

A. PROJECT PURPOSE

The purpose of the proposed action is to relieve increasingly severe traffic congestion and reduce traffic crashes on downtown St. Louis-area Mississippi River crossings, especially on the Poplar Street Bridge (I-55/70/64), thereby avoiding economic stagnation at the core of the region.

Controlling downtown traffic, providing a transit pricing incentive to use MetroLink, and adding vehicular capacity with new interstate network enhancements including a new bridge, with or without toll financing, are the key measures which define the proposed action. (See **Figure 1.A**) Implementing these measures leads to a bridge use strategy for the network of bridges across the Mississippi River in the St. Louis region from the Clark Bridge at Alton to the Jefferson Barracks Bridge.

The proposed action will provide needed traffic capacity and travel efficiency, improve system linkages and community access, reduce traffic crashes, increase user benefits, including reducing travel times, and help avoid economic stagnation. Without a new bridge, unmet demand will result in increasing abandonment of the core and reinforcement of the region's propensity to sprawl.

The capacity component of the proposed action involves a restructuring of the core-area interstate highway network to accommodate a rerouted I-70 over a new eight-lane bridge across the Mississippi River and an expanded I-55 link at the Poplar Street Bridge approach in Missouri. These improvements will logically connect with key arterials on both sides of the river. This bridge, as well as the downtown traffic control improvements, will be useful even if no further improvements are added to the area's highway network in the future.

