FUTURE STREETS

Challenges + Opportunities

A report for URBAN TRANSPORT GROUP The voice of UK urban transport prepared by urban movement

Contents

Executive Summary

Streets are often the most contested spaces in any town or city. Brief observation of almost any street - even those we might generally think to be quiet - will usually reveal that the demand for space exceeds the supply. It will also show that the tools we currently use to manage street space are rudimentary and often ineffective.

These observations apply to the carriageway, where the excess of demand over supply leads to the familiar bugbear of congestion. They apply to the footway, where inadequate widths and clutter often require people to walk the gutter, take detours, or suffer less high-profile congestion. And they apply to the often-overlooked world of the kerbside, the interface between the carriageway and footway, and between streets' 'movement' and 'place functions'.

In short, there are a large number and wide variety of calls on street space, and they simply can't all be met.

In addition to congestion, this results in problems relating to road safety, air pollution, noise; carbon emissions and access. Delays to buses and goods vehicles; illegal and inconsiderate parking; lack of safe space for walking, wheeling, crossing and cycling; damage to the footway, carriageway and other public highway assets; high streets that are unpleasant to be in; inefficiencies imposed on businesses. Key policy goals cannot be met; the cost of enforcement and maintenance outweigh the revenue from fines; the fines don't stop the illegal activity anyway; and local authority staff resources are stretched as never before.

These problems have not only been getting worse in recent years, they will continue to do so in the light of changes related to deliveries generated by online shopping, new 'micro-mobility' modes, connected and autonomous vehicles, electric vehicle charging, and a range of other 'disruptive' services and technologies.

The inherent complexity of streets requires a comprehensive, coordinated approach. Yet national Government has a tendency to look at different issues and topics in isolation: cycling, buses, EV charging, anti-terror infrastructure, traffic and parking regulations, etc. This means that policy guidance and funding is ineffectively joined up and the consequences are felt by local authorities, who therefore struggle to approach the challenges of street space allocation and management on more than a mode-by-mode and topic-by-topic basis.

To enable streets to be more effectively and efficiently managed first requires the Government, highway authorities and strategic transport authorities to recognise the need for a more holistic approach. From this should follow better coordination of relevant policy, strategy and funding. There will also need to be an increase in local government capacity and resources dedicated to managing the use of street space. These changes will form the basis of more effective partnerships with transport operators, service providers, and others to work together towards clear, shared goals for mutual benefit.

That town and city streets have vital functions beyond simply carrying traffic is plain, yet the non-traffic functions came somehow to be overlooked and under-valued once the motor car came onto the scene. It took the publication of the first Manual for Streets (2007) to remind us of the importance of the 'place' functions of streets, as distinct from their 'movement' functions. However, while that understanding has changed how we approach the design of streets, it seems to have done comparatively little to change how we manage them, the problems arising from which are arguably most evident at the kerbside.

One all-too-familiar example of how ineffective management compromises design potential is that it matters little that a bus lane or cycle track is laid out to the appropriate dimensions and theoretically protected by legal restrictions on access by other vehicles if someone chooses and is physically able to park their car in it. Similarly, the ability of vehicles carrying goods or people providing services to get to the kerbside is vital to the economy generally, and especially that of high streets. Yet, failure to designate and keep free adequate kerbside space for these purposes means that drivers of such vehicles often feel they have little practical choice but to park it where they legally shouldn't.

We may bemoan the lack of compliance with the Traffic Regulation Orders, but it is inevitable if we fail to properly understand the many and fast-changing demands for access to the kerbside and to develop management strategies accordingly.

It is to help local highway and strategic transport authorities rise to the challenge of better street and kerbside management that this paper was commissioned. Following an introduction (Chapter 1), the paper reflects on the current challenges that local authorities and others face in relation to the effective and efficient use of streets, especially the kerbside (Chapter 2). It then explores what new challenges might lie ahead and what opportunities there are and may be for meeting these challenges in ways that enable our streets to fulfil all the requirements we have of them (Chapters 3 and 4). Arising from this discussion, Chapter 5 of the paper makes eight recommendations, which are summarised below.

- Policy Coherence

While the Government has recently published a number of policies, strategies and plans having a bearing on the use of streets and the kerbside, they are not entirely consistent and contain some inherent conflicts (e.g. concerning relative priorities for the use of scarce street space). Clearer guidance from Government is needed.

- Increasing Resources

For street space and kerbside access to be better managed, and for streets thereby to reach their full potential, increased resources will be needed, especially as this relates to the capability and capacity of local authorities and other transport authorities to rise to the challenge. This need not necessarily be a matter of increased public expenditure: if the public highway were valued as it should be, better street and kerb space management could pay for itself.

- Defining 'the Kerbside'

While the Manual for Streets was successful in establishing a definition of streets that embraced both their movement and their place functions, this has not led to noticeable improvements in how streets are managed. Defining the kerbside as a place of shared endeavour and of potential mutual benefit - not just a line between footway and carriageway - would be an important step in changing the status quo. An agreed functional definition of the kerbside would also establish it as a place for which someone should have responsibility. An office for kerbside management or, better, street management - within local and strategic authorities and in the Government - would be another important step in achieving the necessary change.

- Street/Kerbside Management Strategies

Following on from the above, local and strategic transport authorities should develop formal strategies for managing their streets, and particularly the kerbside. These will provide a framework for co-ordinated activity by different parts of those authorities and by other partners, agencies and third parties, including in the private sector.

- Data

Local highway authorities and strategic transport authorities need to have more and better data about the demands that are placed on street and kerb space, if they are to be well managed. Full advantage should be taken of the quality and cost-effectiveness of advances in video data-capture and analysis using AI (Artificial Intelligence).

• Valuing Street Space

Street space is a hugely valuable public asset but usually given away for free or charged for at well below what should be considered the market rate. Highways authorities need to develop, and assert, a sense of true ownership of their streets and of the value associated with that property. Putting aside income generation potential, though that is a legitimate consideration, this is a matter of adopting a more business-like approach to the stewardship of a public good.

• Digitising Street and Kerbside Access

Very few highway or transport authorities have or publish digital descriptions of the access, waiting and loading restrictions in their areas, and none that do have complete records. If comprehensive, accurate information was digitised and accessible on a public platform, it would be of huge benefit to logistics operators in particular; while, with the growth of in-car smart navigation systems and real-time parking apps, it would also be welcomed by users of private or shared cars.

• Trials and Partnerships

The potential benefits of trialling new ways of working and new partnerships between different actors are clear, and both the Government and local authorities can and should promote them. There are many examples of new practice across Europe and further afield to learn from. City Region authorities are especially well placed to enable new initiatives in their areas, to help fund pilots at a meaningful scale, and to exploit co-operation opportunities between existing initiatives. The current National Parking Platform pilot is a good example.

These recommendations are means by which the problems with our streets can become opportunities. As things stand, and despite the best of intentions, our streets fails to achieve their potential and in turn fail to deliver on some of our most important policy objectives. Local highway and strategic transport authorities have made great strides in recent years in the field of street design, and it is now time to make the same progress in relation to street management.

We need our streets to enable people and goods to move around in ways that minimise carbon emissions and pollution. We need them to be more efficient as enablers of exchange and commerce. We need them to be places that are clean and safe, that are enjoyable to be in, that promote greater climate resilience, that are accessible and equitable, that are welcoming to people of all ages and backgrounds, and that facilitate social interaction.

It is evident that, today, most of our streets are not like this. But if we grasp their full potential, realise their true value, develop coordinated management strategies, work in partnership, and thereby make a stronger case for investment, our future streets will help us meet the challenges we face, not add to them.

01 Introduction

The Manual for Streets, published by the Department for Transport in 2007, defined 'a street' as follows:

> "A highway that has important public realm functions beyond the movement of traffic. Most critically, streets should have a sense of place, which is mainly realised through local distinctiveness and sensitivity in design. They also provide direct access to the buildings and the spaces that line them. Most highways in built-up areas can therefore be considered as streets."

This definition helps draw attention to the fact that urban streets are inherently complex places, and this complexity can sometimes be almost bewildering. It arises from the fact that there are so many legitimate calls on street space – the space between the buildings. These demands are for bus priority measures and cycle lanes; for facilities that enable walking, encourage a vibrant street life, and deter terror attacks; for features that promote greater climate resilience and greater child friendliness; and for a host of other needs and aspirations, many of which are hidden in plain sight and are all too easy to overlook.

The aggregate demand for space in any given street often exceeds the supply, and this is perhaps most evident at the kerbside. However, in most towns and cities, physically increasing the amount of street space (i.e. making streets wider) or of kerb-space (i.e. making them longer) is almost never a practical proposition. Consequently, the challenge becomes how best to prioritise the many and varied demands, to allocate the available space accordingly, to reconcile the conflicts that inevitably arise, and to manage streets so that space allocation and usage works as intended.

As things stand, casual observation of almost any urban street, whether it be in a seemingly quiet residential areas or a busy town centre, reveals that public authorities are not generally successful in meeting this challenge. That's partly because the challenge is multi-faceted and extremely complex; it's partly because the legal tools available for management are inadequate; and it's partly because of the resources needed to manage streets effectively.

Moreover, what was already a very tough task has been made all the harder by recent rapid change in the number and range of demands for street and kerb space, by the number of 'disruptors' in the field, by the increasing pressures on diminished local authority resources.

The fact that most streets do not operate as intended is also, however, partly due to the lack of comprehensive and joined-up strategies to ensure that they do. Strategies and design guides for streets and the wider public realm have become increasingly commonplace, especially since the Manual for Streets was published, and this is to be welcomed. But there are comparatively very few documents of this type that relate to the management of streets, and specifically to that part of streets where the 'movement' and 'place' functions meet: the kerbside.

Only one local authority in the UK has a published Kerbside Strategy, and even that is only in draft. For the most part, what does or does not happen at the kerbside is a product of numerous different departments, operators, agencies working in ways that are commonly uncoordinated, sometimes in conflict, and subject to a wide variety of legal and policy drivers. This status quo is not well served when - however unintentionally - different local agendas that bear upon the use and management of streets are pursued in isolation from one another; relevant national polices are imperfectly joined-up, making make priorities hard to determine; and Government priorities change.

On top of all this come the opportunities and threats presented by new technologies - not just in respect of new or improved transport modes but also in relation to digital communications and virtual controls.

It is in this context that the Urban Transport Group (UTG) sought "a thought-provoking, imaginative examination of the challenges and opportunities of future streets: what they could look like and how best we could bring them about", to include commentary and recommendations on the following issues:

- What the future of the street (and societal expectations of streets) might be, given transformative environmental, technological, economic and social change.
- The challenges involved in understanding, addressing, prioritising and reconciling these various factors.
- The particular challenges for the capabilities and capacities of local authorities and transport authorities and other relevant agencies and players.
- How best these challenges might be addressed in the short, medium and longer term (with a particular focus on local authorities/transport authorities).
- The implications for the relevant professions (e.g. transport planners and highway engineers) the way in which different professions collaborate or relate on streets and for the training and development of transport planners and highway engineers in particular.
- How government and key national agencies can support and nurture a more holistic approach to future streets (including what they should stop doing).

The purpose of this paper is not to go into the many and varied issues in great detail or at length. Rather, it is to provide an overview of the current and future challenges that local and strategic transport authorities face in managing urban streets well, to reflect on future opportunities and threats, and to offer some suggestions as to the ways in which these authorities, the Government and other agencies and businesses might, together, help achieve greater efficiency and better value from the public highway.

