

Figure 2a Preferred Strategy – Improve Key Bottlenecks Strategy

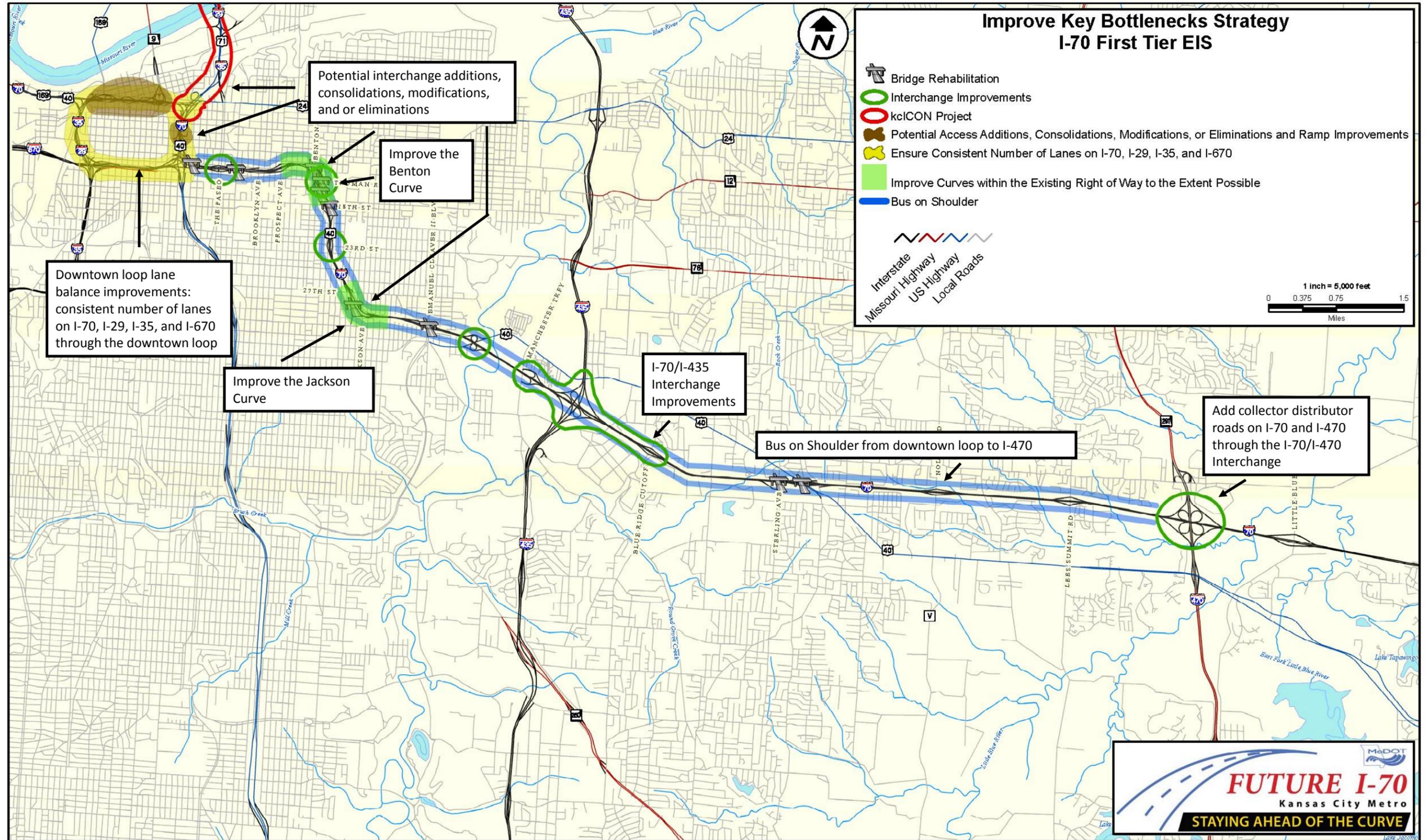
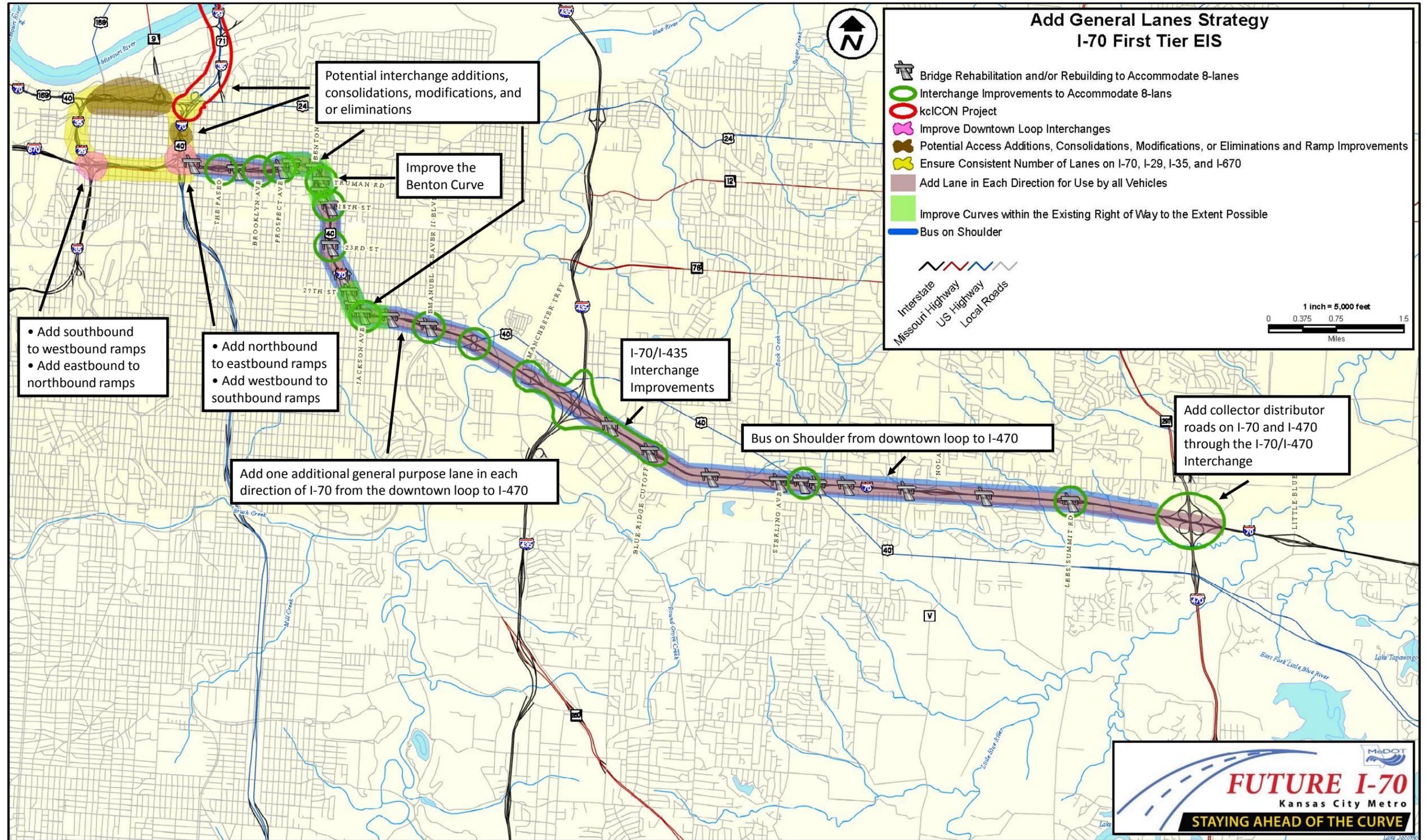


