CIHT

Creating better streets: Inclusive and accessible places

Reviewing shared space

2018

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1) Foreword

This CIHT review of shared space is the result of a great deal of work by those interested in making our streets better places for everyone.

The issues around shared space have often been controversial and the recommendations that this review has made, if put into place, will help make our streets into the safe, inclusive environments that we need them to be. We would like to express our thanks for the support of the Department for Transport, the Disabled Persons Transport Advisory Committee, the Institute of Highway Engineers, those members of CIHT who gave much of their time to develop this review and those local authorities who shared information openly for all their input. We are also grateful to all those who have shared information with the review.

The recommendations the review makes are aimed at the Government, Local Authorities and those professionals who are working to make our highways inclusive, safer and part of the public realm and the community around them. We will support the implementation of the recommendations in whatever way we can.

Andreas Markides,
President, CIHT (2017-18)

The Lord Holmes of Richmond MBE

2) Introduction

Highways are a vital part of the public realm and contribute to a prosperous economy and a healthy and inclusive society.

In recent years, inspired by government documents such as 'Manual for Streets', the need to achieve a better balance between the 'movement' (by all modes) and 'place' functions of highways has increasingly become accepted by the profession.

This balancing of the movement and place functions of our highway and transport networks is a key area for consideration by Highways and Transportation professionals and is a complex area where CIHT has worked collaboratively with government and others to develop guidance over a number of years.

Along major highways – for example, trunk roads and motorways – the movement function is usually the most important, and the needs of vehicle users generally take priority, but for large parts of the highway network, the needs of all users must be considered. Despite this, in many locations, motor vehicles have become dominant to the detriment of a wide group of users, both in terms of their ability to move around and in the quality of the place itself. This situation has sometimes resulted in streets being avoided by particular types of users, with corresponding impacts across the health and well-being spectrum.

Shared space schemes, which are designed to achieve better places where pedestrians and cyclists can move more freely, were introduced with the aim of reducing those impacts. Guidance on the topic was published by the Government in 2011, Local Transport Note 1/11 'Shared Space' (LTN 1/11)[1].

They have been popular with some people but have also attracted criticism. Parliament has responded to that criticism in various ways including, but not limited to, a House of Lords debate in 2015[2] and a report of the Women and Equalities Select Committee in 2017[3].

This review, carried out by CIHT members, draws available evidence from a selection of schemes to frame a number of recommendations both for further work and for improvements in the way that street improvement schemes are undertaken so that authorities can achieve designs that meet the needs of all of their users.

[1] https://www.gov.uk/government/publications/shared-space

[2] http://www.publications.parliament.uk/pa/ld201516/ldhansrd/text/151015-0003.htm#15101554000816

[3] https://publications.parliament.uk/pa/cm201617/cmselect/cmwomeq/631/63102.htm

In undertaking the review, CIHT has worked to the principle that street design needs to meet the requirements of all users so that inclusive environments are created. This golden thread, enshrined in the requirements of the Equality Act 2010, must flow through the entire design, construction, operation and maintenance process.

Throughout the review, CIHT has been grateful to its members who gave their time and expertise voluntarily to carry out the review and to members of the Steering Group who have provided valuable advice and support in finalising this document. Grateful thanks are also given to those local authorities who contributed by providing information to our team and gave their consent to the information collected being used in preparing this report. This review is not a critique or audit of individual schemes but rather seeks to draw conclusions from an analysis of a range of schemes to develop recommendations that will lead to better outcomes in the future.

The review has tried to cover all aspects that allow the creation of safe, inclusive places but the further work identified by the review will need to be undertaken in the context of the current security situation in the United Kingdom.

The aims of this review are to

- Set street design within the overall context of the statutory requirements on local authorities set out in the Equality Act 2010 and other legislation,
- Set a framework of clear objectives that authorities can use to provide the basis for developing designs and the monitoring of completed schemes,
- Review a range of schemes identified as shared space and draw a number of conclusions around the typical benefits and impacts of such schemes,
- Suggest a classification of different street design types that might be helpful in developing approaches to future schemes, and
- Recommend areas where further work is required by the profession and by government.

3) Overall context of street design within built environments

All of those involved in the planning, design and delivery of public realm schemes need to be aware of the requirements of the Equality Act 2010.

