

APPENDIX L • TSM ALTERNATIVES

Transportation System Management



SPECIAL DESIGNATION LANE



Evaluation

Existing Conditions

Currently, there are no designated lanes within the OKI and MVRPC regions, with the exception of lanes set aside for slower moving traffic up steep inclines.

Description of Alternative

Designated lanes for specific uses or a combination of uses such as: High Occupancy Vehicle lanes (HOV), High Occupancy Toll lanes (HOT), and transit or truck-only lanes. HOV lanes require 2 or more occupants and HOT lanes permit one occupant who pays a toll to use the lane. Typically, lanes are reserved for HOV and HOT vehicles during AM and PM peak traffic hours. Truck lanes allow only truck traffic.

Level II Screening Criteria

- **Transportation System Performance** –
 - **HOV Lane** – Buses and vehicles carrying two or more passengers may utilize the special purpose lane. The lane may be used only during peak hours or 24 hours a day. The addition of an HOV lane may help alleviate congestion, especially during peak commuting hours. This alternative must be closely compared to the effects of adding a general-purpose lane. While it is likely that an HOV could reduce congestion, it may not provide enough relief for future growth.
 - **HOT Lane** – Buses and vehicles carrying two or more passengers may utilize the lane at no charge. Vehicles with only one passenger may pay a toll to utilize the roadway. Again, this alternative may help to alleviate congestion during peak hours, but this alternative could result in environmental justice issues. Priority would be given to persons wishing or having the ability to pay the toll and therefore travel faster on the interstate.
 - **Truck Only Lane** – Trucks would be confined to only one lane of the interstate, the left most lane. While a Truck-only lane would separate truck traffic and general-purpose traffic, there are some difficulties with this alternative. Only 10% of all truck traffic in the corridor is through-traffic, all others have a stop within the corridor. Therefore, a truck-only lane would require weaving to enter and exit the interstate, causing reduced capacity and safety issues.
- **Community Impacts** – New right-of-way would be required where widening could not take place in the median.
- **Environmental Impacts** – Secondary Source Literature Review Results: portions within 100 yr. floodplain, various hazardous materials sites, and several historic districts.
- **Economic Development** – While an HOV/HOT would provide better access to jobs for those wishing to car/van pool, it is not anticipated that this alternative alone will produce substantial economic development opportunities.
- **Costs** – Costs should be compared to that of adding a general-purpose lane.
- **Environmental Justice** – The addition of an HOT lane could result in environmental justice issues. An HOT lane requires a toll if there is only one person traveling. It is anticipated that a new lane will require additional right-of-way. This situation may cause disproportionate impacts because the alternative causes a disruption in a community and does not provide additional service. It is recommended that this alternative not be advanced for these issues.

Recommendation

The HOV lane alternative should be advanced to Level III Screening for comparison with adding a general-purpose lane. Both the HOT lane and Truck-only lane should not be advanced due to the concerns listed above.

TRANSPORTATION DEMAND MANAGEMENT



Evaluation

Existing Conditions

Both MVRPC and OKI operate RideShare programs, which consist of alternatives to using single-occupant-vehicle transportation. It includes carpooling, vanpooling, parking evaluation and management, and promotional programs such as employer-based programs, guaranteed ride home, and park-and-ride facilities.

Description of Alternative

The Transportation Demand Management (TDM) alternative includes additions to existing carpool and vanpool programs, increased liaison with private sector employers, increased promotion of telecommuting, flextime and establishment of new telecommuting centers. Policies could be put in place to give incentives to individuals, corporate and non-profit companies for their involvement in these programs. Land use issues in transportation demand management could be related to parking regulations and policies for off-street parking.

