Firm Qualifications

Albeck Gerken, Inc. engineers are the leaders in building and analyzing Synchro networks. Albeck Gerken, Inc. has performed many successful traffic engineering projects using the Synchro program.

Albeck Gerken, Inc. engineers have instructed over 1000 City, County, State, and consultant traffic engineers how to use the Synchro program effectively to time and coordinate signalized intersections.

Costs Involved

Building and maintaining a city-wide Synchro network is an investment to be utilized and improved during each subsequent traffic engineering project. The investment of resources to development the Synchro model network (traffic counts, geometry inventory, existing signal timing, etc.) and maintain staff skills is substantial but it will quickly prove a worthwhile investment. Multiple fee arrangements can be worked out.

Project Deliverables

At the completion of a typical Synchro network development project, the following deliverables will be provided:

- electronic Synchro files for the analysis periods studied
- any electronic streamlining files developed for your data management such as:
  - input translation from traffic data counters
  - output measures of effectiveness
  - output signal timing parameters in your controller specific format
- any requested training, can be tailored to a turnkey operation or Synchro specific
- a maintenance agreement outlining any follow up work, if desired

FIRM PROFILE

Albeck Gerken, Inc. specializes in microcomputer applications in the traffic engineering field, providing expertise in the following areas: traffic signal timing, traffic engineering training services, traffic signal and system design, traffic impact analysis, traffic safety analysis, and specialized microscopic simulation.

John Albeck and Jeff Gerken set out to redefine the relationship between consultant and project owner. Our goal is to provide our clients with options, enabling the stakeholders to make informed decisions about the future of their transportation network.

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Contact Information

To visit with Albeck Gerken, Inc. about developing a Synchro model network for your jurisdiction, or other transportation engineering projects, please contact us.

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Traffic Engineering Tools

Synchro Model Development Brochure

Albeck Gerken, Inc.
TRANSPORTATION ENGINEERS

Albeck Gerken, Inc. is sending you this literature to provide you with some background information on developing a Synchro network to better optimize your traffic signal system timings, improve your outsourcing and consultant project turn-ins, and to save your jurisdiction financial resources in the long run.

Purpose

As vehicle demand increases on our roadways and the funding to provide additional capacity to these systems decreases, other cost effective measures are required to improve the efficiency of the roadway system. This has prompted many organizations to look at the relatively low cost option of coordinating and/or optimizing signal systems.

Uses and End Products

The traffic operations analysis software package Synchro can be utilized to:

- develop surface transportation network models (arterial street networks, downtown grid networks, and freeway interchange operations) for managing traffic signal timing and the associated data
- analyze current network traffic operations (signalized and unsignalized intersections) – benchmark and identify those intersections or corridors with the worst operations
- analyze future network traffic operations due to traffic growth or development – forecast the impacts to a system as well as individual intersections
- analyze impacts of network design considerations – determine the most effective design alternatives for the least cost, and
- optimize traffic signal timings (cycle, offset, split) for both arterials and grid networks.

Synchro is the most widely used traffic signal optimization package used today. Synchro is easy to learn and use but is comprehensive in its analysis, enabling engineers to spend more time performing analysis than entering data and correcting input mistakes. Database features allow for electronic automation from the onset of a project (through electronic data interface) to the analysis output (using spreadsheets to organize output measures of effectiveness).

Many consultants perform traffic impact studies and improvement studies using the Synchro package. A jurisdiction can develop a comprehensive Synchro network by starting with a core Synchro network then merging each new study.

Anatomy of a Synchro Model Development Project

Step 1 – Traffic Operational or Geometric Concerns are raised

- A need for traffic operations analysis is identified
- A proactive review of traffic operations is performed

Step 2 – Data Collection

- Traffic counts for all peak periods involved
- Network geometry inventory
- Traffic control inventory including existing traffic signal timing
- Any other pre-project data points (travel time runs, saturation flow rates, etc.)

Step 3 – Building the Synchro Model

- Coding the model into the Synchro program
- Verifying the model operations to the existing operations using various electronic automation steps to ensure what is coded is what is in the field

Step 4 – Performing Analysis

- Benchmarking the current operations through macroscopic (Synchro) and microscopic (SimTraffic) analysis to determine not just Level of Service but queueing and blocking issues
- Developing alternatives analysis (traffic volume, geometry, or operations)

Step 5 – Post Processing

- Through electronic automation, detailed, understandable measures of effectiveness can be used to relay the desired point to engineers and well as laypersons
- Controller specific data setup can developed to ensure the Synchro timings translate to the specific equipment being used