For the use of street space and access to the kerbside to be more effectively planned, more thoughtfully designed, more fairly prioritised, and more efficiently managed will require the many facets of the competition for street space - both today and tomorrow - to be better understood. It is with the hope of building this understanding, and of pointing towards a framework for managing existing and future demands for street space and kerbside access, that this paper has been prepared.

Chapter 2 of the paper paints a picture - using both words and images - of just how complex the urban street environment can be (and often is), and of the many ways in which streets are not used as intended by design and regulation. The intention is to underscore the need for comprehensive, co-ordinated strategy and action to address present challenges, let alone those of the future.

Chapter 3 ('Documentary Evidence') then explores the different ways in which published (and unpublished) policies, strategies, reports and guides - as well as known examples of new practice - bear upon the challenges that local and strategic transport authorities face and the opportunities that may be available to them.

Chapter 4 ('Spoken Evidence') summarises a series of interviews that have been conducted as part of this research with practitioners (including UTG members) and academics. The most pertinent thoughts and ideas from these interviews are presented as a series of bullet points, again under the sub-headings of challenges and opportunities.

Chapter 5 (Recommendations) seeks to draw out from the preceding chapters a range of actions and other initiatives for future streets that will enable better planning and management of activity in urban streets, especially at the kerbside. While different authorities and agencies may have primary responsibility for one action or another, the over-arching message is that joined-up thinking and constructive partnerships involving all actors is key to ensuring that the full potential of future streets can be released.

02 Today's Streets

Take a walk down almost any urban street, even one that doesn't seem especially busy, and it will usually be apparent that the demand for space generally exceeds the supply.

In the public mind, perhaps the key issue arising from this relates to the carriageway: namely, traffic congestion. But just as commonly, albeit less controversially, there's also a shortage of footway space; both because of inadequate supply (i.e. the pavement is simply not wide enough) and because of the number and variety of different objects that deny space to people seeking to walk, wheel or otherwise use the footway for legitimate purposes. However, where the supply-demand challenge may be greatest of all is where the carriageway and footway meet: the kerbside; and the photos on pages 12-15 are provided to help illustrate the point.

Not much further reflection on the challenges related to street space will lead to the conclusion that the tools we currently use to manage both supply and demand are largely rudimentary and frequently ineffective.

In short, urban streets are contested spaces that, typically, are inefficiently used and ineffectively managed; and nowhere is this more apparent than at the kerbside.

This was the case prior to the beginning of the COVID-19 pandemic, and the number and range of demands for access to the interface between the footway and carriageway has only accelerated in the years since. Perhaps the most obvious change has been the rapid growth in delivery vehicle traffic related to online shopping - for general goods, groceries, takeaway meals, etc. But other changes have occurred in how people and goods move, and in the relevant policy and regulatory environments; and further change is almost literally just around the corner.

How future streets might look, might be used, and could or should be controlled is the subject of much contemporary thought and study. This is also an area of considerable public interest, much of it associated with the idea of autonomous vehicles, but also some with the possibilities offered and threats posed by the growth of new mobility services.

There is a danger, however, that a fascination with - and/or fear of - the future will deflect attention from the pressing need to improve conditions in the here and now.

The fact is that the status quo is increasingly untenable. In undertaking a previous commission for the Department for Transport, in 2019, Urban Movement compiled a checklist of 'things' that need to be considered when thinking about present and future streets, including the kerbside. The number of sub-headings (below) is quite large enough, let alone that of the items below each heading. What's more, the full checklist (see pages 9-11) laid no claim to being exhaustive in 2019, and many items will have been added in the three years since.

- Walking facilities
- Cycling facilities
- Bus infrastructure
- Taxi/PHV infrastructure
- Parking, waiting and loading controls
- Occasional vehicles with no designated space
- General traffic control features
- Road safety features
- Street furniture for people
- Street furniture for traffic control
- Street furniture for commerce
- Physical layout/design standards
- Occasional/'pop-up' uses
- Miscellaneous street infrastructure
- Soft landscaping
- Maintenance issues
- Adjacent land use considerations
- Other political and policy considerations

However daunting, and whatever the future developments in transport choices and technology, the number and variety of demands on our streets and kerbsides today emphasises the need for local and strategic transport authorities to develop strategies for addressing present and future issues in a comprehensive, joined-up manner.

The subsequent Chapters of this paper are intended to help focus thinking about such strategies: the opportunities they should embrace; the partnerships necessary to deliver them; and how they can enable the best use of limited resources.

Walking facilities

- Footways of adequate width
- Build-outs to aid walking across
- Signal poles & buttons, Belisha beacons
- Formal crossings (Zebra, Pelican…)
- Informal crossings with dropped kerbs
- Kerbs/tactile paving
- Clearance to access crossings?
- Raised/continuous side-street crossings
- Wayfinding signs/markings/totems/plinths

Cycling facilities

- Painted cycle lanes - advisory
- Painted cycle lanes - mandatory (timed?)
- With/without yellow/red line controls
- Bus lanes: presence and width (3m-4.5m?)
- Marked lanes to nearside of bus/HOV/parking
- Parking to nearside - 'dooring zone' buffer?
- Parking to nearside - mandatory or advisory?
- Lanes through bus stop cages
- Lanes across inset bus stop bays
- Lane transitions to off-carriageway at signals/ crossings
- Protected lanes/tracks - 'full' segregation (e.g. kerbs)
- Protected lanes/tracks - 'light' segregation (e.g. wands/orcas)
- Protected tracks at footway or carriageway level?
- Bus stop bypasses
- Bus stop boarders
- Cycling/walking shared paths and areas (tactile surfaces used)
- Regulatory signs & markings (e.g. diagrams 956, 957, 1057)
- Wayfinding signs/markings
- Cycle parking facilities - type/location, formal/ informal
- In-carriageway cycle parking - open/hangers
- Large cycle/cargo/trike parking
- Cycle hire/share - docked, incl e-cycles
- Cycle hire/share - dockless

Bus infrastructure

- Bus shelters - size/location
- Bus stop - raised kerb heights
- Bus stop flags/poles
- Bus stop clearway
- Bus stop cage within nearside lane
- Bus stop bay inset
- Bus lanes (dimensions, times of operation,shared with?)
- Bus lane camera enforcement - signs and cameras
- Bus stands - on carriageway/inset
- On-street ticketing - kit and queuing
- Access to shelters/advertising for maintenance

Taxi/PHV infrastructure

- Moving in bus lanes (permitted or not?)
- Static in designated ranks
- Full-/part-time ranks
- Use patterns of Hackney Carriage vs traditional Minicab vs Uber-style
- Informal access to kerbside
- Dropping off/picking up from the main carriageway, not pulling in to kerbside

Occasional vehicles with no designated space

- Refuse vehicles
- Emergency vehicles
- Security vans
- Removal vehicles
- Highway/lighting maintenance vehicles
- Skip lorries
- Hearses
- Cranes, cherry-pickers
- Licensed street trading vans (& unlicensed)
- Other special event vehicles

General traffic control features

- Signals & control boxes
- Directional signs
- Information/warning/regulatory signs
- HOV (high-occupancy vehicles) lanes
- Speed cameras

Parking, waiting and loading controls

- Double Yellow Lines
- Single Yellow Lines - timings?
- Loading 'blips' - single/double
- Red-route controls
- Dispensations for Disabled badge holders
- Waiting & Loading at kerbside - uncontrolled
- W&L at kerbside - free/SYL controls
- W&L at kerbside - free/limited period
- W&L at kerbside - public, charged (various payment types)
- W&L at kerbside - permit holders
- Bays in carriageway cf. footway-level 'pads'
- Presence/absence/need for parking signs
- Reasonable confusion due to regime changes?
- Clearways
- Restricted zones
- Camera enforcement?
- Bay width/depth
- Designated Disabled bays
- Car club bays (incl associated maintenance)
- Parallel/Perpendicular/Angled layout differences/adherence
- EV bays - general/taxis-only
- Motorcycle parking
- Police (and other designated) spaces
- Forecourt parking - with crossover
- Forecourt parking - without crossover
- Footway parking (2/4 wheels-up)
- Footway parking laws/controls/permissions
- Skips (licensed)
- Construction deliveries/temporary on-street areas
- Parking bays assigned to other uses, e.g. local trans-shipment hubs, parklets

Road safety features

- Lamp columns
- Zig-zag markings

Street furniture for people

- Waste bins - public/domestic
- Recycling bins/centres
- Phone/wifi kiosks/pillars
- Post boxes
- Public toilet pods
- Seating - formal (e.g. benches)/informal (e.g. walls)
- Public art
- Private/café seating
- Drinking fountains

Street furniture for traffic control

- Bollards
- Hostile Vehicle Mitigation measures
- Pedestrian railings
- Sign poles (with/with signs?)
- Ticket machines

Street furniture for commerce

- Footway cafes/private forecourt displays
- Market stalls - fixed/regular/occasional
- Supermarket delivery trolleys
- Supermarket customer trolleys
- Telegraph poles
- Fixed advertising displays
- Phone/wifi kiosks/pillars, including advertising
- Telecomms kit boxes
- A-boards/overspill non-fixed clutter
- Commercial waste - bins/bags

'Heritage' street furniture

- Redundant drinking fountains or cattle troughs
- Horse mounts
- Mileposts and other bollards
- Porter's rests

Physical layout/design standards

- Side junction corner radii/splays
- Crossovers to forecourts/parking/driveways
- Wide crossovers to filling stations

Occasional/'pop-up' uses

- Markets
- Exhibitions/performance stages
- Cycle repair drop-ins
- Parklets/temporary additional seating
- 'Summer streets' cafes

Miscellaneous street infrastructure

- EV charger (+ feeder pillar, bollards) - on footway
- EV charger (+ bollards) - in carriageway (feeder on footway)
- EV charger-related cables
- Grit bins
- E-scooter hire/share: docked/dockless?
- Air quality monitoring units
- Parking bay sensors
- CCTV

Soft landscaping

- Street trees
- Grass verge
- Low planting
- Raised beds
- Sustainable Drainage Systems

Maintenance issues

- Temporary capture of the kerbside for repairs/ construction
- Drainage/ponding
- General poor conditions/potholes
- Seasonal - e.g. leaf clearance/gritting
- Gullies
- Gutter grit, rubbish, broken glass, etc.
- Sweeping regimes
- Access for sweeping
- Slabs lifted by trees
- Utilities covers/kit - access issues
- Clearance required for protection/access/ maintenance

Adjacent land use considerations

- Proximity to 'just popping in' facilities (ATMs, corner shops…)
- Premises with regular, largely planned deliveries
- Licensed premises (drays)
- Banks/building societies/post office (money)
- Premises putting out commercial waste
- Places of worship - weddings/funerals

Future Tech

- Delivery pods
- Drone landing zones
- 'Smart' paving
- CAV sensors

Other political and policy considerations

- EV charger installation targets
- Camera enforcement of waiting/loading regs?
- Amount of car parking provision and pricing/ management regime

A narrow one-way street temporarily blocked while a refuse collection vehicle crew goes about its essential work.

A vehicle used for parcel deliveries/collections parked partly over zigzag markings - a safety feature of the nearby zebra crossing.

A rapid-response grocery delivery cycle/moped hub where vehicles are stationed on double yellow lines for considerable periods.

One effect of a grocery delivery van waiting in the carriageway because there is no kerbside space due to residential parking.

A delivery/collection van parked at an angle - part on the footway and part into the carriageway - due to insufficient kerbside space.

A car towing this food trailer parks every morning on double yellow lines/tags over a cycle lane and on the entry to a bus stop.

