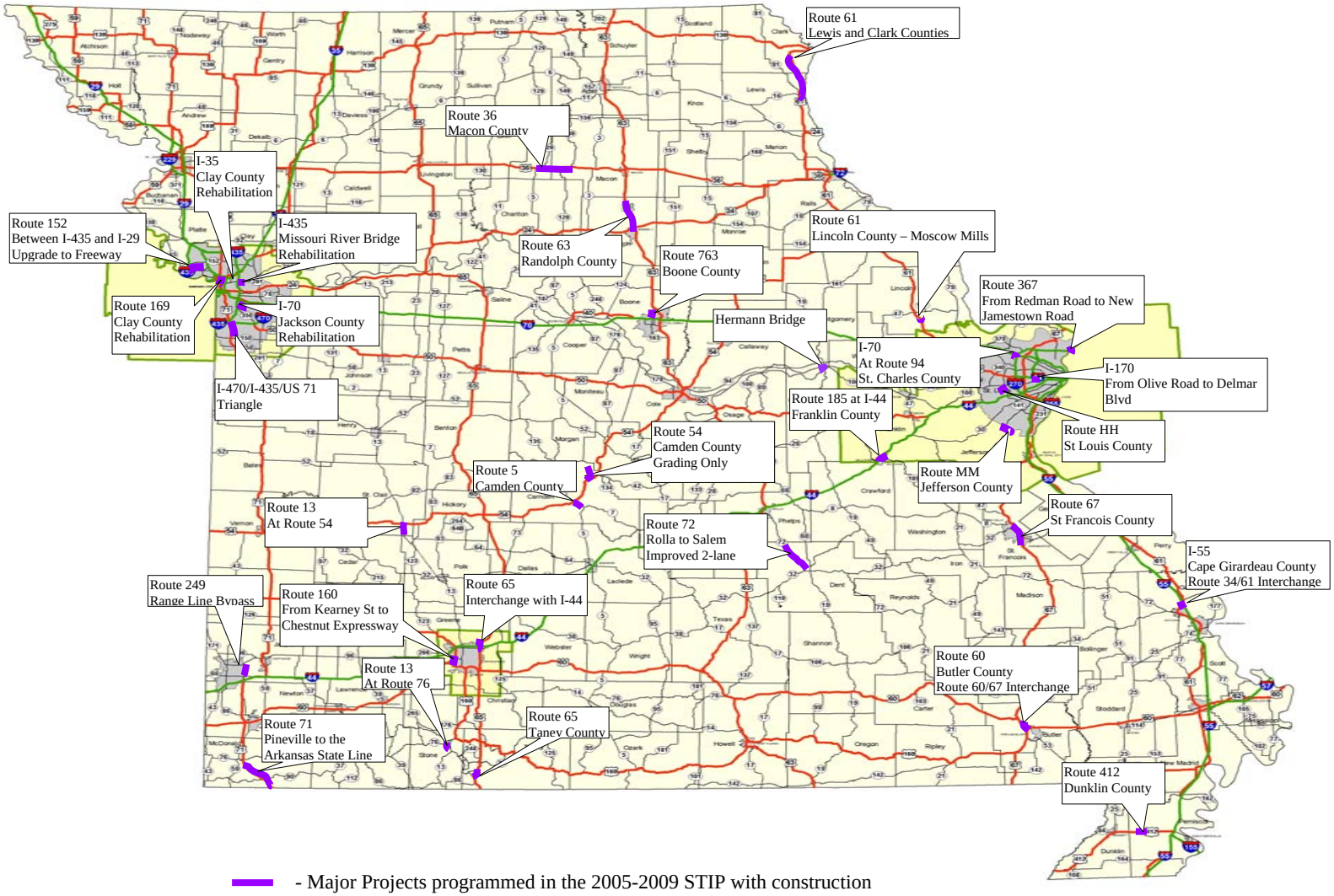
1. Replace the Route 19 Missouri River Bridge at Hermann
2. Rehabilitate Interstate 70 in Jackson County
3. Rehabilitate Interstate 70 in Saline County
4. Replace the Compton Avenue bridge on Interstate 64 in St. Louis City
5. Rehabilitate Interstate 44 in Crawford County
6. Rehabilitate Interstate 35 in Clinton County

In addition to the emphasis on taking care of the existing transportation system, several corridors are programmed for completion in the 2005-2009 Statewide Transportation Improvement Program. Working on these corridors is consistent with MoDOT's strategic priority to finish what has been started. These corridors include the following.

