

UTAH STATE IMPLEMENTATION PLAN

SECTION XI

OTHER CONTROL MEASURES FOR MOBILE SOURCES

Adopted by the Utah Air Quality Board
February 9, 2000

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The State of Utah incorporates by reference the commitment by Mountainlands Association of Governments to complete up to 700 new park and ride stalls in Utah County by 2006, as specified in the letter of October 29, 1999, from Kathleen McMullen. (Appendix 3) The plan for completion of the stalls is found in *Utah Valley Area Park and Ride Lot Plan*, which is included in the technical support documentation for this section of the State Implementation Plan.

APPENDIX 1

The following are the conclusions of the Mountainlands Association of Governments (MAG) relative to the Transportation Control Measures that were studied as part of the 1982 State Implementation Plan.

Strategy 1 - Public Transit Improvements

This strategy is concerned with the reduction of the number of vehicles used to transport people over a specified period of time by increasing the use of public transit. The study showed that by improving existing service to a sixteen hour day service, six hours of peak period and 10 hours of non-peak period service, the potential daily ridership could be as high as 12,900 transit rider trips. This represents a potential reduction of between 1.8 percent and 2.9 percent daily vehicle miles of travel in the Provo-Orem area. This would not significantly affect the levels of CO in the area.

Two alternative plans for improved public transit service were studied; one representing the upper limits of levels of service and the other the lower limits.

The Loop Route System, comprised of ten loop routes, one trunk route, and nine feeder routes providing local service to the various neighborhoods, requires 15 vehicles covering the 10 routes. It provides 1,236 daily service miles and 3,697 daily riders during rush hour, and 10 vehicles covering 10 routes, 1,188 daily service miles, and 2,612 daily riders during non-rush hour periods. A subsidy per ride of 38 cents is required which represents an overall subsidy of 46.01 percent for operating costs.

The Linear Route System is comprised of ten linear routes and requires 31 Advanced Design transit coaches. It provides 2,184 daily service miles and 4,821 projected daily riders during rush hour, and 2,662 daily service miles and 3,375 projected daily riders during non-rush hour periods. A subsidy of 58 cents per ride is required or an overall operating subsidy of 56.18 percent.

The net vehicle emission reductions resulting from the two alternatives indicate that the Loop Route System provides an overall total of 1,111.05 tons reduction of CO by 1986, and the Linear Route System provides 979.43 tons reduction of CO by the year 1986.

It is estimated that total operating costs for the Loop Route System are \$1,595,400 and for the Linear Route System \$2,514,900. Capital costs for the Loop Route System are \$5,604,000 and the Linear System \$7,834,000.

The total project cost which includes both capital outlay and operating costs, is approximately \$10,024,850 for the Loop Route System and \$13,033,200 for the Linear Route System.

The average cost per ton of Carbon Monoxide Emission Reduction is \$9,022.86/ton for the Loop Route System and \$13,381.38/ton for the Linear Route System.

Because CO standards will be met by 1986 through Federal Vehicle Emission control requirements, and because it is not economically feasible to implement the transit alternative in the five years till 1986, this strategy is not recommended for implementation at present.

Table 35

ALTERNATIVE COMPARISONS - 1986
Loop Route System - Linear Route System

	Loop	Linear
Non-Rush Hour Service		
Daily Service Miles	1,188	2,662
Projected Daily Riders	2,612	3,375
Rush Hour Service		
Daily Service Miles	1,236	2,184
Projected Daily Riders	3,697	4,821
Net Vehicle Emission Reduction Resulting from Improved Public Transit - 1986	1,111.05 tons	979.43 tons
Subsidy per ride	38 cents	58 cents
Estimated Operating Costs	\$1,595,400	\$2,514,900
Estimated Capital Costs	\$5,604,000	\$7,834,000
Project Cost	\$10,024,850	\$13,033,200
Average Cost per ton of Carbon Monoxide emission Reduction	\$9,022.86/ton	\$13,381.38/ton

Strategy 2 - Exclusive Bus and Carpool Lanes

Study indicated that the level of service during peak periods on the interstate system was in the level of service range C, with no delays encountered because of congestion.

Traffic counts on major arterials in the area do not justify the addition of exclusive bus or carpool lanes.

Carpooling and park-and-ride activities are increasing in the Provo area; however, traffic volumes do not indicate that provision of dedicated lanes would encourage additional participation. It is evident that there would be no reduction in CO levels through the use of this strategy.

