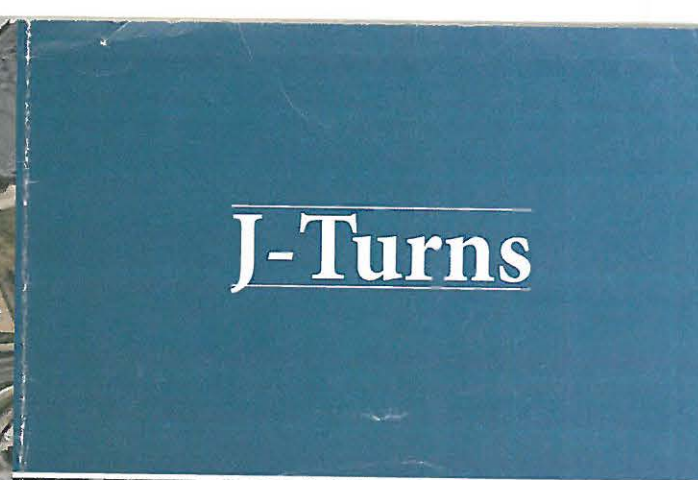## J-turns vs. signals

In the right location, the J-turn addresses issues that a signal does not.

- Signals create delays for the mainline road and cause congestion.
- There are no delays from vehicles trying to turn left from the side street.
- Drivers can maneuver a J-turn in the same time and sometimes less time than waiting on a left-turn signal.
- Drivers deal with one direction of traffic at a time.

Signalized J-turns

- A signalized J-turn is safer than a traffic signal because a J-turn signal gives much more green light time to the high speed main roads.
- With the use of a traffic signal the amount of green light time is 40% whereas the amount of green light time using a signalized J-turn increases to 70-80%.
- Installation of a signalized J-turn reduces rear-end exposure. The less the main road is stopped, the less potential there is for high speed rear-end collisions.

J-turns vs. interchanges

From an economic viewpoint, the J-turn provides an effective tool for reducing congestion and construction costs.

- In the past, when a conventional intersection had become ineffective and operated at unacceptable levels of delay, it was common practice to consider an interchange to relieve congestion. Fortunately, we now have a choice which preserves the existing roadway.
- The "footprint" for a typical interchange can impact as much as 90 acres. A J-turn requires very little additional land.
- Total expense to the public reaching more than $20 million to construction. A J-turn can be constructed with $750,000 to $1.5 million.
- An interchange can take 18 months to 3 years to complete while a J-turn can be completed in 1 year.

J-Turns

Let's Make Superstreets

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

What is a J-turn?

The J-turn concept is a reconfiguration of the traditional intersection that is used in different parts of the country to improve traffic flow. DOTD has begun using this concept at specific locations across Louisiana.

The J-turn concept is a method that safely and efficiently manages high traffic volumes at intersections with multiple approaches along a divided highway. The J-turn functions by redirecting through- and left-turning traffic on the side street approach to turn right, proceed to the nearby U-turn and then return to its original course.

What are the benefits of J-turns?

Improved Safety
J-turns reduce the risk of crashes and specifically the risk of severe crashes such as side collisions or T-bone type accidents.

Less Travel Time
The J-turn optimizes the capacity of our existing roadway and reduces wait time for left-turning traffic.

Economically Beneficial
From an economic view point, the J-turn provides the state with an effective tool for reducing congestion while at the same time reducing signal maintenance costs over time.

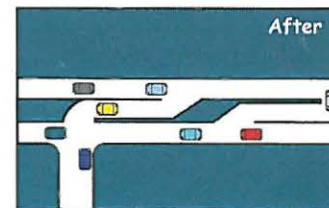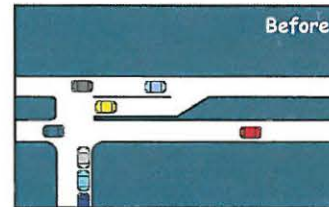## Can everyone use a J-turn?

Yes. J-turns can accommodate all vehicles, including 18-wheelers, by adding in U-turn buffers for vehicles that make larger turns.

Other benefits to J-turns

- Because of their efficiency to deal with traffic, J-turns can sometimes even replace signals. This drops maintenance costs significantly.
- For higher volume intersections, J-turn intersections may be signalized and still operate much more safely and efficiently than traditional intersections.
- J-turns have been considered as alternatives to traditional interchanges because:
  - J-turns can take up less space than traditional interchanges between highways. Up to 80 acres less!
  - They can cost less than traditional interchanges, averaging about $5 million less!
- J-turns take less time to build than traditional interchanges. They can save a whole year in construction time.

Before

After

Safety stats

U-turns provide left turn and through movements for vehicles from side streets

No left turns or crossing traffic from side streets

A study by North Carolina State University shows that J-turns reduce travel time by 20% compared to traditional interchanges. Additionally, 46% fewer auto collisions are reported, and personal injury collisions are reduced by 63%.

https://phys.org/news/2011-01-left-superstreet-traffic-safety.html