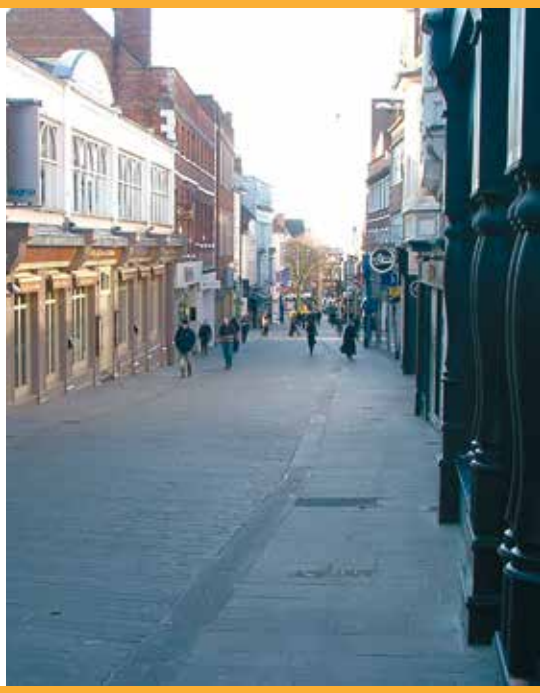


Streetscape design manual

Lincolnshire COUNTY COUNCIL

Working for a better future

Contents

1. Introduction

The Streetscape Design Manual sets out the requirements for considerations which should be given to the design, construction and maintenance of the street environment in Lincolnshire. Mandatory requirements are set out in the various technical documents, for instance, the *Design Manual for Roads and Bridges*, and *Traffic Signs Regulations and General Directions (2002, 2016)*; nothing in this manual can override the mandatory requirements of such documents. This guidance has been written with reference to Manual for Streets. From this point Manual for Streets will be referred to as *MfS* (both documents), *MfS1*, or *MfS2*, where appropriate.

Since the Streetscape Design Manual was first published in 2008 its use has been reviewed, and its status has been revised. To ensure a consistent and holistic approach to high quality streetscape design its use in the design process is now mandatory. This status is confirmed in the Highway Design Wheel in HAT 34, where it is now to be found as one of the 'Mandatory Standards'.

This document will be continuously monitored, and its users will be able to provide comment and feedback to make sure it is up-to-date and useable.

It is important to remember that every street environment is different, and that all site conditions should be considered before deciding on any design. This document is intended to be used in a flexible way. It sets out options for consideration, but it is stressed that these options will not be suitable or affordable for every site location but the overall philosophy of this document should consistently be followed.

It should also be noted that improvements carried out in the majority of Lincolnshire's streets will not be the high profile and more expensive schemes.

The Streetscape Design Manual is intended for use by highways engineers when new schemes are being proposed, and where works are part of the Highway Authority's routine maintenance programme, as suggestions on how to approach these changes.

Broad aims

The aim of this document is to help practitioners working on the street environment to raise the aspirations of the people who live and work in Lincolnshire, and those who visit the county.

Streets have many varied functions, and whenever work is being considered in the street environment, it will be essential to consider the street holistically in order to achieve and maintain a high standard of design or maintenance. This means taking into account not only the physical aspects of the street scene, but also considering the street from engineering, aesthetic and social standpoints. This will help show how proposed works would affect the way people would use the street, and also reveal the type of provision needed to satisfy the needs and aspirations of all users, that is those living in, working in and visiting and travelling along the street.

This document applies to all streets and roads, whether urban, suburban, village or rural, old or new. Streets exist primarily to accommodate the movement of vehicles and people. In addition, they give access to and from buildings of all types, and contribute to their lighting and ventilation. They are a route for utilities, and are used for storage, particularly for vehicles. They are public spaces, used by everyone, thus accommodating essential social interactions of all kinds, from formal gatherings to chance meetings (CABE, 2002). All these demands must be given due consideration if adequate, satisfying and attractive street environments are to be created and maintained.

There are some general principles which will help in achieving high quality street environments, and raising and maintaining high levels of aspiration for designers, delivery organisations and the public. All of these principles, as set out below, should be given full and careful consideration. Many of them demand effective consultation, and may require innovative approaches. They should always be borne in mind when carrying out works which would affect the street environment. They provide a means of looking for, and taking advantage of, opportunities to improve the street environment for all.

The Branston mosaic group (made up of volunteers from the local community) producing a floor panel for public realm improvements.

Franklin Memorial, Spilsby Market Place. An attractive place to visit and shop, with a local flavour.

These principles are that streets should be:

- Accessible, comfortable and safe for pedestrians, cyclists, disabled people, and vehicles, thus giving choice about the most efficient form of transport for each journey: this will promote sustainability and accessibility.
- Designed to accommodate many diverse functions, not dominated by any one function.
- Visually clear and simple, and free of clutter. Regardless of whether a street is a straightforward or complex space, what matters is the simplicity and clarity of its paving, street furniture, lighting and landscaping. **Creating a high quality street scene need not necessarily be expensive.**
- Well cared for, with utility features and advertising kept subordinate to all other street functions.
- Sympathetic to local character and local usage, in design and detail, whether rural or urban. The protection and promotion of local distinctiveness and 'sense of place' is vital in maintaining the identity and confidence of communities. The Historic Landscape Characterisation project for Lincolnshire will help to identify those qualities which define local character. The Highways Agency has published guidance which is intended to complement and extend advice given in *Cultural Heritage*, Volume 11, Section 3, part 2 of the *Design Manual for Roads and Bridges*, published August 2007. The guidance is called *Assessing the Effect of Road Schemes on Historic Landscape Character*, published March 2007. It contains techniques for evaluating historic landscape character, mitigating the negative impact on it by new road schemes, and also for the sustainable management and enhancement of historic landscape character. The guidance also deals with the effects of changing the existing infrastructure in historically sensitive areas. Advice can also be sought from the Places Team. For streets in Lincoln practitioners should consult the Lincoln Townscape Assessment. This can be viewed at www.heritageconnectlincoln.com.
- Capable of satisfying appropriate demands for access (including deliveries and parking).

In applying the guidance it will be important to ensure that the decisions made and the reasoning behind them are documented for future reference.

The benefits that high quality street environments can bring include:

- Helping to build a sense of community.
- Reducing crime and anti-social behaviour.
- Promoting tourism.
- Attracting new businesses and help existing businesses.
- Promoting walking and cycling.
- Promoting access to public transport.
- Boosting the morale of communities and individuals.
- Building a sense of ownership and pride in our street environment.
- Improving accessibility for all.
- Improving levels of highway safety.
- Enhancing the overall townscape.

Street works practitioners should always remember that Lincolnshire's built and natural environments are rich and diverse, changing in character even over short

Local distinctiveness in the Fens.

War memorial at North Thoresby, where an artist was commissioned to work with the local community (artist: Alan Potter).

distances. The local distinctiveness of some places could therefore be damaged were this guidance to be inflexibly prescriptive. Practitioners should also recognise that there will always be differences of opinion about what it is that makes a place unique, particularly amongst the communities that live there.

Consequently, this guidance will concentrate on setting out and illustrating the process of identifying what it is that gives a place its character, and how such ideas can be incorporated into street designs. A fundamental part of the process will be an audit of what is already there, both positive and negative, in order to pinpoint the crucial street scene elements that create character, and those that 'work' and 'do not work' (see Chapter 3). The process will often involve working with local communities from the start and should provide opportunities for creativity and innovation. Where an unusual or very wide ranging creative input is required, consideration should be given to commissioning artists who can work with local communities in order to stimulate participation, and interpret their ideas and wishes into achievable design goals.

It is, of course, necessary that works proposed within the street environment comply with the statutory requirements of the *Traffic Signs Regulations and General Directions (2002, 2016)*. Nevertheless, it will always be important to remain aware of the opportunities for flexibility and creativity offered by non-statutory guidance, to enable the highest possible standard of design to be achieved and unnecessary sign clutter to be avoided. TSRGD 2016 has been developed to support that aim. It is important to celebrate successes appropriately.

Although identifying local distinctiveness is a major part of the design process, it is only one element, and many others need to be taken into account to make a scheme a success. The most important of these are crime and fear of crime, accessibility, road safety, working with partners, seeking funding. The guidance places these fundamental matters within a framework, which will essentially be made up of a classification system of street types (see Chapter 4), including new streets.

Since this guidance is intended to be a useable tool for practitioners, it supports the County Council's Streetscape Design and Maintenance Policy, and it is supported by other statutory and non-statutory policies. If underpinned by appropriate training it should encourage the appropriate use of design briefs and better coordination of street works. It should also help to identify organisations that work in the area, and encourage community involvement, education and enforcement, helping to ensure that the County Council Highway Authority becomes 'easier to reach'. It should also help to ensure that those members of society that are hard to reach (for instance young people and old people) are not forgotten.

As part of the 'Every Street Matters' project the public were asked about their views on their street environment, including what they did and did not value. The results of this have been incorporated into this guidance document. A summary of the results of the consultation is included in Appendix 1.

2. Policy and Legislative Background

There is a great deal of national, regional and local policy and legislation that is directly relevant to carrying out works in the street environment. Much of this is aimed at improving the quality of design and maintenance in urban and rural environments. For more details see Appendix 2.

The County Council Executive formally adopted the Streetscape Design and Maintenance Policy in December 2008.

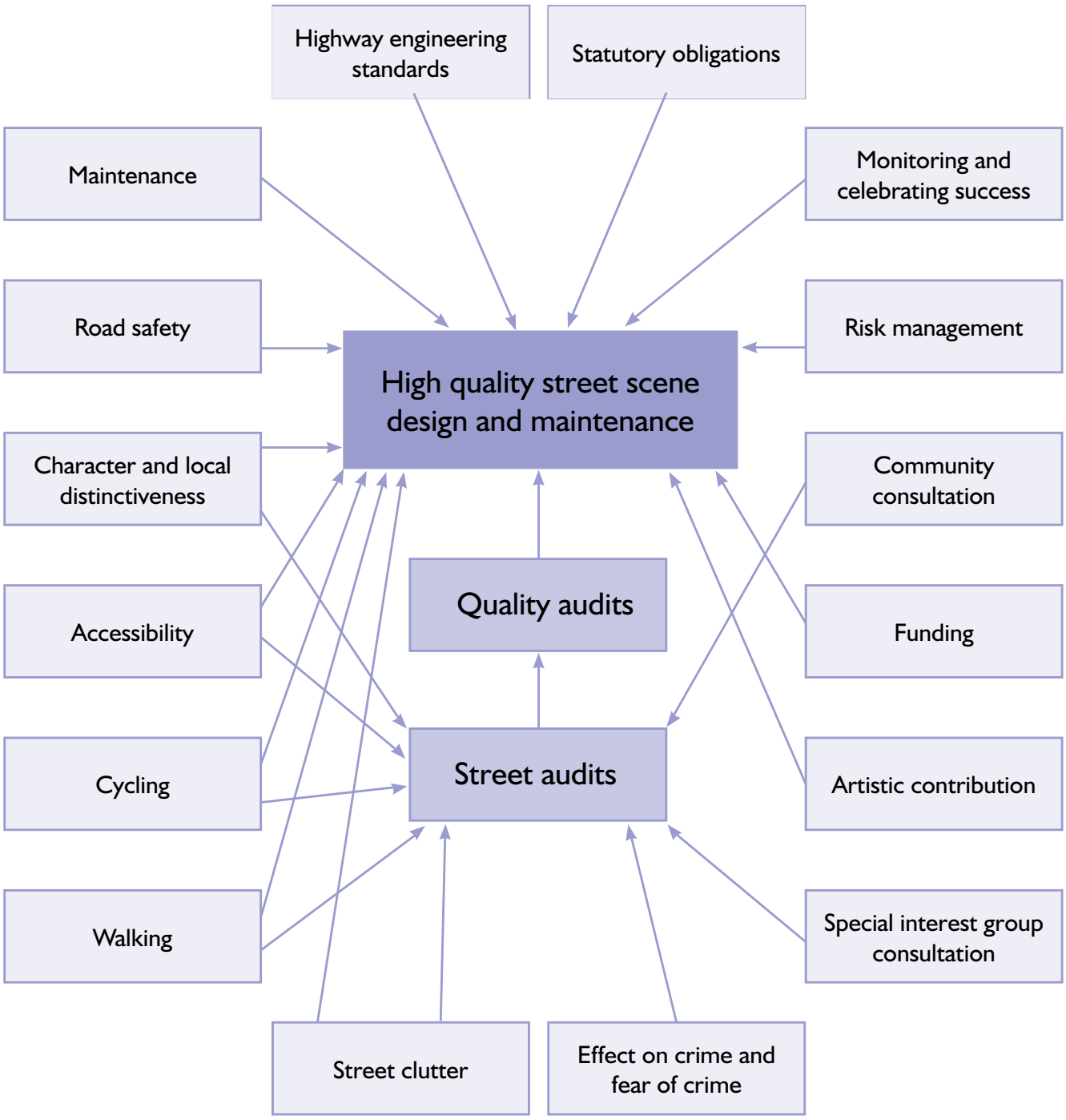
The general principles of the policy are to:

- Minimise street clutter (including guardrails, bollards, signage, road markings);
- Strive to achieve the highest possible quality street environments;
- Consult and involve local communities in design and maintenance of their street environment, where appropriate;
- Consult partners and special interest groups, particularly those representing vulnerable street users, about changes to the street environment;
- Protect and enhance Lincolnshire's local distinctiveness and 'sense of place';
- Carry out risk assessments to ensure that changes in line with this policy are legal and safe;
- Work with the Lincolnshire Road Safety Partnership to produce safe solutions that also give equal standing to environmental quality and amenity value;
- Promote consistent application of standards across the County, whilst taking into consideration the different characteristics of communities and their street environment.

Please refer to HAT 34 for further guidance on how national and local policies, standards and guidance relate to each other, and how to determine their use in Lincolnshire.

The Streetscape Design and Maintenance Policy should be one of those considered to be at the heart of the Highway Design Wheel in HAT 34.

3. Design Process



This diagram shows the different considerations that need to be fed into, and balanced, as part of the design process in order to create successful streets.

3.1 Quality Audits

This section describes what Quality Audits comprise and how they should be applied in Lincolnshire. The principles of good holistic streetscape design should apply to any works that are carried out in the street environment, whether they are new schemes or maintenance work. It has been written with reference to Traffic Advisory Leaflet 5/11, *Quality Audit*, (DfT, November 2011).

Quality Audits comprise a series of discrete but linked evaluations to ensure that the broad objectives of high quality place-making, accessibility - particularly for those with disabilities, safety and maintenance are achieved.

There are some key benefits that undertaking a Quality Audit can bring, and they are that it:

- Will deliver a transparent process that demonstrates that the needs of all user groups have been considered locally and strategically
- Puts check procedures in place to enable scheme objectives to be delivered (including climate change, sustainable transport and health agendas) by documenting the whole design process
- Contributes to cost efficiency in design and implementation: It can help to avoid the need for any build changes after construction, and give an early understanding of the long-term maintenance costs
- Encourages engagement with stakeholders, and so help to improve the quality of the public realm for all users (TAL 5/11, *Quality Audits*)
- Can mitigate risk and liability by recording and justifying decisions that have been made during the design process

3.1.1 The street environment: issues to keep in mind

It is important to recognise from the outset that all street environments are different, not just aesthetically, but also functionally (i.e. how the street is used) and its location and contribution to the sense of place. Where a street is heavily trafficked, or it serves vital traffic functions, there will be less design flexibility than in streets where traffic is less dominant.

It should also be stressed that whilst there will be a general presumption in favour of reducing signage and street furniture (such as guard rails, for example), each site should be assessed individually, and where the installation of such features is considered to be unavoidable for safety reasons, then they should be installed. Designers should therefore assess the existing street environment to identify unsatisfied needs, and design limitations and opportunities.

Broadgate, Lincoln, experiences very high volumes of traffic.

Rural road in the Lincolnshire Wolds with low volumes of traffic.

3.1.2 Where and when should Quality Audits be carried out?

Although Quality Audits are recommended as a useful tool to assist in designing new streets or when making changes to existing streets, it is recognised that Quality Audits may be unnecessary where proposed changes to the street environment would be very minor. It is also recognised that carrying out the full Quality Audit process may not always be possible within given budgets or timetables.

Caistor Market Place is a multi-purpose space which is rich in historic character in terms of its buildings, and sense of space. Its great potential as a social and community focus is not being realised, largely because it is traffic-dominated, with its expanse of space devoted to carriageway. The Market Place surfacing has been upgraded since this image was taken.

Grantham Market Place is a multi-purpose space with important historic buildings and structures, including a medieval market cross and a sixteenth century conduit house. The dominance of cars and road markings right across the market place detracts from its historic character. Since this image was taken the Market Place has been significantly changed. See the Case Study in Section 9 for more details.

In these cases it is strongly recommended that practitioners, usually Highways Officers carry out a Quick Quality Audit (see Section 3.1.3 below).

For larger, more significant, schemes, the use of Quality Audits is recommended for use as a tool to identify opportunities and resolve issues in order to create high quality street scenes. They are recommended as part of the design process for new development, for inclusion in Design and Access Statements in support of planning applications, and to help the development of schemes in existing streets.

They may be particularly useful for new development and changes to existing streets in areas that are environmentally sensitive, such as Conservation Areas (see the section on historic streets), the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB), or a high amenity area, such as a coastal resort.

A Quality Audit could cover a single street, or a series of streets with similar characteristics. It is not advocated for parts of streets, since that could place inappropriate restricted emphasis on the character of the audited stretch with the neglect of the, perhaps significant, character of the remainder. It does not follow, however, that physical proposals need to be applied throughout the entire street. However, works that are carried out should be in the context of the whole street.

It is vital to ensure that the aspirations and reasoning behind the proposals and decisions that are made are thoroughly documented. In the case of larger schemes, this would be in the Project Brief and the Quality Audits report.

3.1.3 Quick Quality Audit

As it is recognised that the full Quality Audit process would not be proportionate for many small schemes, and that they may not always be possible within given timescales and budgets, it is strongly recommended that a Quick Quality Audit is carried out. The Quick Quality Audit is intended to prompt practitioners to consider streetscape quality as part of the feasibility of a scheme, however small that scheme may be. It is important to remember that small schemes can have a large, and often disproportionate effect on the streetscape, either positive or negative.

These should be carried for all schemes unless a Quality Audit already exists; there is an alternative process for assessing the quality of proposed street works; or when a full Quality Audit is to be carried out.

Data should be documented and photographed (where appropriate) to demonstrate that necessary elements have been considered. This should be carried out using a Quick Quality Audit form (see Appendix 3). This form has been incorporated into the County Council's job brief proforma.

The streetscape which is visible from Skegness railway station is very unwelcoming for those arriving on foot, bicycle or wheelchair. There are large volumes of traffic, travelling in various directions and a plethora of signs and poles for various uses. It is not clear how vulnerable road users should navigate this space. Changing street scenes like this could help to boost tourism to Lincolnshire's coastal resorts.

Church Street, Market Deeping, typical of many of Lincolnshire's rural streets. This type of street is wide, and lined with grass verges, footways, historic buildings and often trees as well. Again, the character of such streets should be respected when carrying out new schemes or maintenance.

Two examples:

- When very short stretches of kerbing are to be replaced, any unusual existing kerbing materials or styles, or other similar or complementary street features should be noted, to enable such locally distinctive elements to be protected, and to inform the new works.
- When a single new sign is to be installed or an existing sign replaced, assess whether a sign is actually required, and consider how it might best relate to the features which surround it (refer to Section 3.2 on Sign Clutter).

Within Conservation Areas it will be vital to contact the relevant Conservation Officer, as even small elements of the street scene can contribute a great deal to the special architectural and historic interest of a street and its sense of place.

Where incremental de-cluttering of existing streets covering a wider area is planned, the Quality Audit process described below in Section 3.1.7 should be followed.

3.1.4 The Quality Audit Process

The following sections contain guidance and advice on how to carry out Quality Audits, and what they should ideally include. However, it is important to note that the process is intended to be flexible and proportionate to individual schemes. As long as the principles are accepted and followed, Design Teams can devise an appropriate and tailored model for individual schemes.

A Quality Audit does not need to be carried out where one already exists, or where there is already an alternative process for assessing quality of works in the street environment.

Lincolnshire County Council schemes

- Assemble Design Team (or Steering Group)
- Set Project Brief and Quality Audit coordinator and work programme
- Identify with whom the final decisions lie
- Carry out audits
- Produce Quality Audit report
- Identify issues arising from audits
- Identify solutions to issues arising from audits
- Incorporate into Project Brief
- Meetings at significant points of design
- Professional and public workshops
- Final decisions on design to made by the Design Team as a whole, where possible, and check against Quality Audit report
- Evaluation during construction
- Post-construction evaluation
- Make Quality Audit report available for reference.

Developer-funded design

- Assemble Design Team (or Steering Group), including LCC Highways Officers and Developers
- Set Project Brief and Quality Audit coordinator and work programme
- Carry out audits
- Produce Quality Audit report
- Identify issues arising from audits
- Identify solutions to issues arising from audits
- Meetings at significant points of design, with reference to Quality Audit report
- Professional and public workshops
- Inclusion in the Design and Access Statement for planning application
- Decision to be taken by LPA Planning Committee
- Section 38 agreements
- Evaluation during construction
- Post-construction evaluation
- Make Quality Audit report available for reference.

Incremental de-cluttering (see also Section 4.3.2)

- Set Project Brief and Quality Audit coordinator and work programme
- Carry out audits
- Produce Quality Audit report
- Identify issues arising from audits
- Identify solutions to issues arising from audits
- Incorporate into long-term De-Cluttering Strategy, with reference to Quality Audit report
- Evaluation against the Quality Audit report at agreed stages.
- Make Quality Audit report available for reference.

3.1.5 Lincolnshire County Council Quality Audit process

i) Assemble Design Team (or Steering Group)

Where new significant schemes are planned, and it is decided that a Quality Audit will be undertaken, a Design Team should be set up, and should include representatives for various aspects of design. Such a body could be a basis for involving all interested parties early on in the project design, and for selecting designers. The Design Team for County Council schemes should always include County Council Highways Officers.

It is crucial that the Design Team should be multi-disciplinary, able to identify and agree the essential components of the vision. It is equally important that a there is someone who can champion the vision for the scheme.

ii) Set Project Brief and Quality Audit coordinator and work programme

The preparation of the Project Brief is an opportunity to set out objectives, the design and reasoning for this design for a scheme, both in text, diagrams and three dimensional drawings. The results and recommendations which arise from the audits should be incorporated into the Design Brief as appropriate, or discuss reasons why recommendations will not be acted upon.

Objectives could include; economic regeneration, improved ease of pedestrian movement, placemaking, reduction of traffic dominance, changes in pedestrian activity, maintaining or improving safety, and inclusive design.

The report *Appraisal of Shared Space*, by MVA Consultancy, has useful information and guidance on how to measure success against these objectives. Although it is aimed at Shared Space schemes, it could be applied to any scheme that has these objectives.

The Project Brief should ensure that the design for a street scene is holistic, and that it covers all aspects of street scene design.

Issues which could be included in the Project Brief include:

- Function of the street and position in the classification system (see Chapter 4).
- Principle dimensions of streets.
- Physical connections for pedestrians and cyclists, including all accessibility issues, particularly for those with disabilities.
- Safety, both road safety and personal safety
- Discussion of considerations of growth, connections between new development and existing settlement, and whether sufficient land has been identified (if appropriate).
- Consultation results or intentions for methods for consultation.
- Physical links to locally important landmarks, significant buildings, features or focal points.
- Access to public transport and emergency vehicles.
- Junctions and types of traffic calming.
- Treatment of junctions and sight stopping distances.

The 'At any time' signs are no longer required where double yellow lines are marked.

- Parking and loading areas (location and standards).
- Street lighting and street furniture (locations and specifications).
- Signs and lines.
- Trees and planting.
- Public art (commissioning details, if appropriate, and locations).
- Drainage and rainwater run off systems (see Chapter 11 of Manual for Streets).
- Routing and details of public utilities (see Chapter 11 of Manual for Streets).
- Maintenance and servicing arrangements.
- Appropriate celebration of success.

Agreement for what is in the Project Brief should be sought from stakeholders.

For large projects, scope for revision should be allowed. (See also *Manual for Streets* Section 3.6.28-34.)

The Quality Audit process should be led by a coordinator, and produce a written report on the process. Decisions on the framework for the Quality Audit process should be made at this point. The coordinator will be the link between the Design Team and the audit process, and could be a member of the Design Team.

iii) Identify with whom final decisions lie

Ideally decisions should be made on design issues by the Design Team as a whole. However, it is vitally important that while a wide range of views should be sought and considered, the Design Team should include someone with the authority to make final decisions on scheme proposals, and the vision to champion the scheme. This could be the Quality Audit coordinator.

The decision-making process may vary from scheme to scheme, but whatever that process is to be, it should be agreed at the outset.

iv) Carry out street audits

The audits should be documented by means of data capture sheets with provision for comments, photographs and maps, if necessary. Such audits provide the opportunity to record the street environment as a whole, from many different perspectives, and form the building blocks of the Quality Audit report. This base-line information and the recommendations that come from that information can then be used to inform the design of the scheme. It is envisaged that the audits form part of the design process and the programme of works. For example, the Traffic Regulation Orders procedures might be widened to include the audit in the public advertisement stage.

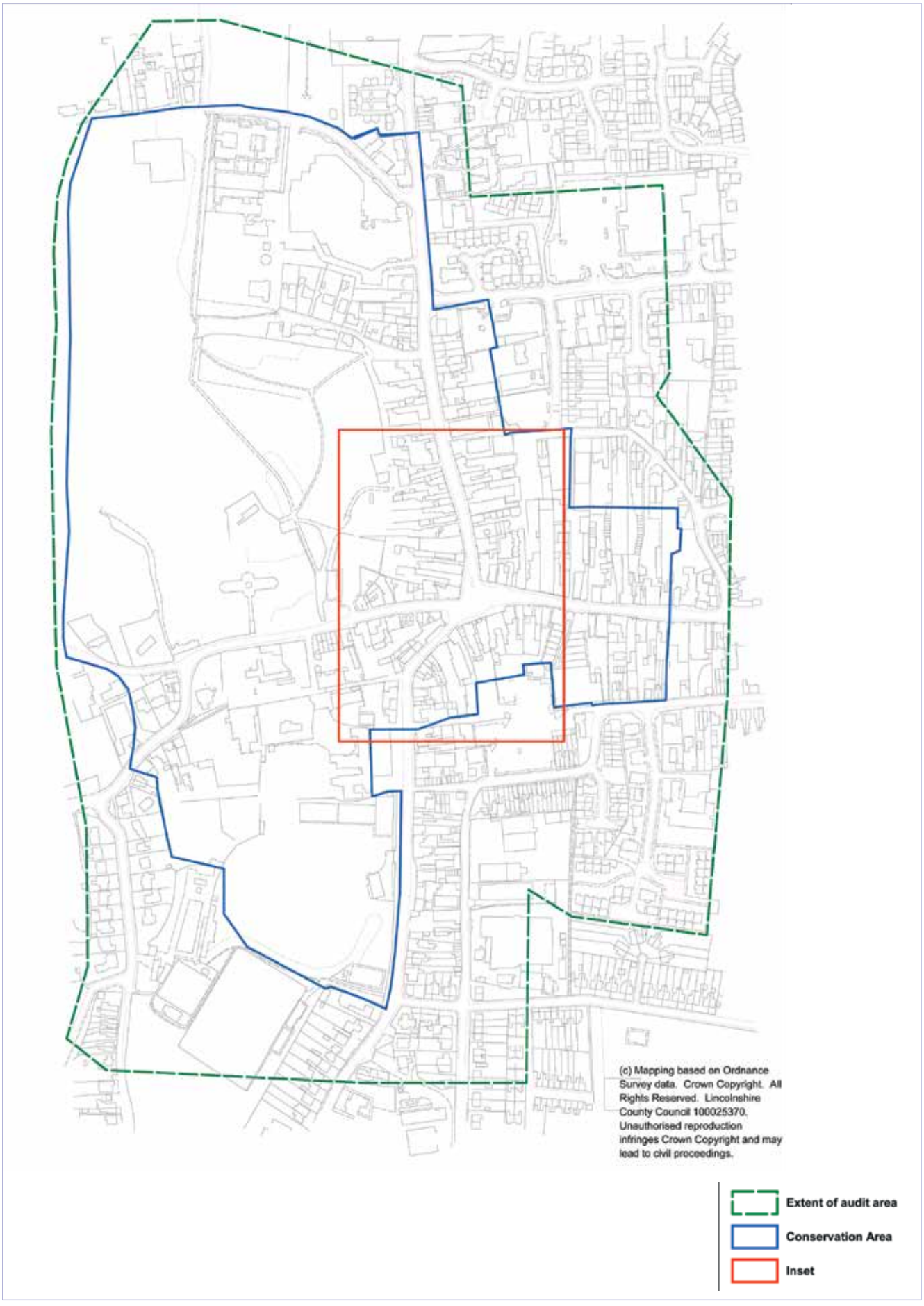
If a Quality Audit already exists for the site, it is recommended that that information is used, and further street audits are unnecessary. It is also recommended that consideration should be given to combining street audits where they can be carried out simultaneously. Street audit data from similar or nearby sites could also be used to inform the design of schemes.

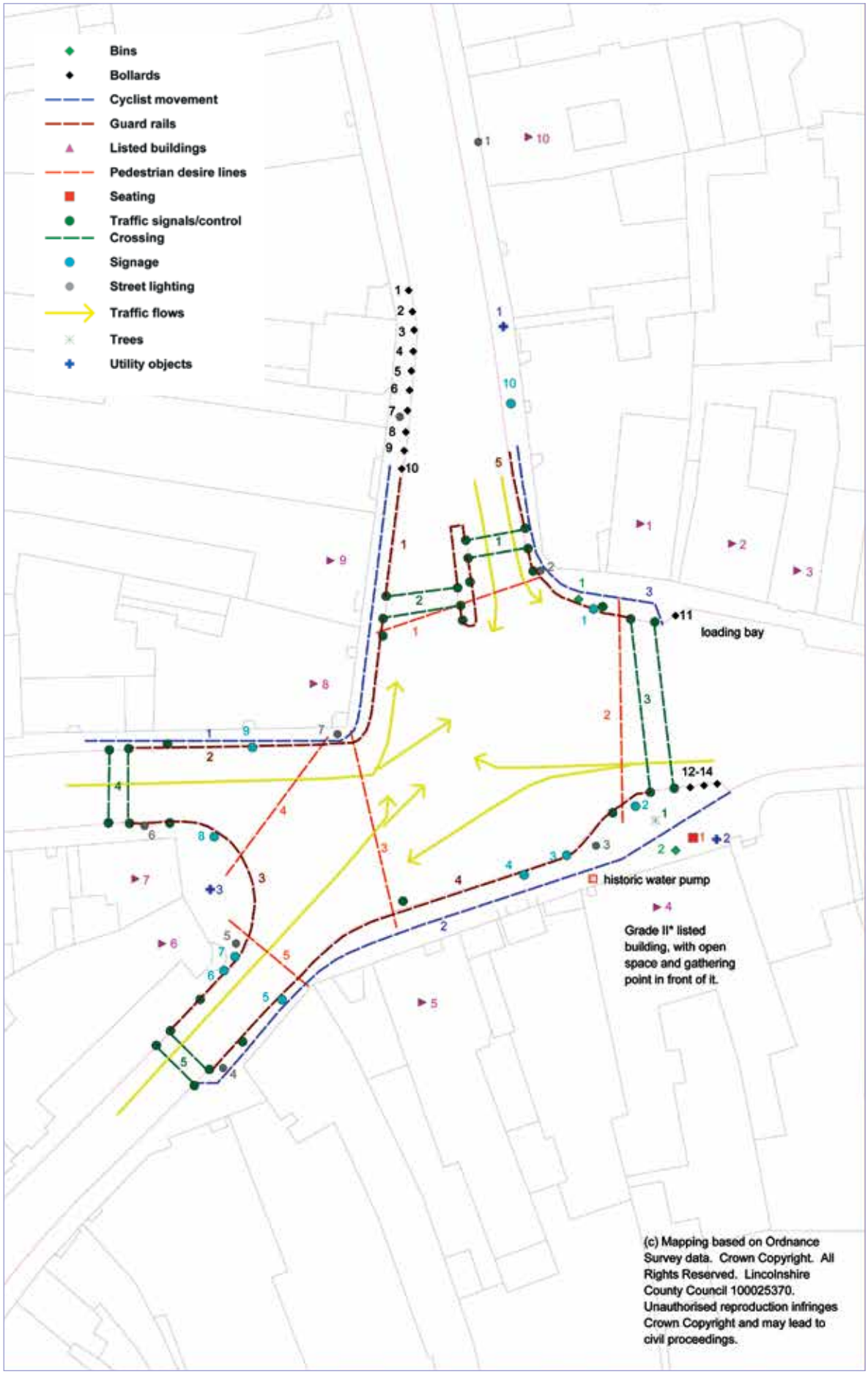
Mapping

A map (or series of maps) should accompany the street audit showing the extent of the audit area, any designated areas, and the locations of features recorded. The map or maps should indicate movement and manoeuvring by street users. Every element on the record sheet should have a unique number cross-referenced with the map. Colour-coding the various elements of the street environment should enhance clarity.

Example map

The maps on pages 16 and 17 show a historic market town, which has a Conservation Area. Although the example map is based on Ordnance Survey data, the audit details have been invented. In this case the street


(c) Mapping based on Ordnance Survey data. Crown Copyright. All Rights Reserved. Lincolnshire County Council 100025370. Unauthorised reproduction infringes Crown Copyright and may lead to civil proceedings.
Extent of audit area
Conservation Area
Inset


Bins
Bollards
Cyclist movement
Guard rails
Listed buildings
Pedestrian desire lines
Seating
Traffic signals/control
Crossing
Signage
Street lighting
Traffic flows
Trees
Utility objects
loading bay
12-14
historic water pump
Grade II* listed building, with open space and gathering point in front of it.
(c) Mapping based on Ordnance Survey data. Crown Copyright. All Rights Reserved. Lincolnshire County Council 100025370. Unauthorised reproduction infringes Crown Copyright and may lead to civil proceedings.

audit could cover the Conservation Area and the adjacent streets. There is a suggested extent for the street audit shown on the map, although this may be flexible, and could change as the audit is carried out.

For the sake of clarity, mapping for large street audits can be produced as a series of larger scale maps. Alternatively insets in the larger map could be used.

Current use of the street

This audit should be officer-led, preferably by Highways Officers. It could involve other organisations and individuals with an interest, such as representatives of communities, for instance parish councils, and by other partners, like District Council officers (including Town Centre Managers), local civic societies, the Women's Institute, and similar organisations, or a combination of the above.

The data capture form can be found in Appendix 4.

Movement

The use and layout of the streets should be assessed. This should cover volume of traffic; nature of traffic; movement; speed and manoeuvring of vehicles (including emergency vehicles); needs for access and parking generally and in respect of disabled badge holders; cyclist and pedestrian volumes and movement; whether there are horseriders and carriage drivers, and their volumes and movements; current use of the street and how the different types of street users react to each other. This will include, for example, pedestrian crossing points, whether they are controlled or uncontrolled crossings, and the pedestrian desire lines. Ideally observations of this sort should be carried out at as many different times of the day as possible, to get as full a picture as possible.

Use of the street by those with disabilities should be considered for accessibility. For further guidance see section **3.3.1 Accessibility**.

Issues around personal safety, whether actual or perceived, should be examined. For further guidance see section **3.3.2 Crime and fear of crime**.

This element also offers an opportunity to identify locally important landmarks, significant buildings, features or focal points. Such information can be used as a basis for improving links to these places.

Street furniture

The audit should include street furniture, such as seating, cycle racks, street lighting, traffic signals, bus stop infrastructure, litter bins, planters, utilities poles, public art and so on. It should include any designations (whether a listed building or scheduled monument) condition, age, materials and character, whether the siting of a feature creates an obstacle, and whether specific items are of value to the community.

Practitioners are guided to use the assessment procedure for the evaluation of the need for installation or removal of guardrails in Local Transport Note 2/09 *Pedestrian Guardrailing* when making decisions on whether to install or remove guardrailing. The site observations required for this methodology can be combined with those for other elements of the street audit.

Whilst this could potentially be subjective, at this stage everything should be documented. Where historic street furniture, historic buildings or archaeology are present and where associated advice is required, consult Lincolnshire County Council Places Team. In Lincoln, the City Council and Historic England have completed the Townscape Assessment Project, which aims to characterise the city's built environment. The Heritage Team at Lincoln City Council should be contacted for further details.

Signs and road markings

The audit should include street signs and road markings. Regular reviews of signage will identify which signs and markings are redundant and might be removed.

Ownership

Every effort should be made to establish ownership and responsibility for street features in order to make street scene audits as full as possible, and achieve seamless improvements to the street environment.

Issues and conflict points

These are any existing or potential issues or conflict points that are identified. They should be documented, and marked on the maps, if it is possible to do so: some of them may not be mappable.

Recommendations

Recommendations and potential solutions to problems should also be included, so that they can be taken

forward for consideration for inclusion in the Design Brief.

Road Safety Audit

Road Safety Audits (RSA) should be carried out by suitably qualified professionals. The RSA will form a part of the Quality Audit, and the results should be considered in the Design Brief. For further guidance refer to the section on Road Safety Audits in Chapter 8 of this document.

Visual quality

This audit should be officer-led, and carried out by Highways Officers, representatives of communities, for instance parish councils, and by other partners, like District Council officers (including Conservation Officers, or Town Centre Managers), local civic societies, the Women's Institute, and similar organisations, or a combination of the above. It is strongly recommended that experts in environmental quality are involved in this audit.

The data capture form can be found in Appendix 5.

Layout, proportions and materials

The sizes of buildings (that is height and footprint), lengths of continuous frontages, widths of footways and roads, and the ratios to each other should be recorded. In other words, it is important to understand the general character of the street: how spaces are enclosed and how the elements within the space relate to each other. It is these relationships that will help to determine where the street fits into the classification system described below in Chapter 4, and thus the nature of appropriate works. Historic street patterns and important views should also be noted.

The use of existing materials also should be recorded. This could include materials in the buildings adjacent to the highway, footway surfaces, kerbing and carriageways, and any traditional or decorative detailing on buildings or surfaces. Such information will be useful for identifying the elements that contribute to street character, and merit protection. It could also help in developing aspirations for future street works.

Below are examples showing the nature of typical information that might be recorded in the course of three different street audits:

- Three storey Victorian red brick terraces fronting onto the street, narrow footways (<= 1m), with granite kerbs and cast iron drains and narrow carriageways. It has a strong sense of enclosure and definition, and limited space for public realm.
- 1930s suburban residential street, rendered brick semi-detached houses, set back from the road, wide tarmac and concrete footways (2m-3m), wide carriageways, wide verges, mature trees, hedging for boundary treatments. It has a complex sense of enclosure largely defined by trees, hedges and soft landscaping.
- Large village centre, wide square defined by shops and houses fronting onto the street, majority constructed of limestone, mixed use, high volumes of vehicles and pedestrians of all types. Medieval stone market cross in centre (listed structure and scheduled monument). The footways range between 1m and 2m, with some York stone. It is a large public realm space, with strong historic character.

Historic environment

Formal designations (Listed Building, Conservation Area, SSSI, AONB and so on) should be recorded. It is worth noting that Conservation Area appraisals may hold information that would be highly relevant to Quality Audits. They contain townscape analyses, and recommendations for maintaining and enhancing the public realm in Conservation Areas. This includes recommendations on use of materials, important views, trees, and floorscapes. Such appraisals are normally undertaken by the District Councils. The Conservation Area appraisals that have been carried out in Lincolnshire are available at the Lincolnshire Historic Environment Record at the County Council or from the planning department of the relevant District Council.

Trees, landscape and biodiversity

The audit should also include trees, green spaces, verges, and soft landscaping. Condition should be recorded, together with suitability and importance in terms of use and biodiversity, including any designations, like Sites of Special Scientific Interest (SSSI), Protected Verges, and Tree Preservation Orders (TPO). Advice on some of these aspects can be obtained from Lincolnshire County Council, Countryside Services. For advice regarding Protected Roadside Verges (PRV), contact the Lincolnshire Wildlife Trust, which manages these features on behalf of the County Council, unless the PRV is in the Lincolnshire

Wolds AONB: in this case contact the Lincolnshire Wolds Countryside Service.

Issues and conflict points
These are any existing or potential issues or conflict points that are identified. They should be documented, and marked on the maps, if it is possible to do so: some of them may not be mappable.

Recommendations
Recommendations and potential solutions to problems should also be included, so that they can be taken forward for consideration for inclusion in the Design Brief.

Community Street Audit
The Community Street Audit (CSA) should be community-led, with officer participation. It should be noted that the audits will have added value if carried out in partnership with Highways Officers, or with highways advice.

The CSA should include consultation on crime and fear of crime and access for the disabled.

Guidance on the different approaches which could be used can be found in **Section 3.1.14 Community Street Audits**. Information on accessibility and crime and fear of crime can be found in Section 3.3.

The results of the CSA should be considered for incorporation into the Design Brief.

Other infrastructure and services
Information about services, utilities and drainage should be recorded, as this may well affect the design proposals. Information about maintenance should also be recorded, including any issues, existing or potential.

Issues and conflict points
These are any existing or potential issues or conflict points that are identified. They should be documented, and marked on the maps, if it is possible to do so: some of them may not be mappable.

Recommendations
Recommendations and potential solutions to problems should also be included, so that they can be taken forward for consideration for inclusion in the Design Brief.

Rural roads
The same auditing principles can be applied to rural roads where works are to be carried out, for instance the installation of signage. Objects which are part of the street scene should be included, which will be mainly signage, street furniture, kerbing, verges and trees. Historic features, such as traditional road signs and milestones, should always be recorded. For advice contact the Lincolnshire County Council Places Team. Landscape character and sites that are environmentally sensitive should also be taken into account.