1. Route 61 in northeast Missouri
2. Intersection improvements in Kansas City at Interstate 470, Interstate 435 and Route 71 (also known as the Triangle)
3. West bypass of Springfield, Route 160 from Interstate 44 to the James River Freeway
4. Two lanes of the Range Line Bypass in Joplin
5. Route 367 improvements from Route 67 to Interstate 270 in St. Louis

In addition to these corridor completions, the 2005-2009 Statewide Transportation Improvement Program makes progress toward the completion of several other corridor improvement projects throughout the state. These include Route 65 in Taney County and Route 5 in Camden County. These projects are among those shown on the map on the following page.

Major Improvement Projects



- Major Projects programmed in the 2005-2009 STIP with construction estimated over $5 million.

- Metropolitan Planning Organization

The 2005–2009 Statewide Transportation Improvement Program incorporates additional projects scheduled for 2009. In addition to new projects in 2009, several projects were added between 2005-2008 as a result of increased funding projections. Since reauthorization of the federal transportation bill has not occurred, the increase in funding was determined by federal apportionment levels in federal fiscal year 2004.

This estimated federal revenue level is between the funding levels in the transportation bills approved by the U.S. Senate and House of Representatives. If the federal transportation bill is reauthorized at a much higher funding level, MoDOT will amend the Statewide Transportation Improvement Program to fully use these additional funds. Several projects have already been identified for acceleration should this occur. The program includes references to transportation improvements on the state system and improvements identified by metropolitan planning organizations in St. Louis, Kansas City, Springfield, Columbia, Jefferson City, Joplin and St. Joseph. Projects listed in the program must be within the fiscal constraints of the funding-level projections. Future funding-level projections are based on the following revenue assumptions.

Item	**Growth Assumption**
Motor Fuel Tax	1 percent annual growth on gasoline; 2 percent annual growth on diesel
Motor Vehicle Licenses/Fees	1.5 percent annual growth
Motor Vehicle Sales/Use Taxes	3 percent growth for 2005; 5 percent annual growth thereafter
Interest Revenue	$7 million for 2005-06; $8 million for 2007 and beyond
Incidental Revenue	$103 million in 2005; $85 million thereafter
Federal Apportionments	$34 billion nationwide apportionment level plus 3 percent annual growth
Federal Discretionary Funds	$30 million per year

To be as accurate as possible in projecting available funds, MoDOT has changed how it determines future program levels in the 2005-2009 Statewide Transportation Improvement Program. This change modifies the inflation rates assumed for construction and right-of-way costs. The inflation rate used for the construction program levels in the previous Statewide Transportation Improvement Program was 3 percent. There was no inflation rate established for right-of-way program levels. The inflation rate on construction costs has been monitored and recorded by the Federal Highway Administration and is available in the quarterly publication, “Price Trends for Federal-aid Highway and Construction. ”

This index included, the categories of excavation, resurfacing, and structures. This index increases at a yearly compounded rate of 2.2 percent to 2001. Because of the catastrophic events that occurred late in federal fiscal year 2001, the indices in 2002 and 2003 were not used in this determination. Unfortunately, no specific index on right-of-way costs over time has been developed that can accurately determine the inflation rate on right-of-way costs for highway projects. Due to this lack of information, the construction index will be used for both right-of-way and construction cost inflations rates. The composite highway construction index rate of 2.2 percent over a 16-year period results in the depicted inflation rate of 2 percent (rounded to the nearest whole number) on construction and right-of-way in the 2005-2009 Statewide Transportation Improvement Program.

The table on the following page shows a comparison of current funds available to the funds committed to projects in the 2005-2009 Statewide Transportation Improvement Program.

