

Ideas and Resources for Reducing Traffic Congestion

National Association of Counties – February 2011
NACo Congestion and Road Safety Management Project

Traffic congestion cost Americans \$87.2 billion, more than \$750 for every U.S. traveler, in wasted fuel and lost productivity in 2007, according to the 2009 Urban Mobility Report from the Texas Transportation Institute. The total amount of wasted fuel topped 2.8 billion gallons and the amount of wasted time totaled 4.2 billion hours, nearly one full work week for every traveler.

NACo Resources

Webinar Recording- The True Cost of Traffic Congestion, What Can Your County Do

Conducted on December 2, 2010

www2.gotomeeting.com/register/849287570

County News Article - for December 14, 2009- Lake County takes PASSAGE to relieve road congestion.

www.naco.org/programs/csd/Documents/Rural%20Roads/CNart-121409-PASSAGE.pdf

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Counties are working to improve the mobility, quality of life and economic competitiveness of our communities, and reducing traffic congestion is an important goal in that context.



In partnership with Motorola Foundation, NACo offers this fact sheet to provide information, ideas, and links to tools and resources to assist counties in mitigating and managing road congestion and its impacts. Also included is a webinar conducted by NACo in December of 2010 which includes presentations that provide examples of counties and transportation agencies working with key partners to secure necessary funding to implement congestion relief programs.

The Basics

The formal definition of traffic congestion, as set by the Federal Highway Administration, is when traffic demand approaches or exceeds the available capacity of the system. Congestion is influenced by the season of the year, the day of the week, and the time of day, and also can increase significantly due to weather, work zones, traffic incidents, or other non-recurring events.

Sources of congestion are usually due to the following challenges:

- **Bottlenecks** —points where the roadway narrows or regular traffic demands cause traffic to backup—are the largest source of congestion.
- **Traffic incidents** — crashes, stalled vehicles, debris on the road—cause about 1/4 of congestion problems.



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- **Work zones** — for new road building and maintenance activities like filling potholes—are caused by necessary activities, but the amount of congestion caused by these actions can be reduced by a variety of strategies.
- **Bad weather** cannot be controlled, but travelers can be notified of the potential for increased congestion.
- **Poor traffic signal timing** — the inadequate operation of traffic signals or green/red lights where the time allocation for a road does not match the volume on that road—are a source of congestion on major and minor streets.
- **Special events** cause “spikes” in traffic volumes and changes in traffic patterns. These irregularities either cause delay on days, times or locations where there usually is none, or add to regular congestion problems.

Federal Highway Administration (FHWA)

Congestion Reduction Toolbox is a resource that contains information on the various methods for decreasing the effects of congestion on roadways. The FHWA divides the solutions into six major groups aimed at getting as much congestion relief from the current system and using technology and innovative strategies to increase capacity and expand travel options for people and freight.

1. **Improve Service on Existing Roads** – Focus on the following areas:

- **Traffic Incident Management** – planned and coordinated process to detect, respond to, and remove traffic incidents and restore traffic capacity as safely and quickly as possible.
- **Traffic Signal Timing** – poor traffic signal timing accounts for 5 to 10% of all traffic delay or 295 million vehicle-hours of delay on major roadways alone.
- **Arterial Management** – promotes the efficient and effective movement of people and goods and improves the safety of the traveling public and environment on our nations’ freeway systems.
- **Access Management** – Access Management encompasses a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways.

- **Freeway Management and Traffic Operations** – Freeway management includes operational strategies that help keep traffic flowing at high levels of efficiency.
- **Road Weather Management** – Weather affects driver behavior, vehicle performance, pavement friction, and roadway infrastructure.

www.fbwa.dot.gov/congestion/toolbox/service.htm

2. **Pricing** – Focus on the following areas:

- **Value Pricing** – also known as congestion pricing or peak-period pricing, involves charging relatively higher prices for travel during peak periods.

www.fbwa.dot.gov/congestion/toolbox/pricing.htm

3. **Add Capacity** – Focus on the following areas:

