Border Crossing Management (BDR) – Manages border crossings by calculating crossing times and balancing traffic. Integrated with DMS and Decision Support modules, operators can handle messaging and responses when border delays exceed a threshold, triggering notifications and mitigation strategies.

Asset Management System (AMS) – Streamlines traffic and maintenance operations by using AI video and vehicle technology to automatically detect infrastructure conditions, such as pavement quality, potholes, sign damage, and overgrown vegetation. Integrated into the traffic operator's workflow, it offers a unified interface to view and manage work orders for ITS equipment and other defects.

External System Modules

Center-to-Center (C2C) – The gateway for exchanging data between iNET® and external systems, such as other agencies and municipalities. Built on industry standards, it facilitates information sharing with neighboring agencies and supports modern REST interfaces for easy integration by third-party developers.

Work Zone Traffic Management (WZ) – Improves management within work zones through ITS technologies and work-zone management strategies. Key features include Work Zone Data Exchange (WZDx), VSL controls, speed, event monitoring, and GPS tracking of portable ITS devices.

Mobile (MOB) – A mobile-friendly view of the iNET® platform, enabling the control of functions like CCTV, DMS, service patrol, and event entry from tablets and smartphones. It also allows regional travelers to check traffic conditions on their mobile devices.

Advanced Traveler Information System (ATIS) – The public dissemination feature enables the public to view real-time traffic conditions via a web page and on mobile devices.

Toll System (TOLL) – Enhances toll road traffic management by integrating with third-party tolling systems through two-way communication. It includes calculating toll rates, monitoring and controlling cameras, and utilizing dynamic message signs.

Integrated Data Environment (IDE) – Serves as a centralized Data Hub and Data Mart, enabling real-time storage and exchange of all information using standard REST or C2C interfaces.

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PARSONS®

iNET®

SMART MOBILITY PLATFORM

Optimized For Any Road Or Mode

Module Guide

PARSONS®

Intelligent NETworks® (iNET®), our industry-leading transportation management platform, improves operations, efficiency, and safety across all modes of transportation. This modular solution is customizable and scalable, designed to meet our clients where they are, regardless of the size of their operations.

Base Modules

Maps (GIS) – A real-time interactive mapping interface for easy access to sensors, traffic devices, and events. It integrates with customer GIS systems, overlaying their data with other transportation datasets, and supports mapping sources like ESRI, Azure, Google, OpenStreets, and Bing.

System Administration and Security (SAS) – Addresses the security and operational needs of transportation agencies, providing role-based access control (RBAC), user account management, and granular control privileges. Global settings allow extensive customization of the system.

+ SAS Module Add-on

Sidekick – AI-powered virtual traffic operator that helps answer questions about standard procedures, help documents, and application data. It quickly assesses inquiries, provides valuable information, and summarizes responses, enhancing operator efficiency.

Device Control and System Interface Modules

Internet of Things (IoT) – Easily communicate with IoT devices and third-party engines to ingest data from Smart City devices, such as smart lighting sensors, flashing beacons, air quality monitors, and more, providing agencies a unified view of city activity.

Vehicle Detection System (VDS)/Congestion Monitoring – Integrates with a variety of vehicle detection technologies and probe data sources to monitor real-time traffic conditions by analyzing speed, volume, occupancy, and vehicle classification.

Dynamic Message Sign (DMS) – The module communicates with fixed and portable DMS signs of varying sizes to disseminate information to motorists. With full color, graphics and layout capabilities, agencies can quickly develop messages for motorists with pixel-perfect precision. iNET® has a large library of DMS device protocols, including National Transportation Communications for ITS Protocol (NTCIP) Standards, and other proprietary protocols.

Video/Closed-Circuit Television (CCTV) – End-to-end solution for camera management, including PTZ controls, presets, tours, recording, locking, media blocking, user priority override, and video wall control.

Highway Advisory Radio (HAR) – Communicates with HAR transmitters and beacons to disseminate real-time traffic information to motorists via standard AM/FM radio signals. It allows traffic operations to compose radio messages ad hoc or via coordinated incident response, activating both radio transmitters and associated flashing beacons for message delivery.

Automatic Vehicle Location (AVL) – Displays real-time vehicle locations and other asset locations on the map. It tracks fleet vehicles, including patrol trucks, buses, trains, snowplows, and other AVL-equipped vehicles, enabling quick dispatch of emergency responders.

Environmental Sensor Station (ESS) – Monitor real-time weather, including temperatures and wind data, from roadside weather stations and services such as the National Weather Service. Color-coded icons on the map quickly alert users of hazardous conditions.

Ramp Metering System (RMS) – Monitor and control ramp metering systems. It allows for manual control and utilizes adaptive algorithms such as fuzzy logic, SWARM, and CARMA.

Traffic Signal System (TSS) – Traffic signal monitoring and control system with adaptive, AI-based responsive and time-of-day traffic signal control functionality. The system includes real-time analytics, arterial traffic signal performance measures, and integration with other modules such as RMS and Decision Support.