CIHT has pressed for clarity in a number of areas with respect to highways and the built environment, in particular, making the following general points to the Women and Equalities Select Committee in December 2016:

- Government, at all levels, should be clear that the consideration of the built environment has to include highways and transport networks and the services they deliver, as they are often viewed separately from buildings.
- There has to be better coordination across government in this regard or efforts to create places and services that are accessible to all will be diluted. It must be made clear that the built environment should be accessible for all.
- There should be a clear strategy, set nationally, for collaboration between different policy areas in making inclusive and accessible environments. The strategy must include the entire range of professional inputs so that separate commissioning bodies are clear who should be involved, how they will contribute and how accessible environments can be delivered.
- Guidance required to support this range of inputs should be refreshed or developed and used in the development and training of the people delivering services across the built environment.
- There must be a better understanding of diversity and inclusion, both in terms of the needs of all when using the built environment and by those that are delivering services to the built environment. Government should commission detailed research into the differing needs of people with physical and mental impairments.
- Improved accessibility and mobility for all should be an essential objective for all policy makers, designers and providers in the built environment.

It is important to note two key points in regard to highways and transport networks:

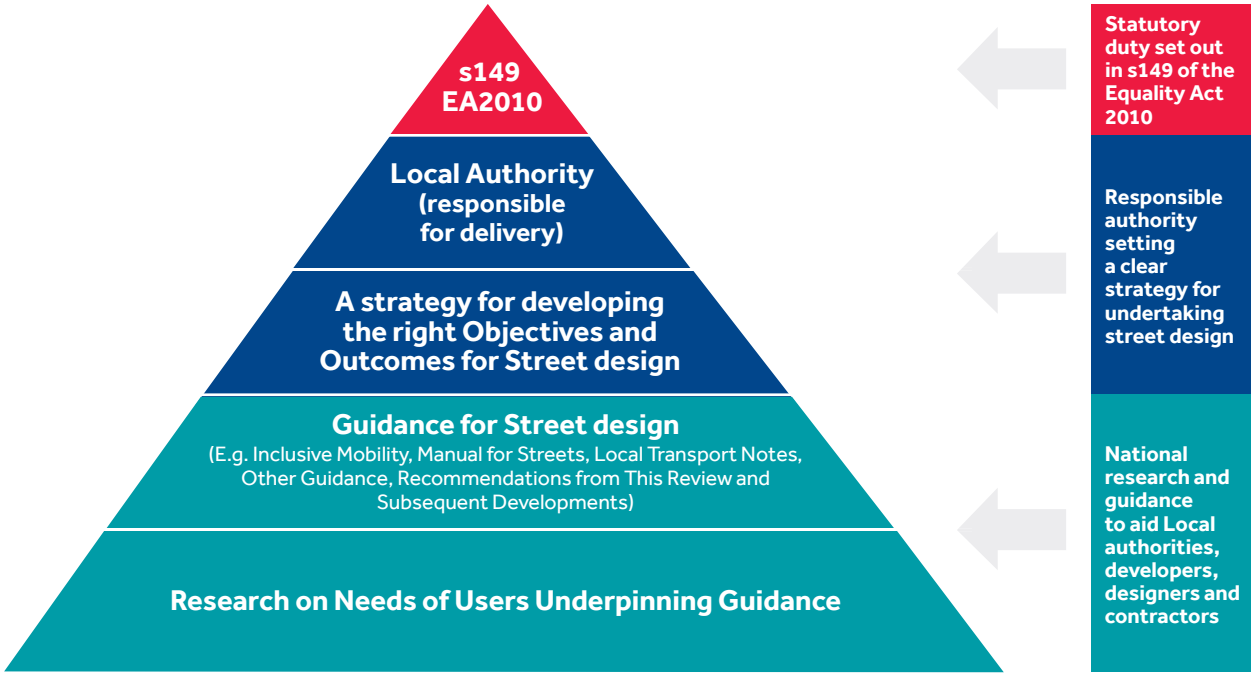
The first is that highways and transport networks are recognised as having two key functions: that of enabling the **movement** of people and goods, but they should also make a positive contribution to the **place** in which they sit. Designing for movement has often been the main focus of government and the profession, but place is of great importance when considering accessibility and inclusion.

The second is the scale of contribution that good design can make to achieving better places. Highway and transport networks, particularly in built-up areas, account for a significant proportion of the public realm and fulfil a range of vital functions alongside their movement function, including enabling access for all to local services, shops and other businesses.

The fundamental thread in design, maintenance and operation of the highways and transport network should be that the needs of all users should be considered to create an inclusive public realm.

In developing our approach to carrying out this review, CIHT considered how a strategy for creating inclusive environments when developing streets might sit within a hierarchy of legislation and guidance.

The following diagram shows how such a strategy might sit alongside other key requirements such as the Public Sector Equality Duty, as set out in Section 149 of the Equality Act 2010.



4) Setting a Framework of Objectives to Guide the Review

To give a structure to the review, the team considered a range of objectives that should normally underpin the development of street-improvement schemes.

These objectives, the outcomes they should typically lead to and the evidence of whether those outcomes had been achieved not only formed the basis of the review but also provides a useful starting point for any future guidance that may be developed.