When photographed, this ordinary-looking car was a parcel delivery vehicle parked partly on a grass verge on double yellow lines.

This photo is taken from the loading bay that the driver of this van chose not to use, to save time. Congestion and an argument ensued.

Ineffective enforcement resulting in a line of cars stationary in a bus lane with markings clearly showing no waiting/loading at any time.

Vehicles parked in a 24/7/365 bus lane, and bus stop, while the occupants shop nearby.

Dockless shared cycles and an e-scooter left in locations that (at best) cause inconvenience and (at worst) a safety hazard.

Just part of one of the two often very long lines of black cabs that feed the taxi ranks at London King's Cross and St Pancras stations.

An e-vehicle rapid charge unit located in the carriageway - but note that there will always still be a feeder pillar on the footway.

A woman weaving her way along a footway between an e-vehicle charger feeder pillar and the charger itself, as well as other clutter.

A pair of photos showing how the owner of this e-vehicle uses an adapted lamp column to charge the battery when they can get access to the kerbside in that location, and uses a trailing cable from their home when they cannot park near the lamp column.

Space for specific users can currently only be designated 24/7. This is inefficient is terms of maximising the use of scarce space.

Cycle parking now comes in many shapes and sizes. Hangars and lockers for shared cargo-cycles should be located in the carriageway.

There are many 'dockless' features - like refuse bins - that are casually stored on footways, often rendering them unusable.

These cars were driven over the footway onto private land, despite the lack of a formal crossover. Enforcement against is impractical.

A lorry parked on a narrow bridge with DYLs/tags while the crew had a meal in the cab. Perceived benefit outweighing perceived risk.

An ice cream vendor plying their trade despite a number of measures designed to prevent. Perceived benefit outweighing perceived risk.

A minicab parked on DYLs/tags outside the office during the driver's downtime. Perceived benefit outweighing perceived risk.

A van carrying deliveries to the adjacent shop - on DYLs/tags and blocking a cycle lane. Perceived benefit outweighing perceived risk.

Trade refuse bags awaiting collection from the kerbside, but making it unpleasant and difficult to pass in the meantime.

Easy access to the kerbside is needed for the purposes of sweeping and cleansing. This is often overlooked and/or difficult to enable.

Temporary signs meant for vehicle drivers can obstruct or even prevent use of the footway. Priorities are often not thought through.

Markets bring life and income to streets. But they introduce management challenges including storage and the get in/get out phases.

This scaffolding crew had no practical option but to block this residential street for 10-15 minutes while unloading.

Beer being delivered to a bar - the driver has trolleyed this load from a legitimate loading bay 150m away.

Bollards preventing occasional footway parking, but permanently reducing the usable footway width. With added A-board clutter.

An illustration of just how many fixed obstacles are commonly found at the kerbside: trees, phones, poles, cycle stands, bollards, bins...

03 Documentary Evidence

CHALLENGES

Although it may not have been his express intention, the previous Prime Minister quite recently published a rather neat precis of the challenges facing local authorities when it comes to managing the demands for urban street space. This was when he wrote, in the Foreword to Gear Change: One Year On (July 2021) that,

> "I support councils, of all parties, which are trying to promote cycling and bus use. And if you are going to oppose these schemes, you must tell us what your alternative is, because trying to squeeze more cars and delivery vans on the same roads and hoping for the best is not going to work."

And yet, while this statement helps describe the challenge, it does little to help meet it. Indeed, however much UTG members might welcome the former PM's promotion of the use of cycles and buses for urban transit, the fact is that these modes of transit often compete against one another for space just as much as they do, together, against other demands, like the movement and storage of cars and vans.

The Introduction to the government's original Gear Change: A Bold Vision for Walking and Cycling (July 2020) stated that,

> "We want – and need – to see a step-change in cycling and walking in the coming years. The challenge is huge, but the ambition is clear."

The document went on to express the ambition and requirement that,

> "There will be first hundreds, then thousands of miles of safe, continuous, direct routes for cycling in towns and cities... Cycles must be treated as vehicles and not as pedestrians. On urban streets, cyclists must be physically separated from pedestrians and should not share space with pedestrians... Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them... Cycle infrastructure should be designed for significant numbers of cyclists, and for non-standard cycles. Our aim is that thousands of cyclists a day will use many of these schemes."

The spatial implications of cycling infrastructure of this character and on this scale are huge.

Eight months later, the government also published Bus Back Better: National Bus Strategy for England (March 2021), in which it stated that,

> "To benefit from the funding in this strategy, Local Transport Authorities (LTAs) in cities and other congested places will be expected to implement ambitious bus priority schemes and draw up ambitious Bus Service Improvement Plans... These must be planned to complement walking and cycling schemes."

Bus Back Better also asserted that,

> "Gear Change and this strategy complement each other. Cycling, walking and using the bus are all part of the Government's agenda to deliver a transport system that works for everyone, where walking cycling and taking the bus are a natural choice for shorter journeys."

However, while this complementarity is both clear and necessary at the level of policy/strategy, when it comes to delivery on-the-ground in physically constrained urban street environments, ambitious bus priority schemes and physically separated cycling infrastructure can obviously be in opposition.

Bus Back Better goes on to reference further complications, in the form of the following:

> "Issues such as residential parking policy, and removal of buildouts and pinch-points should be considered...
> Non-residential parking will not generally be an efficient use of space on (bus priority) routes...
> Loading's impact on bus lanes must be minimised, and to achieve this hours should be restricted, or loading bays inset or re-provided close by, away from the main carriageway...
> Consider physical changes to roads' footprints to allow the provision of continuous bus lanes...
> Where there is insufficient space for a bus lane, consider point closures to private cars...
> Particular care should be taken to ensure bus priority measures do not impede access for disabled people reliant on private motor vehicles, taxis and private hire vehicles...
> Robust enforcement of traffic restrictions can benefit buses through less congestion..."

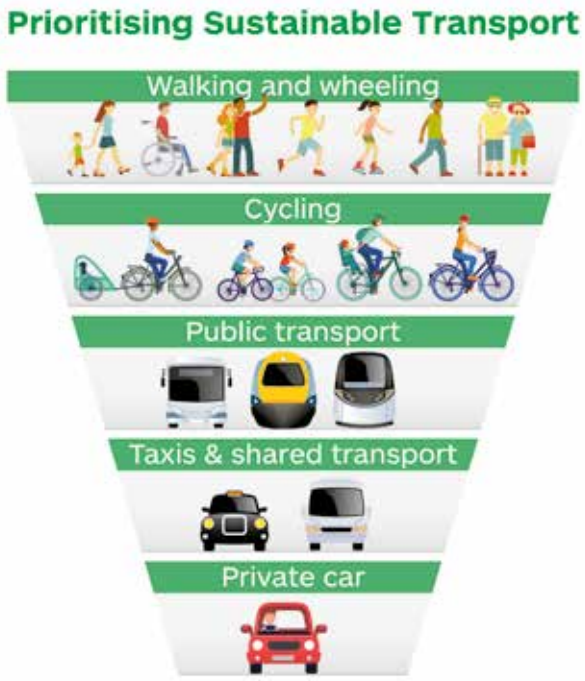
All of these issues raise significant questions of technical, financial and political feasibility.

Perhaps the greatest single issue - sometimes the 'elephant in the room' of real-world decisions about allocating and managing street space - is private car traffic. Almost every contemporary UK transport policy statement has at its core the general principle of prioritising and promoting the more sustainable forms of transport. Some, such as Scotland's National Transport Strategy (February 2020), feature a specific sustainable travel hierarchy (see alongside).

While the way in which relative modal priorities are expressed in any given policy statement might differ, the private car is almost always - formally - the least important. However, the gap between theory and practice in this regard is all too familiar. When difficult decisions about reallocating street space have to be made, it's often the sustainable modes that are required to compete with one another. This is because the current importance of car travel - in terms both of numbers and (non-partisan) politics - means that reducing capacity for either moving or static vehicles can be almost a taboo subject.

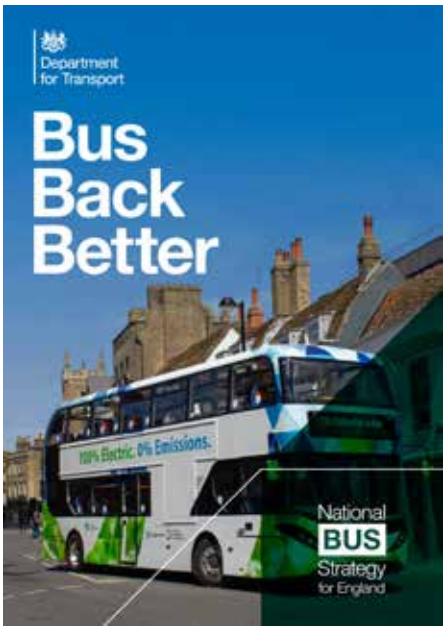
This applies at all levels. The Secretary of State for Transport behind Gear Change and Bus Back Better also wrote the following in Decarbonising Transport: A Better, Greener Britain (July 2021),

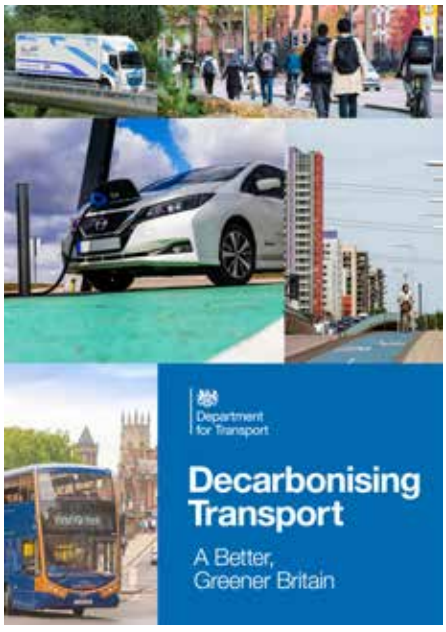
> "It's not about stopping people doing things: it's about doing the same things differently... We will still drive... but increasingly in zero emission cars."



In the same Foreword, he also wrote of the government's "ambitious roads programme" alongside the imperative to "make public transport, cycling and walking the natural first choice for all who can take it" and the desire to "reduce urban road traffic overall".

So, the task of improving conditions for walking, cycling and buses - complex enough on its own - needs to take numerous other considerations into account, and is set in a context where most politicians fear to be seen as 'anti-car'.





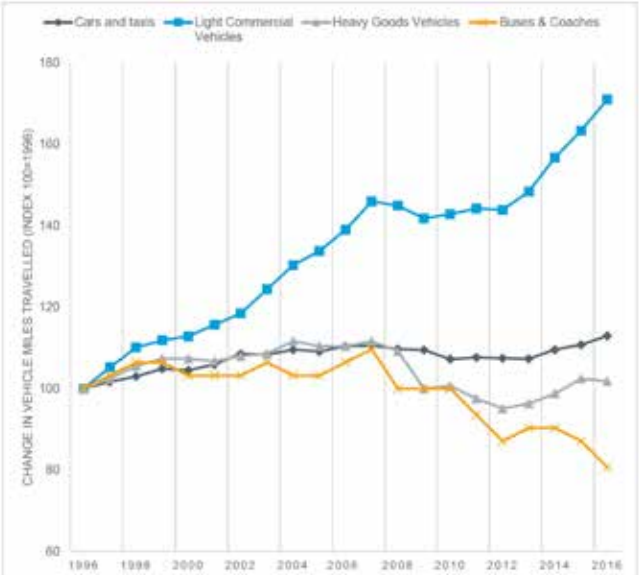
It can seem, and often is, an impossible task. Because urban streets and their kerbsides are - to mangle an old proverb - a pint pot into which a quart won't fit.

