

Secondary Guidelines

Support Facilities

HOV implementation should include effective collection and distribution facilities to complement mainline HOV lanes. Such system support facilities for radially oriented HOV lanes include convenient bus stops and bus lanes on arterials leading to and within the central business district, park-and-ride lots for bus transit users, park-and-pool lots for carpoolers and vanpoolers, preferential ramps accessing HOV lanes and support facilities, and locally sponsored rideshare programs.

Bottleneck Bypass

Short HOV lanes may be implemented as bypasses to or through bottlenecks on freeways. The use of these short HOV lanes as queue bypasses is meant to either ensure unobstructed flow to HOVs or give HOVs a head-of-the-queue advantage over mixed-flow traffic. This application may be considered as a mainline treatment (e.g., through a toll plaza) or it can be considered at isolated locations (e.g., metered entrance ramps) in which one-minute or more travel timesavings would be considered acceptable. These treatments may be considered independently of or in conjunction with an HOV facility.

* This guideline is specific to selected sites and may not be appropriate for all applications.

Safety

HOV projects should result in additional movement of persons without impairing safety. A goal for accident rates occurring within the HOV envelope is that they be held equivalent to accident rates occurring in the adjacent mixed-flow traffic, based on a comparison of vehicle miles of travel.

System Development

HOV lanes can also be considered as elements of a system wide network of mobility improvements that include HOV lanes on a network of freeways. Adoption of a system wide HOV plan provides the widest possible benefits to HOV users. This long-range consideration constitutes a reflection of a strong, permanent commitment to HOV lane preferential treatment and a lasting effort to make HOV facilities attractive to motorists. With a systems approach, an isolated segment that does not meet other guidelines is still a candidate for implementation for the reason that it would constitute part of a system wide network of priority treatment. Conversely, commitment to a single HOV project within a region does not necessarily require adoption of a region wide plan.

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Staging Improvements

The implementation of an HOV improvement is not necessarily perceived as a benefit to all motorists. In order to promote public acceptance, it is desirable to stage improvements so that both mixed-flow and HOV users will perceive direct benefits from the construction activities. Wherever, possible, mixed-flow improvements should be included in construction activities. Examples of mixed-flow improvements that are candidates for consideration include TSM actions (ramp metering, signal retiming and realignments), frontage road improvements, auxiliary lanes, and capacity and intersection improvements to the mainline freeway and local streets.

Environmental Enhancement

Environmental concerns are among the reasons why HOV lanes may be established. Among these concerns are federal and state requirements to reduce air pollution and achieve ambient air quality standards. Concerns for energy and its efficient use may also motivate or enhance HOV lane consideration. Thus an HOV lane concept may be favored because it requires less new construction or taking of land than mixed-flow lanes of equal person-moving capacity, or because the traffic on HOV lanes uses less energy (fuel), and create less pollution (vehicle exhaust) per person transported. Even measured per vehicle, pollution and energy use can drop to the extent that an HOV facility provides free-flow traffic in place of stop-and-go congestion (where vehicle motors operate inefficiently).

Technology Compatibility

Alternative fixed transit guide ways may exist or be planned in a corridor, potentially competing with an HOV treatment. In this instance, consideration of HOV treatment should be justified based on an evaluation of the trip characteristics each mode serves. Application of the HOV concept typically caters to longer distance, more dispersed commuter trips that may not be otherwise served by conventional fixed-guide way technologies. Conversely, an HOV treatment may be a candidate for conversion to a fixed guide way if justification exists that the majority of trips being served can be more cost effectively handled by a fixed guide way technology. In general, the operation requirements for each mode are so different that they outweigh the need to evaluate physical conversion.

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