

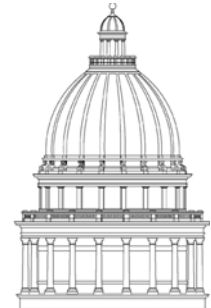
Office of
LEGISLATIVE AUDITOR GENERAL
State of Utah

REPORT NUMBER ILR2010-C
July 20, 2010

A Limited Review of HOV Lanes

We have determined that a full audit of Utah's High Occupancy Vehicle (HOV) lane program is not needed at this time. The audit request questioned the use of HOV lanes; the cost of constructing and maintaining the lanes; their impact on traffic congestion, flow, and vehicle emissions; and the safety and enforcement of HOV lanes. We believe that the Senate Bill 38, passed during the 2010 Legislative General Session, will answer these questions. This bill requires the Utah Department of Transportation (UDOT) to annually report to the Transportation Interim Committee on the usage, impact, and safety of HOV lanes as compared to general purpose lanes (*Utah Code* 41-6a-702(4)(c)). In addition, UDOT is in the process of installing an electronic tolling system that will change HOV lane usage. We believe that any audit of the HOV program should follow the implementation of this system. Reducing the scope of this assignment will enable us to complete large audit assignments made by the Legislative Audit Subcommittee.

HOV lanes are freeway lanes restricted to vehicles carrying a minimum number of people. In Utah, vehicles with at least two passengers, buses, motorcycles, low-emission vehicles, and toll-paying single-occupant vehicles are eligible to use the lanes. Vehicles weighing more than 12,000 pounds and vehicles towing trailers are not allowed in the lanes, even if they satisfy the minimum occupancy requirement. A key objective of HOV lanes is to increase the people-moving capacity of roadways. Past UDOT studies completed by the University of Utah Traffic Lab show that HOV lanes have effectively



S.B. 38 requires UDOT to report on the usage, impact and safety of HOV lanes.

Past studies show HOV lanes increase the people-moving capacity of the roadway.

increased the people-moving capacity of the roadway and reduced travel time during peak time periods.

State Finances Most Costs

Federal highway funds helped finance the introduction of HOV lanes as part of the I-15 reconstruction project and other large projects currently in process (Lehi to Spanish Fork and Layton to Ogden). However, lane-widening costs have been financed mostly with state funds. The state paid \$42 million to extend lanes from the Utah County line to Orem and \$69 million for lanes from Farmington to Layton. Salt Lake County paid \$33 million to widen lanes from 10600 South to the Utah County line. Converting to the electronic toll program has significantly increased operating and maintenance costs that are expected to be financed with toll revenues.

HOV Lane Program Is Evolving

UDOT addressed underutilization of HOV lanes by allowing single-occupant vehicles to use the lanes. Addressing underutilization has resulted in the decline of the average occupancy of vehicles traveling in the HOV lanes. However, the people-carrying capacity of the HOV lane is still greater than that of a general purpose lane.

We compared current occupancy levels in HOV lanes at 10600 South with levels reported in earlier studies at the same location. Average occupancy in HOV lanes during the afternoon peak in 2004 was 2.31 persons per vehicle, which declined to 1.78 in 2010. Several variables could have contributed to this decline. In 2006, an additional general purpose lane was added at 10600 South, which reduced congestion for all lanes. There is less incentive to use the HOV lane if the general purpose lanes are not congested. In addition, HOV lanes were opened to fee-paying single-occupant vehicles, and access in and out of the lanes was limited which reduced HOV lane convenience.

Although average occupancy has declined, HOV lanes continue to carry more people in fewer vehicles than the average general purpose lane. In 2005, the HOV lane carried 8 percent more people with 51 percent fewer vehicles than the average general purpose lane. In 2010, the HOV lane carried 21 percent more people with 33 percent fewer vehicles as a general purpose lane.

The state financed most lane-widening costs.

Average occupancy levels have declined but HOV lanes continue to carry more people in fewer vehicles than general purpose lanes.

Change to Electronic Tolling Underway

As this review began, the federally funded installation of electronic tolling equipment was already underway. The change to electronic tolling is intended to help UDOT manage utilization of the HOV lanes by controlling how many single-occupant vehicles use the lane. UDOT's annual report to the Legislature should evaluate HOV lane effectiveness after electronic tolling is in operation to determine if the goals and objectives of HOV lanes are continuing to be met.

Recommendation

1. We recommend that the Utah Department of Transportation evaluate the effectiveness of HOV lanes after electronic tolling is in operation.