



Designing for Buses in the Urban Environment

Overview

This one-day course will highlight common mistakes that can occur during the planning and design of bus interchanges and infrastructure. Exploring issues that may at first appear minor, but if not identified and addressed early can result in challenging and costly remedial work during the construction and post opening phases of the project.

Many of these design issues occur because the designers or those approving the design may lack the specialist knowledge of bus interchange requirements, vehicle manoeuvrability and transport operations. Taught through practical examples and case studies, the course will provide an introduction to the topic, allowing potential issues to be recognised and removed at the design stage enabling costly and time consuming issues to be avoided.

Who Should Attend

The course is designed for those who are responsible for the delivery and procurement of bus interchange or transport hub infrastructure in local authorities or transport authorities, design and transport consultants, architects and property developers.

Those involved in operating, planning and marketing services will also find value in this course. All participants will be issued with a certificate of attendance and awarded 6 CPD hours.

Learning Outcomes

The course combines theoretical concepts with practical examples of both good and bad designs, showing how money can be saved at all stages of the design and construction process. On completion of the course participants will:

- Have an understanding of how and why design issues occur;
- Have an understanding of how buses move and the space needed for manoeuvres;
- Appreciate the requirements of the waiting environment for passengers;
- Have an understanding of the requirements for drivers and bus operators;
- Have an understanding of the various bus priority measures, their advantages and disadvantages and principles of effective design;
- Have an understanding of the different materials used for bus infrastructure, landscaping, maintenance implications and on-going costs;
- Have a firm understanding of the main types of urban bus infrastructure design – bus stop, bus stand, on-street interchanges, small bus station and large interchanges; and
- Have an understanding of the Project Management Lifecycle of a Bus Interchange Design.

Programme*

- 09:00 **Introduction and Learning Outcome**
- 09:10 **How Design Issues Occur**
Examples of various design mistakes and issues from actual interchange designs and builds. How and why they occur. Contrasting agendas for various project stakeholders. The escalating cost of remedial work during project lifecycle. Example of quantitative savings made by improving design.
- 09:50 **Designing the Space for Buses to Move**
Bus dimensions, and turning dynamics. How and why buses move the way they do. Implications for street and junction design on bus routes. Effects of traffic layouts, parking, trees, buildings. Basic design requirements of bus stops, stands and bays.
- 10:30 **Break**
- 10:40 **Bus Stop and On-street Interchange - Workshop 1**
Design various types of bus stop - kerbside, layby, bus boarder. Common design issues for each case. Workshop - Groups consider case studies of various scenarios followed by discussion.
- 11:20 **Designing for Passengers**
Basic requirements of the waiting environment: shelter, lighting, information, safety, seating, accessibility, toilets, retail, signage. Pedestrian Desire Lines - good and bad examples. Building Architecture - Functional or design statement?
- 11:50 **Designing for Drivers and Operators**
Staff facilities; layover areas; safety, security and segregation; signage and documentation; sightlines; ease of entry/exit; layout testing; timetabling implications
- 12:20 **Lunch**
- 13:00 **Construction and Maintenance**
The roles of traffic engineers and construction consultants, construction types, materials and design of bus aprons. Types of kerbs and edgings. Drainage requirements and design. Examples of damage due to water and bus dynamics. Oil separators. Costs, advantages and disadvantages of landscaping.
- 13:40 **Bus Priority Measures**
The role of Traffic Planning Engineers. Common types of bus priority. Quality Bus Corridors and other Bus Quality Schemes. How bus priority schemes reduce journey times. How traffic calming and bus priority schemes conflict.
- 14.10 **Break**
- 14:20 **Small Bus Station - Workshop 2**
Designing small town station/interchanges, typically up to 80 bph. Workshop - Groups consider case studies of various scenarios followed by discussion.
- 15:10 **Larger Interchange - Workshop 3**
Designing large, municipal interchanges, typically more than 80 bph. Workshop - Groups consider case studies of various scenarios followed by discussion.
- 16:00 **Project Management Lifecycle**
Project conception and initiation, project definition and planning, project design and safety, project execution, project performance and control and project close.
- 16:30 **Feedback, Summary and Close**

*Please note that this is a preliminary programme and is subject to change

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Date of course and location		
Title	Forename	Surname
Position		
Department		
Organisation		
Address		
		Postcode
Telephone		
Email		
Please state any special dietary or access requirements		
How did you hear about this course?		

Attendance Fees

Please tick as appropriate:

- Standard rate** (please write in amount) _____ + VAT
- CILT/Local Authority/Charity rate** (please write in amount) _____ + VAT

Method of Payment

Card No.

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Please attach a copy of your purchase order made payable to PTRC

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Cheque enclosed for £ _____ made payable to PTRC

Signature of Authorisation

I have read and accept the terms and conditions

Signature _____ Date _____

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Please return to: The Events Team, PTRC Education & Research Services Ltd, 22 Greencoat Place, London, SW1P 1PR
T: 020 7348 1970 F: 020 7348 1989 E: info@ptrc-training.co.uk

Terms and Conditions

1 Registration Form

Applications should be made on the official registration form. Photocopies are accepted. One form should be completed for each delegate attending an event. It is important that all sections are completed legibly. Delegates are advised to retain a copy of the registration form for reference before sending.

2 Fees

Fees include attendance at lectures, lecture notes, lunch and all refreshments unless otherwise indicated.

Fees do not include overnight accommodation, breakfast and evening meals unless stated or otherwise indicated.

3 Acknowledgement

Receipt of a registration form will be acknowledged by email, delegates will be sent an invoice and an email of acknowledgement. Joining instructions, including a map, will be sent to each delegate by email approximately two weeks before the start of the event.

4 Payment

Unless otherwise stated payment in full must be made at the time of booking. All prices are exclusive of VAT, unless stated otherwise.

5 Cancellation

All cancellations, or alterations to a booking, must be received in writing. To avoid cancellation penalties, substitutes will be accepted at any time, if notified in writing and in advance of the event. Adjustments in fees will be made if there is any change in fee category. Cancellations received in writing up to 14 days before an event will be subject to an administration fee of £75 + VAT or the event delegate fee, whichever is the lower. Cancellation within 14 days of the event date or a 'no show', will be liable for the full fee.

6 Disclaimer

PTRC reserves the right to vary the programme and to cancel an event if it is under subscribed or for any other reason. In the event of cancellation, where reasonably possible, PTRC aims to give delegates at least two weeks' notice and the fee will be refunded in full. PTRC will not be held liable for any pre-booked travel, accommodation or similar costs incurred under any circumstances whatsoever.

7 Data Protection

Details will be held on a database in accordance with the 1998 Data Protection Act. Information will be used for internal marketing purposes only and will not be shared with any external organisations.

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