Funding Distribution

(Dollars in Millions)

	2005		2006		2007	
	Available	**Programmed**	**Available**	**Programmed**	**Available**	**Programmed**
Flexible Funds	$0	*	$100	*	$100	*
Major Projects – Distributed	$250	$206	$222	$182	$227	$133
Major Projects - Rural Statewide	$144	$166	$116	$156	$62	$111
Taking Care of the System	$400	$453	$430	$463	$430	$387
Economic Dev. & Cost-Sharing	$30	$21	$30	$16	$30	$10
Funding from Other Sources	$64	$63	$60	$33	$60	$16
Projects Moved from'04 to '05	$18	$0	$0	$0	$0	$0
Total	**$906**	**$909**	**$958**	**$850**	**$909**	**$657**

	2008		2009	
	Available	**Programmed**	**Available**	**Programmed**
Flexible Funds	$100	*	$100	*
Major Projects – Distributed	$185	$139	$189	$66
Major Projects - Rural Statewide	$50	$131	$52	$201
Taking Care of the System	$430	$164	$430	$46
Economic Dev. & Cost-Sharing	$30	$4	$30	None in 2009
Funding from Other Sources	$60	$5	$60	None in 2009
Total	**$855**	**$443**	**$861**	**$313**

*Flexible funds are distributed in the other categories as projects are identified.

Due to uncertainty in predicting degradation of pavements and bridges, taking care of the system funds are not fully programmed beyond 2005. This accounts for program levels being lower than the available funds in these years. Efforts are being made to fully develop and program the major projects throughout the entire program. These efforts are displayed Section 3 titled “Design and Scoping”.

-- 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 1998 Transportation Equity Act for the 21st Century (TEA-21) reemphasized the necessity of public involvement. In Missouri, the approach is to primarily 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 planning, including 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 electing 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.

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

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 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 construction

Each process is detailed on the following pages.

Develop 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 the next several years.

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.

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, which target the state of repair of road and bridge components, and functional needs, which 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 U.S. highways.

MoDOT districts work with planning partners 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 the concern for meeting air quality standards in metropolitan areas. However, simply being an immediate need does not imply higher priority. Perhaps the deficient bridge is no longer needed and can be closed, while not meeting air quality standards could have a significant fiscal impact on future transportation projects and serious environmental consequences. 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 will work with planning partners to prioritize regional needs annually. Statewide needs will be prioritized when MoDOT's long-range transportation plan is updated; 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. Using the results of the prioritization process as a starting pint, MoDOT districts will 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 ten years of funding and is not a commitment to design or construct projects. Existing needs will be reevaluated 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. After a solution is agreed upon, design plans are started and a transportation need becomes a transportation project.

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.

Once 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 solutions. 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
- Regional and emerging needs
- Major projects
- Interstates

Projects are divided into three categories - high, medium and low, within each funding category. The high-priority project list is fiscally constrained to five years of funding and is not a commitment for construction. Each time projects are prioritized, existing projects not yet programmed for construction will be reevaluated.

Projects are prioritized against other projects in the same group. 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 group.

However, each of Missouri's seven metropolitan planning organizations located in Columbia, Joplin, Kansas City, St. Joseph, St. Louis, Jefferson City and Springfield, prepare a transportation improvement program within its respective metropolitan planning

areas. These transportation improvement plans are the accumulation of federally funded projects proposed by their local governments and MoDOT. MoDOT utilizes public input received throughout the year to develop its submittal for the Metropolitan Planning Organizations transportation improvement plan. Each Metropolitan Planning Organizations has approved public involvement plans for its respective areas that allow for review and feedback from individual citizens, organizations, agencies and local area governments. Using public input as one of its decision factors, the Metropolitan Planning Organizations determines the projects in its area that will be programmed for construction. These transportation improvement plans are integrated into the five-year Statewide Transportation Improvement Program without modification.

Public Review Period

After a preliminary draft of the Statewide Transportation Improvement Program, based on public and engineering input is developed, a 30-day public review period begins. During this public review period, the program is distributed to MoDOT districts for public access. Citizens have the opportunity to provide written comments, verbal comments or telephone comments (by calling 1-888-ASK MODOT) to district representatives during this period. The Statewide Transportation Improvement Program is also available on MoDOT's website at http://www.modot.org. Changes are made in response to comments before a final draft is developed and presented to the Missouri Highways and Transportation Commission for approval. Input from this part of the process will be used to measure the effectiveness of the program to evaluate its production process and to begin making improvements on next year's program. The Statewide Transportation Improvement Program becomes effective when approved by the commission.

