CNTM

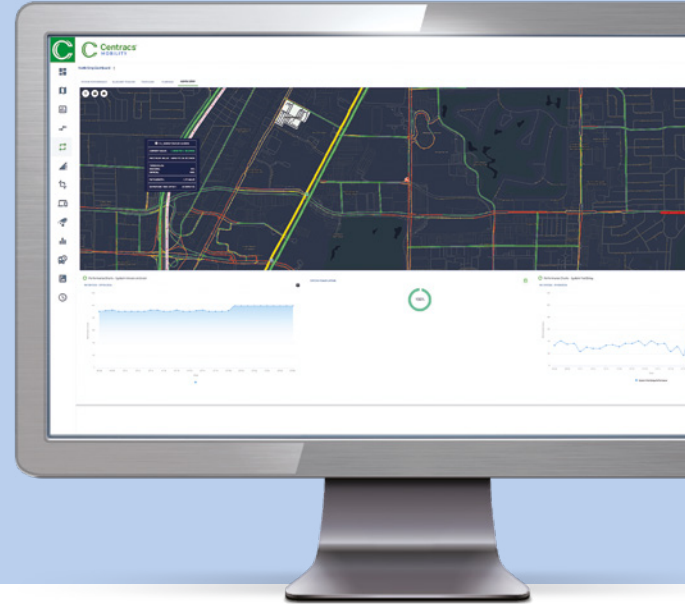# Centracs® MOBILITY
PLATFORM

Cloud-Based Advanced
Traffic Management System

ECONOLITE
part of **Umovity**

Solution overview: The industry-leading Advanced Transportation Management System (ATMS) platform

Econolite's Centracs® Mobility Platform is a comprehensive suite of powerful ATMS software solutions that combines the robust capabilities of Centracs with the cutting-edge functionality of Centracs Mobility. Since inception in 2009, Centracs has been the backbone of a large share of centrally managed traffic management systems, controlling thousands of signalized intersections for all sizes of Cities across North America. Our latest central system platform delivers unparalleled flexibility and scalability, supporting an array of system deployment options, real-time data analytics, third-party data integration, remote monitoring, and more to optimize traffic infrastructure operations and ensure peak operational efficiency.

Key features

Optimizations

- Real-time, dynamic COS adjustments (Centracs® Edaptive)
- Historical pattern-based time of day strategies (Centracs® Pattern Optimizer)
- Real-time, automated pattern-based optimization leveraging probe data (Centracs® Traffic Responsive)
- Predicted, automated pattern-based optimizations (Centracs® Traffic Proactive)

PTV Flows

- Advanced Machine Learning
- Detectorless insights and control
- Predictive traffic forecasts
- Automated traffic management via Centracs® Traffic Proactive
- Unmatched scalability and data depth

Metrics

- **Centracs® SPM**
  - SPMs and ATSPMs
  - 25+ different data set charts and graphs
- **Additonal Reports**
  - Transition Metrics
  - Preempt Metrics
  - Missing Data Metrics
  - Advanced System Reports
  - And more...

Signal Priority

- **Centracs® Priority**
  - TSP and EVP
  - Vehicle tracking
  - Dashboard service
  - Custom alerting
  - Vehicle class support
  - Deployment flexibility
  - GTFS Integration
  - Schedule sync
  - Advanced business rules

Video

- **Centracs® +Detect**
  - Supports Autoscope® Vision and EVO RADAR™
  - Real-time status, snapshots, and metrics
  - Advanced reports
- **Centracs® CCTV**
  - Visual monitoring of intersections and roadways
  - Compatible with a broad range of cameras
  - Up to 20 simultaneous video streams

Maintenance Management System

- **Centracs® MMS**
  - Task workflows
  - Project and task management
  - Assets and inventory
  - Maintenance and regions
  - Mobile app (iOS and Android)

Why Centracs Mobility: Improving and optimizing KPI performance of your system

Improved Traffic Flow and Reduced Congestion

KPI Impact: Traffic flow, travel time, delay reduction

- **Adaptive Signal Control:** Centracs Edaptive dynamically adjusts signal timings based on real-time traffic, reducing congestion and improving intersection coordination, leading to faster travel times

- **Traffic Responsive and Proactive Control:** Responds to and predicts varying traffic patterns, ensuring smoother flow during peak and off-peak hours

Enhanced Safety for all Road Users

KPI Impact: Accident reduction, pedestrian/bicycle safety, emergency response times

- **Emergency Vehicle Preemption:** Works to prioritize emergency vehicles at intersections cutting response times and potentially saving lives