For advice within the Lincolnshire Wolds AONB contact the Lincolnshire Wolds Countryside Service, and in other areas contact Countryside Services at the County Council.

v) Produce Quality Audit report
The Quality Audit report should be put together by the Quality Audit coordinator. It could contain:

- A clear statement of vision and objectives
- Basic scheme data, such as movement data and accident data
- A statement on strategic routes for different modes of transport that may be affected
- A description of the project and location plan, perhaps with colour-coding for different aspects, which may correspond with audit types
- General comments and summary of conclusions and recommendations
- Chapters corresponding with the colour-coding on the location plan
- Assessment of conflicts and recommendation for resolution
- Annex of written reports, user group reviews, and consultation results.

vi) Identify issues arising from audits
The Quality Audit report will, in all likelihood, provide further detail on issues already identified (and which are probably the catalyst for undertaking the scheme in the first place), and may also identify new issues, along with recommendations. At least some of these should have been identified within each aspect of the audit.

vii) Identify solutions to issues arising from audits
Every effort should be made by the Design Team to act on the recommendations in the Quality Audit report, and to incorporate them into the Project Brief. Where

recommendations haven't been made, solutions to issues should be identified wherever possible and included in the Project Brief.

viii) Meetings at significant points of design
This is another aspect of the Quality Audit and the design processes that may well vary from scheme to scheme. Again, the programme of meetings, when they happen and what is hoped will be achieved by each one should be agreed at the start of the scheme.

A suggested timetable for meetings is:
- Outline stage; for both users and professionals
- Detailed design; for professionals only
- Completion; for professionals only
- After opening and evaluation; for both users and professionals

It should be remembered that this is very flexible, and should be proportionate and tailored to the individual scheme.

ix) Professional and public workshops
Where there are potential conflicts between technical, aesthetic and conservation considerations, holding professional workshops may be one way of working through the difficulties. All relevant parties should be represented, to provide the opportunity for all potential problems and solutions to be discussed and resolved. It is important that several different design options are presented for consideration.

All these processes should be documented, including the design options, attendance at workshops or meetings, and what was discussed and decided.

Public workshops are a useful way of getting opinion and feedback. It is recognised that often what communities see as solutions to issues in their local streets are not necessarily the only solutions. These solutions often involve adding signage to that which already exists, and other visually intrusive street furniture. Public workshops and regular meetings can help with identifying those issues and their causes, therefore potentially identifying alternative solutions that are more sensitive to their environment. Sometimes it may also be worth having one-to-one interviews with those would be most affected by any change in the street environment (for instance, businesses and residents).

x) Final decisions
Final decision on design should be made by the Design Team as a whole, where possible. Decisions should be checked against the Quality Audit report.

xi) Evaluation during construction
An evaluation should be carried out as the scheme nears completion to assess whether the vision and the recommendations in the Quality Audit report have been realised.

xii) Post-construction evaluation
There should be a review of project at six to twelve months after completion to establish whether the original objectives of the scheme have been achieved, to be documented and included as a supplementary document with the Quality Audit report.

xiii) Make Quality Audit report available for reference
The Quality Audit report should be made available to practitioners and stakeholders for reference. Making them available in this way should help those carrying out Quality Audits in the future, and improving the process.

Once a Quality Audit exists for a street or set of streets this should be made available to those who are carrying out future works in those same streets. This should help maintain consistency of quality on those streets, and save time for those who are planning and designing changes.

3.1.6 Developer-funded design

i) Assemble Design Team (or Steering Group), including County Council Highways Officers and Developers
Where new significant new development schemes are planned, and it is decided that a Quality Audit will be undertaken, a Design Team should be set up, and should include representatives for various aspects of design, which includes highways design. Such a body could be a basis for involving all interested parties early on in the project design, and for selecting designers. This should include County Council Highways Development Management Officers.

The Developer's designers should lead on this, and have responsibility for developing the scheme with input from other professionals and stakeholders. They should also have a coherent vision for the scheme and be able to communicate that effectively.

ii) Set Project Brief and Quality Audit coordinator and work programme
See section 3.1.5 ii) above.

iii) Carry out street audits
The inclusion of high quality streetscape is a vital part of any new development, and should be considered at the outset of every design process. As an integrated part of the design it can help create a sense of place, which is pleasant and interesting. Connections with new development need to be carefully considered, including those for pedestrians, cyclists, public transport and vehicular traffic. This can contribute to the long-term success of a development.

In order to create a high quality streetscape it is important to understand the existing streetscape adjacent to which the new development will be located. This can be achieved by carrying out street audits, the findings of which can then be incorporated into the design of the new streetscape.

If a Quality Audit already exists for the site, it is recommended that that information is used, and further street audits are unnecessary. It is also recommended that consideration should be given to combining street audits where they can be carried out simultaneously. Street audit data from similar or nearby sites could also be used to inform the design of schemes.

Mapping
A map (or series of maps) should accompany the street audit showing the extent of the audit area, any designated areas, and the locations of features recorded. The map or maps should indicate movement and manoeuvring by street users. Every element on the record sheet should have a unique number cross-referenced with the map. Colour-coding the various elements of the street environment should enhance clarity.

Example map
The maps on pages 16 and 17 show a historic market town, which has a Conservation Area. Although the example map is based on Ordnance Survey data, the audit details have been invented. In this case the street audit could cover the Conservation Area and the adjacent streets. There is a suggested extent for the street audit shown on the map, although this may be flexible, and could change as the audit is carried out.

For the sake of clarity, mapping for large street audits can be produced as a series of larger scale maps. Alternatively insets in the larger map could be used.

Visual quality of existing settlement
This audit should be officer-led, and carried out by Highways Officers, with, for example, representatives of communities, for instance parish councils, and by other partners, like District Council officers (including Conservation Officers, or Town Centre Managers), local civic societies, the Women's Institute, and similar organisations, or a combination of the above.

The data capture form can be found in Appendix 5.

Layout, proportions and materials
The sizes of buildings (that is height and footprint), lengths of continuous frontages, widths of footways and roads, and the ratios to each other should be recorded. In other words, it is important to understand the general character of the street: how spaces are enclosed and how the elements within the space relate to each other. Historic street patterns and important views should also be noted.

The use of existing materials also should be recorded. This could include materials in the buildings adjacent to the highway, footway surfaces, kerbing and carriageways, and any traditional or decorative detailing on buildings or surfaces. Such information will be useful for identifying the elements that contribute to street character, which could be taken forward to the Design Brief.

Below are examples showing the nature of typical information that might be recorded in the course of three different street audits:

- Three storey Victorian red brick terraces fronting onto the street, narrow footways (<=1m), with granite kerbs and cast iron drains and narrow carriageways. It has a strong sense of enclosure and definition, and limited space for public realm.
- 1930s suburban residential street, rendered brick semi-detached houses, set back from the road, wide tarmac and concrete footways (2m-3m), wide carriageways, wide verges, mature trees, hedging for boundary treatments. It has a complex sense of enclosure largely defined by trees, hedges and soft landscaping.
- Large village centre, wide square defined by shops and houses fronting onto the street, majority

constructed of limestone, mixed use, high volumes of vehicles and pedestrians of all types. Medieval stone market cross in centre (listed structure and scheduled monument). The footways range between 1m and 2m, with some York stone. It is a large public realm space, with strong historic character.

Historic environment

Formal designations (Listed Building, Conservation Area, SSSI, AONB and so on) should be recorded. It is worth noting that Conservation Area appraisals may hold information that would be highly relevant to a Quality Audit. They contain townscape analyses, and recommendations for maintaining and enhancing the public realm in Conservation Areas. This includes recommendations on use of materials, important views, trees, and floorscapes. Such appraisals are normally undertaken by the District Councils. The Conservation Area appraisals that have been carried out in Lincolnshire are available at the Lincolnshire Historic Environment Record at the County Council or from the planning department of the relevant District Council. These will be extremely useful when designing streetscapes for new development.

Areas outside of those given specific designations often have a historical function that is more evident in the road patterns and plot sizes than actual built form. A sense of place is therefore shaped by the highways, and this could be enhanced through the use of appropriate materials to knit together the various elements that remain. The overall design concept could be established which highlights the areas history.

Trees, landscape and biodiversity

The audit should also include trees, green spaces, verges, and soft landscaping. Condition should be recorded, together with suitability and importance in terms of use and biodiversity, including any designations, like Sites of Special Scientific Interest (SSSI), Protected Verges, and Tree Preservation Orders (TPO). Advice on some of these aspects can be obtained from Lincolnshire County Council, Countryside Services. For advice regarding Protected Roadside Verges (PRV), contact the Lincolnshire Wildlife Trust, which manages these features on behalf of the County Council, unless the PRV is in the Lincolnshire Wolds AONB: in this case contact the Lincolnshire Wolds Countryside Service.

Issues and conflict points

These are any existing or potential issues or conflict points that are identified. They should be documented, and marked on the maps, if it is possible to do so: some of them may not be mappable.

Recommendations

Recommendations and potential solutions to problems should also be included, so that they can be taken forward for consideration for inclusion in the Design Brief.

Road Safety Audit

Road Safety Audits (RSA) should be carried out by suitably qualified professionals. The RSA will form a part of the Quality Audit, and the results should be considered in the Design Brief. For further guidance refer to the section on Road Safety Audits in Chapter 8 of this document.

Current use of existing streets

This audit should be developer-led, and should include Highways Officers.

The data capture form can be found in Appendix 4.

Movement

The use and layout of the streets adjacent to the development should be assessed. This should cover volume of traffic; nature of traffic; movement; speed and manoeuvring of vehicles (including emergency vehicles); needs for access and parking generally and in respect of disabled badge holders; cyclist and pedestrian volumes and movement; whether there are horseriders and carriage drivers, and their volumes and movements; current use of the street and how the different types of street users react to each other. This element also offers an opportunity to identify locally important landmarks, significant buildings, features or focal points. Such information can be used as a basis for creating and improving links between existing settlement and new developments.

The internal and external and external permeability of a new development should be assessed. High levels of permeability are vital to the success of schemes.

Use of the existing and proposed streets by those with disabilities should be considered for accessibility. For further guidance see section **3.3.1 Accessibility**.

Issues around personal safety, whether actual or perceived, should be examined. For further guidance see section **3.3.2 Crime and fear of crime**.

Street furniture

The audit should include street furniture, such as seating, cycle racks, street lighting, traffic signals, bus stop infrastructure, litter bins, planters, utilities poles, public art and so on. It should include any designations (whether a listed building or scheduled monument) and whether specific items are of value to the community. This information can also be used to inform seamless and sympathetic streetscape design in the new development.

Practitioners are guided to use the assessment procedure for the evaluation of the need for installation or removal of guardrails in Local Transport Note 2/09 *Pedestrian Guardrailing* when making decisions on whether to install or remove guardrailing. The site observations required for this methodology can be combined with those for other elements of the street audit.

Whilst this could potentially be subjective, at this stage everything should be documented. Where historic street furniture, historic buildings or archaeology are present and where associated advice is required, consult Lincolnshire County Council Places Team. In Lincoln, the City Council and Historic England are running the Townscape Assessment Project, which aims to characterise the city's built environment. The Heritage Team at Lincoln City Council should be contacted for further details.

Signs and road markings

The audit should include street signs and road markings. This will allow a review of existing signing, and allow the development of a signing strategy for the new development which is integrated with the existing streetscape. This should identify redundant or unnecessary signs which could then be removed.

Ownership

Every effort should be made to establish ownership and responsibility for street features in order to make street scene audits as full as possible, and achieve seamless improvements to the street environment.

Issues and conflict points

These are any existing or potential issues or conflict points that are identified. They should be documented, and marked on the maps, if it is possible to do so: some of them may not be mappable.

Recommendations

Recommendations and potential solutions to problems should also be included, so that they can be taken forward for consideration for inclusion in the Design Brief.

iv) Produce Quality Audit report

See section 3.1.5 v) above.

v) Identify issues arising from audits

The Quality Audit report will identify issues and make recommendations that will need to be addressed in the design.

vi) Identify solutions to issues arising from audits

Every effort should be made by the Design Team to act on the recommendations and identify solutions to these issues. These should then be incorporated into the Project Brief.

vii) Meetings at significant points of design

The frequency of meetings of the Design Team and other interested parties will vary according to the overall scheme. Pre-application meetings will be vitally important, due to the need to submit details of the proposed high quality highway design within the Design and Access Statement.

Regular meetings of the Design Team will be needed as the scheme develops, particularly at major decision points.

viii) Professional and public workshops

Where there are potential conflicts between technical, aesthetic and conservation considerations, holding professional workshops may be one way of working through the difficulties. All relevant parties should be represented, to provide the opportunity for all potential problems and solutions to be discussed and resolved. It is important that several different design options are presented for consideration.

Public workshops are also a good way of gathering opinion and feedback. They can help identify issues and their solutions.

ix) Inclusion in the Design and Access Statement for planning application
The County Council are recommending that appropriate detailed proposals for a high quality street scene for new developments are included in the Design and Access Statement accompanying a Planning Application. The proposals should be informed by the audits described above. The Design Brief or Project Design could also be submitted as part of the Planning Application.

ix) Final decision
The final decision will be taken by Local Planning Authority's Planning Committee, as to whether Planning Permission will be granted or not.

x) Section 38 agreements
Before a Section 38 agreement is entered into, the Highway Authority recommends that a Quality Audit process is carried out to a high standard. If a Quality Audit is undertaken, it should be demonstrated that the findings of the Quality Audit have been either incorporated into the implemented design, or a satisfactory explanation provided as to why findings have not been incorporated.

xi) Evaluation during construction
An evaluation should be carried out as the scheme nears completion to assess whether the vision and the recommendations in the Quality Audit report have been realised.

xii) Post-construction evaluation
There should be a review of project at six to twelve months after completion to establish whether the original objectives of the scheme have been achieved, to be documented and included as a supplementary document with the Quality Audit report.

xiii) Make Quality Audit report available for reference
The Quality Audit report should be made available to practitioners and stakeholders for reference. Making them available in this way should help those carrying out Quality Audits in the future, and improving the process.

Once a Quality Audit exists for a street or set of streets this should be made available to those who are carrying out future works in those same streets. This should help maintain consistency of quality on those streets, and save time for those who are planning and designing changes.

3.1.7 Incremental de-cluttering (see also Section 4.3.2)

i) Set Project Brief and Quality Audit coordinator and work programme
See section 3.1.5 ii) above.

ii) Carry out audits
Street audits should be carried out using the process and criteria described in Section 3.1.5 iii).

iii) Produce Quality Audit report
See section 3.1.5 v) above.

iv) Identify issues arising from audits
The Quality Audit report will identify issues and make recommendations that will need to be addressed in a long-term De-Cluttering Strategy.

v) Identify solutions to issues arising from audits
Every effort should be made by Highways Officers to act on the recommendations of the Quality Audit report, and to identify solutions to issues in the De-cluttering Strategy.

vi) Incorporate into De-cluttering Strategy
A long-term De-cluttering Strategy document should be produced where a plan, time-tabled if possible, for incremental change can be laid out. As improvements are made this should be recorded in the document along with any comments.

vii) Evaluation against the Quality Audit report at agreed stages
Evaluation of the de-cluttering scheme should be carried out at agreed stages of the work, and should be checked against the Quality Audit report. This is in order to establish whether the original objectives of the scheme have been achieved, to be documented and included as a supplementary document with the Quality Audit report.

viii) Make Quality Audit report available for reference
The Quality Audit report should be made available to practitioners and stakeholders for reference. Making them available in this way should help those carrying out Quality Audits in the future, and improving the process.

Once a Quality Audit exists for a street or set of streets this should be made available to those who are carrying out future works in those same streets. This should help maintain consistency of quality on those streets, and save time for those who are planning and designing changes.

3.1.8 Community Street Audits

This section describes various approaches devised and used by other organisations to allow communities to audit their street environment. These approaches bring different perspectives to bear on the quality of the street environment and on what would prove useful when designing and maintaining the street scene. There are recommendations in Section 3.7 of *Manual for Streets* for what should be included in a quality audit. Also see Chapter 6 on Monitoring and Celebrating Success.

Community Street Audits are community-led, supported by facilitators, and auditing groups should ideally be no more than eight in number. The group walks the relevant streets recording what aspects work well, what is good about the streets, and what aspects do not work well. It is also an opportunity to set out community aspirations. Once the audit has been carried out, a report with a map and photographs needs to be produced (Living Streets, 2002). Such documentation could then be incorporated into Community-led Plans, such as Parish Plans, Neighbourhood Plans, or Village Design Statements for future reference when carrying out street works.

As with the street scene audits described above, highways advice should be sought about the feasibility of suggested improvements.

Advice on Community Street Audits can be sought from the Living Streets organisation, who have much experience of carrying them out.

Community-led Plans

In Lincolnshire, advice on Community-led Plans (CLPs) can be sought from Community Lincs. Details of their work can be found on their website www.communitylincs.com. Further advice can be sought from the Action with Communities in Rural England website. Guidance on how heritage can be incorporated into CLPs is available in *Knowing Your Place: Heritage and Community-led Planning in the Countryside (2011)* which is available on the HELM website www.helm.org.uk.

Traffic in Villages: Safety and Civility for Rural Roads: A toolkit for communities

This document was produced by Dorset AONB staff and Hamilton-Baillie Associates primarily for use in Dorset. However, many of the principles in the document can be applied elsewhere in the UK. It provides a toolkit for communities which aims to inspire and encourage local communities to come up with fresh ideas to enhance and conserve their unique and special character. It is also intended to improve communities' understanding of driver behaviour and the key influences on traffic speeds, and to contribute to Village Design Statements and Parish Plans. Throughout the document communities are strongly advised to consult with their local Highway Authority.

The document can be downloaded at no cost from http://www.dorsetaonb.org.uk/our-work/rural-roads/traffic-in-villages-toolkit or www.hamilton-baillie.co.uk/_files/_publications/50-1.pdf

Placecheck Surveys

Several Placecheck surveys have been carried out in various parts of Lincoln. They are undertaken by local people, and look at all aspects of a neighbourhood. A Placecheck survey looks at what works well and what might be lacking, and sets out the community's aspirations for their local environment (Lincoln Community Development Project, 2002).
The Placecheck surveys were facilitated by developmentplus (formerly known locally as LCDP), whose remit now extends county-wide. For more information see www.developmentplus.org.uk.

CABE Spaceshaper

Spaceshaper is a practical toolkit for use by anyone – whether a local community activist or a professional – to measure the quality of a public space before investing time and money in improving it. The toolkit works by capturing the perceptions of both the professionals whose functions impinge on a place (for example, highways operatives) and everyday users. The results are discussed during facilitated workshops (run by trained facilitators). These provide forums for debating issues of design quality and improving understanding of how spaces are used and understood by the various stakeholders. The toolkit aims to raise public aspiration, encouraging users to demand better provision and quality for their local spaces (CABE, 2007c).

There is detailed guidance on this approach, and on how to access training, available at http://www.designcouncil.org.uk/resources/guide/spaceshaper-users-guide.

The above methods and approaches can be used as a means of assessing the quality of the public realm before and after implementation of a scheme.

Neighbourhood Plans

The principles of Neighbourhood Plans are set out in the National Planning Policy Framework (NPPF). They should be community- and plan-led, looking creatively at finding ways 'to enhance and improve the places in which people live their lives', whilst taking account of local distinctiveness.

They should also 'actively manage patterns of growth to make the fullest use of public transport, walking and cycling, and focus significant development in locations which are, or can be, made sustainable', and 'take account of and support local strategies to improve health, social and cultural well-being for all, and deliver sufficient community and cultural facilities and services to meet local needs.' The content of Neighbourhood Plans should be reflected in local development plans.

Artwork on a retaining wall at Mablethorpe sea front, carried out by young people, with the help of the Lincolnshire County Council East Area Youth Service. The seaside postcards theme using bright colours reflects the character of Mablethorpe.

Historic street-name plates in Grantham (above) and Lincoln (below). These are important elements which add character to the street scene and help create a 'sense of place'. These images show that there were different styles manufactured for different places.

This archway has been designed incorporating the motif used on the street name plates, which is unique to Grantham. It also uses an apple detail which is an acknowledgement of Grantham's connection with Sir Isaac Newton.

This is part of a mosaic at Market Hill, Holbeach, produced by an artist (Alan Potter). It draws on and celebrates local distinctiveness, and adds to the 'sense of place'.

The mounting block on East Street, Crowland, is a listed structure. You will need to consult the relevant Conservation Officer for advice about any works which will affect a listed building or structure. Historic street furniture like this, even when it is not listed adds much to the character of a street. Contact the County Council Places Team for information and advice.

This access cover is located on Steep Hill in Lincoln, and probably dates to the first half of the twentieth century. There are other examples which survive, made by local companies, which should be retained and protected, wherever possible.

3.2 Understanding local distinctiveness

3.2.1 Examples of elements of the street scene which can add to a 'sense of place'

Although much of what gives Lincolnshire its character is rooted in its built and natural heritage, it is not only these features that give a 'sense of place'. The images to the left are examples of what might be considered as elements of a street scene which contribute to a sense of place. Local distinctiveness and historic features all scored highly in the public consultation as attributes that make the street scene attractive, thus warranting protection (See Appendix 1).

The National Planning Policy Framework (published 2012) strongly emphasises the need to protect and enhance local distinctiveness, and the elements that contribute to that, whether designated or not. For more detail see Appendix 2.

Point of Caution

For Conservation Areas, or listed buildings or structures contact the relevant Conservation Officer. Some structures in the highway are scheduled monuments and the prior consent of Historic England is required for any works that will affect such monuments or their settings. These include, for example, medieval market crosses. It is vital to seek such advice as it is a criminal offence to carry out unauthorised work that will affect these designated features. Be aware that features such as boundary walls in a Conservation Area, or those associated with a listed building are also included in the designation.

3.2.2 Traditional road signs in Lincolnshire (TRiL)

Historic signs, like other historic street furniture, are valued objects forming an important part of the heritage of Lincolnshire. They are a resource which is often taken for granted until the signs disappear from our highway landscape.

There are (in 2016) approximately 375 surviving traditional road signs throughout the county in a variety of styles and materials. These were surveyed between 1999 and 2002.

This example shows how a guard rail can add to the aesthetic quality of the street scene, although judgement on this is extremely subjective, and will vary greatly. The dragon on South Gate, Sleaford, is looking up at another dragon on a building opposite.

Historic street patterns should be included in any audit of street scene. For those which are Conservation Areas, contact the relevant Conservation Officer or Lincolnshire County Council Places Team. This is Lincoln High Street, which has its origins in the Roman period.

This is an example of a traditional road sign with a cast iron post and wooden arms near Swarby, before and after refurbishment. There are several variations of the cast iron posts, and these are more commonly found in the south of Lincolnshire.

Concrete posts with wooden arms, like this example in Tealby, are more prevalent in the north of the county. Note the replacement of the modern reflective metal directional arms with wooden arms.

The Memorandum of Understanding for TRiL (made between the Heritage Trust of Lincolnshire and Lincolnshire County Council) states that existing traditional road signs should be retained as functional signs and that, as part of the historic landscape of Lincolnshire, they should be maintained and refurbished in their original form, or in a manner sympathetic to their original form.

The Memorandum also states that the County Council will not remove any traditional road sign, except for reasons of safety.

Furthermore it recommends that modern signage should not be added to traditional road signs, and that as these are refurbished or replaced, modern signage will be removed.

At a national level, the publication of Traffic Advisory Leaflet 6/05 has justified this work and has also encouraged the reintroduction or reinstatement of traditional fingerposts to match the original style.

A project was undertaken in Lincolnshire over some years to sympathetically repair deteriorating or damaged traditional road signs. The current emphasis of the TRiL

This is another example of a concrete post. This style, and similar styles, are more common in the Kestevens.

group is maintaining the refurbished traditional road signs. Re-instatements will be considered on a site-by-site basis, in line with the

TRiL reinstatement policy (Appendix 6). For more information and advice contact the TRiL group. In the first instance contact can be made through the Lighting and Signs Team in the Technical Services Partnership, or the Places Team.

3.3 Street Clutter

Street clutter has been identified as a major cause of the deterioration of the quality of the street environment. Signage is a large element of the cause of street clutter.

'Overuse of traffic signs blights our landscape, wastes taxpayers' money and dilutes important road safety messages. Research carried out by the Department to inform the Traffic Signs Policy Review showed that the number of traffic signs has doubled in the last 20 years. This is unsustainable, and bears out the need to reduce signing whenever possible. A culture change is needed in the way signing is used.' (DfT, TSRGD 2016)

There should be a general presumption by the County Council that where signs are not deemed to be absolutely necessary they should not be erected, where they are badly placed, they should be relocated, and where signs are unnecessary or redundant, they should be removed. This approach, however, should always comply with the mandatory aspects of the Traffic Signs Regulations and General Directions (2002 and 2016), although it should be noted that TSRGD 2016 relaxes many previous requirements on the use, design and placing of signs.

The Department for Transport has produced a Local Transport Note (2008) which aims to enhance streetscape appearance by encouraging design teams to minimise the various traffic signs, road markings and street furniture associated with traffic management schemes. Advice on achieving this is given with reference to case studies.

Ways of reducing clutter

Discussion with highways managers regarding removal and installation of street furniture is needed, particularly in regards to maintenance costs.

Through the Traffic Signs Regulations and General Directions 2016, DfT offers tools to authorities, and expects them to be proactive in making use of these tools to get rid of unwanted clutter and unnecessary signs, and design signing schemes to minimise visual clutter from the outset.

TSRGD 2016 relaxes many previous requirements on the use and placing of signs:

- Where previously two terminal signs were needed to show the start of a traffic restriction, only one is now required, regardless of the width of the road, to be compliant.
- Fewer signs now have a statutory requirement that they be lit. For those where direct lighting is not mandatory and an authority judges that lighting is no longer needed, signs will be less intrusive, as well as reducing energy usage and light pollution.
- The requirement for a sign and marking to be used together has been removed in some cases. For example a mandatory cycle lane or a 'permit holders only' parking bay only need to be shown by a road marking where they operate at all times.
- The requirement to place repeater signs has been removed. It is for local authorities to make sure that restrictions such as speed limits are signed so that drivers know, and are regularly reminded of, the restriction in place.
- To help minimise visual intrusion, smaller sizes are now available for signs such as those aimed only at walkers and cyclists.

Authorities must remove any outdated temporary signs of the type such as 'New Roundabout Ahead'. By law, these must only be in place for a maximum of 3 months following completion of the works, but are routinely left in place for far longer, in some cases years. TSRGD now requires a 'remove by' date to be placed on the back of the sign, a measure aimed at helping authorities keep track of when signs should be removed, and enabling local residents to request removal if a sign is left in place too long.

Temporary signs are often not necessary at all. Authorities should consider their use carefully rather than routinely placing them as part of implementing traffic management schemes. These signs are often of only limited use to someone using a stretch of road for the first time. Local drivers are likely to have seen the scheme being implemented and will therefore be aware of the changes to the road layout already.

Similarly, black-on-yellow temporary signs for new housing developments must by law be removed within 6 months of completion of the development (TSRGD 2016)

There are numerous locations where site conditions have changed, but signing has remained unaltered, thus leading to a proliferation of signs that are no longer required. Such unsatisfactory conditions will be perpetuated through the regular maintenance process unless those undertaking maintenance, or implementing schemes, firstly consider and assess street scenes as a whole.

Signal warning signs are an example. These are only advised where the speed limit is 50mph or over, unless there is reduced visibility to the primary signal head. When speed limits are reduced, often no account is taken of their presence and, although redundant, they nevertheless remain in place.

A further example relates to locations where long-established school crossing patrols are superseded by controlled pedestrian crossings. In these circumstances the school crossing patrol signs should be removed.

Excessive signage, or poorly-placed signage can seriously detract from the amenity value of an area. Some organisations (such as the RAC) suggest that excessive signage can be a distraction for drivers, thus having the potential to create unnecessary hazards. The presence of unnecessary poles in the highway also results in unjustifiable hazards to riders of bicycles and motorcycles.

Regular review and consideration of all the above matters, would reduce excessive signage, and therefore street clutter. The reduction in maintenance and replacement would also save the Highway Authority money although it is recognised that there is a cost involved to remove an existing sign assembly, including staff time and possibly traffic management costs. Where appropriate, mounting necessary additional signs on existing poles in the highway assists in reducing clutter although structural analysis of the existing post/column would be necessary to ensure it was capable of withstanding the additional wind loading.

3.4 Consultation

3.4.1 Accessibility

The Disability Discrimination Act 2005 has now been replaced by the Equality Act, with the exception of the Disability Equality Duty. This new legal duty will mean

The remains of the medieval village cross (a Scheduled Monument) in Swinstead is obscured by signs, which has a detrimental effect on its setting and amenity value. Could these signs be relocated?

Guard rails at the pedestrian crossing on Broadgate, Lincoln. Guard rails are a potential hazard to those with Guide Dogs.

that any public body will need to actively look at ways of ensuring that disabled people are treated equally.

It requires public bodies to take account of the needs of disabled people as an integral part of their policies, practices and procedures, rather than as something separate or an add-on. It requires due regard to be paid to the need to eliminate unlawful discrimination and disability-related harassment, to promote equality of opportunity and positive attitudes to disabled people, and to encourage disabled people to participate in public life, even if that involves treating disabled persons more favourably than others.

Failure to observe these principles could result in increased risk of a claim against the Authority *(MfS1*, 2007, Section 2.7).

There are individuals, groups and organisations that are willing to help with advice and site visits to assess works in this context. Lincolnshire Association of People with Disabilities, Guide Dogs Organisation, Lincolnshire Visual Impairment Services, Lincolnshire Accessibility Forum, Lincolnshire County Council Diversity Officer, Lincolnshire Sensory Services, Clinical Commissioning Groups, Lincolnshire County Council Accessibility Officers, AgeUK and Seniors' Forums could all be approached for advice. Representatives of some organisations will undertake site visits in order to assess schemes and give advice. Where schemes are being carried out close to amenities or buildings belonging to the County Council or District Councils you should, as part of the design process, contact the relevant officer dealing with Disability Discrimination Act compliance.

Dementia

The projected number of people with dementia in Lincolnshire is growing at a faster rate than the national and regional average. Current calculations suggest there are over 11,000 people with dementia in the county, a figure projected to rise to 13,500 by 2020. In order to ensure that people with dementia can continue to lead independent lives, and to enjoy using our streets, it is important to consider how this increasingly large group understand and navigate their environment, and to make it as easy as possible to do so.

For example, distinctive landmarks can help navigation of public spaces, as it helps people living with dementia to become familiar with the street environment.

Colour changes in surfacing can affect people with dementia: for example a darker coloured surface may look like a hole to someone with dementia, even if the levels are the same.

Reducing street clutter can also help people with dementia as it means that they have less information to

process while they are navigating a space.

Dementia Action Alliance groups: these groups are being set up in every district council area in Lincolnshire, and aim to look at a very wide range of issues affecting people with dementia and their families. The DAAs would be happy to give advice to practitioners on street design issues and how they may affect people living with dementia. For more information visit the website http://www.dementiaaction.org.uk/ , and for local contact details visit http://www.dementiaaction.org.uk/east_midlands. There is further guidance in the *Manual for Historic Streets* (EHTF, 2008)

Effective consultation is extremely important in achieving streets that are safe, and to engender confidence and independence within people with mobility problems, or visual, hearing and other impairments. All such difficulties need to be taken into account when designing and maintaining street scenes. It is important to remember that site and press notices are not helpful to visually impaired people and that additional means of communication, including local radio, talking newspapers and direct contact, should therefore be used for consultation purposes.

Design and specification issues relevant to accessibility can include:

- Tactile paving.
- Dropped kerbs.
- Bus stop infrastructure.
- The design and frequency of seating.
- Shared spaces (lack of kerbs).
- Surfacing materials (avoidance of uneven surfaces).
- Street clutter and badly placed objects.
- Changes in levels.
- Disabled parking provision.
- Footway gradients and crossfalls.

Examples of commonly occurring accessibility issues

Where dropped kerbs have been installed to aid in crossing a road, there must always be means of safely completing the crossing. This would usually be by means of providing a corresponding dropped kerb on the other side of the carriageway, and ensuring that dropped kerbs are flush with the carriageway.
When specifying, designing and installing seating, it must always be borne in mind that it should be as easy as possible, once seated, to stand up again.

Changes in level issues can arise from inherent site conditions, or from specific design proposals, particularly around entrances to buildings. Careful consideration should be given to the use of ramps and steps, and their gradients and arrangement. There are guidance documents with technical information, such as a Statutory Code of Practice published by the Disability Rights Commission (DRC), or *BS8300* and *Approval Document M* of the Buildings Regulations (see section 6.1.3, page 63 of the *MfS1*). Guide Dogs have commissioned extensive research on, and campaign for, improved accessibility for the blind and partially sighted. There is further information on the Guide Dogs website: http://www.guidedogs.org.uk/supportus/campaigns/streets-ahead/ (accessed October 2016).

3.4.2 Crime and fear of crime

It is a statutory requirement to consider the effects of street works on crime and fear of crime (Section 17, Crime and Disorder Act 1998, amended 2008). Community Safety Partnerships based in the County and District Councils can offer advice.

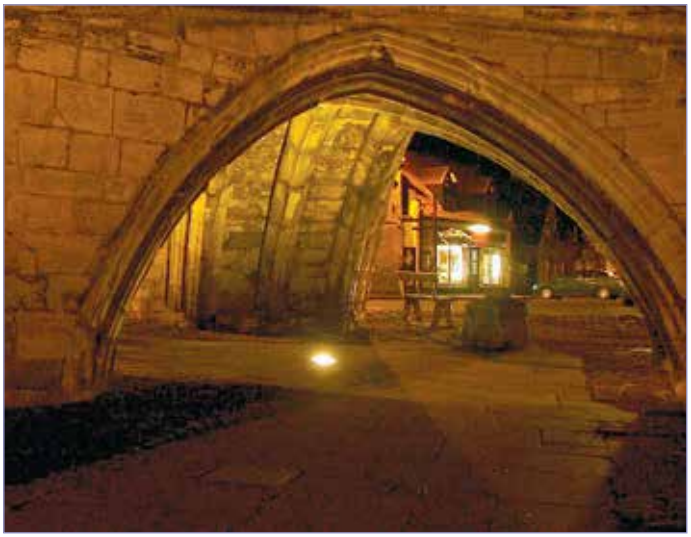
Issues to consider include quantity and positioning of street lighting, and other forms of lighting, like architectural lighting. There will often be conflicting aspirations for street lighting. In heavily used, high amenity areas and residential and village communities, there may be a demand for higher levels of street lighting, whether to address issues regarding crime and fear of crime, road safety, or to enhance the experience of evening and night-time use of streets in town centres. Street lighting is often used in conjunction with closed circuit television for dealing with civil order on the streets at night. This conflicts with other design aspirations, like minimising street clutter, and other environmental considerations like reducing use of energy and light pollution. These issues need to be considered together and assessed in the specific circumstances in question, so that a balance can be struck between these differing aspirations.

It is important to remember that the positioning and design of other types of street furniture should always be carefully considered in order to avoid creating potential hiding places that may exacerbate fear of crime. Conversely, maximising natural surveillance in public places could help alleviate these fears.

With that in mind, Local Authorities across the UK have introduced changes to street lights, including the use of LED, dimming and part night lighting, since

This illustration shows a typical high street in a market town. Illustration by Print Talk.

This illustration shows the same street, after decluttering. Note the removal of guard rails, rationalising of signage and the removal of the roundabout and attendant signage. See the case studies in Chapter 9 for examples of recent schemes where decluttering was an important objective. Illustration by Print Talk.



Trinity Bridge, Crowland. This is a medieval bridge which has had up-lighting installed as part of a program of refurbishment, to emphasise its architectural value. The lighting also eliminates shadows which addresses local fear of crime issues.

2007. Since then many Local Authorities, including Lincolnshire County Council, contributed their time and effort in providing the LANTERNS project with historic inventory data to enabled them to research the impact of part night lighting, part night dimming and the use of LED white light had on accidents and crime. The report summarises its findings as; There is no evidence that reduced street lighting is associated with increases in road traffic collisions or crime, dimming the amount of light or switching to white light/LEDs may reduce crime in an area and when risks are carefully considered, local authorities can safely reduce street lighting, saving energy costs and reducing carbon emissions, without impacting negatively on traffic collisions and crime.

The full report is available free of charge from the Journal of Epidemiology and Community Health.

3.4.3 Energy efficiency

The County Council is part of a Carbon Trust project which supports local authorities in realising the benefits of carbon management. Under the project the County Council has a five year Carbon Management Strategy and Implementation Plan, which aims to reduce the Authority's carbon emissions. The County Council is currently in its second Carbon Management Plan period (2013-18). The Plan has a target of reducing emissions by 22% from a 2012-3 baseline by March 2018.

In 2015/16 street lights and signs that consumed electrical energy were responsible for about 16% of the Council's carbon dioxide emissions. The cost of operating and maintaining these was around £5m in that same financial year. Following careful consideration of the need for street lights and signs, the consumption of energy throughout the life of the installation is taken into consideration when making decisions. Whilst economies in the cost of lanterns and lamps may be achieved, it is the whole-life cost, including the consumption and cost of electricity that is a prime factor when selecting equipment and light sources, and how and when they are used.

In addition to around 68,000 street lights and 10,200 illuminated signs, the County Council is responsible for other highway electrical equipment including real time bus information signs, reactive signs and navigation lights. The inventory is growing at an average rate of approximately 3% per annum. All of which have both positive (highway safety and information) and negative (light pollution, carbon emissions and street clutter) impacts on our streetscape.

Consideration should be given to using reflective signs, rather than illuminated signs, where either the Traffic Signs regulations permit this or special authorisation has been sought from the Department for Transport.

Street lighting policy

Whilst there is no statutory duty to provide street lighting at all locations, the prime purpose of County Council owned street lights is to provide light to the publicly maintainable adopted highway, based on traffic volumes and levels of use. Where street lights are provided, they

are operated in accordance with the Lincolnshire County Council Street Lighting Policy which has been approved through the political decision making process.

Lincolnshire County Council manages street lights to make sure they are efficient, sustainable and relevant for the county. It does so through a combination of lighting solutions, which have been introduced since 2015/16, after careful consideration at each location. These solutions include the use of dimming, part night lighting and, on occasion, full switch off. Where part night lighting is introduced the lights are set switch on at dusk and stay on until around midnight. They then switch off before coming back on at 6am (providing lighting levels require it) until dawn. These times, along with chosen lighting solutions, ensure that street lighting is provided at the times it is most needed, aligns with levels of use and ensures that the risk of causing inconvenience to, or affecting the safety of, the majority of road users is minimised.

3.4.4 Setting up partnerships and community engagement

This is something that will usually only apply to larger schemes rather than very minor works.

Creating partnerships can help with all aspects of setting up a street environment scheme. Relevant aspects include design, staffing, public consultation, bid-writing, administration, and financial contributions.

The process of formal community engagement can be time-consuming, but it is an essential part of the process, with the potential for saving money and time in the long-run, and leading to much greater customer satisfaction. This approach has worked well in Lincolnshire and elsewhere.

The following lists contain pointers that may help with the process of community engagement.

Do:

- Ask, do not tell.
- Listen.
- Understand that no one method will be suitable for all communities: each community should be treated individually.
- Use a co-ordinated approach.
- Try to engage young people through projects (for example a video diary).
- Recognise that all people are important, and the need to consult with diverse members of the community.
- Carry out an Impact Assessment on your activity to avoid having an unmitigated negative effect on any group, and to plan what consultation you might need.
- Get the community to generate ideas and ask the questions.
- Use a staged approach.
- Encourage project managers to understand the issues.
- Get involved with the community.
- Get groups to understand each other.
- Use best practice guidance, for example Lincoln University have produced *Active Learning Active Citizenship*.
- Ensure good information flow.
- Identify key community players – those people who are listened to by the community, but be careful not to over consult those individuals.
- Be honest and open from the start so you can manage expectation.
- Use community-led plans, such as parish plans or Place Checks as part of a holistic approach.
- Define the limits of the project.
- Create a market stall or go into shops to publicise options and plans.
- Go to where people are – chat, meetings in pubs, and so on.
- Ensure people know about timescales.
- Always be honest, especially about delays.
- Set up 'local companies' of local people to deliver.
- Include topic groups and parish and town councils carefully and in line with the Communities Scrutiny Committee's review of the relationships with parish and town councils.
- Feed back to communities.
- Celebrate each phase.

Do not:

- Use technical terms or technical drawings.
- Let groups or individuals dominate.
- Restrict consultation.
- Allow improvements or change to be used as the focus for other concerns, if possible.
- Go in with pre-determined ideas.
- Put off communities with presentations that are too 'professional'.
- Focus on the immediate funding.

The following groups, organisations and individuals may be able to offer help and advice:

Public seating in Heckington (designer: Ben Coode Adams).

Part of the memorial at North Thoresby, designed by the community with support from an artist (artist: Alan Potter).

The Regeneration Team in Economic Development: advice, including techniques on community involvement and groups to approach for some areas of Lincolnshire.

Schools: may wish to be involved in street scene design. The head teacher should always be the first contact and should be asked whether an appropriate member of staff could be involved – such as an art and design teacher. If an artist has been commissioned, they would usually contact the school to arrange activities centred around the bespoke features.

Just Lincolnshire: it will be important to ensure that those representing ethnic groups and religious groups are included, to provide an equal opportunity for those communities to comment.

Other organisations that could be consulted include: Accessibility Forums, Lincolnshire County Council Accessibility Officers, Guide Dogs organisation, Lincolnshire Visual Impairment Services, Seniors' Forums, Cycling groups.

District Councils should also be approached (for instance, Planners, Conservation Officers, those responsible for regeneration, Local Strategic Partnerships, and so on).

Civic Societies and Town Centre Managers should be consulted for the areas they cover.

developmentplus (formerly known as Lincoln Community Development Project) can help with advice about community neighbourhood audits.

There is further useful guidance in the *Manual for Historic Streets* (EHTF 2008).

Role of Lincolnshire County Council's Community Engagement Team

The Community Engagement team offers a wide range of experience and expertise. They provide advice and specialist support on the initial planning, implementation and evaluation of engagement and consultation projects – be it qualitative or quantitative, large or small, targeted to specific audiences or geographical areas. The team can assist in determining engagement or consultation objectives, refine questions, advise on the choice of method most appropriate to an engagement or consultation exercise and discuss the analysis and reporting of data.

By providing support and guidance to consultation practitioners, they help ensure that engagement and consultation by the County Council accords with legislation and best practice.

More information about community engagement, including the council's policy, can be obtained from www.lincolnshire.gov.uk

They can:

- Offer advice on appropriate wording to ensure your survey is in plain language and fit for purpose.
- Help you develop effective SNAP surveys that can be accessed by the public and/or staff.
- Provide you with up to date, corporately approved equality and diversity monitoring questions and support you to complete your Equalities Impact Analysis.
- Log your consultation on a community engagement calendar.
- Connect you with different groups who are carrying out similar consultations/ working with similar audiences so you can work together.
- Pass details of your engagement activity on to members of a database of community groups and individuals in the county which are happy to be consulted.
- Disseminate training to staff within your director area so they are able to deliver the activity themselves (where capacity allows).