Figure 2b Preferred Strategy – Add General Lanes Strategy



The following is a description of the five potential sections of independent utility (**Figure 3**):

- **Downtown SIU** - Downtown Loop to Paseo Boulevard
- **Urban SIU** - Paseo Boulevard (including the interchange) to U.S. 40
- **I-435 Interchange SIU** - U.S. 40 (including the interchange) to Blue Ridge Cutoff (including the interchange)
- **Suburban SIU** - Blue Ridge Cutoff to Lee's Summit Road (including the interchange)
- **I-470 Interchange SIU** - Lee's Summit Road to east of I-470 and the I-470 from 39th Street interchange to the U.S. 40 Interchange

The following discussion provides how each SIU fulfills the criteria listed above.

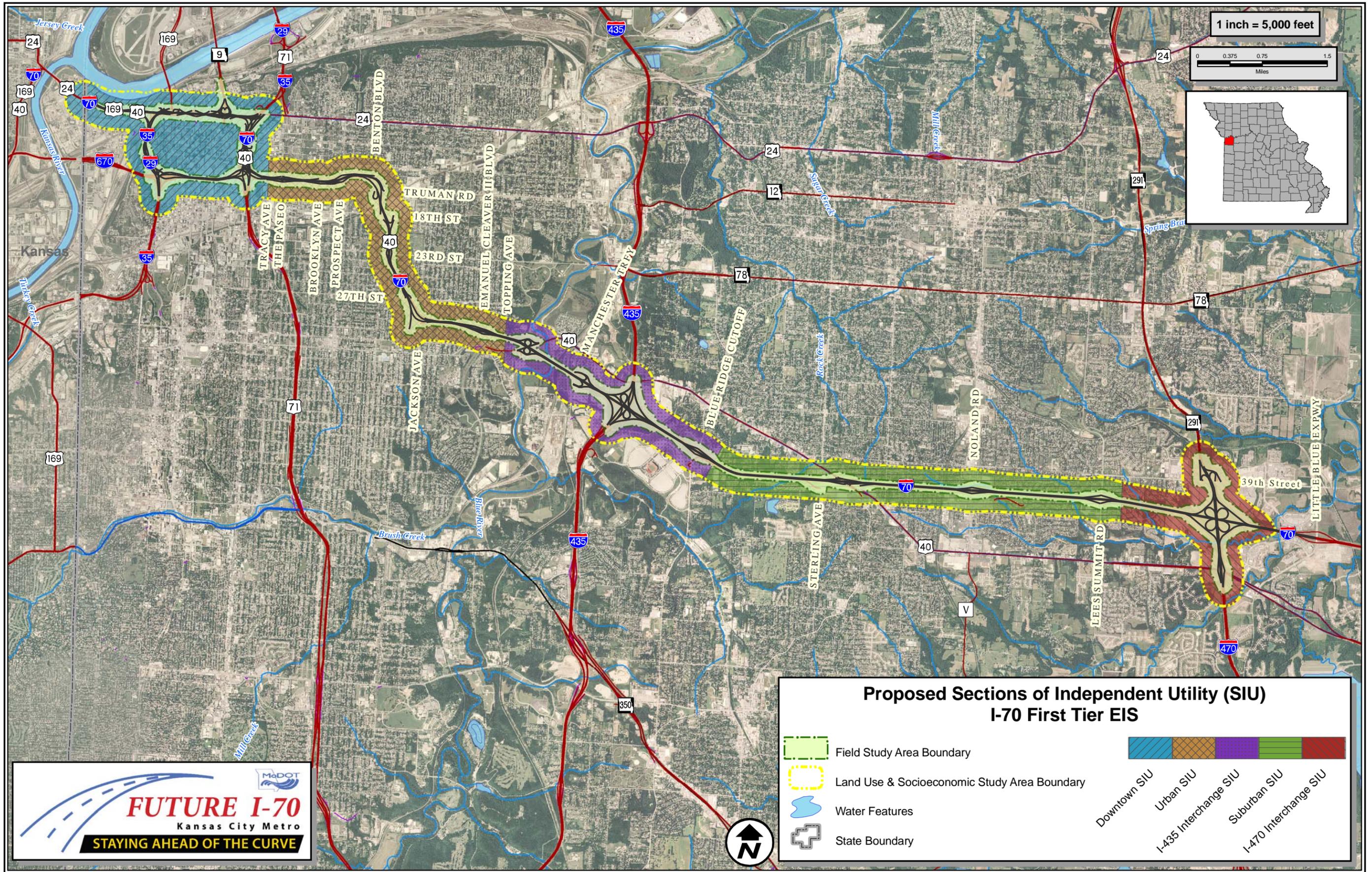
Downtown SIU (Downtown Loop to Paseo Boulevard): The logical termini established for the Downtown SIU was identified as Tracy Avenue, which is at the beginning and end of the ramps in to and out of downtown just west of Paseo Boulevard. This termini separates the complexity and interaction of the various legs of the Downtown Loop from mainline I-70.

