

# BOTTLENECK REMOVAL

## Description

The Federal Highway Administration (FHWA) estimates that 40 percent of all congestion nationwide can be attributed to recurring congestion—some are “mega-problems” where traffic demand overwhelms entire interchanges or corridors.

These recurring localized bottlenecks are encountered in everyday commutes and are characterized as being relatively predictable in cause, location, time of day and approximate duration. Some are “periodic problems” where volume surges temporarily exceed the roadway capacity.

Common locations of bottlenecks include places where the number of lanes decreases, at ramps and interchanges, and where there are roadway alignment changes (sharp curves, steep hills, etc.).

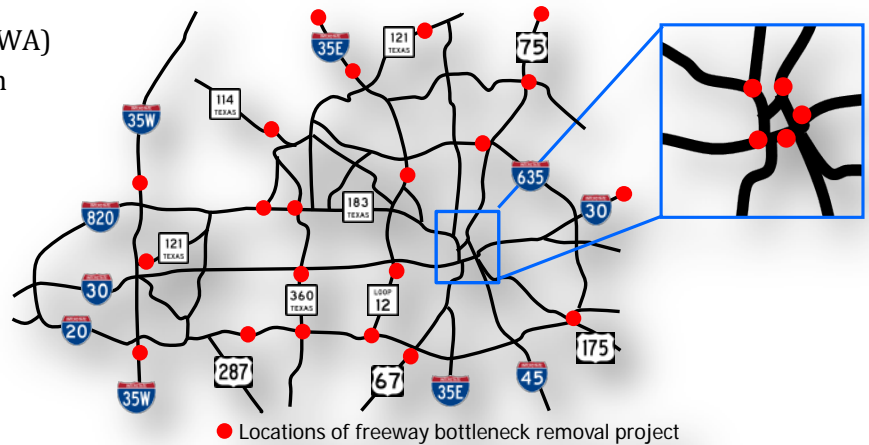
Innovative transportation agencies have realized that bottleneck removal is “low hanging fruit”—small projects that can result in big benefits. One or two corrections to inefficient locations may be all that is needed to improve the condition. Some of the typical low-cost solutions include restriping, adding travel lane(s) for a short section by reducing lane widths and converting shoulders, adding lanes to accommodate entering and exiting traffic, and modifying ramps.

## How Will This Help?

- Reduce localized congestion with low-cost, spot treatments designed to improve traffic flow on a section of freeway.
- Increase safety through fewer collisions, particularly those occurring during congested travel times (AM and PM commutes).
- Relatively low cost improvements that fix problems and save time and money until major reconstruction can be accomplished.

## Success Stories

- Seventeen bottleneck removal projects in the Dallas-Fort Worth urban area (see picture above) had benefit-cost ratios from 3:1 to 400:1, based on measured travel time savings. These low-cost projects (\$5,000 to \$2.7 million) also enhanced safety with an average 35 percent reduction in injury crash rates.
- The Minnesota DOT developed a very successful regional bottleneck removal program in the Minneapolis/St. Paul metro area.



<b>Cost:</b>	●●○○○
<b>Time:</b>	<b>Moderate</b>
<b>Impact:</b>	<b>Spot/Corridor</b>
<b>Who:</b>	<b>City/State</b>
<b>Hurdles:</b>	<b>Institutional</b>

## Implementation Issues

Bottleneck removal projects face many challenges —mostly related to a lack of a formalized program for planning and funding these types of projects. Other challenges relate to using non-standard designs (narrow lanes/shoulders, etc.) that create potential safety concerns and issues.