I-15 Integrated Corridor Management

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Frequently Asked Questions

What is the San Diego I-15 Integrated Corridor Management (ICM) project?

The ICM project is a multi-agency and multimodal system that allows us to make best use of our existing and transportation networks, maximizing efficiency now and in the future. This innovative multimodal traffic management system brings everyone to the table to work together to maximize the use of modal networks at a corridor level to improve travel times and corridor reliability regardless of who owns and operates each system.

The ICM project area covers a 20-mile section of Interstate 15 (I-15) from just north of State Route 52 in the City of San Diego to State Route 78 in the City of Escondido, and includes the state-of-the-art I-15 Express Lanes and major arterial routes on either side of I-15.

The ICM system can be summarized as the integration of real-time monitoring, control, and management of multimodal systems that - when working together - can smooth/better manage the flow of traffic and improve traveler information. The ICM system allows for 1) the freeways, arterials, and transit systems to talk and share information with each other in real-time, 2) implementation of coordinated response plans to eithereliminate or reduce congestion, 3) and provision of enhanced traveler information to communicate travel options, modes, and routes.

Why was the I-15 ICM project implemented?

The ICM project places emphasis on how we can best manage and operate our freeway, arterial, and transit management technologies to improve travel times and throughput, particularly when we know that we cannot build our way out of congestion due to cost, environmental, or diminishing federal or state funding resources.

The ICM system will help transportation operators to work together to rapidly respond to conditions on the ground at any given time, and provides a cost-effective traffic management tool that leverages existing transportation systems to work together to better manage congestion, maximizing efficiency of the surface transportation network by smoothing the flow of traffic on streets and highways and enhancing public transit information, thus reducing stop and go traffic, reducing travel times, and enhancing travel modal and routing options. Our commitment to the ICM strategy is a fundamental and core component of the SANDAG Regional Transportation Plan's Transportation System Management vision.

In short, Integrated Corridor Management:

- Is the next logical step in congestion management
- Optimizes existing transportation infrastructure along a corridor, making transportation investments go farther
- Enables travelers to make informed travel decisions and dynamically shift modes during a trip
- Reduces travel time, delays, fuel consumption, emissions, and incidents
- Increases travel time reliability and predictability

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How was the I-15 ICM project funded?

In 2010, the San Diego region was selected as one of two sites in the nation (the other is Dallas, Texas) by the USDOT to receive a grant for $8.7 million to implement an Integrated Corridor Management (ICM) system. Since then, SANDAG has been working together with our partners (Caltrans, Metropolitan Transit System, North County Transit District, and the cities of San Diego, Escondido, and Poway) to design and implement the innovative ICM traffic management system.

How does the I-15 ICM system work?

The ICM project leverages the region's extensive Intelligent Transportation System (ITS) modal networks to measure and manage performance from a corridor perspective. Existing assets include the Intermodal Transportation Management System (IMTMS), Regional Arterial Management System (RAMS), Advanced Freeway Traffic Management System (ATMS), Regional Transit Management System (RTMS), 511 advanced traveler information system, and FasTrak®. The ICM project enables these systems to talk to each other and work together to collect, analyze, and share data and implement response plans in real-time to make use of our existing freeway, arterial, and transit infrastructure.

Operations in the corridor are managed using a Decision Support System (DSS), the first of its kind developed in the nation, to assist operators with prediction and evaluation of complex traffic interactions and coordinate selection of appropriate multi-network response strategies to manage congestion during commute times or major incidents.

Similar to earthquake or tsunami prediction systems, the DSS uses predictive algorithms and modeling tools to forecast corridor performance problems and recommend response plans. Predictions and recommendations are generated in 15-, 30-, and 60-minute horizons based on real-time and historical performance data. As a result, local transportation managers are able to carry out a coordinated response. For example:

- The ICM system provides the ability to coordinate the use of the I-15 Express Lanes system in with Caltrans' changeable message signs, 511 traveler information, ramp meters, and arterial signal systems to bypass major incidents or during day-to-day traffic conditions to manage congestion.
- During an incident on I-15, timing of traffic signals and ramp meters can be adjusted to improve overall corridor throughput for better management of traffic entering or exiting the freeway system.
- With ICM, roadway traffic signals are set up to be coordinated automatically across jurisdictional boundaries to improve the flow of traffic as needed during traffic incidents.
- With ICM, ramp meters will be used to better manage the flow of traffic during morning and evening commute times or as needed during freeway incidents by flushing or managing traffic through or around a freeway incident.
- With ICM, traveler information will be enhanced to provide advance notifications on travel conditions based on reported events (i.e., lane closures due to accidents or stalled vehicles) or traffic delays due to excessive congestion and enhance transit route information based on real time data.
- With ICM, freeway changeable message signs and the 511 San Diego app will be used to communicate congestion events, traffic conditions, and alternate roadway diversion routes.

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How will the I-15 ICM project improve my commute?

The ICM system will assess real-time conditions and quickly make recommendations about what strategies are best suited to manage congestion and minimize impacts to travel times and overall efficiency of travel. Due to improvements in reliability and predictability of travel, the ICM project will result in a reduction in travel times, delays, fuel consumption, and emissions. The ICM project will serve as an example of how to come together across modes and agencies to make best use of technology assets to improve regional mobility. The ICM system will provide:

- Better real-time pre-route or on-route traveler information through the 511 San Diego mobile app, which will include: providing travelers with commute choices including taking transit, real-time incident notifications, and trip re-routing options.
- Better management of traffic entering and exiting the freeway system through better coordination of ramp meters and arterial signal timing; reducing stop-and-go traffic; improving overall corridor travel times.
- Enhanced on-route information will be provided via freeway changeable message signs to communicate congestion events, traffic conditions, and key alternate roadway diversion routes.