



## CHALLENGE

*Growth of traffic has strained parts of the state highway system in northern Illinois.*

The Illinois State Tollway Authority maintains a system of freeways and interchanges in northern Illinois that carry over 1.3 million vehicles a day.

The system is being strained by:

- Traffic growth
- Overflowing entrance & exit ramps
- Outdated coordination of traffic signal timing at interchanges

ISTHA called on HLR to provide ongoing traffic and geometric engineering for interim relief of traffic congestion on many locations within the Tollway system.

## SOLUTION

While planning major improvements to handle traffic load, ISTHA also looks for economical, quickly implementable improvements that will provide interim relief.

To find these solutions, ISTHA brought in HLR for ongoing engineering services systemwide including:

- Analyzing and modeling of traffic flow through existing interchanges, using Synchro/SimTraffic, VISSIM, and Highway Capacity Software
- Implementing revised traffic signal timings and coordination settings, in cooperation with the jurisdictional agency
- Analyzing alternative geometric improvements at ramp/arterial street intersections, as well as alternate ramp configurations and potential additional ramp connections.
- Evaluating the reserve capacity at existing intersections and interchanges
- Determining preliminary right-of-way requirements for improvement projects

*Locations for which short-term improvements have been evaluated and recommended include:*

- I-90 and Randall Road
- I-355 and IL 64 (North Avenue)
- I-355 and IL 56 (Butterfield Road)
- I-94 and Lake-Cook Road
- I-294 and US 20 / IL 64
- I-88 and Orchard Road
- I-294 and 88<sup>th</sup> Avenue/Cork Avenue
- I-88 and Naperville Road ramp closure detour
- I-355 and Boughton Road

## RESULTS

*HLR's ongoing relationship with ISTHA has contributed to many traffic flow improvements:*

- Reducing traffic delays on ramps and at ramp/arterial intersections
- Reducing traffic queues on ramps that extend onto the Tollway mainline lanes
- Identifying of right-of-way needs in advance of imminent land developments
- Managing traffic flow on off-Tollway detour routes

