Lancashire County Council

Creating Civilised Streets

Policy & Design Guidance

February 2010

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Contents

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Foreword

Creating Civilised Streets (CCS) is based on the Department for Transport (DfT) publication Manual for Streets (MfS) which replaced Design Bulletin 32 in 2007. This guide replaces Lancashire's Residential Road Design Guide (1986) which was based on Design Bulletin 32, 1977.

This guide focuses on the design of new residential streets and changes to existing street environments although many of the key principles may be applicable for other locations, for example mixed priority routes. It is the users' responsibility to ensure the guidance is applied in an appropriate, sensible and reasonable manner.

Streets make a significant contribution to the quality of the public realm and our network of streets is one of the County's most valuable assets. Our streets play a key role in supporting Lancashire County Council's objectives to develop high quality environments in which people can live, work and play.

Streets are used by children to get to school, people to access employment and leisure, they are also used to transport waste and many other vital services around the County. Yet, streets are not just there to get people and goods from A to B. They have many functions and form vital components of residential areas. They have a major role to play in affecting the overall quality of life for local people.

The aim of this guide is to help practitioners follow the principles set out by MfS to achieve a transformation in the quality of our streets. This will be achieved by ensuring that our streets meet the needs of all users. Through this we will be creating conditions that encourage civilised spaces that are fit for purpose. Research has shown there are now better ways to utilise our technical ability and revisit the way our streets and spaces are designed and built.

This includes a more collaborative approach and a move away from prescriptive methods to encouraging all inclusive design. This involves enhanced consultation and interaction with the community to address local needs and collaborative working between practitioners in a wide range of disciplines to create the conditions that support civilised streets and streets that are suited to the needs of their users.

Lancashire County Council intends to maximise the benefits of investing in our streetscape. Good design is not necessarily expensive and should be led by an understanding of how people will use an area. We want to provide an environment that caters for all users whilst offering value for money. This can be achieved through designs which ensure the longevity of a development by removing the need for redesign of an ill thought-out scheme and by being mindful of ongoing maintenance costs.

Lancashire County Council is committed to delivering social, environmental and economic objectives to make positive contributions towards quality of life, health, safety, climate change, sustainable travel and local economies. Well designed streets help contribute towards these objectives.

Creating Civilised Streets was produced in consultation with highway and planning authorities. The approach offers an opportunity to revise and improve current design methods to help deliver environments that will enhance Lancashire's reputation as a place people want to live, work and spend time.

1. Introduction

This chapter aims to;
- Set out who the guide is for.
- Explain why we want to create civilised streets.
- Set out the distinction between streets and roads.
- Identify the features of a civilised street.
- Identify the functions of a street.
- Discuss the impact of hazard and risk on design.

1.1 Who the guide is for

Lancashire is a diverse county with a variety of differing needs across the districts. Nevertheless, the principles set out in this document have been designed to be applicable across the whole county. This guide is expected to be used for the planning, design, approval, adoption and future maintenance of:
- New residential streets; and
- The redesign of existing residential streets.

The principles may also be applied to other locations, for example mixed priority routes, where the need to create a sense of place is as important as the movement of vehicles.

In 2007 the Department for Transport (DfT) published Manual for Streets (MfS), providing technical guidance to help put well-designed residential streets at the heart of sustainable communities. LCC has undertaken a benchmarking exercise that highlighted that many other local authorities have already updated residential road design guidance, adopted MfS or are in the process of doing so. It was clear that a review of Lancashire's Residential Road Design guidance was appropriate. This guidance has been written in the light of Government best practice in Manual for Streets and replaces LCC's previous standards.

All practitioners are responsible for the implementation of guidance given in this document. Where there is a variation between the 'Creating Civilised Streets' and the national guidance in MfS, 'Creating Civilised Streets' should take precedence.

1.2 Why we want to create civilised streets

The highway network is a valuable asset that has a key role to play in achieving many of the County's objectives. A history of designing streets for vehicular traffic has often resulted in unattractive, unwelcoming and often segregated environments.

This is because historically there has been a tendency to focus highway design on the movement of vehicles, with the needs of people who walk and cycle either segregated or forgotten. This resulted in developments incurring problems of segregation and competition for road space.

By removing the need for road users to be in competition with each other it is hoped to create more civilised and inclusive environments where all users can co-exist. Creating civilised streets is based on the principle of design that caters for all users.

A change in our approach to design can help create civilised streets where people feel safe, children can play and neighbours can interact. This in turn will contribute to a wide range of objectives, helping to create high quality environments for people living in, working in and visiting Lancashire.

Home Zones have been a forerunner to civilised streets. Within Lancashire there are two Home Zones; one in Burnley and one in Morecambe. The scheme in south west Burnley was centred on 80 densely constructed terraced houses. The main road was a rat-run, with a high accident rate. The scheme set out to reduce vehicle speeds, enhance the local environment and re-route vehicles. The scheme has had a positive effect and has been generally well received. However, Home Zone schemes are very costly to implement. As such, civilised street design aims to replace the need for Home Zone developments but adopt their successes. For instance, LCC actively encourages the involvement of local communities in developing residential schemes to develop low-cost capital solutions to help make the streets safer and more attractive.

1.3 What is a street?

This document defines a street as a public road in a city, town or village which has buildings that are usually close together along one or both sides.

Streets are public places where people live, children can play, communities can interact and everyone can use the street to access local facilities by foot, bicycle, public transport or private vehicles. Streets have a sense of place which derives from their history of use. This is visible in their scale, detail and materials and is often worthy of protection.

New streets should have a sense of place achieved through local distinctiveness in design and planned to cater for the needs of local residents and businesses.

1.4 What is a road?

This document defines a road as a long hard surface built for vehicles to travel along between places.

Roads have fewer functions than streets. The core function of a road is to help the movement of vehicles within a network to access places.

Nevertheless, there are environments especially along mixed priority routes and high streets where a route is both a street and a road. These environments require practitioners to weigh up the needs of various users to cater for both place and movement functions.

1.5 Features of a Civilised Street

"Civilised Streets successfully manage place and movement functions so that all people can enjoy using them and being in them."
(CABE, 2008)

Lancashire County Council wants to create well designed streets that cater for the needs of all road users. By removing competition between users a more civilised environment can be encouraged.

Recent designs have seen the growth of 'competitive streets' where space is allocated to each particular user, for instance footways, cycle lanes, roads, bus lanes, and taxi bays. Competitive streets experience controlling regulations where one user is punished for using another user's space. For instance, a car parked on the footway or in a bus lane may result in the driver being punished financially with pedestrians and bus users being punished by the obstruction to their route.

LCC's desire to encourage civility is concerned with creating 'collaborative streets' based on an agreement of what the street should do for users.

In street design, practitioners are encouraged to consider all users with a focus on sustainable travel modes to support the County Council's environmental, social and health objectives. Where road users collaborate rather than compete with each other civilised streets can result in a range of positive outcomes. For instance, a well-connected network encourages more walking which in turn improves health and reduces car use and pollution.

More people being on streets leads to better safety and personal security. Civilised streets can also help encourage a sense of community, ownership and pride. An effective consultation process that includes people who walk, cycle, travel by public transport and drive across all equality target groups should help to identify user needs and create design that balances these needs. LCC encourages practitioners to design environments that promote civilised behaviour where people give way to people more vulnerable than themselves.

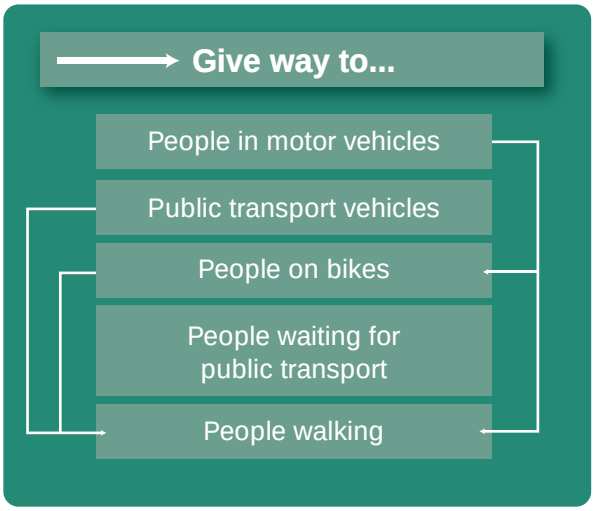


Figure 1-1 A civilised street environment

Civilised streets should have a low movement status and medium to high place status and as a result should restore the balance between people and vehicles. Civilised streets should;

- Meet the needs of all users by being inclusive and accessible.
- Encourage environments where vehicle flows and speeds are low.
- Reduce hazard and perceptions of fear.
- Be easy for people to move around.
- Create opportunities for active travel and community interaction where people can walk, stop, talk and play without feeling intimidated.
- Encourage good normal behaviour and discourage anti-social behaviour.
- Form places with a role in the community where people want to live, work and spend time.
- Be designed to stand the test of time by reducing future maintenance.