What's more, while the streets themselves remain more or less fixed in size - despite what Bus Back Better says optimistically about "physical changes to roads' footprints" - the amount of activity wanting to fit into them seems to be growing all the time. In particular, the growth of light commercial vehicle mileage was already growing steeply in the years before the pandemic, and this has clear implications for the kerbside. What one interviewee called an "explosion of delivery vehicles" since the first lockdown in 2020 (see Chapter 4) is likely only to have accelerated this trend.

In White Van Cities (April 2018), the UTG reported that,

> "Vans are the fastest growing segment of road traffic in Great Britain. Van traffic has grown by 71% over the last 20 years, compared to growth of 13% for cars and 2.1% for HGVs. Between 2015 and 2016 alone, van traffic grew 4.7% to reach a record high of 49.1 billion vehicle miles; the fastest growth in percentage terms of any motor vehicle type."

This growth is illustrated in the graph below, taken from White Van Cities, with the blue line showing light commercial vehicles and the dark grey line cars and taxis.



As the pressure on street and kerb space was increasing, local authorities' ability to ensure compliance with the access controls designed to manage these demands was undermined by The Civil Enforcement of Parking Contraventions (England) General (Amendment No. 2) Regulations 2015. These amended the Civil Enforcement of Parking Contraventions (England) General Regulations 2007 "to require that a penalty charge notice in respect of a parking contravention on a road be served by fixing it to the vehicle". The Regulations were made following amendment of the powers in the Traffic Management Act 2004 by the Deregulation Act 2015 (section 53) to tighten the circumstances in which CCTV can be used as the sole evidence for issuing a parking contravention notice.

In other words, the 2015 Regulations meant that local authorities lost the ability to enforce against parking contraventions using the most cost-effective tool then at their disposal. This was the consequence of what the new Regulations themselves described as "a key political priority" of the government of the time.

It would, of course, be wrong to suggest that all was well at the kerbside prior to 2015. Nevertheless, recent years have witnessed both a rapid increase in the variety and volume of the demands we place on our streets and an erosion of local authorities' abilities to manage those demands rationally. At the same time, local authority staffing levels have reduced, with the Local Government Association's November 2021 Local Government Workforce Summary Data showing a 26% reduction in head count in the eight years from 2013.

Put together, these circumstances have exposed the need for local authorities comprehensively to rethink how they exercise their responsibility to manage the public highway efficiently. While there are many challenges, this responsibility should be considered a major opportunity, not a burden. The public highway is an asset of huge value, and new technologies and partnerships offer the chance not just to protect this asset, but also to monetise it for the public good.

OPPORTUNITIES

The original Manual for Streets (MfS) was published in 2007, with Manual for Streets 2 (Wider Application of the Principles) following in 2010. A completely revised and updated version of the document is currently in the final stages of preparation.

In keeping with previous versions, the new MfS will focus on the design of streets. It is hoped, however, that it will say more than its predecessors on the subject of managing streets, including the kerbside.

As things stand, the only UK document that promotes a holistic approach to kerbside management is the London Borough of Southwark's Kerbside Strategy (February 2017). Though still formally in draft form five years later, this strategy is cited by the MfS and explains the need for itself in the following terms:

> "A well managed, inviting and uncluttered kerbside can help create an attractive, safe, multifunctional street that supports healthier neighbourhoods - encouraging healthier lifestyles by supporting more walking and cycling and improving air quality, by reducing congestion on the network. A poorly managed kerbside can result in a chaotic, dysfunctional and unsafe street that is unappealing to residents, businesses and visitors."

Although this statement is light on the economic aspects of better kerbside management, the strategy does at least go on to note that "the movement and delivery of goods on our streets are also essential for our local economy".

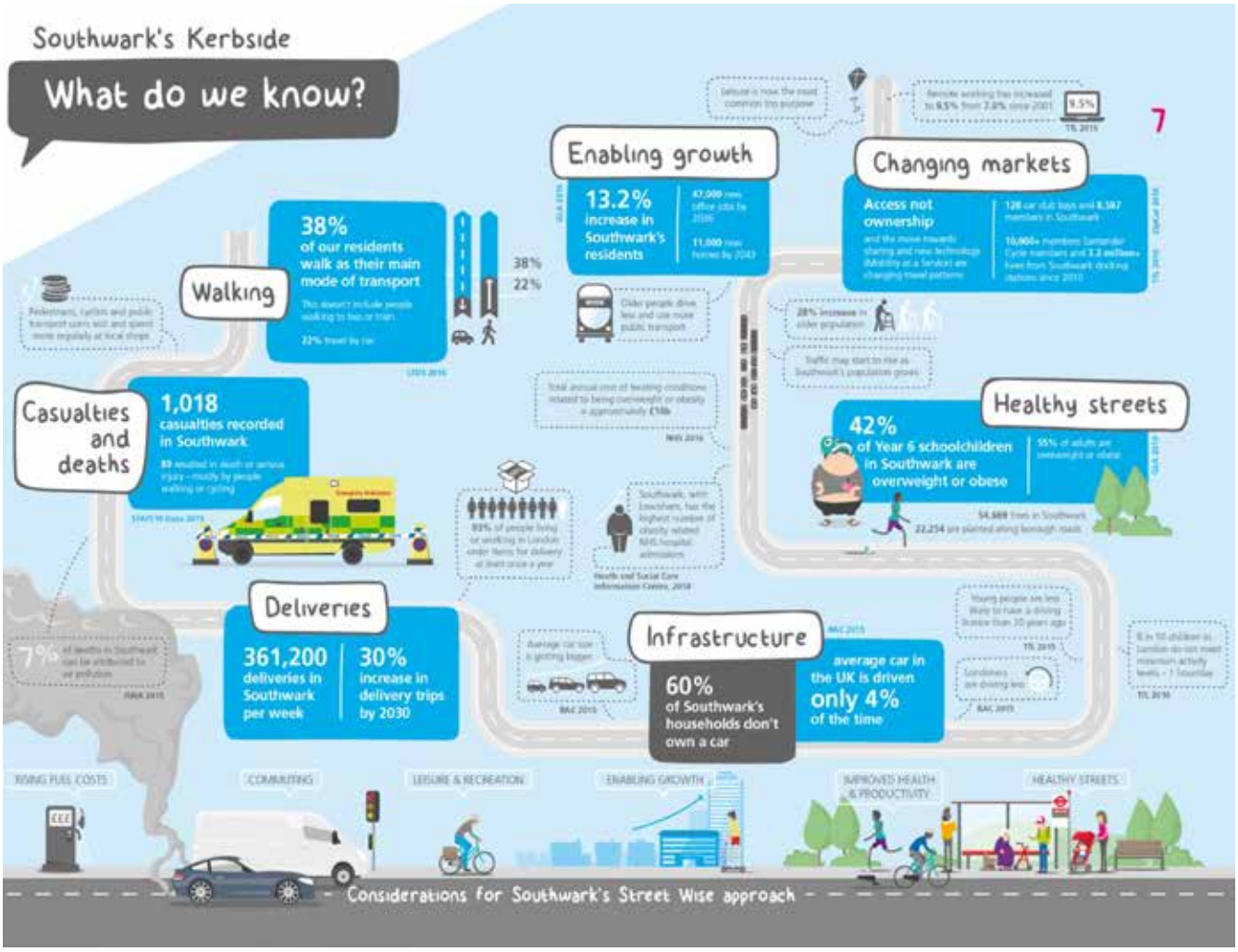
Southwark's Kerbside Strategy contains policy statements under each of the following eight headings:

1: Allocate kerbside space in accordance with Southwark's Street Wise approach.
2: Prioritise kerbside space for walking and cycling.
3: Implement parking controls based on an evidence led approach.
4: Review parking in town centres.
5: Require safer, robust delivery, servicing and waste management.
6: Implement more green infrastructure.
7: Expand the shared mobility network.
8: Adapt our kerbside to meet future needs

The table on page 20 sets out the priorities that underpin Southwark's 'Street Wise' approach, while the infographic on page 21 describes a number of key considerations. Both also seek to explain the reasons why a strategy is needed and why the Council's priorities are what they are.

The Southwark strategy is not to be considered authoritative, and the Council wouldn't claim that it should be (especially as it is still in draft). Nevertheless, and although it seems to overlook the economic challenges and opportunities related to the efficient working of the kerbside, it is a good example (indeed, the only one!) of the range of considerations that a kerbside strategy needs to embrace and of how these aspects need to be brought together into a cohesive whole.

Priority	Intervention	Why?
1	Highway safety	• Healthy Streets • Air Quality objectives particularly around schools • Impacts on all kerbside users • Statutory obligation • Reduce pedestrian and cyclist casualties • Vision Zero objective
2	Pedestrian improvements for all ages and abilities	• All users are ultimately pedestrians • Social equity reasons • Consistent with adopted movement hierarchy • Most efficient use of space • Economic benefits
3	Cycle improvements	• Cycling is for all ages and abilities • 10 per cent by 2025 target • Contributes to many public health objectives • Economic benefits
4	Public transport & shared mobility options	• Typically bus stop/ rail stations- high footfall environment • Efficiency, environmental & social equity reasons • Journey time improvements • Ease of accessibility
5	Delivery & Servicing	• Support local economic activity • Minimise conflict with other road users • Green last mile trips
6	Street trees/ green infrastructure	• Climate change adaptation • Reducing surface water run-off • Reduce urban heat island impact
7	Parking allocation priority on residential streets Parking allocation priority in town centres	Discourage commuter parking and prioritise, where required: • Disabled parking • Residential cycle parking including adaptive bikes • Car sharing vehicles • Resident vehicle parking • Disabled parking • Prioritise short stay spaces for shoppers



An unpublished 2019 study by Urban Movement for the Department for Transport - Future Streets: Designing and Managing the Kerbside - proposed a simple four-step process that could be used to develop a rational Kerbside Access Strategy for any given street. These steps could also be used as a structure for developing authority-wide kerbside strategies, and are described in brief below.

- Step 1. Consider the extent to which different user groups and uses are likely to need or want to occupy the kerbside for different lengths of time (from a few seconds for drop-off/pick-up to permanently for pedestrian crossings).

- Step 2. Calculate the kerb-space requirements for different users/uses (e.g. number and length of bus stop cages; number and length of loading bays; width of pedestrian crossings).

- Step 3. Determine local priorities, in order to guide decisions on allocating space to different users/uses in the light of Steps 1 and 2 and of considerations of the street's role as place.

- Step 4. Consider opportunities for designating the same stretch of kerbside to different users/uses at different times of day or days of the week.

The idea behind Step 1 is to provide a basic framework for understanding how the kerbside is currently being used, to help clarify the different types of demand that exist, how different demands might compete, and generally to underpin a more informed approach to determining how kerb-space should be allocated and managed in the specific context.

Bearing in mind the potentially very large number and variety of users and uses, some simplification will be necessary and appropriate at this stage. It is important to get a good grasp of the complexity while not getting bogged down in detail.

Step 2 involves a much greater level of applied research and thought to the kerb-space requirements of different users, and this should be informed by detailed data-collection. This where current practice generally falls short, often because of the failure to obtain adequate evidence; a problem compounded by the difficulties of assessing the precise requirements of different user groups. Existing and emerging sensor and AI technologies offer cheaper and better data collection and analysis than has been the case previously.