Street redesign schemes are primarily about changing the way a street and place works. To enable that process to be carried out effectively, it is important that a framework is created that sets out a clear vision for why change is needed and a rationale for doing so that can be used throughout the process.

Setting and agreeing a number of objectives at the outset gives clarity to those developing schemes and those who use them on why the scheme is being undertaken. They provide the basis for gathering information to be used to develop the scheme and set a framework for engagement and planning, as well as a baseline for monitoring their effectiveness after they have been delivered.

The objectives are summarised in the following table, together with a range of potential outcomes that might be expected and that can be measured to assess how successful the scheme has been.

The table also highlights where specific statutory duties are required of authorities in direct relation to the objectives. The table does not list all the duties of local authorities in connection with delivering services on streets. The table reflects the position in England; statutory duties vary across different parts of the UK.

Headline Objectives	Relevant statutory duty	Potential Measurable Outcomes
Inclusive Environment	Equality Act 2010	Perception of safety, comfort & navigation (all users) Presence of Vulnerable Users (older people, children, disabled people)
Ease of Movement	Traffic management Act 2004	Levels of walking, cycling and public transport use Motor traffic congestion and/or flow Number and ease of pedestrian crossing movements Level of delay to all users Pedestrian crowding
Safety and Public Health	Road Traffic Act 1988	Motor vehicle speed Number and severity of collisions and casualties Noise levels Air quality and other public health measures Security measures Crime and fear of crime
Quality of Place		Levels of place activity (e.g. sitting, dining etc.) Space available for place activity Attractiveness (e.g. paving materials, planting, public art) Suitability of materials over lifetime of scheme Amount of useful street furniture Amount of street clutter Quality of Maintenance and Cleansing
Economic Benefit		Pedestrian footfall Number and prosperity of businesses (e.g. reduced vacancies, increased rental values etc.) Car parking occupancy Cycle parking occupancy Benefit and Cost assessment Frequency and type of special events (e.g. markets, performances)

Few of the schemes reviewed could point to a set of formal design objectives of this type. In general, schemes were largely driven by the desire to improve the quality of place and the ease of movement by pedestrians and therefore create an economic benefit to the area.

Schemes generally aimed to have no adverse impact on delays to motor traffic, road safety and inclusivity, but these were not usually the principal aims of the schemes.

5) Definition of design types

One of the difficulties in this subject is the difficulty of defining the term 'shared space'. The report of the Women and Equalities Committee[4] noted that this is a significant barrier to discussing the issue in a meaningful way.

Local Transport Note 1/11 uses the definition:

"A street or place designed to improve pedestrian movement and comfort by reducing the dominance of motor vehicles and enabling all users to share the space rather than follow the clearly defined rules implied by more conventional designs."

Some designers have taken this definition to mean that there is a single space that is shared. While this may be true for some schemes that have been labelled shared space – for example, Leonard Circus, London Borough of Hackney – it is less applicable to other schemes such as Poynton, Cheshire, where the street is still generally divided into separate spaces that are primarily for pedestrians and vehicles.

Furthermore, LTN 1/11 makes it clear that there is no such thing as a definitive shared space design and that each scheme must be designed to meet local circumstances. One of the key decisions that will need to be taken is how much separation there should be between user groups (particularly pedestrians and vehicles) and how this should be achieved. Shared space is clearly not a 'one size fits all' concept.

Through the review, we identified three broad types of street design approach that have been (sometimes) referred to as shared space but which have a number of important differences. While these definitions should not be regarded as absolute and a particular street improvement project may contain more than one type, it is hoped that they will provide greater clarity for designers, decision makers, stakeholders and users.

It is vital that the overall context of why a redesign of a street is taking place is fully understood and predicated on inclusive design rather than simply trying to fit into one of the categories suggested. The understanding and gathering of baseline information against the objectives set out above is a key part of understanding that context and reaching the correct design proposals, around which meaningful engagement can be undertaken.

[4] https://www.publications.parliament.uk/pa/cm201617/cmselect/cmwomeq/631/63102.htm

It should always be borne in mind, however, that it is the detailed features that users encounter when moving through or being in a space – a bench, a kerb, tactile paving, crossings, an unmarked junction – that will determine the quality of their experience in that location. The detailed assembly of features that make up a design should always be the focus of the designer's attention, who should not be constrained by any rigid definitions of street type.

The street design approaches which are suggested are the following:

a) Pedestrian prioritised streets

Streets where pedestrians feel that they can move freely anywhere and where drivers should feel they are a guest (e.g., Leonard Circus). Under current legislation, this does not give formal priority to pedestrians.

b) Informal streets

Streets where formal traffic controls (signs, markings and signals) are absent or reduced. There is a footway and carriageway, but the differentiation between them is typically less than in a conventional street. (e.g., Poynton)

c) Enhanced streets

Streets where the public realm has been improved and restrictions on pedestrian movement (e.g., guardrail) have been removed but conventional traffic controls largely remain (e.g., Walworth Road).