- **Multimodal Classifications:** Provides detailed insights into intersection use by non-motorized road users, enhancing safety

Optimized Public Transit Operations

KPI Impact: Public transit reliability, passenger satisfaction

- **Transit Signal Priority:** Centracs Priority boosts public transport efficiency by minimizing delays at traffic signals

- **Real-time Transit Monitoring:** Equips transit agencies with the right tools to efficiently monitor and manage public transport vehicles
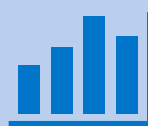
Air Quality and Environment

KPI Impact: Emission reduction, decreased fuel consumption

- **Eco-driving and Green Wave:** Encourages fuel-efficient driving by synchronizing signals to create green waves, reducing stops and starts

- **Emission Impacts from Optimization:** Monitors and reports on congestion and delay reductions; aids cities by lowering greenhouse gas emmisions and meeting sustainability goals

Data-Driven Decision Making

KPI Impact: Data utilization, time and cost savings, informed policy making

- **Comprehensive Data Analytics:** Delivers in-depth traffic and safety analytics to support informed traffic management decisions

- **Customizable Reporting:** Provides tailored reports for diverse stakeholders, from traffic engineers to city planners and executives

Increased Operational Efficiency

KPI Impact: Time and cost savings, resource optimization

- **Automated Monitoring and Alerts:** Minimizes manual monitoring with automated alerts for traffic incidents and equipment issues

- **Automated Actions:** Analyzes timings to generate automated recommendations, saving time, money, and man-hours for city traffic engineering departments

System capabilities

Data Collection and Analysis

- High-resolution data collection
- Real-time and historical traffic data analysis
- Automatic detector health analysis
- Traffic counts and reports (Centracs +Detect)
- V2X data collection and application support

Traffic Signal Optimization

- Adaptive signal timing optimization (Centracs Edaptive)
- Pattern-based signal timing optimization (Centracs Pattern Optimizer)
- Traffic responsive and proactive algorithm for real-time and predictive adjustments

Monitoring and Alerting

- Heat map for visual device performance analysis
- Hot spots for quick issue identification
- Real-time alerts and notifications
- Alert escalations and on-call schedules
- Automated response to system events (action sets)

Reporting and Visualization

- System performance dashboard traffic flow and congestion reports
- Signal performance and optimization reports
- Device and detector performance reports
- Customized, flexible data visualization and reporting tools

System Configuration

- Intersection and corridor configuration tools
- User management and access control
- Real-time device status monitoring and advanced management
- Signal plan scheduling and event planning
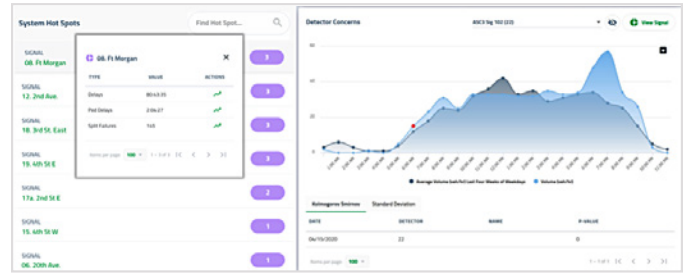- Configuration of detection zones and parameters

Security and Reliability

- Secure data encryption and storage user activity logging and audit trails
- Compliance with data protection regulations
- System redundancy and failover mechanisms
- Performance and reliability monitoring
- Regular software updates and maintenance schedules
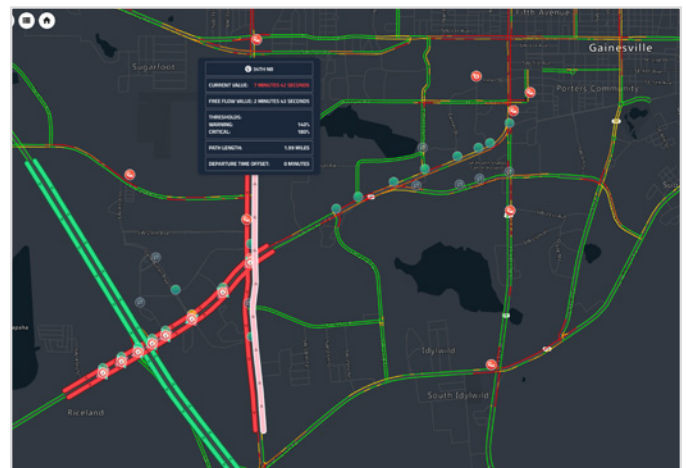
Additional key features

System Overview

- **System Performance Dashboard** – Provides an "at-a-glance" view of the health of your system during the past 24 hours

