LTN 1/24 Bus User Priority

New DfT guidance for England

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Overview

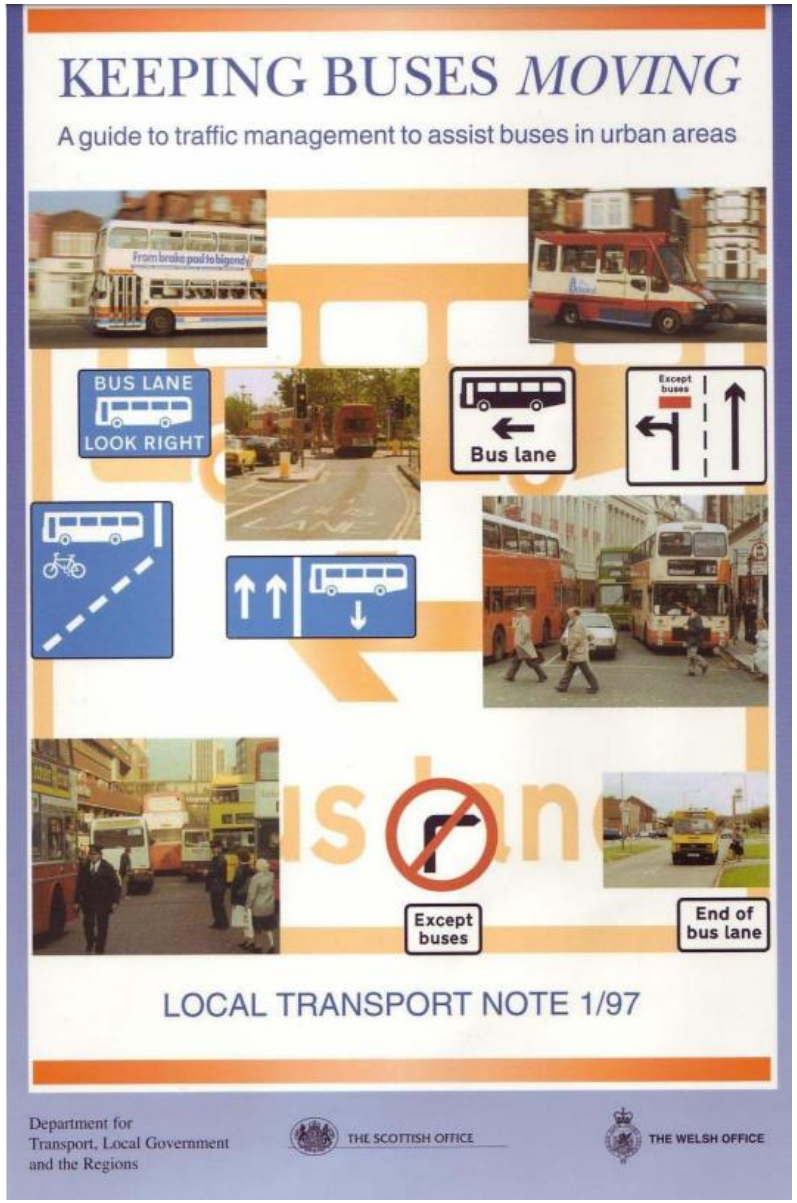
This session will cover the following:

- Background to the guidance
- What is bus user priority?
- Key objectives and design principles
- Understanding bus journeys
- Types of bus user priority measures
- 12 key takeaways

Snapshot of a 100+ page document

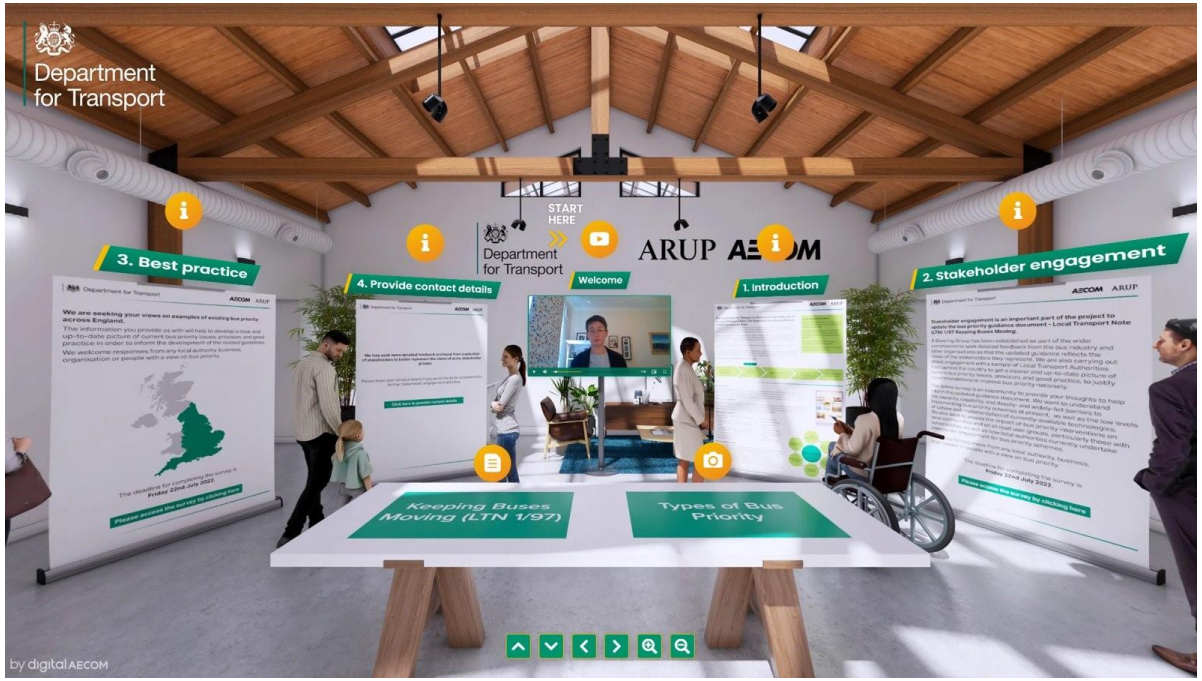
Background and context

- Previous guidance LTN 1/97 over 25 years old
- Commitment in National Bus Strategy (2021) to update
- Many changes in terms of other guidance, policies, regulations, e.g.
    - Traffic Management Act /Network Management Duty
    - Accessibility and Public Sector Equality Duty
    - Provision for wheeling and cycling
    - Street design (Manual for Streets)
    - Technological advances
    - Enforcement