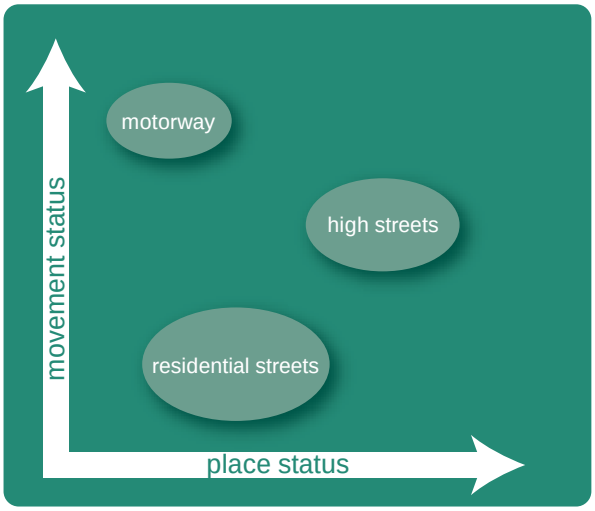
1.6 Functions of a street

There are five main functions of a street. They include:

- Supporting social interaction and community activity within a place that reinforces local distinctiveness.
- Movement of people on foot, on bike, on public transport and in cars.
- Providing access to employment, leisure and other services.
- Parking provision.
- Catering for drainage, utilities and street lighting.

When practitioners are designing for civilised streets the initial focus should be on the place and movement functions within the street. Practitioners should determine the exact functions of the street and consider the appropriate design techniques that will ensure the design caters for these functions.

Developing a place and movement matrix as shown below can help designers move away from designs that focus primarily on the movement of vehicles.



1.7 Hazard and risk

A hazard can be defined as something that presents danger to people with the potential to cause physical or psychological injury.
The majority of adults have the ability to detect hazards within an environment. Hazards present more danger to those with low awareness, such as children.

Risk can be defined as the exposure to hazards. Risk varies by judgement but by nature people are risk averse. Until the 1950s attitudes towards health and safety were less prescriptive than they are today and outside the Western world very different standards still prevail.

Historically, highway engineers have tried to design out risk to reduce potential liability.
As such local authorities have developed an approach to design that is liability-averse.
This has resulted in streetscapes dominated by features to ensure safety for those travelling at higher speeds. This causes those moving at slower speeds to experience environments dominated by in-direct crossings and street clutter. This has resulted in uninviting and unpleasant places in which to live and work.

MfS highlights that the majority of claims made against local authorities are concerned with alleged deficiencies in maintenance and that claims against design faults are relatively rare. The issue of highway risk and liability is discussed in more detail by the UK Roads Board.[1]

Creating civilised streets where users collaborate rather than be in competition with each other will help provide environments where road users can use space more successfully and safely. This in turn will reduce risk whilst catering for the needs of all.

Practitioners need to understand potential hazards within a street and then reduce, remove or mitigate where possible. Awareness of the remaining hazards should be raised. However, it is hoped that a collaborative environment will reduce hazards further by encouraging road users to be mindful of their own actions and how they affect other people.

[1] Highway Risk and Liability Claims
A Practical Guide to Appendix C (UK Roads Board, 2005)

2. Design Principles

This chapter aims to;

- Set out the design principles to deliver environments that successfully manage the place and movement functions so that all people can enjoy using them and being in them.
- The core design principles are;
  1) National, regional and local objectives must be catered for in design.
  2) All schemes must be effectively project managed to ensure they meet objectives.
  3) Design techniques that encourage civilised streets must be used.

2.1 National, regional and local objectives must be catered for in design

Streets are valuable assets that have the potential to contribute towards many policy objectives. When well designed they are places where people should;

- Enjoy living.
- Feel safe.
- Lead healthy lives.

They can also help contribute to addressing climate change and local economic growth.

There are many national and regional policies that influence the local environment. Good street design should contribute to achieving national, regional and local objectives. The concept of creating civilised streets is to provide for the wider needs of local residents and businesses to encourage road space to be used in a collaborative rather than a competitive manner.

Although Lancashire is a diverse county, creating environments to produce civilised streets can be applied to a street in any district, whether it is a coastal town such as Lytham, a market town like Colne, or a larger urban area such as Preston or Lancaster.

Further information on national, regional and local policy can be found in Chapter 3.

2.2 All schemes must be effectively project managed to ensure they meet objectives

Successful street design can only be achieved through a systematic design process focusing on collaboration, consultation and monitoring. All schemes should follow the design process shown in the Project Development Plan (Appendix A).

Collaboration between practitioners of different disciplines is essential in order to ensure that local needs and wider business objectives are addressed. Collaboration also requires consultation with the local community in order to establish local priorities and secure community 'buy in'.

The design process is discussed in more detail in Chapter 4.

2.3 Design techniques that encourage civilised streets must be used

Designers are encouraged to use techniques that will deliver a design that meets local priorities. While past techniques may be appropriate, local circumstances may require a more creative approach to scheme design. Meeting local objectives should determine the techniques to be employed. This is likely to include meeting the needs of those on foot, bike, those wanting to use public transport and people in private motor vehicles. Design techniques should ensure a positive impact on wider issues, such as minimising crime, increasing accessibility, enhancing connectivity and improving public health.

The design techniques available to help practitioners create civilised streets are discussed in Chapter 5.

3 Policy Context

This chapter aims to;
- Set out the national, regional and local context within which this document is based.
- Identify the social, environmental and economic business objectives which good street design can contribute towards.

3.1 National context

Creating high quality civilised streets can help achieve a broad range of policy objectives. At a national level *Delivering a Sustainable Transport System* (DfT, 2008) (DaSTS) outlines five goals for transport which sets the context for the next round of Local Transport Plans (LTP) to cover the period 2012 – 2015:
- Quality of life and a healthy natural environment.
- Equality of opportunity.
- Safety, security and health.
- Climate change.
- Economic growth.

3.2 Regional context

At a regional level the Regional Spatial Strategy (RSS) provides a broad development strategy to 2021 and is underpinned by eight principles:
- Marry opportunity and need.
- Promote sustainable communities.
- Reduce emissions and adapt to climate change.
- Promote environmental quality.
- Manage travel demand, reduce the need to travel, and increase accessibility.
- Make the best use of existing resources and infrastructure.
- Promote sustainable economic development.
- Mainstream rural issues.

3.3 Local context

At a local level Ambition Lancashire sets five key priorities to deliver the vision for Lancashire:
- Health and well-being.
- Community safety.
- Education, training and skills.
- Environment.
- Economy.

Within the strategy is a summary of each District's draft Community Strategy.
Upon reviewing these, common themes and objectives arise. These are reflected in the core policy objectives shown below.

3.4 Social, environmental and economic objectives which good street design contributes towards

Delivering civilised streets that meet the needs of all road users has the potential to contribute towards a range of national, regional and local objectives as shown below:

1) Enhancing people's quality of life;
2) Improving safety, security and health;
3) Addressing climate change and protecting the environment;
4) Creating sustainable communities;
5) Contributing towards local and economic growth;

Achieving these objectives will ultimately result in place people want to live, work and spend time.

The relationship between the objectives of this document and those at a national, regional and local level are shown below and attached in Appendix C.

3.4.1 Enhancing people's quality of life

By creating civilised streets that provide an attractive, locally distinctive environment and that meet the expectations of local residents and businesses LCC aims to nurture a sense of community and enhance peoples' quality of life.

Quality of life can be enhanced by designing streets which protect or create locally distinctive characteristics and encourage social integration and access to address issues of social exclusion. This will result in places where people want to live and work. Lancashire County Council has core objectives to tackle social exclusion and provide equality of opportunity for all regardless of wealth, educational achievement, age, sexual orientation, and physical and mental ability[2].

Street design can help the County Council to;

- Engage with local communities and nurture a sense of community by making it safe to walk, cycle, play and congregate by reducing the speeds and dominance of motor vehicles.
- Encourage good civilised behaviour where road users consider the needs of people who are more vulnerable
- Discourage anti-social behaviour through good design and natural surveillance.
- Provide people with better access to employment opportunities and services.
- Promote a county wide approach to equality and cohesion.[3]
- Protect valued and locally distinctive street environments.

3.4.2 Improving safety, security and health

LCC aims to create environments where people feel safe and lead healthy lifestyles.

Designing for those on foot or bicycle can help people to lead healthier lifestyles. More people walking and cycling improves natural surveillance and can help the community as a whole to feel safer.

The Government has identified the need to protect people's safety, security and health as a key goal and states that safety and security are essential elements of successful sustainable communities[4]. Safe and efficient access to key destinations is also identified as a key priority[3].

