



I-35 Bus On Shoulder Operations



Informational Presentation

2011



Background

- I-35 is a main regional artery servicing the area.
- Recent studies show traffic volumes increasing on I-35 and it is approaching capacity.
- Recent studies show I-35 is a viable transit corridor for the region.
- Johnson County Transit is improving service along I-35 with additional and enhanced stops.
- There are additional opportunities to enhance transit in this area.
- Widening I-35 difficult because ROW needs and cost.



Innovation

Bus On Shoulder (BOS) is an innovative way to move more people on existing I-35.

- Used in many other urban areas such as Minneapolis, Miami/Dade County, Chicago, Washington DC
- Bus On Shoulder moves more people efficiently using existing infrastructure
- Legislative Approval for Johnson County (Wyandotte County pending)
- Provides enhanced transportation options
- Improves air quality
- Reliable and efficient because buses run on schedule regardless of congestion



Numbers to Know

A few dates and numbers to know:

- Service will start January 3rd, 2012.
- 8-10 buses a day will have the potential to use the shoulders.
- Training for drivers will be during the day (10 am to 1 pm) starting in late October running through November.
- Media announcing upcoming service will start in October.



Traffic Analysis

- Existing and future traffic analyzed in cooperation with KDOT
 - *Service vs. system interchange operations*
 - *BOS has no negative effect on existing traffic*
 - *VISSIM model*

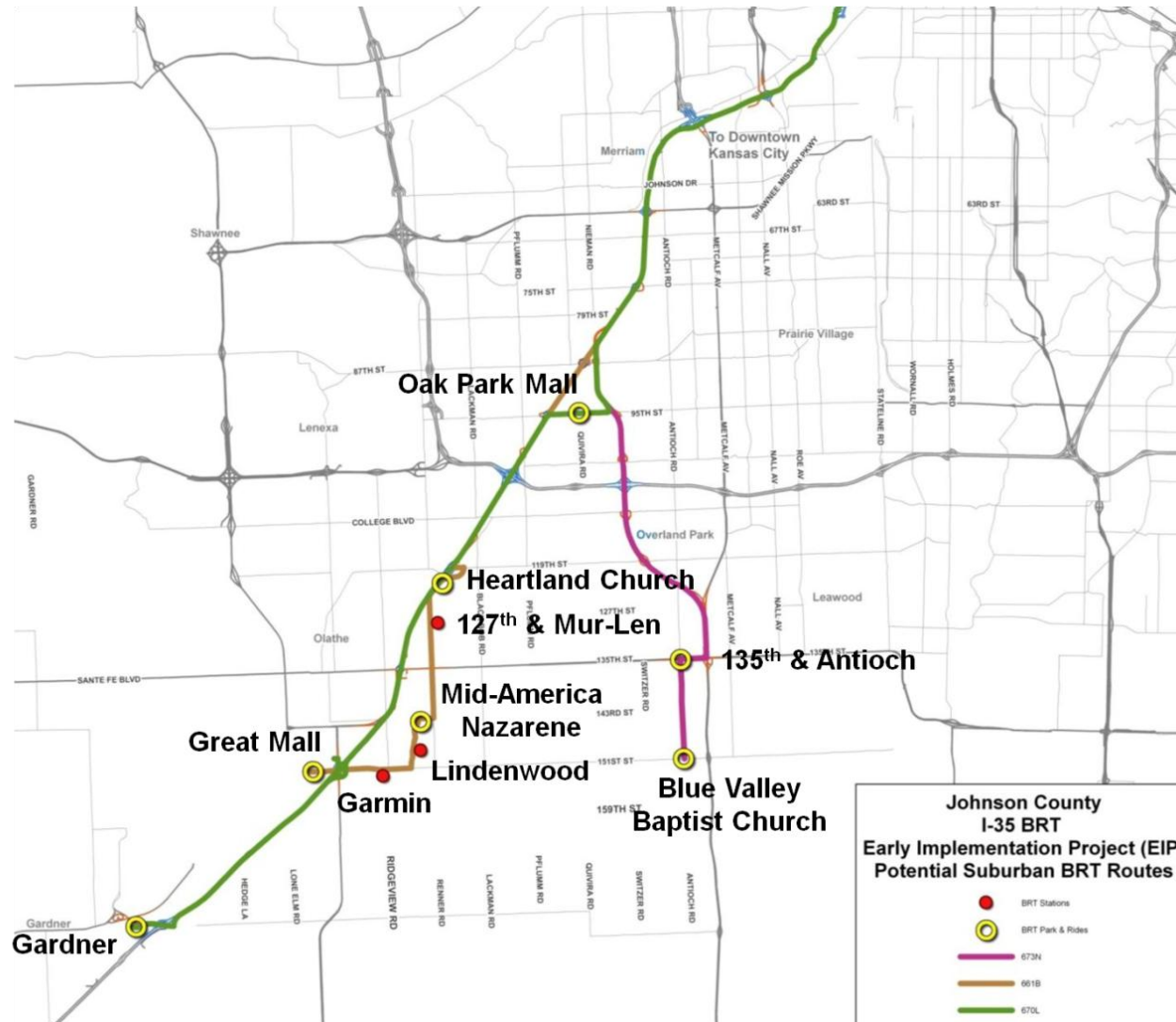
- Benefits
 - *Time savings on "normal" days (3-5 minutes)*
 - *Greater opportunity for travel time savings when there are incidents or inclement weather*



