Trafficware Capabilities
About CUBIC | Trafficware

CUBIC | Trafficware specializes in research, design, and development of electronic equipment and enterprise software to support the transportation industry. CUBIC | Trafficware’s almost four decades of industry expertise includes hands-on experience solving traffic management challenges around the world and earning the company a reputation for unmatched quality.

As a leader driving innovation in the traffic industry, CUBIC | Trafficware is building traffic management infrastructure for the next generation of Smart Cities. CUBIC | Trafficware has the fastest growing central management system as well as adaptive traffic control technology and most recently designed applications for the latest in Connected Vehicle technology for traffic signal systems.

CUBIC | Trafficware is based outside Houston, Texas, and is strongly positioned for future growth. Trafficware was recently acquired by industry leader, Cubic, as an integral part of their NextCity vision and Mobility as a Service (MaaS).

Manufacturing and R&D Excellence

CUBIC | Trafficware manufactures a full line of traffic equipment at its 100,000 squarefoot Technology Center.

The Company is unique among its peers because it is U.S. owned and still continues to design, manufacture and service all of its products in the United States.

Engineers in 90 countries rely on Synchro® software to optimize their traffic flow.
Product Showcase

CUBIC | Trafficware designs, engineers, and manufactures every major component used to control a signalized intersection.

Cabinets, Controllers & Signals

For nearly four decades, CUBIC | Trafficware’s cabinets have been refined and perfected through intensive customer use. The company specializes in manufacturing custom cabinets for its diverse range of customers.

Cabinets

CUBIC | Trafficware’s full line of cabinets comply with standards set forth by the National Electrical Manufacturers Association (NEMA) with hybrid cabinets designed using advanced technology and modularity to provide state-of-the-art transportation control. These cabinets meet or exceed the joint AASHTO/ITE/NEMA specifications for ITS Cabinets, and the cabinet’s modular design exemplifies interchangeability and ability to conform to present and future assemblies and applications. The company also has a full line of Caltrans approved 33X cabinets.

Controllers

CUBIC | Trafficware’s Series 900 traffic controllers are designed using highly developed electronics to ensure reliability, longevity, and superb performance in all signal control applications, and, most importantly, the company’s ATC Traffic Controller provides a platform for next generation traffic control. The controller has a TS2 shelf-mount configuration and uses a processor rated at more than eight times the performance that is required by the ATC standard. The Series 2070 controllers are specifically designed and engineered to Caltrans specifications.

Detection

Detection matters. CUBIC | Trafficware offers a wide variety of detection options for different situations and customer needs, including the revolutionary wireless Pod detection system, based on Massachusetts Institute of Technology (MIT) and CUBIC | Trafficware patents. CUBIC recently acquired Gridsmart, adding to its detection portfolio and believes this represents the future of detection to build a smart and flexible detection system positioned for the deployment of adaptive signal technology.
Leader in Central Management Systems
The most technologically advanced system in the marketplace today

ATMS builds upon the legacy of CUBIC | Trafficware’s central transportation management platform and delivers a powerful tool for monitoring and controlling an agency’s traffic control and ITS infrastructure. ATMS is equipped with a modern and intuitive interface and allows an agency to bring traffic network data into a single repository for a real-time, integrated view of traffic operations. ATMS utilizes more than 14 unique system modules for robust system capabilities and was recently integrated with Synchro traffic analysis and simulation software.

ATMS Modules

- **Adaptive Signal Control with SynchroGreen**: Reduces delay and travel time by adjusting signal timing plans in real-time based on current traffic conditions.
- **TSP**: Facilitates the movement of transit vehicles by automatically adjusting signal timings to minimize transit vehicle stops and delay, while also minimizing the impact on normal traffic operations.
- **High Resolution Data**: Detailed traffic controller information such as detector actuations, phase state, split changes, and reasons for termination are logged in a tenth of a second (0.10 second) resolution. This module conforms to the high resolution data logging system as promoted by Purdue University. CUBIC | Trafficware’s High Resolution Data Module includes several reports that may be customized by the user, including Purdue Coordination Diagrams (PCD), Phase Termination Charts and more.
- **Connected Vehicle**: Data provided by CUBIC | Trafficware’s signal controllers, sensors, and central management software, ATMS, is used to implement an immediate solution for vehicle-to-infrastructure (V2I) deployments. Auto manufacturers can incorporate traffic signal data into their telematics and in-vehicle information systems for Connected Vehicle applications.
- **StreetSync**: StreetSync is a field solution for laptops and tablets that allows users to wirelessly access signal controllers from the comfort and safety of their vehicle. It also allows users to synchronize data with the agency’s ATMS central server, even when the controller is not connected to the traffic signal network. This allows agencies to more efficiently maintain controller database integrity.
- **Emergency**: Displays vehicle positions on an interactive map and modifies signals for the entire emergency vehicle route, removing the “snowplow” effect during heavy congestion.
- **WEB**: An agency can port specific content from ATMS to the public internet to provide real-time traffic and congestion information to the public.
- **CMS**: Users can remotely program changeable message signs (CMS).
- **Assets**: A full-featured Asset Management System in order to track traffic control and ITS devices. This module incorporates the **TEAMS Asset Management System** in ATMS. Each asset can be associated with trouble reports, service records and maintenance records.
- **CCTV**: Provides CCTV (Closed Circuit TV) surveillance footage from standard IP, IV&C, and Cameleon cameras, and integrates directly with the ATMS user interface.
- **Other modules**: Disaster Recovery, Advanced Communications or Custom Solutions are available.
**Fastest Growing Adaptive Signal Technology**