Lancashire County Council has a vision to reduce crime, the fear of crime and make Lancashire a safer place for all[3]. Designing civilised streets that cater for the needs of all road users will help tackle issues that can cause fear. This includes:

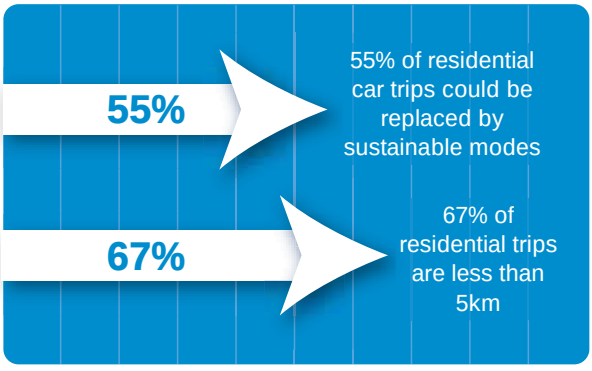
- Encouraging more people to walk, cycle and use public transport.
- Improving natural surveillance by encouraging community activity.
- Encouraging road users to consider the needs of those more vulnerable.
- Discouraging anti-social behaviour.
- Reducing speeds and vehicle dominance.
- Good street lighting.

Designing for those on foot and bicycle will help increase active lifestyles which can deliver economic benefits related to better health. Addressing health is a key issue for the Government. Physical inactivity costs approximately £8.2billion per annum in addition to £2.5billion per annum spent dealing with the consequences of obesity[5]. It is stated that despite strategy documents advocating increased active travel, motor traffic still frequently takes priority[6] in design. Putting policy into practice will be key to achieving government objectives to reduce obesity and increase exercise[7]. *The Investment for Health: Plan for North West England* (DH, 2003) sets out a vision for better health.

The County Council is keen to improve public health across Lancashire. By creating civilised streets LCC aims to improve health and reduce the cost of inactivity by;

- Encouraging more people to travel by foot, bike and public transport to reverse the decline in walking levels and increase cycling levels.

Research by Socialdata in Preston, South Ribble and Lancaster (2006) identifies the potential for change:



[2] Ambition Lancashire (Lancashire Partnership, 2008)

[3] Equality and Diversity and Community Cohesion Strategy (LCC, 2009)

[4] Safer Places (ODPM, 2004)

[5] Choosing Activity (DH, 2005)

[6] Take Action on Active Travel (Various, 2009)

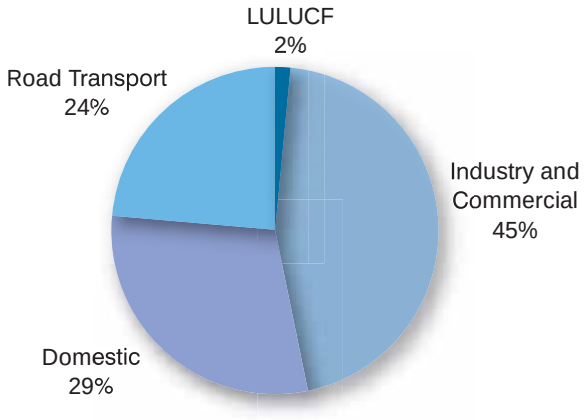
[7] Choosing Health (DH, 2004)

3.4.3 Addressing climate change and protecting the environment

LCC intends to help address climate change and help preserve the natural and built heritage.

Climate change is the greatest environmental challenge facing the world and is a major priority at all levels of government. The Government hopes to tackle climate change[8] and advocates a focus on three areas; a shift to new technologies and cleaner fuels, promotion of lower carbon choices, and encouraging a shift to lower carbon transport[9].

In-line with national and regional policy LCC has produced a Climate Change Strategy which aims to reduce emissions by 30% by 2020, against 1990 baselines. One aim is that transport will contribute towards 15% of the total reduction. The action plan includes objectives to reduce the need to travel and increase the use walking, cycling, public transport and car sharing[10]. Figure 3-1 below highlights how road transport accounts for nearly a quarter of Lancashire's Green House Gas (GHG) emissions.



Source: DEFRA, Local and Reional CO_2 estimates for 2005 (September 2008)

Figure 3-1 Lancashire CO_2 estimates for 2005

However, this varies by district as shown in Figure 3-2. It is clear that districts such as Chorley and Preston have much higher levels of CO_2 that are attributed to road transport.

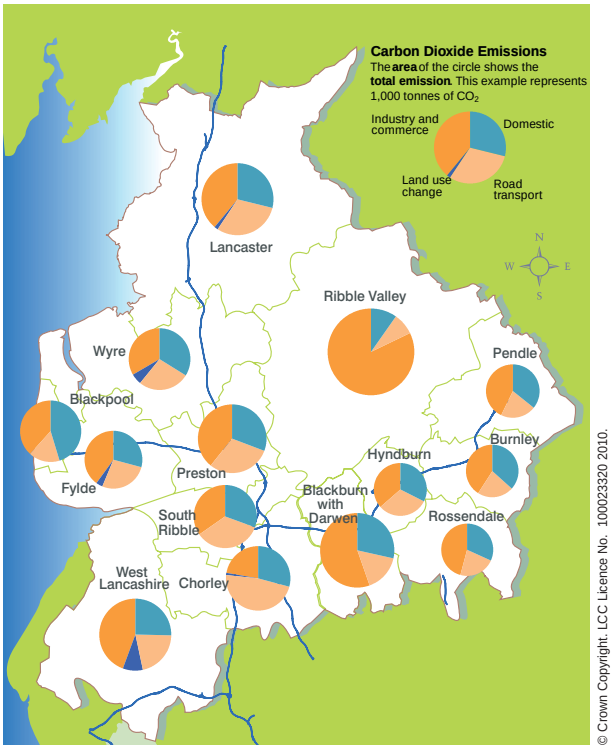


Figure 3-2 CO_2 emissions across Lancashire

Congestion clearly has a major impact on the environment. The County Council is keen to address this by encouraging walking, cycling and public transport use.

3.4.4 Creating sustainable communities

LCC aims to establish sustainable communities and create places where people can access employment and services on foot, by bicycle or by using public transport.

Promoting sustainable communities is a key national and regional priority[11] [12] and a wide range of guidance documents have been published on the subject.

Lancashire like many other counties has experienced a decline in walking levels. To address this, LCC has targets to increase walking levels in the county and has developed a Walking Strategy (2007-2011) which sets out how this will be achieved. LCC also has targets to increase cycling, increase the number of passengers using public transport and satisfaction levels with public transport provision.

Well designed streets have the potential to encourage alternative travel modes, in particular more walking, cycling[13] and public transport. Therefore, they can positively contribute to creating sustainable communities.

[8] Delivering a Sustainable Transport System (DfT, 2009)

[9] Lower Carbon Transport, (DfT, 2009)

[10] Lancashire Climate Change Strategy, (LCC, 2008)

[11] UK Sustainable Development Strategy (Defra, 2005)

[12] Sustainable Communities in the North West (ODPM, 2003)

[13] Walking and Cycling Action Plan (DfT, 2004)

3.4.5 Contributing towards local economic growth

By designing streets that facilitate access to employment, shops, services, learning and facilities further a field LCC aims to build communities that will contribute towards local prosperity and improve opportunities for local business growth.

Economic growth is a core priority for the Government and Lancashire County Council.

The Government has highlighted that whilst the basic connectivity of the UK transport network is good, congestion and unreliability constrain economic growth and result in a direct cost to people and business[14]. Connecting people to labour markets and reducing lost productive time are core government objectives[15]. Sustainable economic development and creating the conditions for sustainable growth including infrastructure are also key priorities[16].

Street design can also benefit the economy. Research has shown that more attractive environments, for instance, those that include trees can boost revenues[17].

Lancashire's streets help people connect to and access a range of local services, shops, employment, learning and facilities further a field. By providing people with the opportunity to access these services, streets can help stimulate local economies.

Lancashire intends to improve economic competitiveness and performance by developing key assets including our road network. Practitioners need to be aware of the importance of our road network in achieving economic ambitions and how this influences the region's competitive position and future economic prosperity[18]. This can be achieved by ensuring local street networks connect to public transport routes. Making these connections should be a priority in design.

[14] Eddington Transport Study (2006)

[15] Delivering a Sustainable Transport System (Dft, 2008)

[16] Regional Spatial Strategy (LCC, 2008)

[17] Trees, Woodlands and Forests - a guide for developers and planners (4NW, 2009)

[18] Economic Strategy for Lancashire (LEP, 2006)

4. The Design Process

This chapter aims to;
- Explain the role of project management in the design process.
- Provide an overview of the stages in the design process.

4.1 The role of project management in the design process

Designing civilised streets should be underpinned by a systematic approach to design. Lancashire County Council has developed a Project Development Plan (Appendix A) and street design should follow the approach as set out in this plan. This will help ensure any adaptation to the highway or new development maximises the opportunity to cater for the needs of all users and provides value for money. To ensure all designs have a customer orientated focus they should consider:

- Local needs and wider policy to set objectives.
- Integrated and collaborative working.
- Appropriate consultation.
- Design techniques that deliver objectives.
- Robust evaluation to ensure objectives are achieved.