(Note: The last of these types is on the limit of what may be called shared space but has been included for completeness since the term has sometimes been applied to this type of street.)

All of these design approaches may be applied to both links and to junctions. Descriptions of the three approaches are below and these are followed by the findings of the review, the conclusions the review team drew from the findings and the recommendations the review is making based on the conclusions reached.

Pedestrian-Prioritised Streets

This type of street has been created where the aim has been to create conditions whereby drivers and riders feel they should give priority to pedestrians, and where pedestrians feel comfortable in accepting that priority. This approach is in spite of the fact that UK legislation does not give priority to pedestrians over vehicular traffic except in certain circumstances when using formal crossings.

Such pedestrian-prioritised streets have been adopted where traffic volumes and speeds are low and designers have sought to achieve these outcomes through the design. Pedestrian volumes in the schemes considered have been relatively high; and this is consistent with research[5] carried out for LTN 1/11 which showed that more pedestrians occupying street space resulted in a reduction in traffic speed. In general, schemes of this type can achieve very low traffic speed, typically well below 20 mph.

The review did not consider what absolute values should define 'low traffic volumes', although Manual for Streets[6] notes that people will treat a street as a space to be occupied and not a road to be crossed when traffic flows are not more than about 100 vehicles per hour. This is based on research carried out by TRL[7]. A similar value is used for the application of the Dutch 'Woonerf' (Home Zone).

In some cases, this design approach has been used where the only motor traffic using a street is for local access so that volumes are very low (e.g., Southgate Street in Gloucester).

The designs of pedestrian-prioritised streets have meant that they are useable by cyclists without requiring any dedicated facilities. Again, the review has been mindful of research carried out by TRL which showed that conflicts between pedestrians and cyclists in fully pedestrianised streets are rare, with cyclists slowing and eventually dismounting as pedestrian volumes increase[8].

Street schemes of this type have generally adopted designs that do not appear to contain a well-defined carriageway so that road users (particularly drivers) do not assume that pedestrians need a defined crossing or a driver's permission to cross the street. Such schemes have often used a level surface, sometimes with similar paving types and colours across the whole of the space.

Wayfinding can be a problem for several user groups, including young children, older people, non-locals and visually impaired people in this type of street. Some schemes (e.g., Kimbrose Triangle, Gloucester) have used guidance paving, but this is not without its difficulties. For many people, the building line is the best form of guidance.

Seating and other useful street furniture has often been placed in the street to emphasise its primary function as a place to be enjoyed, but this can also create obstacles for visually impaired people where it has not been located carefully.

It is perhaps worthy of note that several European countries have streets with priority for pedestrians (sometimes referred to as 'encounter zones')[9] whereby pedestrians enjoy priority over vehicles anywhere in the space, underpinned by legislation. The review considers this further in our conclusions and recommendations.

[5] MVA Consultancy (2009) Stage 1: Appraisal of Shared Space. DfT
[6] Research on shared space streets – Manual for Streets Page 83
[7] Research on shared space streets – Manual for Streets Page 83
[8] TRL Report 583 – Cycling in vehicle restricted areas
[9] Zones de Rencontre or Begegnungszonen – see https://fr.wikipedia.org/wiki/Zone_de_rencontre

Informal Streets

This design approach has been used with the overall aim of creating a street where the higher volume of traffic does not dominate non-vehicular users. Informal streets have been used where traffic flows are much higher than pedestrian-prioritised streets; schemes such as Poynton carry an excess of 25,000 vehicles per day, including buses and HGVs.

Informal streets have a defined carriageway for vehicles and a defining feature of this design approach is the absence or reduction of formal traffic control measures, particularly at junctions. The aim was to reduce the speed of vehicles by creating some uncertainty in drivers' minds over whether they have the right of way. Other design features were used with the intention of reducing vehicular speed and dominance such as reducing the differentiation between the footway and carriageway, for example, by using reduced-height kerbs; and providing features such as median strips which encourage more frequent crossing movements by pedestrians.

Because of the higher traffic flows, most schemes of this type have provided regular crossings of the carriageway where drivers stop or slow to allow pedestrians to cross with confidence, either through formal crossings (signalised or zebra crossings) or by design (courtesy crossings). Courtesy crossings, which do not use traffic signals, signs or markings, have been used to reduce the formality of the street, but formal crossings have also been used. Some schemes have a combination of both types. Some schemes have also provided crossing opportunities where pedestrians can cross during gaps in the flow of traffic.