**SynchroGreen®**

Real-Time Adaptive Traffic Management System

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**Adaptive Built for Traffic Engineers**

The SynchroGreen® adaptive traffic control system optimizes signal timing for arterials, side streets, and pedestrians through real-time adaptive traffic control. CUBIC | Trafficware’s field-proven solution is designed to reduce motorist travel time, delays, and stops. SynchroGreen maximizes the use of available roadway capacity, while also decreasing fuel consumption and emissions.

The SynchroGreen adaptive system was designed from the ground up by Trafficware engineers, for traffic engineers, drawing on the company’s decades of experience. In fact, thousands of traffic engineers around the world use our Synchro Studio to simulate and optimize traffic while the ATMS central management software is utilized by more than 200 cities globally to manage and control thousands of intersections. Together, this depth of experience provides a reliable and effective foundation to understand the complexity of optimizing traffic signal operations.

**SynchroGreen has proven performance and has yielded:**

- **Up to 40%** Reduction in Arterial Travel Time
- **Up to 35%** Decreased Travel Time Average on a Typical Weekday
- **Up to 38%** Decreased Peak Hour Travel Time
- **Up to 10%** Reduction in Total System Delay, Saving Commuters Over 16,000 Hours of Delay Annually

*Based on actual project results

SynchroGreen takes a holistic approach when optimizing traffic signals by considering side-street and pedestrian traffic, in addition to mainline traffic. SynchroGreen will allocate time to each vehicle and pedestrian phase in real time, without any additional modules.

**Smart Cities**

CUBIC | Trafficware has deployed hundreds of intersections of SynchroGreen adaptive across the world and more than 2,500 intersections with Connected Vehicle applications. One of Trafficware’s advanced adaptive installations is in **Palo Alto, California**, the home of Stanford University, Silicon Valley and renowned technology leaders.
Traffic Simulation Software

Used by traffic planners in more than 90 countries and taught in university curriculums.

The Synchro® Studio suite of products provides the best in traffic analysis, optimization, and simulation applications. The package combines the modeling capabilities of Synchro and the micro-simulation and animation capabilities of SimTraffic® with our 3D viewer to create the ultimate tool kit for any traffic engineer.

Synchro is a macroscopic analysis and optimization software application and supports the Highway Capacity Manual’s (HCM) methodology for signalized intersections and roundabouts. Synchro also implements the Intersection Capacity Utilization (ICU) method for determining intersection capacity. Synchro’s signal optimization routine allows the user to weight specific phases, thus providing users more options when developing signal timing plans. Because the software is easy to use, traffic engineers are modeling within days, thus adding to the number of reasons why Synchro remains the leading traffic analysis application.

SimTraffic

SimTraffic is a powerful, easy-to-use traffic simulation software application. SimTraffic performs microsimulation and animation of vehicular and pedestrian-related traffic. With SimTraffic, individual vehicles are modeled and displayed traversing a street network. SimTraffic models signalized and unsignalized intersections, as well as freeway sections with cars, trucks, pedestrians, and buses. Unlike a number of other modeling applications, SimTraffic animation is displayed while the simulation is performed. Data entry is intuitive and efficient. With a single mouse click, any data set created with Synchro can be used to run simulations within SimTraffic.

3D Viewer

Within 3D Viewer, users may utilize supplied models within the viewer’s library or add their own .3ds models to customize their scene. It is as close to reality as you can get without standing in the middle of an intersection.