Level II Screening Criteria

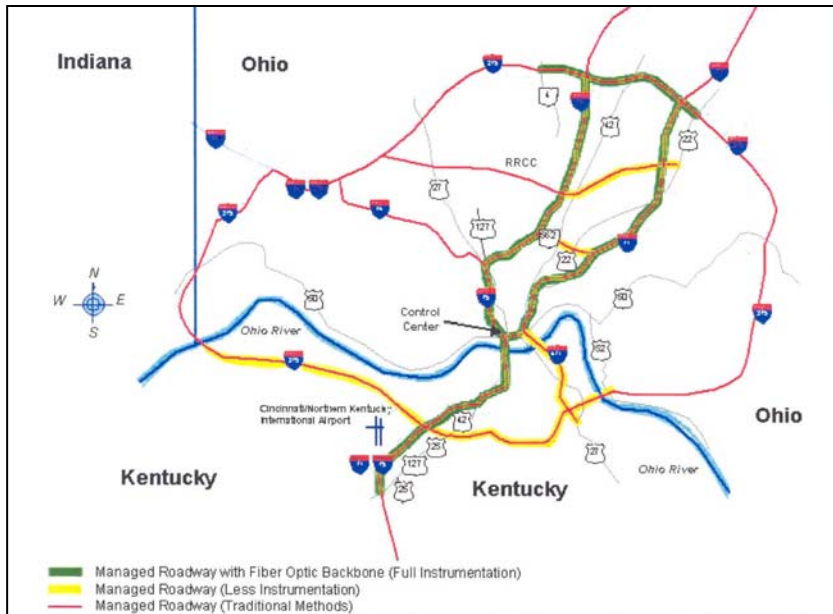
- **Transportation System Performance** – Additional TDM measures may slightly reduce the number of vehicles that use the system.
- **Community Impacts** – TDM can help people to get to jobs in a more efficient and reliable manner.
- **Environmental Impacts** – Minimal air quality improvement.
- **Economic Development** – This could have a positive impact because it could create new employment opportunities for individuals and provide mode choice.
- **Costs** – Reasonable; fairly low compared to other alternatives.
- **Environmental Justice** – No anticipated impacts.

Recommendation

Recommend continuing the RideShare programs in both the MVRPC and OKI regions.

Transportation System Management

INTELLIGENT TRANSPORTATION SYSTEM



Evaluation

Existing Conditions

The OKI region's intelligent transportation system is the Advanced Regional Traffic Interactive Management and Information System (ARTIMIS). ARTIMIS covers 88 miles of the region's freeway system, serving 51 separate jurisdictions in Ohio and 20 in Northern Kentucky. There is also a pilot program in Dayton to assist travelers on the Colonel Glenn Highway and the North Fairfield Roads areas of Beavercreek and Fairborn.

Description of Alternative

An expanded ARTIMIS would improve the overall interstate system in the OKI region by giving drivers knowledge of roadway conditions and assistance. Also, phased implementation of an intelligent transportation system in the Dayton region would assist in combating present and future congestion.

Level II Screening Criteria

- **Transportation System Performance** – ITS improves safety and the efficiency for users of the system.
- **Community Impacts** – ITS can positively impact the community in the case of emergency use for evacuation purposes. It can also benefit the community in terms of event management.
- **Environmental Impacts** – ITS can provide minimal air quality improvements with better traffic flow.
- **Economic Development** – By itself, it will not produce substantial economic development along the corridor.
- **Costs** – ITS technology can be high compared to other TSM alternatives, yet, if it is implemented in phases it is a viable low cost alternative compared to adding a lane.
- **Environmental Justice** – Neutral

Recommendation

It is recommended that the program be expanded as congestion increases on the transportation system.

Transportation System Management

INCIDENT MANAGEMENT



Evaluation

Existing Conditions

MVRPC and OKI each maintain incident management programs. These programs include traffic monitoring systems, median markers, and freeway service patrol vans. A Regional Incident Management Task Force was also formed in the OKI region to develop common procedures for dealing with problems such as abandoned vehicles and to improve communications between various emergency response and law enforcement agencies.

Description of Alternative

Policy decisions would be needed in order to improve the efficiency of the removal of vehicles involved in “small” accidents and requirements for shoulders on roadways.

Level II Screening Criteria

- **Transportation System Performance** – Incident management improves the capacity of the interstate by reducing the impact of secondary incidents.
- **Community Impacts** – Incident management, especially freeway service patrol vans, can give people a sense of safety on the roadway.
- **Environmental Impacts** – Improvement to air quality by decreasing congestion.
- **Economic Development** – Incident management may not only provide an economic development impact on a local level, but it is possible to help regionally as traffic flow is improved on the system.
- **Costs** – Minimal
- **Environmental Justice** – Neutral

Recommendation

It is recommended that Incident Management Programs are maintained and expanded as need in the region.