Consultation is not always necessary; sometimes a programme of engagement will work better. Engaging people builds relationships, gives you greater flexibility and does not leave you open to legal challenge in the same way that consultation can. There are some circumstances where you must consult and the community engagement team or legal services can help you decide if this is the case.

If you wish to contact the community engagement team please email us via Consultation@lincolnshire.gov.uk

3.5 Seeking funding

It is recognised that some of the principles in this document will inevitably add to the cost of schemes and their subsequent maintenance. Therefore it may be necessary to seek alternative sources of funding, often by means of partnerships, for example with District Councils. It can often be better to have several funding streams as demonstrating widespread support can attract further funding.

There are a number of funding bodies that potentially could part-fund schemes, subject to application and approval processes.

Details can be found on the funding pages of LCC Connects, and funding advice can be sought from Enterprise, Lincolnshire County Council.

4. Design Principles

4.1 Check list for design process

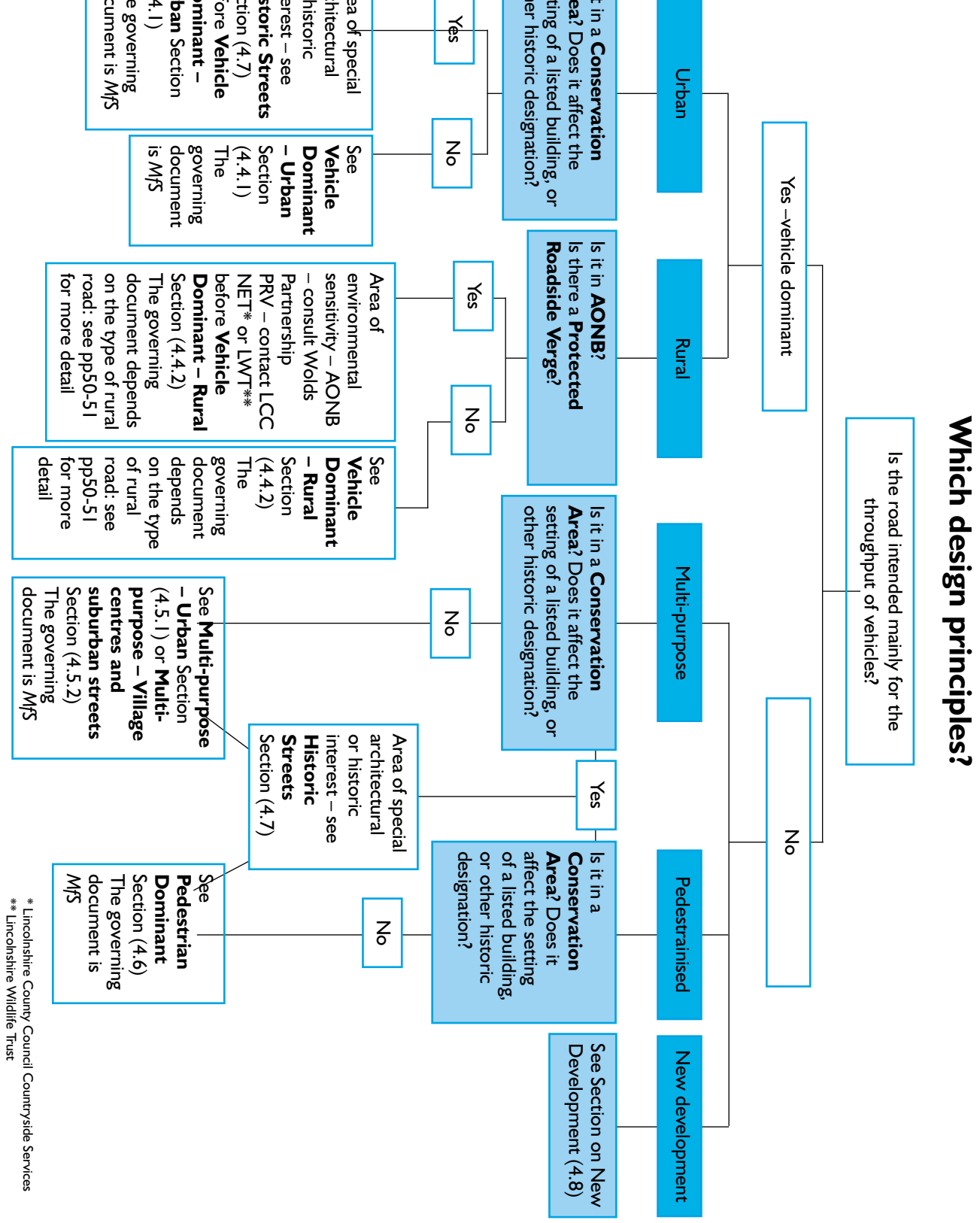
The following is a checklist of aspects of design and maintenance to consider. Not all works will be of sufficient scale to warrant action on all of these. Remember to consult the relevant Conservation Officer where works are taking place in a Conservation Area or near to a listed building. For works which will affect a Scheduled Monument contact Historic England. See Section 3.1.8.

Assess scale of the works	Are the planned changes to the street environment substantial? What is the likely impact on the local community? Are there opportunities for involving the local community?
Level 2 – Full Street scene Audit	See Section 3.1. A street scene audit should be carried out if the scale of the works means that this would add value to the outcome of the works.
Level 1 – Short Street scene Assessment	See Section 3.1. If a street scene audit has not been carried out, and the works are very small scale, then a Short Street Scene Assessment should be carried out.
Assess use of the street	Information about how the street is currently used, and the layout of streets should be available in the street scene audit. Once this has been determined, you can turn to the relevant design principles. The flow chart 4.2 will help to determine which design principles to use.
Design Brief or Access and Design Statement	See Section 4.3.3 See Section 4.8
Setting up of partnerships and Design Forum	See Section 3.3.4 and 4.3.4
Involvement of landscape architect or urban designer	See Section 4.3.1
Involvement of artists	See Section 5
Potential sources of funding	See Section 3.4
Workshops Community consultation	See Section 3.3.4 See Section 3.3.4
Community involvement	See Section 3.3.4

Accessibility:	
disability issues	See Section 3.3.1
walking	See Section 4
cycling	See Section 4
vehicles	See Section 4
Crime and fear of crime	See Section 3.3.2
Highway and footway geometry	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Traffic Management/ Traffic calming	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Surfacing materials	See Section 4.3.6-8
Street Furniture	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Signage and road markings	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Traffic signals	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Trees and planting	See appropriate parts of Section 4 Use the flow chart 4.2 to determine this.
Risk Assessment	
Publicity:	
celebrating success	See Section 1
as a tool for helping to manage risk	See Section 8
Monitoring of success	See Section 6
Maintenance	See Section 7

4.2 Flow chart for design principles

The following is a flow-chart which is intended to help establish the appropriate design principles for street works.



4.3 General Principles

4.3.1 Introduction

Because the nature of streets is so varied, and consequently opportunities for flexibility in design terms is also variable, three broad categories of street environment have been identified: vehicle dominant, multi-purpose streets, and pedestrianised streets. Also included in this chapter are sections on historic streets and streets in new developments. Within each of the broad categories further road types are identified, to which different approaches are required.

Use the flow chart opposite on page 42 to decide the type of street or road which is being considered; then turn to the appropriate section in Chapter 4.

They are:
4.4 Vehicle dominant; Urban (Section 4.4.1) and Rural (Section 4.4.2)
4.5 Multi-purpose streets; Urban (Section 4.5.1) and Village centres and suburban streets (Section 4.5.2)
4.6 Pedestrian dominant
4.7 Historic streets
4.8 New development.

It should be remembered as a general principle that features (including traffic calming solutions) should not be added to a street scene, unless they can be strongly justified for safety, aesthetic or functional reasons.

In order to achieve high quality, holistic, uncluttered street scenes it is vital that the specialist teams work together. Teams responsible for street lighting, signs and markings, traffic signals and bus stop infrastructure can work together to combine these elements of the street scene. For example, traffic signals and signs could be mounted on street lighting columns, or signs mounted on traffic signals, and so on. An integrated approach can also be applied to the maintenance of these elements.

The information on which to base some of the decisions about the design of the street scene should have been gathered through either the street scene audit, or short street scene assessment.

A rational approach to street scene aesthetics will involve considering the combinations of scale, massing, proportions, textures, colours, shapes and lines that are present in streets. Knowing how use of these attributes

A one-way sign has been mounted on a lighting column in the recently completed Market Place Scheme in Gainsborough.

Maid Marian Way, Nottingham. Note the street lighting column, with traffic signals attached, to the right of the image. Note also the lack of pedestrian guard railing.

can influence the street scene will be vital if high quality street environments are to be achieved. Such design expertise must be readily available to the Directorate either in-house or via, for example, a partner organisation or consultant.

4.3.2 Impact and scale of works

The anticipated impact of proposed works will obviously affect the nature of the consultation process, say, for example, on the depth of community engagement. Impact will depend, not necessarily on the overall physical scale of works, but more often on the relative scale and intensity of works in relation to the local environment. For example, the installation of build-outs, traffic islands or public art in a village may require more intensive and sensitive community engagement than similar works in central Lincoln or the bigger market towns.

Where funds are not sufficient to achieve all the desired objectives an alternative approach to improvements might be to phase the changes, or in a piecemeal fashion, or a mixture of both. This could include improving crossings, de-cluttering, reducing speed limits (which must be in accordance with the County Council speed limit policy) and so on.

Where there is a desire to ultimately recreate the street, the stages to achieve this could be as follows:

- Tidy up;
- De-clutter(see also Section 3.1.7);
- Relocate/merge functions;
- Rethink traffic management and highway geometry;
- Recreate the street.

More guidance on this process is in Section 4.3 of *MfS2*.

A great advantage of taking a phased approach (as well as cost benefits) is that it can demonstrate to street users what can be achieved, and thus garner support for future phases. It can also help to attract further external funding.

Where the aim of the scheme is primarily to improve road safety, there is useful guidance produced by DfT in *Local Transport Note 03/08*. This guidance has been produced following The Mixed Priority Routes (MPR) Demonstration Project, which was launched in 2002 and shows how roads included in the scheme can be made safer and more pleasant for pedestrians, cyclists and motorists alike.

4.3.3 Construction (Design and Management) Regulations 2015 (CDM 2015)

The Construction (Design and Management) Regulations 2015 (CDM 2015) came into force on 6 April 2015, replacing CDM 2007. The accompanying publication, available on the Health and Safety Executive website, provides guidance on the legal requirements for CDM 2015 and is available to help anyone with duties under the Regulations. Both clients and designers of highways schemes have duties under the Regulations. The guidance describes the law that applies to the whole construction process on all construction projects, from concept to completion; and what each dutyholder must or should do to comply with the law to ensure projects are carried out in a way that secures health and safety.

4.3.4 Shared space

Shared space is a design approach whose purpose is to enable pedestrians to move freely through the street environment by reducing the dominance of motorised vehicles, and is a much less formal environment than conventional street layouts. The DfT definition of shared space is: 'A street or place designed to improve pedestrian movement and comfort by reducing the dominance of motor vehicles and enabling all users to share rather than follow the clearly defined rules implied by more conventional designs.'

Extensive research has been carried out by MVA Consultancy into the ways that shared spaces operate and how street users' behaviour is influenced by them (MVA Consultancy for Department for Transport, 2009). This is summarised in *Shared Space*, Local Transport Note 1/11 (DfT, 2011), and this guidance has been referenced extensively in this section.

A definitive shared space design does not exist, as each site is different: the way a street works depends on many individual characteristics and how those characteristics work together.

A level surface is a street surface that is not physically divided by kerb or level differences into areas for particular uses, such as segregating pedestrians and vehicles. Level surfaces are a feature of some shared space schemes, but it is important to note that not all parts of a level surface are necessarily shared as other features can be used, such as street furniture, to physically prevent vehicle access. Not all shared space

schemes will have a level surface (see the **Boston case study** in this document for a Lincolnshire example).

A review of available accident data before and after the introduction of shared space suggests that there is no evidence one way or the other that shared spaces are safer (TRL Limited (on behalf of Transport for London), 2006).

Benefits

The shared space approach can be used as a means of improving quality of life, visual amenity, local economic performance and environmental quality, rather than as traffic schemes. In other words it is a compromise, designed to accommodate rather than exclude users, and allows the re-assertion of the street's 'place' status. They can allow greater freedom of movement for pedestrians, improve social activity and thus create greater economic vitality.

There is evidence that well-designed schemes can be very beneficial in some urban and suburban streets. They can encourage lower vehicle speeds, by creating a more uncertain driving environment, and creating a far more equal balance between all street users. Consequently the street environment should feel safer for most pedestrians and cyclists, and make moving around easier for them. This in turn should promote social interaction, and also allow pedestrians to progress through the street in a more leisurely way than they might otherwise do.

They also have the advantage of still allowing vehicular movement through the space, this avoiding the need to find alternative routes for traffic, as may be necessary with schemes that involve pedestrianisation.

Reduced vehicular activity is attractive to cyclists, particularly where vehicle speeds are 15mph or lower, as motor vehicles are more likely to give way to cyclists. Concerns have been raised at mixing cyclists and pedestrians in shared spaces, but the research by MVA Consultancy has shown that cyclists are more cautious in shared spaces and will give way to pedestrians, or ride around them.

Sharing may be facilitated by:

- Introducing physical and psychological features that encourage lower vehicle speeds
- Removing any implied priority of vehicles over pedestrians in the carriageway
- Reducing demarcation between pedestrians and vehicles (removing kerb lines, for example)
- Introducing features, not necessarily confined to the sides of streets to encourage pedestrians to use the space more (seating, public art, outside café areas, for example).

Drawbacks

The principles of shared space have many benefits for users of streets in town centres. However, they can create problems for those with disabilities, particularly those with visual impairment. The needs of people with disabilities will need to be carefully considered as part of the Equality Duty (see Section 3.3.1 Accessibility).

Research by MVA Consultancy has shown that visually impaired people most often use the building lines on streets to navigate their way around streets. Kerb lines too, can be a means of navigation. The same research examined driver and pedestrian behaviour in shared spaces, and came to the conclusion that street users do not communicate overtly through eye contact, as has previously been suggested. Rather, driver behaviour is influenced by a combination of the street environment looking and feeling different to a conventional street, and what they anticipate pedestrian behaviour is going to be, and their interpretation of that behaviour (DfT, 2011).

Therefore the introduction of shared spaces should be carefully considered in consultation with groups who represent those with visual impairment and cognitive impairment. There are representatives in Lincolnshire of the Guide Dogs Organisation and Lincolnshire Visual Impairment Services who are willing to assess schemes for suitability for those with visual impairment. Local Dementia Action Alliance groups are happy to give advice on this and other issues affecting people with dementia.

Where and how they work best

The shared space approach to design should only be considered where it is going to be used, and not pursued for its own sake.

Shared spaces work best where traffic speeds and volumes are already low and where there is high pedestrian demand. They may be most useful at junctions

and squares where pedestrian desire lines are most diverse. They may also be appropriate in cul-de-sacs.

It is an approach that is often applicable where buildings fronting the street have a strong heritage or cultural significance and where pedestrian footfall is high (this was the case in Boston Market Place: see the case study in this document).

A study of public transport in London concluded that there is a self-limiting factor on pedestrians sharing space with motorists of around 100 vehicles per hour (*MfS*, page 83), although this should not necessarily be treated as the upper limit, as places with greater traffic flows have successful shared space schemes (DfT, 2011). The research carried out by MVA Consultancy (2009) has expanded this slightly to suggest that the optimum environments for shared space are where:

- Flow is less than 50 vehicles per hour at 30 miles per hour
- Flow is less than 100 vehicles per hour at 25 miles per hour
- Flow is less than 200 vehicles per hour at 20 miles per hour

Like shared space, a level surface should not be a design objective in its own right: it could be used if it helps to achieve the vision and purpose of the scheme. Level surfaces may not be suitable where vehicle speeds are high; in some Conservation Areas where kerb lines are desirable for the historic context of the scheme; and the implications for drainage need to be considered.

Where a level surface is to be installed the underlying construction needs to be considered carefully. All surfaces where vehicles are able to access should be able to take their weight.

Drainage also needs careful thought, as level surfaces may need new and additional drainage gullies. Excessive crossfall on pedestrian desire lines should be avoided. It should be ensured that surface water will drain and ponding is avoided. Linear drains could be located next to linear tactiles. Block paving offers opportunities for a permeable drainage surface.

Designing shared space:

Design speed

The surfacing should be different to that of the surrounding conventional streets, to indicate to street users, drivers in particular, that they are entering an area in which they might encounter a different street environment, with other street users behaving in alternative ways to those which are usual. These materials don't have to be costly. If expensive materials are to be used these could be confined to limited areas, like entry points and approaches to courtesy crossings.

The desirable design speed within the area of shared space should be no more than 20mph, and as low as 15mph where possible. This encourages cooperation of street users and challenges the assumption that segregation improves safety. The research by MVA has shown that reducing speeds encourages more sharing, and this in turn leads to further reduced speeds. Drivers are more attentive and cautious in shared spaces, and are more likely to give way if pedestrians are the dominant, or equal, user group in the street.

Lower design speeds can be achieved through introducing features and events that cause drivers to reduce their speed and become more aware of their surroundings. This could be through the use of static features, such as street furniture, or by encouraging more pedestrian activity. Rest areas and street cafes would encourage both pedestrian activity and lower vehicle speeds. Take care that when placing street furniture that it will not obscure pedestrians from motor vehicles.

Shared space will often reduce vehicle flows by often increasing journey times, but this could be encouraged further by changing the surrounding vehicle network.

There should be an emphasis when designing schemes using a shared space approach on stakeholder engagement and inclusive design.

When carrying out a Quality Audit for a scheme that is designed using the shared space approach, it may need a traffic management audit in order to understand the effect on traffic movement patterns and journey times. Temporary interventions could be used to test theories about traffic movement.

Space allocation

Shared space can be used to accommodate many various uses in a far more flexible way than conventional streets, particularly where space is limited. It most instances where space is limited, parking should be the first element to be removed (with the exception of disabled parking).

The following elements of street functions may need to be accommodated or considered:

- Pedestrian movement
- Places to socialise
- Pedestrian comfort space
- Events
- Vehicular movement
- Parking and loading
- Bus stops and bus routes
- Taxi ranks
- Market stalls

Early consultation in the design process with those who manage these aspects of the street environment is vital.

Comfort space

Suitable provision should always be made for vulnerable road users.

For those people, the shared spaces that are most accessible are those where there are areas that are clearly pedestrian-only and motor vehicles are unlikely to be present, while the rest of the space is shared, and this is known as 'comfort space' (*MfS2*, DfT, 2011). Comfort space is useful for most disabled people and older people, but is best for those who are visually impaired.

Pedestrians often like to walk near the building line, whilst drivers tend to occupy the centre of a street. This can be reinforced by using street furniture, so that the edges of the street can be used as comfort space.

There needs to be careful consideration as to whether comfort space is really needed as part of the design. It may be that the space already provides it in the form of a shopping colonnade, for example. They are only needed in schemes that have a level surface, and they may not be necessary in really quiet streets and where the building line is clear.

Comfort space should be uninterrupted between junctions and connect to suitable crossing points.

Its delineation could be provided by tactile strip, bollards and other street furniture. It could even be non-existent where vehicles are some way from the comfort space. There could be a combination of these where appropriate. Where the need for its installation is felt to be borderline, it could be excluded, and the situation monitored, and installed if necessary. This would need to be taken into account during the design process, and space allowed for this.

Research has been carried out as part of the development of the Exhibition Road scheme in London, and it has shown that the best type of tactile paving to use as a delineator between the notional carriageway and comfort space is corduroy paving. Corduroy paving conveys 'hazard, proceed with caution'.

Corduroy paving that is 800mm wide could be detected by blind and partially sighted people, whilst at the same time not being a barrier to those with mobility impairment. The research also showed that the width could be reduced to 600mm while maintaining effectiveness.

The corduroy paving should change to blister paving at crossing points.

The 'ladder grid pattern' is one that is followed in conventional streets, and it is a pattern that visually impaired people prefer. It allows building lines to be followed with crossings at right angles, which reduces pedestrian interaction with traffic. If comfort space is provided, it may be necessary to maintain the ladder-grid pattern, and the building lines and crossing points will need to be kept as unobstructed as possible.

Other considerations for provision for vulnerable street users

The placing of street furniture and other features in the street scene will need to be considered to avoid street clutter. This is particularly important along the building line, which is the main means of navigation by the visually impaired. The legibility of the street environment is very important for those with cognitive impairment, and keeping street clutter to a minimum, and the use of distinctive landmarks can help with this.

Temporary obstructions in the street, like A-boards, are particularly difficult for those with visual impairment to negotiate, as they cannot be 'learned'. Tonal differences are also important for this group, and so complicated surface patterns can be confusing and disorientating.

Consideration needs to be given to how the scheme will operate at night. If the scheme uses colours to identify different areas, are the colour differences apparent at night, and are they altered by street lighting? (TRL Limited (on behalf of Transport for London), 2006).

It is really important to discuss all the possible changes with accessibility groups, to listen to their concerns and

act upon them, and to keep them informed about the progress of the scheme.

Transition to shared space

Gateway features can be used where entry point speeds are likely to be in excess of the design speed within the shared space area, as a means of reducing traffic speeds by indicating a change in environment. They could also be used for aesthetic reasons.

The transition into shared space could be in the form of:

- A reduction in road width
- Visual narrowing
- Portal feature
- Raised table
- Change in material
- Signing

Crossings

Crossings in shared spaces tend to be uncontrolled. Uncontrolled crossings can help to reduce vehicle speeds by making pedestrian movements more unpredictable and therefore making driver behaviour more cautious.

Courtesy crossings can be highlighted by:

- Tonal contrast
- Bollards (used sparingly)
- Raised table
- Local narrowing (pinch points)
- Different textures on approaches

As research has shown that those with visual impairment use building lines more than other elements to navigate the street environment, consideration should be given to locating crossing points where the buildings and their massing are distinctive and have a 'presence'. This will help make the street environment as legible as possible, and will therefore also help those with cognitive impairment.

It should be remembered that pinch points can be dangerous for cyclists: however, speeds should be low in shared spaces so considerably reducing the risk to cyclists.

If different materials are to be used on the approaches to courtesy crossings, these materials should not extend over the crossing itself if they are difficult to walk on. The surfacing on the approaches to courtesy crossings need to be safe for vehicles and cyclists. If surfaces are uneven having a smooth strip for cyclists and motorcyclists should be considered.

Parking and loading

Both these functions need to be carefully considered as part of the design. They can mean more hazards, particularly for the visually impaired, by creating more vehicles movements and clutter (parked cars and signs, for example).

However, disabled parking spaces and loading areas should be included. Areas for deliveries should be close to their destinations and provide easy access to buildings.

Parking should not be allowed to encroach into a scheme's comfort space, although parked cars could be used to demarcate pedestrian space. It is desirable that parking is managed sensibly in shared spaces, to avoid poor parking behaviour.

Seating

Plenty of seating should be provided in shared spaces at regular intervals.

Signage

Signage should be kept to a minimum in any scheme, but it may be that extra care is needed in some shared space schemes, as this could be a fundamental part of the design.

Monitoring

The success of shared space can be measured by several indicators, and they should be monitored after completion.

Indicators for success include:

- The number of pedestrians occupying the carriageway
- Increased social and leisure activity
- People lingering in the street
- Drivers and cyclists giving way to pedestrians
- Pedestrians crossing the street at locations, angles and times of their choosing
- Drivers and cyclists giving way to one another.
- Commercial uplift

To be able to make comparisons these indicators will need pre-scheme data, some of which could be collected through the Quality Audit process.

There is further useful information on shared spaces,

what they can achieve, and how success can be measured in shared space schemes in the report on the Appraisal of Shared Space, produced by MVA Consultancy in 2009, commissioned by the Department for Transport, and in the DfT *Local Transport Note 1/11: Shared Spaces*, November 2011. Also refer to MfS2, Section 2.9.8.

4.3.5 Visibility

Chapter 10 in *MfS2* contains comprehensive guidance on junction design and stopping sight distance (SSD). This guidance is based on the latest research and reviews of research, and the results of public enquiries since the publication of *MfS1* in 2007.

Visibility at priority junctions

One of the most significant findings of the research is that on roads where the 85th percentile traffic speed is around 37mph or less, visibility at junctions which is less than SSD does not increase numbers of collisions.

The ability of the driver to stop in time to prevent a collision is influenced by more than just what is happening in a side road, and these other factors need to be taken into account.

The fact that increased forward visibility can lead to increased speeds also needs to taken into consideration. It may be desirable to reduce forward visibility in some instances.

In summary, visibility at junctions can be reduced to below SSD on roads where the 85th percentile traffic speed is 37mph or less, and this is unlikely to cause an accident. This would apply then to most roads where the speed limit is 30mph and some 40mph areas.

However, this is not recommended for roads where the 85th percentile traffic speed is greater than 40mph, as research shows that the reverse is true for those roads: that is, that visibility at junctions which is less than SSD does increase the number of collisions.

It is important that practitioners follow the guidance on this matter that is set out in Lincolnshire County Council's **HAT 34**: Design Standards and Departures for Highways Schemes (Improvements, Maintenance and Developments). This guidance recommends that the guidelines for SSD in DMRB be used in areas where the 85th percentile is greater than 40mph. HAT 34 reflects the guidance which is set out in *MfS2*. It should be emphasised that HAT 34 requires that the design speed (as defined in the DMRB's TD9) used for a scheme should not be taken as less than the actual speed limit.

Visibility along the street edge

The absence of wide visibility splays at vehicle exits across footways could help to reduce vehicle speeds as they emerge. However this may not be appropriate in all cases, therefore it is recommended that practitioners take into account:

- The frequency of vehicle movements
- The amount of pedestrian activity
- Width of the footway

Where boundaries are to be installed consideration could be given to using railings, rather than walls, to increase visibility without increasing the splay of the access.

Natural stone setts used in the area of Boston Market Place, within the Conservation Area (See section 4.3.6 Materials).

Granite setts and kerbing have been used in a recent scheme in the centre of Binbrook, which is also a Conservation Area, and in the Lincolnshire wolds AONB. (See section 4.3.6 Materials).

Historic blue brick kerbing and drainage, Woodhall Spa, in a Conservation Area. These should be retained wherever possible, and where replacements are necessary, these should be sympathetic. Care should be taken when resurfacing the road that this type of feature is not damaged or covered up.

4.3.6 Materials

Where possible historic materials should be retained, and new materials need to be sympathetic to their context, particularly within Conservation Areas. However, this need not limit consideration of the many different choices of surfacing and other materials that are available (see Contemporary Design section 4.3.9).

The design of new schemes often provides a chance for more innovative use of surfacing. For example, using decorative inclusions in tarmac can be very effective.

When selecting materials consideration should be given to whether the material is suitable for its proposed purpose, including whether it is sympathetic in historic areas, or other sensitive area, and its durability. Opting for low-cost materials may prove to be a false economy if those materials are not durable or start to look dilapidated over time, and need frequent maintenance or replacement.

Different palettes of materials could be identified for neighbouring areas of differing character, in order to maintain a sensitive balance between the character and the use of the street.

The materials used on access covers should be the same as the surrounding materials, unless there are strong reasons why this would not be possible. One such reason could well be Health and Safety issues; consideration of these should be paramount.

4.3.7 Laying of surfacing

The choice and laying of surfacing can make a significant contribution to the quality of the street scene. The advantages of getting this right include:

- Appearance of the finished scheme.
- Durability.
- Ease of future maintenance.

Design

The Code of Practice Highway Works: Standards, Materials and Testing gives details of the materials that can be used within the county. Within the options available the following will need to be considered:

- Workability: stiff materials may be more durable but may be difficult to lay in confined spaces.
- Colour: strong colouring should be used sparingly, normally as a safety aid but aggregate can be used to give subtle colouring.
- Texture: coarse textures can provide a less urban feel but will be noisier.
- Utilities: Where high quality expensive surfacing is planned consideration should be given to diverting utility plant from the area. If this is not feasible then discussions with utilities should take place to encourage them to carry out work that will reduce the likelihood of them needing to disturb the surface.
- Durability: in most cases a long lasting durable material will provide a preferable solution than one that is more aesthetically pleasing when first laid but which deteriorates rapidly.

The Strait, Lincoln. The surfacing materials used add a great deal to the character of this historic street, and are being retained and maintained.

Access covers located in Gainsborough Market Place. Note the decorative pattern used to lay the setts.

Whole life costing

Guidance has been produced by Atkins, on behalf of ADEPT to help with calculating the 'whole life cost' of materials.

This guidance will help practitioners to:

- Evaluate competing maintenance options over a defined period of time;
- Have an awareness of the life-cycle costs of different maintenance options(which could include commuted sums);
- Demonstrate the long-term performance and economic implications of alternative treatment strategies.

Construction

For areas of particularly high value (financial or amenity) the requirement for a high quality of workmanship should be reinforced at pre-contract and pre-start meetings. The need for an experienced workforce is vital. The construction works should be planned to reduce the numbers of joints to a minimum.

Post Construction

Ideally the design will have ensured that there will be no problems when carrying out routine maintenance operations. The expectation must be that street cleaning will take place with suction equipment and the finished product should be capable of withstanding this.

Use of level surface and complementary materials has created an attractive street scene in Lord Street, Gainsborough.

4.3.8 Ensuring quality of workmanship

Attempts should always be made to ensure all projects are constructed to the highest possible standards. The advantages of ensuring high quality workmanship include:

- Appearance of the finished scheme.
- Durability.
- Ease of future maintenance.

Design

Obtaining a high quality product depends on design as well as construction. It is important that the design is carried out by an experienced designer who takes great care to consider the three points listed above. This will require a high level of attention to detailing, for example treatment of street furniture, material type colour and dimensions, drainage, horizontal and vertical design, dealing with manholes, ability to carry out future maintenance. The contract documentation should ensure that the contractor is fully aware of the importance of all of the design features. Consideration could be given to constructing a trial panel to show contractors the standard of workmanship required. The trial panel would need to be separately procured.

Scheme Procurement

Highways schemes will normally be procured through either the Highway Term Maintenance Contract (HTMC) or by a scheme-specific tender.

It will always be beneficial to enter into early discussions with the client (i.e. the infrastructure commissioner in the first instance) to discuss individual schemes. They will be able to offer advice on design, materials, and so on. and may also be able to ensure the work is carried out by a gang experienced in the type of work proposed.

Tender

If the street enhancement work forms a significant element of the scheme it will be worthwhile identifying companies with proven experience of this type of work. This can be done by sending out a pre-qualification questionnaire to all of the companies on the Directorate's appropriate standing list asking them to provide details of similar schemes with names of client contacts who can be contacted to confirm the contractor's competency.

Construction

The requirement for a high quality of workmanship should be reinforced at pre-contract and pre-start meetings. The need for an experienced workforce is vital. If a trial area has been specified then this should, if possible, include all of the likely elements of a scheme, such as changes of gradient, cut slabs, treatment of slabs around street furniture, and so on. One of the most important decisions made on site is the client's acceptance of the first element of the scheme. This will become the benchmark for the rest of the scheme.

Post Construction

Ideally the design will have ensured that there will be no problems when carrying out routine maintenance operations. The expectation must be that street cleaning will take place with suction equipment and the finished product should be capable of withstanding this. It will be necessary to consider if a manual is required to cover future maintenance requirements. Consideration should be given to purchasing additional materials at the time of construction to be held in the divisional store for future maintenance needs.

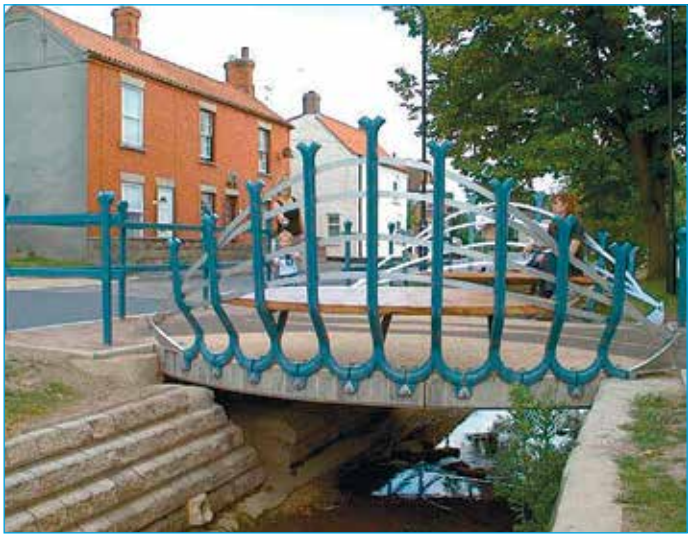
4.3.9 Contemporary design

In relation to the public realm, the idea of contemporary design could be dismissed by some as being inappropriate, particularly for historic environments.

'Contemporary', however, need not mean ultra-modern; it can simply be about good quality design (of both layout and choice of materials). Close attention to detail and a respect for the 'sense of place' can see new features successfully integrated with existing - regardless of whether they are in a historic setting.

With regard to surface materials, tarmac is often used in a highway situation and sometimes in other public spaces, for its cost effectiveness and reparability. When an opportunity arises to 'upgrade' an existing surface treatment, York stone is a consistently popular suggestion by the general public based on its seemingly historic merits. Although the reality is that many of the county's town and village centres would originally have been little more than dirt tracks. This view may discourage the consideration of other materials. There are many alternatives – both natural and manmade – which can contribute to a good quality scheme: other natural stone such as granites and slates; clay paving; or resin bound gravel containing either natural aggregates, or synthetic materials such as crushed glass.

Concrete products have improved in recent years and can sometimes be an appropriate choice. In addition, many techniques can be applied to natural paving which produce different surface finishes (such as the flaming process which gives a subtle colour and texture change) to a range of mechanical processes which alter the texture.



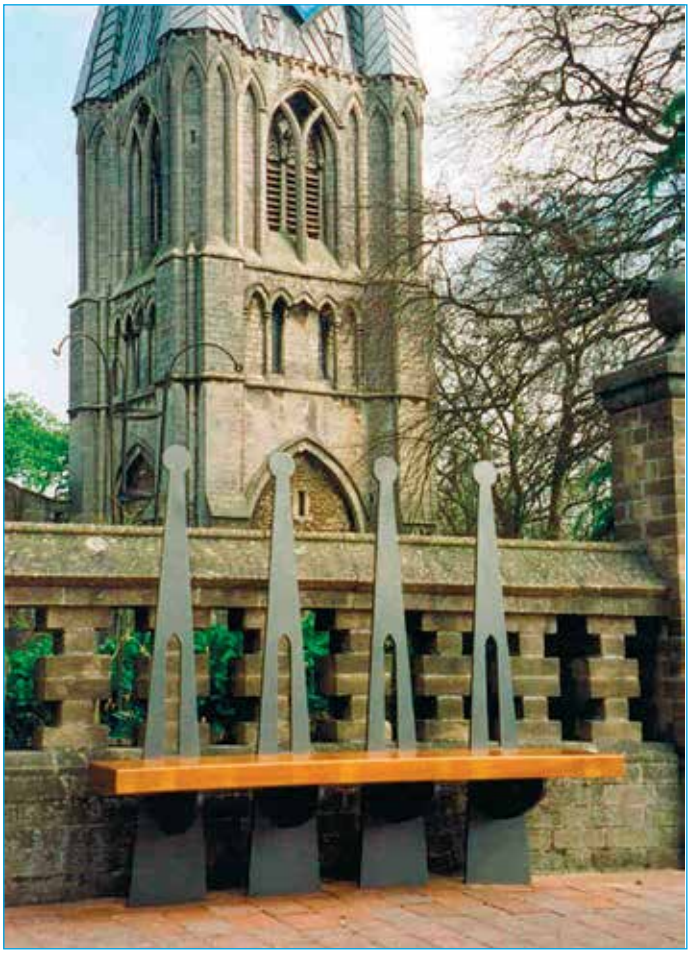
- Ruskington centre. One of several bespoke bridges along the beck (artist: Arts West End).

- Chapel St Leonards. Reinvention of the village green based on the theme of an 'ocean liner'. Features include a working bell tower (artist: Michael Trainor).

- St Mark's shopping centre, Lincoln. A simple layout together with carefully chosen hard and soft landscape materials results in a good quality space.

- Church Gate in Welton. The involvement of an artist or craftsperson can bring sensitive solutions to historic situations (artist: Richard Bett).

- Stainless steel elements used in conjunction with natural materials such as stone and wood at Sheepwash car park, Branston (artists: artsNK).



- Seat at Long Sutton Market Place. Shows contemporary furniture design which acknowledges nearby architecture (manufacturer: Alan Dawson Associates).

- Porphyry (granite) paving in Coningsby town centre; attractive laying pattern using a combination of sizes.

- Interchange, Market Street, Long Sutton. There are several examples of these bus shelters in the larger settlements in Lincolnshire. They are of high quality design and construction. They contain large amounts of glass, partly to aid their integration into their surroundings, but also for those who use them to have high levels of visibility for a feeling of safety. Each of the Interchanges has different roofing materials which have been inspired and derived from the local architecture.

- Surfacing at Sheepwash car park, Branston. The buried sheepwash has been interpreted in the new surfacing, using a mix of original and new materials.

The market has become increasingly aware of the need for durability and compliance with standards for skid resistance, and so on, so that practical concerns are less of an issue.

Bespoke features are increasingly incorporated into public realm schemes. Again, the style of these and the materials used will determine whether they are viewed as highly contemporary, but quality is the key factor.

Often visual cues can be taken from the surroundings or references made to themes, legends or history and these can be incorporated into paving, street furniture, bespoke features and public art. On the other hand, design may not concentrate overly on existing features if it is not deemed relevant to do so. Instead, creating a memorable experience for users might focus more on the textures, shapes and colours of elements such as paving, planting, lighting, seating and so on. Whatever the balance, it is important to find the most appropriate solution for each situation.

A common misconception is that black is the most appropriate and traditional colour choice for street furniture. Evidence suggests, however, this is a sentimental myth relating to the period of mourning following Prince Albert's death. Lead carbonate-based paints would have been used during this period, and black lead carbonate-based paints would not dry. In fact, various colours have been found on historic ironwork. In the first half of the nineteenth century 'invisible' greens (so called because they would blend into a background of foliage) were used for fences, gates, railings and garden furniture. Green continued to be used in the mid Victorian period but dark blue, red and chocolate brown were also popular. So what may be perceived as a more contemporary colour scheme might not be as bold as it seems.

It ought to be remembered that our heritage continually evolves. What can be termed as historic or traditional is relative, as the present-day will ultimately become part of the past. This presents an opportunity to consider how, through the use of good design, public realm schemes can incorporate something of the here and now.

4.3.10 Accessibility for people with disabilities

It is vital that accessibility and comfort for people with

Pedestrians safely crossing Silver Street, in Lincoln's Cultural Quarter. Silver Street is a one way street, which allows for safe crossing just along from a controlled crossing without the need for guard railing. Note the continuation of the same surfacing materials from the pedestrianised areas across the crossing, but using slightly different sizes of setts laid in a different pattern to highlight the crossing area. The tactile paving is also using matching surfacing material.

Gainsborough Riverside Walk. In this case the installation of guard rails was deemed to be necessary. However, a distinctive design has been used, using high quality materials to complement the design and materials of the rest of the street furniture along the Riverside Walk. Either side of the crossing, on the carriageway, different materials indicate to drivers to slow down for the crossing. The crossing itself follows the pedestrian desire line, and draws pedestrians into the shopping areas in the centre of Gainsborough. It also has well-maintained trees, which are an appropriate species in terms of size and shape for the area.

disabilities is carefully considered when changes to the street environment are proposed. The range of issues around disability should be borne in mind, including: allowing adequate space for those who use wheelchairs, for example on footways and in parking bays and dropped kerbs on desire lines; visual or tactile navigational clues for those with visual impairment; slope and footway gradients for those with mobility impairment; and a general sense of feeling safe, confident and comfortable in any street environment. For more detail and guidance see Sections 3.3.1 Accessibility and 3.1.5 within the section on Quality Audits.

Consultation with people with disabilities throughout the design and implementation of schemes is crucial to ensure that the finished scheme does not cause unnecessary and avoidable difficulties and anxiety for those with disabilities. For more detail on consultation see Section 3.1.7 Accessibility Surveys.

4.3.11 Guard rails

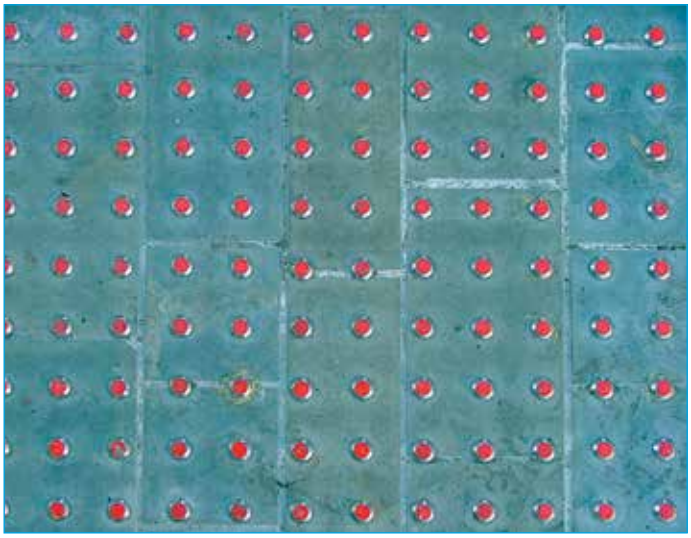
Issues around the current use of guardrails

Guardrails are used in many situations for channelling pedestrians and cyclists for safety reasons. Those that are installed at pedestrian crossings and road junctions are those which are more likely not to serve a useful purpose, and to be a cause of street clutter and unnecessary inconvenience to pedestrians and cyclists.

The use of guardrails, particularly where they are heavily used, segregates traffic and pedestrians, thus benefiting traffic flow and increasing traffic speeds.

Guardrails can also prove to be dangerous in some instances. Where they cause unnecessary diversion or obstruction pedestrians often tend to walk outside guardrailings. They can also cause difficulties for those with guide dogs as guide dogs are trained to avoid obstacles in the street. Where pedestrian islands have excessive street furniture, including guardrails, guide dogs will sometimes avoid the whole island, taking the visually impaired out into the road. However, it should be noted that those with visual impairment, particularly those who do not have guide dogs or canes, sometimes use guardrails as a navigational aid for negotiating the street environment.

There are some guard rails that are often damaged by vehicles, and need frequent maintenance. Omitting guardrails from designs and their removal from sites will



Use of distinctive design for contrasting tactile paving at the controlled crossing of High Street across Corporation Street, in Lincoln's Cultural Quarter.