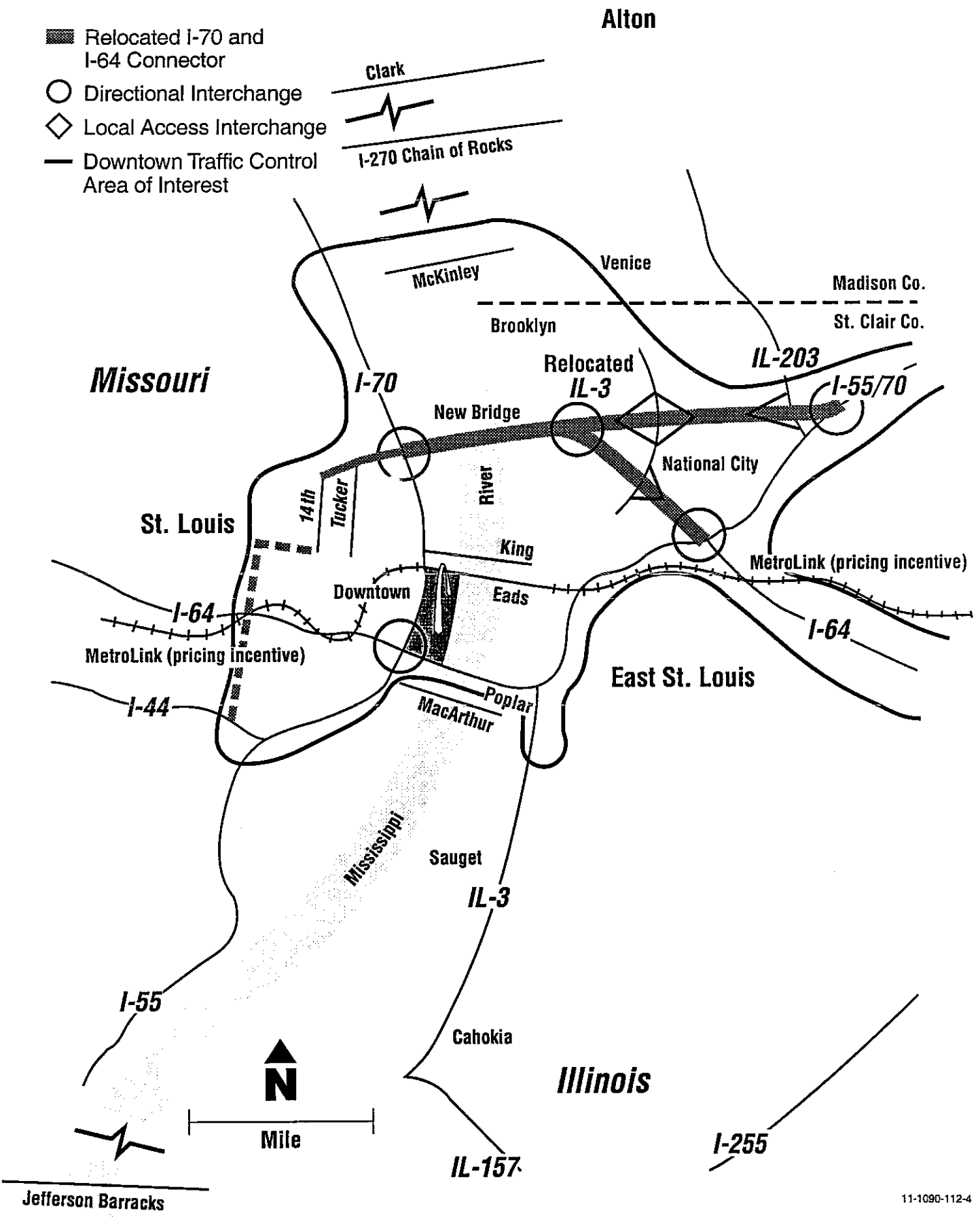
B. PROJECT NEED

As the only core-area interstate crossing of the Mississippi River, the eight-lane Poplar Street Bridge is severely overburdened. Its capacity is inadequate to meet the needs of through and local motorists, including truckers, traveling on and between I-55, I-44, I-64, and I-70, as well as in and out of downtown St. Louis. Its 30-year-old design is now substandard. Motorists face numerous decisions in close proximity to both bridge approaches and therefore do not have adequate distance to weave or merge into and diverge out of the traffic flow. The substandard design of the approach ramps compounds the resulting congestion problems and leads to traffic crashes.

Even with the already programmed improvements in the region's highway network, including planned improvements in the non-interstate core-area bridges (such as the reopening of the four-lane Eads Bridge roadway deck), the St. Louis area lacks adequate Mississippi River crossing: capacity and travel efficiency, system linkages and community access, traffic safety, and infrastructure to sustain economic growth and development.

Figure 1.A
Proposed Action

- Relocated I-70 and I-64 Connector
- Directional Interchange
- ◇ Local Access Interchange
- Downtown Traffic Control Area of Interest



1. Traffic Capacity and Travel Efficiency

Currently, motorists experience severe congestion on the Poplar Street Bridge, westbound during the morning peak period and eastbound in the evening peak period. Westbound, the physical capacity of the bridge is depleted by the magnitude of the demand to cross the river, coupled with the convergence of IL Rt. 3 with I-55/70/64 and the low design speed of the off-ramps in Missouri. Currently, the speed of westbound a.m. peak vehicles steadily decreases to 16 to 32 kilometers per hour/kph (10 to 20 miles per hour/mpg) between the existing I-55/70/64 interchange in Illinois and the Poplar Street Bridge (a distance of about three kilometers, or two miles). This delay lasts about 1½ hours. Eastbound p.m. peak vehicles are backed up to a point past 22nd Street in Missouri (a distance of about three kilometers, or two miles), lasting about 1½ hours. All approach roadways to this corridor are also congested, affirming that the capacity of the Poplar Street Bridge is not adequate for the number of vehicles using the facility. This condition represents the actual traffic crossing the bridge and does not take into account the number of motorists who do not cross the river in the peak periods because of the severe congestion.