Transportation System Management

BICYCLE PROGRAMS



Evaluation

Existing Conditions

OKI completed a Regional Bicycle Plan in 2001. Bicycling in Greater Cincinnati for transportation purposes range from 3-5 miles in length, while those trips purposed for recreational activities or touring can be over 100 miles in distance. Counties, townships, and municipalities that have prepared bicycle plans and/or are developing local bicycle transportation systems. Some of the plans are fairly extensive, covering a lot of area within their respective jurisdictions. Currently, none of the public transit systems in the OKI region have bike racks on buses. Metro plans to install bike racks on the front of all its buses by 2002.

The MVRPC region has a bike-commuting program, Pedal Pals, which matches bicyclist with other bike commuters in the Dayton area. The program attempts to join first-time bicycle commuters with experienced cyclists for safety reasons. Also, the Miami Valley RTA has bike racks installed on their buses on selected routes.

Description of Alternative

There are two types of bicycle facilities: on-road facilities (lanes and shoulders) and separate facilities (bike paths and trails). Typically on-road facilities, sharing the road with other vehicles, allow for more destination trips in and out of the region.

Level II Screening Criteria

- **Transportation System Performance** – Bicycle programs provide no impact on the interstate system's performance.
- **Community Impacts** – Bicycle programs can have some positive impact on communities, mostly for recreational purposes.
- **Environmental Impacts** – Programs can provide very minimal improvements.
- **Economic Development** – Neutral
- **Costs** – Costs can be very low if bikeways are integrated into the existing roadways.
- **Environmental Justice** – Neutral

Recommendation

Bicycle Programs should continue in the region.

Transportation System Management

FREIGHT RAIL



Evaluation

Existing Conditions

Many of the rail lines along the I-75 Corridor region are owned and operated by Norfolk-Southern and CSX. There is a large rail yard, the CSX's Queensgate Yard, located in southwestern Cincinnati.

Description of Alternative

Freight rail, as it relates to transportation system management, would include incentives to transfer freight from trucks to rail lines in order to reduce truck traffic on the interstate. Policy decisions between the rail freight and trucking freight industries would be necessary. There may be the possibility of potential joint development opportunities of railroad right-of-ways for freight and passenger movement, pending the recommendations of transit alternatives concerning commuter rail.

Level II Screening Criteria

- **Transportation System Performance** – Truck-to-rail freight transfer can provide a lot of potential positive impacts on the system.
- **Community Impacts** – Impacts to communities within the corridor would be dependent on the location of intermodal connection points.
- **Environmental Impacts** – There is the possibility of positive impacts if freight is reduced on the interstate and congestion is decreased.
- **Economic Development** – Neutral
- **Costs** – Further study required.
- **Environmental Justice** – Neutral

Recommendation

It is recommended that Freight Rail Alternatives be explored further in the region as a measure to help reduce congestion.

Transportation System Management

ACCESS MANAGEMENT



Evaluation

Existing Conditions

Access management deals with the level of access off of major roadways. An example of this would include the amount of curb cuts on roadways that give access to developments. The least amount of curb cuts, the better the access management is for roadways.

Description of Alternative

The provision of access management strategies and policies in key areas could improve the level of service for certain roadways in the OKI and MVRPC regions. Less curb cuts and the addition of service roads with controlled access can improve the transition of vehicles from roadways into developments.

Level II Screening Criteria

- **Transportation System Performance** – There is the potential for positive impacts to the system with access management.
- **Community Impacts** – Access management can take some of the traffic congestion off of the arterial roadways, which could have a positive effect on surrounding traffic.
- **Environmental Impacts** – Neutral
- **Economic Development** – Access management can have an impact on local developments as access is altered.
- **Costs** – Low costs.
- **Environmental Justice** – Neutral

Recommendation

It is recommended that access management be applied to certain roadways in both the OKI and MVRPC region in order to reduce traffic congestion.