Managed Lanes and HOV Access

DENVER REGIONAL COUNCIL OF GOVERNMENTS
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What are Managed Lanes

Many types:
- Toll/Express 24/7: (North I-25, US-36)
- Peak hour shoulder use: (I-70 Mountain proposal)
- HOV-only, peak periods: (Santa Fe Drive)
- Bus-only, peak periods: (Broadway/Lincoln)
- HOV-only, 24/7 (Salt Lake City)

Some type of roadway operational variation:
- Rules for different types of vehicles
- Price variation by time or level of congestion
- Time-of-day of operation
- Choice for road users (general purpose lanes vs. toll or HOV)

Manage the flow of traffic – new technologies

HOV = High Occupancy Vehicle (transit, carpool)
Dozens (hundreds?) of studies – wide range of “results” drawing different conclusions

- Studies do not provide conclusive guidance

- Quality and objectivity is questionable on many studies, authors often at odds
HOV Policies – Free use by carpool HOVs:

- Will decrease overall revenues (all else being equal) compared to charging all cars and trucks
  - If a certain level of revenues are required (to operate & maintain, or to pay off bonds), then tolls must be raised for other users

- Requires higher enforcement costs (police, equipment)
  - Costs usually imbedded within the tolls
  - Fines do not offset costs, and usually do not go to the operating agency
If HOVs are allowed free access:
- Existing carpools will divert from adjacent general purpose lanes to the toll managed lanes
- Some new carpools will form (small % of corridor travelers)

Likewise, if policy changes for an existing facility (e.g. from 2+HOVs-free to 3+ HOV):
- Most 2 person HOVs will move to general purpose lanes
- Some 2 person HOVs will stay in toll lane
- Some 2 person HOVs will attract a 3rd occupant
- Some carpoolers will divert back to SOVs (single occupant vehicles)
  - E.g. 1% - 2% decrease
- Some carpoolers will change to transit **
Who Uses The Toll Managed Lanes?

- People of all incomes (drivers and passengers)
- Greater share of higher income users compared to total population of region
  - Should compare to the highway corridor users – not general pop.

- Rebates or vouchers provided to low-income persons? – cost to administer
  - E.g. toll bridges back east: Staten Island V-N Bridge, Tappan Zee?

- People can use adjacent general purpose lanes
  - Will have less congestion after toll lanes added (all users benefit)
    - Duration and severity of congestion decreases (if designed well)
  - 80% - 90% of hours in a week: little time differential between general purpose and toll lanes.
Conclusion – Studies are inconclusive

Sample Bibliography:

- HOV Express Lanes User Survey, Corona Research, 2008
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- Managed Highway Lanes in Colorado, SWEEP, 2014
- The Five Classical HOV Lane Fallacies, AJM Engineering, 2002
- Can Carpooling Clear the Road and Clean the Air, Vanderbilt U., 2012
- HOT Lane Enforcement Cost Recovery, Texas DOT, 2009
- Investment Grade Traffic and Revenue Study US 36, Wilber Smith Ass. 2011
- HOV Lanes in California, Legislative Analyst’s Office, 2000
- Policy Considerations for Express Toll Lane Implementation, WDOT, 2013
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