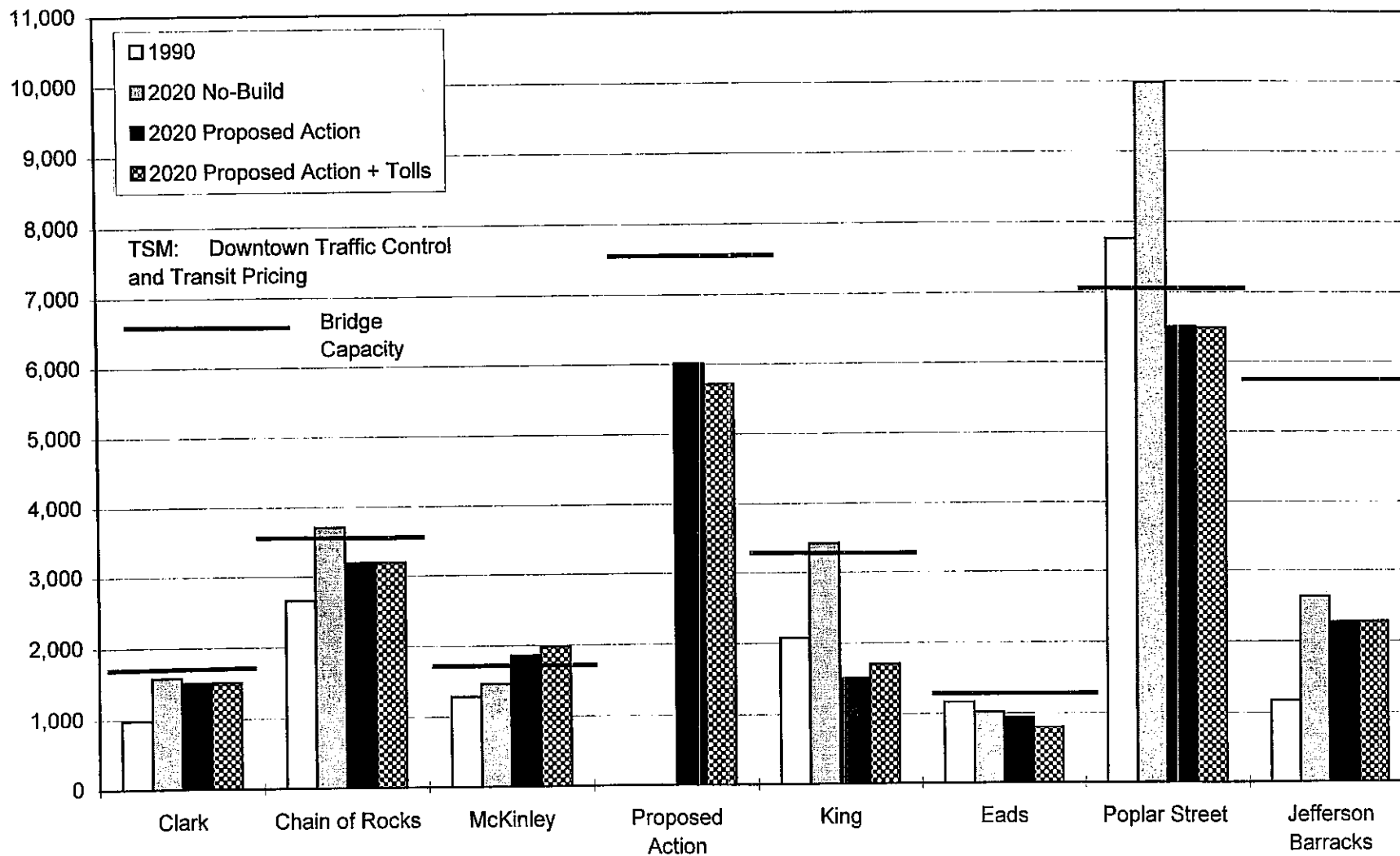
Figure 1.B shows the existing, base case (no-build) and Year 2020 traffic projections without and with tolls for each of the Mississippi River crossings compared with their capacity. The 1990 average daily traffic (ADT) for the seven regional bridges was 280,000, of which 173,000 were on the four core bridges, with the Poplar Street Bridge carrying the highest traffic volume of 128,000 vehicles per day.

Year 2020 projections show that the Mississippi River crossings will reach 363,000 vehicles per day with 148,000 vehicles per day on the Poplar Street Bridge. The projections show a 30 percent increase in regional crossings, but only a 15 percent increase in Poplar Street Bridge crossings. Because the Poplar Street Bridge is already at capacity, it is not able to handle additional traffic during the peak periods, forcing traffic to the other bridges. The projected a.m. peak-hour traffic exceeds 7,100; however, demand traffic (the number of motorists **desiring** to cross the river) equals 10,000, an increase of 40 percent. This volume cannot be realized because of the physical limitations of the crossings. Thus, these trips will not be made in the absence of adequate bridge capacity.

Traffic conditions in the Poplar Street Bridge corridor will continue to worsen during the a.m. and p.m. peak hours, resulting in a level of service (LOS) F, indicating failure, on all key interstate highway segments by the design year 2020. Currently, congestion lasts for 1½ hours in the Poplar Street Bridge corridor, where the average delay is ten minutes per vehicle. Without the proposed action, congestion will last for three hours in year 2020 with an average delay of 55 minutes per vehicle.

