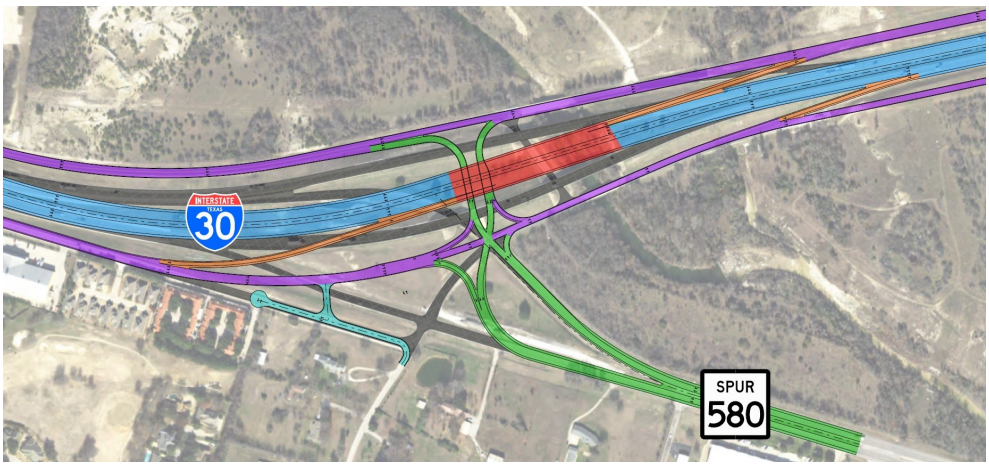
## *Intersection Design*

ISE is a leader in providing innovative solutions for intersection design such as Super Street, Michigan Left, Displaced Left, Continuous Green "T", and roundabouts at traditional signalized intersections to improve intersection delay, safety, and level of service. When conditions warrant grade-separation as a viable alternative, ISE always looks at novel and innovative configurations such as SPUI, DDI, CTO, Echelons, and Double-Roundabouts in order to evaluate the potential benefits that they might offer compared to the more conventional interchanges (i.e., Texas Diamond).

State Loop 360

ISE staff possess unique expertise in designing Context Sensitive intersection and corridor improvement projects. We understand the challenges that need to be addressed when urban intersections serve a mixture of vehicular (private or transit), pedestrian, and bicycle traffic. We understand the trade-offs in intersection delay that are involved when optimizing the operation of an existing intersection; and, we understand how various geometry and configuration improvements impact the operation and safety of a signalized or unsignalized intersection and a corridor as a whole.

Through data collection, field observations, and interviews with the locals or owner(s)/operator of the signals and also through analyzing the neighboring land-use, main traffic generators, and peaking behavior we discover the root cause of the existing issues and we think outside the box to optimize the capacity and the overall LOS of the existing infrastructure. We always advise our clients to revisit their signal control system architecture in terms of hardware and software to explore the potential for operational improvements. As an example, ISE's analysis of SL 360 (Capital of Texas Highway) showed that the corridor during peak-hours is over-saturated and no additional capacity is available within the existing signalized corridor. This conclusion was achieved after thorough analysis of the corridor, optimizing signal progression along the corridor, and the before/after travel time studies performed utilizing GPS-equipped test vehicle runs as well as the Bluetooth travel time data obtained from the City of Austin.




IH 30 / Spur 580 Interchange

We understand that most operational improvements to intersections are short-term (5 to 10 years); therefore we always review the macroscopic-level mobility plans to see if the traffic demand of a particular intersection or network of intersections is subject to major change in near term future. Then we will evaluate whether or not satisfactory LOS could be maintained with existing or a proposed interim configuration. This allows the reconstruction cost to be deferred to a later time which is likely to be desirable to the client. If our analysis proves the need for a more fundamental improvement such as capacity increase, we will make the best effort to stay within the existing ROW while adding to the capacity.

ISE's intersection design experience includes the following projects:

- State Loop 360 corridor in Austin, Texas
- IH 30 Schematic Design
- North Post Oak at Old Katy Road in Houston, Texas*

* *denotes staff experience while with another firm*