Development of the guidance

- Developed by AECOM and Arups team working with Dept for Transport
- Steering Group from across industry, different organisations, and groups provided input and comment
- Virtual general consultation engagement with survey responses
- Interviews and engagement with selected authorities for additional information/research
- Initial work included:
    - Literature review
    - Identification of key themes and ideas for inclusion in the document from engagement/surveys
- Guidance contents based on initial engagement/literature review



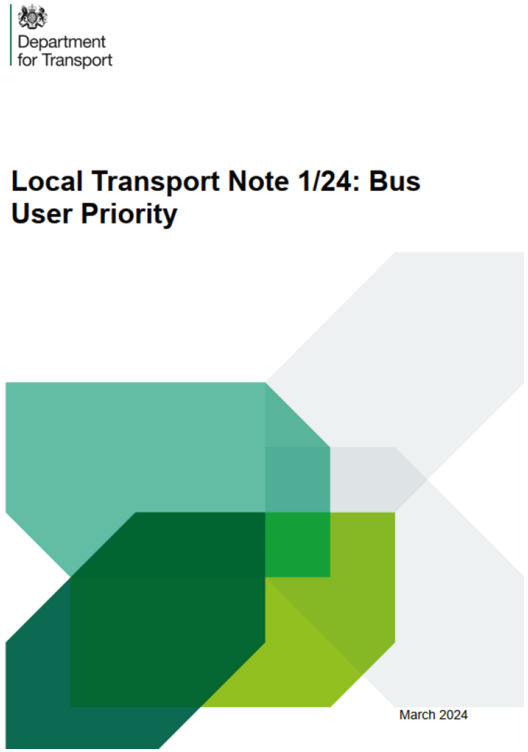
LTN 1/24 and other guidance

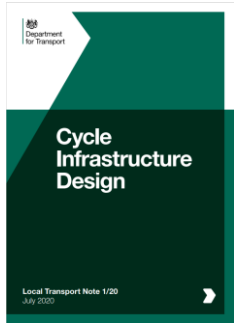
LTN 1/24 should be referenced with other documents

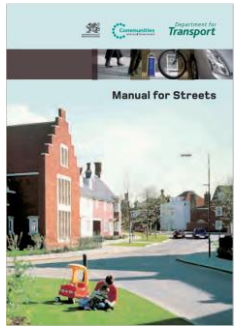
References are provided to other documents for detail on certain items e.g. Traffic Signs Manual for signing, LTN 1/20 for cycle/bus stops, etc

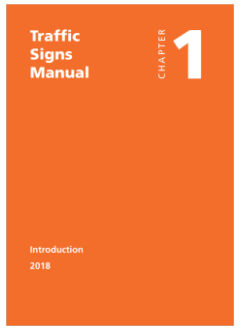
This includes:

- Manual for Streets
- Traffic Signs Manual
- Local Transport Note 1/20: Cycle Infrastructure Design
- Inclusive Mobility
- Network Management Duty guidance 2004
- National Planning Policy Framework guidance









Bus user priority – definition and objectives

– What is bus priority?

Key change redefining around the passenger or user not the vehicle

– No longer “bus priority” but bus user priority

Bus user priority definition:

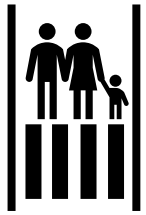
Bus user priority is a combination of measures and techniques providing safe, accessible, reliable and efficient bus journeys that are consistent and minimise delay.

Objective for bus user priority:

– Fast or delay-free journey time;
– Reliable, or consistent journey times;
– Increased patronage and passenger use;
– buses as an attractive and accessible choice for passengers and a genuine alternative to private vehicles
– Priority or preference on-road over private motor vehicles.

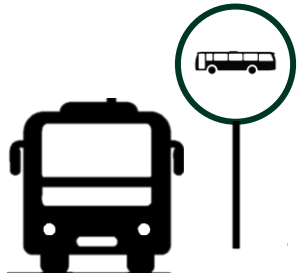
Design principles for bus user priority

Enable and support passenger access to the bus stop



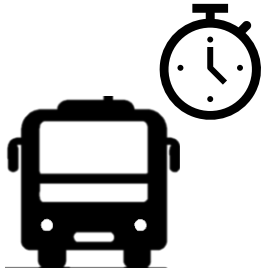
Provide a safe, comfortable and accessible bus stop

Minimise interruptions and delay along a route



Give the bus vehicle priority

Support reliability



Provide accessible information

This requires a package of measures and improvements

Engagement

- Good engagement is a key part of planning and designing bus improvements
- Engagement should involve a range of parties:

Public interest	Delivery partners	Other organisations
Existing bus passengers **Local residents** **Existing and potential passengers with specific access needs and preferences, including disabled people and people with other relevant protected characteristics.** **Local elected members** **Local businesses, local shops and major employers** **Local schools, colleges and universities** **Wider user groups such as Transport Focus, Transport for All, Living Streets, Sustrans**	Adjoining local authorities Bus operators and bus drivers Public health bodies National Highways Network Rail Tourism providers / operators Train operators	Other local authority departments Statutory consultees – for example Active Travel England who are statutory consultees on planning applications for major new developments Emergency services Taxi and PHV drivers, and PHV operators.