To develop successful designs, project managers should encourage practitioners of different disciplines, who can positively influence scheme design to work more closely with each other. Designing a truly successful development requires practitioners to be aware of wider business objectives and to undertake appropriate consultation with local residents and businesses to identify local needs and concerns. The quality audit process (see 4.2.4) will help ensure scheme designs meet local needs and help to make local streets places where residents and business enjoying residing.

4.2 Stages in the Design Process

Every scheme has a life span, from concept to implementation and beyond. The County Council suggests that this can be broken down into a six stage process. The design process provides a framework to help deliver successful street design. However, it is the responsibility of the design team to determine the level of detail required for each stage of the process.
The County Council considers that the design process should involve six stages;

1. Scheme initiation.
2. Scheme development.
3. Design.
4. Planning Approval.
5. Implementation.
6. Monitoring.

4.2.1 Stage 1 - Scheme initiation

The first stage of a scheme's development includes;

- Identifying potential design team members.
- Undertaking a policy review to ensure street designs are consistent with national, regional and local priorities.
- Identifying local objectives and the needs of those who live and work in the local community. All practitioners involved in the design, management and operation of streets should be aware of the importance of streets in helping to meet wider business objectives.
- Devising potential scheme objectives and outcomes that reflect policies and principles, and can be measured.

4.2.2 Stage 2 - Scheme development

This stage of the design process will help the design team develop specific scheme objectives and collect background information through the following:

- Establishing a design team comprising practitioners from different disciplines who can positively influence scheme design, for example designers, architect liaison officers, urban planners and development control engineers.
- A design champion or nominated officer should be appointed.
- The design team should review the relevant technical guidance, assess scheme benefits and secure funding.
- Scheme objectives should be confirmed once the design team has assessed the likely functions of the street(s) as per section 1.6. Assessing the relative importance of the functions will help ensure designs cater for local needs.
- Potential risks should be identified, for instance a lack of public support. The design team should plan how potential risks will be mitigated.
- If necessary the design team should undertake a pre-evaluation site visit to understand the local area.
- A consultation plan should be developed to ensure early engagement and input from local communities and key stakeholders. This will help build a sense of ownership in the scheme. Further information on consultation planning is provided below.
- Develop a consultation log to document community engagement.
- Initial consultation with the local community should take place to understand what they need and want.

- Develop a concept design based on wider physical context that achieves identified objectives and meets local needs.
- Complete a Concept Quality Audit to assess quality of scheme design.
- A pre-application meeting with the appropriate planning team should take place. A scoping note summarising expectations of the Transport Assessment and Travel Plan for example should be included[19].

4.2.3 Consultation planning

In order to ensure that a scheme meets the needs of the local community it is essential that key users including residents and businesses are consulted. Since April 2009 all councils have had a legal duty to involve[20] communities when planning, providing and reviewing services to give people a say and help Councils understand what communities would like from the scheme.

Consultation forms an important role in a scheme's development and its future success. If consultation is lacking or ineffective it is likely the final street design will be unsuccessful. The level of detail for consultation will depend on the scale of the development. Ultimately, it is the responsibility of practitioners to work with the planning authority to agree on the level of consultation and agree the consultee list.

The County Council advocates a three step approach to community involvement. This involves;

- Providing people with relevant and easily accessible information to help them get involved.
- Providing a range of opportunities for all people to have their say. Feedback on consultations and how people contributed to decisions should be provided.
- Involving people in other ways, such as joint decision-making groups, advisory panels or neighbourhood management boards.

Consultation methods include:

- Advertising details on a council website.
- Mailing out information to agreed consultees.
- Displaying options in council offices, libraries and one-stop shops.
- Putting press notices in local newspapers.
- Undertaking workshops.
- Undertaking public exhibitions.
- Consultation period advertised in newsletters, on radio and on-line.
- Using posters and leaflets.
- Presentations to community groups.
- Making final plans publicly available.

Where a major new residential development is planned, consultation should include the surrounding residential communities. Where adjustments or changes are being made to existing streets, the local community will be a key consultee.

All relevant stakeholders should be identified at an early stage and a communication or consultation plan should be agreed to ensure input. The size of the scheme will determine the level and type of consultation but as an example it may be necessary to involve.

LCC:

- Transportation and Strategic Highways.
- Strategy and Policy.
- Environmental Services and Public Protection Services.
- Other departments, such as Education.

External:

- District authorities.
- People who live, work and study in the area.
- Local businesses and other organisations.
- Maintenance engineers.
- Developers.
- Artists.
- Utility companies.
- Disability and other user groups.
- Equality group representatives.
- Emergency services.
- Public transport providers.
- Waste collection authorities.
- Drainage authorities.
- Landscape authorities and Conservation Officers.
- Recreation advisers.
- Architect Liaison Advisors.
- Natural England, English Heritage and Environment Agency may require consultation if in a sensitive location.

Effective consultation helps create successful schemes. For example the traffic calming scheme implemented in the St Matthew's Area, Preston underwent a thorough consultation (more information is available from LCC). The process involved exhibitions, pamphlets, and a street audit. Post implementation questionnaires have shown the majority of interviewees feel the area is safer and better overall.

[19] PPG13 (DCLG, 2001) and Guidance on Transport Assessment (DftT, 2007)

[20] Creating Strong, Safe and Prosperous Communities (HM Government, 2008)

This interactive approach to consultation with local residents is encouraged. Practitioners can also adopt the approach used by Sustrans as part of the DIY Streets project. The approach involves undertaking street trials with the local community coming together to plan different layouts. An alternative approach to engage local communities could be to develop a Neighbourhood Action Plan via a Neighbourhood Management Board. Here, the local community and partners would together develop a list of key priorities. This approach has been employed in Burnley Wood and South East Burnley[21].
The Neighbourhood Action Plan would identify improvements to areas such as housing, alleyways, landscaping, walking/cycling routes and traffic calming.

4.2.4 Quality Auditing

A Quality Audit (QA) process has been developed which incorporates concepts from Building for Life[22] to ensure designs are appropriate and meet their objectives. Quality Audits (attached in Appendix B) undertaken throughout the design process will help ensure designs achieve agreed goals. The QA is an integral part of the design process. The system will demonstrate that appropriate consideration has been given to all the relevant design aspects set out in this document. The QA aims to assess compliance with scheme objectives and other features such as visual quality, accessibility, sustainability, safety and security.

4.2.5 Stage 3 - Design

This stage is concerned with the scheme's development through design, evaluation and consultation. The level of detail required for each stage will depend of the size of the scheme but could include:

- Undertaking a more detailed local context appraisal. This can include an assessment of the spatial, built-form, functional, historical, operational and community aspects in addition to local designations and ground conditions.
- Master-planning and Design Coding elements of the process should be developed. Guidance is available[23] [24], yet, it is up to the development team to decide on the format they wish to follow.
- Preliminary design developed using appropriate design techniques, the outputs from the consultation and outputs of Concept QA.
- Consultation with local community should be undertaken from which detailed designs should be developed.
- A detailed design QA should be undertaken to assess the quality of the scheme including an assessment of safety.
- Further consultation should be undertaken where significant changes have been made from the detailed designs.
- The design should then be finalised.

4.2.6 Road Safety Audits

The Design Manual for Roads and Bridges (DMRB) only sets procedures for Road Safety Audits (RSAs) as a formal requirement on trunk roads and motorways. It is not a mandatory requirement for local highway authorities to undertake a RSA and many residential schemes can be assessed independently.

However, where schemes are internally led by LCC the proposals should generally be assessed by the County Council's Road Safety Audit team for comment. Where schemes are externally led, the assessment could be undertaken by area engineers with appropriate training, the County Council's Road Safety Audit team or a reputable auditor.

The purpose of the RSA is to identify potential hazards and road safety problems. The objective is to minimise casualties, both in severity and numbers. They are not a check on compliance with design standards. The auditor should make recommendations for changes to address perceived safety concerns and the design team should then review and decide whether to accept the recommendations. The RSA process provides an auditable trail of design decisions. Any recommendations which are not followed through must be justified by the design team.

Quality Audits include a consideration of safety. However, plans will need to satisfy the County Council's safety requirements and safety audits may be required. The QA does not replace the use of LCC's approach to RSA's for other types of development. Further information on the County Council's policy can be provided by LCC's Sustainable Transport and Safety Team.