- **Adding Capacity/Easing Bottlenecks** – Capacity is the maximum amount of traffic capable of being handled by a given highway section. When certain physical aspects of the highway are at capacity, they create traffic “bottlenecks.”
- **Public Private Partnerships** – refer to contractual agreements formed between a public agency and private sector entity that allow for greater private sector participation in the delivery of transportation projects.

www.fbwa.dot.gov/congestion/toolbox/capacity.htm

4. **Better Work Zones** – Focus on the following areas:

- **Work Zone Management** – Work zones account for more than 480 million vehicle hours of delay.

www.fbwa.dot.gov/congestion/toolbox/work_zones.htm

5. **Travel Options** – Focus on the following areas:

- **Travel Demand Management** – Managing traffic demand today is about providing travelers, regardless of whether they drive alone, with travel choices, such as work location, route, time, and mode.
- **Planned Special Events Traffic Management** – Planned special events cause congestion and unexpected delays to travelers by increasing traffic demand or reducing roadway capacity (e.g., street closures for parades).

www.fbwa.dot.gov/congestion/toolbox/travel_options.htm

6. **Traveler Information** – Focus on the following areas:

- **511 Traveler Information Telephone Services** – The 511 three-digit telephone number was designated for traveler information services by the FCC and assigned to public transportation agencies for implementing services throughout the United States.
- **Travel Time Message Signs for Travelers** – Provides travel time information on dynamic message signs located near the roadway which gives motorists the time to the next sign or between two significant destinations.
- **National Traffic and Road Closure Information** – Current weather, road and traffic conditions are available for travelers and freight shippers.
- **Real-Time Travel Time Information** – The latest highway bill called for the establishment of “a real-time system management information program to provide, in all States, the capability to monitor, in real-time, the traffic and travel conditions of the major highways of the United States and to share that information.
- **Freight Shipper Congestion Information** – Congestion and its affect on freight movement is reported in several studies on both the problem and solutions.

www.fhwa.dot.gov/congestion/toolbox/traveler_information.htm

Other Resources from FHWA

Congestion Pricing and Transit, Federal Highway Administration

www.ops.fhwa.dot.gov/publications/fhwabop09015/fhwabop09015.pdf

Congestion Management Process for TMAs of over 200,000

FHWA Resource Planning Center

www.fhwa.dot.gov/resourcecenter/teams/planning/cms.cfm

Planning for Operations

<http://plan4operations.dot.gov/congestion.htm>

U.S. Government Accountability Office

Surface Transportation: Efforts to Address Highway Congestion Through Real-Time Traffic Information Systems are Expanding but Face Implementation Challenges

www.gao.gov/new.items/d10121r.pdf



American Association for Retired Persons

**Safe Mobility Options for an Aging Society –
The Promise of Technology, AARP**

www.itsa.org/itsa/files/wp_SafeMobilityOptions_AARP.doc

IBM Center for the Business of Government

**Designing and Managing Cross-Sector
Collaboration: A Case Study in Reducing Traffic
Congestion**

[www.businessofgovernment.org/sites/default/files/
Designing%20and%20Managing.pdf](http://www.businessofgovernment.org/sites/default/files/Designing%20and%20Managing.pdf)

Texas Transportation Institute

2010 Annual Urban Mobility Report

<http://mobility.tamu.edu/ums/>

Strategies to Address the Mobility Problem

<http://mobility.tamu.edu/resources/strategies.stm>

Traffic National Transportation Operations Coalition and Institute of Transportation Engineers

2007 Traffic Signal Report Card

www.ite.org/reportcard/

Traffic Signal Audit Guide

www.ite.org/reportcard/traffic_audit_FINAL.pdf

Denver Regional Council of Governments

Congestion Mitigation Program

www.drcog.org/index.cfm?page=CongestionMitigationProgram-CMP

Mid America Regional Council

Operation Green Light

www.marc.org/transportation/ogl/

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About the National Association of Counties

The National Association of Counties (NACo) is the only national organization that represents county governments in the United States. Founded in 1935, NACo provides essential services to the nation's 3,068 counties. NACo advances issues with a unified voice before the federal government, improves the public's understanding of county government, assists counties in finding and sharing innovative solutions through education and research, and provides value-added services to save counties and taxpayers money. For more information about NACo, visit www.naco.org.

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