- See ***CPT's Toolkit for Engaging with Local Communities***

Understanding bus journey time (1)

Bus journey time is the total time it takes a vehicle to get from the start to the end of its journey. Components are:

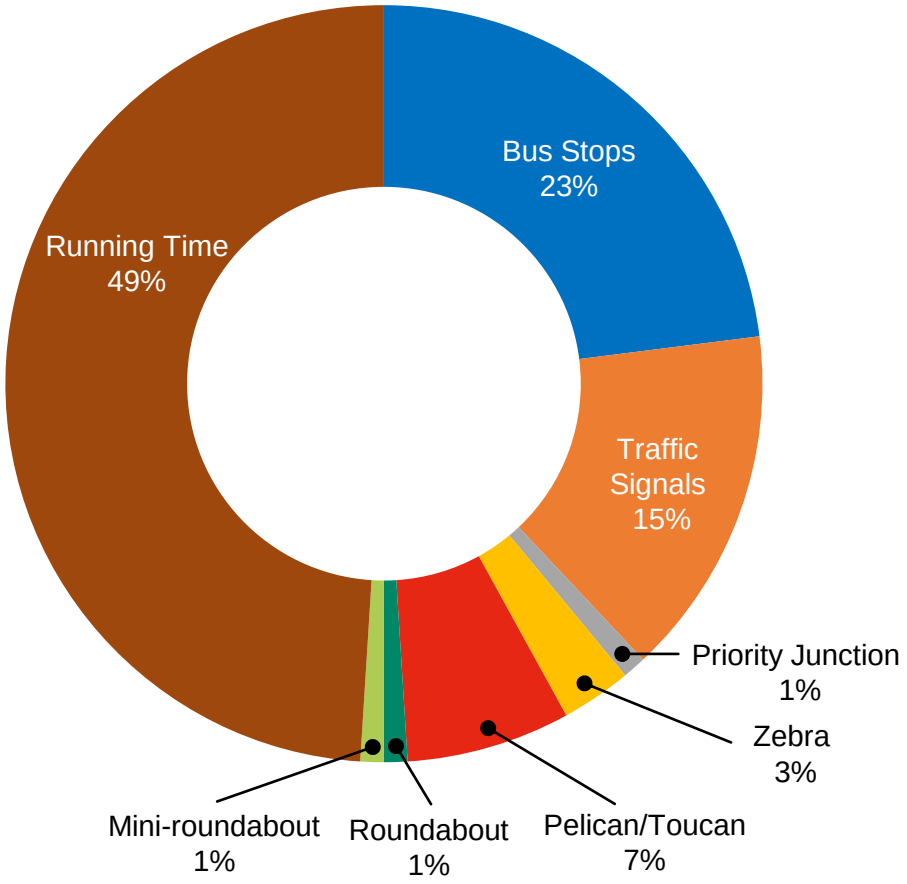
- running time (the time the bus spends moving), often described as the time the bus is not at a stop; and
- stationary or delay time (time the bus spends stopped or delayed).

Delay time includes time spent:

- At bus stops boarding and alighting passengers;
- At priority junctions awaiting right of way;
- At traffic signal-controlled junctions and crossings;
- stopped in traffic queues and congestion; and
- general delays caused by interaction with other vehicles, such as those accessing parking/loading bays.

Running Time + Feature Delay + Bus Stop Delay = Journey Time

Understanding bus journey time (2)



What does this tell us?

- Unless you understand what is causing delay to the bus designing improvements is guesswork
- Need to understand what you can influence
- How variable are these delays/impacts?
- Variety of methods can be used to obtain this including:
  - GPS data from operators
  - On-board surveys
- Don’t over rely on GPS data – get the user experience and understand how the services runs

Passenger access

Passenger trip starts from their home/place of work/school/shops etc

- Consider the walk (or wheel) to the bus stop or interchange
    - Is there a pavement? It is well maintained, free of obstructions, vegetation, etc?
    - Is it lit? What is the route like at night or in the winter?
    - Are facilities provided to safely cross any roads?
    - Does the route meet Inclusive Mobility requirements (width, gradient, surface, tactiles etc)?

If a passengers cannot easily and safely get to and from a bus stop it doesn't matter how fast a service is they won't use the bus.

- Measures to improve passenger access are <u>bus user priority</u>

Personal safety and security

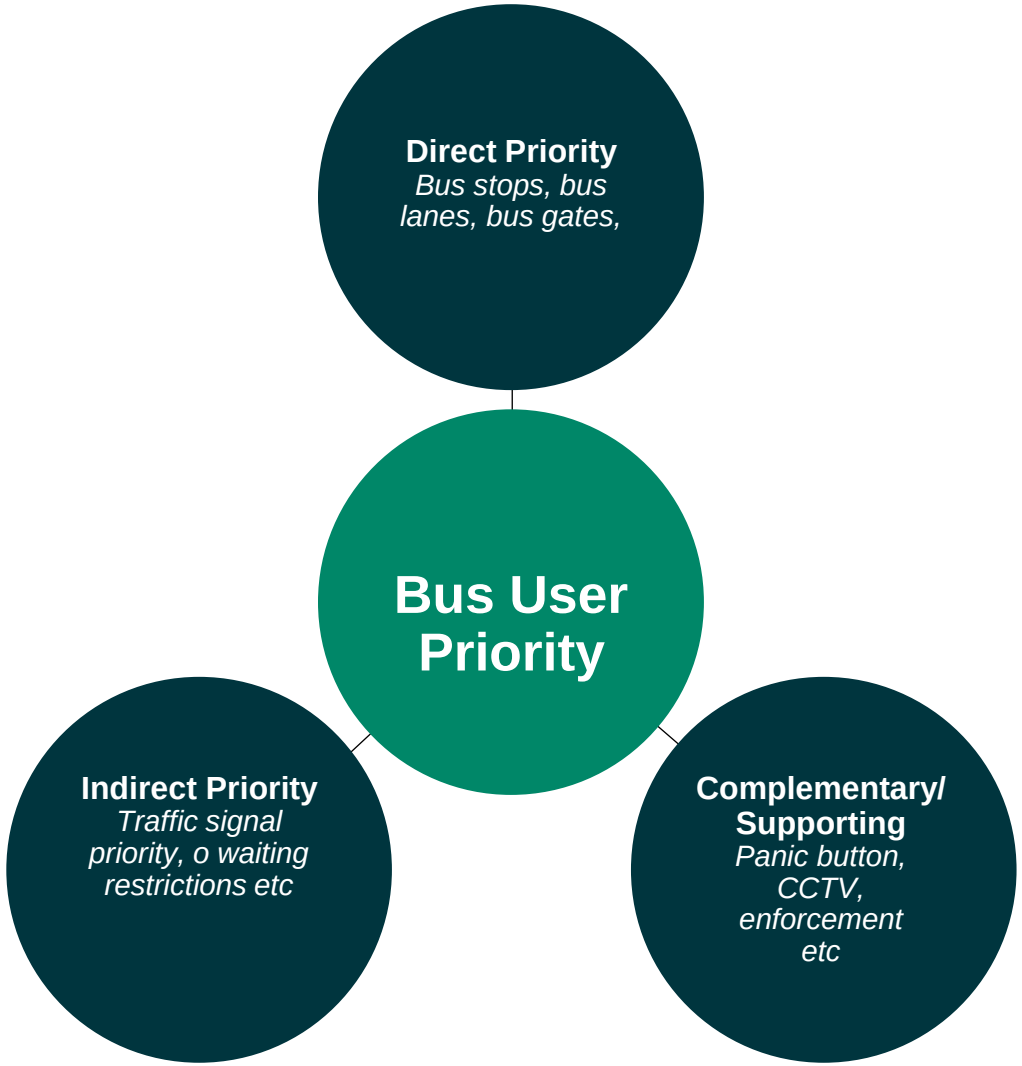
- The personal safety of a bus journey is as important as road safety.
- User perceptions of safety can influence mode choice irrespective of speed or reliability
- Designers and planners need to consider personal safety for all aspects of the trip from the door, to the bus stop to the onboard experience
- Ongoing maintenance and upkeep of infrastructure is also important
- Considering personal safety for all creates an inclusive transport system and meets core ESG goals