[21] http://www.burnley.gov.uk/site/scripts/documents_info.php?documentID=301&pageNumber=1

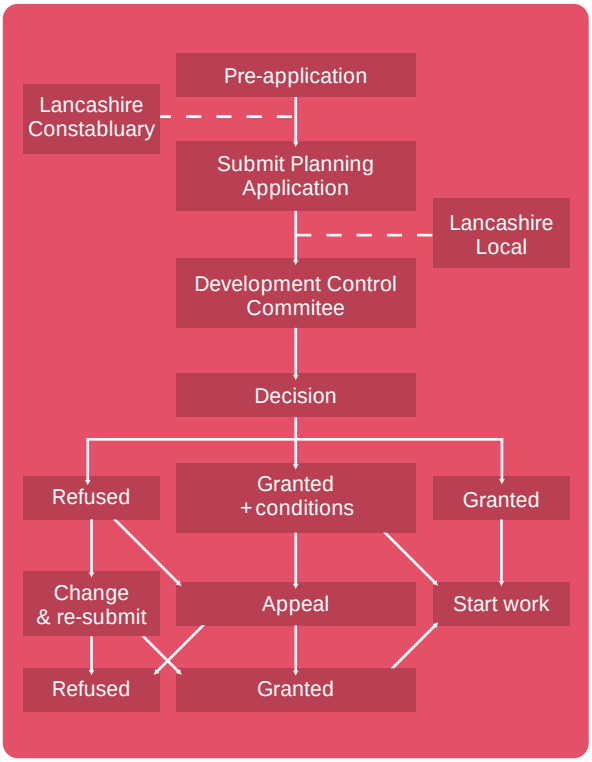
[22] http://www.buildingforlife.org/criteria

[23] Creating Successful Masterplans (Commission for Architecture and the Build Environment, 2008)

[24] Design Codes (English Partnership, 2007)

4.2.7 Stage 4 - Planning Approval

Once the design team is satisfied that the proposal meets scheme objectives the proposal will then have to be submitted for planning approval along with the necessary documentation including a Transport Assessment[25], Design and Access Statement[26] and Travel Plan (where appropriate (see section 5.2.1)). The planning decision for new or improved residential developments lies with the appropriate District Council's Development Control Committee. The likely planning process is set out below.



4.2.8 Stage 5 - Implementation

Implementation of scheme design also requires collaboration to ensure technical approval. Once the scheme is constructed, the Post Scheme QA should be undertaken to assess the level of success achieved in meeting the initial objectives. At the same time, the Evaluation Sheet (see Appendix B) should be completed to gauge how the scheme has been received by the public.

4.2.9 Stage 6 - Monitoring

Monitoring is expected to be undertaken to assess continued success against design objectives as set out in Planning Policy Statement (PPS) 3: Housing (paragraphs 75-77). Monitoring will help to ensure schemes are in line with the Disability Discrimination Act (2005) and that alterations to the highway comply with accessibility standards. The QA process will play a key role in checking that the standards set out in this document are applied in scheme design.

LCC aims to monitor both the qualitative and quantitative outcomes. This will include assessing the quality, safety and perceptions of the community and data on user flows and vehicle speeds. Collecting information regarding outcomes and outputs from different scheme types will help LCC demonstrate scheme benefits and identify areas for future funding.

[25] Guidance on Transport Assessment (DfT, 2007)

[26] Design and Access Statements, (CABE, 2006) and Circular 01/06 (DCLG, 2006)

5. Design Techniques

This chapter discusses;
- The various design techniques to help create environments that encourage civilised streets and meet the needs of all who live and work in them.

5.1 Introduction

To create civilised streets that meet the needs of those who live and work in them, practitioners need to consider local context to understand how streets are used and who will be using them. The guidance provided in this chapter focuses on these issues and discusses the following:

5.2 Sustainable communities.
5.3 Local character.
5.4 Street users' needs.
5.5 Connecting developments.
5.6 Designing for walking.
5.7 Designing for cycling.
5.8 Designing for public transport users.
5.9 Designing for vehicles.
5.10 Street geometry.
5.11 Parking.
5.12 Designing for street furniture.
5.13 Services and adoption.
5.14 Maintenance.

The guidance focuses on techniques to be applied when adapting existing residential streets and for new developments. However, the techniques outlined in this document may be applicable for mixed priority routes where the place function of the street is as important as the movement of traffic. It is the responsibility of individual design teams to determine which techniques are appropriate for scheme development.

5.2 Sustainable communities

LCC will encourage developments to be as sustainable as possible.

This can be achieved through design which;
- Encourages sustainable travel modes including walking, cycling and public transport use.
- Ensures they are connected to surrounding facilities.
- Makes the best use of existing materials and resources.
- Creates places where people want to live, work and spend time.

This principle aligns with the government's position on delivering sustainable developments through the planning system[27]. Some of the key factors that help deliver sustainable communities include;
- Inclusive design.
- Well integrated designs where the street forms part of a network of streets and spaces rather than isolated enclaves.
- Providing high quality buildings and spaces.
- Addressing connections.
- Improving character and quality of an area.
- Reducing social inequalities.
- Making prudent use of natural resources.

5.2.1 Residential Travel Planning

LCC aims to provide residents with information to help them make effective travel decisions. The Draft North West Plan Partial Review states that developments with more than 80 dwellings should have a travel plan to include a range of incentives to encourage alternative mode travel. Residential Travel Plans are still in their infancy. However they can play a key role in delivering sustainable communities by helping to:
- Reduce the need to travel.
- Address traffic generation from new developments.
- Enhance access by ensuring walking, cycling and public transport is built in to design from the outset.
- Promote healthy lifestyles.
- Reduce social exclusion.
- Reduce green house gas emissions by reducing car use.

Where a travel plan is required it should be based upon national, regional and local policies and reflect issues identified within the Transport Assessment to develop site specific measures.

Residential Travel Plans will be successful when they are effectively built in to the development process. However, they are not a solution for a poorly located or designed development. Project managers should ensure:
- Physical design will encourage sustainable travel modes.
- The travel plan will be effectively monitored, managed and funded. It may be appropriate for the travel plan to be secured through S106 Agreements and be the responsibility of a Neighbourhood Management Board.
- A series of site specific measures are developed and delivered.

[27] Planning Policy Statement 1 (ODPM, 2005)

Effective measures may include car parking restraint, cycle training, developing car clubs through liaison with a car club company to provide a vehicle within the development with dedicated parking or encourage residents to join a car share scheme such as Shared Wheels[28].

Marketing and promotion will also play a key role in the success of a travel plan.

Effectively sharing information with new or existing residents will help them make their own travel choices. One option may be to provide a welcome pack or leaflet with contact details of where and how people can access more information on walking and cycling routes, public transport timetables, car clubs and car sharing. Further information is available from the DfT[29].

5.2 Local character

LCC will support designs that help create local character and build a sense of place for the local community.

Good design can help create a sense of well being and local character. This can be achieved through urban design techniques and by making places for people. Local character can be determined by housing design, layouts, spaces and local history. Enhancing local character requires practitioners to recognise and understand these factors and their relationship to each other. A range of guidance is available to help[30].

5.3.1 Creating a sense of place

Developing a local identity is an important design consideration and plays a crucial role in creating a sense of pride and ownership. It should be strengthened by involving the community in design, using local materials and engaging utility companies to ensure the location and design of street furniture does not detract from the overall street design.

Creating a sense of place and local identity requires an understanding of the area's context. The development should be influenced by the urban form of neighbouring settlements, existing buildings and materials, street patterns, the surrounding natural environment and any local features. Road space should not be disproportionate in size or appearance to adjacent buildings unless warranted by environmental or economic benefits. Creating a sense of place does not rely on the use of expensive materials and can be achieved through the use of a limited palette of materials.

5.3.2 Street dimensions

How the built form looks has a significant impact on the success of neighbourhoods. Good design is vital in creating socially, economically and environmentally sustainable places.
Street dimensions can influence the character of a street and determine how pedestrians and other traffic will use it.

In determining street widths thought should be given to the variety of activities that will take place in the street and designs should reflect them. The width of a street is a key consideration. Typical widths include;

- 7.5 – 12m for Mews.
- 12 – 18m for Residential Streets.
- 18 – 30m for High Streets.
- 27 – 36m for Boulevards.
- 18 – 100m for Public Squares.

The ratio of height to width also helps define the public realm. The height of buildings should be in proportion to the width of the adjacent public space. The ratio depends on the type of street. For instance on minor streets the ratios should be between 1:1.5 – 1:1, while in typical streets 1:3 – 1:1.5 is acceptable.

Street length has an impact on the quality of a place. For instance, long straight roads can encourage high speeds. This should be mitigated through careful design. Streets should be designed to suit their location and help create interesting environments that bring identity to a neighbourhood.

More information on street dimensions is available in Section 5.10 (Street Geometry).

5.3.3 Buildings at junctions

Junctions should not be designed purely to accommodate vehicle movements. A design that stipulates tight corners can improve the streetscape whilst also improving crossing facilities for pedestrians and encouraging vehicles to negotiate the junction more slowly.