Step 3 is where the challenge of prioritising kerbside access is addressed. Even in the rare circumstances where the supply of kerb-space exceeds demand, questions to answer include: where best should different kerbside acts take place?; how should 'spare' space be used?; what value (e.g. via charges) can we obtain from which activities?; and might we want to exclude, or indeed include, some activities for policy reasons that don't just relate to the availability of space? For example, air quality targets, road danger reduction, modal shift strategies, provision for safe cycling, pop-up public spaces.

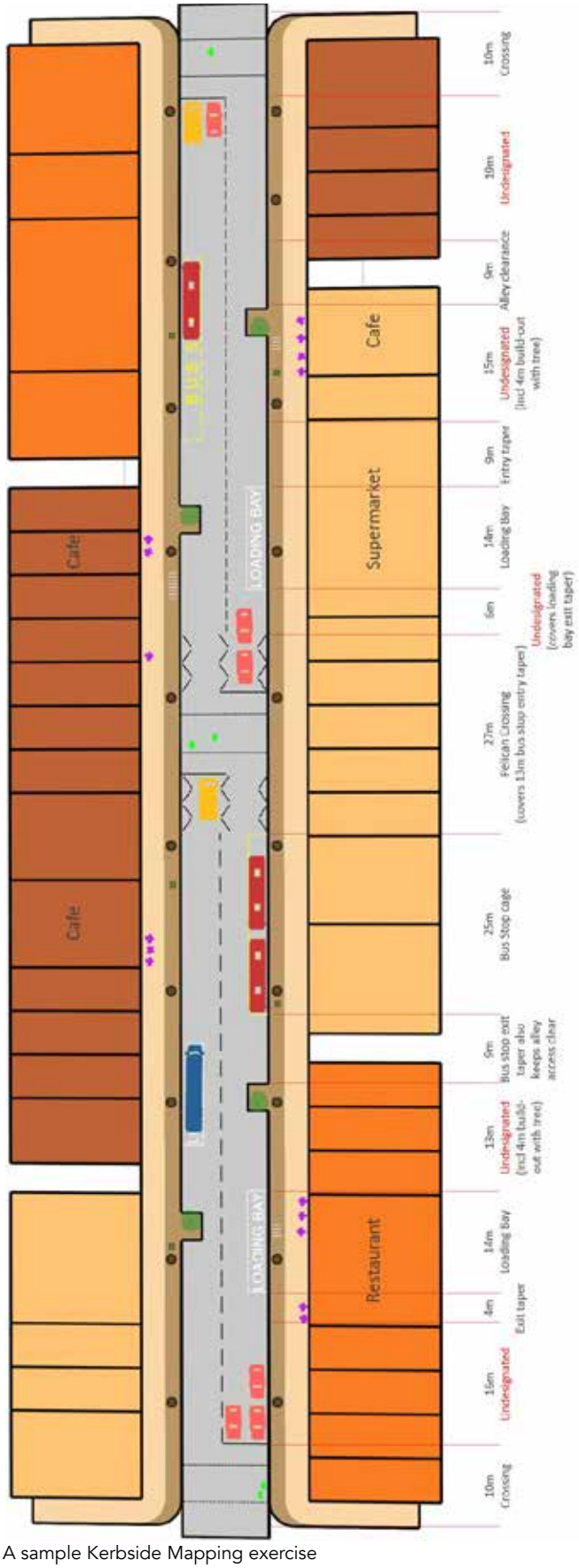
In the more common circumstances where demand exceeds supply, the challenge is usually more daunting. The key decisions to make tend to be about which user groups/uses to prioritise over others, how to manage access more efficiently (e.g. shorter maximum stays for parking), and whether some user groups/ activities should be excluded, perhaps from just the kerbside or maybe from the whole street.

Step 4 is about opportunities to use a given amount of kerb-space more efficiently by allocating certain sections for different uses at different times. While this is a good idea in theory, even the simplest time-based variations (e.g. part-time bus lanes) can currently cause user confusion.

As long as the primary form of communication about kerbside controls remains fixed signs providing information to humans, there will be limited scope for greater flexibility in kerb-space allocation. Note also that designating a given section of kerb-space for more than one use at the same time is not possible in the current regulatory environment. Both technological and regulatory changes therefore have much potential in relation to Step 4.

The unpublished 2019 study also introduces the idea of 'Kerbside Mapping'. This is a tool intended to enable clearer thinking about the use of space in specific streets or small areas, but which could also help authorities develop their wider kerbside strategies. Kerbside Mapping is a simple exercise to help practitioners understand how a finite amount of kerb-space might best be used. It can be undertaken following Steps 1 and 2 of the Kerbside Access Strategy and can be used to test optional scenarios at Steps 3 and 4. Such an exercise should be considered an essential process in flushing out the chief supply and demand issues for any given street.

By requiring practitioners to think in detail about the specific space requirements for different kerbside uses (including the need to keep parts of the kerbside free of any vehicle stopping), kerbside mapping makes real the spatial implications of providing for specified users/uses on the basis of defined parameters. An example of kerbside mapping exercise for a typical high street is shown on page 23 alongside.



A sample Kerbside Mapping exercise

More recently, in January 2022, the Department for Transport commissioned Deloitte to undertake a Provision of Kerbside Management Discovery project. This focused on user research that tested the following hypotheses:

1. A shared, formal definition for managing access to the kerbside does not exist and is required.

2. There is a role for both local and central government and a requirement for a more proactive posture in addressing unmet user needs at the kerbside.

3. Digitisation, data integration and interoperability are key enablers in addressing unmet user needs in the short-term.

4. Users and the wider public will accept the role of digital services in the governance of their access to the kerbside.

5. There is a need for a change agent in order for local authorities to adopt new ideas and ways of doing things at the kerbside.

Hypotheses 1-3 and 5 were found to be proven, with no.4 found to be partially proven. That the Discovery did not find it fully proven that "Users and the wider public will accept the role of digital services in the governance of their access to the kerbside" is particularly noteworthy in the light of the fact that many of the people interviewed for this paper, whatever their current role or background, were clear that digitising governance of the kerbside is necessary if the potential of this valuable asset is to be maximised (see Chapter 4, following).

That "no significant body of evidence was found to suggest the public will widely accept digital services or codification of their access" points towards public acceptance of automating access to streets and to the kerbside being one of the most difficult yet important hurdles to overcome, if the goals relating to that access (e.g. greater efficiency, safety and fairness) are to be achieved.

When published, in 2023, the report of this Discovery will be another important document for the audience of this paper to reflect on.

Another DfT-backed initiative of relevance to street and kerbside management is the development of a National Parking Platform, a service intended to enable the exchange of standardised, reliable, up-to-date national parking data through a common data platform. Hosted by Manchester City Council, the NPP is a local authority owned and DfT-funded pilot project designed to bring the 'customer experience' of parking into the 21st century.

The idea is that people seeking to park will be able to locate provision that is suitable for their journey, check costs and availability, pre-book a space, and make payment before starting their journey. They will also be able to modify their trip in response to real-time changes in conditions and, if necessary, use a different parking space.

The platform manages data exchange between systems and is based on the Alliance for Parking Data Standards (APDS) technical specifications, which form the basis of ISO/TS 5206-1 Intelligent Transport Systems - Parking - Part 1: Core Data Model.

The NPP trial is ongoing.

On the subject of ISOs, one further initiative worth drawing specific attention to is the work in hand to develop ISO/TS/4448 Sidewalk and Kerb Operations for Automated Vehicles: Arriving, Stopping, Parking, Waiting, and Loading. This touches upon a key opportunity that was mentioned by many interviewees: the potential benefits of 'digitising the kerbside' and of enabling kerbside management to become a matter of system-to-vehicles communication, rather than analogue-signs/markings-to-humans. There's more on this in Chapter 4, following.

In addition to all of the above, there is a wide variety of further documentary evidence relating to future streets and to kerbside management that practitioners and others may want to refer to. In the context of this paper, the phrase 'documentary evidence' is also used to refer to practical initiatives and new best practice that may provide help in thinking about some of the ways in which kerbside challenges may be addressed.

A list of reference sources for useful documents and case studies that can be explored further is presented below. The usual disclaimer that this list is not intended to be exhaustive applies. Images representing some examples of new practice are shown on pages 26 and 27.

REFERENCES

National Strategy + Policy

- The Civil Enforcement of Parking Contraventions (England) General (Amendment No. 2) Regulations 2015
- Future of Mobility: Urban Strategy, Department for Transport (DfT), March 2019
- National Transport Strategy 2, Transport Scotland, February 2020
- Guidance for Local Authorities on Enforcing Parking Restrictions, DfT, update June 2020
- Gear Change - A Bold Vision for Walking & Cycling, DfT, July 2020
- Future of Transport Regulatory Review: Summary of Responses, DfT, 2020
- Bus Back Better - National Bus Strategy for England, DfT, March 2021
- Gear Change: One Year On, DfT, July 2021
- Decarbonising Transport - A Better, Greener Britain, DfT, July 2021
- Taking Charge: the Electric Vehicle Infrastructure Strategy, HM Government, March 2022

UK Design Guidance

- Accessible Bus Stop Design Guidance, Transport for London (TfL), 2017
- Kerbside Loading Guidance (2nd Edition), TfL, 2017
- Local Transport Note 1/20: Cycle Infrastructure Design, DfT, 2020
- Manual for Streets (comprehensive revision), DfT, 2022 tbc