Toolkit of improvements

Bus user priority approach requires a toolkit of measures to deliver improvements

Measures are categorised as:

- **Direct priority**: examples include bus lanes or bus gates where the priority element is obvious
- **Indirect priority**: where the measure supports the outcomes but the infrastructure is not obvious, examples include waiting restrictions, or traffic signal priority
- **Complementary / Supporting**: this covers measures or activities that support the other measures such as enforcement or routine maintenance.



Bus stops – the key passenger interface

- Bus stop is the key interface between the bus service and the passenger
- Key features of a well designed bus stop:
- Design that minimises the time buses spend entering and leaving the stop and support fast passenger boarding/alighting
- Passengers need to be able step easily on and off the bus, and the stop needs to accommodate step free and ramp access for mobility impaired people.
- Bus stop cage should be designed to provide exclusive access by the bus so it can approach, manoeuvre, stop alongside the kerb, and then safely exit

Bus stops and interchanges

Design layouts and advice refer to:

- Transport for London Bus Stop Guidance
- Inclusive Mobility guidance (DfT)
- Range of different layout options from kerbside through to bus stop boarders
- Note: *Within urban or built up areas, where the speed limit is less than 40 mph, laybys should not be used.*
- Stops should meet accessibility requirements
- See LTN 1/20 in relation to cycles and bus stops

Mobility hubs should be considered in any package of bus improvements as a further evolution of bus stops

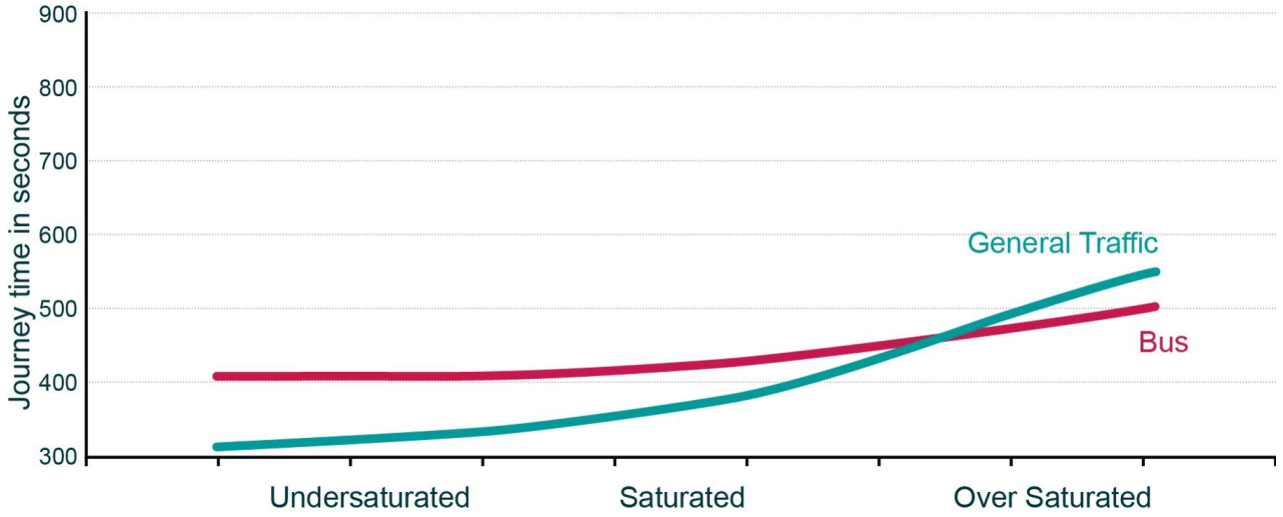
Bus stops and interchanges

- Bus stop location and spacing is also important
- Ideal is 200-400m – every stop adds to journey time
- Locations should consider:
    - Where do passengers want to go to/from?
    - Access and crossings
    - Stop pairing
    - Visibility and legibility
- Bus stop relocation and rationalisation should be considered within any package of improvements

Bus or priority vehicle lanes

What does a bus/priority lane do?

- Restricts access to a section of the carriageway to certain identified modes.
- It should create a space which is free flowing for users
- Results in both journey time and reliability improvements



- Bus lanes provide greatest benefits in an oversaturated network making buses faster (and more reliable) than other vehicles
- Hours of operation should consider when congestion is taking place and services are provided

Guidance states:

"If there is not significant congestion, the bus lane should not be 24 hours."

