

SIGNAL COORDINATION AND TIMING (SCAT) VARIOUS CLIENTS IN NORTHERN ILLINOIS



CHALLENGE

Optimize the flow of traffic on street systems making best use of the existing traffic signals and street system.

Traffic congestion along state routes, arterial streets and downtown areas can often be alleviated by adjusting traffic signal timings and coordination between signalized intersections. Driver delay, air pollution and traffic noise are the undesirable results of poorly timed signals.

SOLUTION

With experience in all current signal platforms used in Illinois (Eagle, Econolite, Traconex, Multisonics), HLR has the ability to perform quick, cost-effective reviews of existing intersection efficiency, and to develop and implement revised timing plans and controller settings. *Often, a change of a few seconds in signal timings, adjustment of system offsets or refinements to controller settings can have a big effect on intersection operation and congestion.*

Our SCAT projects typically include:

- **SYSTEM REVIEW** – Traffic counts; speed & delay studies; review of existing signal timings, coordination data and controller settings; and a field review of operations.
- **OPTIMIZATION** – Analysis and development of improved timing plans for time-of-day or traffic-responsive operations.
- **IMPLEMENTATION & EVALUATION** – implementation of optimized signal settings (MARC-PC, MARC-NX, ZONE MONITOR, ARIES) followed by *field refinements* and final evaluation of performance, with quantitative cost/benefit measures (speed/delay, emissions reductions).

Examples of HLR's recent SCAT experience include:

- I-88/Naperville Road/Winfield Road Ramp Detour for the Illinois Tollway.
- Central Business District Signal System Analysis & Design for the City of Elgin.
- IL 64/Illinois Street Downtown System evaluation for the City of St. Charles.
- IL 38 System Optimization in Glen Ellyn and Wheaton for IDOT.

RESULTS

Benefits of SCAT improvements include:

- Reduced delay.
- Shorter lines of stopped vehicles.
- Air quality improvement through reduced stops and starts.
- Reduced complaints to agency staff.
- Postponement of physical improvements for increased street capacity (i.e. additional lanes).

HLR has extensive experience with the latest traffic evaluation software, including Synchro/SimTraffic, CORSIM, Transyt-7F, HCS, etc.