Building a new bridge will cause a shift in study-area travel patterns compared with the base case condition. While the no-build alternative will result in the Poplar Street Bridge corridor operating under highly congested conditions, the proposed action can remove almost 16,500 vehicles per day from the Poplar Street Bridge (an 11 percent reduction) and almost 35,000 vehicles per day from the interstate-connected Poplar and King

Figure 1.B
Capacity and Traffic with and without the Proposed Action
AM Peak Hour Demand in Vehicles Westbound Across Mississippi River



combination (an 18 percent reduction). However, when the proposed action is implemented, 12 percent (about 43,000) more vehicles will cross the river. Thus, while the new crossing will add traffic movements to the regional network, it will also shift traffic from the King and Poplar Street Bridges, where congestion relief is needed most, as well as reduce Eads and McKinley Bridge traffic.

Table 1.1 shows the net travel time savings, i.e., the reduction in vehicle hours of delay, that the proposed action will yield compared with doing nothing. The proposed action has the potential, even with some toll financing, to significantly reduce delay and improve travel efficiency.

**Reduced Daily Travel Delay on
Poplar Street Bridge Approaches**

Table 1.1

Alternative	IL	MO		Total
	I-55/70/64 vehicle-hours	I-70 vehicle-hours	I-64 vehicle-hours	Vehicle-Hours
Build	2,640	12,110	1,130	15,880
Tolls on New Bridge	(3,015)	5,395	710	3,055*
Tolls on All Bridges	(4,785)	7,680	1,230	(13,155)**

* - includes 35 vehicle-hours of delay at new bridge toll plazas

** - includes 17,275 vehicle-hours of delay at all toll plazas

Relocating I-70 will significantly improve travel efficiency by shortening through movements on I-70 by 3.5 kilometers/km (2.2 miles/mi), as well as shortening the distance for through movements involving connections between I-64 and I-70 by 2.6 km (1.6 mi). Operating and maintenance costs will also be reduced when fewer kilometers (miles) are driven because of the more direct route.

Reducing driver travel time and distance with the proposed action will yield \$52 million in annual user cost savings in the design year 2020. With tolls on only the new bridge, system users will save \$10.5 million annually by 2020; however, placing tolls on all the bridges will increase travel time and result in an annual \$39 million increase in user costs.

2. System Linkage and Community Access

The core-area interstate network needs to provide better interstate traffic distribution. I-55 (I-44), I-70, and I-64 share one 3.2-km (two-mile) alignment from the I-55/70/64 interchange in East St. Louis, Illinois across the Mississippi River to the I-55(44)/70/64 interchange at the west approach to the Poplar Street Bridge in downtown St. Louis, Missouri. I-70 north of this Missouri interchange is a depressed four-lane section with no

shoulders that is not easily widened and is complicated by heavy downtown traffic. I-64 immediately west of the interchange is a four-lane elevated double-stacked section, also with limited expansion opportunities.

Having all interstate movements through the core area of St. Louis on one stretch of roadway with frequently changing horizontal and vertical alignment, as well as multiple underdesigned on and off ramps, results in peak period congestion. Better interstate traffic distribution is needed to reduce the congestion and resulting traffic crashes. The proposed action is designed to provide an alternate linkage in the core-area interstate system and upgrade the existing interchange complexes at both ends of their existing common stretch. The latter upgrades will improve both mainline interstate operating conditions, as well as enhance safety and community access.

An estimated 25 percent of all a.m. peak period westbound regional traffic crossing the Mississippi River is destined for downtown St. Louis, 55 percent is destined for areas within the city limits of St. Louis, and almost 90 percent for the area within I-270 in Missouri. Currently, traffic bound for these core areas of the region, particularly downtown St. Louis, is routed across the Poplar Street Bridge. In addition, the narrow McKinley toll bridge, the rehabilitated King Bridge, and the Eads Bridge (when its roadway is rebuilt and opened to traffic) supplement the Poplar Street Bridge. Additional ramp movements are programmed and being built to better tie the King Bridge to the interstate network on both sides of the river; (no such improvements are programmed, or are readily possible with the other two core-area bridges). Even with the King Bridge improvements, the Poplar Street Bridge is projected to carry 40 percent of all Mississippi River crossings in the year 2020 and almost 70 percent of all downtown bridge crossings in the absence of any new river crossing capacity.