May be other reasons why should be 24 hours e.g. with a bus gate or pre-signal

Bus / priority lanes – use by non-bus modes

- Can be restricted to local buses only
- Pedal cycles are permitted by default
- Taxis (Hackney carriages) and private hire vehicles
- Solo motorcycles

- Other options for consideration include Heavy Goods Vehicles (freight)

Considerations:

- Use by other modes mitigates against “empty lane” perspective and supports compliance
- Makes better use of roadspace
- Ensure other flows do not create congestion for buses (maintains free flow)
- Other modes should be easily distinguishable
- Consider any potential road safety issues

Bus and priority lanes

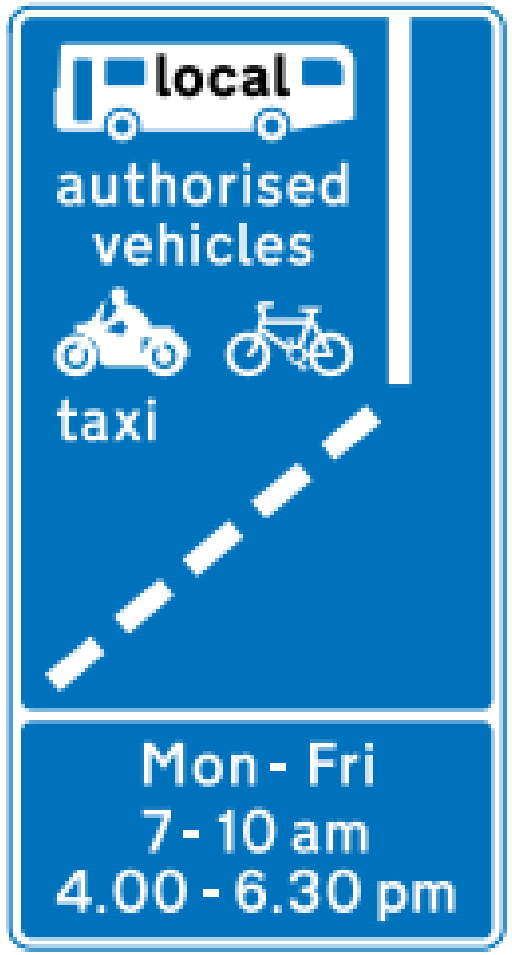
Dimensions

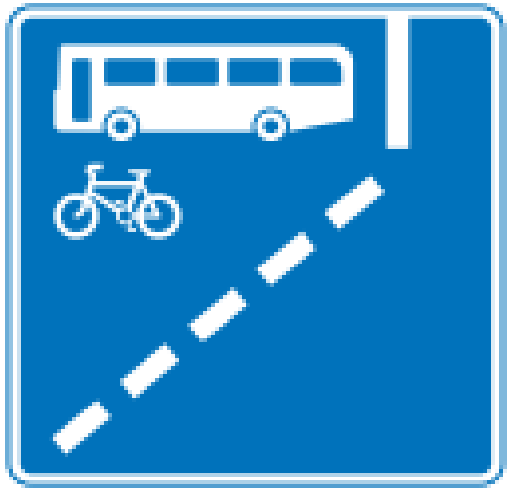
Bus Lane Type	Desirable Minimum Width	Absolute Minimum Width
Bus Only	3.2m	3.0m
Bus & Cycles	4.5m	4.0m

– 3.2m preferred due to wheel strike from gulleys affecting ride quality and maintenance

Bus lanes and cycles

– Permitted by default
– Wider lanes preferred– at least 4m ideally 4.5m
– Consider whether should also share with motorycles and/or taxis





Kerbside controls – waiting, loading and parking restrictions

Controlling and managing kerbside space should be a key part of a bus improvement toolkit

Typical impacts on buses include:

- Friction from vehicles entering/exiting parking/loading spaces
- Stopped vehicles creating obstructions and a need to give way
- Illegally parked vehicles blocking bus lanes stopping access bus movement

"…**the primary use of the public highway is for the movement of people, goods and vehicles.** This is established in common law. Any kerbside activity is by permission not by right."

Designers should consider:

- Waiting and loading controls
- Loading bays
- Controlled parking
- Blue badge parking; and
- Red routes/Clearways (No stopping)

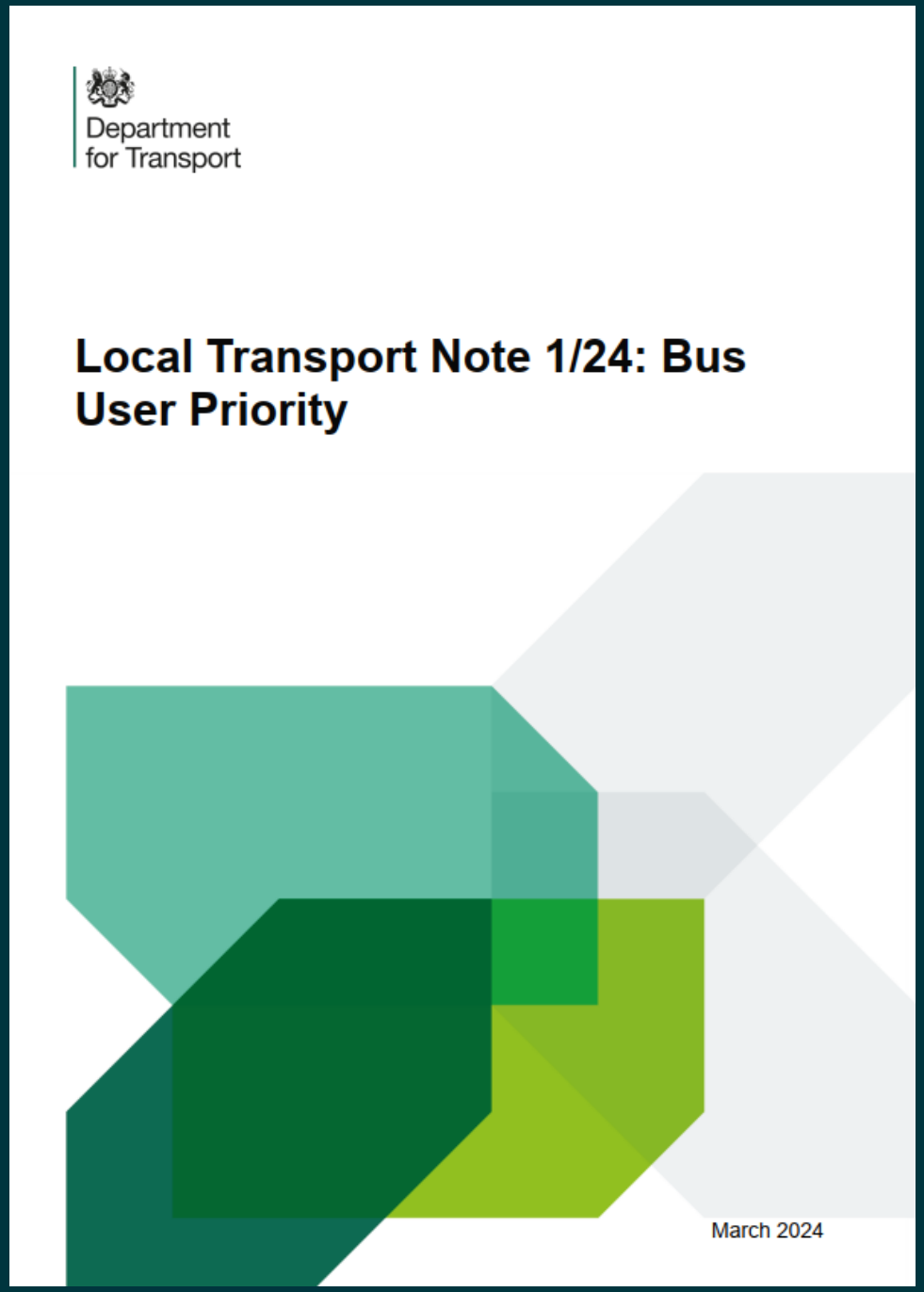
Other bus user priority measures – see guidance