Strategy 3 - Promotion of Ridesharing and Non-vehicular Travel Modes

The UVATS area is participating in the Utah Lift program to the extent of about 2,000 travel matching trip requests to date of which 500 are to Provo from Salt Lake County and approximately 1,500 to Salt Lake County from Provo. It is felt that this level of participation does not represent significant activity for CO reduction.

UVATS is participating in the Vanpooling program sponsored by the State. Only six vans are operating within the study area; two between Tooele Ordinance Depot and Utah County, two between Hill Air Force Base and Provo, one between the study area and the VA Hospital, and one between the Defense Depot Ogden and the study area. This level of activity would not effect the CO levels of the Provo area.

Strategy 4 - Private Auto Restrictions

With plans being formulated for a new downtown shopping mall and with the Provo City Council looking for ways to attract people to the downtown area, and with the absence of congestion, it is not feasible for any type of auto restrictions in the downtown area.

Strategy 5 - On Street Parking Control

Because of pending decisions concerning the future development of the CBD in the Provo area and the need for downtown economic development, this strategy is not implementable at the present time.

Strategy 6 - Park & Ride Parking Lots

As a result of the 1979 study of interchanges along Interstate 15, four park and ride parking lots were recommended for the UVATS area. The results of the study indicated that these lots are indeed encouraging carpooling, vanpooling, and transit usage which will ultimately result in energy conservation, reduced air pollution and reduced traffic congestion.

Strategy 7 - Pedestrian Malls

Construction of a downtown mall on Center Street in Provo is being studied. The study is still preliminary and not enough data is yet available for analysis of air quality benefits.

Strategy 8 - Bicycle Route System

An extensive study of the bicycle activity shows from 30,000 to 35,000 bicycles in the area. Eighty-five percent of these are registered to BYU students. Study has shown that ridership is significantly down during the winter months when CO emissions are recorded at the highest "non-attainment" levels. It is determined that, although bicycle miles of travel are considerable and growing in the Provo area, the activity would not contribute to relieving the CO emissions problem during that part of the year when it is at the highest levels. No significant reduction is expected.

Strategy 9 - Staggered Work Hours

Traffic volumes on major arteries in Provo City do not indicate a serious congestion problem that would be alleviated by any change in major industry work release times.

Strategy 10 - Road Pricing to Discourage Single Occupancy Auto Trips

Road pricing to discourage single occupancy auto trips is not feasible in the Provo City area. There are no major tunnels, bridges, freeways, etc., which can be used as a means of controlling access to the city. There is unlimited access to the city from the North, West, and South. It is not legal in the State of Utah to impose toll fees on public roads.

Strategy 11 - Controls on Extended Vehicle Idling

Study has shown that major entities using vehicle fleets have regulations prohibiting unnecessary idling of engines. Because of the large area covered and the relatively small number of vehicles involved, it is determined that the total positive effect on air quality is not significant.

Strategy 12 - Traffic Flow Improvements

An extensive study of key intersections in the Provo-Orem area was made and only two intersections emerged as having impending Level of Service problems. These were both located on the 1230 North Corridor in Provo. Critical Movement Analysis of 1230 North and 500 West, and 1230 North and University Avenue, indicated Level of Service C, bordering on Level of Service D.

It is proposed to better synchronize the five traffic signals along 1230 North at 300 West, 200 West, 500 West, University Avenue, and 150 East, by interconnecting each intersection to a master controller. This will provide a single operating system and the savings realized by reducing stops, delay and gasoline consumption will pay for the estimated \$100,000 cost for the system in approximately one year. It is recommended that this project receive high priority for either Special Signal funds or Federal Aid Urban funds.

APPENDIX 2

The following are the conclusions reached by the Wasatch Front Regional Council (WFRC) relative to the Transportation Control Measures that were studied as part of the 1982 State Implementation Plan.

1. Programs for Improved Public Transit

Transit improvements were found to provide the greatest vehicle emissions reductions of any Traffic Control Measure. It was recommended that transit service be expanded. Funding will be a constraint on this action, however.

2. Programs to establish exclusive bus and carpool lanes and areawide carpooling programs

Exclusive HOV lanes were studied in detail but are not recommended because of high costs and safety problems. Areawide carpooling programs will be a part of the transportation brokerage, which is recommended.

