U.S. Department of Transportation
Federal Highway Administration

Photo Source: Getty Images

What is INTEGRATED CORRIDOR MANAGEMENT?

MOBILITY

Integrated corridor management (ICM) is an approach designed to actively monitor for atypical recurring and nonrecurring events that impact traffic on the most visibly congested highways or freeways that define a corridor. Because of near constant congestion, even minor events on an anchor facility can have a huge impact.

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ICM requires the institutional, operational, and technical integration of as many participating agencies as are available to combine their assets into one unified real-time response. **A corridor is defined as the bounded "travel shed" of (mostly) commute and daily trips** that are germane to the subject artery highway and the subordinate parallel and coexistent modes and routes that are also germane to that shed. A travel shed is the boundary of all last-mile trips that have a high feasibility of using the subject facility. Each unique travel shed, then, would have its own different ICM partners, including all proximate department of transportation regional transportation management centers, cities, or boroughs along that corridor as well as the agencies that operate in or oversee each individual shed. A neighboring travel shed of another, distinct ICM corridor would have a new mix of partner agencies and would be as different from the first one as it would be from a different region or State.

ICM is neither nominal (i.e., day-to-day) traffic management, nor traditional incident response (i.e., a detour) on a highway, as those terms are typically only reactive and previously did not include ICM's proactive engagement of other agencies' assets on parallel routes or alternate travel modes. This engagement is characterized by actively changing signal timings, promoting (and if need be, temporarily increasing) transit alternatives, providing bus bridges, modifying toll rates, changing ramp meters, and generally flexing the entire corridor to absorb the congestion event rather than merely responding only in the vicinity of the event on the subject anchor highway.

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ICM IN ACTION

NORTHERN VIRGINIA ICM CORRIDOR PROJECT

The Northern Virginia ICM corridor project is anchored by I-66, although the larger corridor includes parallel routes US 50, Rt. 7, SR 267, US 29, US 15, the VA rail Express (VRE), METRO rail and bus, and at least four county-sponsored bus systems, to name a few. The travel shed of relevant trips encompasses parts of Loudoun County, Fairfax County and City, Arlington County, and a portion of Prince William County. I-66, as the targeted and monitored facility, directly or indirectly serves the economies of four incorporated cities as well as two business districts and one of the largest international airports on the east coast. It also provides a major commuter artery into and out of Washington, D.C. Ideally, any or all of the partner resources could act in concert as mode or route alternatives, respectively, in the event of a major congestion event on I-66. That premise is the nexus of ICM.

Even with a battery of advanced improvements, including HOV lanes, peak hour shoulder availability, and other active traffic management deployments (e.g., gantry mounted dynamic message signs, variable speed limits, traffic cameras, incident and queue detection, etc.) at times even a minor crash or congestion event shuts down any of those efficiency gains. When a sufficiently egregious congestion trigger presents itself (via real-time monitoring) then ICM deploys (via a decision support system-driven response) all participating and available transportation-partner assets. An important element of this deployment is real-time traveler information to advertise, encourage, and, most importantly, concurrently effect a solution. ICM offers a mechanism by which partners are able to lessen their own otherwise strict precepts to increase the number of available alternate routes, and even modes, to shorten the intensity and duration of the event on I-66.

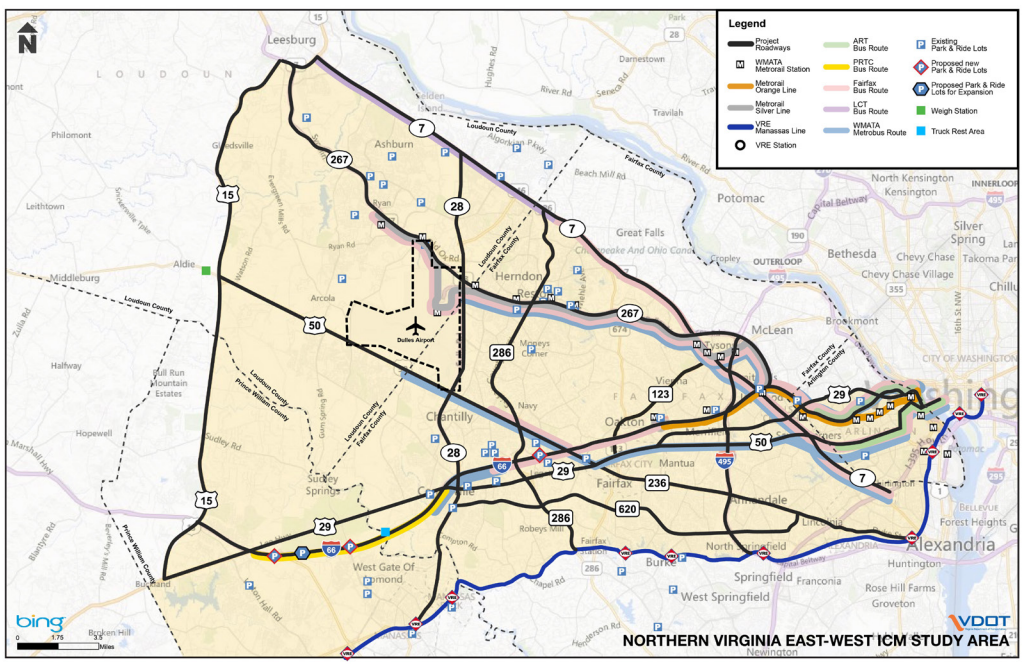

Figure 1. The Northern Virginia East-West ICM Study Area.

Additional information at: https://ops.fhwa.dot.gov/program_areas/corridor_traffic_mgmt.htm

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