Other Publications

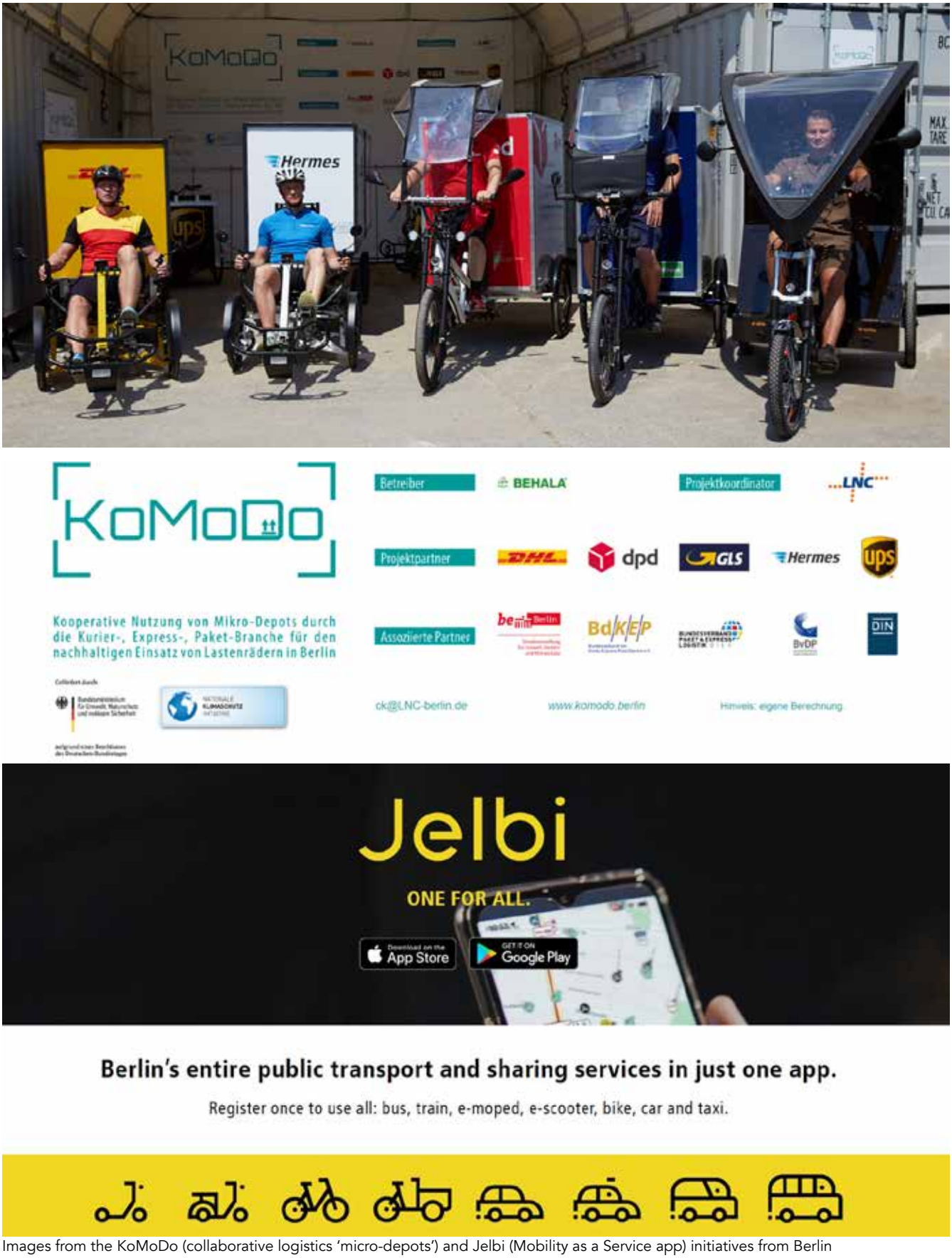
- Kerbside Strategy (Draft), London Borough of Southwark, 2017
- The Shared Use City: Managing the Curb, International Transport Forum, 2018
- Regulating the Future of Mobility, Deloitte, 2018
- White Van Cities, Urban Transport Group, 2018
- Reclaim the Kerb: The Future of Parking & Kerbside Management, Centre for London, 2020
- Blueprint for Autonomous Urbanism (2nd Edition), National Association of (US) City Transportation Officials (NACTO), 2019
- Curb Management Strategy, San Francisco Municipal Transportation Agency, 2020
- Provision of Kerbside Management Discovery, Deloitte for the DfT, 2023 tbc

Emerging International Standards

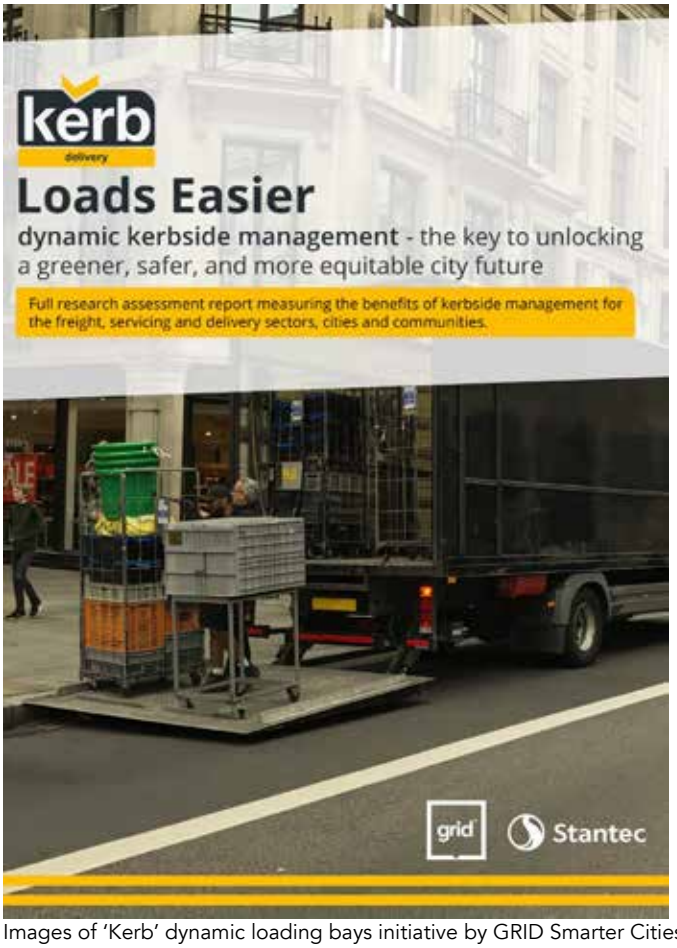
- ISO/TS/4448 Sidewalk and Kerb Operations for Automated Vehicles: Arriving, Stopping, Parking, Waiting, and Loading - work in progress
- ISO/TS/5206-1 Intelligent transport systems - Parking - Part 1: Core data model - work in progress

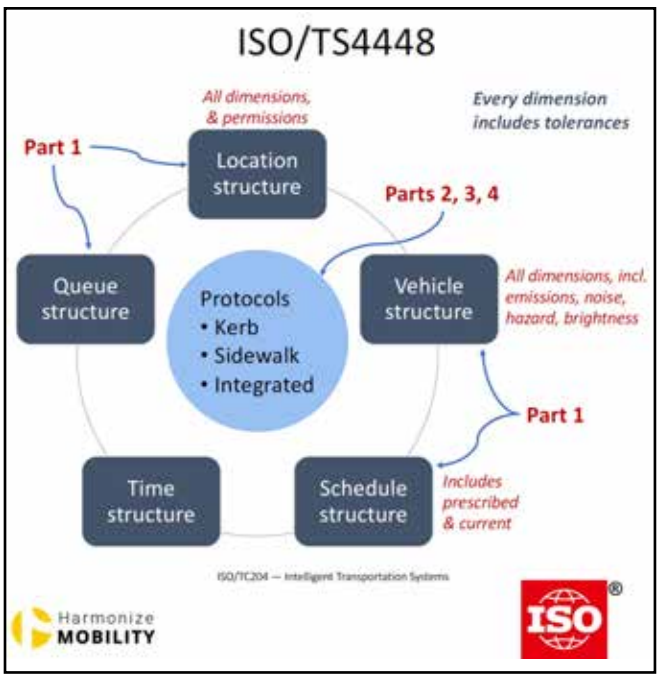
Case Studies

- Jelbi: "Berlin's entire public transport and sharing services in just one app" https://www.jelbi.de/en/home/
- KoMoDo Berlin: "The cooperative use of micro-depots by the courier, express and parcel industry using of cargo cycles" https://www.komodo.berlin/
- Sogaris: a sustainable, low-carbon logistics network for Greater Paris https://www.sogaris.fr/ https://www.lvmt.fr/wp-content/uploads/2021/07/LC2021-UK.pdf
- FTC2050: "Transforming the energy demands of last-mile urban freight through collaborative logistics" - various reports http://www.ftc2050.com/
- Loads Easier: Dynamic Kerbside Management, Stantec for Grid Smarter Cities, 2021 https://www.gridsmartercities.com/stantec-report/
- National Parking Platform Pilot Project, DfT and Partners. https://npp-uk.org/



Images from the KoMoDo (collaborative logistics 'micro-depots') and Jelbi (Mobility as a Service app) initiatives from Berlin





Images of 'Kerb' dynamic loading bays initiative by GRID Smarter Cities and a process diagram from the emerging work on ISO/TS/4448

04 Spoken Evidence

CHALLENGES

The following bullet points present some of the main points raised by the interviewees listed on page 34. There is no attribution, and there has been no attempt to prioritise these, or to verify some stated views. They are listed here to give an insight into the different perspectives and knowledge that different kerbside actors have.

- 'The kerbside' is not widely understood, in practice, as a place, asset or concept that is worthy of dedicated attention and resource.
- In so far as 'the kerbside' is recognised as anyone's responsibility within most local authority structures, it is the domain of parking enforcement officers (especially since the de-criminalisation of parking enforcement under the Road Traffic Act 1991).
- Within a Highway Authority, it is rarely/never any given officer's job to think about freight, micro-mobility, future tech, etc.
- More broadly, most Highway Authorities do not manage and protect 'the public highway' as though it were an extremely valuable public asset, of which they are the owners.
- Responsibility for this asset seems largely to be considered a burden, not an opportunity or privilege. It's as though someone with valuable property allowed it to be routinely damaged and abused but just shrugged sadly every time it happened, as if there weren't really much they could do about it.
- Arising from this, the public discourse around street and kerbside access controls has become one in which transport authorities are commonly criticised for any public highway measure that is deemed to impose a cost, or even an inconvenience, on private individuals. This popular narrative around 'unreasonability' is a significant deterrent to wise and productive management of a scarce and valuable public resource.
- One consequence of this is that, were a Highway Authority to be asked "What proportion of your total kerbside space is allocated for waiting or loading, where, and on what terms?" it would not be able to provide a cogent answer. Even within single authorities, knowledge of this information is partial, fragmented and often out of date. "TROs are a mess. Until they're digitised, we don't really know what we're talking about."
- A particular challenge for City Region Transport Authorities (CRTAs) is that - other than currently in the case of Transport for London - they are not the Highway Authority for any street.
- Their constituent Highway Authorities typically have different kerbside parking and bus priority regimes, including different hours of operation, different charging structures, and different approaches to enforcement against contraventions.
- Some Highway Authorities have not even taken on their Civil Parking Enforcement powers.
- The fragmentation of bus priority regimes works against achieving a consistent approach to improving bus journey times along routes that span two or more Highway Authority areas.
- The fragmentation of parking regimes means that, in some Highway Authority areas, there is very little disincentive to contravention of the regulations, and can also mean there is competition between neighbouring areas on the basis of parking charges.
- Mode shift, though a universal policy goal isn't fully understood as a vital tool for the better management of street and kerbside space.
- Promoting public transport is hampered by the general lack of smart ticketing across all services in a region. There's no 'one coherent journey', let alone anything approaching a true MaaS platform.

- The City Region Sustainable Transport Settlement has helped create more certainty about capital funding going forward, but has also raised questions around "Can we actually spend it well, and quickly enough?" given the challenges on local authority resources that have accelerated over the past decade or so.

- As regards revenue funding, the overall BSIP allocation fell from £5bn to £1.2bn. "A monumental failure by Government".

- Alongside the undervaluing of the kerbside as a public asset, failure to integrate mode shift activity with other Highway Authority responsibilities could be undermining approaches to - and certainly the narrative around - the development and implementation of key network and street space management tools like Road User Charging, Ultra Low Emissions Zones and Clean Air Zones.

- The result of the 2008 referendum about a proposed congestion in Greater Manchester made such measures appear very risky, politically, for leaders, as witness the controversy surrounding the 2021 implementation of Birmingham's Category D Clean Air Zone, and the recent decisions in Newcastle, Leeds and Manchester to dely implementation of their proposed CAZs.

- We don't value the kerbside, so we don't see the cost of more motoring (not factoring into roads BCR). Donald Shoup - 'The High Cost of Free Parking'. If only we valued/monetised the kerbside properly.

- Service providers, like logistics companies and micro-mobility operators, suffer from there being no common regulatory platform, and from having to negotiate separately with each individual Highway Authority within a City Region. Cross-border collaboration is needed to enable efficiencies for all.

- They also suffer from there being no single, reliable data-source for kerbside access restrictions and controls in any given area, let alone one that is digital.

- Local authorities themselves suffer from the inherited 'analogue' approach to Traffic Regulation Orders and the associated signs-and-lines basis for communicating these restrictions and enforcing against contravention. Problems with signs-and-lines maintenance undermines both communication and enforcement.

