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Shared-Use Bus Priority Lanes on City Streets: Case Studies in Design and Management

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This study examines the design and operations of bus lanes in major congested urban centers. It focuses on shared-use bus lanes that operate in mixed traffic conditions.

There is no single “one-size-fits-all” bus lane design. Each city adapts its bus lane designs and regulations to meet local conditions, often on a block-by-block basis.

Study Methods

The key questions addressed are:

1. How do the many public agencies within any region that share authority over different aspects of bus lanes coordinate work in designing, operating, and enforcing the lanes?
2. What is the physical design of the lanes?
3. What is the scope of the priority use granted to buses? When is bus priority in effect, and what other users may share the lanes?
4. How are the lanes enforced?

To answer these questions, the study developed detailed cases on seven cities that currently have networks of shared-use bus lanes: Los Angeles, London, New York, Paris, San Francisco, Seoul, and Sydney.

Findings

1. Coordination

In most cities, bus-lane responsibilities are split among agencies responsible for street engineering, transit services, and policing, as well as across multiple levels of government. The cities examined have been integrating some of these responsibilities. Most common has been the emergence of urban transportation agencies with responsibility for both transit services and city streets, such as Transport for London. Less common has been integration of enforcement responsibilities into transportation agencies.

2. Physical Design

Among the cases examined, the most common physical arrangement for bus priority lanes is curbside. This position minimizes impacts on general traffic flow but puts buses into competition with vehicles queuing to make turns, stopping at the curb to pick up passengers or make deliveries, or parking. Some cities are shifting toward alternative designs that mitigate some of these drawbacks, including offset lanes that preserve more curb access (New York, San Francisco), physical barriers (Paris), and median bus lanes (Seoul).

One universal finding was that there is no single “one-size-fits-all” bus lane design or alignment suitable throughout any of these cities. Each has had to adapt its bus lane designs and regulations to meet local conditions, often on a block-by-block basis.

3. Lane Use Policies

Bus priority lanes exist in urban environments where the goal of improving mobility for bus riders must be balanced against the needs of other transportation system users. This balance can be achieved by allowing other vehicles to access bus lanes under defined conditions and scheduling different uses for the lane during different times of day. Nearly every city studied allows all vehicles to use curbside bus priority lanes to make turns and access driveways. Taxis are universally allowed to use bus lanes to pick up and discharge passengers, and several cities also authorize bicycles and taxis to drive in bus lanes. Other exemptions are more unusual. While bus lanes operate around the clock in a few cities, in most they operate only during peak hours of bus use.



Photo by Cameron Gordon.

4. Enforcement

Managing bus lane enforcement is challenging for transportation agencies because only police may legally enforce most laws concerning vehicle operations. Cities cope with this challenge in various ways. Some have passed laws reclassifying bus lane violations as civil infractions that can be enforced by civilian agents and/or automated cameras instead of the police. Others have developed contractual or supervisory relationships between police and transportation agencies to ensure personnel dedicated to bus lane enforcement. Still others have adopted design strategies like physical barriers that discourage illegal driving in bus lanes.

Policy Recommendations

Central business districts around the world have experimented with bus lanes for over fifty years, with successes having been episodic and fleeting. Bus lanes performed well when elected officials directed resources and attention to enforcement and public awareness, only to degrade into ineffectiveness when attention and priorities turned elsewhere.

While the details of each city's approach are unique, four key hallmarks of current bus lane planning are: (1) institutional reforms, (2) creative and carefully tailored physical designs, (3) strategies to balance competing uses, and (4) sustainable approaches to enforcement. This research identified innovative practices in each of these areas, as detailed above, that may be suitable for other communities using shared-use bus lanes.

About the Authors

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To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/project/2606.html