- **Heat Maps** – Shows degraded signal performance for selected metrics in your system and checks them against defined guidelines

- **Hot Spots** – Intersections organized by the highest number of flags for quick location of specific issues

- **Detector Concerns** – Provides automated detector failure monitoring and alerting including historical trend analysis and anomaly detection to help you keep up with any issues as they occur

System Performance Dashboard

Custom Maps

- **Custom Map Layers** – Choose from eight different map configuration styles and base maps with flexibility to import custom map layers from OpenStreetMaps as well as WMS (Web Map Service)

- **Travel Time Reports plus Forecast** – View travel time and forecast travel time estimates for your entire road network continually updated in real-time through our cloud-based vehicle probe data partners and through the integration of PTV Flows' Machine Learning (ML)-powered forecasting model

- **MOE Status Coloring and Filtering** – Customize how you visualize status with the ability to color by measures of effectiveness including arrivals on green, and vehicle or pedestrian delay

Future Travel Times Map Layer (via PTV Flows)

Compare Tool

- **Flexible Date Ranges and Metrics** – Compare data for two different dates or date ranges for one or more corridors, utilizing more than 25 available system metrics

- **Historical Analysis** – Quickly determine whether timing plans and other changes have improved or worsened traffic over time

- **Before/After Studies** – Use for evaluations of any changes and/or system enhancements
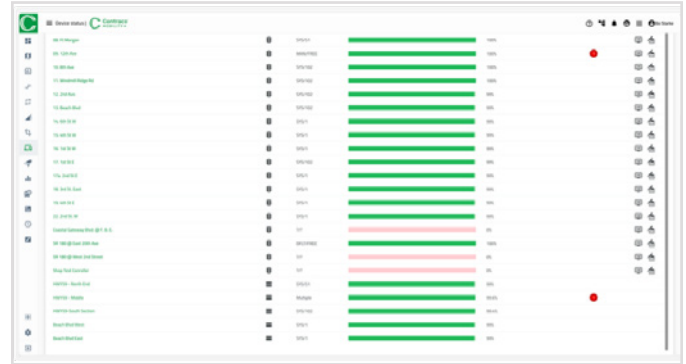

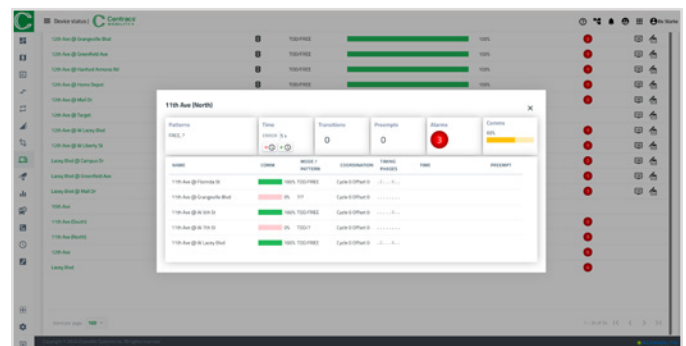*Compare Metrics across Time Ranges*

Device Status and Management

- **Real-Time Status** – Real-time status of all devices in the system and view detailed information for each device:

  - Current status (e.g., pattern, if a signal is in coordination)

  - Communications status (green indicates online and red or pink indicates offline)

  - Alerts or alarms generated by that device

- **Access Command/Control Functions** – Troubleshoot devices through powerful management options including direct access to the controller Remote Front Panel and database editor

Real-Time Device Status and Management

In addition to supporting full management capabilities for Econolite's traffic signal controllers, including ASC/3 and Cobalt®, and EOS controller software, Centracs and Centracs Mobility also offer support for various third-party controllers including hardware from D4, Yunex Siemens, Cubic Trafficware, and Q-free Intelight.
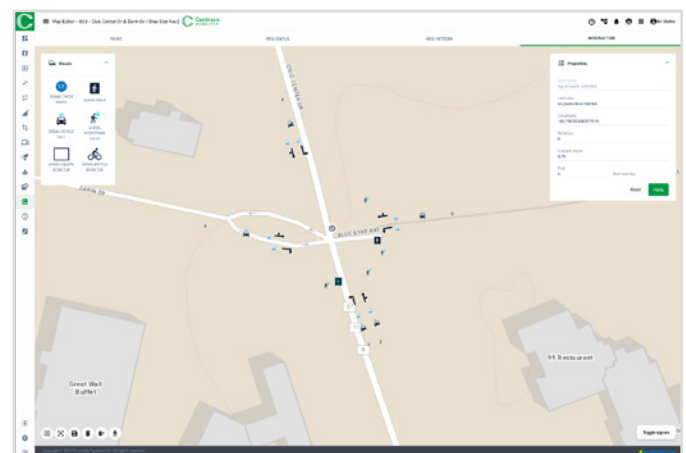
Centracs Mobility offers a full-featured NTCIP 1202-compliant database editor and is flexible to accommodate any NTCIP-compliant hardware in your region. It also includes various vendor-specific functionality. For more information, please contact sales@econolite.com.