- More generally, there is little 'consistency through transparency' when it comes to understanding access controls.

- For logistics operators, the kerb is their 'contact point with customers' and problems with gaining access to it create operational inefficiencies that mean (a) drivers will regularly feel they have little practical option but to wait where they shouldn't and (b) operators have more vehicles on the road than would be needed if they could access the kerbside with greater predictability.

- In relation to (a) above, most logistics operators are part of a 'silent majority' that just pays the fines and carries on, not feeling that there is a movement for change - collectively, on the part of Highway Authorities - that they can engage with or support.

- Concerns that the difficulties authorities face in enforcing against badly-parked cycle logistics 'vehicles' (no registration plates) could be giving this mode and unfair/unintended competitive advantage over vans.

- 'Cycle lanes', when successful, can become too busy for their physical size, and the pressure on their use is only going to grow due to demand from mobility scooter and micro-mobilty mode users.

- Micro-mobility hubs are a known concern, even when successfully geo-fenced. Increasingly, some physical demarcation (e.g. 'corrals') may be necessary due to concerns for blind and partially-sighted people and about the visual effect on the public realm.

- The rise of school Academies has led to an astonishing variety of school start and finish hours. In some places, this fundamentally shifts the patterns of demand for bus services.

- Many bus service delays relate to boarding and alighting – number of doors; smart ticketing, etc. – and these can undermine the benefits of expensive bus priority measures.

- National default Pavement Parking Ban. There has been consultation but no action; and there was nothing on this in the most recent Queen's Speech.

- Speed cameras – local authorities don't get to reinvest the fines in better transport (they go to the Treasury), so there's no additional financial incentive (above the safety incentive) for local authorities to manage their streets using these tools.

- There is a dearth of logistics land in cities, yet there is a need for consolidation space, not just trans-shipment, and to cater for returned goods, not just deliveries.

- In terms of the number of vehicle trips/ volume of mileage, Service Logistics may well outweigh core Goods Logistics. We can focus on the movement of goods whilst ignoring the movement of people going places to do things (e.g. construction workers, cleaners, health visitors, fridge fixers, etc.)

- Key challenges for delivery drivers are "Where precisely is the consignee?" and "How do I actually get to them?" A street address only gets you so far, and lack of precision leads to delays at the kerbside. Tools like What3Words are better than addresses, but are not widely understood or used.

- Delivery vans are stationary for some 60% of the day, while drivers can walk 8-10km.

- Compared with the control of airspace, for example, there is almost a complete absence of clear accountabilities, responsibilities, objectives, ownerships, etc. at the kerbside.

- In the context of ever more constrained budgets, local authorities' dependence on PCN income may be a disincentive to embracing change/trials of new management techniques.

- In terms of the consideration the needs of disabled people at the kerbside, there is generally a lack of a pan-impairment approach from the outset. The default focus tends to be on certain user groups – e.g. wheelchair users and visually impaired people - and on specific issues related to their needs (e.g. kerb height).

- The provision of the necessary physical infrastructure for enabling kerbside access and movement by disabled people (e.g. dropped kerbs, tactile paving, accessible parking bays) is often woeful.

- There needs generally to be far greater due diligence by local authorities in terms of their Public Sector Equality Duty as is relates to the kerbside.

- EV charging infrastructure and parking for dockless bicycles and e-scooters creates obstacles if located on the footway. They should be in the carriageway.

- Making provision for vehicular kerbside access by Blue Badge holders is fairly well understood. But there is no mechanism for prioritising kerbside access for vehicles carrying carers or other visitors on whom a BB holder might depend.

- In thinking about an increasingly digital future at the kerbside, the fact of 'digital exclusion' affecting numerous groups in the community could be a huge problem.

- The conflict between 'place-making' schemes and 'movement efficiency' schemes (e.g. bus priority or cycle tracks) is real, but not addressed directly relevant Government policy. Without this, the more qualitative-seeming benefits of 'place-making' schemes can seem weak when set against the numbers relating to bus journey time reliability, etc.

OPPORTUNITIES

As with the Challenges, above, the following bullet points present some of the main points raised by the interviewees listed on page 33. The the same caveats apply.

- The best thing that local authorities can help get done is the digitisation of street and kerbside access restrictions (TROs).
- However, effective digitising of the kerbside requires that there be a single platform for all operators. Authorities can decide local priorities, but the platform must be the same. Therefore, digitisation has to be led by the DfT – a nationwide standard.
- City Region transport authorities could be the responsible authority for managing the digitisation of access restrictions across their areas. Working with Boroughs/Cities/Districts as part of a single, cohesive project; rather than expecting/hoping each of these authorities will work to the same standard at the same time. This could be an opportunity for joined-up action by UTG members.
- Better public stewardship of a highly valuable asset is possible even within authorities' existing powers. It's largely about taking an different approach to 'asset' management.
- Local authorities' roles needs to shift from an Enforcement Team to a Kerbside/Network Management Team.
- It can strangely seem a 'dirty word' for local authorities, even at a time when resources are under huge pressure, but monetising the kerbside should be seen as a huge opportunity.
- Move from a friendless rules-enforcing approach to a Parking as a Service or 'Charging for a Service' approach. Stressing the public value of the kerbside and moving away from the toxicity of punishment and penalties. New system-to-vehicle comms technology has real potential in this regard.
- Similarly, it's time for local authorities to change the Road User Charging/Clean Air Zone/Ultra Low Emissions Zone narrative; to get on the front foot with the climate change/air quality/ congestion reduction/road safety/inclusion benefits story.
- Local authorities should be more proactive in seeking the powers now potentially available to them under Part 6 of the Traffic Management Act 2004.
- Where possible, City Region transport authorities (especially) should pursue the opportunity to participate in 'Regulatory Sandboxes' (see the consultation on this run by the Centre for Connected and Autonomous Vehicles in autumn 2021).
- Authorities should be aware of the ongoing work to develop ISO/4448 Sidewalk and Kerb Operations for Automated Vehicles: Arriving, Stopping, Parking, Waiting, and Loading. (See also in Chapter 3 and the pair of graphics on page 32 below, which draw attention to the opportunity to change enforcement models.)
- Local authorities have valuable data. This could perhaps be used to help fund innovation in partnership with private sector operators.
- The National Parking Platform (using Alliance for Parking Data Standards APDS, now adopted by ISO) presents real opportunities in moving towards a single common source of all local parking information, replacing the needs for users to have multiple apps.
- Together, APDS and the DfT's work on digitising TROs together put us an appreciable distance along the path to effective digitisation of the kerbside: working from the 'owner' and 'user' sides of the challenges.
- DfT Exploring Parking as a Service (PaaS)
- Local authority owned off-street car parks (and similar facilities owned by others) have real potential as both local logistics hubs and EV 'filling stations'. Revenue-raising opportunities.
- The 'Power of Direction' may enable City Region Mayors to ensure consistent approaches to kerbside management in their areas. But a obviously a potentially sensitive issue.
- The forthcoming Transport Bill should also give City Region authorities the power to join-up micro-mobility services in their areas, physically & digitally. Less work for individual authorities and simpler experience for users.

- Shared Fleet opportunities – better use of local authorities' own vehicle: fleet, vans, patient transport, pathology samples, etc. Another potential revenue-raising idea.
- Can local authorities use their powers to make different operators (refuse collection, etc.) use centralised services? (University of Westminster work for The Crown Estate example).
- Freight Quality Partnerships present real opportunities, especially at the local level.
- Partnerships/deals between local authorities and operators for mutual benefit. The income-generating potential of LA data and land.
- Local authorities should focus more on how better kerbside management can deliver a range of policies, not just solve problems.
- The Government's push on EV charging provision could help LAs really sit up and take notice of the kerbside. New Local Transport Plan guidance is likely to require authorities to produce EV Charging Strategies. These could/ should be part of Kerbside Strategies.
- There is real benefit to be gained from working more closely with local people to produce best practice on how to engage and feedback on kerbside issues locally. Vital to enure technical and technological fixes meet the real needs and aspirations of local people, not just the specific objectives of authorities and operators.
- Transport for All recent published an 'Equal Pavements Pledge' (see opposite). Could local authorities develop something similar as a public-facing tool for promoting better, more considerate use of the kerbside generally?

'Now and then' graphics from the emerging work on ISO/TS/4448, highlighting the changes needed in terms of kerbside operations.

Equal Pavements Pledge

1. Listen, and act

Engage with and listen to the perspectives of disabled people, across the impairment groups, who have been significantly erased from the conversation. By doing this, we can move forward with accessible, inclusive, pan-impairment solutions which benefit everyone, and the environment.

2. Keep it clear

Maintain a minimum of 1.5m clearance on all pavements, by enforcing the terms of your licenses with businesses. Issue written warnings and follow up with on-site visits to premises to enforce the terms. Use roaming 'inspectors' to ensure pavements aren't blocked.

3. Cut the clutter

Operate a zero-tolerance approach to street clutterIssue warnings to businesses that obstruct pavements with A-boards, and follow up with fines. Consider temporarily removing permanent fixtures, for example bollards and lamp posts, while outdoor furniture is on pavements to maintain a clear path. Electric Vehicle charging points should only be situated on a pavement as a last resort if there are no other options, and must be placed in a way that will not cause obstruction or trip hazard from trailing cables.

4. Mind the trash

Schedule waste removal at times that will be the least disruptive, reducing the issue of bags of rubbish being left on pavements during periods of high footfall.

5. Drop the kerbs

Undertake a professional accessibility audit of your streetspace and install immediate short-term measures (e.g: asphalt ramps) at problem areas to ensure step-free access. This is a short term and immediate solution while more long-term solutions, including proper dropped kerbs and correct tactile paving where appropriate, are devised and installed.

6. Protect Blue Badge Bays

Do not remove parking spaces for Blue Badge holders except where supported by robust data and in consultation with disabled residents. In rare occasions where this is unavoidable, the bays must be relocated close to the original location and any plans should be consulted on with disabled residents to avoid impeding access.

7. Work with disabled experts

We want to see local authorities and transport providers commit to a co-production model built on the views and expertise of a wide range of disabled voices. Work with representatives from a pan-impairment organisation who can train your team and work with you to embed the Social Model of Disability to ensure all future streetspace schemes are delivered with accessibility at their core.

Transport for All
Access, Rights, Advice

Supported by: LONDON TRAVELWATCH, sustrans, RNIB See differently, LIVING STREETS

Transport for All's Equal Pavements Pledge - an approach worth considering for promoting better use of street space more generally?

INTERVIEWEES

The stakeholders interviewed in preparing this paper fall into two broad groups.