Brass studs have been used at this crossing point in Red Lion Square in Stamford. Note that the tactile paving does not need to be at right angles to the flow of traffic: they are to direct pedestrians in the right direction to meet the crossing point on the other side of the road.

help to save the Highway Authority money. Extensive lengths of guardrailing can also obstruct access to street frontages by emergency vehicles.
Guardrailing is one of the major causes of street clutter, and reduces the width of clear pavement. The standard designs are unappealing in appearance.

Practitioners are guided to use the assessment procedure for the evaluation of the need for installation or removal of guardrails in Local Transport Note 2/09 *Pedestrian Guardrailing* when making decisions on whether to install or remove guardrailing. This should form part of the Quality Audit process as described in Section 3.1 of this document.

Avoiding use of guard rails

There is currently no dedicated UK guidance defining the overall criteria for the installation of guardrailing. The Local Transport Note 2/09, *Pedestrian Guardrailing*, summarises the existing guidance for use of guardrailing, most of which recommends that the use of guardrails should not be considered if alternatives can be used.

DfT have done research in order to understand the ways in which guardrailing affects the movement and behaviour of all road users, and how they affect safety, particularly at pedestrian crossings and road junctions. The results of this research show that total collisions at sites with guardrailing are slightly higher than those

without, but the difference is not statistically significant. Where the differences between the two types of sites are statistically significant is around the behaviour of pedestrians at crossing points. Where guardrails are not installed the majority of pedestrians will follow desire lines rather than use formal crossings.

Therefore, when designing new crossings, or altering existing crossings, every effort should be made to follow pedestrian desire lines, thus, in some cases, negating the need for guardrails. Where it is considered that it is too dangerous for crossings to follow pedestrian desire lines (for example when they do not run at right angles to the footway and highway), wider crossings may be an appropriate solution. Omission of guardrails from schemes, and following pedestrian desire lines can also improve accessibility for those with limited mobility, as it decreases the distances that need to be walked to negotiate guard rails at crossings. Introducing new crossings or relocating existing ones may also be a solution.

Where traffic speeds have been lowered, and roads have been narrowed, guard rails are usually no longer necessary. The exclusion of guard rails in itself can help to lower traffic speeds.

There may be instances where it is felt that short lengths of guard rails are needed, but the presumption should be that guard rails are not installed unless there is a strong justification for doing so.

Guardrails should not be used to prevent parking (*MfS2*). If there is a persistent issue with pavement parking, other street furniture could be used to prevent it, such as planters, seating, and public art. These should be relocated at no more than 1.2 metres apart, which will prevent vehicles from parking on the footway whilst still allowing pedestrian and wheelchair permeability.

Removal of guard rails

Guard rails should be removed from streets wherever possible. This may sometimes prove to be controversial because of concerns over safety, but giving plenty of warning to street users, and sharing the reasoning behind the measures will reduce this risk. (Nottingham City Council, pers.comm., 2007).

Another approach to removing guard rail, which is one that has already been adopted in Lincolnshire, is to remove sections of guard rail as they become damaged, and then rearranging those that remain. Thus, over time, the lengths of guard rails are gradually shortened until they are removed altogether. It should be noted that where this approach is currently being taken, the damage that is done is happening late at night when there are very few pedestrians using streets, and also that the locations of the guard rails are in urban areas where traffic speeds are low, and hence the danger of loss of control from poor driving or speed is minimised.

This has several advantages, which include introducing the changes to regular users of the street gradually, as well as reducing long-term maintenance costs (Mark Heaton (Lincolnshire County Council Area Highways Manager), pers. comm., 2011).'

Where a decision has been made to remove guardrailing, or omit it from a new scheme, the site should be monitored to ensure numbers of accidents do not increase (DfT *Local Transport Note 2/09*, April 2009).

4.3.12 Traffic signals

It is recommended that designers take into consideration the impact of any new traffic signal installation may have on the existing street scene and make design decisions appropriate to the location.

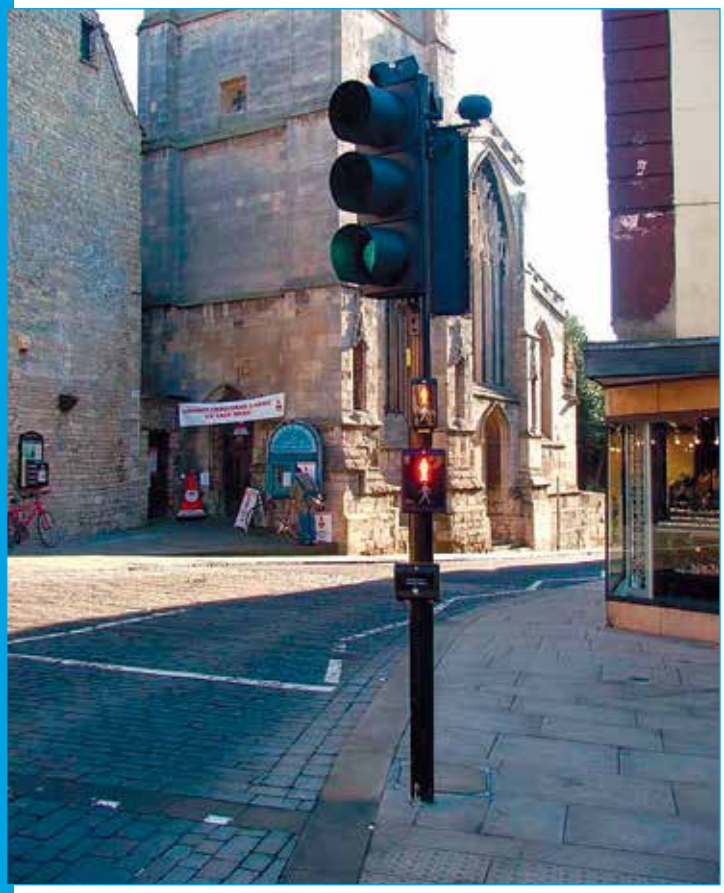
Traffic signals are used at areas of conflict on the highway network and a balance has to be struck between the requirement for safe and efficient traffic control and the effect the installation has on the street scene.

Before reviewing the impact on the street scene the designer must consider the layout and functionality of the installation. These design considerations include road geometry, traffic volumes, traffic speed, pedestrian and cycle usage.

In addition to the above basic considerations it is recommended that designers formally review all their designs with the aim of reducing the levels of control equipment to the minimum required in terms of safety and function of the installation. This will have the effect of reducing unnecessary and unsightly obstructions in the highway and will have the added benefit of minimising future maintenance costs.

The table below lists some of the basic design decisions that could be considered in the different categories of street environment.

Colour of poles.	Poles should be a single colour which may be grey, brown, dark green or dark blue. Black and grey are the colours of preference at the current time due to maintenance considerations.
Use of white edging boards on signal heads. These are reflective, so that when traffic signals fail the signal heads can still be seen at night.	These can be omitted from designs where traffic speeds allow, and should be given particular consideration in sensitive areas, like historic or high amenity streets.
Pedestrian push button unit on left and right side of pedestrian crossing point.	Consideration should be given to installing these on the right side only to avoid clutter, particularly in sensitive areas. Units on the left hand side of the crossings should only be used at busy or wide crossing points where in the opinion of the designer an additional unit would be beneficial to the safe operation of the facility.
Use of pedestrian guard rail.	See above. See section 4.3.10.
Use of tactile paving in non-contrasting or sympathetic materials.	These should be used wherever possible in sensitive areas, like historic or high amenity streets. Bear in mind also that where there is still a need for contrast, non-slip steel studs can be used.
Minimise the number of poles and signal heads.	This is extremely important for reducing street clutter in all street environments.
Width of stop line.	Consideration should be given, where conditions allow, to using 200mm stop lines, particularly in historic or high amenity areas. Where this is not possible, use 300mm.
Minimise zig-zag markings at Toucan, Pelican and Puffin crossings.	Consideration should be given, where conditions allow, to using 4 zig-zag markings on approach, and 2 on exit, particularly in historic or high amenity areas. Where this is not possible, use 8 on approach and 2 on exit.
Locate signals on street lighting columns to reduce clutter, and combine signage with signal poles and street lighting columns.	This is extremely important for reducing street clutter in all street environments, particularly in historic or high amenity areas, but is subject to strict approval by TSP Street Lighting and Traffic Signals Teams. They will need to assess suitability of the attachment and ensure posts/columns are structurally sound..



Reflective white edging has been omitted from the design of these signal heads in Red Lion Square, Stamford.

4.3.13 Street lighting

All street lighting installations on the public highway must have the approval of the County Council as the Highway Authority in Lincolnshire. Street lighting installations must comply with County Council policy and standards, which in turn comply with national standards.

Lincolnshire's diverse character means that it is extremely important that a vision or concept for street lighting is developed as part of the Design Brief (see section 4.3.3) alongside adherence to national standards.

Technical advice shoul be sought from the Lighting and Signs Team of Lincolnshire County Council.

4.3.14 Cycling

The promotion of cycling as a safe choice for mode of transport should always be considered as a part of all designs.

The preferred option is to integrate vehicles and bicycles, and to enable sharing of carriageway space. This will often necessitate reduction in traffic speeds and volumes. Cycle lanes are another way of allowing cyclists to move around where traffic speeds and volumes are greater. However, there are hazards that need to be considered in designs, like junctions with side roads and parked cars.

Therefore the design of the carriageway needs to be carefully considered: well-designed schemes can improve conditions for cyclists, but the reverse can be true if they are poorly designed. Cycle lanes on the carriageway should be a minimum of 2m wide on busy roads, and 1.5m wide on 30mph roads. There is further guidance on this in the Lincolnshire County Council document *Providing for Cyclists* (May 2003) and Chapter 6 of *MfS2*.

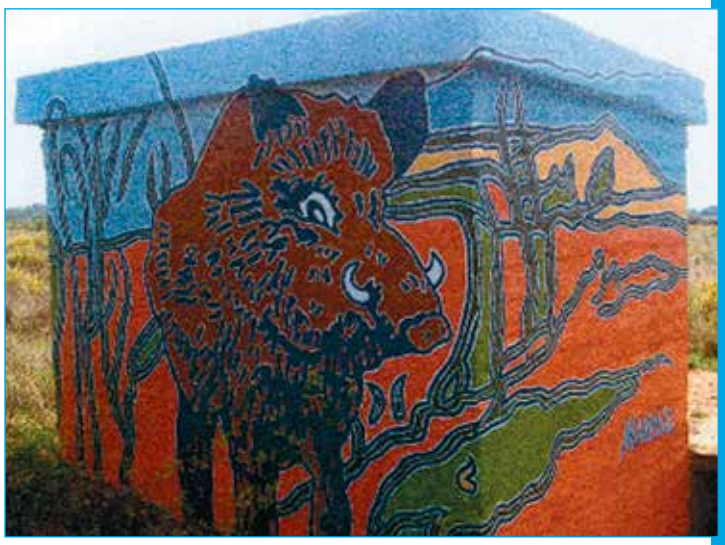
Where less able cyclists are likely to be using the street, consideration should be given to creating paths which are for shared use, these should be a minimum of 2m wide. They should be wide enough so that cyclists and pedestrians are not likely to be knocked off balance and into the carriageway: grass buffer zones between the path and the road can help. Consultation should be carried out with cycling groups about the appropriateness of proposed shared use paths. Construction of wide footways (at least 2m unobstructed footway is the desirable minimum width) should be standard practice on new developments, and where possible, existing paths should be widened. Routine maintenance may be an opportunity to carry this out.

There is detailed technical guidance on this in the Lincolnshire County Council document *Providing for Cyclists* (May 2003) DfT *Local Transport Note 2/08*, October 2008, and in *MfS*.

4.3.15 Trees and planting

Trees are a vital component of the streetscape, providing a major aesthetic contribution to our surroundings. Trees have been used for centuries to enhance buildings, add grandeur to vistas and to soften the harshness of roads. Built environments without trees are hard and even relentless. Trees can break monotony in our street environments, and tie those environments back to the landscape. Humans have valued trees for thousands of years and used them for shelter and protection. Trees have major environmental benefits, including giving shade, screening noise and reducing air pollution. Planted and cared for correctly, trees have an

Telephone control box, Perigueux, France. Photograph reproduced with the kind permission of Richard Lucas.



Bus shelter near Perpignan, France. Photograph reproduced with the kind permission of Richard Lucas.

extremely important contribution to make to the street environment.

In the public consultation of 2006 trees were rated as the most important aspect of an attractive street environment (Lincolnshire County Council, 2006, see below Appendix 1). There should be careful consideration of tree planting to ensure that the species of tree planted is right for the place selected. It is vital to consider the cost of maintenance of the tree and its surroundings.

4.3.16 Decoration of utility service boxes

The service boxes installed by utility companies often attract graffiti and fly-posting, and as such can often seriously detract from the attractiveness of a street scene.
One solution to this issue is decorating them with artworks. This could be carried out together with local schools or colleges, or even by professional artists. This could also be an opportunity to add to a street's 'sense of place'.

The owners of the boxes would need to be identified and approached for their agreement before this could be carried out.

In Lincoln this approach is supported by the Lincoln Civic Society. See Appendix 5 for contact details.

4.3.17 Bus stop infrastructure

A bus stop is any location that is designated for buses to stop. They must be:

- Easily accessible to passengers.
- Equipped with appropriate facilities for passengers, such as timetable information, easy access kerbing, and shelter and seating where possible (see also the Contemporary Design section 4.3.9).
- Visible to the driver of the bus.
- Placed in a convenient location for both passengers and vehicle operating efficiency.
- Well spaced in relation to adjacent stops.
- Safe for both the passengers and buses that have to stop there.

Guidance for the design of bus stops is contained in *Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure* (Department for Transport, 2002), and the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., 1996).

The street scene around bus stations and other major public transport interchanges should have a sense of place and 'arrival'. The environment should be welcoming and safe for pedestrians with high quality way-finding.

4.3.18 Kerbs

The kerb height that often tends to be used elsewhere is 125mm, but the Lincolnshire County Council standard is 110mm. However, lower kerb heights can be used. This can help people with mobility problems and reduce vehicle dominance. Care should be taken, though, that lower kerb heights do not cause a trip hazard. They may also require closer gully spacing to avoid rainwater affecting footways in heavy downpours.

'Trief' kerbs are designed to deter vehicles from mounting the footway. They can be useful in that their use can help in avoiding the use of guardrails or similar visually intrusive street furniture. However, they are, in themselves visually intrusive, they can be difficult for pedestrians to use, and they have been known to cause vehicles to overturn (see *MfS2*, Section 8.8).

4.3.19 Junctions, crossings and accesses

These are often seen as conflict points, but they can also be viewed as opportunities. For example, they can act as landmarks for way-finding.

Crossings are of vital importance to pedestrians, so their quantity and quality should be carefully considered.

'Grade separation' for access, such as pedestrian bridges over roads, or subways should be avoided where possible, as they are not helpful with successful placemaking (see *MfS2*, Chapter 9).

4.3.20 One-way streets

The general principle with one-way streets is to avoid their use where possible. They can cause higher speeds, confuse other street users, and reduce the legibility of neighbourhoods.

However, they do have some advantages: they can make junctions easier to negotiate, and alleviate some traffic management issues. They take up less carriageway space, therefore leaving more room for wider footways.

On balance the removal of one-way streets may lead to longer vehicle journeys, but this is out-weighed by benefits to other street users.

The following road and street classifications are intended to take account of the 'place status' of a street as well as 'movement status'. The *MfS1* uses a 'place and movement matrix' to help with new approaches to street scene design and maintenance (see Section 2.4, pp.19-20).

4.4 Vehicle dominant

4.4.1 Urban

These streets are major routes for traffic that run through and provide access within Lincolnshire's major towns. They are usually lined with buildings of all types and in many different uses. There is less flexibility for design intervention on these streets.

The governing document when considering works in this type of street is *MfS*.

Highways Asset Management Plan: Urban Carriageway Hierarchy: Hierarchy Type 1 and some Type 2.

Highway and footway geometry

Where there is heavy vehicular use of a street there is pressure to keep, and even increase the number of traffic lanes. A consequence of this tends to be narrow footways. From a traffic-management perspective the traditional approach is to have wide, splayed junctions for visibility. Therefore there is less flexibility for altering the geometry of the highway.

To improve ease of use by pedestrians and cyclists, and reduce traffic speeds, it is suggested that consideration should be given to:

- Widening footways: the minimum unobstructed width of a footway should generally be 2m. Also refer to the CIHT document *Guidelines for Providing Journeys on Foot* (2000). This is a technical document which describes best practice in planning and providing for pedestrians within the existing UK legislative framework. It considers the quality of pedestrian journeys as well as distance. (see *MfS1* Section 6.3).
- Decreasing the number of traffic lanes.
- Narrowing carriageway width (see *MfS1* Section 7.2.3 and 7.4.4 and *MfS2* Chapter 8). Be aware that narrowing of carriageways can be dangerous for cyclists. This may also create a problem with footway over-run if two vehicles cannot pass. This can be overcome by good highway design incorporating parking, unloading or passing bays on such narrow designed streets. Footway designs can also allow for some over-run, so reducing the need for bollards.
- Using small radii corners at junctions (subject to swept path analysis, to ensure that the junction is useable by all vehicles that need to use it). *MfS2* recommends having a slightly wider carriageway rather than generous radii at junctions. See *MfS2*, Chapter 8, for more guidance.
- Using build-outs to increase ease of use by pedestrians and wheelchair users. (see the case study of Stamford, High Street St Martin's, in Chapter 9 of this document).

Sleaford Road, Boston.

High Street, Grantham.

- Creating central reservations that could be used for cycle parking or tree planting, as well as a refuge for pedestrians. Their width should be based on their anticipated use. As a guide, widths should be:
  - 1.2m for pedestrians only, with no street furniture;
  - 1.5m to accommodate a wheelchair;
  - 2.0m for cyclists and more than one wheelchair.

  This can be as simple as a small upstand or plateau with a kerb. They should be free of guardrails.
- Creating a boulevard: this may be an approach that would make a busy road more attractive and useable for pedestrians and cyclists. The Boulevard Book referred to in Section 2.4.17 of MfS2 describes three types of boulevards:
  - Wide central landscaped median flanked by carriageways and footways;
  - Wider than usual street with a conventional layout, with a central carriageway and broad tree-lined footways;
  - Multi-way boulevard with central carriageway for through traffic, tree-lined medians to each side, then one-way access carriageways, then footways.

(More guidance is in Chapter 7 of *MfS1* and Chapters 5 and 10 of *MfS2*).

There is a perception from some businesses in urban areas that the vast majority of shoppers arrive by car, and consequently there may be concerns about improving pedestrian access and reducing traffic dominance. In fact research shows that the numbers of shoppers who arrive by car are often over-estimated. Measures that attract more pedestrians are more likely to benefit than harm businesses (Sustrans, 2006).

Traffic management and traffic calming

It is desirable in urban contexts, wherever possible, to reduce the dominance of vehicles, and to aid the safe integration of pedestrians and cyclists, and thus promote choice of modes of transport. This can be achieved in part by traffic calming methods. This tends to be more problematic on streets where there is heavy and fast moving traffic. However, the following measures can help to achieve these aims:

- Narrowing of carriageways and reducing forward visibility can have the effect of slowing traffic speeds. Be aware that narrowing of carriageways can be dangerous for cyclists. These traffic calming techniques should only be usedwhere traffic speeds are less than 40mph. (See DfT, *Local Transport Note 1/08*, fig 3.13 and *MfS2*, Chapter 8). This may also create a problem with footway over-run if two vehicles cannot pass. This can be overcome by good highway design incorporating parking, unloading or passing bays on such narrow designed streets. Footway designs can also allow for some over-run, so reducing the need for bollards.
- Plateaux at conflict points; although it should be ensured that these will be safe for those pedestrians with visual impairment who use guide dogs. This could be achieved by using a low gradient slope, or retaining a low kerb, but not so low that it creates a trip hazard. Tactile paving should also be used. It should be ensured that emergency and public service vehicles will not be damaged.

- Of the formal crossing types, zebra crossings involve the minimum delay for pedestrians when used in the right situation. They should not be staggered unless absolutely necessary, and use of guardrail should be avoided where possible. These should only be considered where the speed limit is 30mph or less.
- Reduce the number of traffic lanes (although consideration should be given to where the traffic will be displaced to).
- Removal of, or not installing, guard rails reduces the separation between pedestrians and vehicles, and also serves to reduce street clutter (see also section 4.3.10).
- Parking should be carefully considered as part of the design process. Construction of parking bays between build-outs may help control on-street parking. Changes of materials in parking and loading bays could be used to demarcate areas for parking and loading. This will help to minimise road markings, and encourage good parking behaviour. TSRGD 2016 allows Highways Authorities the freedom to use these methods without applying to the Secretary of State for permission.
- With the exception of disabled parking bays, where possible, areas designated for parking should be in places where they will be least detrimental to the aesthetics of the street scene.
- With-flow bus lanes can be beneficial in that they can make bus journeys faster. However, this needs to be balanced with how much room would be needed to accommodate them in the highway, and the need for wider footways.
- Bus lay-bys should only be used where necessary for safety reasons, as they take up too much footway space, and then are often delays when buses need to rejoin the traffic flow.
- Bus boarders (build-outs from the existing kerb) could be used as an alternative to bus lay-bys. The full width desirable would be 2m-2.6m (where large vehicles are parked nearby). Half-width boarders could also be considered.

For further guidance see Chapter 7 (Street Geometry) and Chapter 8 of *MfS1*, and Chapter 11 of *MfS2*.

Street furniture

- There is a need to keep street furniture to a minimum to avoid clutter and obstructions, as footways will tend to be narrower on these streets. Bear in mind that there will sometimes need to be a buffer designed into the scheme around the footprint of street furniture to allow unhindered pedestrian movement.
- Public seating should comply with DDA requirements. Ask a representative from one of the accessibility groups to look at seating designs to assess its suitability for use by those who have problems with mobility.
- Seating on the most frequently used streets by pedestrians should be considered every 100m.
- The location of seating should be where there is good natural surveillance (see *MfS1*, Section 6.3.33).
- The design of street furniture should be consistent or complementary to its surroundings, and reflect local distinctiveness and the character of the local community. This might be through materials, shapes, or textures. The design and positioning of street furniture is an opportunity to add quality and innovation to a street scene, and also to involve the local community in the process. The scale of the works may warrant the involvement of artists.
- Street furniture should be designed to be as resistant to vandalism as possible. It should also be placed to prevent problems for street cleansing.
- The introduction of cycle racks would help to encourage more journeys by bicycle. The inclusion of tapping rails should be considered in the design of cycle racks so that they are detectable by those with visual impairment. Cycle racks should be spaced about 1m apart, leaving 550mm between the outermost cycle rack and any walls (See *MfS1*, Section 8.2.12-24). Cycling groups and accessibility groups should be consulted on the design, quantity and placing of cycle racks.
- The County Council should try and influence positioning of utility objects in the highway to avoid clutter. In urban areas this includes service boxes and poles with overhead wires. Where possible, and financially feasible, services should be located underground.

See Section 4.3.16, Bus stop infrastructure.

Signage and road markings

- Both pedestrian and vehicle use is likely to be heavy.
- Signage will have a big impact on pedestrians, as inevitably signs will be erected within the footway.
- Where possible, the number of signs and legends used should be kept to a minimum, whilst ensuring continuity of information provided to road users.
- It is expected that requests for individual direction signs to local facilities will occur and over a period of

time individual signs, for instance to schools, colleges and churches, can all accumulate to create street clutter. Where possible the amount of signage used should be reduced or removed. **THINK!** Is there car parking at the destination? If not small pedestrian signs (possibly decorative) should be considered instead. Is there a prominent destination that is located adjacent to other facilities: for instance, is the hospital already signed on the same road as the school or church? If this is the case it would be quite acceptable to expect visitors to be told in publicity and advertising information that they should follow signs to the hospital. Once within the very local vicinity of the school or church then individual signing should be considered only in the latter stages of a journey and on traffic management grounds but only if the destination is not easily identified.

- Consider the use of 'for x follow y' signs, 'other main routes' and 'all main routes' legend.
- Direction signs may be erected to provide continuity of information for drivers, or on traffic management grounds.
- Unnecessary signing should be removed.
- Existing signs should be reassessed for purpose, as the requirement for signs may no longer be there.
- Take into account guidance issued by the Department for Transport and Lincolnshire County Council's policy on signs and lines when deciding on the use of backing boards, sizes of signs and colour and size of carriageway markings.
- Use of yellow backing boards should be kept to a minimum. Consider using a larger sign and omitting the backing board. The use of coloured road surfacing should also be avoided where possible.
- *Traffic Signs Regulations and General Directions* 2016 relaxes the requirements for illuminated signs. Check TSRGD 2016 or consult the Lighting and Signs Team.
- Minimum sign sizes should be considered in accordance with TSRGD.
- To reduce the visual impact of signs consider mounting them at a lower height. Bear in mind, though, that this may reduce the sign's effectiveness.
- Keep the use of high visibility, yellow faced bollards to dia.610 / 611 keep left / right / pass either side to a minimum, and only on the side where they are needed. They may not be needed where other high level illuminated street furniture has already been installed, like signals, for example. Check TRSGD for illumination requirements.
- Does signing correctly reflect requirements of a Traffic Regulation Order (TRO)?
- Are TROs and associated signing or lining really needed? Can footway widening and build-outswith changes to footway and surface materials self-enforce and negate the need for signs and lines clutter?
- Traffic Signs Regulations and General Directions (TSRGD allow the use of 50mm primrose or deep cream lines within 'areas regarded as environmentally sensitive'. This includes Conservation Areas, but could also include other areas. In some of the historic areas of Lincoln, such as Bailgate, no waiting lines have been omitted entirely (see Bailgate Case Study, and Stamford Case Study for ways of avoiding the use of no waiting lines, Chapter 9 of this document). Also consider the use of black finish to posts, rear of signs and fixings or perhaps mount signs onto walls/ properties..
- Within 30mph speed limits are warning signs for junctions, bends and so on, really necessary? Do side streets have 'through traffic value', if not this may negate the need for upright give way signs and illumination.
- A reduction in the number of traffic lanes could mean a reduction in the amount of white paint needed especially if narrowing is carried out with build-outs and kerbing.
- Tightening the geometry may help to self enforce lower 85%ile traffic speeds, resulting in smaller size signs.
- Pedestrian signs, possibly decorative, can be considered instead of direction signs, or the production of information boards within a central area (car parks) may negate the need for road signs but consider who owns and maintains them in the future.
- Traffic calming features and environmental enhancements including footway widening and build-outs can be used to assist pedestrian movements but also provide informal, self-enforcing parking areas that reduce the need for TROs and associated yellow lines and upright road signs in some cases consider the road user and how enforcement will take place.
- Within speed restricted areas, where approach speeds are reduced and 85%ile speeds are generally low, sign sizes should be kept to a minimum.
- Illumination requirements of certain signs can be relaxed.
- Where traffic calming features are considered and there is a definite requirement to reduce the use of signs and lines careful consideration should

be given to the type of traffic calming used. The implementation of certain traffic calming features can result in a requirement for signs and lines on 'safety grounds', for example the use of build-outs may require more signing than road humps because of the requirement to give one direction the right of way.

Early discussion and involvement with Technical Services Lighting and Signs Team is always advised.

Trees and planting

When selecting and planting trees in built-up areas the maxim which should be adhered to is **'the right tree in the right place'**. The following issues also need to be taken into account:

- It is vital to consider the cost of maintenance of the tree and its surroundings.
- Urban streets are very unnatural situations for trees, and urban microclimates may not be typical of the surrounding countryside, particularly with climate change. Therefore, it is vital to select species that will fit into the space available and will survive. These may be tough introduced species such as London Plane or Swedish Whitebeam.
- Consider the character of the tree within the context of the whole street environment.
- Consider whether the selected tree species will cause a nuisance or be a danger to local street users, such as the likelihood of falling branches, sap dripping or berries.
- It is in the urban environment that large trees provide the greatest benefit to the local environment, such as cooling and shading.
- Consider the eventual size and spread of the tree, and the effect this might have on the surrounding built environment, such as overhanging branches affecting adjacent property, street lighting, overhead wires, footways and the road.
- Space should be allocated for tree planting at an early stage in the design process, consider maximising planting opportunities by allocating as much space as possible.
- How the root systems grow may affect underground services, and adjacent footways. Engineering solutions such as root barriers are available to mitigate damage to footways and services, however, species selection is by the far the most practical way of avoiding tree root conflict.
- Tree planting can also reduce vehicular pollution, trees within traffic dominant urban areas act as a 'green lung', by trapping and storing particulate pollution within the foliage.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., Appendix D, 1996).

Street lighting

- There may be some conflict of aspirations for the design, positioning and numbers of street lighting on these streets. There may be pressure for higher levels of lighting in these areas for road safety purposes and fear of crime issues. All the issues need to be considered together.
- The principle of reducing street clutter where possible should be applied here to keep footways as clear as possible, as these will tend to be narrower. Combining signals and street lighting columns and other street scene elements should be considered on these streets.
- The design and positioning of street lighting should be consistent, or complementary. The reasoning for this will be documented in the design brief.
- Again, every street should be assessed on its own merits, particularly where Conservation Areas and Listed Buildings will be affected. It is vital to seek the relevant advice at an early stage, and to consider a variety of options.

Decorative and architectural lighting

Architectural lighting can be extremely effective in enhancing particular buildings or monuments of interest, and therefore promoting 'sense of place'. It should be remembered that when considering architectural lighting for listed buildings, Listed Building Consent is required.

Decorative lighting can enhance the night-time appearance of streets, and could help to improve the aesthetics of urban areas where traffic dominates. It can also help with fear of crime issues.

4.4.2 Rural

Type 1 These roads are major transport routes for traffic between settlements. They are 'A' and 'B' class roads where consideration of the effect of street furniture in the highway with regard to their environmental impact. They are routes where speeds are faster (for example, dual

carriageways), and consequently the need for information and warnings may be greater. Highways Asset Management Plan: Rural Carriageway Hierarchy: Hierarchy Type 1 and 2.

Type 2 These roads are some 'A' and 'B' class roads with greater environmental sensitivity, for example nationally designated natural or historic landscape or features, or village entrances, and those with lower traffic volumes and lower speeds.

Highways Asset Management Plan: Rural Carriageway Hierarchy: Hierarchy Type 3, some Type 2.

Type 3 This type includes 'C' class and unclassified roads, especially those with environmental sensitivity and those with low traffic volumes.

Highways Asset Management Plan: Rural Carriageway Hierarchy: Hierarchy Type 4 and 5.

The governing document when considering works in Type 1 and some Type 2 roads in *Design Manual for Roads and Bridges* whilst bearing in mind the principles of *MfS*.

The governing document when considering works in some Type 2 and most Type 3 roads is *MfS*.

Looking north along part of Kexby Protected Roadside Verge. These are typical, broad, asymmetrical verges alongside a single track rural lane, the highway bounded by shallow ditches and species-rich hedges.

Entrance to Hemswell Cliff, near Gainsborough.

Rural road, near Binbrook, in the Wolds AONB.

Entrance to Fiskerton with minimal signage, and no road markings.

This illustration is an uncluttered village entrance. Note the narrowing of the road as a technique for reducing vehicle speeds without the need for further signage. Illustration by Print Talk.

Highway and footway geometry

- In those areas where there are few pedestrians the relationship between carriageway and footway is not necessarily an issue. Footways should be set back from the road for safety reasons, but this is not always possible where there are Protected Roadside Verges or other environmentally sensitive areas.
- Where there are tourist attractions neighbouring the highway, the highway and footway design needs to accommodate this, in order to enhance the amenity value of the site.
- Narrowing of carriageways at village entrances can act as effective traffic calming. Be aware that narrowing of carriageways can be dangerous for cyclists.
- Avoid the use of roundabouts on Type 2 and 3 roads where possible.

Street furniture

- Rural street furniture includes safety fences, barriers, bollards, verge marker posts, interpretation boards and village signs.
- Village name signs provide a simple, effective and inexpensive way of reflecting local distinctiveness, and involving the local community in an element of street scene design. Careful selection and positioning of street furniture, like gates and fences, can act as a signal to drivers to slow down without the need for excessive and visually intrusive signage and road markings.
- The design and positioning of street furniture in rural settings needs as careful consideration as it does in urban contexts. This is particularly relevant in the Lincolnshire Wolds AONB. Consider whether the street furniture is necessary, and if it is, its design and positioning to minimise its impact on its setting should be considered. Sympathetic design could add to the interest of a vista. Options for design include looking at height, size, materials, shapes and colours. Signage and road markings at village entrances or gateways should be kept minimal.
- Some street furniture (for instance interpretation boards) can enhance the amenity value of the area, and the visitor's experience. These should be designed to be as resistant to vandalism as possible.
- The County Council should try and influence positioning of utility objects in the highway to avoid clutter. These would include poles, telephone masts and so on. Where possible, and financially feasible, services should be located underground.

See Section 4.3.16, Bus stop infrastructure.

Village Entrance Signs

The use of decorative signs on village boundaries has always been popular, but more recently LCC Highways

have been contacted with regard to the use of a hybrid style of sign (see image example below).

This type of sign may have the appearance of a standard highway boundary sign, particularly when used with black font/border and a white background.
For clarification this hybrid style of sign is not a prescribed highway sign and the sign assembly is not manufactured in accordance with LCC/national specification. This type of sign is therefore regarded as a decorative sign and can only be used in the highway in accordance with HAT 35. Parish Councils wishing to install a decorative village boundary sign or, indeed, considering changing the boundary signs in any way should be advised to contact their Area Highway Manager with regard to making an application for the erection of a structure on the highway. The Area Highway Manager will liaise with such groups as the Wolds Countryside Service to ensure no objections are raised. Providing consent is granted parish council's should be aware that all costs associated with the use of a decorative sign is borne by them and that the standard highway boundary sign may be considered for removal following the installation of the new structure. Future maintenance of the non-highway prescribed boundary sign will fall to the parish council.

Signage and road markings

- Signs and lines will be prominent and the size of such should adhere to guidance issued, using minimum size options where available.
- Direction signs may be erected to provide continuity of information for drivers, or on traffic management grounds.
- Unnecessary signing should be removed.
- Existing signs should be reassessed for purpose, as the requirement for signs may no longer be there.
- Take into account guidance issued by the Department for Transport and Lincolnshire County Council's policy on signs and lines when deciding on the use of backing boards, sizes of signs and colour or size of carriageway markings.
- To reduce the visual impact of signs consider mounting them at a lower height. Bear in mind, though, that this may reduce the sign's effectiveness and introduce a hazard for pedestrians or cyclists. Consider attaching to low walls/buildings opposite junctions.
- Consultation will be required with regard to accident history, 85%ile speed of traffic and Annual Average Daily Total (the average number of vehicles using a road; the figures are kept at LincsLab).
- Safety fencing for large signs and structures may no longer be necessary; consult Technical Services Partnership Lighting and Signs Team and Structures Team to determine this.
- Illumination requirements may be relaxed, check *Traffic Signs Regulations and General Directions (2002, 2016)*, or consult with Technical Services Partnership's Lighting and Signs Team.
- Avoid the use of hatching and filter lanes where possible. Consider narrowing the road, or realigning as an alternative.

Early discussion and involvement with Technical Services Lighting and Signs Team is always advised.

Trees and planting

Where tree planting schemes are to be implemented in the rural environment locally characteristic trees should be given preference, again **'the right tree in the right place'** applies here. Also consideration should be given to the following issues:

- It is vital to consider the cost of maintenance of the tree and its surroundings.
- Some locations may not be suitable for tree planting, areas such as protected roadside verges and the wide grassed verges characteristic of the Lincolnshire Wolds.
- Better management of veteran trees on land in and adjacent to the highway is required. Give consideration to pruning rather than removal.
- It is important that when maintaining trees that consideration is given to the needs of protected species, such as breeding birds and bats.
- When selecting tree species for new planting native species should be considered, as these are better for supporting biodiversity.

- Consider the opportunities for increasing biodiversity, by including bird boxes, bat boxes, or insect boxes in designs.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also *MfS* and the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., Appendix D, 1996).

Verges

Wildlife habitats associated with roads include grassland verges, trees and scrub and boundaries in the form of hedges and linear wetlands formed by drainage ditches. Collectively these form a major green infrastructure resource within Lincolnshire. They provide important habitats in their own right as well as corridors for movement of wildlife within the landscape. The plant species associated with these habitats vary across the county depending particularly on the geology and soils. This variation contributes very much to a local sense of place.

In the Lincolnshire Wolds Area of Outstanding Natural Beauty, the roads and their verges contribute significantly to the quality of the landscape. Much of the verge grassland is what can be termed neutral grassland and comprises mostly vigorous tall grasses and herbs including some that can be described as weeds.

Over the chalk and other limestone rocks, roadside grasslands in many places are typical of calcareous grassland. Many of the better and protected verges are of this type. A small number of roadside verges have been designated as Sites of Special Scientific Interest (SSSI), and these are part of a nationally important series. Lincolnshire also has a series of Protected Roadside Verges (PRVs), resulting from a pioneering agreement in the 1970s between the local government, county wildlife trust and government agency (now Lincolnshire County Council, Lincolnshire Wildlife Trust and Natural England). Small or discreet signing is used to identify these protected locations.

The Lincolnshire Wolds AONB features boundary signs on the verge to increase awareness from road users of the importance of that area. In some places detailed interpretation boards can be found by the roads and in lay-bys.

Management of the vegetation has to recognise health and safety factors for the highway, but in SSSIs and PRVs particular management regimes are followed to suit the species found there.

The following are issues to consider when carrying out works in the highway which will affect these verges:

- From a biodiversity perspective kerbs should not be installed on SSSIs and PRVs. This is not only for aesthetic reasons since they can also damage diversity. This is because the disturbance at the edge of the carriageway gives greater gradation to the verge, which allows greater floral diversity.
- Although kerbs do prevent over-running onto the verge, the damage caused to diversity by over-running (depending on its severity) is often less than would be caused by the installation of kerbs.
- The laying of services can also cause a lot of damage to verges.
- The use of pre-wetted salt does reduce the damage caused to verges by salt.
- Salt piles should not be left on verges, particularly SSSI or PRVs.
- When maintenance is being planned consideration should be given to needs of protected species, such as breeding birds and bats.
- It is strongly recommended that advice is sought before carrying out works which will affect any of these sites. Contact the County Council Countryside Services, the Lincolnshire Wolds Countryside Service or the Lincolnshire Wildlife Trust. A handbook for managing roadside verges is available from the Countryside Services.

Street lighting

"Darkness at night is one of the things which defines the countryside and makes it so different from towns and cities." **Campaign for the Protection of Rural England (CPRE).**

The light emitted from street lights can be visible at distances of over twenty miles or further, depending on the topography of the surrounding landscape. This can have a particularly negative impact where new street lights are introduced where there were previously none. To avoid this, designers need to take into consideration how street lights will be seen and how they will affect the wider area that may extend for many miles beyond the location of the installation. This is particularly vital in the Lincolnshire Wolds AONB and the most rural parts of Lincolnshire, which have been identified by the CPRE as the least light-polluted area in the country.

Quiet Lanes

The concept of Quiet Lanes would be suitable for Type 3 roads (see above in the rural road section developed for this document).

Southgate, Sleaford.

Wainfleet Market Place.

Market Rasen Market Place.

Wide controlled crossing across Silver Street, in Lincoln's Cultural Quarter. This measure is intended to improve pedestrian links between the northern and southern parts of the city.

Pedestrianisation of the lower part of Flaxengate, in Lincoln's Cultural Quarter, is now complete. This measure is intended to improve pedestrian links between the northern and southern parts of the city.

Subtle changes in surfacing materials demarcate a loading bay in Red Lion Square, Stamford. Note that there are no associated road markings.

Wall-mounted street lighting equipment on a building on Clasketgate, in Lincoln's Cultural Quarter. This is a contemporary design in a Conservation Area.

Minimal signing in Red Lion Square, Stamford. The loading bay signs are mounted on oak posts. The posts also prevent vehicles from driving onto the area adjacent to the loading bay.

Seating in Red Lion Square, Stamford, using distinctive and complementary materials.

Restricted parking zones remove the need for yellow lines. This shows the entrance to Red Lion Square in Stamford.

Red Lion Square, Stamford. Parking spaces have been removed, and new surfacing materials used, to create a more open, inviting space, where pedestrians are more likely to linger and shop, which will help social interaction and local business

Quiet Lanes are an initiative of the former Countryside Agency (now part of Natural England), supported by the Department for Transport. They are parts of the minor rural road network suitable for shared use between pedestrians, cyclists, horse riders and motorists, and should be chosen and endorsed by local people. They should be roads of rural character (width <5m), linking villages and towns, with existing low volumes of traffic (<1000) and low traffic speeds (85th percentile <35mph), with connections to off-road footpaths and bridleways. They are intended to promote walking, cycling and horse riding by reducing traffic volumes and speeds, and to encourage all users of the routes to be considerate to each other, whilst at the same time protecting their rural character.

(Norfolk County Council; Department for Transport Circular 03/04).

4.5 Multi-purpose streets

There is greater scope for design intervention on these streets. Along with village centres and suburban streets, these streets should be the most walkable and cycle-friendly.

4.5.1 Urban

These streets have moderate vehicle, cyclist and pedestrian flow, and none of these dominate. They will often be lined with buildings up to the edge of the footway. This category will include market places.

The governing document when considering works in this type of street is *MfS*.

Highways Asset Management Plan: Urban Carriageway Hierarchy: Hierarchy Type 3 and 4, and some Type 2. Footway Hierarchy: Type 1 and 2.

Highway and footway geometry

There is usually more flexibility in these streets than those with heavy and fast traffic flows, so therefore greater consideration can be given to:

- Maximising footway widths to create space for pedestrians and wheelchair users: the minimum unobstructed width of a footway should generally be 2m. Also refer to the IHT document *Guidelines for Providing Journeys on Foot* (2000). This is a technical document which describes best practice in planning and providing for pedestrians within the existing UK legislative framework. It considers the quality of pedestrian journeys as well as distance. (see *MfS1*, Section 6.3).
- Decreasing numbers of traffic lanes.
- Narrowing carriageway width (see *MfS1* Section 7.2.3 and 7.4.4 and *MfS2* Chapter 8). Be aware that narrowing of carriageways can be dangerous for cyclists. This may also create a problem with footway over-run if two vehicles cannot pass. This can be overcome by good highway design incorporating parking, unloading or passing bays on such narrow designed streets. Footway designs can also allow for some over-run, so reducing the need for bollards.
- Tighter junction geometry to slow traffic and make it easier for pedestrians to cross the road. *MfS2* recommends having a slightly wider carriageway rather than generous radii at the junction (see *MfS1*, Chapter 7, and *MfS2*, Chapter 8).
- Using build-outs to increase ease of use by pedestrians and wheelchair users.
- Creating central reservations that could be used for cycle parking or tree planting, as well as a refuge for pedestrians. Their width should be based on their anticipated use. As a guide, widths should be:
  - 1.2m for pedestrians only, with no street furniture;
  - 1.5m to accommodate a wheelchair;
  - 2.0m for cyclists and more than one wheelchair.