3. Programs to limit portions of road surfaces or certain sections of the metropolitan areas to the use of common carriers, both as to time and place

These programs scored low in the initial TOM policy analysis, compared to other strategies. Because of the large capacity of the streets in the downtown areas and the small amount of congestion that currently exists, restricting the use of streets in these areas would not reduce automobile traffic significantly. Therefore, the air quality benefits of this strategy would be very small.

4. Programs for long-range transit improvements involving new transportation policies and transportation facilities or major changes in existing facilities

Long-range transit improvements could not be implemented quickly enough to help meet the air quality standards for the area. However, the WFRC and the UTA will be conducting a long-range transit sketch planning study during the 1982 program year. Air quality impacts will be one of the criteria to be used to evaluate alternative plans.

5. Programs to control on-street parking

Parking strategies ranked low in the initial TOM policy analysis. In 1978 on-street parking made up only 9 percent of the available parking in the downtown Salt Lake City area. Also, because of the large amount of parking available in the downtown area, only 65 percent of all stalls were actually

occupied during the peak periods. Thus, reducing on-street parking would probably have little impact on automobile travel to the downtown area and, therefore, little air quality benefit.

6. Programs to construct new parking facilities and operating existing parking facilities for the purpose of park-and-ride lots and fringe parking

The UDOT has already constructed four commuter parking lots in the Wasatch Front Region along I-15 for the use of carpoolers. It is recommended that this program continue. The UTA currently uses church and shopping center parking lots as joint-use park-and-ride lots. They will continue to add such lots to their system. The Transit Development Program also recommends that the UTA construct exclusive park-and-ride lots. This will be done as funding is available.

7. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place

These programs scored low in the initial TCM policy analysis, compared to other strategies. Because of the large capacity of the streets in the downtown areas and the small amount of congestion that currently exists, restricting the use of streets in these areas would not reduce automobile traffic significantly. Therefore, the air quality benefits of this strategy would be very small.

8. Provisions for employer participation in programs to encourage carpooling, vanpooling, mass transit, bicycling, and walking

This strategy was recommended to be included as part of a transportation brokerage. For the next year the Utah Energy Office will be making contacts with major employers to promote ridesharing. After July 1982, the agency selected to be the transportation broker will assume these responsibilities.

9. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private area

Bicycle use makes up a very small percentage of the total travel of the region. Weather and topography are two major constraints on bicycle use in the area. Even a large increase in biking would not decrease vehicle miles of travel and vehicle emissions significantly. For these reasons, bicycle programs were not considered further.

10. Programs of staggered hours of work

This strategy scored low in the TCM policy analysis process. However, variable work hours programs have been identified as possible energy conservation measures, and the UTA has shown some interest in promoting these programs to make better use of their buses. While not recommended as an air quality improvement measure, variable work hours programs may be promoted for other reasons.

11. Programs to institute road user charges, tolls, or differential rates to discourage single occupancy automobile trips

There are no locations in the region where tolls could be charged. Also, any attempts to institute such charges would meet with severe public opposition. For these reasons, these programs were not considered further.

12. Programs to reduce emissions by improvements in traffic flow

Traffic flow improvements were recommended to be included in the Traffic Control Plan. Included in this recommendation are the installation of Salt Lake City's computerized signal system and the expansion of Salt Lake County's computerized signal system. Other TSM projects will also provide air quality benefits.



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Air Quality

October 29, 1999

Ursula Kramer
Director of Air Quality
Utah Department of Environmental Quality

Dear Ms. Kramer:

Thursday October 28, 1999 the Mountainland Executive Council discussed the possibility of including Park and Ride lots as part of a State Implementation Plan (SIP). They would be Transportation Control Measures resulting in a reduction of Vehicle Miles Traveled (VMT). Mountainland completed a Park and Ride Plan which documents the need for over 8,000 stall by 2020. Based upon this plan and the current Transportation Improvement Program (TIP) which funds design and site selection for two lots the following motion was made.

“Up to 700 new park and ride stalls should be completed in Utah County by 2006”.

Mountainland AOG would like to recommend that this TCM be included in a SIP either through an amendment or in any new applicable SIP. Attached is the Mountainland Region Park and Ride Plan including calculations for stall needs. If further information is needed please contact me at (801)-229-3835.

Thank you,

Kathleen B. McMullen
Director of Regional Planning
Mountainland Region MPO

cc: Rick Sprott, Manager of Planning

Attachment VI. Appendix 2