UTG Member Representatives

- Matthew Goggins, Assistant Director for Bus, Liverpool City Region Combined Authority
- Andrew Sawyer, Key Route Network Manager, Liverpool City Region Combined Authority
- Adam Harrison, Principal Policy and Strategy Officer, Transport for West Midlands
- Jake Thrush, Associate Policy Advisor, Transport for West Midlands
- Tim Taylor, Director of Public Transport Operations, South Yorkshire Combined Authority
- Nicola Kane, Head of Strategic Planning, Insight and Innovation, Business Development Manager, Transport for Greater Manchester
- Jonathan Marsh, Strategic Planning Manager, Transport for Greater Manchester
- Roger Gill, Business Development Manager (Metro Planning), Nexus
- Helen Ellerton, Interim Head of Transport Policy, West Yorkshire Combined Authority
- Kit Allwinter, Active Travel Policy Lead, West Yorkshire Combined Authority

Other Contributors

- Greg Marsden, Professor of Transport Governance, Institute of Transport Studies, University of Leeds
- Tom Parker, Senior On-Road Policy Manager, Amazon Logistics
- Neil Herron, CEO, GRID Smarter Cities
- Tom Cherrett, Professor of Logistics & Transport Management, University of Southampton
- James Padden, General Manager, Bird UK&I
- Prof Peter Jones, UCL
- Graham Hanson, Head of Smarter Traffic Management, Department for Transport
- Michael Dnes, Head of Future Roads Technology, Department for Transport
- Oliver Parsons-Baker, Senior Manager - Future of Transport & Mobility, Deloitte
- Caroline Stickland, Chief Executive, Transport for All
- Jonathan Allan, Head of Technology, Innovation and Research, British Parking Association
- George Symes, Founder, EValuate Strategy

05 Future Streets - Recommendations

In making recommendations arising from the many and varied inputs covered in the previous chapters, the task is not just one of identifying the key themes but also one of considering the audience. Concerning the latter, it is clear that well-informed, joined-up, concerted action across numerous authorities and agencies, covering both the public and private sectors, and indeed the 'third sector', will be needed if the challenges of managing streets are to be met and the opportunities are to be fully realised.

Accordingly, the following recommendations are intended to be of relevance to all parties with a duty for or interest in the better management of our streets. While some recommendations relate directly to those with particular responsibilities and/or powers, other actors may have important roles in supporting or lobbying for the change that is needed.

The recommendations are presented under eight headings.

5.1 Policy Coherence

From 'Gear Change' to 'Bus Back Better' to 'Decarbonising Transport' to 'Taking Charge', the Government has recently published a number of policies, strategies and plans containing many ideas and proposals that are consistent with the sustainable transport agenda generally and with releasing the full potential of streets in particular.

However, it is fair to say that, while the need for any given strategy to recognise the potential conflicts with others is mentioned - not least in relation to the use of scarce street-space, there tends to be silence on how best to go about resolving any such conflicts.

Clearer guidance from Government is needed on how best to go about determining relative priorities between modes and other uses of streets and the kerbside in different contexts. In this regard, it is understood that forthcoming guidance on Local Transport Plans is likely to include a requirement for a supporting EV charging strategy; but, it would be preferable if this requirement were for a wider kerbside strategy, within which EV charging would be one of many considerations. (See 5.3 and 5.4 below.)

5.2 Increasing Resources

It is abundantly clear that, in order for street space and the kerbside to be better managed, and for streets thereby to reach their full potential, increased resources will be needed, especially as this relates to the capability and capacity of local highway and strategic transport authorities to rise to the challenge. Especially considering the public value that should rightly be assigned to the kerbside (see 5.6 below), this need not necessarily be a matter of greatly increased public expenditure. Indeed, if the public highway were valued as it should be, better street space and kerbside management could pay for itself.

5.3 Defining 'the Kerbside'

As mentioned in chapter 1, the definition of 'a street' given by the first Manual for Streets - "A highway that has important public realm functions beyond the movement of traffic..." - recognised their inherent complexity and helped streets be better understood, and designed. It has not led to them being better managed, however, probably because the main purpose of the MfS definition was to introduce the idea of streets being places, not just transport corridors.

With this in mind, it's worth reflecting on the finding by the recent user research by Deloitte for the DfT that "a shared, formal definition for managing access to the kerbside does not exist and is required". Were such a definition to be agreed, it would necessarily embrace the operational aspects of streets and make obvious the need for a joined-up approach to managing them.

This should be considered vital as a means of ensuring that each of the many different actors at the kerbside - and, by extension, in streets as a whole - have a common, shared understanding of the roles that others play and therefore of the fact that co-operation and partnership is not only possible but essential.

Defining 'the kerbside' as a physical environment, a valuable asset, and an integral part of the places we call streets would also serve to emphasise the need for someone to have responsibility for the whole - and this applies as much to the Government as it does to local and strategic transport authorities.

In many ways, the kerbside today is almost a textbook example of 'the tragedy of the commons'. Defining the kerbside as a place of shared endeavour and of potential mutual benefit would be an important step in changing the status quo. Establishing an office for kerbside management or, better, street management would be another: giving direction to the work of many actors and enabling the whole to be much more than the sum of the parts.

5.4 Street/Kerbside Management Strategies

Complex environments, like streets, will usually benefit greatly from strategies designed to co-ordinate and prioritise actions according to established objectives, so as to increase efficiency, minimise conflict, maximise value, and make best use of limited resources. It is hoped that the value of such strategies will be recognised in the new Manual for Streets.

The authority, or authorities, best placed to prepare such a strategy for any given area will depend on local circumstances, including highway governance arrangements and capacity. In some areas, such as city regions, joint kerbside strategies covering several highway authority areas would make sense in principle, but may be difficult to agree in practice. Despite such difficulties, joint strategies would be preferable to a collection of individual strategies in terms of ensuring effective collaboration, greater efficiency, and providing a better service to all users of the kerbside.

In terms of actions for Government, it is understood that new guidance from the Department for Transport on preparing Local Transport Plans will require LTPs to be accompanied by a number of detailed supporting documents. One of these seems likely to be an electric vehicle charging strategy. This is a particular area of increasing concern to local authorities, not least in relation to provision of suitable charging infrastructure near to homes that don't have any safe or convenient off-street space for the purpose. However, even though it has a high profile, not least in the public mind, providing for EV charging is plainly just one of many challenges at the kerbside. It would therefore be far preferable if the LTP requirement were for an over-arching Street or Kerbside Management Strategy within which the EV strategy should fit. Indeed, if EV charging strategies are not a coherent part of a comprehensive whole, it would merely serve to perpetuate the existing 'tragedy of the commons'.

Requiring and enabling local and strategic transport authorities to prepare such strategies would be consistent with two of the five key opportunity areas identified by the Discovery undertaken by Deloitte for the DfT:

- Communicate government policy on managing the UK's kerbside. Without a clear set of joint policy goals to guide actions, modernising management of the kerbside will remain slow and piecemeal, the Future of Transport's promised benefits unlikely ever to be achieved.

- Support local authorities to better manage current kerbside conflict and demand. Achieving diverse/balanced access to the kerbside for new modes of mobility and active travel is a non-trivial transition for local authorities, and the need to support them in making such a break from historical practice should not be underestimated.

5.5 Data

Better information, specifically more and better data about the demands that are placed on kerb-space, is essential if local and strategic transport authorities are to be able to manage street space more effectively. Data is necessary to properly understand the nature of the challenges faced, and without this knowledge it is highly unlikely that problems will be solved or opportunities grasped.

When Transport for London was preparing the second edition of its Kerbside Loading Guidance (2017) it quickly realised that information from building occupants about their servicing requirements was resource-intensive to obtain, partial, and inaccurate. Accordingly, it adopted a process of seeking to understand loading demands through video observation.

Gathering comprehensive and objective data in this way should become standard practice in informing both strategy and local action.

The increasing quality and cost-effectiveness of video data-capture and analysis (using machine learning/Artificial Intelligence tools) makes the task of obtaining sufficient relevant data far cheaper and easier than it was even just half a decade ago. Obtaining this data should be understood not only as a requirement for developing local authority programmes, but also as a means of building a valuable resource in itself which can be shared or traded with partners for mutual benefit and to make the most of an asset that should be more highly prized.

5.6 Valuing Street Space

An inescapable fact emphasised over and again during this research is that street space is a hugely valuable public asset. And yet, in large part, highway authorities either give it away or charge well under what would should be considered the market rate. Just the title of the American author Donald Shoup's book, The High Cost of Free Parking, summarises the issue very well. We have come to a situation where, in practice, the phrase 'public highway' seems never to be understood as affirming the fact that it is the highway authority's precious property, not just its legal responsibility.

Over many years, this has led to the development of a culture in which private individuals consider it reasonable to be aggrieved at being charged anything for the use of a property owned by someone else. There is very limited acceptance or acknowledgement that the highway authority has a vital and legitimate role in stewarding a public asset for the wider public benefit. Many people, indeed, appear to consider that the street space outside their home is their own (even if the home itself is not).

Local authorities need to develop, assert and clearly communicate a sense of their true ownership of street and kerb space and of the common value associated with that property.

This is not simply a matter of income generation, though that is a legitimate consideration and can plainly be part of a strategy to increase investment in vital services and/or reduce Council Tax rates. Rather, it is a matter of adopting a properly business-like approach to the care and management of a public good.

Viewed this way, the difficult and friendless task of enforcing traffic restrictions and collecting fines, can be turned into a fair and transparent system of 'Charging for a Service'. Bearing in mind the level of fines that delivery and logistics companies routinely accept as a necessary cost of going about their business, a more predictable and open system of charges would likely be considered by them a distinct improvement on the status quo. Similarly, a system of rising charges for longer parking stays, rather than a set rate for a specific time followed by a fixed penalty for over-running, could well find support amongst the general public, especially if the wider benefits to them were effectively communicated.

Resentment on the part of individuals concerning the costs of using street and kerb space and the difficulties of gaining access to it - indeed of simply passing along the public highway (due to congestion) - is another example of 'the tragedy of the commons'. By valuing the public highway better, and enabling others to understand how they, too, can benefit from its better stewardship, local authorities have a real opportunity to transform the 'politics' of street and kerbside management for the common good.

5.7 Digitising Street and Kerbside Access

Very few highway or transport authorities have or publish digital descriptions of the access, waiting and loading restrictions in their areas, and none that do have complete records. This means that knowledge about where and when street and kerb space might legitimately be used is either a matter of turning up and seeing what the signs and lines says (always assuming they're correctly in place), or of prior knowledge of the same.

If comprehensive information was digitised and accessible on a public platform, it would be of huge benefit to logistics operators in particular, as they could use it to calculate the most efficient delivery routes for each vehicle. Especially with the growth of cars with smart navigation systems, and of real-time parking apps, digitised kerbside access restrictions would also be increasingly welcomed by users of private or shared cars. While the value of this information does not mean that it should be charged for, it could be a reason for private sector operators, who would likely benefit from it most, to be invited to invest in the digitisation process itself.

The DfT is currently exploring the comprehensive digitising of Traffic Regulation Orders and this is a process that local highway and strategic transport authorities should strongly support. The National Parking Platform pilot scheme is another initiative that is exploring the potential benefits of digitising, sharing and enabling access to information about kerbside access.

This is another of the key opportunity areas identified by the DfT Discovery:

- Further explore what data standards and integration could achieve. Common data standards are a critical enabler to transforming inflexibility of existing analogue restrictions to a more access enabling regime. However, their current development is largely experimental and fragmented.

5.8 Trials and Partnerships

The final two of the five opportunity areas identified by the Discovery undertaken by Deloitte for the DfT relate to being proactive in trialling new technologies and techniques (covering both operations and systems) and to working in partnership to achieve better outcomes:

- Collaborate and fund pilots at a meaningful scale to transform the evidence-base. Many kerbside management concepts, such as 'dynamic use' for freight, servicing and delivery, remain untested at scale in the UK. As a result, outcomes are uncertain due to lack of meaningful 'real world' evaluation.

- Exploit co-operation opportunities between existing initiatives. There are an array of future technologies (e.g. National Parking Platform) and initiatives (e.g. EV charging) that are being brought to bear on the kerb of the future, integrating their development is the best way to manage the risks and opportunities they bring.

Promoting trials and partnerships is something that the Government and local and strategic transport authorities can and should focus on. The potential benefits are clear, and there are many examples of new practice across Europe and further afield to learn from. City Region authorities are especially well placed to enable new initiatives in their areas.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