Operational Guidelines

- Uses shoulders during peak periods when traffic is moving slower than 35 mph.
- Buses using shoulders do not travel more than 35 mph. Buses do not travel more than 10 mph above traffic.
- Buses must yield to any vehicle entering, merging or exiting through the shoulder.
- Buses must re-enter the mainline where the shoulder is obstructed (vehicle debris, incident, etc).

Stop locations



Stop Design

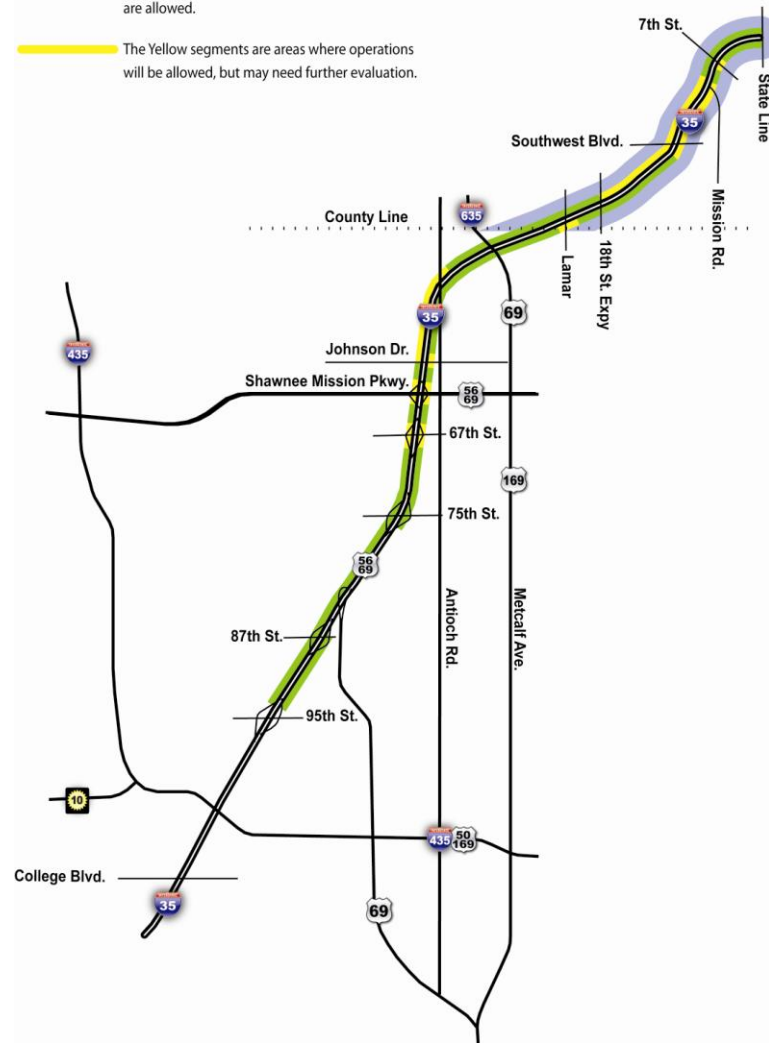


Where will Bus on Shoulder be implemented?

Legend

- The Green segments are areas where operations are allowed.
- The Yellow segments are areas where operations will be allowed, but may need further evaluation.

Approval pending for Wyandotte County operational.



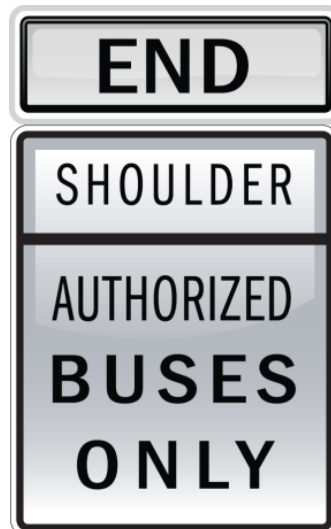
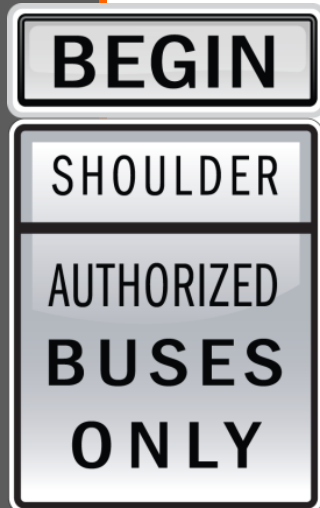


Traffic—how it works

[mergetomainline.mpg](#)

[stalled_car.mpg](#)

[transitionthroughgore.mpg](#)





Safety

- Bus drivers are trained professional drivers
 - *Accountable to the operating rules*
 - *Able to handle more complex driving decisions*
 - *(On shoulder training to start late October)*
- Buses are easily seen by other motorists
- Shoulder use is limited to a small number of vehicles
- Speeds are low



Safety

Crash rates are extremely low for Bus on Shoulder

Miami-Dade: “no incidents or accidents due to the Bus-on-Shoulders operation,” Miami Dade MPO, *Bus On Shoulders Service Evaluation*

Minneapolis: “Mn/DOT performed an accident study that found that between 1991 and 2001 there were only 20 accidents on the shoulder involving a bus and all of these crashes caused property damage only. Most accidents consist of minor scrapes or mirror clips,” *Bus-Only Shoulders in the Twin Cities Report*

San Diego: “no accidents have occurred as a result of the demonstration project,” *Freeway Transit Lane Demonstration Project Status Report*



Safety - Public Education



Objective and Goals:

Educate public about BoS operations and benefits.

Key Audiences: highway users, commuters, bus users, community leaders, law enforcement, special interest groups.



***Media campaign
starting: 10/2011***



Enforcement Issues

- Potential copy cat drivers
- Jealous motorists
- Timely removal of vehicles left on shoulder
- Incident management
- Bus driver violations



Maintenance Issues

- Snow removal
- Debris removal
- Storm drain
- Pavement markings



Timeline

- Service will start January 3rd, 2012
- Construction to the shoulders, guard rails, signage, markings began October 14th
- Station letting in Spring 2012
- Training on the shoulders for drivers will be during the day (10 am to 1 pm) late October/early November
- Media announcing upcoming service will occur as changes become noticeable—construction announcement, signage goes up, as training begins - October



I-35 Bus on Shoulder

Questions & Comments