It is recommended that streets are designed with housing having public fronts and private backs, with front doors opening onto small private areas in front of the property and the street.
Streets that run along back gardens bounded by fences create unwelcoming and uninteresting environments with little interaction. They are less secure because they are not overlooked and can also encourage people to drive at inappropriate speeds.

[28] http://www.sharedwheels.co.uk

[29] Making Residential Travel Plans Work (DfT, 2007)

[30] By Design (CABE, 2000); The Urban Design Compendium (Llewelyn Davies, 2000); Better Places to Live (CABE, 2001)

5.3.4 Appropriate use of materials

Material choice can play an important role in creating a sense of place. As such, LCC is in the process of preparing its own palette of materials. However, the reuse of original materials should also be considered, especially in conservation areas. Using different types of materials can help the transition from one type of street to another, for instance, moving from a high street to a residential street.

An appropriate use of materials can also benefit users. Surface texture is important for people on foot, on bikes, pushing buggies and with mobility impairments. Vehicles do not need a smooth surface but this can help reduce tyre noise. Using a particular type of stone flag in public spaces can help deliver attractive locations for people to spend time. Generally, street materials should be simple with low key colours and tonal contrast to help navigation for people with visual impairments. Consideration should be given to the initial cost and ongoing maintenance costs (discussed further in section 5.14). Consultation should be undertaken with maintenance and conservation teams.

5.3.5 Trees and planting

Street trees and planting, like other street furniture should, where appropriate, be integrated into design. Both offer important environmental and visual assets providing interest, shade and a place for wildlife. They can also add to local character and are frequently an important component of conservation areas. Where trees are planned, landscape architects and arboriculturists should be part of the design team and consulted on species selection to ensure the size and type are appropriate. Different species will potentially impact on drainage and damage. The use of tree pits to constrain growth should be considered. Ecologists should also be consulted if the project is adjacent to areas of biodiversity interest.

A major consideration in the provision of trees and planting is future maintenance. Planting should only be included in final designs when ongoing maintenance arrangements have been agreed. The preferred policy hierarchy is that the trees are maintained by the district authority or by LCC via a commuted sum.

When determining planning applications that relate to landscape and heritage practitioners should have regard to the advice and approach as set out in the Landscape and Heritage SPG (March 2005)[31].

Any plans to include trees and planting must ensure designs do not compromise visibility or safety.

5.3.6 Conservation areas

Conservation areas are designated under the Town and Country Planning Act 1990, for their character and historic interest. Lancashire has 196 designated conservation areas. They can be viewed on Lancashire's Mapzone digital mapping system. Information and maps can be sought from LCC's GIS Team. Any developments within conservation areas should aim to preserve or enhance the character of the area. Proposals should be discussed with the relevant development control teams.

5.4 Street users' needs

LCC will encourage the design of streets that are accessible and safe for all.

Design that caters for the needs of the most vulnerable users will create inclusive environments for all. This is a fundamental principle in creating civilised streets.

5.4.1 Designing accessible streets

Accommodating the needs of all people is crucial to a successful design and consultation will play a central role in assessing the needs of people who live and work in the area. There is a duty on public authorities to promote equality under the Disability Discrimination Act (DDA) 2005. There is an expectation of positive action in scheme development and a duty for retrospective action for local authorities to rectify occurrences of non-compliance.

Inclusive design is based on understanding the needs of all road users including the most vulnerable. Vulnerable road users include wheelchair users, mobility scooter users, people with mobility difficulties or sensory impairments, people with heavy bags and parents with buggies or young children.

[31] Supplementary Planning Guidance 'Landscape and Heritage' (LCC, 2005)

Successful design that enables all members of society to access education, shops, employment, health services and other local and community facilities can help address issues of accessibility thus reducing social inequality. Inclusive design can help ensure streets are[32]:

- **Inclusive** - so everyone can use them safely and easily.
- **Responsive** - taking account of what people say they need and want.
- **Flexible** - so different people can use them in different ways.
- **Convenient** - so everyone can use them without too much effort.
- **Accommodating** - for all people, regardless of their age, gender, mobility, ethnicity or circumstances.
- **Welcoming** - with no disabling barriers that might exclude some people.
- **Realistic** -offering more than one solution to help balance everyone's needs and recognising that one solution may not work for all.

Street design can help tackle social exclusion and help provide equality of opportunity for all regardless of wealth, educational attainment, age, sexual orientation and physical or mental ability.

This guidance is in-line with best practice illustrated in Inclusive Mobility (DfT, 2005).

5.4.2 Designing safe streets

LCC will support developments that reduce the likelihood and opportunity for crime and fear of crime through good design. Street designs should ensure that places are:

- Overlooked.
- Connected.
- Busy.
- Free from dark spaces.

Crime rates in Lancashire vary across the districts (Figure 5-1). Design teams should consider the implication of crime rates in designs with the aim to reduce crime and fear of crime wherever possible.

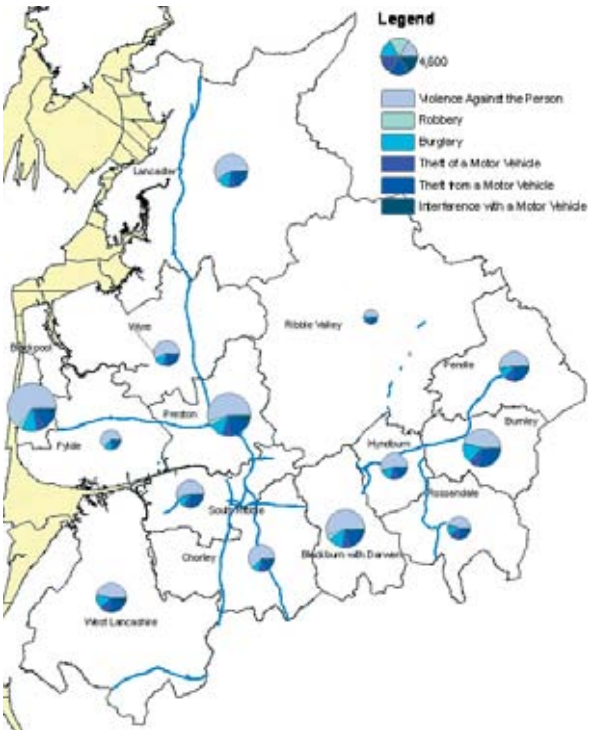


Figure 5-1 Crime across Lancashire

Being safe and feeling safe are basic rights that everyone should enjoy. Yet many urban environments are not designed with safety in mind. Streets that are overlooked, well designed, appropriately lit and busy are inherently safer places. The desire to make an environment connected should not compromise safety. For instance, alleyways should be afforded natural surveillance and lead directly where people want to go.

Environments that create a sense of community ownership and pride can also help combat issues of anti-social behaviour and crime. Safer Places (ODPM, 2004) sets out further guidance. Advice can also be sought from Architect Liaison Officers within Lancashire Constabulary.

Creating safe and civilised streets should allow people of all ages to use the public realm for recreation. In particular they should enable children and young people to play. 'Play' is what children and young people do when they follow their own ideas and interests, in their own way for their own reasons (Department for Culture, Media and Sport, 2004). Creating places where children can play is integral to a child's development, health and quality of life.

[32] The Principles of Inclusive Design (CABE, 2006)

As part of new residential developments, practitioners should design for play and provide safe and easily accessible play areas.
This involves reducing the number and speed of motor vehicles. Designing for play should also consider children riding bikes as part of play within the street.

Reducing vehicle speeds and vehicle flows can help enhance perceptions of safety, encourage street activity and reduce the potential for user conflict. These are all key parts of achieving harmonious and civilised environments.
The County Council in line with the North West Department for Health supports the regional implementation of 20mph limits to enhance safety perceptions and reduce road traffic accidents.

LCC aims to limit road design speeds to 20 mph in residential developments.

Designs should aim to create streets that control speeds naturally, without the need for unsympathetic traffic-calming measures.
The County Council discourages the use of vertical traffic calming features on new residential streets and promotes the use of natural design features, such as;

- Narrowing carriageway widths.
- Reducing visibilities in-line with design standards.
- Using features within the carriageway, such as trees, crossing refuges or even cycle parking.
- Providing on-street parking.
- Encouraging greater use by pedestrians and cyclists.

These design features encourage drivers to travel at slower speeds but do not cause unnecessary discomfort to drivers. They remove the need for physical features and reduce the costs associated with their installation and continued maintenance. Further guidance on traffic calming is available[33].