The proposed action will divert interstate and downtown destined traffic from the Poplar Street Bridge, reducing traffic demand on the Poplar Street Bridge and on the narrow, depressed interstate highway section opposite the Arch that leads to the Poplar Street Bridge. The proposed action is designed to bracket downtown St. Louis with new interstate access on the north and with improvements in the existing access on the south side of downtown. The new north-side access will distribute traffic to the uncongested northwest quadrant of downtown, where motorists can access downtown via major arterials, Tucker and Fourteenth Street. The latter change will also accommodate motorists going to and from the existing west part of I-70, where local access will be consolidated to a single major street, St. Louis Avenue. By bringing all motorists to and from the major arterials, Tucker and Fourteenth, the one-way pair of streets (northbound Ninth and southbound Tenth) presently used to service I-70 that cut through the Cochran Gardens and Columbus Square housing, as well as past the Henry Public School, can revert to their neighborhood community function and be made two-way again. Similarly, Fourteenth Street can be refocused on local traffic in front of the O'Fallon Place apartments with a landscaped median introduced in this section.

On the Illinois side, the proposed action will siphon traffic off the most congested part of the interstate network and simplify and enhance the interchange of existing I-55/70 and I-64, plus provide new community access. These physical changes will permit providing flexible and close-in freeway management opportunities to use in conjunction with the traffic control center. Changeable message signs on westbound I-55, I-70, and I-64 in Illinois will alert motorists to incidents or unusual congestion on the downtown bridges and inform them of which system linkage (the Poplar, King, Eads, or the new bridge) they should use to avoid congestion.

In addition on the Missouri side, the proposed action provides for a street (Spruce-Poplar-Memorial Drive) and sidewalk link from the south (Busch Stadium-Cupples) side of downtown to the Arch grounds and the riverfront as a part of rebuilding the Poplar Street Bridge interchange. This linkage will provide two-way circulation around the Arch grounds, enhancing gaming, special event, and other riverfront activities.

3. Traffic Safety

The Poplar Street Bridge has a traffic crash rate more than three times higher than either Missouri or Illinois' statewide averages. The entire stretch from the interchange of I-55/70/64 in Illinois across the Poplar Street Bridge to Jefferson Avenue on I-64 west of downtown St. Louis has higher than average traffic-crash rates. The narrow King Bridge also has a higher than average traffic-crash rate, as does I-70 in Missouri between St. Louis Avenue and the Poplar Street Bridge.

The proposed action will be constructed to current freeway standards with design speeds meeting or exceeding current standards and criteria; and its construction will permit upgrading the Missouri approach to the Poplar Street Bridge to a better design standard. As a result, the proposed action is estimated to eliminate more than 165 traffic crashes in the year 2020, including one fatality and 49 injury traffic crashes (see **Table 1.2**). The proposed action is anticipated to yield more than \$4.6 million in traffic crash cost savings in the year 2020. Placing tolls on only the new bridge will net a \$3.5 million savings, and placing tolls on all the bridges will actually increase traffic crash costs by \$3.6 million.

**Projected Number of Traffic Crashes
On Selected Interstates in Year 2020**

Table 1.2

TRAFFIC CRASH TYPE	NO-BUILD	NEW BRIDGE	TOLLS ON NEW BRIDGE	TOLLS ON ALL BRIDGES
Fatal	11	10	11	12
Personal Injury	648	599	614	702
Property Damage Only	1,468	1,353	1,387	1,585
TOTAL TRAFFIC CRASHES	2,127	1,962	2,012	2,299

4. Economic Growth and Development

The core of the St. Louis region needs a functional roadway infrastructure to be able to compete with other regions, as well as with the rest of its region. With significantly mounting congestion and with more accidents, downtown St. Louis and East St. Louis will not be able to sustain new growth and development. In the absence of the proposed action to relieve the Mississippi River crossing traffic congestion, the communities will stagnate and decline further.

The cities of St. Louis and East St. Louis have lost most of their resident population. The city of St. Louis' total population is now barely one-third of its post-World War II high. Out migration continues from both communities, with the city of St. Louis population continuing to decline at an average annual rate of greater than 1.5 percent, such that the city has lost more than a fourth of its 1980 population in the last two decades. No new major private office space has been built in almost a decade in downtown St. Louis, and, except for a small, but growing number of loft units, no new or rehabilitated housing has been built downtown in over a decade. Yet public sector investments have been made in the Central Business District (CBD), such as the 70,000-seat Trans World Dome/Convention Center expansion, the 20,000-seat Kiel Center, and the Thomas Eagleton Courthouse, the largest new federal courthouse in the country. East St. Louis has secured a major revenue-generating riverfront gaming operation that is now generating related development.