Tactile paving has been used to indicate courtesy crossing points. Whilst some authorities have developed bespoke types, most have used tactile paving in accordance with national guidance.

None of the informal street schemes included any dedicated cycle infrastructure, but the review considered that there is no in-principle reason why such facilities could not be provided.

Enhanced Streets

As noted above, this design approach has been included for completeness, but it is very much on the limit of what might be called shared space.

The enhanced streets considered in this review are essentially conventional streets where care has been taken to improve the quality of the place. This has typically been achieved through the removal of unnecessary street clutter, particularly pedestrian guardrails which reduce people's freedom of movement, and by the introduction of features such as seating, public art and street trees, which improve their experience of simply being there.

These enhanced streets have typically retained conventional traffic-engineering features, such as junctions controlled by traffic signals and give-way markings, as well as controlled crossings, although courtesy and gap crossings have also been used on some schemes.

6) Details of the review

The Department for Transport contacted highway authorities in England in autumn 2015 to ask for details of any shared-space schemes they had undertaken.

Based on the resources available for this review, twelve schemes were selected, which covered the three types of design approach outlined previously.

CIHT contacted these authorities to ask for their agreement to take part in the review and provide any information they held on the design and operation of the schemes. The review considered information provided by the authorities in response to that request, information gathered by the review team during site visits and information subsequently provided by the authorities to the review team. Only very limited additional surveys, relating to courtesy levels at crossings, were carried out as part of the review.

Details of the review were shared with the authorities, and eleven gave consent for the information to be included in this report. The twelfth withdrew their consent based on issues outside the scope of the review. The details of the reviews are presented in Appendix A, and a summary of the results is provided below.

A number of the authorities attended a workshop to discuss the findings from the review, which helped form the conclusions and recommendations.

7) Summary of findings

The review examined eleven schemes at various locations throughout England. These were categorised into the three separate types: Pedestrian Prioritised Streets, Informal Streets and Enhanced Streets.

The effectiveness of the treatments at each location was assessed against criteria which were considered to be related to the typical overarching objectives for such schemes. These were:

- inclusive environment,
- ease of movement,
- safety and public health,
- quality of place and
- economic benefit.

Although not available in all cases, the views of promoters, designers and users of the schemes were considered as part of the assessment process.

Assessments against each of the objectives were attributed as being either Positive, Neutral or Negative or were described as Insufficient Information, where it was considered very little or no objective data was available. Where the range of information was wide and contained differing evidence, more than one description was used. Where this was the case, an explanation is given in the Appendix.

The results of the assessments are indicated on the following matrix.

	PEDESTRIAN PRIORITISED STREETS			
	Ashford	**Exhibition Rd**	**Holbein Place**	**Leonard Circus**
Inclusive Environment	Neutral	Neutral	Neutral	Neutral
	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Ease of Movement	Neutral	Positive	Positive	Positive
Safety and Public health	Neutral	Positive	Neutral	Neutral
Quality of Place	Positive	Positive	Positive	Positive
Economic Benefit	Positive	Neutral	Insufficient Information	Neutral
		Insufficient Information		Insufficient Information

	INFORMAL STREETS				
	Poynton	**Coventry Gosford St**	**Gloucester Kimbrose Triangle**	**Preston Fishergate**	**Hamilton Road Felixstowe**
Inclusive Environment	Insufficient Information	Positive	Positive	Positive	Insufficient Information
		Negative	Negative	Negative	
Ease of Movement	Positive	Positive	Positive	Positive	Positive
Safety and Public health	Neutral	Positive	Neutral	Insufficient Information	Neutral
Quality of Place	Positive	Positive	Positive	Positive	Positive
Economic Benefit	Positive	Positive	Insufficient Information	Insufficient Information	Positive

	ENHANCED STREET	
	Walworth Rd	**Borehamwood High St**
Inclusive Environment	Positive	Insufficient Information
	Insufficient Information	
Ease of Movement	Positive	Positive
Safety and Public health	Positive	Positive
Quality of Place	Positive	Positive
Economic Benefit	Insufficient Information	Positive

There are a number of conclusions that can be drawn from the summary matrix which are noted below;

In terms of creating an **Inclusive Environment**, some schemes had attracted significant criticism from some groups of users. In the majority of schemes, there was insufficient objective evidence to show whether there had been any adverse or positive effects. Where there was any evidence available, some schemes could point to positive improvements, some were negative, while in others, the evidence was not available. Moreover, the effects appeared to vary between different user groups. For some user groups such as wheelchair users and older people, there was evidence that particular features of certain schemes had improved their experience. However, some visually impaired users were reported as finding the new environments more hostile and consequently said that they altered their behaviour to avoid them. Only one case study had included creating an inclusive environment as an objective in the development of the scheme.