  This can be as simple as a small upstand or plateau with a kerb. They should be free of guardrails.
- The street audit may find that large vehicles rarely use the streets concerned, and so perhaps consideration of their ease of movement is not as important as it might otherwise be.
- The installation of roundabouts needs to be very carefully considered, particularly in Conservation Areas, and areas that have high pedestrian use. Conventional roundabout design is often not appropriate in these streets. They interrupt pedestrian desire lines, and can be dangerous for pedestrians and cyclists. They can also detract from the attractiveness and historic character of the street scene, and have a large land requirement.
- However, roundabouts do enjoy lower rates of vehicle collisions, have a high capacity and therefore shorter delays and lower emissions. Therefore, if roundabouts are to be used the guidance in *MfS2*, Section 9.6, is as follows:
  - Make it as compact as possible to reduce land take and improve accessibility for pedestrians and cyclists;
  - Have crossings on desire lines. This means use of guardrail can be avoided. However there may a detrimental effect on traffic flow;

- Keep to a single lane, where possible, and as narrow as possible to reduce speeds. Guidance on providing for cyclists at roundabouts is given in *Traffic Advisory Leaflet* 9/97;
- Design for the largest vehicle that regularly uses this part of the highway.
- Roundabouts don't have to be regular shapes, but caution is advised when using irregular shapes as it may make turning requirements too sharp;
- Left hand slip lanes are dangerous for cyclists, so consideration needs to be given on how to resolve this.
- Art can be used on roundabouts to give visual interest

- If roundabouts are to be used, then mini-roundabouts or continental-style roundabouts may be more suitable (see *MfS1*, Section 7.3.12-16, and *MfS2*, Section 9.7).

See *MfS1*, Chapter 7 and *MfS2*, Chapters 5 and 10, for further guidance.

Traffic management and traffic calming

Some of the measures described above can also serve to calm traffic speeds at the same time, thus aiding the safe integration of pedestrians and cyclists, and therefore promoting choice of modes of transport. There are further traffic management and traffic calming options that could be considered to help achieve some of the aspirations for this type of street:

- Pedestrianisation.
- Introducing more uncontrolled, or courtesy crossings, which could be indicated, for example, in differing surfacing materials, or by use of plateaux. However, plateaux that are flush with adjacent kerbs should be used with careful consideration and consultation, as they can cause problems for pedestrians with guide dogs. There may be ways of overcoming these difficulties by using, for example, a low gradient slope, or retaining a low kerb, but not so low that it created a trip hazard. Tactile paving should also be used. It should be ensured that emergency and public service vehicles will not be damaged. These often do not require signs and lines.
- Where controlled crossings are necessary, they should follow pedestrian desire lines as much as possible. Where this is not possible, the crossing should be as wide as conditions will allow. Diagonal crossings can be provided at crossroads during an all-red traffic signal phase.

Cycle racks in Heckington (designer: Ben Coode Adams).

- Of the formal crossing types, zebra crossings involve the minimum delay for pedestrians when used in the right situation. These should not be staggered unless absolutely necessary and use of guardrail should be avoided where possible. (*MfS1*, Section 6.3.9).
- Using visual signals that an area you are entering is 'different', which may be surfacing, although care should be taken that this enhances, and does not clutter the street scene.
- In shared surfaces signage, road markings, and kerbs are minimal, and there is little or no differentiation of surfacing, thus reducing greatly the segregation between pedestrians and traffic, and often having the effect of slowing vehicle speeds. This approach, however, can cause difficulties for those with visual impairment, and should be used with caution and in consultation with the appropriate representative groups.
- Parking should be carefully considered as part of the design process. Construction of parking bays between build-outs may help control on-street parking. Changes of materials in parking and loading bays could be used to demarcate areas for parking and loading. This will help to minimise road markings, and encourage good parking behaviour. TSRGD 2016 allows Highways Authorities the freedom to use these methods without applying to the Secretary of State for permission.
- With the exception of disabled parking bays, where possible, areas designated for parking should be in places where they will be least detrimental to the aesthetics of the street scene. (See *MfS2*, Chapter 11 for further advice).
- Reduced traffic speeds and volumes, and less space given to motorised vehicles could, in some

situations, provide opportunities for safe children's play in the street environment. In urban squares, for example, fountains, or lighting as part of surfacing, could be installed.

- With-flow bus lanes can be beneficial in that they can make bus journeys faster. However, this needs to be balanced with how much room would be needed to accommodate them in the highway, and the need for wider footways.
- Bus lay-bys should only be used where necessary for safety reasons, as they take up too much footway space, and then are often delays when buses need to rejoin the traffic flow.
- Bus boarders (build-outs from the existing kerb) could be used as an alternative to bus lay-bys. The full width desirable would be 2m-2.6m (where large vehicles are parked nearby). Half-width boarders could also be considered.

Street furniture

- The design and positioning of street furniture is an opportunity to add quality and innovation to a street scene, and also to involve the local community in the process. The scale of the works may warrant the involvement of artists. Any existing historic street furniture should be taken into account, through the street scene audit.
- The design of street furniture should be consistent or complementary to its surroundings, and reflect local distinctiveness and the character of the local community. This might be through materials, shapes, or textures.
- Street furniture should be designed to be as resistant to vandalism as possible. It should also be placed to prevent problems for street cleansing.
- Footfall on many of these streets tends to be greater than in other streets, and therefore there will be a greater demand for more street furniture, for example, bollards, seating, way-marking, litter bins, and so on. Installing cycle racks will help to encourage cycling. The inclusion of tapping rails should be considered in the design of cycle racks so that they are detectable by those with visual impairment. Cycle racks should be spaced about 1m apart, leaving 550mm between the outermost cycle rack and any walls (See *MfS1*, Section 8.2.12-24). Cycling groups and accessibility groups should be consulted on the design, quantity and placing of cycle racks.
- Even where footways are wider, the positioning of street furniture is crucial in avoiding cluttering and obstructing the footways. Consideration should be given to whether the street furniture is needed, and if so, whether items of street furniture can be combined. Guard rails can also serve to narrow footways and thus clutter the streets.
- Public seating should comply with DDA requirements. Ask a representative from one of the accessibility groups to look at seating designs to assess its suitability for use by those who have problems with mobility.
- Bear in mind that there will sometimes need to be a buffer designed into the scheme around the footprint of street furniture to allow unhindered pedestrian movement.
- Wherever possible the need to introduce 'recycling on the go' be encouraged and supported in accordance with the guidelines set out in the DEFRA consultation *Recycling on the Go* (13 August 2007) or any subsequent reports. This initiative encourages local authorities to provide on-street recycling facilities. There are receptacles available which are the same size, or only slightly larger than existing litter bins. The design and placing of the receptacles would need to be carefully considered to be sensitive to their context. Close co-operation with the Waste Collection Authorities is encouraged.
- Seating should be located where there is good natural surveillance (*MfS1*, Section 6.3.33).
- The County Council should try and influence positioning of utility objects in the highway to avoid clutter. In these streets this includes service boxes and poles with overhead wires. Where possible, and financially feasible, services should be located underground.

See Section 4.3.16, Bus stop infrastructure.

Signage and road markings

- Traffic Signs Regulations and General Directions 2016 relaxes the requirements for illuminated signs. Check TSRGD 2016 or consult the Lighting and Signs Team.
- Minimum sign sizes should be considered in accordance with TSRGD.
- Does signing correctly reflect the requirements of a Traffic Regulation Order (TRO)?
- Are TROs and associated signing and lining really needed? Can footway widening and build-outs with changes to footway and surface materials self-enforce and negate the need for signs and lines clutter?

- It is lawful to use 50mm primrose or deep cream lines within 'areas regarded as environmentally sensitive'. This includes Conservation Areas, but could also include other areas. In some of the historic areas of Lincoln, such as Bailgate, no waiting lines have been omitted entirely (see Bailgate Case Study, and Stamford Case Study for ways of avoiding the use of no waiting lines, Chapter 9 of this document). Also consider the use of black finish to posts, rear of signs and fixings.
- Within 30mph speed limits are warning signs for junctions, bends and so on, really necessary? Do side streets have 'through traffic value', if not this may negate the need for upright give way signs and illumination.
- A reduction in the number of traffic lanes could mean a reduction in the amount of white paint needed especially if narrowing is carried out with build-outs or kerbing.
- Tightening the geometry may help to self enforce lower 85%ile traffic speeds resulting in smaller sized signs?
- Pedestrian signs, possibly decorative, can be considered instead of direction signs, or the production of information boards within a central area (car parks) may negate the need for road signs.
- Signage will have a big impact on pedestrians as inevitably signs will be erected within the footway.
- Where possible, the number of signs and legends used should be kept to a minimum, whilst ensuring continuity of information provided to road users.
- It is expected that requests for individual direction signs to local facilities will occur and over a period of time individual signs to schools, colleges, churches, and so on, can all accumulate to street clutter. Where possible the amount of signage used should be reduced or removed. **THINK!** Is there car parking at the destination? If not, small pedestrian signs (possibly decorative) should be considered instead. Is there a prominent destination that is located adjacent to other facilities: for instance, is the hospital already signed on the same road as the school or church? If this is the case it would be quite acceptable to expect visitors to be told in publicity and advertising information that they should follow signs to the hospital. Once within the very local vicinity of the school or church then individual signing should be considered on traffic management grounds but only if the destination is not easily identified.
- Consider the use of 'for x follow y' signs.
- Direction signs may be erected to provide continuity of information for drivers, or on traffic management grounds.
- Unnecessary signing should be removed.
- Existing signs should be reassessed for purpose as the requirement for signs may no longer be there.
- Take into account guidance issued by the Department for Transport and Lincolnshire County Council's policy on signs and lines when deciding on the use of backing boards, sizes of signs and colour or size of carriageway markings.
- Traffic calming features and environmental enhancements including footway widening and build-outs can be used to assist pedestrian movements but also provide informal or self enforcing parking areas that reduce the need for TROs and associated yellow lines and upright road signs in some cases.
- Within speed restricted areas, where approach speeds are reduced and 85%ile speeds are generally low, sign sizes should be kept to a minimum.
- Illumination requirements of certain signs can be relaxed on non-principal roads with a TRO speed limit of 30mph (microprismatic material used instead).
- Where traffic calming features are considered and there is a definite requirement to reduce the use of signs and lines careful consideration should be given to the type of traffic calming used. The implementation of certain traffic calming features can result in a requirement for signs and lines on 'safety grounds', for example the use of build-outs in certain cases may require more signing than road humps.
- Use of yellow backing boards should be kept to a minimum. Consider using a larger sign and omitting the backing board. The use of coloured road surfacing should also be avoided where possible.
- Keep the use of high visibility, yellow faced bollards to dia.610 / 611 keep left / right / pass either side to a minimum, and only on the side where they are needed. They are not needed where there other street furniture has already been installed, like signals, for example.
- Avoid the use of hatching and filter lanes where possible. Consider narrowing or realigning the carriageway as an alternative.

Early discussion and involvement with Technical Services Lighting and Signs Team is always advised.

Trees and planting

When selecting and planting trees in built-up areas the maxim which should be adhered to is '**the right tree in the right place**'. The following issues also need to be

taken into account:

- It is vital to consider the cost of maintenance of the tree and its surroundings.
- Urban streets are very unnatural situations for trees, and urban microclimates may not be typical of the surrounding countryside, particularly with climate change. Therefore, it is vital to select species that will fit into the space available and will survive. These may be tough introduced species such as London Plane or Swedish Whitebeam.
- Consider the character of the tree within the context of the whole street environment.
- Consider whether the selected tree species will cause a nuisance or be a danger to local street users, such as the likelihood of falling branches, sap dripping or berries.
- It is in the urban environment that large trees provide the greatest benefit to the local environment, such as cooling and shading and improving air quality.
- Consider the eventual size and spread of the tree, and the effect this might have on the surrounding built environment, such as overhanging branches affecting adjacent property, street lighting, overhead wires, footways and the road.
- There may be more scope for considering native species in some village or suburban environments.
- How the root systems grow may affect underground services, and adjacent footways. Engineering solutions such as root barriers are available to mitigate damage to footways and services, however, species selection is by the far the most practical way of avoiding tree root conflict.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also *MfS* and the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., Appendix D, 1996).

Street lighting

- The conflict of aspirations concerning multi-purpose streets may be even greater than with those which are traffic dominated because there is a greater variety of users. Again, careful assessment and balancing of all these issues needs to be carried out.
- Using wall-mounted equipment can help reduce street clutter.
- For schemes being planned which will affect Conservation Areas and Listed Buildings it is vital to seek advice at an early stage on the design and location, particularly when considering wall-mounted equipment.
- The design and positioning of street lighting should be consistent, or complementary. The reasoning for this will be documented in the design brief.
- Careful placement can minimise street clutter, for instance, by locating columns out of view and not detracting from buildings of interest. Where installations are to be wall-mounted careful routing of cabling can minimise the impact on the appearance of buildings of interest. The scale of the installation should be carefully considered, for example, columns which exceed the height of neighbouring buildings should be avoided, where possible.
- White light or high pressure sodium lamps with superior colour rendering can be considered in sensitive areas like Conservation Areas.

Decorative and architectural lighting

Architectural lighting can be extremely effective in enhancing particular buildings or monuments of interest, and therefore promoting 'sense of place'. It should be remembered that when considering architectural lighting for listed buildings, Listed Building Consent is required. Decorative lighting may be suitable for town and city centres where the night-life is vibrant. Scheme designers and street lighting engineers may be able to agree ways of using decorative street lighting to enhance the night-time experience.

Lighting could also be used in seating, on trees, as part of street surfacing, or as public art. Lighting in addition to standard street lighting could also help with fear of crime issues. Conservation Officers should be consulted when considering decorative lighting in Conservation Areas.

4.5.2 Village centres and suburban streets

These often have a different character, even though the usage is similar to urban multi-purpose streets. They very often have a very different sense of enclosure to urban streets, with much wider roads and footways, often with verges, greens and trees. There are also some historic suburban streets which are much narrower and often with narrow footways. These street environments require a design approach very different from that suitable for an urban environment. Along with multi-purpose urban streets, these streets should be the most walkable and cycle-friendly.

The governing document when considering works in these types of streets is the *MfS*.

Highways Asset Management Plan: Urban Carriageway Hierarchy: Hierarchy Type 3 and 4.

Binbrook village centre enhancement scheme, showing new verges.

Cambridge Avenue, Lincoln.

Footway Hierarchy: Type 3 and 4.

Highway and footway geometry

Wide streets, with wide footways and verges are very important elements of the character of many village and suburban streets, and therefore need protecting and enhancing.

Depending on usage, consideration should be given, where appropriate, to:

- Widening footways and verges: the minimum unobstructed width of a footway should generally be 2m. Also refer to the IHT document *Guidelines for Providing Journeys on Foot* (2000). This is a technical document which describes best practice in planning and providing for pedestrians within the existing UK legislative framework. It considers the quality of pedestrian journeys as well as distance. (see *MfS1*, Section 6.3 for footway guidance).
- Restoring footways and verges where they have been lost.
- Enlarging village greens.
- Narrowing carriageway width (see *MfS1* Section 7.2.3 and 7.4.4 and *MfS2* Chapter 8). Be aware that narrowing of carriageways can be dangerous for cyclists. This may also create a problem with footway over-run if two vehicles cannot pass. This can be overcome by good highway design incorporating parking, unloading or passing bays on such narrow designed streets. Footway designs can also allow for some over-run, so reducing the need for bollards.

High Street, Navenby.

- A street audit may find that large vehicles rarely use the streets concerned, and so perhaps consideration of their ease of movement is not as important as it might otherwise be.
- The installation of roundabouts needs to be very carefully considered, particularly in Conservation Areas, and areas that have high pedestrian use. Conventional roundabout design is often not appropriate in these streets. They interrupt pedestrian desire lines, and can be dangerous for pedestrians and cyclists. They can also detract from the attractiveness of the street scene.

- However, roundabouts do enjoy lower rates of vehicle collisions, have a high capacity and therefore shorter delays and lower emissions. Therefore, if

Tattershall village green has been enlarged, and the car parking has been relocated nearby.

Bardney village centre improvements. Note the tightening of the junction by the installation of a build-out for pedestrians outside the Post Office.

Billinghay village centre improvements. The road between the memorial and the houses was paved, and kerbs installed, for use by pedestrians.

roundabouts are to be used the guidance in *MfS2*, Section 9.6, is as follows:

- Make it as compact as possible to reduce land take and improve accessibility for pedestrians and cyclists;
- Have crossings on desire lines. This means use of guardrail can be avoided. However there may a detrimental effect on traffic flow;
- Keep to a single lane, where possible, and as narrow as possible to reduce speeds. Guidance on providing for cyclists at roundabouts is given in *Traffic Advisory Leaflet* 9/97;
- Design for the largest vehicle that regularly uses this part of the highway.
- Roundabouts don't have to be regular shapes, but caution is advised when using irregular shapes as it may make turning requirements too sharp;
- Left hand slip lanes are dangerous for cyclists, so consideration needs to be given on how to resolve this.
- Art can be used on roundabouts to give visual interest.

- If roundabouts are to be used, then mini-roundabouts or continental-style roundabouts may be more suitable (see *Manual for Streets*, Section 7.3.12-16).

Some suburban streets have a very different character with traditional narrow streets. Potential changes to the highway and footway geometry of these streets are more limited.

Traffic management and traffic calming

In some village and suburban streets there may be issues with high traffic volumes and speeds. Reducing traffic speeds can aid the safe integration of pedestrians and cyclists, and thus promote choice of modes of transport. The following are some techniques that may help reduce traffic speeds, whilst making sure that streets remain free from unnecessary clutter and retain their character:

- Reducing forward visibility, and creating the impression that the carriageways are narrower (see Chapter 7 of *MfS1*, and Chapter 8 of *MfS2* and *DfT Local Transport Note 1/08*, Figs 3.13 and 3.14). This could be achieved in several ways, including lines of parked cars, trees and planting or street furniture. These traffic calming techniques should only be used where traffic speeds are 40mph or less.
- Combining narrower carriageways with parking bays. This can help where there are parking issues and perhaps will also reduce traffic speeds.
- The approach for traffic calming measures needs to be minimalist to avoid 'urbanisation' and visual intrusion wherever possible. For example, a combination of speed humps, build-outs, road markings and bollards are sometimes used, where only one of these methods may suffice. Speed humps are damaging to buses, and should be avoided on bus routes, where possible. The location of traffic calming measures needs to be considered carefully in relation to other elements of the street. For example, traffic calming measures, like speed humps or build-outs should never be placed directly in front of bus-stops.
- Emphasising those features which identify the centre of a village can help to lower driver speeds (Mitchell and Hamilton-Baillie, 2011).
- Parking should be carefully considered as part of the design process. Construction of parking bays between build-outs may help control on-street parking. Changes of materials in parking bays could be used to demarcate areas for parking. This will help to minimise road markings, and encourage good parking behaviour. TSRGD 2016 allows Highways Authorities the freedom to use these methods without applying to the Secretary of State for permission.
- With the exception of disabled parking bays, where possible, areas designated for parking should be in places where they will be least detrimental to the aesthetics of the street scene. (see *MfS2*, Chapter 11 for a discussion on the pros and cons of on-street parking).
- Reduced traffic speeds and volumes, and less space given to motorised vehicles could, in some situations, provide opportunities for safe children's play in the street environment.

See Chapter 7 (Street Geometry) and Chapter 8 (Parking) of *MfS1*, and Chapter 11 (On-street Parking) of *MfS2* for further guidance.

Street furniture

- It is often the case in these streets that historic street furniture still survives. This might include, for example, traditional telephone boxes, mounting blocks, village pumps, and so on. These should be protected as important elements of local distinctiveness.
- Seating can help to improve social interaction by

providing gathering points. There is a need to consider fear of crime, and make sure there is natural surveillance of these areas.

- The community should be involved in the design and positioning of street furniture. The design of street furniture should be consistent or complementary to its surroundings, and reflect local distinctiveness and the character of the local community. This might be through materials, shapes, or textures.
- Street furniture should be designed to be as resistant to vandalism as possible. It should also be placed to prevent problems for street cleansing.
- Bear in mind that there will sometimes need to be a buffer designed into the scheme around the footprint of street furniture to allow unhindered pedestrian movement.
- Verges are often protected from overrun with bollards or kerbs, but alternatives should be considered, like planting trees, or careful placement of other street furniture.
- Wherever possible the need to introduce 'recycling on the go' be encouraged and supported in accordance with the guidelines set out in the DEFRA consultation *Recycling on the Go* (13 August 2007) or any subsequent reports. This initiative encourages local authorities to provide on-street recycling facilities. There are receptacles available which are the same size, or only slightly larger than existing litter bins. The design and placing of the receptacles would need to be carefully considered to be sensitive to their context. Close co-operation with the Waste Collection Authorities is encouraged.
- The installation of cycle racks will help to encourage more journeys by bicycle. The inclusion of tapping rails should be considered in the design of cycle racks so that they are detectable by those with visual impairment. Cycle racks should be spaced about 1m apart, leaving 550mm between the outermost cycle rack and any walls (See *MfS1*, Section 8.2.12-24).

  Cycling groups and accessibility groups should be consulted on the design, quantity and placing of cycle racks.
- The County Council should try and influence positioning of utility objects in the highway to avoid clutter. In these streets this includes service boxes and poles with overhead wires. Where possible, and financially feasible, services should be located underground.

See Section 4.3.16, Bus stop infrastructure.

Signage and road markings

- Direction signs may be erected to provide continuity of information for drivers, or on traffic management grounds.
- Unnecessary signing should be removed.
- Existing signs should be reassessed for purpose, as the requirement for signs may no longer be there.
- Take into account guidance issued by the Department for Transport and Lincolnshire County Council's policy on signs and lines when deciding on the use of backing boards, sizes of signs and colour or size of carriageway markings. Use of yellow backing boards should be kept to a minimum. Consider using a larger sign and omitting the backing board. The use of coloured road surfacing should also be avoided where possible.
- Keep the use of high visibility, yellow faced bollards to dia.610 / 611 keep left / right / pass either side to a minimum, and only on the side where they are needed. They are not needed where there other high level illuminated street furniture has already been installed, like signals, for example.
- Signage will have a big impact on pedestrians as inevitably signs will be erected within the footway.
- Where possible, the number of signs and legends used should be kept to a minimum, whilst ensuring continuity of information provided to road users.
- It is expected that requests for individual direction signs to local facilities will occur and over a period of time individual signs, for instance to schools, colleges and churches, can all accumulate to create street clutter. Where possible the amount of signage used should be reduced or removed. **THINK!** Is there car parking at the destination? If not small pedestrian signs (possibly decorative) should be considered instead. Is there a prominent destination that is located adjacent to other facilities: for instance, is the hospital already signed on the same road as the school or church? If this is the case it would be quite acceptable to expect visitors to be told in publicity and advertising information that they should follow signs to the hospital. Once within the very local vicinity of the school or church then individual signing should be considered on traffic management grounds but only if the destination is not easily identified.
- Consider the use of 'for x follow y' signs.
- Traffic calming features and environmental enhancements including footway widening and build-outs can be used to assist pedestrian

movements but also provide informal, self enforcing parking areas that reduce the need for TROs and associated yellow lines and upright road signs in some cases.

- Within speed restricted areas, where approach speeds are reduced and 85%ile speeds are generally low, sign sizes should be kept to a minimum.
- Illumination requirements of certain signs can be relaxed on non-principal roads with TRO speed limit of 30mph (microprismatic material used instead).
- Where traffic calming features are considered and there is a definite requirement to reduce the use of signs and lines careful consideration should be given to the type of traffic calming used. The implementation of certain traffic calming features can result in a requirement for signs and lines on 'safety grounds', for example the use of build-outs in certain cases may require more signing than road humps because of the need to sign the priority.
- Traffic Signs Regulations and General Directions 2016 relaxes the requirements for illuminated signs. Check TSRGD 2016 or consult the Lighting and Signs Team.
- Minimum sign sizes should be considered.
- Does signing correctly reflect requirements of a TRO?
- Are TROs and associated signing and lining really needed? Can footway widening and build-outs with changes to footway and surface materials self-enforce and negate the need for signs and lines clutter.
- Traffic Signs Regulations and General Directions (TSRGD) allow the use of 50mm primrose or deep cream lines within 'areas regarded as environmentally sensitive'. This includes Conservation Areas, but could also include other areas. In some of the historic areas of Lincoln, such as Bailgate, no waiting lines have been omitted entirely (see Bailgate Case Study, and Stamford Case Study for ways of avoiding the use of no waiting lines, Chapter 9 of this document). Also consider the use of black finish to posts, rear of signs and fixings and attachment of signs to walls/buildings.
- Within 30mph speed limits are warning signs for junctions or bends, and so on, really necessary? Do side streets have 'through traffic value', if not this may negate the need for upright give way signs and illumination.
- A reduction in the number of traffic lanes could mean a reduction in the amount of white paint needed especially if narrowing is carried out with build-outs and kerbing.
- Tightening the geometry may help to self enforce lower 85%ile traffic speeds resulting in smaller sized signs?
- Pedestrian signs, possibly decorative, to be considered instead of direction signs, or the production of information boards within a central area (car parks) may negate the need for road signs but consider who owns and maintains these in the future.

Early discussion and involvement with Technical Services Lighting and Signs Team is always advised

Trees and planting

When selecting and planting trees in built-up areas the maxim which should be adhered to is '**the right tree in the right place**'. The following issues also need to be taken into account:

- Consider the character of the tree within the context of the whole street environment.
- Consider whether the selected tree species will cause a nuisance or be a danger to local street users, such as the likelihood of falling branches, sap dripping or berries.
- There may be more scope for considering native species in some village or surburban environments.
- Consider the eventual size and spread of the tree, and the effect this might have on the surrounding built environment, such as overhanging branches affecting adjacent property, street lighting, overhead wires, footways and the road.
- How the root systems grow may affect underground services, and adjacent footways. Engineering solutions such as root barriers are available to mitigate damage to footways and services; however species selection is by the far the most practical way of avoiding tree root conflict.
- The use of tree guards and grilles adds to the street-scene and prevents damage to newly planted trees from bicycles and wanton vandalism. Grilles in particular allow trees to receive natural water and prevent soil compaction within the tree pit.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also the Lincolnshire Design Guide for Residential Areas (Lincolnshire County Council et al., Appendix D, 1996).

Street lighting

- There will be less need to have the sort of lighting which will enhance night-time economy, but there

Lincoln Road, Skegness. Wide-Crowned Common Cherry trees (Prunus avium) have been planted to create a visual barrier along Lincoln Road. These trees overhang the road, footway, adjacent properties, street lighting and overhead wires. Regular maintenance is required to ensure their continued safety. Trees such as these should be planted on very wide verges or in parks.

Kennedy Avenue, Skegness. Bastard Service trees (Sorbus x thuringacia) growing on an estate road. The trees are in scale with their surroundings and they do not conflict with adjacent housing or the highway. The trees require regular maintenance for the first few years to ensure successful establishment. However, regular pruning is avoided by selecting the right tree for the right place.

may be demand for higher levels of lighting due to fear of crime issues.

- It is important to consider in residential areas whether the light from street lighting installations will be obtrusive. The type of lamps which are usual in this type of street are Fluorescent PL or PLT. Levels of light and scale of installations should be carefully considered, and not detract from their surrounding environment. The scale of the installation should be carefully considered, for example columns which exceed the height of neighbouring buildings should be avoided, where possible.
- Using wall-mounted equipment can help reduce street clutter.
- For schemes being planned which will affect Conservation Areas and Listed Buildings it is vital to seek advice at an early stage on the design and location, particularly when considering wall-mounted equipment.
- The design and positioning of street lighting should be consistent, or complementary. The reasoning for this will be documented in the design brief.
- There will tend to be fewer pedestrians and less street furniture on some of these streets, than on urban streets, but there is still a need to keep street clutter to a minimum.
- White light or high pressure sodium lamps with superior colour rendering can be considered in sensitive areas like Conservation Areas.

War Memorial in the centre of Bardney. The lighting, paving and signage does much to enhance this area in the centre of the village, with this important historic monument as its focus.

Decorative and architectural lighting

Architectural lighting can be extremely effective in enhancing particular buildings or monuments of interest, and therefore promoting 'sense of place'. It should be remembered that when considering architectural lighting for listed buildings, Listed Building Consent is required.

Architectural and decorative lighting can be used to great effect on these streets, but would generally need to be more subtle in order to protect their character. Conservation Officers should be consulted when considering decorative lighting in Conservation Areas.

4.6 Pedestrian dominant

These streets have high pedestrian flows and restricted vehicle access and will normally be in urban areas. They offer quite a lot of flexibility for design intervention.

The governing document when considering works to this type of street is *MfS*.

Highways Asset Management Plan: Footway Hierarchy: Type 1.

Traffic management and traffic calming

In these streets there is limited traffic movement, and this will usually be for deliveries only. As well as signs indicating the existence of a pedestrian zone, the presence of pedestrians will cause vehicles to proceed with caution. The nature of surfacing in these areas is often such that it will be a visual clue for motorists to take care.

Very low volumes of traffic and traffic speeds could, in some situations, provide opportunities for safe children's play in the street environment. In pedestrianised areas, for example, fountains, or lighting as part of surfacing, could be installed.

Surfacing

Completely uniform surfacing across all pedestrianised areas should be avoided, unless they are very narrow streets or alleyways (although even on narrow streets there is often still scope to have some differences in surfacing). It does not necessarily mean using different materials, but some differentiation is desirable. This could be achieved through slight changes to colour, texture, or unit size.

Footway paving should continue across minor junctions.

Street furniture

- Although there is often far more flexibility in this type of street for use of street furniture, street clutter and causing obstructions for pedestrians and those in wheelchairs should be avoided. Street furniture can be clustered into groups. Differing textures could be used as tactile warnings around groups of street furniture to indicate their presence.
- There is also an opportunity to identify areas for distinctive treatment, or public art, to contribute to local distinctiveness.
- Street furniture should be designed to be as resistant to vandalism as possible, and should also be placed to prevent problems for street cleansing.
- Wherever possible the need to introduce 'recycling on the go' be encouraged and supported in accordance with the guidelines set out in the DEFRA consultation *Recycling on the Go* (13 August 2007) or any subsequent reports. This initiative encourages local authorities to provide on-street recycling facilities. There are receptacles available which are the same size, or only slightly larger than existing litter bins. The design and placing of the receptacles would need to be carefully considered to be sensitive to their context. Close co-operation with the Waste Collection Authorities is encouraged.
- The County Council should try and influence positioning of utility objects in the highway to avoid clutter. This includes service boxes and poles with overhead wires. Where possible, and financially feasible, services should be located underground.

Signage and road markings

- Generally, minimum signing and lining, with sizes kept to a minimum but still in accordance with TSRGD.
- Direction signs will usually consist of pedestrian style signs from car parks, bus stations and so on, with the use of information points or boards being considered to help negate the need for direction signs at all decorative signs must not resemble highway signs and do not need to conform to TSRGD. Consider who will own and maintain in the future, possible LCC indemnity required.
- In historic streets and Conservation Areas decorative style pedestrian signs should be considered that are in keeping with the local area, for example using cast iron. Consider who owns/ maintains in the future, possible LCC indemnity required if erected in the highway.
- Consider the use of 'leading to…' legend incorporated beneath existing street nameplates (in consultation with the district council). Addition of 'no through road' symbol is permitted on street nameplates and is a good way to remove a superfluous sign assembly.
- Traffic Regulation Orders (TRO) usually need enforcement by prescribed signs and lines so careful consideration should be given to the necessity and location of TROs – **THINK!** Is the streetscape self-enforcing with different types of pavement surface, colours and so on. Can decorative street furniture (for example, wooden posts) be considered to enable self-enforcement of parking restrictions and vehicle movements within a shared use area. Posts

High Street, Stamford.

Silver Street, Boston.

Cornhill, Lincoln.

Maid Marian Way, Nottingham. Note the use of surfacing using different textures to denote areas of street furniture and trees.

Surface treatment at the junction of Park Street and High Street, in Lincoln's Cultural Quarter.

can be designed to be removable using socket foundations to enable quick and repetitive removal/ replacement.

- Signs and lines that are used to enforce TROs should be kept to a minimum both in number and size but always in accordance with TSRGD. Where possible, signs should be attached to existing street furniture: for instance lighting columns or existing posts, or posts which are in keeping with the streetscape.
- Traffic Signs Regulations and General Directions 2016 relaxes the requirements for illuminated signs. Check TSRGD 2016 or consult the Lighting and Signs Team.
- The illumination requirement and size of signs used can sometimes be relaxed in consultation with the Department for Transport. Beware, this can be a lengthy process and should be raised at an early

Exchequergate, Lincoln. Removal of an inappropriately placed Box Elder (Acer negundo) has dramatically improved views of the historic environment. Left: the view in 2006; right: the same view in 2007.

stage in the design of any scheme. **THINK!** Is the TRO really needed?

- Where traffic calming features are considered and there is a definite requirement to reduce the use of signs and lines careful consideration should be given to the type of traffic calming used. The implementation of certain traffic calming features can result in a requirement for signs and lines on 'safety grounds', for example the use of build-outs in certain cases may require more signing than road humps because of the requirement to give priority to one approach.

Early discussion and involvement with Technical Services Lighting and Signs Team is always advised.

Trees and planting

When selecting and planting trees in built-up areas the maxim which should be adhered to is **'the right tree in the right place'**. The following issues also need to be taken into account:

- Urban streets are very unnatural situations for trees, and urban microclimates may not be typical of the surrounding countryside, particularly with climate change. Therefore, it is vital to select species that will fit into the space available and will survive. These may be tough introduced species such as London Plane or Swedish Whitebeam.
- Consider the character of the tree within the context of the whole street environment.
- Consider whether the selected tree species will cause a nuisance or be a danger to local street users, such as the likelihood of falling branches, sap dripping or berries.
- It is in the urban environment that large trees provide the greatest benefit to the local environment, such as cooling and shading and improving air quality.
- Consider the eventual size and spread of the tree, and the effect this might have on the surrounding built environment, such as overhanging branches affecting adjacent property, street lighting, overhead wires, footways and the road.
- How the root systems grow may affect underground services, and adjacent footways. Engineering solutions such as root barriers are available to mitigate damage to footways and services; however species selection is by the far the most practical way of avoiding tree root conflict.
- The use of tree guards and grilles adds to the street-scene and prevents damage to newly planted trees from bicycles and wanton vandalism. Grilles in particular allow trees to receive natural water and prevent soil compaction within the tree pit.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also the Lincolnshire Design Guide for Residential Areas (Lincolnshire County Council et al., Appendix D, 1996).

Street lighting

- Because these streets are not traffic thoroughfares, it is possible to have more flexibility in column heights: shorter ones can be considered. In some instances there will be more flexibility in terms of positioning, although this will need very careful consideration. Street clutter should be avoided, and accessibility needs to be considered.

Silver Street, Gainsborough. Poorly designed tree grilles directing rainwater away from newly planted trees, these trees were replaced on a number of occasions before the grille problem was identified.

- Using wall-mounted equipment can help reduce street clutter.
- For schemes being planned which will affect Conservation Areas and Listed Buildings it is vital to seek advice at an early stage on the design and location, particularly when considering wall-mounted equipment.
- The design and positioning of street lighting should be consistent, or complementary. The reasoning for this will be documented in the design brief.
- There will tend to be less pressure on footways in terms of numbers of objects and volumes of users than urban streets, but there is still a need to keep street clutter to a minimum.
- White light or high pressure sodium lamps with superior colour rendering can be considered in sensitive areas like Conservation Areas.

Decorative and architectural lighting

Architectural lighting can be extremely effective in enhancing particular buildings or monuments of interest, and therefore promoting 'sense of place'. It should be remembered that when considering architectural lighting for listed buildings, Listed Building Consent is required. Decorative lighting may be suitable for town and city centres where the night-life is vibrant. Decorative street lighting (which does not necessarily meet the minimum standards) can be used to enhance the night-time experience. Lighting could also be used in seating, on trees, as part of street surfacing, or as public art. Lighting in addition to standard street lighting could also help with fear of crime issues. Conservation Officers should be consulted when considering decorative lighting in Conservations Areas.

4.7 Historic streets

Historic streets are found in both urban and village contexts. In urban areas these streets are usually fronted by old and architecturally distinguished or vernacular buildings constructed from natural materials. The carriageways are often narrow, and consequently vehicle speeds are slower, unless they are vehicle dominant, with high volumes of vehicles travelling at greater speeds.

Some historic streets represent multi-purpose street environments, particularly those in historic villages. They very often have a very different sense of enclosure from urban streets, with much wider roads and footways, often with verges, greens and trees.

In many cases what gives a 'sense of place' to a locality is rooted in its history. Its street layout and buildings. Lincolnshire's rich historic environment has much to offer in these terms and this should be reflected in the design of historic street works schemes, which should aim to preserve and enhance the special architectural and historic interest of their surroundings. Potential beneficial spin-off includes boosting tourism and the local economy, maintaining a 'sense of place', and promoting community cohesion. These places are sometimes, but not always, legally protected by inclusion within designated Conservation Areas and any works proposed within such streets should be sympathetic to, and where possible, enhance, the historic environment.

Whilst the design principles outlined above can be applied to historic streets, it is essential that practitioners are aware of the relevant legislation, and the potential constraints on the nature of some contemporary design. It will be vital from the outset, therefore, to involve in the design process the relevant District Council Conservation Officer where works to historic streets are proposed. The Conservation Officers will also be able to advise about any Conservation Area Appraisals and subsequent Management Plans that may already exist.

Highway Authorities are being strongly urged by the Government to consider the effect of schemes and maintenance on the historic environment, and guidance on this is available in National Planning Policy Framework. It is also stated in the County Council's corporate environmental policy that the County Council will 'promote good practice in the care of historic buildings and structures in the Council's ownership' and 'enhance and conserve the historic environment' (Lincolnshire County Council, 2007).

4.8 New development

The governing document when considering works to this type of street is *MfS*.

It is vital that the street scene on any new development is in keeping with its surroundings if it is to be of a sufficiently high quality. Also vital are good links with the existing town or village. In urban areas consideration should be given to the quality of its green infrastructure. However new development also offers the opportunity to improve on areas which are not of an appropriate standard. At the outset developers should consider the national and local policy context and conduct thorough site appraisals, including the investigation of existing movement patterns. **There is relevant technical guidance in all sections of the *MfS, Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., 1996), which has been adopted by all Local Authorities in Lincolnshire as Supplementary Planning Guidance, and *Development Guide on Transport and New Development Issues in Lincolnshire* (Lincolnshire County Council, 2005).** However, it should be noted that both the *Lincolnshire Design Guide for Residential Areas* and *Development Guide on Transport and New Development Issues in Lincolnshire* are due for updating following the publication of *MfS* and several National Planning Policy Framework, which refer to new developments and transport issues.

It is very important in rural areas to avoid a sense of urban streetscape. In urban areas consideration should be given to the quality of its green infrastructure. Therefore signs, road markings, guard rails, signals, poles and so on should be kept to an absolute minimum. The materials used in rural development should be rural in character where possible, and the use of natural and local materials is encouraged. For instance timber should be used for posts for signing wherever possible (non-statutory signing), and natural stone for surfacing where feasible.

The aspirations for the street environment should be documented in the Design and Access Statement, which accompany planning applications for developments. Since August 2006, Design and Access Statements (DASs) have been required for most planning applications for new developments. DASs are documents that explain the design thinking behind a planning application and are therefore important documents. They normally include a written description and justification of the planning application, often using photographs, maps and drawings to help clarify various issues (see section 3.8, page 37 of *MfS1*).

Guidance was published by CABE in 2006 on how to prepare Design and Access Statements in *Design and Access Statements: How to read, write and use them.*

It is advised that developers submitting major planning applications engage with the local planning and highway authorities at an early stage in proceedings.

The Highways Agency has published guidance which is intended to complement and extend advice given in *Cultural Heritage*, Volume 11, Section 3, part 2 of the *Design Manual for Roads and Bridges*, published August 2007. The guidance is called *Assessing the Effect of Road Schemes on Historic Landscape Character*, published March 2007. It contains techniques for evaluating historic landscape character, mitigating the negative impact on it by new road schemes, and also for the sustainable management and enhancement of historic landscape character. The guidance also deals with the effects of changing the existing infrastructure in historically sensitive areas. Advice can also be sought from the Places Team.

Highway and footway geometry

- The NHS Clinical Commissioning Groups are encouraging Planning and Highway Authorities, when considering the design of new developments, to include in their priorities the use of looped highway and footway design in order to create more pleasant routes for walking and cycling, in order to promote those activities for health reasons.

Boston.

The Square, North Thoresby.

East Street, Crowland.

For more detailed technical guidance and issues for consideration, please refer to the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., 1996)

- Footways, wherever possible, should be constructed to a width of greater than 2m, so that they can be used as shared spaces between cyclists and pedestrians.

Traffic management and traffic calming

- The approach for traffic calming measures needs to be minimalist to avoid 'urbanisation' and visual intrusion. For example, a combination of speed humps, build-outs, road markings and bollards are sometimes used, where only one of these methods would suffice. Speed humps are damaging to buses, and should be avoided on bus routes.
- The location of traffic calming measures needs to be considered carefully in relation to other elements of the street. For example, traffic calming measures, like speed humps or build-outs should never be placed directly in front of bus-stops.
- Reduced traffic speeds and volumes, and less space given to motorised vehicles could, in some situations, provide opportunities for safe children's play in the street environment.

Street furniture

- New development often presents an opportunity for planning the nature and location of street furniture from scratch, which is not always possible in other areas.
- Areas of seating and information boards, even containing public art, can provide a focus for social interaction. Interpretation boards can help to raise awareness amongst residents and visitors about what makes an area distinctive.
- In order to minimise street clutter on new developments, elements of the street scene, such as street lighting, signage, signals, phone boxes and bus-shelters could be combined. Street name-plates could be mounted on fences or walls.

Signage and road markings

See Sections in this Manual on existing streets.