The Downtown Loop improvements include lane balance and improvements in the northeast corner of the Downtown Loop as part of the kcICON project. The strategy will also consider interchange additions, consolidations, modifications, and/or eliminations to improve traffic flow and safety. The improvements would consider the South Loop Link Study to evaluate the possibility of enclosing the south leg of the Downtown Loop to expand development opportunities in the downtown. The Second Tier studies will coordinate with that planning effort and consider the recommended improvements from that study. In addition, the Wyandotte Street on-ramp to westbound I-670 was removed during the Bartle Hall expansion. There was a commitment by the City of Kansas City, Missouri to replace the ramp at a future date.

The lane balance and interchange modification improvements that have been described above are location specific and would benefit the traffic flow and safety in the Downtown Loop regardless if improvements were made in the other SIUs.

The improvements to the downtown SIU would not require or restrict any other improvements to roads connecting to the Downtown Loop. The Downtown SIU has the ability to be a stand-alone project even if no other sections are improved.

Figure 3 Proposed Sections of Independent Utility (SIU)



Urban SIU - Paseo Boulevard (including the interchange) to U.S. 40: The logical termini identified for the Urban SIU has its limits set by the Downtown SIU and the I-435 interchange SIU. With the Downtown SIU determined above and the existing plans for I-435 interchange improvements from U.S. 40 to Blue Ridge Cutoff; the Urban SIU is the section in between these two. The Urban SIU extends from west of the Paseo Boulevard (Tracy Avenue) at the beginning and end of the Downtown Loop ramps to west of and including the Van Brunt Boulevard interchange ramps (Topping Avenue).

The improvement to I-70 in the Urban SIU would be rebuilt to provide for bus transit on the shoulder. Improvements also include the bridge rehabilitation along I-70 from Paseo Boulevard to Van Brunt Boulevard. The I-70 curves at Benton Boulevard and Jackson Avenue would be improved within the available right-of-way to the extent possible. The strategy will consider interchange consolidations, modifications with collector distributor roads, and/or elimination of access to improve traffic flow and safety.

The Benton and Jackson curves have poor interstate operations due to existing sight distance and geometrics of the roadway. These areas have higher than average crash rates. In addition, the existing traffic congestion through the Benton and Jackson curves is undesirable or approaching undesirable conditions.

The improvements at the key bottleneck locations in the Urban SIU are location specific improvements. If only the Urban SIU were constructed, traffic flow and safety would increase as a result of the improvement to the curves and the interchange modifications.

The improvements at either end of this SIU would include ramp modifications and would not require or restrict any other I-70 improvements. The Urban SIU has the ability to be a stand-alone project even if no other sections are improved.

I-435 Interchange SIU - U.S. 40 (including the interchange) to Blue Ridge Cutoff (including the interchange): The I-435 Interchange logical termini were defined by the current and proposed project improvements. The logical termini were identified from west of U.S. 40 (Topping Avenue) to include the U.S. 40 interchange ramps within this SIU. Likewise, the east side of this SIU was determined by improvements to the Blue Ridge Cutoff ramp connections.

I-70 would be rebuilt to provide for bus transit on the shoulder. In addition to the projects currently programmed in the State Transportation Improvement Program (STIP), MoDOT will continue to modify the freeway access along I-70 and I-435 interchange to relieve congestion and improve the condition of the system in the I-435 and I-70 interchange area. Similar to the programmed STIP project, the proposed improvements include adding lanes to I-435; modifying ramps into a collector-distributor system on I-70 and I-435 and extending ramps at several locations for additional weave, merge and diverge area; reconstructing and relocating the fully directional ramps to eliminate left-side exits from the interstate. These proposed improvements reduce congestion, improve safety, and address bridge maintenance needs in the

interchange areas. To improve the traffic on I-70, access improvements in the I-435 SIU will consider access modifications at Manchester Trafficway.

The I-70/I-435 interchange experiences congestion in the AM peak period in the westbound direction and in the PM peak period in the eastbound direction due to lane balance issues requiring lane changes, closely spaced interchange ramps, and short weaving sections within the interchange. This is caused by lane drops through the interchange and steep grades east of the interchange. The congestion levels in both directions through the I-435 interchange are undesirable. Much of this congestion is due to lane drops as I-70 traffic exits to I-435 and traffic merging on and off I-70.

The interchange improvements that have been described are location specific to this section of I-70. The I-435 Interchange SIU improvements will remove a major bottleneck and experience less traffic congestion and improve safety if this is the only SIU constructed. The influence of the I-70/I-435 interchange includes the Blue Ridge Cutoff intersection to the east to the U.S. 40 interchange to the west.

