Description
Bottlenecks can occur when a lot of vehicles exiting a freeway want to turn left at the upcoming intersection. Setting the timing of the signal at that intersection to relieve the left-turn congestion may worsen traffic for the other intersection streets. One solution to reduce delay is to put the left-turning traffic on a loop ramp to access the cross street instead of turning left at a traditional intersection.

The loop ramp design is a practical solution if sufficient right of way is available. The loop design changes a potential stop at the intersection into a merge or yield movement. Loop ramps are often used with collector-distributor roads along a major road to:

- Decrease lane switching on the major road.
- Provide a safe speed change for vehicles traveling between the crossing streets.

How Will This Help?
- Increases safety by reducing the number of conflict points.
- Improves the efficiency of turning movements.
- Reduces delay, improves capacity, and simplifies signal timing.

Implementation Issues
The additional right of way and paved surfaces required to build collector-distributor roads and loop ramps greatly influence cost.

The use of collector-distributor roads can make exiting and entering decisions more complex. Ample signing for road users is important for operational success. A lack of signing can negatively affect a driver’s decisions. Designers should consider:

- The anticipated speeds.
- The available sight distance on the approach to and within the merging section.

SUCCESS STORIES
The American Association of State Highway and Transportation Officials Highway Safety Manual reports that:

Adding loop ramps can reduce delays by:

- 7% to 37% at freeway ramp intersections with frontage roads
- 57% to 67% at ramp intersections without frontage roads

Arlington, Texas
Example locations of loop ramps include FM 157 at IH 20 and SH 360 at Pioneer Parkway (Spur 303).