Estate roads, Sandilands. New trees planted on very narrow verges. Their ultimate size and spread has been considered and specifically chosen for this location. They will grow in scale with the surrounding bungalows and complement the bungalows not dwarf them.
Left: Weeping Elm tree planted on island under overhead wires. The new tree will enhance the area and will not interfere with overhead services.
Right: Newly planted Strawberry trees;

Trees and planting

When selecting and planting trees in built-up areas the maxim which should be adhered to is '**the right tree in the right place**'. The following issues also need to be taken into account:

- Consider the character of the tree within the context of the whole street environment.
- Consider whether the selected tree species will cause a nuisance or be a danger to local street users, such as the likelihood of falling branches, sap dripping or berries.
- There may be more scope for considering native species in new developments.
- Consider the eventual size and spread of the tree, and the effect this might have on the surrounding built environment, such as overhanging branches affecting adjacent property, street lighting, overhead wires, footways and the road.
- How the root systems grow may affect underground services, and adjacent footways. Engineering solutions such as root barriers are available to mitigate damage to footways and services; however species selection is by the far the most practical way of avoiding tree root conflict.
- The presence of trees and planted areas within new developments is critical, trees and greened areas help to reduce stress levels and make for a more pleasant outlook. Properties with trees can be worth up to 10% more than those without.
- Advice on selection, planting and care of trees should be sought from an experienced, qualified arboriculturalist. See also the *Lincolnshire Design Guide for Residential Areas* (Lincolnshire County Council et al., Appendix D, 1996).

Street lighting

- It is important to consider in residential areas whether the light from street lighting installations will be obtrusive. The types of lamps which are usual in this type of street are Fluorescent PL or PLT. Levels of light and scale of installations should be carefully considered, and not detract from the quality of the surrounding environment. The scale of the installation should be carefully considered, for example columns which exceed the height of neighbouring buildings should be avoided, where possible.

5. Public Art

5.1 Benefits of involving artists in streetscape improvements

It is important to remember that the involvement of artists doesn't necessarily result in a piece of public art. They are able to contribute to the artistic and aesthetic aspects of schemes, and develop community involvement. The involvement of artists in schemes can bring many benefits, which include:

- Making a scheme unique, and enhancing an area's 'sense of place'.
- Developing good relationships with local communities.
- Contributing to the quality and enjoyment of a place.
- Positive press and media coverage.

Day of community consultation, Holbeach.

5.2 Initial Considerations

If it has been decided that a scheme will need to include the work of an artist it is recommended that:

- The artist's role in the project is considered at the earliest stage in the process to allow proper planning of the project and to explore all opportunities.
- The artist should work closely with the highways engineers, landscape architects, project managers and designers and others (in other words the Design Forum) to ensure that their work is integral to the overall scheme.

5.3 Commissioning Public Art

Like all aspects of street scene design the process of involving and commissioning artists should be sensitive to the context of the scheme and the aspirations and concerns of the communities who live there. It is important to consider the following issues when planning the involvement of an artist in a scheme:

- **Writing a brief**
  The development of a brief (as part of the overall Design Brief), which covers issues such as the aims of the project, budget, timescales and technical issues, is essential.
- **Selecting an artist**
  The method for selection will depend on the nature of the project but could be through direct invitation, limited or open competition.
- **Preliminary Designs**
  The commissioning of a preliminary design for a fixed fee enables the commissioner to become involved in the selection process and the development of ideas.
- **Consultation**
  Consultation with local people is encouraged where appropriate. This might include workshops in schools, presentations to local groups and questionnaires.
- **Community involvement**
  There are often opportunities for the local community to become actively involved in the whole process, including helping to write the brief and being part of the group that selects the artist and guides the project's development. In this way schemes can become far more 'community-led', therefore delivering what local people want, and

Gainsborough Riverside Walk.

West Street, Horncastle.

developing skills, boosting the self-confidence of individuals and communities, and improving social cohesion.

- **Temporary art**
  Artists can also produce temporary or ephemeral art as part of the design and preparation for schemes. This is an opportunity to experiment, test opinion, create interest and signal future change.

Finding an appropriate artist or artists and managing the process can be complex and it is suggested that specialist advice is taken. Contact the Midlands Arts Council.

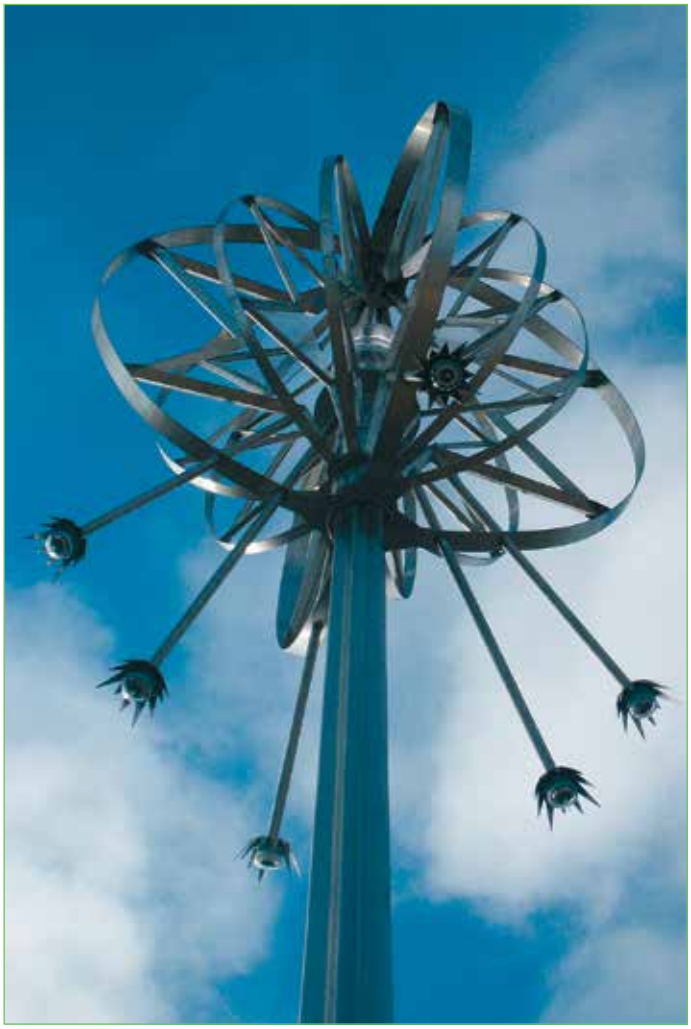
Cow at Nocton, made from farm implements found in a nearby field, by Nocton Village Trail Association with artsNK.

5.4 Funding

A number of opportunities exist for additional funding for art projects. Please see section 3.4 on Seeking Funding.

Maintenance

The responsibility for maintenance needs to be clearly established and understood for artworks that are located in the Highway. Under the Highways Act it is possible to hand over the responsibility under licence to third parties that will exist in perpetuity, including District Councils. This means that the third party would have permission to have the structure in the Highway, and that all responsibility for maintenance is passed to the third party.



Star of the East, Mablethorpe. Artist: Michael Trainor.

Matthew Flinders statue Donington. Artist: Judith Holmes Drewry.

6. Monitoring and Celebrating Success

6.1 Monitoring and measuring success

How this is approached depends on the size and aims of the scheme. For larger schemes, where there is likely to be a greater impact on the users of a street, surveys could be carried out before and after implementation of a scheme. Surveys could include counts of footfall, traffic volumes, and traffic speeds.

Where schemes are to be carried out practitioners should check if there has been a street scene audit, whether that is a Community Street Audit, or 'Placecheck', or an audit carried out by professionals. Once a scheme has been implemented practitioners should check to see if issues highlighted in the audit have been tackled, and how successfully. This could be measured by asking street users and communities what they think of changes to their street environments.

Research has been carried out on behalf of CABE in ten locations in London on market prices, including retails rents and residential prices, where street scene improvements have been carried out. The results show that better streets result in higher market prices, therefore providing a strong justification for investing in the street environment. The research also demonstrates that good design is valued by those who use the case study streets, and that this value can be measured. For more detail see *Paved With Gold* (CABE, 2007b).

It is important to note that, rather than generating immediate impacts, improvements to the public realm will often generate positive impacts over the longer term. This is particularly evident in terms of economic growth where the existing evidence suggests that positive effects are often unlikely to be realised until after two to three years, if not longer.

In 1999, Begg developed the 'Urban Competitiveness Maze' which provides a framework for considering the various influences on urban economic performance. It highlights that a high quality pedestrian environment and public realm is considered an essential component of the right business environment.

Supporting this, in 2004, Frontier Economics Ltd examined the link between local environmental quality and economic improvement. They acknowledged that the evidence base is thin but suggested that, overall, investment in the public realm can have a positive economic effect. In particular, they identified that such investment can:

- Stimulate the local economy and generate above average private sector returns.
- Have a positive impact on perceptions of the area, especially non-local ones.
- This positive impact may retain workers in, and attract workers to, a wider area which has easy access to employment centres (Ecotec (on behalf of EMDA), 2007).

In Lincolnshire, the success of regeneration work as part of the Waterways project, has been systematically measured and monitored, both quantitatively and qualitatively as part of the monitoring and feedback required by funding bodies. This is an approach which practitioners may find useful for street scene improvements in high amenity areas.

The method comprises:

- A County Council employee visiting all the businesses in the vicinity of works in order to collect baseline data before the project is carried out.
- The data is collected by means of a questionnaire.

Questions include:

- Numbers of employees.
- Who uses the services the business offers?
- Where are they from?
- What is the turnover of the business?

Also, a more qualitative and anecdotal record is made, which demonstrates the level of confidence and investment in the business. This information may help to give some context for the results of the research.

This process is repeated after the project has been carried out and had an opportunity to have an effect on businesses. This new information can then be compared to that gathered before the project was implemented.

For advice about this method, contact Economic Regeneration (see Appendix 5 for contact details).

6.2 Celebrating success

Celebration of successful schemes and sharing experiences is very important, enabling those involved to gain recognition for achievements; and also for others to benefit from the positive, as well as learn from negative experiences.

This should apply to all large schemes.

On-site: Leaflets or posters can be used prior to start of the scheme; temporary art installations, for example projections on buildings, can be effective; during the implementation hoardings describing what the works are, and how they are being carried out, can be informative and interesting for the public.

Launch events are also a great way of introducing people to changes in a positive way.

Off-site: Articles in local papers, local radio, talking newspapers, can raise awareness about schemes before they happen. As well as warning about possible disruption, they also raise awareness about the changes to the street environment, and why these changes are happening, and how they will be beneficial. Similarly, publicity after completion will help to celebrate successes.

Sharing successes within the County Council could be by means of George or by email, newsletters (for instance, the Divisional Magazine), or even by occasional events.

Accident statistics could be included in monitoring where safety has been raised as a concern, and this is one of the main reasons for carrying out the scheme. Be aware if accident statistics are used that the first year after the scheme that there may be a rise in accidents whilst users adapt to the new environment.

As part of the scheme which was carried out on Kensington High Street a series of road user surveys identified that the majority of users felt that the scheme made the area more attractive and cleaner. A majority of respondents also felt that the area was still 'safe'. The removal of guard rails did not appear to raise concerns.

This is an artist's impression of Bailgate which was used during the construction phase of the scheme to show street users what the street would look like when completed. This was also an opportunity to reduce the impact on shops and businesses while the construction was in progress.

Barriers around work in progress in Nottingham City Centre have been used as an opportunity to inform the public about the works, and celebrate them at the same time.

There is evidence following road user surveys after schemes have been implemented (where footways have been widened, traffic calming has been introduced, street clutter has been removed, and parking provision revised) that the majority of people find the area much easier to negotiate on foot, and that it is easier to cross the road (TRL Limited (on behalf of Transport for London), 2006).

7. Maintenance

7.1 New schemes

Maintenance is an extremely important consideration in the design of any scheme. Under the Construction (Design and Management) Regulations 2015 it is a legal duty for clients and designers to consider maintenance when designing and building highways schemes. Therefore it is vital that maintenance is included in the decision-making process, and that the responsibility for maintenance, before, during and after construction, is clearly defined.

When designing street furniture, street lighting, or selecting surfacing, the durability of materials needs to be borne in mind as well as accessibility for maintenance purposes. This may mean giving greater consideration to materials which are more expensive to purchase in the first instance, but such materials may well cost less in long-term maintenance.

Considerations for maintenance include:

- Establishing responsibility for the maintenance of these elements.
- How they will be maintained.
- Where objects and materials can be sourced.
- Potential costs involved.

Consultation will need to take place with those who are expected to carry out maintenance. This information needs to be documented, and then be made easily available.

This may be an opportunity to involve and empower parish councils in maintaining some aspects of their street scene. This may necessitate some training. However, this could be off-set by benefits such as building a sense of ownership, and reduced maintenance costs.

On-going maintenance includes street cleansing, and as well as selecting construction materials able to withstand all methods of street cleansing and general maintenance, care should be taken in design and selection to avoid difficulties for those who carry out those functions, including other authorities, contractors and utility companies.

- Some streetscape designs can lead to creating areas that are inaccessible to mechanical sweeping methods and as a result need costly cleansing. These areas can become unsightly litter traps. The choice and positioning of street furniture needs to be carefully thought out and not result in places that cannot be swept.
- The choice of surfacing can also lead to cleansing problems. For example, if surfacing materials are used which require sand brushed joints (like blocks) mechanical sweepers could suck the sand from the joints leaving them unstable. Alternatively, where recessed joints are used (like granite setts) detritus can become trapped and difficult to remove by mechanical sweepers.
- The use of porous sandstone paving, especially outside fast food outlets, can cause problems with staining from spilt drinks and food.
- Tree grilles can also give problems by being a repository for cigarette ends and other detritus and difficult to clean without removing the drainage gravel.

Thus, it is important to include those responsible for street cleansing in the design process of schemes.

7.2 Routine maintenance

When carrying out routine maintenance, it is very important to bear in mind the need to reduce street clutter, and requirements relating to the protection and enhancement of local distinctiveness. A tool to help with this is the Level 1 street audit: short street scene assessment.

7.3 Commuted sums for maintenance

When the Highway Authority takes on assets from other owners, it incurs maintenance costs for the life of the assets, as well as replacement costs at the end of their useful life.

Commuted sums to cover these costs can usually be recovered from the transferring owner, unless other specific sources of funding for these assets are available to the Highway Authority, for example, the Revenue Support Grant (RSG).

There are three main ways in which the Highway Authority agrees to take on assets from other owners:

- S38 Agreement (of the Highways Act 1980), whereby the total length of adopted highway maintained by the Highway Authority is extended. This affects the formulae that govern the calculation of the RSG, which includes for general highway maintenance.
- S278 Agreement (of the Highways Act 1980). As these works are on the existing maintainable highway, it is less likely that there will be an extension to the network and therefore it is unlikely to affect the RSG.
- Other agreed transfers from third-parties. These may or may not extend the existing highway, depending on the specific circumstances.

Practitioners should refer to HAT 40/4/12 to ensure that, when accepting assets from other owners, the Highway Authority is not unnecessarily burdened with maintenance and replacement costs. It does this by allowing for commuted sums for maintenance to be recovered through Section 38 Agreements, Section 278 Agreements and any other agreements that include for the transfer of assets to the Highway Authority.

8. Managing Risk

For greater detail on this subject please refer to the *MfS1*, Section 2.6 on which this section is based, which in turn was based on *Highway Risk and Liability Claims*, published in 2005 by the UK Roads Board. CABE Space has also produced a report on understanding and managing risk and perceptions of risk (CABE Space, 2007a).

Many highways engineers have expressed concerns over risk and liability. It is important, of course, to be aware of risks and liabilities involved with design and maintenance, but it is also important to make sure that the primary objective of a scheme and the local distinctiveness of an area are not forgotten when considering street works.

One significant, but hidden effect of high traffic speeds is intimidation of non-motorised road users. Fear of accidents keeps alternative modes of transport, like walking and cycling, off the streets. Paradoxically, in some cases, greater road danger, including the perception of it, leads to reduced casualties since people walk and cycle less. Thus, while casualty statistics appear to show that streets are safer, pedestrians and cyclists experience some streets as very dangerous indeed.

It is worth noting the judgement in the case of Gorringe v. Calderdale MBC (2004), which was brought against a Highway Authority for failing to maintain a SLOW marking on the approach to a sharp crest. Several important points came out of this in the judgement. Amongst them are:

- The authority's duty to 'maintain' covers the fabric of the highway, but not signs and markings;
- There is no requirement for the Highway Authority to 'give warning of obvious dangers' (Lord Hoffman, para 10); and
- Drivers are first and foremost themselves responsible for their own safety (Lord Scott, para 76).

Some claims have been made under Section 39 of the Road Traffic Act, which gives a general duty to the Highway Authority to promote road safety. The Gorringe v. Calderdale judgement made it clear that Section 39 of the Road Traffic Act cannot be enforced by an individual. There is simply a general duty on a local authority to exercise its powers in the manner it considers appropriate. Authorities have a considerable degree of discretion in how they go about this.

Few cases are brought for design defects, as it is difficult for claimants to show that faulty design has caused an accident, rather than another cause, like road conditions, driver error, or poor maintenance, for example.

In these cases, it is a defence for a Highway Authority to show that:

- The new works were properly designed.
- The Authority did not inadvertently trap road users into danger.
- The Authority complied with appropriate standards or guidance; however, the emphasis is on the word 'appropriate' - standards and guidance should not be applied without proper consideration of local circumstances.

Some court cases have found that a Highway Authority can be liable if it 'entraps' road users, for example by removing markings on which road users have come to rely. It could be strongly argued by Highway Authorities that the removal of pedestrian guard rails would not 'entrap' pedestrians into danger, as the onus is on the road user to take care. Indeed there is evidence to suggest that removal of guard rails actually improves road safety. Statistics from the Royal London Borough of Kensington and Chelsea show a reduction in road traffic accidents and casualties since the removal of guard railing (Royal London Borough of Kensington and Chelsea, 2005). Southwark and Camden Councils have also taken the decision to not install guard rails in some instances as they are believed to cause accidents, rather than prevent them (Southwark Council, 2006). Consulting widely, then subsequently publicising and advertising the proposed changes to a street scene

by a scheme can help to fulfil the legal requirement not to entrap road users. This could be, for instance, by advertisements in local papers (including talking newspapers), on local radio, leaflets, on-site notices or posters, perhaps even by striking, temporary art installations. As well as informing people of impending change, such public engagement also celebrates the scheme.

Road Safety Audits

In 2008 the IHT published *Road Safety Audit* which is an update of guidelines first published in 1996. Lincolnshire County Council have subsequently revised their *Safety Audit Policy and Guidance* (HAT 62/1/10 published 2010). Any scheme which introduces any significant change to the existing highway, or changes the finished surface of the carriageway or changes the exposure to a risk of a set of users should be subject to the Safety Audit Procedure. Routine maintenance works, footways or structures schemes for example, which have no change to the existing layout should lay outside the Road Safety Audit process unless there is a departure or relaxation from standards.

The final decision regarding the need for safety audit lies with the Project Manager. However, the Project Manager could be expected to justify reasons why a Safety Audit was not carried out.

Road Safety Audits (RSA) are carried out to identify road safety issues, and will make recommendations about changes to a scheme, in order to reduce the number and severity of road traffic accidents. It is important to remember that these are recommendations, and that the design team are not governed by the findings of the RSA. However, any recommendations that are not accepted should be signed off by a Head of Service.

The RSA is normally carried out by experienced road safety experts, who are independent of the design team, and consider only the road safety issues. This can lead to problems when trying to create places which are locally distinctive, free of clutter, and high quality.

Therefore it is recommended that Road Safety Auditors are included in the design forum, to engender informed debate that includes road safety issues. Consequently, even though the RSA cannot be carried out by someone involved in the design of the scheme, where issues arise there will be the potential to deal with them more effectively, and in a timely manner. The revised Lincolnshire County Council policy and guidance supports the recommendation that design teams discuss their proposals with the Audit Team at an early stage. The policy also supports the use of a process for Quality Audits (see Section 3.1 of this document) and encourages auditors to work with designers to achieve the objectives of the scheme.

When recommendations are made as a result of an RSA, it would be helpful to have, wherever possible, a general and broad indication of whether an incident is likely to occur.

The design audit, exception reports, and departure from standards reports do need to be properly documented, in order to demonstrate that designs are appropriate. This is also important in relation to the Corporate Manslaughter Bill of March 2005. It is a concern of Highway Authorities that they may be liable under Corporate Manslaughter if it is found that a defect in design has resulted in death, and that this may stifle innovative street design. The Government is aware of this, and therefore, the requirement will be for Authorities to show that they have carried out a risk assessment if departing from guidance.

9. Case Studies

Bailgate Restored

Summary

To enhance and repave using historic materials the Bailgate area of uphill Lincoln and to create a new landscaping and interpretation scheme for the Roman Well and St Paul in the Bail area.

The project aims to:

- Enhance and repave Bailgate in historic materials
- To display the Roman well and St Paul in the Bail in a more visual way by enhancing presentation, access and interpretation.
- Celebrate the historic context of the area
- Deliver quality public realm and local distinctiveness
- Improve the physical environment and image of the area
- Improve pedestrian access
- Improve wheelchair access
- Increase investment in the area
- Enhance and lengthen the stay of visitors in Lincoln
- Create a pedestrian friendly environment and reduce the dominance of the car
- Complement the historic buildings in the street

The colonnade marker under construction.

Description

Bailgate is the most important thoroughfare in uphill Lincoln. It forms the North South axis between the Roman North and South gates and is on the line of the famous Roman road Ermine Street. At one end of Bailgate is Newport Arch, originally the North Gate of the Roman walled city and is now the only surviving Roman gateway in Britain still used by traffic. The other end of Bailgate leads into Castle Hill, the medieval space which forms the setting across which the Cathedral and Castle which date from 1072 and 1068 respectively, face each other.

The area was designated a Conservation Area in 1968, buildings are predominantly listed and the area is also rich in archaeology with a number of Scheduled Ancient Monuments. Bailgate, unlike Castle Hill is predominantly commercial and is noted by locals and tourists alike for its individual speciality shops and eating establishments. Roughly half way along Bailgate is an area of open space that includes both the site of an early timber church (AD350-650) and a Roman Well. The outline of the church, probably the earliest in Lincolnshire, is marked out in setts on the ground. The church and well are aligned reflecting the religious significance of water.

The scheme involved the repaving of Bailgate in its entirety, footways and carriageway, in natural Yorkstone, continuing the theme set by the Cultural Quarter Scheme. The scheme involved the widening of footways where possible without the loss of parking, retaining the Roman colonnade marker setts, de-cluttering of street furniture and rationalising of the highway lining and signing.

The completed Roman Well area

The site of St Paul in the Bail and well was previously segregated from the public by inaccessible steps and brick walled planter. As part of the Bailgate Restored scheme, St. Paul in the Bail was to be 'opened up' by providing access directly from Bailgate, improving access for the mobility impaired via Westgate and completely renovating the Roman Well as a visitor attraction, including a 3m x 3m glass square over the refurbished well and new LED illumination.

Design Process

This scheme was instigated by Lincolnshire County Council on behalf of the Historic Lincoln Partnership (HLP). The HLP was set up in 2004 to provide a co-ordinated approach to the regeneration and care of the buildings and public space of uphill Lincoln. The partners are City of Lincoln Council, Lincolnshire County Council, Lincoln Cathedral, Lincolnshire Enterprise, English Heritage and Lincolnshire Tourism.

Tourism was the focus of the project, and therefore the lead was taken by Tourism Officer, Mary Powell, from Economic Regeneration in LCC. This was the basis on which funding from EMDA and match funding from LCC was secured by Mary Powell.

As LCC's in-house Highways Design Office, Technical Services Partnership (TSP) led the design of the scheme, both from the Highways aspect, and the structural side of the St Paul in the Bail scheme.

The local businesses forum in the area is the Bailgate Guild. From a very early stage in the project regular meetings were held, and close contact was maintained throughout, with the Bailgate Guild by LCC's Tourism Officer (Mary Powell), the Senior Project Leader for the scheme (Les Outram) and the Lead Design Engineer (Adam Round). This proved extremely valuable as it gave the design team an insight as to how the area operates on a daily basis influencing not only the design in terms of the finished product but also in the buildability of the scheme as a process regarding construction methods and construction programme. It also served as a good forum for informing the businesses and residents of how the scheme design was progressing. Once the contractor was appointed the consultation and information exchange continued allowing the contractor get an early feel for the scheme prior to commencing on site giving them a 'heads up' of the potential issues.

Notable issues

The predominant issues for the scheme were:

- balancing the requirements of an intense tourist area with the everyday use requirements of an 'inner city village'
  - The requirement for wide footways and a narrow carriageway is easily justified (due to large numbers of pedestrians, and narrow footways before implementation of the scheme), but so was the requirement for on-street parking to maintain the vitality of the streetscene. North of Westgate is where the majority of the on street parking is also the widest section of Bailgate, so some widening of footways was available here. To the South of Westgate, the one-way lane was narrowed to 3.1m to enable the footways to be widened but also to inhibit impromptu dropping off and therefore de-cluttering the street of vehicles.
- Designing and constructing the scheme with due recognition of Heritage and archaeological issues
  - All parties involved desired natural stone materials. A balance had to be sought between cost and heritage and ethical issues; imported, Chinese stone would have been cheaper, but it was felt that in such an historic environment it was important to use indigenous materials.
  - The City of Lincoln Council archaeological team

was consulted at a vey early stage to discuss the likely presence of artefacts. These were only likely in isolated areas and below a certain depth. As such, an archaeological watching brief was on site during the excavation in these areas, recording any finds and the nature of the exposed materials.
    - Street furniture was kept to a minimum. Any posts that were required were painted black, as was the rear of any illuminated signs. Illuminated signs used were electro-luminescent to keep the bulk of the lamp unit to a minimum.
- Constructing the scheme whilst maintaining Bailgate as an accessible Street
    - It was essential that Bailgate could still be utilised as a living street, both by tourists and the local community. The Bailgate traders were very concerned about the any 'down time' for business that would happen as a result of the works. Therefore, in conjunction with the Bailgate Guild, a phased programme of construction was devised enabling the busiest part of Bailgate to be finished and open by Easter whilst still maintaining access for businesses, local schools and the local churches. It was also important that the message that Bailgate was 'open for business' was publicised to the public during construction to maintain trade as normal. This was achieved through a £20000 programme of positive publicity, particularly producing informative but promotional leaflets, articles in the HLP newsletter, and also internet and radio bulletins.
- Completing the construction of the scheme between the major event of Lincoln Christmas Market and the start of the summer school holidays.
    - These periods are times of massive influx of visitors to Lincoln and it was imperative that the scheme was complete between these periods.
- Overcoming the issues surrounding the very shallow utilities present in the carriageway.
    - Whilst trial holes were dug to ascertain the depth of utilities prior to commencing on site, the number of very shallow utilities encountered was not expected. A number of gas and electricity services had to be lowered to enable the schemes construction, but due to early discussions with the relevant parties, these were done swiftly and the programme was maintained.
    - To enable a better finished product the designers liaised with Anglian Water early on to discuss the changing of the water meter covers from circular to square to better fit around the new Yorkstone paving. An agreement was made between the Contractor and Anglian Water such that the replacement of the metre covers was done on a rolling basis within the works programme. This meant that no part of the footway was dug up or left unfinished out of sequence and once an area was paved, it was complete with no return visits by utilities required.
- Overcoming issues surrounding unknown cellar cavities.
    - Whilst the presence of cellars was expected, and known in the cases of those with cellar lights, the size and condition of the existing covering was not known. These had to be dealt with on an individual basis depending on what was found. Provision for this was allowed for when budgeting for the scheme.
- Working with stone sympathetically
    - A local stone mason was used on numerous aspects of the scheme to better shape certain elements of kerbing where the equivalent 'traditional' civil engineering methods would not have resulted in the desired aesthetic. An example of this was the fluting of the kerbs adjacent the dished channels located at downpipes. As a result of the use of a stone mason on this scheme, the use, or potential use, has been allowed for on other Public Realm schemes since.
    - The use of rigidly laid setts on vehicle accesses - the detail was such that the sett were laid to a restraint that went to the top of the dropped kerb. This meant the change in level could be accommodated by the setts much easier than it could have been if they had been taken to the bottom of the dropper and the change tried to be achieved in flags, where 'envelope' cuts would more than likely been required.
- Design Considerations
    - Whilst it was an aim to de-clutter the street, the designer was aware that this may allow vehicles to mount the footways on occasion. This was allowed for in the design of the footways, ensuring the stone flags would not be damaged easily. The carriageway was constructed in setts

These three images show the area of Bailgate around the junction with Westgate and south towards Castle Hill, before and after the scheme was implemented.

These two images show the northern stretch of Bailgate before and after the scheme was implemented.

in a flexible manner (bedded on and jointed with sand). Not only did this create the desired aesthetic (for this area) it was faster to lay and means future maintenance is easier as the setts can be removed for the work and reinstated; compared to rigid construction where setts are almost always damaged in their removal.

Funding

The scheme was funded jointly by Lincolnshire County Council (Historic Lincoln Partnership and Highways) and the East Midlands Development Agency. It was a £1.18 million project in total.

Evaluation

On the whole the scheme was a success. It was delivered within budget and on time. Throughout the entire construction period only one complaint was received.

The key to the success of the scheme was threefold.

One of the great strengths of this scheme was a very successful partnership between LCC Tourism and Highways, where Tourism provided funds (both external and internal), and Highways provided their skills in implemented the scheme. This strong partnership meant that communication with the community during construction, and the finished scheme are both of particularly high quality.

On public realm schemes such as this that utilise high-quality natural stone materials, the desired finish is highly dependent upon the finish of the detailed elements. Ensuring kerbs are laid with flush joints, all ironwork set with the bond of the flags/setts, good design details around drainage features; the small finishing touches really make the difference, and do not have to cost a great deal. For example, on the steps from Bailgate to St Pauls in the Bail, the required visibility strips could have been an epoxy glued black strip applied to the Yorkstone steps. Instead, the designer used a pink granite insert that matched the pink granite setts on Steep Hill and elsewhere in Uphill Lincoln. Around St. Paul in the Bail, the vents required for the well area were constructed using standard off the shelf parts. However, instead

The banner that was installed on and around the construction site.

of using the standard plastic brick-sized insert for the inlet grate, brushed stainless steel grates were used, bringing a high quality feel to the area, and increasing the durability of the scheme. The decision to use natural stone should not be seen as a substitute for good design. It is perhaps more important to get the detail right to do justice to the natural materials: an expensive and limited resource. These finishing touches need not be expensive, especially if they are allowed for when budgeting for the scheme.

The other aspect that led to the success was the early interaction with the community and the close interaction with the Divisional Highway staff during the design and construction phase. Opening the lines of communication within the community during the design phase allows the input from the community to be reflected in the design, which gives them ownership of the scheme and hence much more likely to positively get behind the scheme. Keeping the community informed on progress and changes was vitally important. This was done through open evenings (where residents were invited to attend to see plans, comment on progress, raise any issues etc), a scheme flyer informing people about the scheme and re-emphasising that Bailgate was still 'open', radio updates on route restrictions and diversions, articles in the HLP newsletter, and a LCC and Contractor presence on site willing to be helpful. Banners were installed on the Herras fencing on-site. On the Bailgate Restored scheme, this community group already existed, but effort should be made to set something up if one doesn't currently exist. The joint contribution to the scheme from LCC and the Community culminated in a Grand Opening Street Party where Bailgate was 'Re-opened' by the Mayor and street entertainment was put on to celebrate the scheme and the community spirit of the area.

Further information

Client – Mary Powell, Economic Regeneration, Lincolnshire County Council
Client – Mark Welsh, Highways, Lincolnshire County Council
Senior Project Leader – Les Outram, Technical Services Partnership, Lincolnshire County Council
Consultant/Designer – Adam Round, Technical Services Partnership, Lincolnshire County Council
Contractor – North Midland Construction.

For further information contact Highways North on 01522 782070 or LCCHighwaysNorth@lincolnshire.gov.uk

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the catalyst for change

Boston Market Place Refurbishment Scheme

Background

The need to undertake a scheme to improve the design and functionality of the Market Place was acknowledged in the 2004 Boston Masterplan and again in the refreshed version in 2006.

In 2007 Boston Borough Council commissioned the Boston Town Centre Study, which looked at ways that Boston could become a better place to both live, work and visit. The study identified the regeneration of the Market Place as the key objective in the rejuvenation of the town, acting as a catalyst for further works that would improve the appearance and offer of Boston whilst retaining the town's proud history.

The Market Place on a non-market day prior to the scheme, photographed from the tower of St Botolph's Church

Description (before)

The Town Centre Study highlighted the potential of the Market Place as possibly Boston's greatest asset but that it had lost its place as the centrepiece of the town due to a lack of investment and by the poor quality of the public realm.

The Market Place provides the backdrop to the magnificent St Botolph's church and is surrounded by many interesting and potentially very attractive listed buildings. It is at the heart of the Boston Conservation Area. It is also the town's main market, a natural meeting place and a hub of activity. However, the quality of the retail offer had degraded, shop frontages lacked quality and consistency and conflict existed between pedestrians and vehicles.

Furthermore, improvements were required in order to raise expectations and aspirations amongst the local population, businesses and visitors to the town.

Design process

The main aim of the scheme was to ensure that Boston is well placed to compete with neighbouring towns and cities - many of which have benefitted from recent investment.

The vision was to create a simpler layout that would bring the heritage of the Market Place to life. Parking provision has been reduced to redress the balance with pedestrians, with the 'regained' space proposed for additional specialist markets, events and potentially, street cafes.

At the outset, representatives from key organisations and businesses were identified and invited to form a 'Steering Group', essentially to provide a steer as the project developed. Closely aligned to this is a programme of wider community engagement took place via workshops, consultation events and audits etc.

The **Steering Group** included representation from: Boston BID (Business Improvement District); LCC Highways; Police; Elected Member from both local authorities; LCC Historic Environment Team.

Alongside the Steering Group, **'technical workshops'** were undertaken to bring together practitioners/ officers from specific departments within different organisations. This helped to ensure the proposals took into account a range of perspectives, in order to ensure the longer term success of the project. Participants included representation from: LCC Highways; BBC Planning & Strategy Team; LCC Transport Services; English Heritage; LCC Historic Environment Team; BBC Cultural Services team.

Layout

The redesigned layout of the Market Place is as faithful as possible to that shown on the earliest OS map, with historic routes defined. However, more current uses such as the Into Town bus have been accommodated.

Materials and features

The materials for the market place have been selected with the intention to best complement its setting and to meet objectives of the brief and subsequent design development (which involved officer workshops etc.)

Key considerations included: the use of a restricted palette of materials, following the shape and flow of the space; the definition of historic routes and retaining kerbs only to pavements along the edges of spaces.

A key outcome of the design development workshops was that the market place should adopt a 'shared space' approach and avoid unnecessary physical features / clutter. Whereas shared space often involves a flush surface throughout, the decision was taken to retain a raised kerb/footway in order to satisfy the heritage recommendation and also to provide a 'safe space' for more vulnerable users such as those with visual impairments.

Overall, the palette of materials is very simple; the footways comprising flame textured York stone slabs retained by a granite kerb and the 'shared space' in York stone setts with subtle demarcation of historic routes by a combination of York stone and granite setts.

Bespoke features have been incorporated into the scheme to enhance the special character of the Market Place, such as the Five Lamps lighting column. The original set of Lamps was presented to the town in 1842; consisting at first of a solitary light with four more lights being added in 1848. In 1927 the feature was replaced by a new column of electric lights but these were also later removed and the remnants now stand elsewhere in the town centre.

Following consideration of which version should be incorporated into the scheme, the original 'gas' lamps was favoured and it was agreed to commission a replica. The feature has been reproduced predominantly using traditional materials: the upper part of the base, column and lantern bracketry are cast iron and painted black; the lanterns are constructed from copper and painted black; the lower part of the base has been reproduced in stone. The exception is the lighting element: the original feature was lit by gas, whereas the recreated version is lit to comply with current standards. The optics has been chosen with the intention of emitting a warmer light more reminiscent of the previous gas lamps than the modern, whiter fittings now available.

Repaved footway during construction works

Notable issues

Scheme development

In developing the proposals much consideration was given to reflecting heritage recommendations (made by conservation specialists); public consultation feedback and 'operational' requirements of the different user

groups (twice-weekly market; taxis; shoppers/visitors, the Into Town bus service; disabled users). As such, compromises were necessary to try to balance the operational pressures with the aesthetic aspirations. These were debated in the technical workshops and communicated in the subsequent stages of consultation.

Construction phase

The construction phase of large schemes is generally a challenge and the town centre location of this project increased the complexity of some aspects of delivery; for example, managing pedestrians, deliveries and maintaining public transport facilities within a construction site situation.

Issues surrounding access and disruption to businesses during the construction phase were also challenging. Additionally, the economic climate can provoke the question of timing; often these schemes are several years in the development from securing the funding to starting on site and within that time dramatic changes can occur.

Construction

Work on site began in July 2011 and was completed in Spring 2012.

The Principal Contractor was Ringway Infrastructure Services Ltd.

The nominated supplier of natural stone materials was Marshalls Natural Stone Paving.

The commission for the Five Lamps was undertaken by Acorn Restorations Ltd.

Funding

The £2m project has been made possible thanks to a £1.1m contribution from the European Regional Development Fund (ERDF), in partnership with Lincolnshire County Council and Boston Borough Council (who each contributed £450,000).

Evaluation

The newly completed works require a significant shift in the way people use the Market Place. Parking provision has been reduced from 110 to 40 spaces in order to redress the balance between vehicles and pedestrians and to enable other activities. There is an inevitable adjustment period as the space is re-occupied and interaction between different users groups is established. Enforcement of the new parking arrangements is problematic at times; this should be alleviated by the introduction of Civil Parking Enforcement in due course.

The refurbishment works provide an opportunity to review wider aspirations and early positive effects include:

- further investment of over £500,000 is already planned, with the recent launch of a new shop fronts and buildings grant scheme. Funded by English Heritage and the borough council the grant is aimed at encouraging property owners around the Market Place to improve the appearance of their own premises to complement the refurbished Market Place;
- the commitment demonstrated by the Borough Council to developing a programme of additional themed markets and events to utilise the space regained from parking;
- the successful return of the traditional, twice weekly market (following relocation during the works) with a new look and layout;
- the identity of the Market Place has been reinforced by the special features such as the Five Lamps;
- the early stages of the refurbishment scheme provided the opportunity for a community-based archaeological dig. The Boston Big Dig, funded by the Heritage Lottery Fund in partnership with the project partners and the Heritage Trust of Lincolnshire, involved nearly 100 volunteers in helping to unearth numerous exciting artefacts.

At the time of writing an external evaluation of the project is underway, which follows recognised evaluation methodologies as required by ERDF. This will help to determine the impact of the scheme and provide insight into what aspects of the project have been successful and lessons that can be learned. Analysis of this type can be useful in demonstrating the positive benefits of public realm improvements, which can otherwise be difficult to quantify.

Further information

Contact the Economic Infrastructure team at Lincolnshire County Council on 01522 550500 or email development@lincolnshire.gov.uk

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Non-market day – before and after

Looking towards St Botolph's Church – before and after

Typical materials prior to the scheme

Natural stone paving materials

Installation of the Five Lamps

Additional, speciality markets

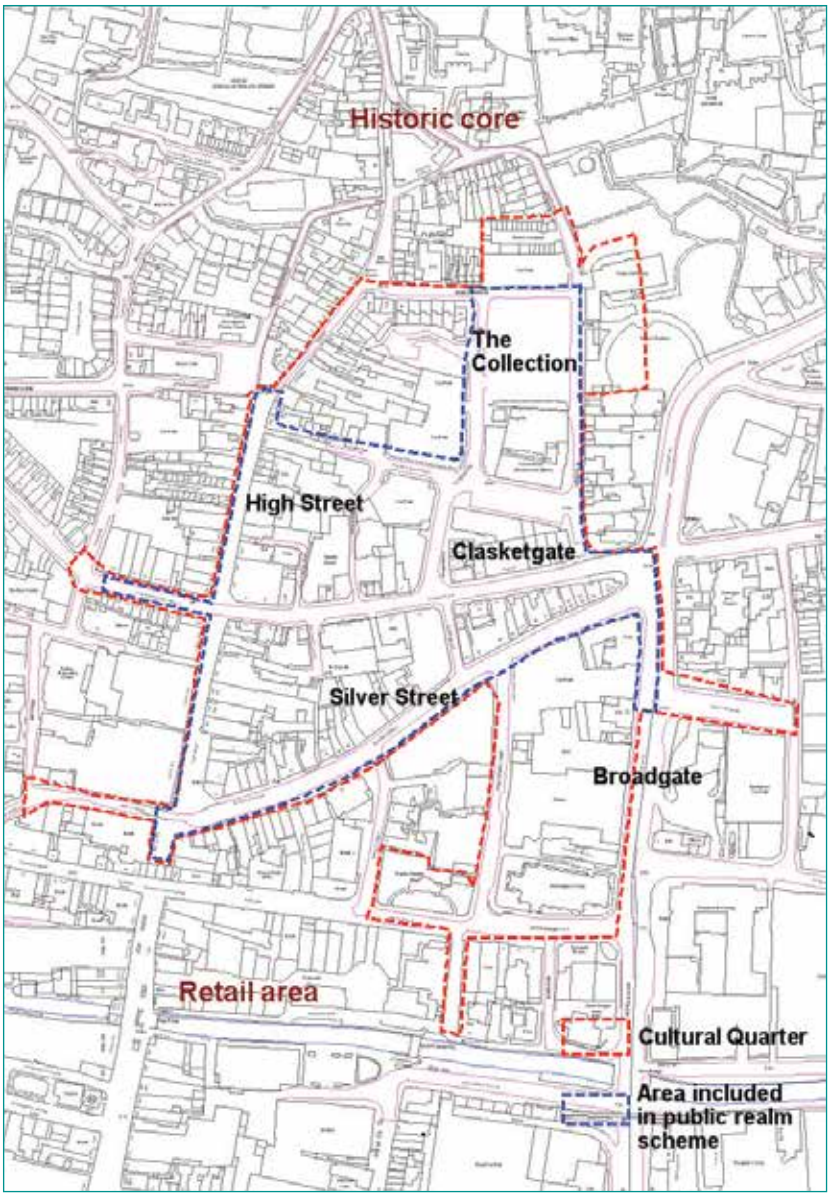
Cultural Quarter, Lincoln

Summary

The Cultural Quarter scheme was carried out to enhance streets across an area of historic Lincoln which covers part of the City Centre, with museums, libraries, Creative Industries Workspace, theatres and restaurants and bars, as well as shops. It was designed to uplift this part of the city, making it a far more attractive place to visit using high quality materials which are sympathetic to their context, and to improve pedestrian links by reducing the severance of Silver Street and Clasketgate, between the south and north of the city.

