

Purpose and Need

The First Tier Improve I-70 Study established the corridor-wide purpose and need for I-70 improvements between Kansas City and St. Louis. That document identified the goal of I-70 improvements is to provide a safe, efficient, environmentally sound and cost-effective transportation facility that responds to the needs of the study corridor in addition to the expectations of a nationally important interstate. The specific purpose and need for SIU 6 improvements are summarized as follows:

A. Roadway Capacity

Increase roadway system capacity in accordance with the projected travel demands to improve the general operating conditions of I-70. Based upon level of service analyses and forecast volumes on mainline I-70, by 2030, all mainline links of SIU 6, as well as the Kingdom City/U.S. 54 interchange, will fail to meet MoDOT standards for level of service. Capacity improvements for the Kingdom City interchange, as well as mainline I-70, were selected.

B. Traffic Safety

Reduce the number and severity of traffic-related crashes occurring along I-70 between Kansas City and St. Louis. According to available crash data, obtained through the MoDOT Traffic Management System database, SIU 6 is in need of several safety upgrades. Relative to the entire I-70 Corridor, SIU 6 experiences a higher than expected occurrence of cross-median crashes. Medians should be improved in areas where median widths are not up to existing standards to prevent cross-median crashes. Also, clear zone improvements between the mainline and frontage/service roads will reduce conflicts with vehicles on frontage roads. Localized safety improvements could include smoothing the grades in the Mineola Hill area, as well as relocating the existing rest areas, to allow for better slowing and stopping for all vehicle types and will lessen climbing speed differentials for automobiles and tractor-trailers. In the Kingdom City area, longer ramps and merge/acceleration lanes will allow heavy trucks to better enter the flow of traffic.

C. Roadway Design Features

Upgrade current roadway design features along I-70, including interchanges, roadway alignment and roadway cross-sections. Portions of the existing I-70 through SIU 6 fail to meet current design standards as well as MoDOT's desired standards for the I-70 improvements. Any improvements to the highway should, at a minimum, meet current design standards. Medians and outside shoulders should be widened, vertical and horizontal curves that do not meet current AASHTO standards nor Improve I-70 criteria should be improved, and reconstruction of each interchange to provide the minimum 800-foot (244 meter) spacing between ramp termini and 1,350 feet (411 meter) between ramp termini and outer roads with improved access control should occur. Additionally, the Kingdom City interchange will need to be reconstructed to accommodate predicted future year traffic volumes.

D. System Preservation

Preserve the existing I-70 facility as needed to carry existing and future loads. Improving I-70 to the preferred criteria will require the reconstruction of all bridges, regardless of condition, as well as pavement repair and replacement. In the meantime, pavement rated fair or better and bridges rated seven or better should be maintained on an on-going basis to preserve the integrity and smoothness of the surface. Pavement rated poor or very poor and bridges rated six or below should be programmed for major maintenance, or if necessary, replacement.

E. National Security

Improving I-70 will help to increase transportation system security in Missouri and in the nation as a whole. The SIU 6 portion of the I-70 Corridor will continue to play an important role in responding to natural disasters and threats to national security. The enhancements offered by the typical section, including improvements to the Kingdom City interchange, will enhance the ability of the I-70 Corridor to support the system needs for disaster response and national security.