The improvements to the I-435 Interchange SIU would not require or restrict any other proposed I-70 improvements. The I-435 Interchange ramps will provide adequate space to merge/diverge to/from I-70 before ending. When the Suburban SIU is constructed, these ramps can remain as merge ramps in the bottlenecks strategy or be extended as need to connect with the additional lanes strategy. The I-435 Interchange SIU has the ability to be a stand-alone project even if no other sections are improved.

Suburban SIU - Blue Ridge Cutoff to Lee's Summit Road (including the interchange): The logical termini identified for this SIU is the area between the I-435 and I-470 interchanges. This SIU is defined by the limits of the I-435 Interchange and the I-470 Interchange SIU limits. The Suburban SIU extends from Blue Ridge Cutoff to Lee's Summit Road.

I-70 would be rebuilt through this area to provide for bus transit on the shoulder and possibly be rebuilt with eight lanes. If the option is to rebuild this portion of I-70 to eight lanes, all bridges, with the exception of the Noland Road Bridge which was recently rebuilt, will be rebuilt to accommodate the eight lanes on I-70. This strategy will consider interchange consolidations, modifications with collector-distributor roads, and/or eliminations through the Sterling Avenue, U.S. 40 east, and the Blue Ridge Boulevard interchanges to improve traffic flow and safety. In the Improve Key Bottlenecks Strategy, these interchange modifications will be the primary improvement and beneficial to traffic flow, congestion, and safety regardless if the other SIU improvements are made. In the Add General Lanes Strategy, the additional lanes would likely be added or dropped with the Lee's Summit Road interchange ramps. The connection of the additional lanes at Blue Ridge Cutoff is identified in the I-435 Interchange SIU above.

The improvements to the Suburban SIU would not require or restrict any other proposed I-70 improvements. The Suburban SIU has the ability to be a stand-alone project even if no other sections are improved.

I-470 Interchange SIU - Lee's Summit Road to Little Blue Parkway and I-470 from 39th Street interchange to the U.S. 40 Interchange: The last section within the I-70 Study Area that is being recommended as a SIU is the area west of I-470 to east of I-470, which includes modifications to the I-70/I-470 interchange.

Improvements at the I-70/I-470 interchange would also be designed to connect with the improvements identified in the I-470 Purpose and Need Study and the I-70 Statewide Study. This strategy would address short ramps and merging issues on I-70 and I-470 at the interchange between the two freeways. I-70 would be rebuilt through the I-470 interchange and would provide for bus transit on the shoulder. Interchange improvements would include either a collector-distributor road system or improvements to the interchange ramps to eliminate the interchange weaving areas. I-470 would require interchange improvements at U.S. 40 and 39th Street to maintain access. The I-470 mainline improvements would be necessary to connect the new ramps with I-470 traffic. I-70 may also require ramp modifications.

The improvements that have been described are unique to this section of I-70 mainly because of its specific location. The design modifications at this interchange are intended to improve the traffic interaction between these two interstates, however, the influence of the improvements will impact the adjacent interchanges on I-470 (39th Street and U.S. 40) and may reach the adjacent interchanges on I-70 (Lee's Summit Road and Little Blue Parkway). As a result, the Lee's Summit Road and Little Blue Expressway interchanges may need to be included in this SIU in case the design requires improvements to either or both of these interchanges. If this occurs, the eastern terminus of the Suburban SIU would also be adjusted.

The improvements to the I-470 Interchange SIU would not require or restrict any other proposed I-70 or I-470 improvements. The I-470 Interchange SIU has the ability to be a stand-alone project even if no other sections are improved.

5.0 Recommended Level of Second Tier Studies

The FHWA, in conjunction with MoDOT, recommendations for the level of NEPA documentation for the Second Tier studies for each Section of Independent Utility are below:

Downtown SIU	Environmental Impact Statement (EIS)
Urban SIU	Environmental Impact Statement (EIS)
I-435 SIU	Environmental Impact Statement (EIS)
Suburban SIU	Environmental Assessment (EA)
I-470 SIU	Categorical Exclusion II (CE2)

6.0 Conclusion

This technical memorandum is a recommendation to establish Sections of Independent Utility for the I-70 First Tier EIS. If the SIUs established in this memorandum are approved, the intent is to carry these SIUs and their associated logical termini forward to be evaluated in the Second Tier studies.