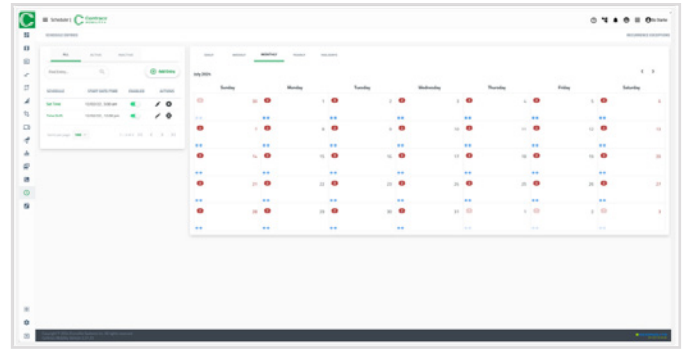*Third-Party Device Management Support*

Map Editor

- **Status Information Icons** – Add icons to display phase indications, detector calls, and more on the map

- **Four Zoom Levels** – Different visuals available at Point, MSG Status, MSG Pattern, and Intersection zoom levels

- **Drag and Drop Visuals** – Easily place and define properties for visuals on the map using a drag-and-drop interface

- **Navigation and Editing Tools** – Includes tools for enabling lasso, centering, saving, deleting, and importing visuals

- **Import and Toggle Signals** – Import visuals from other signals and toggle between signals on the map

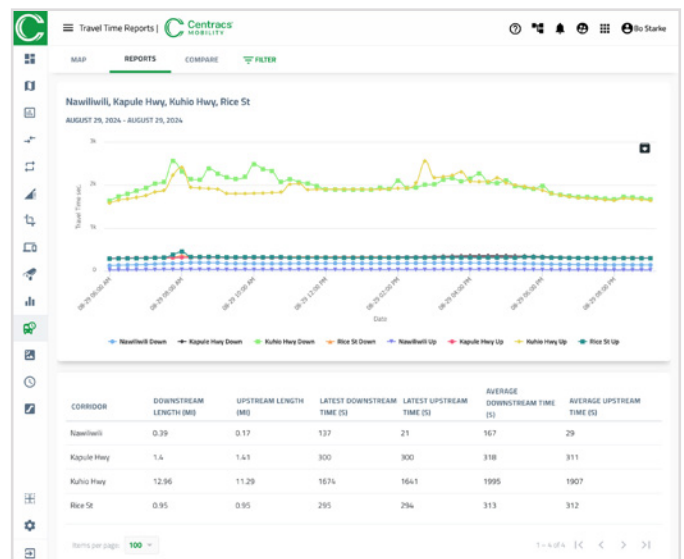
Map Editor Intersection-Level View

Scheduler

- **Event Scheduling** – Schedule one-time or recurring events including Action Sets, Preempt, Set Pattern, Set Time, Special Function, Time Drift, and Traffic Responsive with options for daily, weekly, monthly, yearly, or specific holidays

- **Easy Event Management** – Add, edit, enable, disable, or delete events using simple controls like Add Entry and Pencil Icons

- **Recurrence and Priority Settings** – Define event recurrences and set priority levels and apply to multiple signals

- **Calendar View** – View and filter scheduled events by day, week, month, or year on an intuitive calendar interface

- **Exception Handling** – Create exceptions for holidays or special days to modify normal traffic patterns

Scheduler Calendar View

Travel Time Reports

- **Global Coverage** – Get travel times for highways, primary roads, and secondary roads across your entire network with our extensive cloud-based probe data services that stretch the entire globe

- **Real-time Monitoring** – Configure as many travel time corridors for real-time monitoring as desired in our map-based interface

- **Before/After Studies** – Determine the impact of signal timing modifications, special events, natural disasters, and more on travel times

- **Flexible Reporting** – Visualize travel time trends across corridors and compare performance for roadways of interest across your road network

Travel Time Report Example

Interested in learning more about Centracs® Mobility?

Our experts will be happy to speak with you and answer all of your questions.

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Email us

sales@econolite.com

More info

econolite.com/solutions/software

Request demo

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