Description

The area included in the original scheme is from High Street in the west (including part of Corporation Street and Mint Street), to Broadgate in the east, and from the Stonebow and Free School Lane in the south to the Usher Gallery and Dane's Terrace in the north. This is all part of the Cathedral and City Centre Conservation Area, and it also contains many Listed Buildings.



Map showing the extent of Lincoln's Cultural Quarter and the extent of the public realm scheme.

Danesgate surfacing under construction

Danesgate after completion

There were three broad areas that required different treatment according to their character and function:

1) The area around The Collection, with streets comprising Flaxengate, Danes Terrace, Hungate, Grantham Street and Danesgate.

Danesgate was a particularly sensitive part of this area, and was of particular interest to English Heritage. This sensitivity was due in part to its existing historic materials, including entrances to properties. These areas of historic materials were logged, photographed and then replaced. They included many pink granite and white limestone setts. New tumbled York stone setts were used for the carriageways and riven York stone for the footways. Copies of historic street lighting were installed.

The rest of the streets in this part of the Cultural Quarter were laid in tumbled York stone setts in the carriageway, and fine sawn York stone slabs in the footways.

There is a perception with some that York stone is more slippery than tarmac when wet. However, scientific testing has proved that York stone from the source chosen for this scheme performs as well as tarmac in this respect, and has up to three times the resistance to crushing than some concrete products.

2) High Street

The High Street follows the line of Roman Ermine Street, and so is particularly historically sensitive.

There was a desire to reinstate kerbs along the pedestrianised parts of the High Street. However, this was not possible due to traffic order regulations and high pedestrian usage, so the level surface was retained. However, the carriageway (used by the bus link and delivery vehicles) and footways were differentiated by using different sized paving units. Fine sawn York stone setts were used in the carriageway, and fine sawn York stone slabs in the footway, both in random sizes, with a York stone channel separating them on a similar line to the historic kerb lines to endeavour to retain the legibility of the original street.

Large stone seats with LED under lights were installed in a wider area of High Street.

3) Broadgate, Silver Street and Clasketgate

One of the initial drivers for extending the scheme onto Broadgate was the need to refurbish traffic signals on Broadgate. Whilst this was being carried out, the footways on the western side of Broadgate and the central reservations were repaved in silver mistral concrete paviours, and existing guard rails were replaced with ornate units that are more sympathetic. The galvanised street lights were also replaced with more classic black minimalistic units. So, whilst Broadgate remains an extremely heavily trafficked road, with all the engineering that brings, it has still been softened by the Cultural Quarter design.

The use of Marshall's silver conservation paviours along Silver Street and Clasketgate and onto Broadgate goes some way to linking Broadgate with the rest of the Cultural Quarter.

Another driver for the project from the Highway Authority perspective was the high number of recorded accidents at the crossing of Clasketgate and Silver Street and at their junctions with High Street. Measures used in the design to address these issues were implemented, such as providing wider raised/ level signalised crossings, removing guard railing and introducing psychological traffic calming, such as narrowing the carriageway and introducing parking bays. This has helped to reduce the perception that through traffic had the right of way over pedestrians and shoppers. This has proved extremely successful with a significant reduction in accidents. Within Clasketgate and Silver Street six new high quality crossing facilities were constructed.

The taxi rank and disabled parking bays along Silver Street were retained.

Physical changes to Free School Lane were not included in the scheme, due to uncertainty in the future uses of the buildings that line Free School Lane.

The street lighting in the Cultural Quarter was of contemporary design, as was the seating, to reflect the vibrancy of the area. Street lights were attached to buildings wherever possible to reduce street clutter.

Signs were all removed, and close control was kept over what was put back. Minimal numbers, sizes and heights of signage were used.

Paving on Silver Street

All traffic signal installations were kept as minimal as possible with the use of black rather than grey equipment.

Design Process

The Cultural Quarter was launched in March 2002 when a Strategic Development Opportunity (SDO) was submitted for European funding with the aim of connecting and regenerating the underused transition area between the historic Uphill and commercial Downhill areas of Lincoln. This also reflects the conclusions of the City Centre Master Plan, produced with the Prince's Foundation for the Built Environment.

The public realm improvements were developed as a partnership between City of Lincoln Council and Lincolnshire County Council.

The design process began with the ethos of the City Centre Master Plan, which were then worked up by LDA Design into a set of design proposals for the area.

The City of Lincoln Council and County Council then began to work up a detailed design for improvements to the streetscape. The timetable was tight, due to deadlines attached to spending external funding.

A professional workshop was held to discuss issues around the technicalities of the design. Consultation

A new pedestrian crossing on Clasketgate. This connects Clasketgate, via the pedestrianised part of Flaxengate, with the new widened crossing on Silver Street

Widened crossing on Silver Street junction with High Street

was carried out with accessibility groups, and other stakeholders, like the Lincoln Business Improvement Group. Exhibitions about the plans to inform and get feedback from the public were held in the Waterside Centre (city centre shopping centre).

Notable issues

There were some technical issues when translating the design principles produced by LDA Design into a technical design. The professional workshop that was organised to bring all the technical design issues to the table for discussion was very successful. One particular change to come out of the workshop was a decision to pave the streets in the upper Cultural Quarter around the Collection in York stone rather than concrete Tegular paving, as originally proposed. Whilst this had additional cost implications there was a strong view from the stakeholders that this was necessary.

Dealing with the short timetable for design and implementation was an issue, particularly when trying to factor in consultation with stakeholders and the wider public. Partnership working with the City Council and Lincoln BIG, amongst others, helped to alleviate these difficulties.

Funding

The final scheme, including the Broadgate improvements and signals refurbishment, cost a total of £4.46 million. Details of funders and their contributions are below:

City of Lincoln Council	£150,000
Lincolnshire County Council	£2.2millon
Heritage Lottery Fund	£300,000
East Midlands Development Agency	£970,000
European Regional Development Fund (Objective 2)	£840,000

Evaluation

There have been definite benefits to the scheme in every area of the Cultural Quarter. The high quality materials enhance the area.

Where High Street crosses Silver Street and Clasketgate the wider crossings allow greater pedestrian flows along High Street. It also serves to slow cars along those routes.

Accident rates at these crossing points have reduced.

The north/south pedestrian route along Flaxengate to Free School Lane has been vastly improved by the widening of existing crossings, introducing a new crossing, making Clasketgate one-way and pedestrianisation of the lower part of Flaxengate.

Although making streets one-way would not have been something usually considered for streets in Lincoln, making Clasketgate one-way has had many benefits. It has allowed provision for staggered parking along the road, which serves to slow traffic down. This has enlivened the street, where continued two-way traffic provision or pedestrianisation would have had a detrimental effect. There is anecdotal evidence to suggest that trade for businesses along Clasketgate have improved.

At the western end of Clasketgate poor visibility at the traffic lights along the lower part of Beaumont Fee has led to this part of Beaumont Fee also being made one-way, and new signals and pedestrian crossings being introduced, which also helps north/south pedestrian flows in this part of the city.

The scheme has recognised the need to strike a balance between providing a high quality pedestrian environment, whilst maintaining essential traffic flows and parking, thus providing living streets.

It is worth noting that whilst six additional high quality crossing facilities have been created with an improved pedestrian environment throughout the overall scheme, traffic flows have largely been unaffected.

Trials for traffic management have worked well on this scheme. Where there was uncertainty and anxiety as to whether certain traffic management ideas would work, they were trialled with temporary TROs for a limited period of time, and their performance monitored with the option then of returning the street to the way it was. This was not required during this scheme.

It is strongly advised to keep the design simple, which helps keep the street usable and attractive.

The benches that were selected looked smart and stylish when they were procured and installed, but have not faired well. They now look shabby and are difficult to maintain, and are to be replaced.

There had been a desire to restore kerbs to the pedestrianised parts of High Street, but this was not possible due to regulations, and a level surface was retained. However, it is now felt that the definition between the footway and the carriageway could have been better defined by adjustment of the use of materials.

There have been some unintended consequences of the changes in traffic management, with the creation of some 'rat runs'. These issues are being considered and dealt with incrementally.

Conclusion

This has been a very sensitively designed and successful scheme, with many complex considerations to be addressed. The overall effect is one of vibrant living streets uplifted by the use of high quality materials.

Further information

For further information contact Highways North on 01522 782070, or LCCHighwaysNorth@lincolnshire.gov.uk

Grantham, London Road/Wharf Road/High Street Junction

Description

This major junction is at the southern end of the High Street in Grantham and forms an important point of the retail area in the town: it is here that there is a defined change from the High Street retail experience, with shops such as Boots, W.H. Smiths, to independent shops, fast food outlets, and thereon to major retail outlets such as B&Q, often located in large portal-framed buildings.

This area is also located within the Grantham Conservation Area in the Civic Centre Character Area, adjacent to St Peter's Hill, with its important civic buildings and open green spaces. The area also contains historic buildings, including several Listed Buildings, which are of particular significance to the historic character of the area. The Conservation Area Appraisal, in the section on Management and Constraints for this Character Area, suggests that 'the appearance of the Conservation Area would benefit from a more coordinated approach to the provision of street signage and furniture to reduce the effects of clutter', (South Kesteven District Council, 2009).

The junction is also on the strategic route of the A52 which runs through the centre of Grantham, connecting Boston and the coast in the east, to Nottingham and the rest East Midlands in the west.

It is a signal-controlled junction with previously limited pedestrian linkages. There were many pedestrian guardrails around the junction and crossing points which were frequently damaged due to the tight turning facilities for HGVs at this junction.

Therefore, with all the above in mind, the objective for the scheme was to improve turning facilities for HGVs, improve pedestrian facilities and remove pedestrian guardrails in order to declutter the area. Traffic signals and signage in the area were also rationalised. Black street furniture was installed to reflect the fact that the junction is within the Conservation Area, and where bollards were used, a type which is unique to Grantham, and very distinctive was used.

Design Process and Funding

The junction had been highlighted as a problem area with capacity issues on traffic assessments undertaken in the Town Centre. As part of these issues Section 106 funding was collected which, together with Local Transport Funding (Central Government funding via the Local Transport Plan) enabled the scheme to be brought forward.

The junction was designed by external consultants as part of the mitigation works for a major development, and these were developed further in conjunction with the Technical Services Partnership (TSP) in Lincolnshire County Council Highways.

As the area is within a Conservation Area, consultation was undertaken with South Kesteven District Council as the Local Planning Authority. As the scheme was in essence a maintenance scheme, minimal public consultation was undertaken, apart from some new Traffic Regulation Orders. It should also be noted that the planning application for the major development also had this proposal shown indicatively within the Transport Assessment. and hence the proposal was consulted on as part of that planning application.

The design process was led by Highways West Divisional office with TSP acting as consultants for the detailed design.

The scheme cost approximately £500,000.

Notable issues

The main issue that arose as part of the design process was the concern raised by the Lincolnshire Road Safety Partnership who undertook the Road Safety Audit. They had concerns regarding the removal of pedestrian guardrailing, as this was before LCC had had much experience of this. However, the concern was noted and an Exception Report agreed, whereby the situation would be monitored for one year and guardrailing would be re-installed after that time (or sooner) should the need arise.

London Road junction with Wharf Road, looking towards St Peter's Hill and the High Street, before and after the de-cluttering scheme

London Road junction with Wharf Road, looking south west, before and after the de-cluttering scheme

Evaluation

One of the major benefits of this scheme is the saving in highway maintenance budgets due to the removal of the pedestrian guardrailing, which was being constantly damaged by vehicles.

The scheme has also helped to improve the pedestrian facilities in this area, and now presents a de-cluttered look and feel, thus improving the character of this part of the Conservation Area.

There have been no reported personal injury accidents at this location since the scheme was completed, and the scheme has won an environmental improvement award from Grantham Civic Society.

Conclusion

The scheme has been successful in improving the area, and has acted as a catalyst for further junction improvements along Grantham High Street and surrounding streets. It has improved pedestrian flows in the area, connecting the main retail area of the High Street to the independent shops and major portal frame retail units extending from the High Street.

Further information

For further information contact Highways West staff on 01522 782070 or email LCCHighwaysWest@lincolnshire.gov.uk

Lincolnshire COUNTY COUNCIL

Grantham Market Place

Summary

The refurbishment of Grantham Market Place is an important element of a series of schemes to improve the public realm in Grantham. It is intended to uplift and enhance this beautiful historic space to create a place where pedestrians will want to go and linger, and therefore also to raise the economic performance of the town centre.

Description

The medieval town of Grantham developed around St Wulfram's Church between the River Witham and Mowbeck and extended southwards to St Peters Hill. It consisted of five main streets which form the nucleus of the modern town centre; Swinegate, Castlegate, Westgate, Market Place and Walkergate, now known as Watergate.

Market Place was dominated by the Franciscan Friary to the west of Frere Lane, which was established in 1290 by the Grey Friar monks and dissolved in 1539; all traces of the friary have since vanished. The friars had established a system of pipes as early as 1314 which conveyed fresh water from the springs at Gonerby to the friary. The pipe was extended following the dissolution of the friary, and was used as a public water supply from 1597-1851. The ornamental Gothic style Conduit House was built in 1597 to protect the water supply from contamination; the Conduit was repaired in 1795 and 1927. The Market Cross was the former preaching cross of the friars and was erected to denote the site of the market which has been held in the town since the 13th century. Both of these features are Scheduled Monuments.

There is still a weekly market in the Market Place, held on Saturdays, and an annual fair (the Mid-Lent Fair), which have been held there since at least 1281, when they were first recorded. A market and fairs were granted by Royal Charter in 1484, following the town's incorporation in 1463.

The space has listed buildings on its western, eastern and southern extents, and forms a very important part of the Grantham Conservation Area.

Car parking spaces in the south-western corner of the Market Place

As the Market Place was an open bituminous area, it has mainly been used for on-street car parking, even around the Market Cross, with all the accompanying lining. The area around the Conduit, and Butcher's Row (adjacent to the Market Place) had already been improved.

The design of the scheme was to improve the look and feel of the Market Place, and to make it into more of a 'place' (as defined in *MfS*).

Therefore most of the parking has been removed from the Market Place and large areas of the car park have been reclaimed for pedestrian use. The remaining car parking spaces have been surfaced using Yorkstone setts, and the pedestrian areas have been surfaced using York stone slabs, with pink granite kerbs, to match

Courtesy crossing

those historically used in this area (from Mountsorrel in Leicestershire). The drainage channels running along the kerb line have lines of small pink granite setts, which is how the drainage channels were traditionally constructed in Grantham.

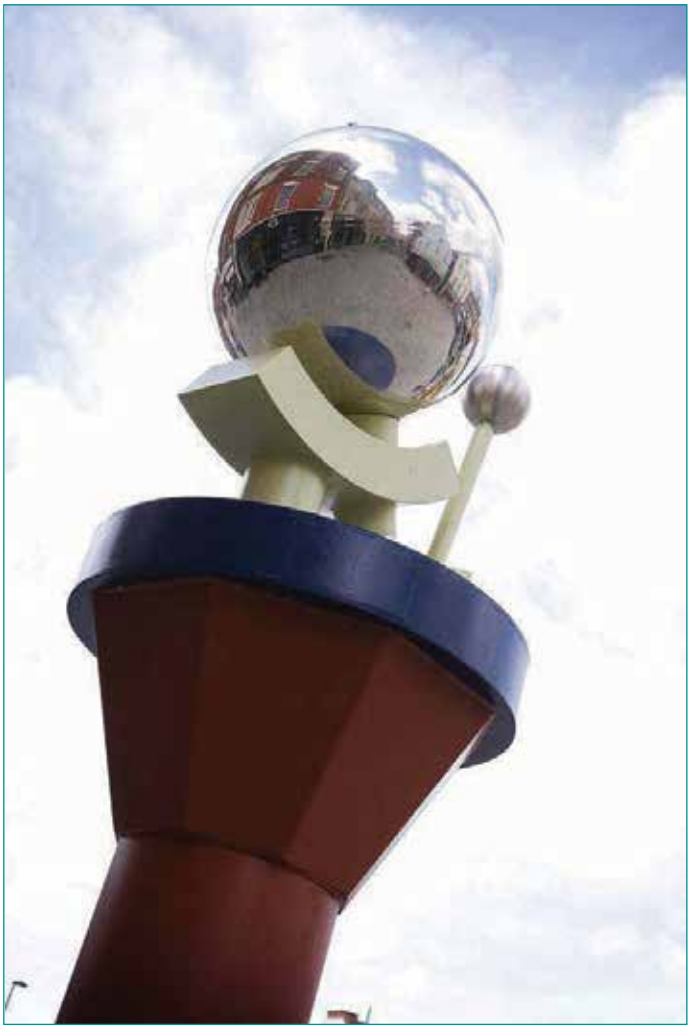
In addition other traditional characteristics of the Market Place have been picked out in pink granite setts.

The historical carriageway route through the Market Place remains surfaced with tarmac, which differentiates it from the rest of the Market Place. A courtesy crossing has been installed at the southern end of the Market Place to aid pedestrians when crossing the carriageway between the car parking and shops on the western side of the Market Place and the shops on the eastern side and the High Street.

Licences have already been granted to some businesses to have pavement cafes and bars.

York stone slabs have been used for the pedestrian areas, with pink granite kerbing to match the existing historic ones in the town centre.

Tenders were invited from artists for a commission to produce an installation on the eastern side of the Market Place. The ideas for the art pieces had to be based around Sir Isaac Newton and his work (as he came from near Grantham). The winning tender was a series of pieces representing the orbits of planets in the solar system, with the market cross at its centre.



Public art

The refurbishment of the Market Place is part of a phased approach to improvements: the area around the Conduit and Butcher's Row had already been uplifted as parts of earlier phases of the scheme, and further parts of the town centre will follow.

Design Process

The area has been highlighted as a proposed pedestrianised area since 2000. The scheme was being considered as a phased project over a number of years, with works being carried out as and when funding became available.

The project was promoted by the County Council Area Highways Manager with funding from the Highway maintenance budget and from South Kesteven District Council.

Western side of the Market Place, before (taken from the south) and after (taken from the north) the scheme, showing the Market Cross to the left

Eastern/northern side of the Market Place, before and after the scheme, showing the Conduit to the left

There has been extensive public consultation which supports the principle of improving the public realm and making the town centre more accommodating for pedestrians. This is also reflected in the Grantham Masterplan.

The design of the Market Place scheme was led by the Area Highways Manager and the Economic Infrastructure Team in Economic Regeneration. The build contractor was Thomas Bow.

Notable issues

The issues that came up during the design stage onwards, and had to be resolved, are as follows:

- Traffic Regulation Orders due to the removal of car parking
- Type of surfacing materials to be used
- Sourcing of the kerbing to match those with the historic town centre
- Type of street furniture used to ensure that there is no conflict with the artwork which was installed, and achieving and maintaining the decluttered appearance.

- Parking on the newly paved pedestrian areas
- Accommodating the Mid-Lent Fair in the new pedestrianised area; this has meant that all the street furniture and signs have to be removeable.

Funding

Sources of funding for the scheme were:

- Lincolnshire County Council Highways Maintenance funding
- South Kesteven District Council
- Grantham Growth Point funding, from Central Government

The total cost of the scheme was £1.3 million.

Evaluation

The scheme was completed in October 2011, and at the time of writing it is too soon to be able to fully evaluate the scheme. However, initial feedback has been generally favourable. The removal of parking means that the historic buildings that line the Market Place can now be fully appreciated. There is additional interest added by the public art, which has a very locally distinctive flavour.

The Market Place is now far more inviting for pedestrians, and this should encourage them to come and to linger.

Illegal parking by some on the newly laid paving is an issue. Prevention of this, without adding street clutter, will require careful consideration.

The issue of accommodating the Mid Lent Fair is one that will be resolved by producing a specification that the organisers must adhere to when placing the fair rides on the stone paving.

It was found to be very beneficial to involve the County Council Signs and Lines Team early on in the design process.

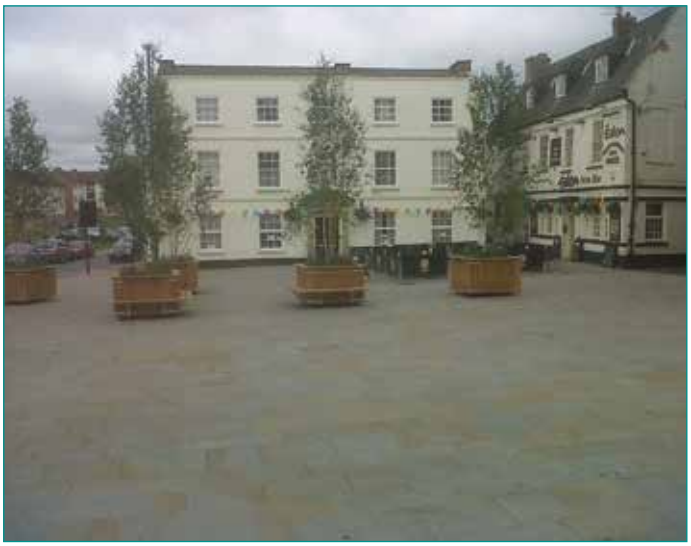
The aim of decluttering meant careful consideration of the design and location of signs, posts, bollards, street lighting and bins was necessary, which also all had to be removable to accommodate the fair.

Involving the Police in design discussions also worked well, particularly when this was in conjunction with taxi ranks. It is felt that the design will lead to decreased anti-social behaviour and crime, particularly alcohol-related late night, weekend activity. Also, an unintended, but welcome outcome of removing parking from the Market Place is that the police presence is more obvious, and there are no parked cars for miscreants to hide behind.

The Market Place scheme is raising aspirations for Grantham town centre: the phased approach is a great way of demonstrating what can be achieved by a high quality public realm, and can engender support for further phases of refurbishment.

This high quality scheme is also proving in part to be a catalyst for the launch of a shop front improvement scheme for the Market Place, led and funded by South Kesteven District Council. The Council are intending to apply for Townscape Heritage Initiative Funding to help continue this work.

Trees have been introduced into the space in planters, so that they too can be removed to accommodate the Mid Lent Fair.



Trees in planters in Grantham Market Place, with pavement café area.

Further information

For more information contact either:

For further information contact Highways West staff on 01522 782070 or email LCCHighwaysWest@lincolnshire.gov.uk

Or the Economic Infrastructure team at Lincolnshire County Council on 01522 550500 or email development@lincolnshire.gov.uk

High Bridge, Spalding

Description

The work was raised as a request through the Community Travel Zone consultation process and was executed during LTP2 period.

Aim: To open up High Bridge (a listed structure) to pedestrians and improve right turning movements for vehicles travelling north/south/west along High Street.

The work was to include the widening of the footway on the north side of the bridge, thus providing improved access over the bridge into the pedestrian area of the town. (Although there is a footbridge to the south of High Bridge surveys showed that the desire line for many students is the north side of High Bridge).

Changes to the signals included providing an all red phase in order to help pedestrians cross what was perceived a difficult junction, and reducing the number of signal heads.

It was also an opportunity to de-clutter the area around the bridge in order to enhance the bridge and its historic context. One street lighting column was replaced with a period column to match existing.

The bridge deck was re-surfaced using 'weathered' tarmac and the existing kerbs were replaced with pink granite.

The original plan was to renew the footways using tarmac but after lengthy discussions with South Holland District Council York stone was used. At the same time as this work was happening, some general bridge maintenance was carried out.

Design process

TSP were engaged to carry-out the design process and also to supervise the on site work. Jacobs were also involved in certain elements of the process.

The work was to be completed in 8 weeks using 2 gangs. (RIS was responsible for the main element of the work along with Peek)

Buff tactiles were used instead of red (Streetscape Design Manual).

Notable issues

High Bridge was listed in July 1975 and is in a Conservation area. The area around the bridge is in a high profile location and it was essential that all work was carried-out in a sensitive and timely manner.

Although the roads around the bridge are not principal routes an occasional HGV does travel the route and the school buses use the bridge on a daily basis.

It was crucial that there was co-operation and collaborative working with SHDC planning department, LCC planners, English Heritage and GOEM – lack of understanding of processes often led to difficulties in meeting committee deadlines, for example there were issues around the Listed Building Consent Application.

It was also important that all departments of LCC and the contractors (Street lighting, traffic signals, local maintenance office, structures and the contractor) understood and signed up to delivering the scheme on time to ft with school holidays. Despite calculations being done there were local concerns that HGVs would have difficulties in make a turn over the bridge from the east. However, the lane width was increased from 2.75 metres to 4.5m.

York stone was used on the footways despite some general public raising concerns about a slippery surface in wet weather.

It was agreed to introduce a right turn filter on the east side of the river – travelling south to west. – previously this conflict caused driver frustration and 'tail backs'.

There were safety concerns when working on the river bank. This was primarily around the fact that there was very little bank for 'anchoring' pedestrian railings and street lighting columns.

High Bridge and its historic context before and after the scheme was carried out.

Funding

Conservation items cost - £29,000 approx LCC Conservation Services contribution - £30,000 to cover extra expense of using York stone
Signals approx. costs - £24,000
Street lighting - £4,400 approx.
Total cost - £115,000

Evaluation

The scheme was delivered on time and within budget. Despite some initial concerns from the public about the positioning of the signal heads the scheme met with approval and continues to work well.

Further information

Old photographs of the bridge showed a gas light on the centre of each side. The Civic Society requested these be re-instated. Extensive investigations revealed that this was not possible due to difficulties of drilling in order to getting electrical supplies to the lamps.

Due to budgetary constraints some equipment was ordered and paid for prior to the end of the financial year.

The project time was 8 weeks during school holidays to ease problems with school bus routes and heavy student footfall over the bridge.

For further information contact Highways South on 01522 782070, or LCCHighwaysSouth@lincolnshire.gov.uk

Lincolnshire COUNTY COUNCIL

High Bridge, St Martins

Summary

Following a Community Travel Zone consultation, the crossing between two sites of Stamford High School was improved by widening a zebra crossing and installing a build-out to make the zebra crossing shorter, and therefore making the road safer. The scheme was carried out in a manner that was sensitive to its historic context, being within a Conservation Area.

Description

The area included in the scheme is located on High Street St Martin's where there was an existing zebra crossing that links the main Spalding High School site on the west side of the road, with other school buildings on the east.

High Street St Martins is a wide busy HGV route, being the main southern route between the town centre and the A1 (via Kettering Road, the junction with which is located just to the south of the school). The school buses stop on the opposite side of the road to the main site to drop off and collect pupils, which, together with the split nature of the school buildings means that the crossing is heavily used during school term time. There were worries about the capacity and safety of the existing crossing. Accident statistics show that there has been one slight recorded personal injury in the last four years involving a school child before the scheme was implemented.

The site is located within the Stamford Conservation Area, and all the buildings on both sides of the road are Listed. Therefore the scheme had to be sympathetic to this extremely historically sensitive area.

The scheme comprised widening the existing zebra crossing to current standards, and creating a build out on the eastern side of the road. This build-out would allow school children to gather on the eastern side of the road before crossing, thus allowing space for other pedestrians to pass on the footway, whilst also serving to narrow the road. This meant that there was a shorter distance for school children to cross, and in addition it served to slow traffic down and eliminated undertaking by traffic heading south towards the A1. The wider crossing also increases capacity so more school children can cross more safely.

The beacons and street lighting column were replaced. To ensure that the materials used were consistent with and sympathetic to their historic context, granite kerbs were reused, and concrete paviours, chosen to complement the surrounding stone buildings were used. Buff anti-skid surfacing was used on the carriageway up to the zebra crossing.

Design Process

This scheme was proposed as part of a Community Travel Zone by Highways Officers of Sleaford and South Kesteven Division. It was one of a number of schemes that was put to a vote by the local community, and was found to be a priority.

The Technical Services Partnership was then commissioned to manage the design and build of the project.

The work was completed in four weeks, and the contractors were May Gurney and Tarmac.

Notable issues

The Road Safety Audit (RSA) that was carried out noted that there were cars parking illegally at the school bus stop, thus reducing visibility around the crossing. This was happening before and after the scheme was completed. No suitable solutions have been found for this issue as yet, although this is still under consideration.

The RSA also noted that the buff anti-skid extends across the south-bound carriageway, across the bus stop and up to the footway, which has the same colour materials. It was felt that the result of this may be that drivers would follow the kerb line and continue onto the build out, particularly at night when visibility is much poorer.

However the Stage 3 Road Safety Audit concluded, following a night-time visit, that the build-out is sufficiently visible for this not to be an issue.

High Street St Martins before the scheme was carried out.

The scheme following completion

Funding

The scheme was funded through the County Council's Community Travel Zone and cost £25,000.

Evaluation

There have been no complaints received as yet, and no accidents have been recorded since the work was complete.

The school staff have been very positive about the results of the scheme.

The scheme is simple, yet effective, and allows for safer and more comfortable (in terms of space) crossing of the road. The use of street clutter, such as signs and pedestrian guard rails, has been avoided.

Further information

For more information contact Highways West staff on 01522 782070 or LCCHighwaysWest@lincolnshire.gov.uk

Lincolnshire COUNTY COUNCIL
HIGHWAYS ALLIANCE

Red Lion Street, Spalding

Summary

As part of the recently built Red Lion Quarter in Spalding which opened in April 2011, South Holland District Council (SHDC) also secured funding to allow the refurbishment of the public highway in Red Lion Street. Following the finalisation of funding In October 2010, SHDC appointed Lincolnshire County Council's (LCC) Highways Alliance to design and construct the highway improvements.

Description

Red Lion Street is at the heart of the old town area of Spalding and its Conservation Area. The street runs from the Market Place to Westlode Street, to the north of the former Red Lion public house. The northern side of the street is defined by merchant plots which once fronted on to the West Lode which, before being culverted, was a navigable river, and to the south by the yard complexes of the Red Lion and White Heart public houses. These yards have recently been redeveloped after years of neglect to provide a home for the Spalding Food Hub.

The section of Red Lion Street covered by the scheme extended from its junction with New Road to the existing pedestrianised section, and was intended not only to enhance the main approaches to the new building, but to refurbish the highway in terms of future maintenance.

The works essentially involved the reconstruction of the existing conventional carriageway and footways with block paving, into a continuous shared space, with new street furniture provided and old street lighting columns also being replaced. In addition, the scheme introduced waiting restrictions along the non pedestrianised length of Red Lion Street, whilst retaining the existing levels of disabled parking provision. The decision to replace the conventional arrangement of footways and carriageway with a continuous shared surface was born partly out of the need maximise the available highway area within which cars and smaller delivery vehicles could turn around, following the stopping-up of the turning area within the street, to allow the construction of the new building.

Construction photo

Design Process

A decision was made early on to carry out the design work in the South Division. This allowed LCC and May Gurney (MG) to start immediate early Contractor Involvement (ECI) discussions at a local level whilst the design developed. This was essential due to the short lead in time that remained before the works were due to start on site.

Another early decision made by May Gurney was to utilise the services of local specialist sub-contactor, A Coupland Ltd. This allowed the delivery timescales to be met without impacting on the already developed divisional works programme. Whilst the design was being finalised May Gurney worked in conjunction with Couplands to develop and finalise the Target Price.

Notable issues

As the lead in and deadlines were tight, and with the new building due to open in early April 2011, it was essential that these improvements in front of the building frontage were completed in advance.

Additionally, for the works to be carried out safely and effectively, a road closure was needed during the working week. Fundamentally this closure prohibited

Before

After

access to motorised vehicles. Pedestrian access to businesses and properties in Red Lion Street was maintained at all times, although some minor disruption did occur and was managed. Due to the nature of the works coupled with their location on the periphery of a busy town centre shopping area, proactive engagement with local businesses was essential. Advanced notification letters were sent to all affected businesses in early December, with feedback on individuals concerns requested. In early January representatives from LCC, MG and SHDC visit each business in person to discuss the issues raised, to explain what measures could be taken to mitigate any foreseen problems and to provide face to face contact information for during the works.

This approach was critical to ensure that there was full buy in from all stakeholders and it meant that disruption and issues raised during the works were kept to a minimum. Once the works programme had been developed this was shared with businesses so they could follow confidently the progress being made.

The Spalding Civic Society were directly involved in deciding on the various items of street furniture and planter specifications

Funding

The principle funding stream came from SHDC - £100k
Additional funding was provided by LCC - £10k

Evaluation

The 'civils' work on site was completed by mid February - with the tree planters being installed late March, just prior to the Grand Opening.
The delivery of highway works on time and to budget was a reflection of how well all partners within the Alliance worked together - despite many initial barriers. From a highly skilled and motivated sub-contractor, through to the flexibility of MG's contract management, to the coordination and public liaison led by LCC - the project is an example of how well a multi agency arrangement can successfully respond to a wide range of challenges to deliver a high quality scheme.

Conclusion

The scheme was delivered on time and within budget, with the resultant layout providing a high quality amenity area which supports the new Red Lion Quarter.

Further information

For further information please contact Highways South on 01522 782070, or LCCHighwaysSouth@lincolnshire.gov.uk

Works delivered through the Lincolnshire County Council Highways Alliance Contract: using sub-contractor Couplands Ltd to carry out the civils work. Kensington Tree Planters were secured through Street Design. Stainless steel bollards and litter bins were provided by Broxap. Ornamental street lighting columns (to tie in with adjacent in New Road) were supplied by Indall. Tree planting was carried out by Fullers Forestry.

Stamford Gateway

Summary

The Stamford Gateway scheme covers the area leading from car parks and public transport hubs to the town centre, and aimed to create high quality market town squares of national significance, whilst respecting local identity and history, and to create a far more pedestrian-friendly environment.

Description

Background

The town of Stamford dates back to Saxon times. A former coaching town of outstanding architectural quality, the centre contains over 600 listed buildings and was the first conservation area to be designated in England in 1967. This has ensured that no large scale redevelopment has occurred within the town centre since the 1960s, and the street pattern, with parallel thoroughfares linked by narrow passages remains much as it has done for centuries. The central part of the shopping centre is largely pedestrianised but outside this area roads and footways are narrow. These give rise to conflicts between vehicles, pedestrians and cyclists.

The Stamford Gateway project arose from public consultation in 2000 and was taken forward through a national design competition in 2004, and completed in late 2007. The need to improve the access, particularly for pedestrians, from the railway and bus stations as well as from two major car parks used by visitors and locals was identified. Sheep Market and Red Lion Square act as a gateway from these points to the town centre. The primary objective of the Stamford Gateway Project was the transformation of these two key spaces in the town centre to make them safer routes for pedestrians.

Another issue to be resolved from the Highway Authority perspective was to reduce the conflict between pedestrians and vehicles around the parking areas in both Sheep Market and Red Lion Square.

The scheme

Sheep Market and Red Lion Square were redesigned to create high quality market town squares of national significance, whilst respecting local identity and history.

In both areas parking spaces were removed and those areas were reclaimed for pedestrians, whilst retaining access for some deliveries and the market in Red Lion Square. The two spaces retain their own character but are linked through the use of York stone. In each space seating has been provided along with original art work. Street furniture, signs and lines have been kept to a minimum to avoid street clutter.

The effect of the paving in Sheep Market is to draw pedestrians from the bus station, the train station and the town's main car parks up into the heart of the town. In the main area of Sheep Market a cascade of Cromwell York stone paving runs from Horseshoe Lane down to the road, fanning out with increasing sized paving as it does so. A piece of original artwork, inspired by the Eleanor Cross which once stood in Stamford, has been installed in Sheep Market. Local children contributed to its design, and it is surrounded by seating.

Sheep Market before and after completion of the scheme, showing the new Eleanor Cross

Paving in Sheep Market

The loading bay, Red Lion Square

In Red Lion Square the whole space was paved in York stone, with large Cromwell slabs on the widened footways and smaller Green Rustic tumbled setts in the carriageway and the loading bay. The differences between the functional zones can be identified through the use of different types of York stone, which provide colour, textural and unit size variation.

The loading bay is defined in the carriageway by setts laid in a different orientation. Oak posts were installed at the front of the footway with 'loading bay' signs, which were designed to deter cars from driving onto the pedestrian areas. Dispensation from DfT was required for the small size of the signs.

The intention was to make greater use of the spaces. The markets which take place in Red Lion Square on Fridays and Saturdays are accommodated on the pedestrian areas which will provide a safe place for shoppers to circulate between the stalls and the shops. In both spaces the Mid Lent Fair is accommodated. Many other events can also be accommodated. An electricity supply was provided for events by the installation of underground supply points.

The carriageway which runs through Red Lion Square has retained its original width, and traffic management arrangements remain the same. A courtesy crossing was also installed. The use of paving in the carriageway is intended to indicate to drivers that they are entering a special and different area, and therefore proceed with caution and lower speeds.

Car parking

Retention of car parking spaces was seen as an important issue, and so car parking across the area was reviewed.

The car parking with limited waiting times in the vicinity of Red Lion Square was revised as there were number of different times and in some areas adjacent to each other (for example 2 hours and 1 hour in the same area). These were consolidated into widespread 1 hour waiting.

Disabled parking was provided in All Saints Street and was legally formulated at the top end of the High Street.

The one-way system which was proposed so extra parking on-street could be achieved was voted against in the consultation, so was not implemented.

However, the area of Bath Row (west), which had no limited waiting restriction applied to it, was amended to have 2 hour waiting between 10am-3pm, achieving a great number of turnover (approximately 93) for short stay visits per day.

Design Process

Stamford Vision was the name for the Town Centre Partnership, a public private partnership set up in 1999 to make the town of Stamford a better place to live. It is now known as the Stamford Town Centre Partnership.

Red Lion Square before and after the scheme: the image taken before the scheme shows the square from the north, and the image taken after was taken from the southern end.

The partnership comprises representatives from Lincolnshire County Council, South Kesteven District Council and Stamford Town Council, and from business, voluntary, educational and community organisations. It became a Community Interest Company in October 2005.

At the time the partnership was set up the townspeople were asked their views as to how the town should develop over the next 15 years. One of the major projects identified was the transformation of the key spaces of Sheep Market and Red Lions Square.

In order to achieve this, the partnership commissioned a transport study by Babtie in conjunction with the County Council. The results of the study were shared with the town in a major exhibition. The findings from this confirmed that there was a great deal of enthusiasm to create significant spaces that were perceived as being wasted spaces in the town's core.

With advice from CABE Space, Stamford Vision took the innovative step of deciding to seek out the best designers and architects by running a national competition. This was something that had not been done by a town of this size before and highlights the vision and determination locally to achieve excellence. There were 37 entries which were shortlisted down to four by the ten-strong judging panel, led by internationally renowned architect Ted Cullinan, and including representation at a national level from English Heritage and CABE Space and locally from Lincolnshire Highways, the leader of South Kesteven District Council, the Mayor and local businesses and organisations.

The shortlisted designs were exhibited and the responses form the community fed into the selection process. The winning team was an integrated team of architects and artists, Letts Wheeler and Wolfgang and Heron. Once the winning team were selected in January 2004 it undertook extensive public consultation and a further exhibition was held to collect views to inform design decisions. The artist and architect team also consulted on a detailed one-to-one basis with thirty local businesses and the twenty five residents most immediately affected by the proposals, as well as specific groups such as the Civic Society and the Town Council.

Stamford Vision involved the community at all stages in the process.

The Highways team that were involved built a test panel at their depot to look at how the materials might work with the various design elements within the scheme. The test panel became a reference point for achieving quality workmanship on site.

The build contractor was Wrekin, who are no longer trading.

Notable issues

The biggest issue that arose during the design and construction phases were the objections that were received about the design of the scheme. Opinions about the scheme were divided, with some groups being supportive (for example the Civic Society and the Chamber of Trade), while others were not. There was a Parish Poll where all residents were invited to vote for or against the scheme. This was aimed at stopping the works, but this attempt failed. Objections are still being received four years after the scheme was completed.

One of the main aims of the design was to keep the space as simple and uncluttered as possible. Therefore signs and lines needed to be kept to a minimum whilst still keeping the space working as it was intended and within the law. To resolve the issues that came up around signs and lines a workshop was held with all interested parties present. It was decided that a Restricted Zone would be implemented to avoid the need for lining for parking (in particular double yellow lines) and accompanying signs.

Designing for a multi-use space like Red Lion Square also proved to be a challenge. This included accommodating the market and the Mid Lent Fair.

Funding

Much of the funding for the project was sought by Stamford Vision. It came from the following sources:

- Lincolnshire County Council
- South Kesteven District Council
- Welland SSP
- WREN
- Arts Council

Evaluation

The scheme achieved its aims of creating a high quality, pedestrian environment, by means of the design and the materials that were used. It is a design that is informed by sensitivity to its historic environment, and has improved and uplifted the feel of the area, and sense of place. The removal of parking from Red Lion Square has opened up the space and allows greater appreciation of the buildings around the square.

The area is now safer for pedestrians. There have been no recorded accidents since the completion of the scheme.

The spaces are now far more flexible than they were before the scheme, which makes events that are held there more successful.

There are details of the scheme where lessons have been learned. The underground electricity boxes have proved to be troublesome, in that they fill up with water and their lids often won't shut.

Maintenance and cleansing have also proved to be an issue.

It should also be noted that despite the high levels of public consultation, there are those who are still not happy with the design.

Further information

For further information contact Highways West staff on 01522 782070 or email LCCHighwaysWest@lincolnshire.gov.uk

Sutton on Sea Environmental Enhancement Scheme

Summary

The scheme at Sutton on Sea was aimed at environmental improvements to the streetscape. This included not only public realm, but also private forecourts in front of shops, which were treated as effectively being part of the public realm.

The intention of the programme was not only to increase the attractiveness of these locations for residents, but also to improve the climate for investment and tourism.

Description

Following a public consultation process, work took place in 2007/8 on key areas such as the Pullover, Colonnade area and the High Street.

On the High Street, improvements included:

- Resurfacing the public footways (working with LCC Highways)
- Repaving / planting of adjacent forecourts in partnership with private businesses
- Creating a more welcoming entrance (at the roundabout)
- Incorporating new furniture and planting, to complement the Pullover/Pleasure Gardens

On the Pullover and Pleasure Gardens, work included:

- Resurfacing the public footway at the bottom of the pullover (working with Highways)
- Introducing year-round, attractive and sustainable planting
- Introducing colour-changing feature lighting to create 'atmosphere', with input from artist, Michael Trainor.
- Provision of cycle parking / additional seating etc.

Design Process

The enhancement scheme at Sutton on Sea was part of a wider regeneration programme (the Lincolnshire Coastal Towns Scheme) which included schemes at Mablethorpe, Chapel St Leonards and Anderby Creek. Encompassed in this was also the Bathing Beauties project, which aimed to kick-start the rejuvenation of the coastline's beach huts.

The scheme was led by Lincolnshire County Council in partnership with East Lindsey District Council and Mablethorpe and Sutton Town Council.

The intention of the programme was not only to increase the attractiveness of these locations for residents, but also to improve the climate for investment and tourism.