+ TSS Module Add-ons

Intelligent Responsive (IR) – Leverages AI to evaluate current traffic conditions against historical patterns over several inputs to automate signal timing plans. This streamlines automation of transit arrivals, ferry operations, sporting/special events, and general city operations.

Intelligent Intersections (ATSPM) – Enables standard ATSPM reports and uses probe data for timely signal timing recommendations, reducing manual retiming efforts and intervals to as little as 3 months.

Signal Priority (SIGP) – Enhances intersection management using GPS/AVL technology. The add-on utilizes GPS-based technologies to help prioritize transit, emergency, freight and other vehicle types, thus minimizing travel delays.

Connected and Autonomous Vehicles (CAV) – Enables iNET® to receive and transmit CV messages. They integrate with DSS response plans to identify notification zones, RSUs, and devices to send Traveler Information Messages. They also support a variety of CV use cases, including bus shoulder lane prioritization, speed harmonization, and queue warning.

Tunnel/SCADA (TUN) – Integrates freeway and tunnel operations, offering a "single pane of glass" view into complex tunnel systems. It manages tunnel events using cameras and signage, while incorporating traditional SCADA devices such as ventilation systems, pump stations, fire suppression, CO sensors, and portal signals for centralized management in an integrated environment.

Winter Maintenance (SNOW) – Monitor and control snowplow maintenance operations in the field. The module receives information from the operator, spreader controller, GPS receiver, and plow blade sensors, which is made available in iNET® via an integrated cellular data modem.

Safety Service Patrol (SSP) – Manage the freeway safety patrol program with GPS/AVL tracking, routing, dispatch, assignment, shift details, incident/assist details, and reports. When combined with the Event Management (EM) module, the system becomes a single point of management for traffic and safety patrol operations.

Weigh-in-Motion (WIM) – Collects data from the WIM devices, which capture and record truck-axle weights and gross vehicle weights as trucks drive over vehicle sensors.

Intelligent Parking (PARK) – Integrates with smart parking systems, including truck parking areas, park-n-ride lots, and parking garages, to help users find available parking. It uses various data sources, such as integration with an existing central system, in/out counters, video analytics, and single-space monitors using hardwired or wireless sensors.

Computer-Aided Dispatch (CAD) – Interfaces with CAD systems from various agencies (e.g., highway patrol, police, and fire) to display critical roadway event information in real time, feeding data into the EM and DSS modules for rapid tracking and response.

Advanced Management Modules

Active Traffic Management (ATM) – Controls traffic demand to optimize the use of transportation capacity through various strategies, including variable speed limits (VSLs), dynamic lane management and shoulder use, queue-end warning, reversible lanes, ramp metering, and junction control.

Automatic Incident Detection (AID) – Shortens detection and management time for events by automatically identifying abnormal conditions such as congestion and incidents. The module uses various detection algorithms, including AI machine learning, APID, and video analytics to alert operators about hazardous conditions.

+ AID Module Add-on

Traffic Anomaly Detection – The AID module utilizes AI and Machine Learning to analyze historical iNET® data, such as weather, traffic, and incidents, enabling early incident prediction and hotspot analysis. This enhances traffic operations' response and clearance times.

Event Management (EM) – Enables traffic operators to manage scheduled and unscheduled events. It provides templating capabilities and many customizable data fields, enabling custom forms to track and manage incident/event characteristics such as lane types, blockage patterns, and impacts. It integrates with other modules, such as SSP and Decision Support, to provide automated event response plans.

Congestion Signing/Travel Times (TT) – Defines travel segments, calculates their travel time, and posts the information to DMSs and APIs. Key features include machine-learning predictions, customizable destinations, multi-route options, scheduling, and over 20 formatting choices including full-color graphics.

Predictive (PRED) – Harnesses the power of artificial intelligence to provide traffic flow prediction and decision support. It enables the display of speed, volume, level of service, and V/C ratios across 15-, 30-, 45-, and 60-minute prediction windows.

Decision Support System (DSS) – Quickly respond to events with recommendations for ITS devices, automatic notifications, emergency vehicle dispatch, and communication with management and agencies. Key DSS features include automated responses based on various sensor inputs and locations, allowing for automation of recurring situations. The iNET® DSS's configurable rule engine lets agency administrators manage responses through a self-service, intuitive interface.

Data Analytics Platform (DAP) – Offers detailed reports and dynamic dashboards for collected data. Reports can be viewed in the system and exported as CSV, Excel, or PDF. The DAP module enables agencies to track Key Performance Indicators (KPIs) like freeway delays, event clearance times, construction progress, and ITS device health.

Video Analytics (VA) – Utilizes Parsons' video analytics tools for automated detection of scenarios including vehicle presence, speed, stopped vehicles, counting, pedestrian detection, train detection, and wrong-way driving. It processes video from any CCTV camera for analytics without relying on third-party tools or specialized cameras.