

VEHICULAR CONGESTION STRATEGIES

Strategy: More Travel Lanes



STRATEGY PURPOSE:

Additional travel lanes through road and street widening can provide increased vehicle throughput and reduced travel delays in arterial corridors.

PROS:

- Provides significantly more through capacity and reduced travel delays for vehicles.
- In some locations, can reduce vehicle crashes.

CONS:

- Wider streets are typically less safe for pedestrians and bicyclists.
- Can impact livability of adjacent neighborhoods.

VEHICULAR CONGESTION STRATEGIES

Strategy: New Signals and / or Improved Coordination



STRATEGY PURPOSE:

Move traffic, pedestrians, bicyclists, and transit vehicles more efficiently on existing streets by enhancing existing traffic signals, or adding traffic signals to intersections.

PROS:

- More efficient use of existing street and roads with relatively low cost.
- Limited impacts to neighborhoods and does not require more road right-of-way.

CONS:

- Often has less traffic capacity increases than major widening.
- Signalized intersections on higher-speed facilities can experience more severe crashes.

VEHICULAR CONGESTION STRATEGIES

Strategy: Innovative Intersection Types



STRATEGY PURPOSE:

A range of non-traditional intersection designs such as roundabouts, displaced left-turn intersections, and median u-turn intersections that aim to improve corridor traffic flow and safety by removing left-turning traffic from the intersection of major roads.

PROS:

- Shifts high-conflict left-turning traffic away from the major intersection, increasing vehicle throughput and reducing delays.
- Improves safety by eliminating the dangerous left-turn maneuver from the major intersection.

CONS:

- Can require additional street right-of-way width compared to traditional intersections.
- In some situations can be difficult for pedestrians to cross, depending on design.

VEHICULAR CONGESTION STRATEGIES

Strategy: New Roadway Type – Multi-way Boulevard



STRATEGY PURPOSE:

A multi-way boulevard includes central through lanes separated by a tree-lined boulevard from parallel frontage lanes – typically with lower speeds and a pedestrian-friendly environment.

PROS:

- Central through lanes provide capacity to vehicular traffic.
- Frontage lanes provide direct access to adjacent land uses in a streetscape that is aesthetically-pleasing and accommodates all users.

CONS:

- Can require more street right-of-way width than traditional street cross-sections.
- Can cost more than traditional street cross-sections.

VEHICULAR CONGESTION STRATEGIES

Strategy: New Roadway Type – Expressway



STRATEGY PURPOSE:

An expressway is a high-speed limited-access roadway that provides regional connections between major roadways. These roadways are typically found outside or on the fringes of urban areas and can serve as a beltway or ring-route around the metro area.

PROS:

- Provides a high-speed connection for regional traffic and trucks.
- Can divert regional trips from congested urban corridors.

CONS:

- Requires a significant amount of road right-of-way.
- Pedestrian and bicycle crossings are limited due to high speeds of vehicular traffic.
- Can have impacts to adjacent developed due to limited access points and traffic noise.

VEHICULAR CONGESTION STRATEGIES

Strategy: Grade Separations



STRATEGY PURPOSE:

Grade separations aim to improve safety, improve network connectivity, and potentially improve travel efficiency by going over or under a barrier such as the Interstate or Railroad.

PROS:

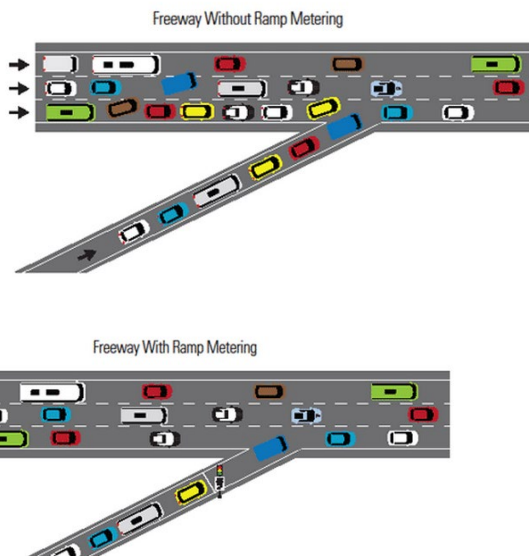
- Improves vehicular safety and reliability.
- Increases network connections and reduces out-of-direction travel.

CONS:

- Grade separations are expensive.

INTERSTATE MANAGEMENT

Strategy: Ramp Metering



STRATEGY PURPOSE:

This strategy limits or meters the amount of traffic that can enter the Interstate system at on-ramps, so that conditions do not reach oversaturated conditions, limiting travel delays on the Interstate system.

PROS:

- Can reduce congestion and improve reliability and safety during peak travel periods.
- Relatively cost effective approach to improving Interstate travel flows.

CONS:

- Traffic can sometimes back up on surface streets / cross-streets leading to the Interstate.

ACTIVE TRAFFIC MANAGEMENT

Strategy: Variable Speed Limits, Queue Warnings and Dynamic Junction Control, Traveler Information



STRATEGY PURPOSE:

Utilizing technology to collect, analyze, and dynamically provide travel information to drivers to increase peak capacity and smooth traffic flows on busy Interstates. Messaging can relate to incidents, travel time references, alternate routes, and traffic stoppages ahead.

PROS:

- Increases traffic flow, reliability, and safety through relatively cost effective means.

CONS:

- Some strategies have limited stand-alone benefits to vehicle throughput.

ACTIVE TRAFFIC MANAGEMENT

Strategy: Hard Shoulder Running – Bus on Shoulder



STRATEGY PURPOSE:

Using highway shoulders to carry either buses or all vehicles during peak periods to improve throughput. Bus on shoulder programs can provide advantageous bus travel times in congested corridors.

PROS:

- Does not require adding additional through lanes to Interstate.
- Relatively cost effective manner of getting additional capacity on the transportation system during peak periods.

CONS:

- Shoulders must meet certain design requirements for width and pavement depth.
- Safety and operational issues need to be addressed at off-ramps and on-ramps.

TRAVEL DEMAND MANAGEMENT

Strategy: Travel Demand Management Strategies



STRATEGY PURPOSE:

Travel demand management strategies aim to reduce travel demand during the peak period and to redistribute this demand to other modes and times. Strategies include coordinated / flexible work schedules, parking policies that encourage ridesharing and transit, guaranteed ride home, employer associations, and targeting investments in transit, bicycle and pedestrian infrastructure.

PROS:

- Can move more people across the metro area efficiently with limited investment.
- Can reduce the negative impacts of congestion like air quality and safety issues.

CONS:

- Can be difficult to implement effective TDM strategies when overall regional congestion is limited and parking is lower cost.