Program Amendments

Projects can be amended to the Statewide Transportation Improvement Program and to a metropolitan area transportation improvement plan. The public involvement process for Statewide Transportation Improvement Program amendments will occur prior to incorporating the project in the program. Public involvement on projects inside a metropolitan planning organization area will be done by the metropolitan planning organization according to its approved transportation improvement plan amendment process.

For amended projects outside Metropolitan Planning Organizations boundaries considered to be major transportation corridor investments, a 30-day public review period will be provided. During this public review period, information defining each project will be distributed to the affected MoDOT districts. Citizens will have the opportunity to telephone or write comments to district representatives during this period. MoDOT's Transportation Planning Division and MoDOT's districts around the state are responsible for notification and education of this review process. Notification should begin a minimum of 15 days prior to the public-review period.

Comments for projects outside Metropolitan Planning Organizations boundaries not considered major transportation investments are solicited from the affected governing bodies including counties and/or cities. After concurrence by all affected parties, the projects are amended quarterly into the Statewide Transportation Improvement Program.

Reference Information

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

Culvert - This is generally a drainage structure constructed beneath an embankment. Box sections, pipes, and arches are examples of various culvert shapes.

Deck - The portion of a bridge that provides direct support of and the riding surface for vehicular and pedestrian traffic. The deck distributes traffic and deck weight loads to the superstructure elements.

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

Fiscal Year - This is a 12-month period 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 (SFY) is July 1 through June 30. The federal fiscal year (FFY) is Oct.1 through Sept. 30

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

Geometric Improvement – This is a project that includes roadway improvements other than a surface treatment, such as shoulder and lane widening, curb and gutter work, or roadway alignment.

Intersections – This when 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 the movement of traffic on the same level.

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

Let – This means to advertise and award a contract to the lowest responsible bidder.

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.

Programmed – This means the status of a project that has right-of-way or construction funds planned for expenditure in state fiscal years 2005-2009 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. Often accompanied by improvements to the functional and operational capacity of the highway.

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.

Substructure – This is the abutments, piers, or other constructed bridge elements built to support the span of a bridge superstructure. The substructure transfers loads from the superstructure to the foundation soil or rock.

Superstructure – This is the entire portion of a bridge structure that primarily receives and supports traffic loads transmitted through the bridge deck. The superstructure carries these loads across the span and then transfers them to the bridge substructure.

TEA-21 - Congress passed the Transportation Equity Act for the 21st Century (TEA-21) June 9, 1998. It provided authorizations for highways, highway safety, and mass transit for six years. TEA-21 expired Sept. 30, 2003, and is currently under a continuing resolution.

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

Glossary of Acronyms

Document Acronyms

TEA-21	Transportation Efficiency Act for the 21st Century
MPO	Metropolitan Planning Organization
TMA	Transportation Management Area
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TIP	Transportation Improvement Program
LRTP	Long-Range Transportation Improvement Plan
SFY	State Fiscal Year (ex. July 2004 – June 2005)
FFY	Federal Fiscal Year (ex. Oct. 2004 – Sept. 2005)

Federal Funding Category Acronyms

NHS	National Highway System
STP	Surface Transportation Program

Railroad Acronyms

BNSF	The Burlington Northern & Santa Fe Railway Company
GWWR	Gateway Western Railway Company
IMRL	I & M Rail Link
KCS	The Kansas City Southern Railway Company
MNA	Missouri and Northern Arkansas Railroad Company
MRS	Manufacturer's Railway Company
NS	Norfolk Southern Railway Company
TRRA	Terminal Railroad Association of St. Louis
UP	Union Pacific Railway Company
C.U.	Circuitry upgrade, to constant warning time circuitry
D.U.	Device upgrade, same as circuitry upgrade plus gates at crossings
P to A	Passive to active warning devices, installation of flashing light signals and gates at crossing that currently has only passive warning devices (i.e. cross buck)