

WHAT IS THE *COORDINATED FREEWAY AND ARTERIAL OPERATIONS HANDBOOK?*

The purpose of the *Coordinated Freeway and Arterial Operations Handbook* (FHWA-HRT-06-095) is to provide direction, guidance, and recommendations on how transportation agencies can proactively and comprehensively coordinate freeway and arterial street operations. The first of its kind, this introductory handbook focuses on coordinating the operations of various types of facilities that typically are operated by separate organizations with separate missions. It also can assist with the advanced planning and management of travel on freeways and arterials with various kinds of congestion, such as high traffic volumes from special events or work zone-related lane closures. The handbook's audience is transportation professionals involved with legislation, policy, program funding, planning, design, project implementation, operations, or maintenance. The handbook is available on the Transportation Management Center (TMC) Pooled Fund Study Web site at http://tmcpfs.ops.fhwa.dot.gov/cfprojects/new_detail.cfm?id=48&new=0.



USE ALTERNATE ROUTE

FOR MORE INFORMATION

This project was funded under the TMC Pooled Fund Program. To find out more about the TMC Pooled Fund Study, visit <http://tmcpfs.ops.fhwa.dot.gov> or call the toll-free FHWA Operations Help Line at 866-367-7487.

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COORDINATED FREEWAY AND ARTERIAL OPERATIONS



U.S. Department of Transportation
Federal Highway Administration

WHAT ARE COORDINATED FREEWAY AND ARTERIAL OPERATIONS?

Coordinated freeway and arterial (CFA) operations are the implementation of policies, strategies, plans, procedures, and technologies that enable transportation practitioners to manage traffic on freeways and adjacent arterials as a single corridor, rather than as individual transportation facilities. The result of CFA operations is improved mobility and safety and reduced environmental impacts throughout the corridor.

WHY ARE COORDINATED FREEWAY AND ARTERIAL OPERATIONS NEEDED?

Separate entities with different missions, goals, and objectives have historically operated the surface transportation system. State governments manage and operate freeway facilities and major arterials, while city or county governments manage and operate secondary arterials, collectors, and local streets. In addition, first responder services typically have their own goals, objectives, and responsibilities, which may differ from those of other agencies.

A consequence of this complex arrangement is that transportation corridors may function from a single agency or facility-specific perspective, leading to less-than-optimal operations compared with corridors using a systemwide approach. Most travelers view transportation as a systemwide, seamless corridor.

BENEFITS OF COORDINATED FREEWAY AND ARTERIAL OPERATIONS

Many studies document the benefits of coordinating the operations of transportation systems. For example:

- ▼ In Anaheim, CA, simulated deployment of alternative corridor response plans predicted a significant reduction in travel time and stops.
- ▼ In San Antonio, TX, simulated deployment of corridor response plans for integrating incident management activities, dynamic message signs (DMS), and signal timing plans using coordinated freeway and arterial management also predicted a significant reduction in delays.
- ▼ In Seattle, WA, simulated deployment of an advanced traveler information system along the northern part of the Interstate 5 corridor predicted a modest reduction in delays.

Although the benefits of CFA operations may be difficult to calculate, it is likely that in a corridor with thousands of commuters, a modest reduction in travel time may lead to significant quantitative and qualitative benefits, including:

- ▼ Safety
- ▼ Mobility
- ▼ Quality of life
- ▼ The natural environment

“Agencies that shift from an agency perspective to a system perspective optimize not only the overall system but likely their own roadways as well.”

Excerpt from the *Coordinated Freeway and Arterial Operations Handbook*

WHEN ARE COORDINATED FREEWAY AND ARTERIAL OPERATIONS APPROPRIATE?

In the broadest sense, coordinated operations may be beneficial on any corridor that experiences recurring or nonrecurring congestion. In particular, CFA operations may improve travel in corridors experiencing motor vehicle collisions and incidents, construction and lane closures, special events, or recurring congestion. These sources of congestion lend themselves to four areas of opportunity to implement CFA operations:

- ▼ Traffic incident management
- ▼ Work zone management
- ▼ Planned special events management
- ▼ Day-to-day or recurring operations

Each cause of congestion noted above presents its own unique challenges when it comes to managing traffic operations. However, CFA operations strategies can be applied to help overcome the congestion. In addition, combining CFA operations strategies with traditional traffic engineering and management approaches will further optimize safety and throughput in the corridor.