Land at the periphery of the St. Louis region is readily available for development. Only seven of the nation's 35 largest regions are sprawling at a faster rate than St. Louis, and yet all but six of them are growing faster in population than St. Louis. This situation is compounded by the fact that the St. Louis region has more units of government with taxing authority per 100,000 people than any of the other 35 largest regions. This region's propensity to build at the fringes will be reinforced by the core-area disincentives resulting from inadequate river-crossing infrastructure. The locally unacceptable levels of congestion resulting from inadequate infrastructure will stifle downtown-area development and may be expected to lead to an exodus of existing businesses. Without a new bridge, unmet traffic demand will move with new growth and development to the edge of the region, leaving the core in decline. The proposed action is fundamental to sustain the kinds of growth anticipated by downtown St. Louis redevelopment proposals as envisioned by the Downtown Now Plan and by stockyards redevelopment proposals.

Direct construction expenditures resulting with the proposed action, as well as induced development near project interchanges, will yield employment opportunities and enhanced tax base. Some 6,000 person-years of employment will be generated by the project's construction investment.

The new interchanges at IL Rt. 203 and at relocated IL Rt. 3 on both relocated I-70 and the I-64 connector will open up new development opportunities for currently underutilized land. Recent developments, such as the major Gateway International Raceway investment

and the Gateway National Golf Links, plus expanding Casino Queen gaming related development linked by relocated IL Rt. 3, will be enhanced by the visibility and accessibility afforded by the relocated I-70. Similarly, these developments begin to establish a basis for more development in both St. Clair and Madison Counties that will be stimulated by the project's interstate access.

The proposed action is also expected to stimulate new development near its Tucker and Fourteenth Street terminus in Missouri. The proposed action will focus development on the north side of downtown St. Louis, such as Laclede's Landing, America's Center/Trans World Dome, the proposed convention center hotel, St. Louis Centre, and the Washington Avenue Loft District. It will provide good access to the Kiel Center and Union Station via its Fourteenth Street connection, reinforcing these core-area investments.

C. PROJECT HISTORY

Downtown St. Louis bridge capacity has been a long standing community concern. An October 1980 St. Louis Central Business District Bridge Study, prepared by the East-West Gateway Coordinating Council (EWGCC), evaluates ways to overcome "increasing disrepair" in the McKinley (1910), King (1951), Eads (1874), and MacArthur (1917) Bridge roadway decks so that they can be better utilized and maintained as relievers for the congested Poplar Street Bridge (1967).

A June 1985 Report of the Bridge Committee submitted to EWGCC again called for improving capacity by arresting the deterioration of downtown bridges, which had accelerated with the closing of the MacArthur Bridge roadway deck in 1981. This report identified the King Bridge as the highest repair priority, because of its potential to relieve the overcrowded Poplar Street Bridge, which suffers from heavy weaving movements on the bridge and inadequate freeway connections, especially on the Missouri side.

The King Bridge was rehabilitated and reopened with four three-meter(ten-foot)-wide traffic lanes and no shoulders in May 1989. This improvement was accomplished when the two states acquired the bridge from the city of East St. Louis, removed the tolls, and connected it to the interstate system in Illinois. This was the solution that the EWGCC Board first endorsed in November 1974.

In August 1989, the city of St. Louis swapped its MacArthur Bridge for the Terminal Railroad Association (TRRA)'s Eads Bridge so that a rapid transit line could be built on the Eads Bridge rail deck. This idea was first proposed in 1924 on the fiftieth anniversary of the opening of the Eads Bridge. The last train across the Eads Bridge was an Amtrak train in 1974, the one hundredth anniversary of the bridge opening. MetroLink, the light rail transit line, began service in July 1993 across the rail deck of the Eads Bridge, which the Bi-State Development Agency now owns. The city of St. Louis is underway with reconstruction of the roadway deck of Eads Bridge, which it owns, and expects to reopen four 3.35-meter/m (11-foot/ft)-wide traffic lanes with 0.3 m (one foot) shoulders and a

sidewalk in 2002, probably as a toll-free facility. The reopening of this bridge will not provide enough additional capacity to alleviate congestion across the river. The privately-owned MacArthur Bridge is not for sale. Trying to acquire and rebuild its substandard two-lane roadway deck would not yield enough capacity to eliminate the need for a new bridge. Under these conditions, the MacArthur Bridge roadway deck improvements would not be cost-effective.

