SUMMARY OF ROUTE M CORRIDOR ROAD SAFETY AUDIT

Why J-turns at St. Lukes Rd. and Moss Hollow Rd. are the Most Feasible Solution

- MoDOT's original design for safety improvements on Route M (between the Old Highway 21 interchange and I-55) included J-turns. MoDOT was asked to review and explain other intersection alternatives' so a formal formal Road Safety Audit (RSA) was initiated.

- An RSA is performed by a multidisciplinary team, independent of the project, to identify potential safety concerns and identify opportunities for improvements considering all roadway users -- transit, bicyclists, drivers and pedestrians. An RSA accounts for human factors and road user capabilities.

- An RSA field review was conducted. The RSA team included MoDOT employees, engineering consultants, members from the Federal Highway Administration and Fox-C-6 School District, emergency services providers, local and state representatives and an area resident. These individuals represent the typical make-up of an RSA field review team and all were included to provide transparency of and insight into the project.

- The RSA field review process consisted of two virtual meetings. The first meeting familiarized participants with the corridor and allowed participants to provide comments and feedback on its conditions. The second virtual field review provided an intersection-by-intersection detailed review of conditions, traffic and crash data, observations and potential opportunities for safety improvements.

- Safety strategies evaluated during the RSA included an interchange, roundabouts, signalized intersections and J-turns.

- Data collection and data analyses included in the study were speed data, traffic volumes including turn movement counts, crash history and input from stakeholders.

- Additional safety factors considered included the ability to eliminate or mitigate potential accidents and separate accelerating and decelerating vehicles from through traffic.

- Based on crash trends and the corresponding risk of severe crashes, J-turns at St. Lukes Church Road and Moss Hollow Road are recommended in both the original MoDOT design and the RSA.

- Based on the intersection's current design, traffic volumes, and motorists frequently speeding along the corridor, serious crash risks are possible as motorists cross the intersections.

- J-turns will eliminate crossing conflicts and decrease driver confusion on the median by providing left-turn and through movements outside the limits of the intersection. They will also create corridor consistency with Old Lemay Ferry Connector, which has not recorded any crashes associated with the J-turn movements in the five-year crash data analyzed.

- Deceleration and acceleration lanes are included for J-turn turnaround movements.

- Limiting median access eliminates right-angle crossing conflicts and minimizes the corresponding serious crash risk.

- In the five-year crash history at St. Lukes Church Rd. and Moss Hollow Rd., having J-turns would have provided direct mitigation for 18 of the 23 total crashes and 11 of the 15 fatal and injury crashes reported.

- Traffic signals are not solutions to the crash types experienced at these intersections or given this is a higher-speed route. Traffic signals are installed based on three criteria: a high amount of cross street traffic demand, crash history, and the delay to turn from the cross street onto the main road. Neither of these intersections meet any of the required criteria mentioned. In short, the use of unwarranted traffic signals on high-speed roads causes excessive delays, disobedience of the signal indications and significant increases in the frequency of collisions (especially rear-end collisions).

- Offset left-turn lanes better defines the intersection and improves the drivers' ability to see around other vehicles by improving viewing angles.

- J-turns are the most cost-effective solution that will function well into the future and accommodate high traffic volume growths along the corridor and potential increases in intersection turning volumes.

- Approximately $1.1 million has been allocated in the State Transportation Improvement Plan (STIP) for this project.

- As MoDOT evaluates safety improvement locations, the type of traffic control chosen for an intersection has an influence on the frequency and severity of crashes that occur. The type of traffic control and intersection design must be appropriate for the configuration of the intersection and the traffic volumes to be served.