Contra flow bus lanes

Bus only streets

Bus gates

Whole suite of other measures including above plus turn bans/exemptions, adjusting junction priorities, etc



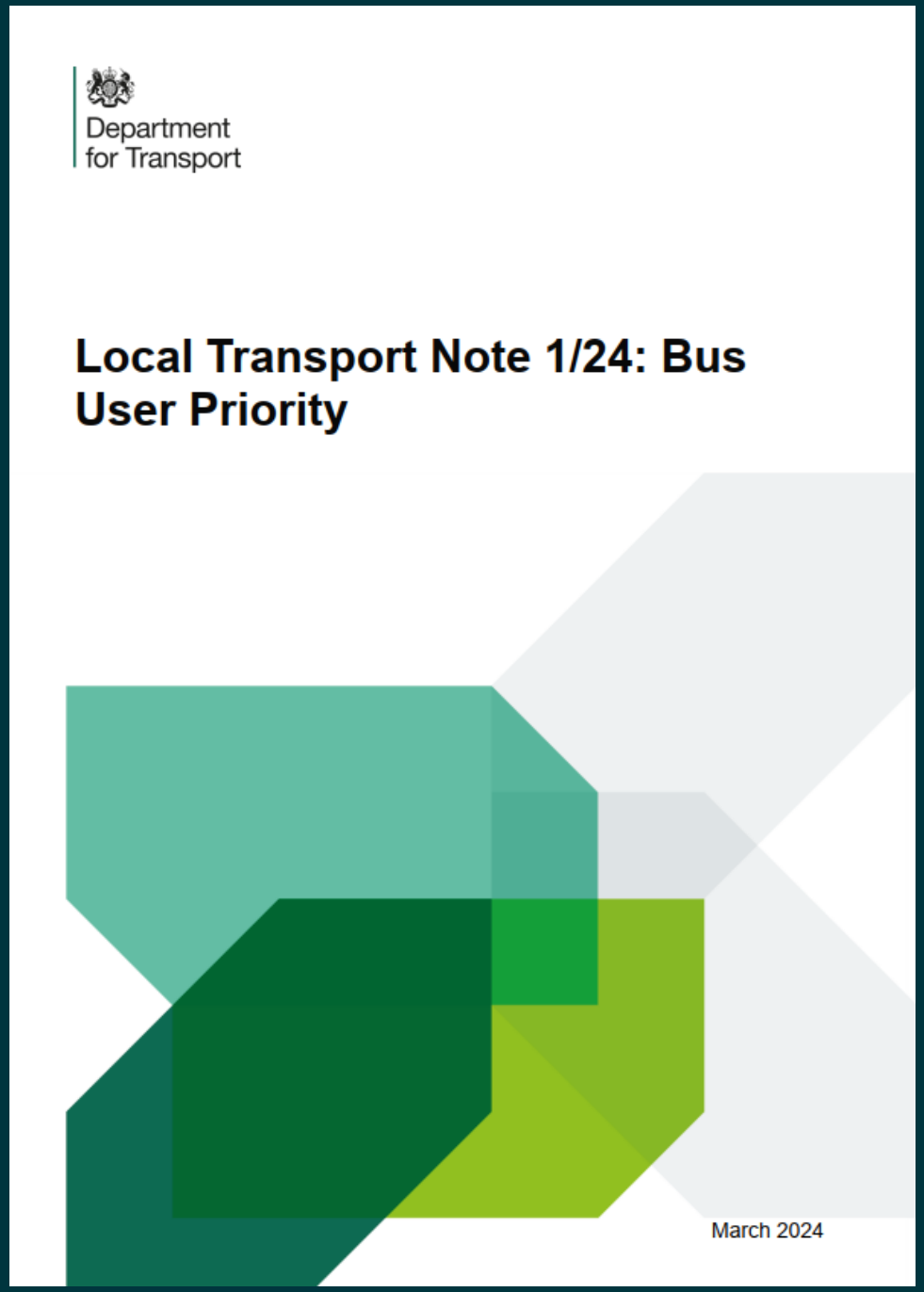
Chapter 11

Traffic Signal Priority (TSP) and Other Technologies

The evolution of technology has seen a major growth in recent years of the availability of advanced technological solutions for both local and network-based systems, tending towards a more centralised and coordinated approach.

Whether the technology is locally applied or uses a centralised approach

- Assess the requirements for technology application
- Ensure existing technologies are operating correctly before applying new technologies
- Select technologies that are of benefit and are suitable for the required objective