Some \$5.9 million was spent in the last few years to redeck the main spans of the McKinley Bridge, a toll facility owned by the city of Venice, Illinois; and the Illinois Department of Transportation (IDOT) has proposed to spend \$12 million in state and federal funds to upgrade the western bridge approach. A regional task force is currently addressing a tax dispute between the city of St. Louis and the city of Venice, which threatens to close the bridge and stop the funding for the western bridge approach. While proposals have been made to better connect the McKinley Bridge with I-70 on the Missouri side of the river, no such interstate-design-standard connection is readily possible to replace the existing approach's sharp curve in Illinois and connect to I-55/70 (or I-64), which lie some distance from the bridge.

With trips across the downtown bridges increasing at an equivalent annual growth rate of 2.6 percent, yielding a 67 percent increase in daily crossings between 1970 and 1990, the capacity problem reached the point where EWGCC recommended constructing a new downtown bridge. "The Downtown Mississippi Bridges: An Update on an Unsolved Problem" was published by EWGCC in Executive Summary format in October 1990 and as a complete report in April 1991. The report notes that the Poplar Street Bridge's traffic share increased from 62 percent of the downtown crossing volume in 1970 to 74 percent in 1990. It operates at or near capacity during peak travel periods, in part, because it is the only bridge offering direct access to all interstate highways converging downtown. The report makes the point that repair and refinement of the existing bridges alone will not be sufficient to meet increasing demand. The report calls for a new bridge to avoid "smothering development in downtown St. Louis and Southwestern Illinois."

1. Stage I Location Study

A study was begun in May 1992 and completed in November 1993 that defined the need for a new Mississippi River crossing connecting Illinois and Missouri at downtown St. Louis. It identified two preliminary alignments, one north and one south of downtown, that were suitable for further study from among the four considered. The study, termed Stage I, was jointly funded by IDOT and the Missouri Transportation Department (MoDOT, formerly the Missouri Highway and Transportation Department, MHTD). EWGCC provided traffic model projections that established the project need. The study was guided by both a Technical Committee and by an Executive Committee established by agreement between the two involved states. The study included two series of open-house public meetings held on both sides of the river, as well as elected officials briefings and numerous meetings to discuss the project with other interested or affected property owners and major employers.

2. Stage II Major Investment Study

At the completion of the Stage I study, the U.S. Department of Transportation (USDOT) issued new guidelines requiring that a Major Investment Study (MIS) be completed for all major transportation projects in a Metropolitan Planning Organization (MPO) area using federal funds. The guidelines are a result of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and were published in the October 28, 1993 Federal Register as the joint Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) Final Rule on Statewide and Metropolitan Planning (Section 450.318). The purpose of an MIS study is to consider a broad range of options from low cost to full build solutions, including multiple modes (such as transit and highway improvements), technologies, and alignments early in the study process.

IDOT and MoDOT, in cooperation with EWGCC, conducted an MIS of the Mississippi River crossings at St. Louis that began in the fall of 1994 and was completed in the spring of 1997. The Mississippi River Crossing MIS was conducted as a stand alone study effort, rather than being combined with this Draft Environmental Impact Statement (DEIS). The study was guided by a Study Management Group (SMG) made up of some two dozen representatives from both sides of the river, including federal, state, and local officials in transportation and non-transportation areas, as well as private-sector participants. A four-person Executive Committee developed by agreement between Missouri and Illinois provided project oversight and key decisions.

The study included a broad-based community outreach effort focused on two public meeting series - March 29-30, 1995 and July 1-2, 1996. These meeting series included briefings for elected officials and the media, open-house meetings for the public, additional meetings for affected and interested groups, and opinion polling. About 1,000 persons were engaged in each meeting series, and several hundred thousand were informed of the project through variable message signs on the interstate highway network, downtown display boards, as well as print, TV, and radio media coverage.

The Mississippi River crossing MIS considered all of the bridges across the river between Alton and Jefferson Barracks. The problem statement defined by the study is insufficient river crossing capacity in the peak period to satisfy the demand for trips. Without any other changes, development in downtown St. Louis and the Metro East area will stagnate. New growth will be pushed to the perimeter of the region, resulting in additional sprawl.

Chapter 3 Alternatives Considered and Chapter 7 Coordination and Commitments include additional detailed discussion on the project's history and decision-making process.

The new Mississippi River crossing project is included in the St. Louis region's 2015 Long Range Transportation Plan and the 1998-2000 Transportation Improvement Program (TIP).