In terms of **Ease of Movement**, the overall conclusion from the evidence available was that the schemes had led to an improvement in this objective, although, as outlined above, evidence on the impact of schemes on pedestrians with different needs was insufficient in the majority of schemes. Ease of movement was considered for all modes of transport. In general, subject to the exceptions identified above, the evidence showed considerable improvement in pedestrian connectivity and movement, with more space for walking and reduced delays in crossing the street. Improving accessibility and reduced congestion for motor traffic was generally not an objective of the schemes; however, in the majority of cases, congestion was reduced. Little information on cycling was available.

The effects of the schemes on **Safety** was easier to assess, based on official road traffic collision data. Four schemes demonstrated positive evidence that the number of accidents and casualties had improved when compared with the previous situation. In six others, the review found that the schemes had been neutral in this regard and one scheme had insufficient information to fully compare against the previous situation.

Where possible data was analysed over a similar period before and after the scheme's implementation but the availability of data was not consistent across the sites. Although the case is sometimes made that any improvement to road safety comes as a result of vulnerable people avoiding the completed scheme, we could find no objective evidence to assess the scale of this and whether it is large enough to have an effect.

It is also sometimes said that the inevitable under-reporting of accidents and near misses means that these official statistics cannot be relied upon, but since any under-reporting would also apply to the 'before' situation, we consider that this data provides a valid way of assessing the impact of the schemes. This under-reporting is not limited to shared space but applies across all types of highway scheme.

In terms of **Public Health** impacts of the schemes, the evidence was very limited, and no conclusions could be drawn which would affect the assessment based on safety. Any reduction in stop/start driving is likely to have some air quality benefits.

In terms of **Quality of Place**, all the schemes led to an improvement in quality when compared with what was there previously. Whilst this was not surprising, given the general aim of this type of scheme and the level of investment carried out, it is nevertheless worth noting.

In terms of **Economic Benefit**, the overall view presented was that the impact was broadly positive. There was no evidence of an overall, consistent approach to setting out the benefits of the schemes in both qualitative and quantitative ways, nor in defining the whole life costs of the schemes.

8) Conclusions

We have drawn the following conclusions from our review:

1 - General Principles

Conclusion 1.1

On the evidence available, it is considered that whilst the schemes work well for the majority of their users and the place that they are serving, it is clear that some users consider that the current designs, especially Informal Streets, need to be improved. Key issues are around the use of kerbs and controlled crossings. An inclusive approach to the design of these schemes is required.

Conclusion 1.2

The review team felt strongly that future schemes seeking to improve the public realm through better street design need be promoted, designed, implemented and monitored against a series of predefined objectives with clear outcomes that can be measured in a consistent way. This will better enable inclusive environments to be created that meet all the needs set out in these objectives.

The review team considered that there were five key areas that should be included:

- inclusive environment,
- ease of movement,
- safety and public health,
- quality of place and
- economic benefit.

Conclusion 1.3

A number of conclusions can be drawn when considering how the schemes perform against the five objectives identified above. On analysis of the evidence available, the majority of schemes appear to have created positive improvements against the objectives relating to **Ease of Movement** and **Quality of Place**, which appears consistent with many schemes having these objectives.

In terms of **Inclusive Environment** the majority of schemes could not be fully assessed due to insufficient information. However, we are well aware that some user groups, including but not limited to, visually impaired people, have significant concerns. This does indicate that some user needs have not been met in some schemes, including in the consultation and engagement carried out, and this appears consistent with this objective not being identified as a specific aim for the majority of schemes.

In terms of **Safety**, over half the schemes were neutral, meaning overall accident data is broadly unchanged or statistically insignificant. In a number of schemes the situation appears to have improved when compared with the period before the scheme was implemented and in one case there is insufficient evidence to judge. No scheme has resulted in a significant increase in the number of recorded collisions. In general terms, the availability of information relating to **Public Health** is limited.

In terms of **Economic Benefit**, five of the schemes have drawn evidence of positive improvements, the remainder have insufficient information available or are neutral. As outlined above there is no consistent approach to identifying the whole life cost of schemes and the identification of benefits in a way that allows direct comparison across the schemes.

Conclusion 1.4

On the basis of Conclusion 1.3 it is clear that further guidance is required to help local authorities and scheme designers define outcomes related to each of the five objectives set out above in more detail and to develop appropriate ways of measuring them. This is particularly the case for inclusive environments, where the effect of schemes has been rarely assessed.

Conclusion 1.5

The review team, the steering group and many of the officers from local authorities whose schemes were included in the review found the term 'shared space' to be unhelpful, as it is vague and tends to be associated with several preconceived ideas. Moreover, it could be said that all highways are, by definition, shared between different groups since in law, no type of user has priority.