5.5 Connected streets

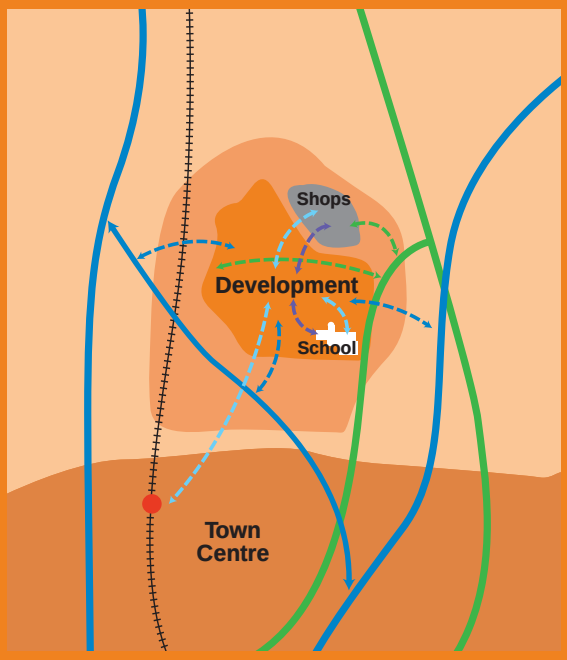
LCC will ensure new streets are connected to the surrounding environment giving people the opportunity to choose how they travel.

The way streets are laid out and connected to the surrounding environment has a significant impact on the success of a neighbourhood and the community.

Creating safe and accessible environments that provide people with the opportunity to choose how to travel is central within the design principles on which this document is based.
Designing links to the external network requires an assessment of the surrounding infrastructure including walking, cycling and public transport routes in addition to the road network.
Where new links are provided they should offer direct access to the existing infrastructure.
The diagram below provides an overview of the various stages in creating a connected development.

Creating a connected site:

- People walking should be provided with routes to public transport and key destinations e.g. schools.
- People cycling should be provided with links to local and national cycle routes and key destinations such as train stations.
- Public transport users should be provided with direct routes to public transport nodes whether travelling by foot, bike or car.
- Motor vehicles should be provided with routes to cater for desire lines to major roads and attractors without creating through routes for vehicles not accessing the site.



Motorway/Major Routes
Railway Line
National/Local Cycle Routes
Public Transport Links
Pedestrian Links
Cycle Links
Vehicle Links

[33] LTN 1/07: Traffic Calming (DfT, 2007) and LTN 1/08: Traffic Management and Streetscape (DfT, 2008)

Connected or permeable networks benefit all users. Neighbourhoods need to be internally permeable and connected to their surroundings. A development with only one entrance/exit offers limited connectivity. It does not encourage walking and cycling as people will have to travel greater distances than would otherwise be necessary. The use of public transport can also be discouraged if routes to these transport nodes are indirect. In some situations it may be possible to create some walking and cycle only links giving those on foot and bike higher priority and shorter routes than motor vehicles. Service vehicles accessing a poorly connected site would be forced to reverse and turn in areas where children might be at play. Poorly connected routes could also result in vehicular traffic being concentrated on one route increasing vehicle movements and negatively impacting local character.

By creating a permeable layout, access to the surrounding network by all modes is easier. This allows a more even spread of motor traffic throughout the area improving the sense of place.

Figure 5-2 Poorly connected development with a single entrance/exit for all modes

Figure 5-3 A well connected development with multiple links including 3 walk/cycle only links

When developing new residential areas, developers should assess the likely motor traffic impact of the development on the local highway network. An industry standard database and/or existing movements should be used to estimate peak flows. Junction capacity should be assessed using industry standard modelling software. Consideration should also be given to local influences such as gradients, widths or bus routes.

Developers need to identify likely destination points for the development traffic to predict potential junction locations. If it is predicted that the proposed junction will be near to capacity in the opening year or several years after opening, a secondary vehicle access option should be assessed.

The design of permeable networks should take into account a number of options including the likely usage by all modes. This will ensure an acceptable flow of traffic through key junctions and provide greater access links for people walking and cycling. However, designs should not allow the potential for 'rat-runs' and practitioners should work with architect liaison advisors and crime prevention officers to ensure routes are safe.

Motor vehicles are a core mode of travel for people with disabilities. As such, ensuring streets can accommodate community transport vehicles should be a key consideration of inclusive design.

5.6 Designing for walking

LCC will design streets for people that encourage walking as a mode in its own right and as a mechanism to access and use other modes.

Creating civilised streets means catering for the needs of people who live and work in the area. Providing for people who walk should be a central principle in street design.
Travel behaviour research in Preston, South Ribble and Lancaster (Social Data, 2006) highlighted that:

- Over 40% of residential trips are less than 3km.
- 17% of existing car trips could be replaced by walking.

This demonstrates the potential to increase walk trips. The needs of people of all ages and abilities should be considered when designing for walking. If people cannot access services and facilities, such as employment or transport as a result of a poor walking neighbourhood these communities can become socially excluded and reliant upon car travel. A connected and permeable neighbourhood with direct links to services and facilities will encourage increased pedestrian activity.

Lancashire's Walking Strategy (2007-2011) aims to stop the decline in walking trips. It has five objectives:

- Promote walking.
- Reduce pedestrian road casualties.
- Improve accessibility for pedestrians.
- Encourage life long walking and improve the perception of walking.
- Promote the benefits of walking.

The guidance in this document supports the aims and objectives of the Walking Strategy. Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes (approximately 800m) walking distance. Where facilities do not exist within a 10 minute walk, providing a mixed-use neighbourhood should be considered to allow residents to access everyday services without the need for a car. Creating walkable neighbourhoods and streets for people can be achieved following 'The 5 C's' (IHT, 2000):

Connected – consideration should be given to the locations of local attractor destinations and routes should be designed or improved to provide links and help people get from A to B in a direct, safe and easy manner. Public Rights of Way should be incorporated within the design to ensure it will be safe and easy to use.
Layouts conducive to walking should aim to make environments legible or self-explanatory. This can be achieved through a combination of building design, local landmarks and pedestrian signs.

Convenient – developing pedestrian networks should be a high priority in street design. They should connect to one another and crossings should be on pedestrian desire lines to minimise deviation.

Comfortable – routes should make walking an enjoyable experience by ensuring they are high quality, safe, free from obstructions and of an acceptable gradient and width.

Conspicuous – streets should be made safe by increasing natural surveillance, reducing speeds and mitigating the impact of anti-social behaviour for people walking.

Convivial – the quality of the walking environment should be improved to enhance the way people feel about and interact with the local area and other people. This involves tackling issues such as litter and graffiti and by creating engaging and interesting public space through the use of materials, lighting and art.

The following sections set out specific guidance to help practitioners accomplish civilised street design for those on foot.

5.6.1 Civilised not Shared

Shared surfaces are streets where there is no physical demarcation between users, creating areas where vehicles, pedestrians and cyclists can travel together. This is achieved by removing the separation between the footway and carriageway and most standard signing and street furniture to create a dramatically different public realm. They are a topical subject, highlighted by schemes such as Exhibition Road in London.

LCC acknowledges the potential benefits shared space schemes can offer urban street design. A street that reduces vehicle speeds and raises the awareness of people driving so they behave appropriately will help to make road users safer. However, shared space does not resolve the fact that people feel uncomfortable and unsafe. LCC wants to address this issue and through consultation with those representing people with visual impairments recognises the concerns of people with visual impairments regarding the installation of shared space schemes.

Shared spaces are based on the principle of road users making eye contact with one another. The Guide Dogs for the Blind Association states that this puts blind and partially sighted people at a disadvantage and insists that kerbs are an essential navigation tool for guide dogs and long cane users. The Association's campaign against shared spaces is supported by 30 other organisations.

The DfT have recently commissioned a study to collate evidence of the benefits and drawbacks of shared space and issue comprehensive guidance in Spring 2011. Until this guidance is provided LCC aims to create civilised streets rather than shared ones which would:

- Encourage low vehicle speeds.
- Create an environment where pedestrians can walk, stop and talk without feeling intimidated.
- Make places easier for people to move around.
- Promote social interaction.
- Create an attractive, clutter -free environment.
- Provide good crossing facilities.

LCC supports designs that retain a 100mm kerb up-stand in existing streets and 65mm in new developments where possible (see section 5.6.8).

5.6.2 Footway surfaces

Footways need to be wide enough to allow a comfortable walking environment and have a smooth, even and non-slip surface. The surface should be free from deep water ponding, branches and vegetation. Good quality initial design and use of materials can help ensure the longevity of footway surfaces but at some point all footways require maintenance. Maintenance (discussed in section 5.14) plays a key role in the continued civility of a street. Where maintenance works are undertaken they should not detract from the existing streetscape and where possible should enhance the environment.
Reinstatements must be of a high quality and in line with New Roads and Street Works Act (1991). Inspection covers (section 5.6.10) should be designed to minimise any visual impact and should not present potential hazards.
Where possible they should be located to the back or front of the footway and away from ramps.

5.6.3 Tactile paving

To encourage truly civilised streets the information needs of people who are blind or partially sighted must be given consideration. Blister paving is commonly used to inform pedestrians when they are passing from a footway to a carriageway. Current policy guidance in Lancashire supports the use of tactile paving at controlled crossings only. This policy is currently under review.

