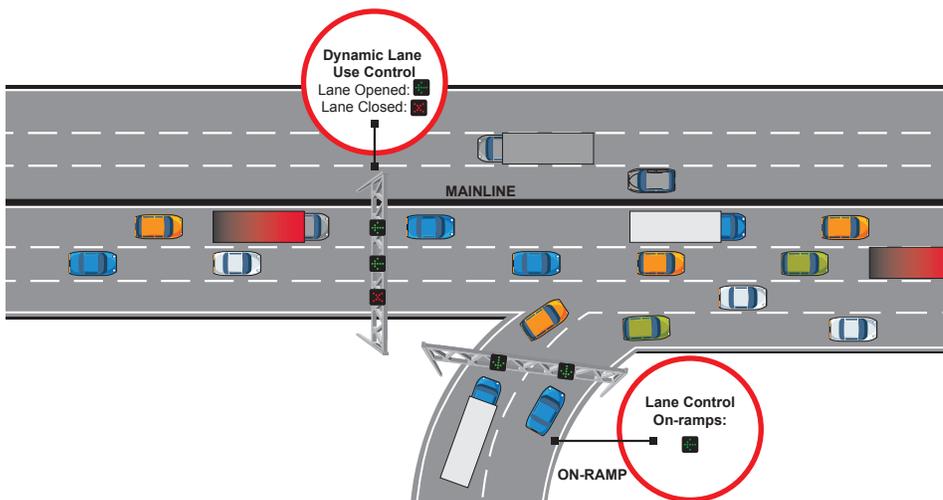




DYNAMIC MERGE CONTROL



COST



TIME



MODERATE

IMPACT



WHO



STATE

HURDLES



RIGHT-OF-WAY, OPERATIONS, PUBLIC SUPPORT, AND DESIGN

SUCCESS STORIES

Germany and the Netherlands

Results from a pilot study found that these systems can:

▼ 8%

Germany



Reduce travel times on ramps and main lanes.

▼ 7%

The Netherlands

▼ 13%

Germany



Reduce delays on ramps and main lanes.

▼ 4%

The Netherlands

Zipper Merge for Work Zones

This system **encourages drivers** to remain in their lane until the lane closes rather than **politely merging** into one lane too soon.

More Information: tti.tamu.edu/policy/how-to-fix-congestion

Description

Dynamic merge control, or junction control, automatically manages the entry of vehicles into merge areas. Agencies can change the amount of access based on traffic demand by using light-up signs to open or close an extra lane at an exit or entrance ramp. On a two-lane entrance ramp where the left lane of the ramp merges with the outside lane of the freeway, either the outside freeway lane or the left lane of the entrance ramp would be closed prior to the merge (depending on traffic volume).

Dynamic merge control can:

- Improve the operation of roads that have more lanes entering the merge area than leaving.
- Provide higher speeds and better travel times to the higher traffic volume.
- Be a permanent solution at known bottlenecks or be used temporarily for special events or circumstances.
- Handle varying traffic demand on the main lanes and merging lanes to best use existing capacity.

Target Market

- Freeways or roads with a lot of congestion and merging vehicles.
- Freeways with available space on main lanes prior to a merge area that can be borrowed.
- Roads where traffic volumes on two connecting roads peak at different times.

How Will This Help?

- **Delays or stops the start of congestion** by increasing capacity, encouraging a smoother flow of traffic, and improving trip time.
- **Improves safety** by reducing crashes caused by merging.
- **Increases throughput** by temporarily increasing capacity.

Implementation Issues

Dynamic merge control systems require additional right of way in already complicated and tight areas, increasing complexity and cost. They also may be initially confusing to drivers when first built.