We therefore propose three new design approaches to replace shared space:

- Pedestrian-Prioritised Street
- Informal Street
- Enhanced Street

We believe that these more clearly describe typical design approaches that can be applied in different situations. These should not be regarded as absolutes, however, and designers should always remember that it is details that matter to users, rather than any description used by the design team.

Pedestrian Prioritised Streets	Informal Streets	Enhanced Streets

Conclusion 1.6

We see a case for developing guidance, based on further research, which enables designers to decide which type of street is likely to be most appropriate in any given situation. This would need to consider factors such as the number of pedestrians, traffic flow and speed, but should also take into account the five overarching objectives we have identified for carry-ing out streetscape improvements, as well as the local context.

The most significant decision required is when to move from the pedestrian-prioritised street type, where the driver should be seen as a guest, into the informal street type, where pedestrians will need to cross a defined carriageway. The differences between the informal and enhanced street are largely to do with the extent to which conventional traffic control measures are needed.

Conclusion 1.7

A key conclusion of the review is that great care needs to be taken when using features or techniques appropriate for one type of scheme when the overall characteristics of the location clearly require a different design response. For example, while it may usually be appropriate to omit defined crossings in a pedestrian-prioritised street, doing so when traffic flows are much higher can make it much more difficult for some people to cross the street.

Conclusion 1.8

Although Local Transport Note 1/11 does place particular emphasis on the need for stake-holder engagement, there are concerns that design teams have sometimes not given sufficient weight to this advice.

Conclusion 1.9

Although there is some evidence that pedestrian prioritisation can be achieved through careful design, it is considered that adopting legislation in the UK that is similar to that underpinning successful Encounter Zones used in several other countries would make it much easier to introduce pedestrian-prioritised streets and create an inclusive and accessible public realm.

2 - Details

The different design features that were used in the various schemes were considered by the review team to see if any conclusions could be drawn that would assist scheme designers. The various design features are set out below, including where further research is necessary.

Conclusion 2.1 – Crossings

Regardless of the type(s) of crossing, in Informal and Enhanced Streets, there should be sufficient provision for all users to cross the carriageway safely and in comfort.

Crossings where drivers are encouraged through the design to give way to pedestrians (courtesy crossings) have been used on a number of the schemes reviewed. Courtesy crossings fit well with the aim of encouraging road users, particularly drivers, to engage with their surroundings rather than simply following traffic rules, which tends to reduce traffic speed. There is a need for more research in this area.

At some courtesy crossings, a high proportion of drivers have been observed to give way to pedestrians whereas others have been less successful. The use of speed reduction measures, conspicuous treatments, locating crossings on junction entries and exits, changes in level and median strips all appear to encourage greater driver courtesy. Further research into the relationship between these and other design features and driver courtesy is needed. This research should also identify whether and to what extent the willingness of drivers to give way depends on the characteristics of the person(s) wishing to cross.

Some schemes have included controlled crossings as well as courtesy crossings, and this could represent a balanced approach, but there is some limited evidence from the case studies that this may lead to fewer drivers giving way at the courtesy crossings. Further research into when and how crossing types may be combined should be carried out. The legal position of people using courtesy crossings needs to be clarified.

It was noted that an area beyond the scheme itself will often need to be considered to understand pedestrian movements in the wider context. This may identify a need to provide appropriate crossing facilities beyond the main works.

Conclusion 2.2 – Kerbs

Whilst the review team did not specifically gather data relating to kerb heights, we consider that where conditions are such that the street needs to be separated into a carriageway and footway, the interface between them should be clearly delineated and detectable by all. In most situations, a kerb will be the most appropriate and simple way of achieving this, although at crossings and potentially in other areas (e.g., tabled junctions), using tactile paving will be necessary (see below).

In this context, we are aware that research carried out for LTN 1/11[10] indicates that drivers respond by slowing down when the degree of separation between pedestrians and vehicles is reduced. Designers therefore often use a kerb height well below the 120 mm that is typically used in urban streets. We are also aware of research[11] that found that kerb heights of 60 mm and above were detectable and induced the greatest confidence in visually impaired people and that heights of less than 40 mm were less detectable and should be avoided if possible. Given the practicalities of construction, a kerb height of between 50 mm and 60 mm would appear to be suitable, but further research on this topic in the field is needed to inform this key design decision.

Conclusion 2.3 – Tactile Paving

Tactile paving provides vital information to visually impaired people to enable them to move around independently. However, although it has been in use for many years, there are still practical difficulties in the application of government guidance, which can result in inconsistent designs in some situations common to shared-space-type schemes.

