To:	Place Directorate
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Date:	28/04/2017
Subject:	Essential Evidence on a Page: No. 160 Effective ways to grow urban bus markets

Top line: Experience with major bus system improvements provide findings consistent with the market response evidence - that the largest patronage growth levels are related to increases in service levels and in bus rapid transit and bus priority systems targeting improved reliability.

Improving the quality of urban public transport is one of many strategies proposed to improve mobility options for the transport disadvantaged, to address car dependence and urban congestion, environmental sustainability and global warming concerns associated with car dependence. Improving bus-based public transport is considered a more cost-effective option compared to rail investment particularly in relation to the lower density environments eg Australian and North American cities. One study sought to provide a clear synthesis as to the most effective means to improve bus services.[1]

A number of European Union research projects have investigated bus improvement measures in 22 European cities (JUPITER, CAPTURE and OPIUM projects).[2] However, most of the bus improvements examined in these projects were implemented in 'packages', making conclusions on individual improvements difficult to identify. The schemes with the largest patronage growth impacts include busways, increased bus frequencies and bus/High Occupancy Vehicle (HOV) lanes. The largest single improvement measured was for a bus/HOV lane in Spain (+53% in patronage).The JUPITER project suggested the following rank order of bus improvements in terms of patronage impacts: Service reliability-based measures (busways, bus lanes, junction priority); Frequency of service; and Passenger information based measures. In terms of cost-effectiveness, it suggests the following (descending) order of performance: Low floor buses; Bus priority at traffic signals; New interchanges replacing inadequate facilities; and Real time passenger information.

Based on market responses to a wide range of bus improvements in many developed countries and internationally, the authors of the synthesis suggested the following findings:

- That, if money were no object, the greatest patronage increases are likely to result from improved frequencies and service levels, followed by reduced fares and then reduced travel times.
- In cases where service reliability is poor, reliability improvements can provide significant patronage gains (typically up to 10–20%), often at low cost. 'Soft' variables (e.g. comfort standards, security, cleanliness) would, if implemented as a package, generally only improve patronage by a maximum of 5–10%.

[1] Currie, G., Wallis, I. 2008 Effective ways to grow urban bus markets – a synthesis of evidence, *Journal of Transport Geography*, 6: 419-429.

[2] Booz Allen Hamilton, 2006. Study of Successful Congestion Management Approaches and the Role of Charging, Taxes, Levies and Infrastructure and Service Pricing in Travel Demand Management. Council of Australian Governments.