Chapter 11

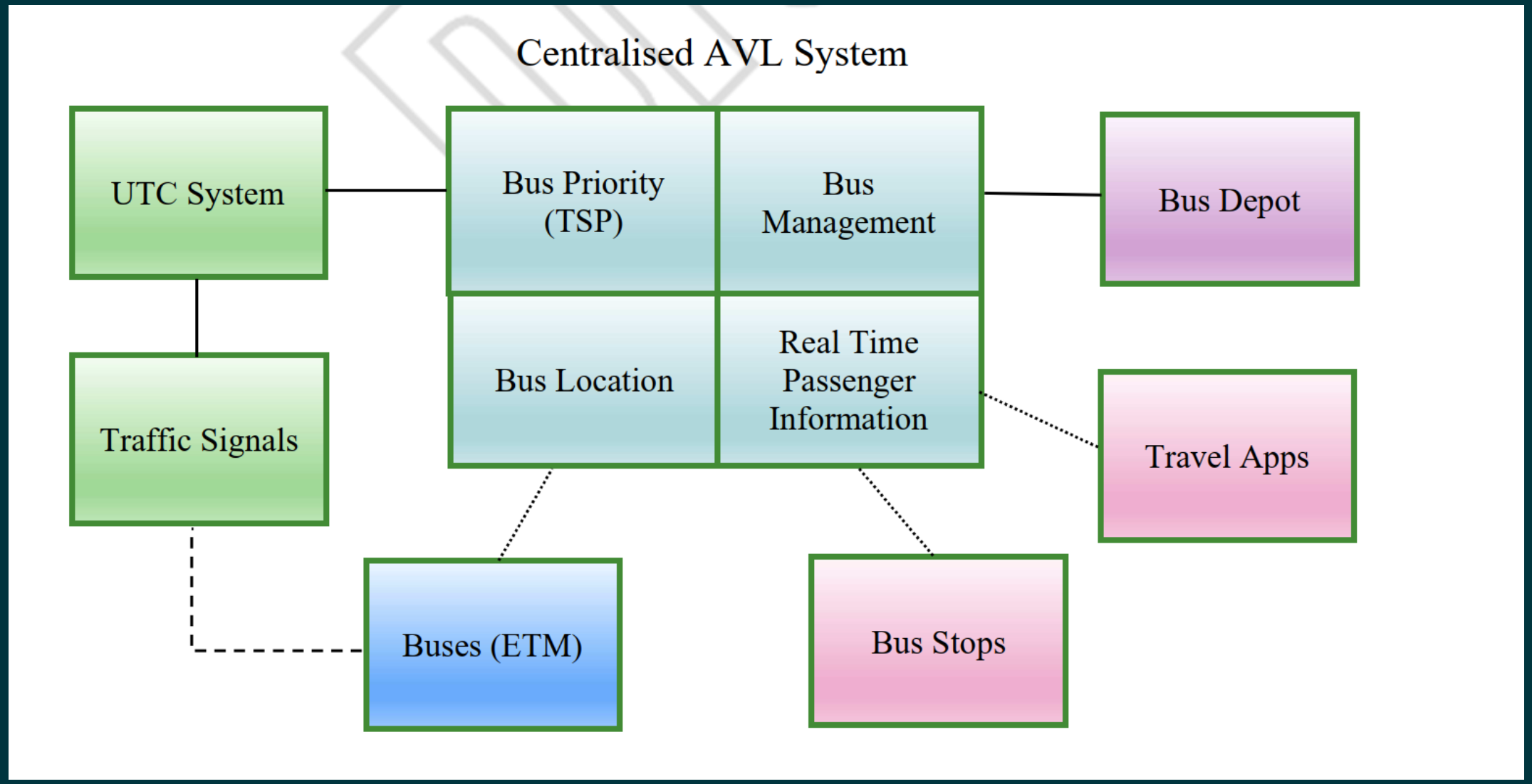
Traffic Signal Priority (TSP) and Other Technologies

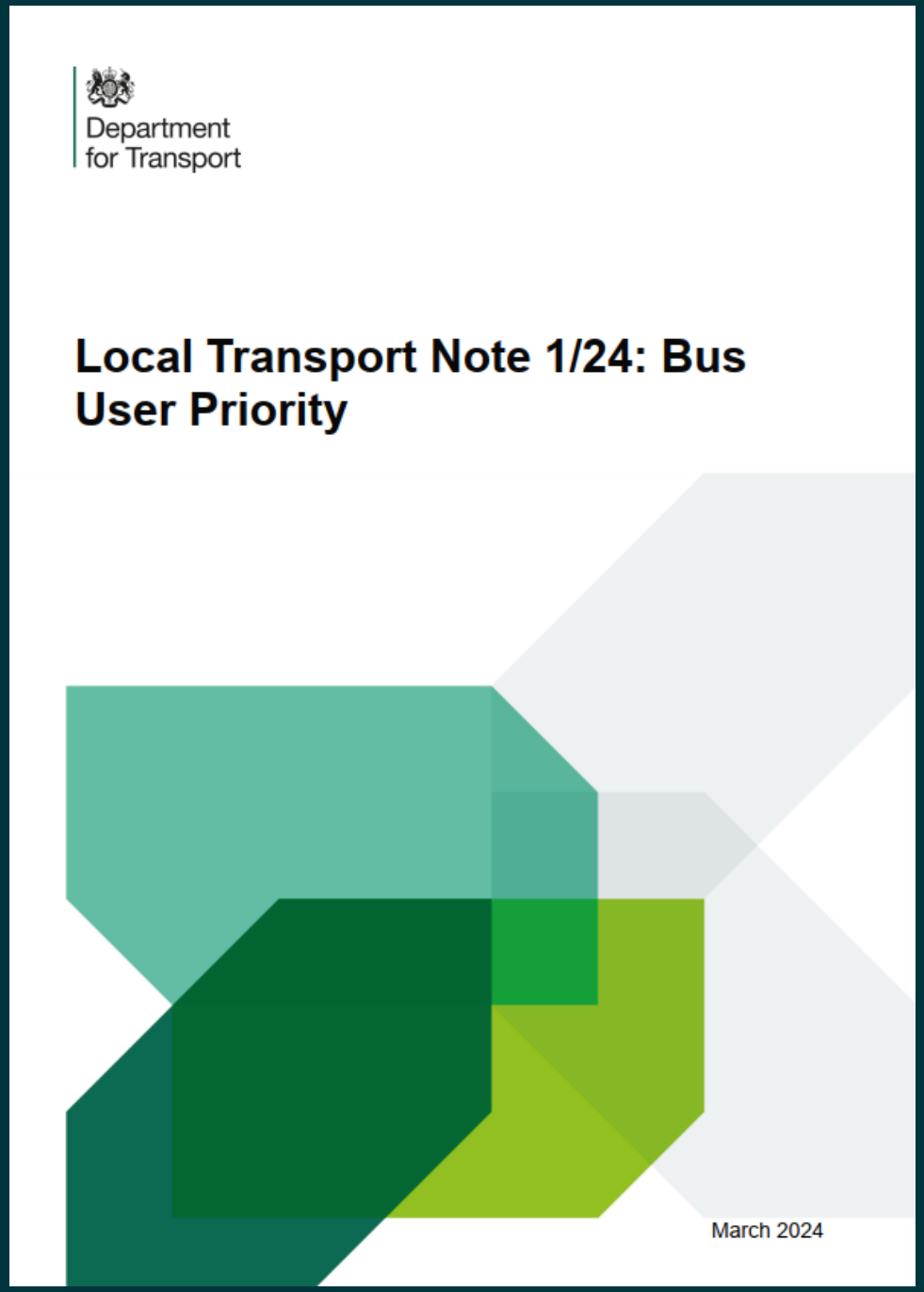
Technological advancements provide the ability to locate and identify individual buses across a network through automatic vehicle location (AVL) systems, using onboard electronic ticketing machines (ETM) to establish their position through the global positioning system (GPS)

Knowing the exact position of a bus, along its route, gives the advantage of knowing if any form of priority is required.

