REGIONAL HOV*/MANAGED LANE STUDY

Kansas City Metropolitan Area

This study identifies opportunities to maximize traffic flow for all major roadway users and provide better service for high occupant vehicles (HOV): transit, carpool, vanpools, and shuttles. Since transportation greatly impacts our natural, economic and social environment, the study focuses on equity and sustainability as well as mobility.

New advances in electronic traffic management (such as SCOUT) paired with HOV facility improvements offer opportunities to increase regional roadway capacity on both freeways and other major city street. Historically the Kansas City region has enjoyed low congestion. Today however, travel times have begun to degrade and that trend is expected to worsen. This report summarized the Comprehensive Report that includes an assessment and recommendations for traffic management and incentives for higher occupancy travel in the region.

This report has been produced for the Mid America Regional Council by the University of Kansas, urban planning graduate students.
USE TRANSIT PREFERENCE TOOLS to make transit more attractive to current drivers and increase roadway capacity. Tools for major city streets help transit go faster than cars. These include exclusive bus lanes, traffic signal priority and queue jumpers. Curb extensions and boarding islands at transit stops make it faster for riders to get on and off. Freeway tools include exclusive lanes: HOV lanes (shared with carpoolers) and bus-on-shoulder service where freeway shoulders are modified to allow bus use for faster travel.

Recommendation:
⇒ Enforce and implement new queue jumpers such as US 71 at signalized intersections.
⇒ Maximize signal priority use, and enhanced boarding islands.

Implement Bus Rapid Transit BRT (exclusive lanes and traffic signal lights) Think light rail on rubber tires. All Red Lines

Recommendations
⇒ Complete regional BRT system. Begin with next corridors in low income “Environmental Justice” areas (such as Troost, State Ave. and Linwood Blvd) and major commuter corridor (Shawnee Mission Parkway).
⇒ Expand bus signal priority on KC’s existing BRT “MAX” from peak hour to all day.
⇒ Link BRT to freeway routes via queue jumpers and signal light preference.
⇒ Implement boarding islands and improved pedestrian access particular in low income areas where pedestrian crashes are higher than normal.

ON FREEWAYS - Bus on Shoulder

How does it work? When travel speeds fall below 35 mph buses move from through lane to the shoulder to prevent delays.

What if there are obstacles on the shoulder? If a car breaks down on the shoulder, the bus driver just drives around it using the through lane.

Bus on shoulder is only used in roadway segments where there are no infrastructure obstacles. Where there are obstacles, buses use auxiliary or through (general purpose) lanes.

Where else is bus on shoulder used? Bus on Shoulder is successfully being used in Minneapolis. Is it safe? Bus drivers are trained to use bus on shoulder. Accident rates are no higher than other transit operations.
USE CARPOOL INCENTIVES: HOV lanes, park and ride lots and ride match services to encourage carpooling by providing shorter commute times and cost savings.

ON FREEWAYS con’t.

Recommendations:

⇒ Identify first HOV Lane project for implementation.  **(See back page for suggested corridors)**

SIT PLAN CONCEPT MARC

⇒ Use tolls and Downtown parking fees to motivate drivers to carpool or take transit.

⇒ Consider HOV as an alternatives to commuter rail or as a first phase of later commuter rail implementation.  **(See cost comparison below)**

Recommendations:

⇒ Implement Bus on Shoulder on I-35 (Johnson County) and consider expansion such as on I-70 (east of downtown) and I-29 downtown to airport where BOS could be linked to BRT to promote regional tourism.

Trade Offs:

Since bus-on-shoulder alone does not benefit carpoolers, team this tool with carpool supports such as convenient park-n-ride lots and reduced rate parking for carpoolers and ridematch services.
ON FREEWAYS con’t.

ACTIVE TRAFFIC MANAGEMENT (ATM)

Recommendations: Expand SCOUT system geographically and functionally.

Today, SCOUT improves traffic flow and safety. Traffic monitoring and variable message signs alert motorist to avoid incidents.

Tomorrow, these and further advancements can be leveraged to help implement a regional HOV/Managed Lane System. For example, as HOV lanes become too congested, variable message signs can change user groups restrictions from 2 person to 3 persons carpools to restore service levels. Conversely, excess capacity can be utilized by allowing single occupant cars into HOV lane by paying a toll. Thus HOV lanes become High Occupancy Toll lanes HOT.

HOV LANES Recommendation
⇒ Identify HOV lanes for implementation as described below
⇒ Combine with expanded transit, park and ride lots and ride match services.
⇒ Use tolls and parking fees to motivate HOV use. Use revenues to support transit and ride match services.

FREEWAYS MEETING MINIMUM HOV STANDARDS

The freeways that meet minimum standards* for various HOV options are described below and on the map. They are

♦ I-35, I-29, and US 71: Queue jumpers and HOV lane (conversion of existing lane)
♦ I-70: Queue jumpers, HOV lane conversion, new HOV lane (east of Downtown)
♦ I-435: Queue jumpers, lane conversion, new HOV lane

*Sketch planning was conducted to project HOV lane volumes, based on current peak hour volumes and Parsons Brinckerhoff (HOV Manual 1999) projection technique and minimum standards required to justify the cost of various HOV treatments.

Environmental

The recommendations are intended to be consistent with MARC’s Eco-logical Goals: Increase the share of transit, walking, biking to 10% of total trips by 2030 and Reduce transportation-generated CO₂ emissions by 40% of current levels by 2030.

Next Steps Recommended:

Conduct a community review process; a more extensive review of related government regulations and enforcement, and a tolling study. The tolling study should include a review of US DOT pricing pilot project, the Metro Congestion Initiative, and other climate change initiatives. Also consider opportunities for tolls to pay for transit improvements and carpool support facilities.