An example of this is where there is an extended level surface within which there are defined crossing points. This raises the question of whether blister tactile paving should be used throughout the level surface or only at the crossing points.

Wayfinding is a potential problem in pedestrian-prioritised streets. Some schemes have used guidance paving as a solution, but this type of tactile paving is not universally liked by users. Guard railing has understandably been removed from schemes to enable pedestrians to move freely, but this can be a useful wayfinding feature for visually impaired people, and consideration needs to be given how this function can be retained.

Conclusion 2.4 – Technology

Although not specifically addressed amongst the assessment criteria used for the review, we noted that some authorities were investigating the possible use of technology to enable visually impaired and other disabled people to use streets where conventional traffic engineering facilities had been reduced or removed. Examples included signal-controlled crossings that could also be activated by people possessing a key or code and smartphone apps that detect approaching vehicles and alert users using vibration, sound and/or bright colours.

We conclude that this is a promising area for further government research.

[10] MVA Consultancy 2010

[11] Childs CR, Boampong DK, Rostron H, Morgan K, Eccleshall T, Tyler N (2009) Effective Kerb Heights for Blind and Partially Sighted People

9) Recommendations for further work

Recommendation 1
As part of its wider work on accessibility, the government makes clear the duties of local authorities with regard to the Equality Act 2010 and other legislation with respect to the improvement of the public realm.

Recommendation 2
That the government recommends to local authorities that the framework of objectives used to carry out this review be used when developing public realm improvements to provide clarity into why these schemes are being carried out and inform design choices.

Recommendation 3
It should be made clear that appropriate outcomes should be set during the design and implementation phases of schemes and used to monitor their effectiveness once the schemes are complete. If necessary, authorities should carry out amendments in the light of these assessments, having regard to their statutory duties. The government and the sector should undertake work to develop the detail of the framework and outcomes and how they are measured.

Recommendation 4
Education and continuing professional development of those developing works in the public realm should specifically include the requirements around creating inclusive environments and accessibility. Professional institutions across the sector should take a lead in developing this approach.

Recommendation 5
Government should make it clear that stakeholder engagement is an essential part of the process, by reference to guidance in the sector.

Recommendation 6
That the government, local authorities and the sector should stop using the term shared space to describe an approach to street design. Instead they should start using the three types of approach suggested by this review namely: pedestrian prioritised streets, informal streets and enhanced streets.

Recommendation 7
The government should undertake research into the factors used to differentiate between the design approaches suggested in Conclusion 1.5 and develop guidance to assist their implementation by local authorities.

Recommendation 8
Government should move forward with its work on inclusive mobility and undertake research into the needs of people using the public realm, including how their needs differ due to visual impairment and other disabilities.

Recommendation 9
Government should review the potential to introduce legislation to enable local authorities to establish streets where pedestrians have priority, based on the successful Encounter Zones that are used in several other countries.

Recommendation 10
Government should undertake research into courtesy crossings, focusing on the relationship between various design features, context, user types, levels of driver courtesy and their relationship with formal crossings.

Recommendation 11
Government should clarify the legal position of users of courtesy crossings.

Recommendation 12
Government should review existing research on the most appropriate kerb height in actual street situations, considering factors such as detectability by visually impaired people and the effect of reduced kerb heights on traffic speed and over-running.

Recommendation 13
The government should review and update existing relevant highway and public-realm design guidance in order that a consistent approach is taken to the improvement of streets based upon the findings of this review. To facilitate the review all of the research identified in the recommendations of this review should be considered.

Recommendation 14
Government should give priority to the production of updated guidance on tactile paving to address the practical difficulties faced by designers when creating streetscape improvements that meet the needs of visually impaired people. This should expressly consider the best means of identifying defined crossing points and enabling people to find their way, particularly within level-surface streets.

Recommendation 15
Government should work with local authorities and technology companies to investigate the potential for new technology to assist in the creation of Inclusive environments.

10) Appendix

1. Elwick Square, Ashford
2. Exhibition road, Royal Borough of Kensington and Chelsea
3. Holbein Place, Royal Borough of Kensington and Chelsea
4. Leonard Circus, London Borough of Hackney
5. Fountain Place, Poynton, Cheshire
6. Gosford Street, Coventry
7. Kimbrose Triangle, Gloucester
8. Fishergate, Preston, Lancashire
9. Hamilton Road, Felixstowe, Suffolk
10. Walworth Road, London Borough of Southwark
11. Borehamwood, Hertfordshire

Unless otherwise stated all information contained in the case studies that follow has been provided to the review team by the relevant local authority.

Unless stated otherwise information on reported accidents has been collected from the website Crashmap.co.uk

Unless stated otherwise photographs have been provided by the review team or provided to the review team by the relevant local authority.

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