High Street before

High Street after

Bacchus Hotel before

Bacchus Hotel after: this part of the scheme was 50% funded by the owners of the Bacchus Hotel.

LCC worked with local organisations and private businesses to ensure the improvements targeted the areas which would make the most positive impact. For example, the private forecourts adjacent to the public footway were very much considered to be an extension of the 'public realm' in this instance. Consequently it was proposed to repave the forecourts with an attractive block paving product.

To achieve this LCC sought the consent of individual businesses owners, on the basis that the work would be a 'one-off' improvement at no cost to them and with the reassurance that the ongoing responsibility, liability and ownership would remain unchanged (i.e. it would remain with the owner). Previous experience of encouraging private contributions to such work had been problematic as it relies on 100% take-up to be completely successful.

Notable issues

Lessons had been learned from previous experience of working with private owners, and these were applied to this scheme.

Funding

The scheme cost £215,000 and was part-funded by the European Regional Development Fund.

Evaluation

The result was that the appearance and image of the High street was considerably uplifted and previous trip hazards caused by ageing and piecemeal surfaces were removed. Furthermore, the use of a different material than was used on the footways helped to define the 'boundary'.

Maintenance for features of the design, such as the decorative lighting, needs to be carefully considered, so that they still perform as they were intended at installation.

Further information

The scheme was led by Economic Infrastructure, Economic Regeneration in Lincolnshire County Council. For more information contact 01522 550500, email development@lincolnshire.gov.uk

Lincolnshire COUNTY COUNCIL

East Lindsey DISTRICT COUNCIL

Decorative 'mood' lighting in the Pleasure Gardens

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Lincolnshire County Council consultees

Accessibility and Policy Unit, Sustainable Transport
Area Highway Managers, Highways and Traffic
Arts Officers, Culture and Adult Education
Children and Young People's Plan, Children's Services
Crime and Disorder Reduction Partnership, Communities
Designers and Project Managers, Technical Services Partnership
Development Directorate Management Team
Diversity Officer, Chief Executive's Office
Financial Adviser, Development
Healthy Communities, Economic Regeneration
Highways Divisional Managers, Highways and Traffic
Highways Officers, Highways and Traffic
Highways Policy Development Group
Highways Standards Group
Historic Environment Team, Sustainable Communities
Landscape Team, Economic Regeneration
Lincolnshire Road Safety Partnership
Lincolnshire Wolds Countryside Service
Natural Environment Team, Sustainable Communities
Service Development, Highways and Traffic
Signs and Lines Team, Technical Services Partnership
Street Lighting Team, Technical Services Partnership
Structures, Technical Services Partnership
Sustainability Officer, Sustainable Communities
Traffic Signals Team, Technical Services Partnership
Youth Service, Children's Services

External consultees

Abbey Renewal Area project, Lincoln City Council
Age Concern Boston and South Holland
Age Concern Lindsey
Age Concern Kesteven
Age Concern Lincoln
artsNK
Association for Town Centre Managers
Bourne Town Centre Manager
CABE Space
Caistor Development Partnership
Campaign to Protect Rural England
Civic Societies
Community Lincs
Countryside Agency (now part of Natural England)
District Council Conservation Officers
District Council Crime and Disorder Reduction Partnerships
District Council Heads of Planning
East Midlands Arts Council
East Midlands Development Agency
English Heritage
Grantham Town Centre Manager
Groundwork
Guide Dogs
Heritage Trust of Lincolnshire
Hertfordshire Highways: Mouchel Parkman
Historic Lincoln Project
Lincoln Business Improvement Group
Lincoln City Council Project Team
Lincoln Community Development Project
Lincoln Townscape Assessment Project
Local Strategic Partnerships
Lincolnshire Assembly
Lincolnshire Accessibility Forum
Lincolnshire Association of Local Councils
Lincolnshire Association of People with Disabilities
Lincolnshire Disability Forum
Lincolnshire Enterprise
Lincolnshire Seniors Forums
Lincolnshire Tourism
Lincolnshire Visually Impaired Society
Lincolnshire Wildlife Trust
Northamptonshire Road Safety Partnership
Nottingham City Council
Operations Manager, Ringway
Progress – Seniors
Regeneration East Midlands
Spalding Town Centre Manager
Stamford Vision
Town Centre Development Manager, Warwickshire County Council
TRiL (Traditional Roadsigns in Lincolnshire) Group
Utility companies through Lincolnshire County Council's routine meetings
Welland Strategic Sub-regional Partnership
Youth Cabinet

Public consultation questionnaire distributed through Community Lincs *Rural Links* magazine which is received by parish councils and others, multi-use centres, and libraries. Articles were published in *County News* and the *Lincolnshire Echo*.

Appendix one

Every Street Matters

Report prepared for Conservation Services,
Lincolnshire County Council

June 2006

The Research Team
Economic Regeneration
Beech House
Witham Park
Waterside South
Lincoln
LN5 7JH

Every Street Matters

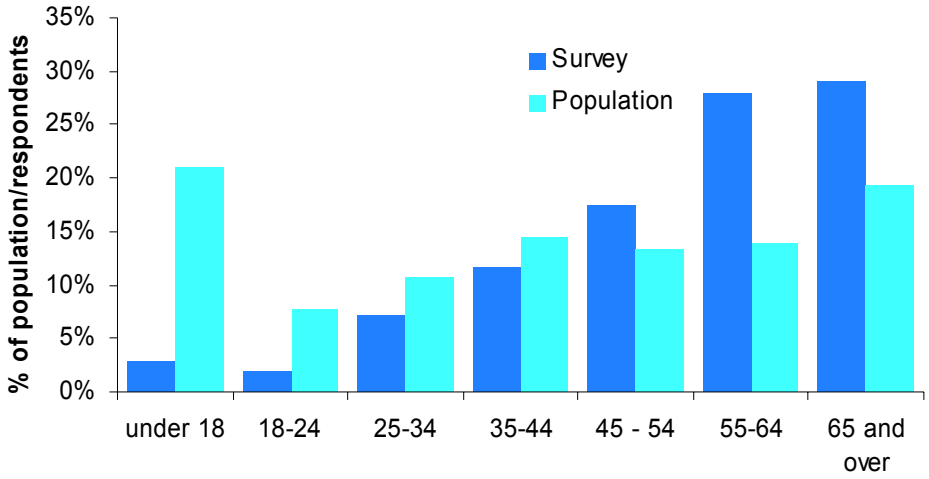
This document outlines headline results from the Every Street Matters questionnaires. A total of 937 responses were received from residents across Lincolnshire.

The survey was made available to residents in Lincolnshire either electronically on LCC Connects www.lincolnshire.gov.uk or in paper format via distribution with the Community Council of Lincolnshire's *Rural Links* magazine, libraries and multi use centres. The survey tries to establish what pleases and concerns Lincolnshire's residents about their local areas and streets and to determine how Lincolnshire County Council can improve the way spaces look and feel when they are being used. For each question any respondents who did not reply were excluded from this analysis. A copy of the survey can be found in Appendix One.

About the Respondents

Of the 937 respondents, 60% were female. Figure 1 shows the age of survey respondents compared to the population. From this it can be seen that just over half of the respondents were aged over 55 years and a further 18% aged 45-54 years, which is a higher proportion than the resident population[1]. Just under 5% of the respondents were aged under 24 years which is lower than the percentage resident population.

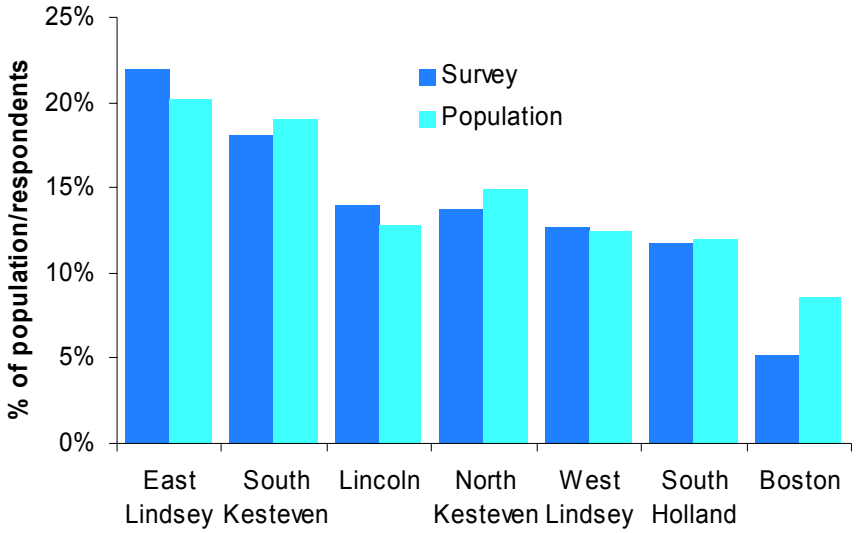
Figure 1. Comparison of age profile of survey respondents with resident population



Almost a quarter of the respondents (22%) live in East Lindsey. This is similar to the percentage resident population in this district at 20%. Respondents from Boston accounted for around 5% of all respondents. This is slightly lower than the resident population of this district at 9% (figure 2).

[1] Office for National Statistics, Mid Year Population Estimates, 2004

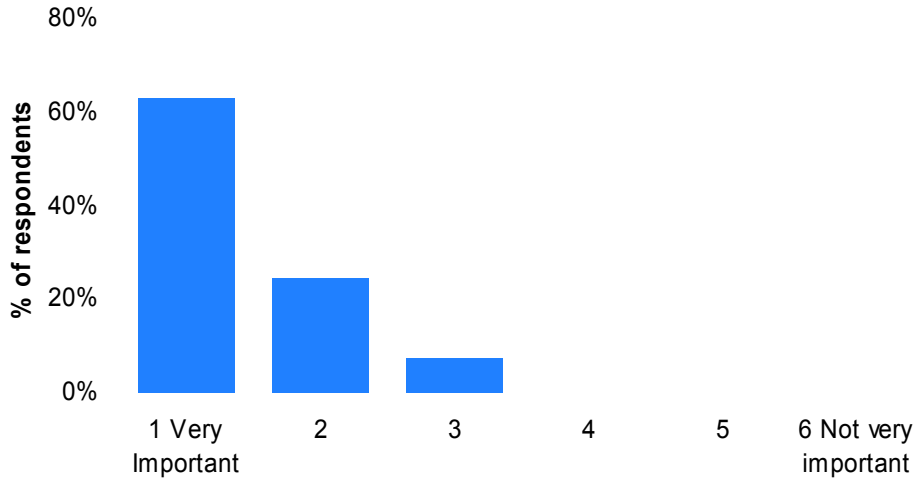
Figure 2. Comparison of the percentage of survey respondents with the resident population in each district



What makes a local area attractive and usable?

Respondents were asked how important or not it is to have attractive streets. 87% of respondents considered having attractive streets to be either very important or important. Less than 1% of respondents said that having attractive streets was not very important (figure 3).

Figure 3. How important respondents considered having attractive streets

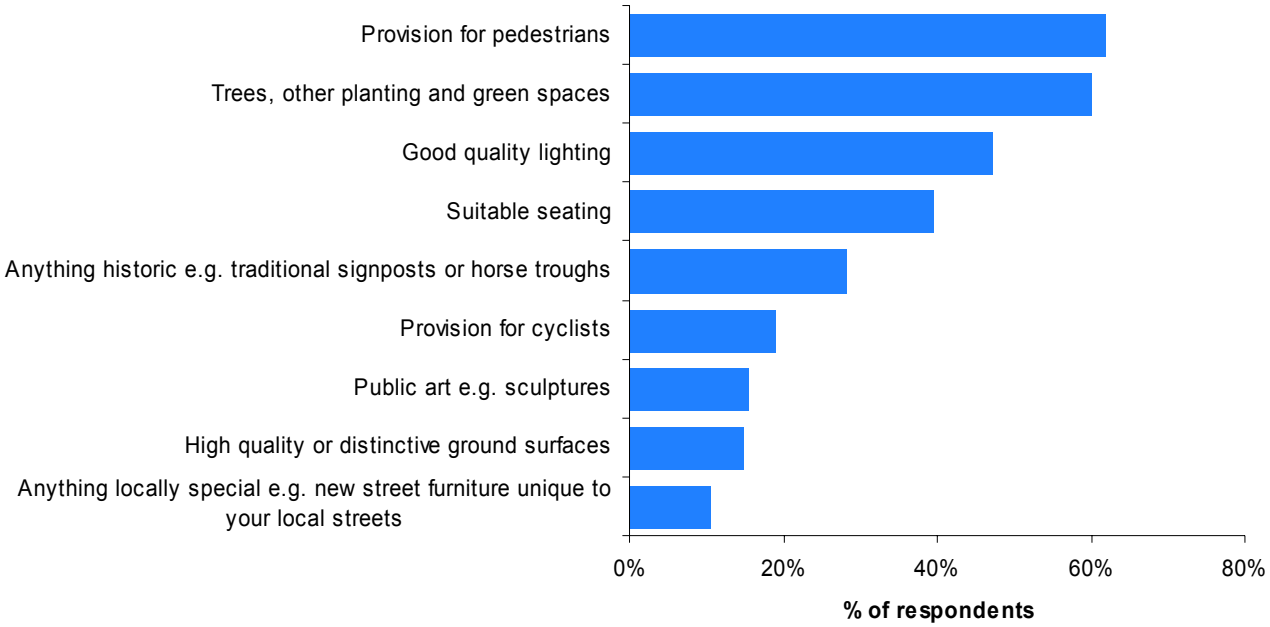


891 respondents

Respondents were then asked what features they have in their local streets. 62% said their streets contain provision for pedestrians and a further 60% have trees, other planting and green spaces (figure 4).

Other common features not listed within the question included listed or community buildings and telephone boxes. A number of respondents stated negative features such as dog fouling, poor condition of footpaths, or the volume of traffic.

Figure 4. Features respondents have in their local streets

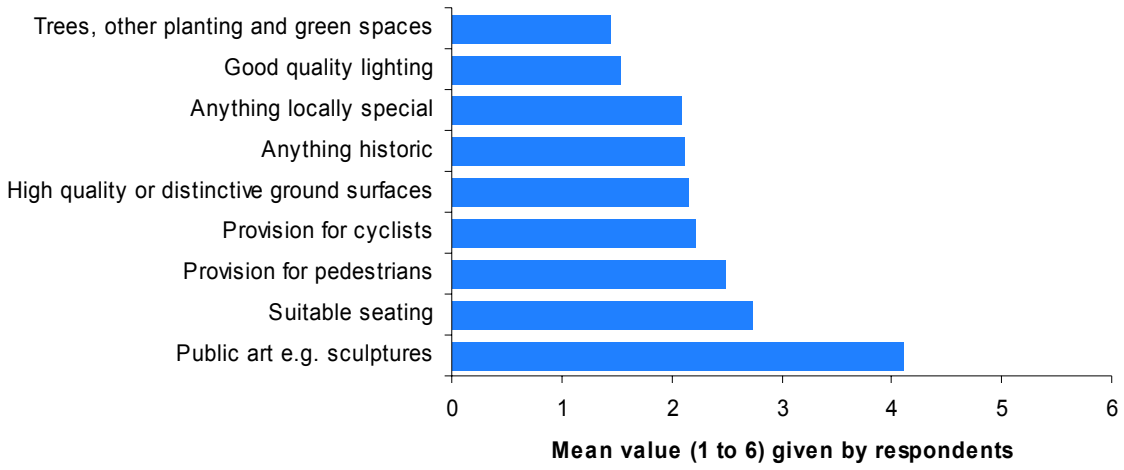


917 respondents

Respondents were asked to rate how important the street features are in making their streets attractive on a scale of 1 to 6 with 1 being very important and 6 being not very important. Figure 5 shows the mean responses to each of these.

Overall respondent's opinions were fairly positive. Having trees, other planting and green spaces, one of the more common features of local streets, scored a mean rating of 1.4. Good quality lighting was also considered important with a mean rating of 1.5. However, public art was considered least important with a mean rating of 4.1.

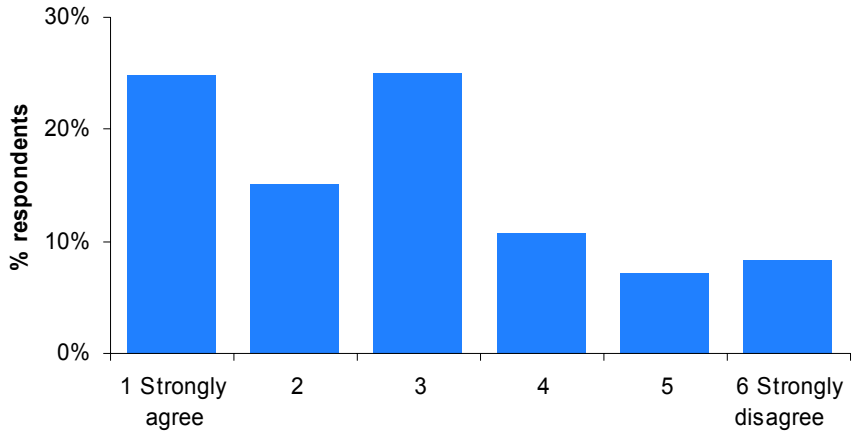
Figure 5. Importance of features in making streets attractive where 1 is very important and 6 is least important



840 respondents

Respondents were also asked to what extent they agreed or disagreed that the work carried out to their local streets reflects the character of their town or village. 40% of respondents either strongly agreed or agreed, whilst only 15% disagreed (figure 6).

Figure 6. Whether respondents agreed or disagreed that work carried out to their local streets reflects the character of their town or village



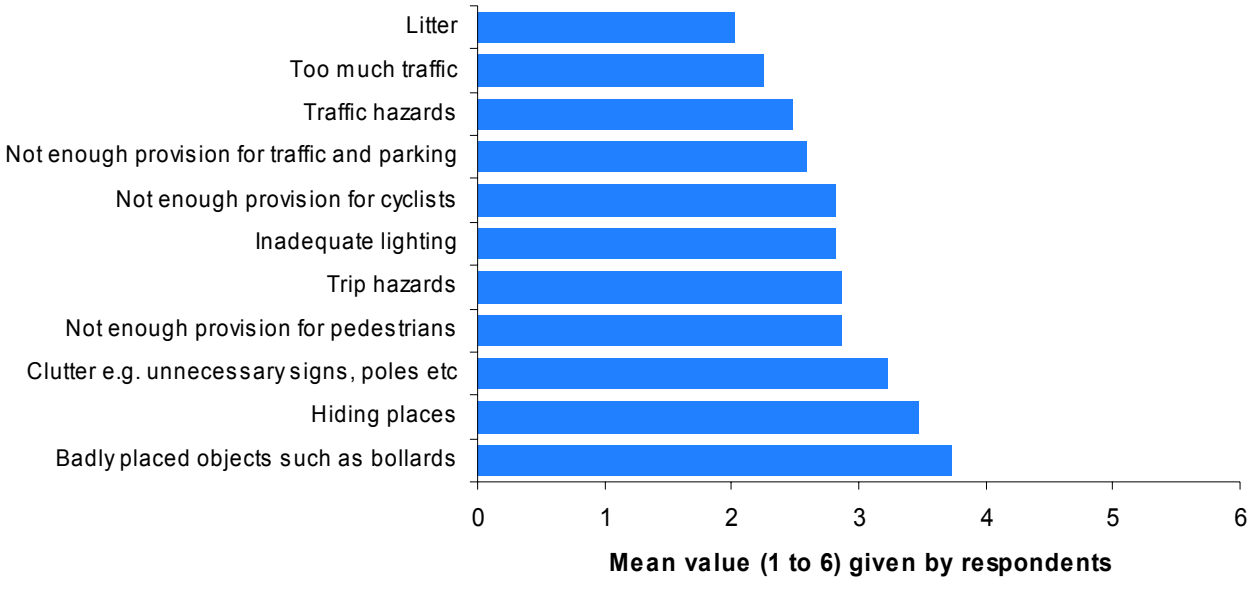
851 respondents

What concerns you about your local streets?

Respondents were asked to rate how concerned they were about issues within their local streets on a scale of 1 to 6 with 1 being very concerned and 6 being not very concerned. Figure 7 shows the mean responses to each of these.

Respondents were most concerned with litter in their streets giving it a mean score of 2 whereas they were least concerned about badly placed objects such as bollards which received a mean score of 3.7.

Figure 7. Whether respondents were very concerned or concerned about these issues in their local streets where 1 is very concerned and 6 is not very concerned



937 responden

Appendix One

LINCOLNSHIRE COUNTY COUNCIL
Every Street Matters

Every Street Matters is a Lincolnshire County Council project which looks at how we can improve the way spaces look and feel when they are being used, and therefore improve how they are used. As part of the project we need to find out from people what pleases and concerns them about their local streets and market places. If you would like to contribute please complete the questionnaire. Improvements to our streets and market places will be gradual, and cannot be achieved all at once, but having ideas, hopes and aspirations for our streets is extremely important.

The questionnaire can also be filled in online at www.lincolnshire.gov.uk.
All completed questionnaires will be entered into a prize draw.
There will be two prizes: an annual family Heritage Pass, or *An Historical Atlas of Lincolnshire*

Please fill in the form with a black ballpoint pen. **Read each statement in turn and** place a cross ☒, or tick ☑, **in the box which most closely matches your personal opinion. If you place a mark in a box by** error fill the box in completely ■ **and then place a cross or tick in the box which represents your chosen response. Please ensure that all crosses or ticks** remain within the boxes **and for written responses** write clearly**, as these forms will be scanned by a computer.**

WHAT MAKES A LOCAL AREA ATTRACTIVE AND USEABLE?

Q1 **How important, or not, is having attractive streets on a scale of 1 to 6 with 1 being very important and 6 being not very important?** (PLEASE TICK ONE BOX ONLY)

1 Very Important	*2*	*3*	*4*	*5*	*6 Not very important*
☐	☐	☐	☐	☐	☐

Q2 **Please tell us which of the following you have in your local streets** (PLEASE TICK ALL THAT APPLY)

- ☐ Public art e.g. sculptures
- ☐ Suitable seating
- ☐ Provision for pedestrians
- ☐ Provision for cyclists
- ☐ High quality or distinctive ground surfaces
- ☐ Anything historic e.g. traditional signposts or horse troughs
- ☐ Anything locally special e.g. new street furniture unique to your local streets
- ☐ Good quality lighting
- ☐ Trees, other planting and green spaces

Other, please specify

Q3 **Please tell us how important you feel these features are in making your local streets attractive on a scale of 1 to 6 with 1 being very important and 6 being not very important**

	1Very important	*2*	*3*	*4*	*5*	*6 Not very important*
Public art e.g. sculptures	☐	☐	☐	☐	☐	☐
Suitable seating	☐	☐	☐	☐	☐	☐
Provision for pedestrians	☐	☐	☐	☐	☐	☐
Provision for cyclists	☐	☐	☐	☐	☐	☐
High quality or distinctive ground surfaces	☐	☐	☐	☐	☐	☐
Anything historic	☐	☐	☐	☐	☐	☐
Anything locally special	☐	☐	☐	☐	☐	☐
Good quality lighting	☐	☐	☐	☐	☐	☐
Trees, other planting and green spaces	☐	☐	☐	☐	☐	☐

Q4 How do the features which you feel are of importance add to the attractiveness and accessibility of your local streets?

Q5 To what extent do you agree or disagree that work which is carried out to your streets reflects the character of your town or village on a scale of 1 to 6 where 1 is strongly agree and 6 is strongly disagree? (PLEASE TICK ONE BOX ONLY)

1 Strongly agree	*2*	*3*	*4*	*5*	*6 Strongly disagree*
☐	☐	☐	☐	☐	☐

WHAT CONCERNS YOU ABOUT YOUR LOCAL STREETS?

Q6 Please tell us which of the following concerns you have about your local streets (PLEASE TICK ALL THAT APPLY)

- ☐ Too much traffic
- ☐ Not enough provision for traffic and parking
- ☐ Not enough provision for pedestrians
- ☐ Not enough provision for cyclists
- ☐ Clutter e.g. unnecessary signs, poles etc
- ☐ Litter
- ☐ Trip hazards
- ☐ Inadequate lighting
- ☐ Hiding places
- ☐ Badly placed objects such as bollards

Other, please specify

Q7 Please tell us how concerned you are about each of these issues in your local streets on a scale of 1 to 6 with 1 being very concerned and 6 being not very concerned.

	Very concerned 1	*2*	*3*	*4*	*5*	*Not very concerned 6*
Too much traffic	☐	☐	☐	☐	☐	☐
Not enough provision for traffic and parking	☐	☐	☐	☐	☐	☐
Not enough provision for pedestrians	☐	☐	☐	☐	☐	☐
Not enough provision for cyclists	☐	☐	☐	☐	☐	☐
Clutter e.g. unnecessary signs, poles etc	☐	☐	☐	☐	☐	☐
Litter	☐	☐	☐	☐	☐	☐
Trip hazards	☐	☐	☐	☐	☐	☐
Traffic hazards	☐	☐	☐	☐	☐	☐
Inadequate lighting	☐	☐	☐	☐	☐	☐
Hiding places	☐	☐	☐	☐	☐	☐
Badly placed objects such as bollards	☐	☐	☐	☐	☐	☐

Q8 How do the features which you feel are of concern detract from the attractiveness and accessibility of your local streets?

ABOUT YOU

Q9 Which area do you live in? (PLEASE TICK ONE BOX ONLY)

☐ Boston ☐ Lincoln ☐ South Holland ☐ West Lindsey
☐ East Lindsey ☐ North Kesteven ☐ South Kesteven

Q10 Which town or village do you live in, or which is your nearest village?

Q11 Are you... ☐ Male ☐ Female

Q12 How old are you? ☐ under 18 ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45 - 54 ☐ 55-64 ☐ 65 and over

Q13 If you wish to be entered into the free prize draw please fill in your name and address below

Once you have completed the questionnaire please return it in the envelope provided.

Thank you for taking the time to complete this survey

If you have any questions or queries regarding completion of the survey please contact Sarah Grundy on 01522 552363

Data Protection - the information you provide on this form is confidential. It is used for the purpose of the prize draw for this questionnaire only. All personal information maintained by LCC has to be registered, and may be used and disclosed only as described by the Data Protection Act 1998. You can find out about the Act in your local library (using LINNET) or at the website www.dataprotection.gov.uk

If you are under 18 you must obtain your parent or guardian's permission before providing your details.

This publication was produced by

The Research Team
Economic Regeneration
Lincolnshire County Council
Beech House
Witham Park
Waterside South
Lincoln
LN5 7JH

Tel: 01522 550500
Fax: 01522 516720

Economic Regeneration is also a lead partner in the Lincolnshire Research Observatory.

Why not visit their website for a wide range of socio-economic information on the Lincolnshire and Rutland area. **www.research-lincs.org.uk**

Appendix two

Policy and Legislative Background

National

There is a great deal of guidance, policy and legislation from Central Government and partners that supports the principles of good design and maintenance in the public realm, and the significance and relevance of such material is being increasingly recognised. Below are listed some of the main statutory instruments and policy documents for carrying out the Every Street Matters project and producing the Streetscape Design Manual.

The main basis for this Streetscape Design Manual is the *Streets For All* initiative by English Heritage, and in particular the publication of the *Streets For All: East Midlands* guidance, which includes the promotion of quality of design and maintenance, and advocates strong local authority policies to support this aim. The initiative is supported by Central Government.

Commission for Architecture and the Built Environment (CABE) have published guidance on how to achieve clean, safe and attractive streets, most particularly in *Paving the Way,* in 2002. They have also issued a range of challenges to practitioners who carry out works in the street environment to improve co-ordination between relevant departments, agencies, local authorities, voluntary organisations and funding providers; to influence funding decisions at national, regional and local levels; to promote and develop skills training needs; to carry out research and develop information, quality standards and good practice; and to raise public awareness of, expectations of and commitment to high quality urban public space.

The *Manual for Streets* was published in March 2007 by the Department for Transport and Department for Communities and Local Government, and is intended to help bring about a transformation in the way streets are designed and to show how street design considerations can help improve the local environment quality and contribute towards creating sustainable and mixed communities. Currently it is still in draft form.

In March 2012 all the Planning Policy Statements and Guidance were replaced by the National Planning Policy Framework (NPPF). The NPPF provides a framework for communities and local councils to produce their own local and neighbourhood plans which reflect the needs and priorities of their communities.

It has a strong focus on sustainable development and what it means for future generations. It also has economic, social and environmental roles, which includes '…creating a high quality built environment, with accessible local services that reflect the community's needs and support it's health, social and cultural well-being…', and '…contributing to protecting and enhancing our natural, built and historic environment…'

The NPPF does not change the statutory status of the development plan as the starting point for decision-making.

There are many sections where the guidance in the NPPF has relevance to the importance of designing and maintaining a high quality street environment. In particular:

Section 2, Ensuring the vitality of town centres (paragraphs 23-27).

Section 4, Promoting sustainable transport (paragraph 35).

Section 7, Requiring good design (paragraphs 58-61). Among the points in paragraph 58 it states that developments should aim 'to establish strong sense of place, using streetscapes and buildings to create and attractive and comfortable places to live, work and visit.'

Section 8, Promoting healthy communities (paragraph 69). This section underlines the importance of aiming to create places that give 'opportunities for meetings between members of the community who might not otherwise come into contact with each other…'.

It also states that places should be 'safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion…' and ' 'safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas.'

Paragraphs 76 and 77 of Section 8 discuss the possibility of designating green areas, as Local Green Space, in communities for special protection from development.

Section 11, Conserving and enhancing the natural environment (paragraph 115). This states that 'Great weight should be given to conserving the landscape and scenic beauty in… Areas of Outstanding Natural Beauty…'

Section 12, Conserving and enhancing the historic environment, (paragraphs 126 and 131). This section recognises the contribution that the historic environment makes to local distinctiveness and all the social, cultural and economic benefits enhancing it can bring. It also states that development should make a positive contribution to local character and distinctiveness.

Campaign for the Protection of Rural England have issued a 'clutter challenge': 'Highway authorities have an important job to do in the countryside. Traffic is rising faster in rural than urban areas and the speed of vehicles is a real problem for many villages and country lanes. But responding to these challenges needs to be done in ways which are sensitive to the character of the countryside.' and 'At its worst, small hamlets can resemble a shop window for traffic calming manufacturers, while the painted lines along country lanes can make them look like race tracks. Each intrusion on its own may seem innocuous, but overall we lose a sense of rural character.'

Countryside and Rights of Way Act 2000: Includes confirmation of powers of local authorities to take appropriate action to conserve and enhance the natural beauty of Areas of Outstanding Natural Beauty (AONB) (Section 84), and places a duty on 'relevant authorities' when exercising or performing any functions in relation to, or so as to affect, land in an AONB, to have regard to the purpose of conserving and enhancing the natural beauty of the AONB (Section 85).

The former *Countryside Agency* (now part of Natural England) have produced a range of guidance and good practice notes, including *Planning tomorrow's countryside* which says 'A pleasant environment is both a cultural and an economic asset that must not be squandered though poor quality decisions and designs.'

All this should be in the context of:
DfT Traffic Signs Regulations and General Directions (2002, 2016)and *New Roads and Street Works Act 1991, Disability and Discrimination Act 2005*, and the Equality Act 2006. In the case of the Traffic Signs Regulations and General Directions, it is crucial for practitioners to know and understand the difference between what is mandatory, and what is guidance.

Crime and Disorder Act 1998 (Section 17) makes it a statutory duty for those carrying out physical works in the street environment to take into the account the effect they may have on levels of crime and fear of crime.

Local Government Act 2000 says that 'Local authorities, in partnership with Government, business, the voluntary sector and others, have a vital role to play in improving the quality of peoples lives, providing vision and leadership for their communities, and delivering high quality services.' and 'It equally requires action by every local authority, its councillors and employees to find new ways of working which put its people and its communities first.'

It also states that '...communities that rely on services such as street cleaning or community safety should be encouraged and enabled to have their say in setting priorities and influencing how to spend public funds.' This can be achieved by implementation of Community Street Audits.

Communities and Local Government (2006) *Strong and Prosperous Communities: The Local Government White Paper* makes it clear that, in creating sustainable communities, local authorities will have an essential and strategic role.

There is also other national guidance to help with these design issues, such as *By Design*, and *English Partnerships - Urban Design Compendium*.

Cleaner, Safer, Greener Initiative is about creating quality spaces in which people want to live and take pride in. It is led by DCLG, and supported by the Home Office, DEFRA, DfT, DCMS, DES, DTI and the Treasury.

The *Equality Act 2006* gives protection from discrimination in the provision of goods, services and facilities across all grounds of discrimination, including race, gender and age. It also requires the promotion of equality of opportunity. This guidance will undergo an Equality Impact Assessment.

The *Disability Discrimination Act 2005* builds and extends earlier disability discrimination legislation, principally the Disability Discrimination Act 1995. The Disability Equality Duty under DDA 2005 requires that public bodies must take account of the needs of disabled people as an integral part of their policies, practices and procedures, and not as something separate or as a tag-on, and will have due regard to the need to eliminate unlawful discrimination and disability-related harassment, promote equality of opportunity and positive attitudes to disabled people, and encourage disabled people to participate in public life, even if that involves treating disabled persons more favourably than other persons. There are guidance documents with technical information, such as a Statutory Code of Practice published by the Disability Rights Commission (DRC), or BS8300 and *Approval Document M* of the Buildings Regulations.

Disability and the *Equality Act 2010*: from October 2010 the Equality Act replaced most of the Disability Discrimination Act. However, the Disability Equality Duty continues to apply.

Sustainable Communities Act (2007) aims to promote the sustainability of local communities. It begins from the principle that local people know best what needs to be done to promote the sustainability of their area, and provides a channel for local people to ask Central Government to take such action. These include the economic, social or environmental well-being of their area.

The *Design Manual for Roads and Bridges* (DMRB) was introduced in 1992 in England and Wales, and subsequently in Scotland and Northern Ireland. It provides a comprehensive manual system which accommodates, within a set of loose-leaf volumes, all current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads (including motorways).
In March 2007, the Highways Agency published guidance, called *Assessing the Effect of Road Schemes on Historic Landscape Character*. It contains techniques for evaluating historic landscape character, mitigating the negative impact on it by new road schemes, and also for the sustainable management and enhancement of historic landscape character. The guidance also deals with the effects of changing the existing infrastructure in historically sensitive areas. It complements and extends the advice given in *Cultural Heritage*, Volume 11, Section 3, part 2, of the *Design Manual for Roads and Bridges*, published August 2007. Advice can also be sought from the Historic Environment Team.

In May 2008 the English Historic Towns Forum published the Manual for Historic Streets: managing the urban historic environment. The Manual is supported by CABE Space and English Heritage.

Localism Act 2011 and the *Open Services White Paper 2011* are intended to radically alter the relationships between Central Government, Local Government, communities and individuals. The provisions will devolve greater powers and responsibilities to Local Authorities and communities.

Regional
The Coalition Government (2010-2015) removed the regional planning policy layer.

OPUN is the *Architecture and Built Environment Centre* for the East Midlands, and is best placed to support exemplary public realm development. They also have a *Regional Design Review Panel* in order to raise standards.

Local
Working towards extremely high standards in street scene design and maintenance can contribute much towards existing Lincolnshire County Council policy and strategy. Lincolnshire County Council now has a Streetscape Design and Maintenance Policy, which was adopted by the Executive in 2008. This strongly supports the commitments made in the 4th Local Transport Plan on pages 110-111 in Section 14, Transport and the Environment. This should also be in the context of the Highways Asset Management Plan. More detail on this can be found on the County Council website. Other strategies include the *Lincolnshire Wolds AONB Management Plan* and the *Lincolnshire County Council Arts Development Strategy*. It should also be in the context of the *Highways Asset Management Plan*.

Other policies which have been adopted by the County Council, and which work towards an improved street environment are the *Lincolnshire Design Guide for Residential Areas*, and *Traditional Roadsigns in Lincolnshire*.

At District Council level, there are Conservation Area Appraisals with Management Plans, which are now statutory. The aims of Every Street Matters could feed into the 'quality of life' areas of Local Development Frameworks or Local Plans. The County Council should also work with the District Council Local Strategic Partnerships.

The Lincolnshire Shared Services Partnership encompasses all local authorities in Lincolnshire with the goal of achieving real service transformation. The programme seeks to ensure that local government in Lincolnshire is efficient and effective within a two and three tier environment. Street scene is a theme of the programme as a priority area for transformation. *Lincolnshire County Council Policy: Caring for the Environment, corporate environmental policy* states that 'The Council aims to improve the environmental quality of Lincolnshire by: ... minimising any adverse environmental impacts resulting from its own activities' and that the Council will 'protect and enhance Lincolnshire's distinctive natural and historic landscape character', and 'promote good practice in the care of historic buildings and structures in the Council's ownership'.

Appendix three

Quick Quality Audit

If there are any notes or photographs produced they should be kept with other documentation about the works.

Looking at the entire street environment, even when planning small schemes, consider the following issues:

Movement:
Look at how the street is used by all street users.
Could access for pedestrians, wheelchair users and cyclists be improved?
Could the street environment be made more comfortable and pleasant for these street users?

Unusual features:
These could include:

materials	Y/N
historic street furniture or structures (if in any doubt, contact the County Council Historic Environment Team)	Y/N
public art	Y/N

Could any of these be protected, retained or enhanced? This will apply outside Conservation Areas, and to non-listed buildings or structures, like historic bridges and traditional roadsigns, for example.

Street clutter:
Do the works include any of the following?

guard rails	Y/N
signs	Y/N
illuminated signs	Y/N
road markings	Y/N
bollards	Y/N
street lighting columns	Y/N
any other object	

Is the installation or replacement of any of these necessary?

.....
.....
.....
.....

Could any of these be removed or combined with other objects to reduce clutter?

.....
.....
.....
.....

Is the feature in keeping with its surroundings?

For instance:
Is the placing of a roadsign going to block a view of an attractive and prominent feature of the street, like a medieval market cross?

If installing bollards, do they match other street furniture nearby?

.....
.....
.....
.....

Will installation cause an obstacle for those with accessibility issues?

.....
.....
.....
.....

In the case of illuminated signs - would road conditions allow a reflective sign face as an alternative?

.....
.....
.....
.....

Appendix four

Data capture sheets for audit of current use of streets as part of a Quality Audit

Location .....

Date(s) .....

Participants .....

Conditions (eg night/day/weather) .....

.....

Area designation .....

Please note that a map should be annotated in conjunction with completion of the form

Movement

Traffic (record volume, size and speed of vehicles)

Parking

Pedestrians (volumes and behaviour - eg social interaction)

Cyclists (volumes and behaviour - eg riding on pavements, including reasons)

Accessibility issues

Movement and manoeuvring of all the above, and relationship between types of street users (these can be indicated on the map)

Issues and conflict points

Recommendations

Street furniture

Item (can be recorded by street furniture type - so multiple copies of this section will be necessary)

Ownership

Style

Condition (score out of 10; ie 10 being excellent, and 1 being very poor)

Historic interest, including legal designation (eg listed building, scheduled monument)

Value to community

Is the object redundant/unnecessarily adding to street clutter?

Issues and conflict points

Recommendations

Signage and road markings

Item (describe what the sign or road marking is)

Statutory/Non-statutory

Condition

Is the sign/marking redundant or unnecessary?

Issues and conflict points

Recommendations

Ownership

Indicate on mapping where known

Issues and conflict points

Recommendations

Other infrastructure and services

Record any relevant information on services, utilities, drainage and maintenance here and on the map where possible.

Issues and conflict points

Recommendations

Appendix five

Data capture sheets for audit of visual quality as part of a Quality Audit

Location .....

Date(s) .....

Participants .....

Conditions (eg night/day/weather) .....

.....

Area designation .....

Please note that a map should be annotated in conjunction with completion of the form

Layout, proportions and materials

Describe overall character (description could include urban, suburban, rural, multi-purpose, residential, retail, link to hierarchy, nature of buildings, historic street patterns, relationship between buildings and public realm)

Buildings (if any)
- Size
- Use
- Materials
- Period (eg Victorian, Edwardian)
- Listed building? (ie legally protected historic building)

Footways
- Width
- Materials

Carriageways
- Width
- Materials

Trees, landscape and biodiversity

Trees
- Species
- Size
- Tree Preservation Order
- Condition

Landscaping
- Condition

Verges
- Condition
- Designation (eg Site of Special Scientific Interest, Protected Roadside Verge)

Historic Environment

Designations
- Listed building
- Conservation Area
- Conservation Area with Article 4

Locally important features or non-designated historic buildings

Check for:
- Conservation Area Appraisals
- Information on the Historic Environment Record

Issues and conflict points

Recommendations

Appendix six

Traditional Roadsigns in Lincolnshire (TRiL) Policy for the REINSTATEMENT of Traditional Guideposts

When the TRiL project was established and the memorandum of understanding issued, the primary aim was to stop the loss of traditional guideposts in the county and to encourage their retention and repair. This aim has been achieved in the Lincolnshire Wolds AONB and refurbishment work is now proceeding in other areas of the county. At a national level, the publication of Traffic Advisory Leaflet 6/05 has justified the work of the group and has also authorised the reintroduction or reinstatement of traditional fingerposts to match the original style.

The TRiL group have commissioned the production of new concrete uprights to match Lindsey and Kesteven types and have begun to reinstate some lost guideposts. However, it is not the group's intention to replace all modern guideposts with traditional types.

Policy for the Reinstatement of traditional guideposts.

- Reinstated guideposts will not be installed on A or B classified roads.
- Reinstated guideposts will only be installed where there is clear evidence that a guidepost previously existed. We will not normally support installation of a reinstated sign where no sign has previously been.
- Guideposts will only be reinstated with the agreement of Divisional Highways Managers and other relevant agencies.
- Reinstated guideposts will be targeted at localities and on routes of significant landscape quality. (e.g. Reinstatements have already been installed on Bluestone Heath Road and Barton Street).
- Reinstated guideposts will be targeted at localities and on routes in the vicinity of sites with high visitor attraction (e.g. on coastal roads in the Skegness/Mablethorpe areas and near major tourist attractions)
- Reinstated guideposts will be targeted at localities and on routes in the vicinity of surviving parkland and park landscapes.
- Reinstated guideposts will be considered in villages with designated conservation areas where the replacement of one central sign would enhance the village appearance.
- Reinstated guideposts may be installed on known guidepost sites if external funding covering all capital costs is available through parish, district or special project (e.g. LHI) funding.
- Surviving traditional guideposts are recorded on the County Council's Historic Environment Record (HER). If a traditional sign is refurbished, a record of this action is added to the HER. Reinstated signs are not included on the HER – a separate GIS layer will be created to record the location and date of installation of reinstated guideposts.