The ability to identify individual bus locations, and obtain other passenger information through the ETM, allows useful data to be provided to various control and centralised information systems.

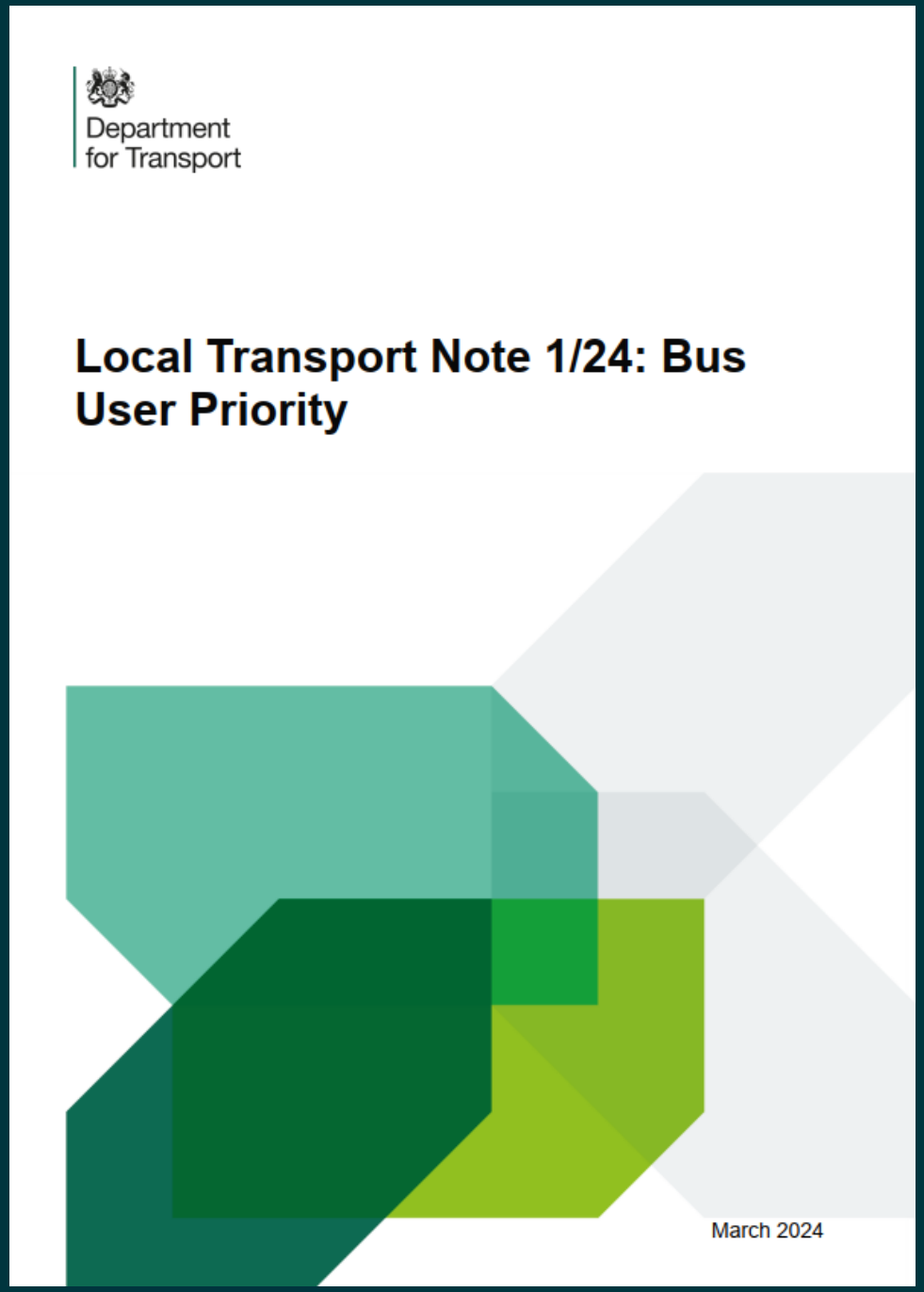
Typical AVL System - UTMC Interface





Chapter 12
Application of other Technologies

Information from the centralised system can be also used to provide reliable service information, such as bus times, current usage and accessibility information, through Real Time Passenger Information (RTPI) systems. This information can then be relayed to bus stops, variable message signs, mobile apps and websites.



Chapter 12
Application of other Technologies

- Real time passenger information (RTPI)
- Closed circuit television (CCTV)
- Automatic bollards (bus bollards)
- Urban traffic management and control (UTMC) integration
- Real time traffic prediction systems

Integrated Technology Solution - Cambridge Medical Campus

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Key takeaways – 12 things to remember from LTN 1/24

1. Bus user priority not bus (vehicle) priority
2. Focus on the door to door passenger trip not just the part on the vehicle
3. If a passenger can't get to a bus stop or doesn’t feel safe getting there or waiting they won't use a bus no matter how fast or reliable
4. Understand and consider all components of delay on a bus users' trip
5. Bus stop cages should provide space for easy/safe entry, stopping and exit
6. Bus laybys should not be used where speed limit is under 40 mph
7. Bus improvements can be direct, indirect or complementary – they don’t have to be obvious to the public
8. Bus user priority is not just about bus lanes
9. A bus or priority lane only improves speed/reliability if there is congestion
10. Kerbside controls are a fundamental component of the improvement toolkit
11. Centralised systems using AVL is the preferred method for technology applications, as it brings many benefits.
12. An assessment is required (before, during and after) for the application of technology, ensuring all existing technologies are actual operating correctly.

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