Other forms of tactile paving include a corduroy hazard warning surface to warn pedestrians of a specific hazard, such as the base of steps. Ladder and tramline surfaces should be used on segregated shared cycle track/footway surfaces to indicate to visually impaired pedestrians on which side they should walk. The ladder pattern, where the raised bars run at a right angle to the direction of travel is used on the footway side. However, tactile paving should be laid so that awkward paving patterns are avoided.
The colour of tactile paving should generally be in contrast with the surrounding paving. However, this can be relaxed in conservation areas. Inclusive Mobility (DfT, 2005) provides further guidance.

5.6.4 Footway gradient

Reasonable gradients for comfort should follow guidance set out within Inclusive Mobility. Although the local topography may determine steeper gradients, ideally gradients should be no greater than 2.5%. Gradients in excess of this result in most wheelchair users experiencing mobility difficulties.

5.6.5 Footway width

There is no maximum width for footways, although the minimum unobstructed width should be 2m as stated in Inclusive Mobility.
The absolute minimum is 1m for a maximum distance of 6m. However, minimum widths should not be provided near bus stops or other locations that would impede visibility of all users. In fact it may be appropriate to provide additional width in locations where people are likely to gather, for instance shopping centres or outside schools.
An assessment of a street's place and movement function (section 1.6) will highlight different needs along a street and footway widths can be varied to respond to different pedestrian volumes. An assessment such as Fruin's level of service (LoS) shown in Figure 5-4 can define a level of comfort based on space per person. Generally a design which caters for LoS C or better will offer a comfortable walking environment, however, in residential streets a LoS A should be designed for.

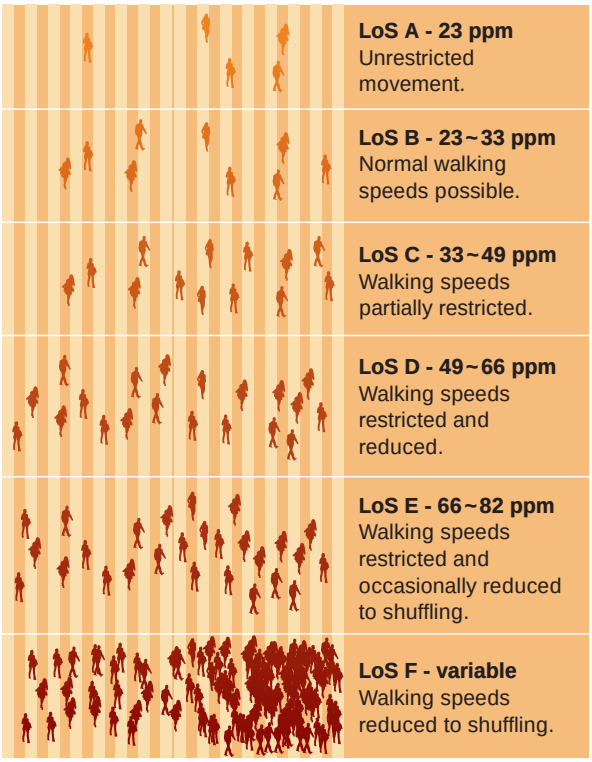


Figure 5-4 Level of Service categories

5.6.6 Crossing facilities

To create civilised streets it is essential that safe crossings be provided where desire lines intersect the carriageway. The type of crossing facility that should be provided is dependent upon the likely levels of people walking and motor vehicle flows.

In a civilised street, people driving will be encouraged to give way to more vulnerable users. Within civilised streets vehicle speeds and carriageway widths will be reduced.

Appropriate crossings include, side road crossings, refuge islands and zebra crossings. At side road crossings people on foot should have priority and the carriageway should rise up to the level of the footway to allow level access across the junction.

Raised crossing facilities should be provided rather than dropping kerb heights. This is preferable as it makes travelling on foot easier. Additional information regarding the design standards for crossings can be found within *Inclusive Mobility, LTN 1/95*[34] and *LTN 2/95*[35].

Refuge islands should be large enough to satisfy demand but should be at least 1.5m long and 2m wide to provide sufficient capacity for wheelchair users and people waiting to cross with prams. Refuge islands should not be provided where they are likely to cause pinch points for cyclists. Maintenance should also be considered to ensure areas can be swept and maintained.

On mixed priority routes or where there is significant pedestrian activity, zebra crossings help people on foot to have priority. They rely on civilised behaviour where people in cars give priority to more vulnerable road users.
Zebra crossings can be used by people travelling by bike but cyclists should be encouraged to dismount before crossing. Where there is significant pedestrian activity and significant vehicle speeds and flows it may be necessary to provide signalised crossing facilities.

Examples of signalised crossing facilities include pelican, puffin, toucan and pegasus crossings and traffic signals with pedestrian phases. Where signalised pedestrian crossings are used, a rotating cone or beeping sound should be used to indicate the crossing phase to people with sensory impairments. 'Green man' times should be long enough to allow safe crossing for all users.

[34] LTN 1/95 Assessment of Pedestrian Crossings (DfT, 1995)

[35] LTN 2/96 Design of Pedestrian Crossings (DfT, 1995)

Grade separated crossings such as footbridges and subways should not form part of residential streets or mixed priority routes. They cause deviation, can be difficult for people with mobility impairments to negotiate and give rise to concerns about personal security.

5.6.7 Side road entry treatments

Side road entry treatments are a traffic calming measure installed across a minor road at the junction with a major road. They can be used to indicate a change in character, for instance moving from a main vehicular route in to a residential street. Entry treatments can have a range of benefits. By reducing the corner radii, vehicle speeds are reduced and the tighter corner in conjunction with a raised carriageway (up to footway level) makes pedestrian movements easier.

Raised entry treatments should be designed so that the width of the raised crossing is at least 2.4m and flush with the footway.

5.6.8 Kerbs

The delineation between the footway and carriageway is a significant aspect in street design. LCC supports designs that include a 65mm kerb up-stand in new developments and 100mm in existing streets. This provides a visible boundary for vehicles and pedestrians that is usable by wheelchair users.

Kerbs at bus stops should be higher than 65mm in height to permit ease of access to public transport vehicles. The preferred height of bus stop kerbs should be 160mm. This offers a compromise between ease of access and reduced damage to the bus. Care must be taken to keep the transition gradients to bus boarders at acceptable levels, preferably 1 in 20 (1 in 12 maximum).

Dropped kerbs should be considered in the vicinity of bus stops, taxi bays and disabled parking spaces to allow ease of access, particularly for people with mobility impairments. Dropped kerbs should be flush with the carriageway, with a maximum 6mm bullnose up-stand if essential.

5.6.9 Footway crossovers

Footway crossovers should be avoided in residential streets as they are inconvenient for people on foot, in particular people pushing prams and wheelchair users. They also result in higher levels of maintenance. As such, LCC supports the use of a level surface with a 65mm kerb which can be negotiated by a motor vehicle. However, where vehicles will cross the footway, a deeper sub-base should be provided to ensure the robustness of the final design.

5.6.10 Inspection covers

Inspection covers located within the footway can detract from the streetscape especially where they are poorly installed. Where possible, inspection covers should be located to the front or back of the footway. A good quality and simple metal cover should be used to minimise visual impact and reduce future maintenance.
Where inspection covers are required agreement will be needed regarding future maintenance arrangements.

5.6.11 Public open space

High quality public space is a key component of successful environments.
Practitioners should determine how the space could be best used and design the space accordingly[36].

This can be achieved by considering context as well as place and movement functions to cater for a range of activities. Designers should be aware of local Public Realm Strategies and consider aspects including, a palette of materials, visual interest, planting, seating, lighting and well located street furniture to enhance the sense of space.

A townscape regeneration project in Burscough Bridge, West Lancashire involved hard landscape works and new tree planting to provide shading around public spaces and seating areas.

Figure 5-5 Burscough Bridge (www.iwood.org.uk/planners)

[36] PPS17: Planning for Open Space, Sport and Recreation (ODPM, 2002) and The Value of Public Space (CABE, 2004)

5.7 Designing for cycling

LCC will design streets that encourage more cycling, more often and in more safety by creating designs that cater for the needs of cyclists.

Residential street designs must cater for the needs of cyclists. Lancashire's Cycling Strategy (2007-2011) aims to increase cycling trips and has four objectives;

- Increase cycle use.
- Reduce cycling casualties.
- Encourage cycling by children and young people.
- Use cycling to improve health, social inclusion and economic vitality.

Research by Social Data for Preston, South Ribble and Lancaster (2006) suggested that cycling has the greatest potential of any mode to replace car use. This modal shift would help reduce congestion and local air pollution. Cycling also has the potential to make a significant contribution to healthier lifestyles and can reduce a range of health problems including heart disease and cancer. The Health Economic Assessment Tool for Cycling estimates the economic savings from reduced mortality due to cycling[37]. Cycling levels will only increase where the physical environment for cyclists is well thought out and facilities are convenient, accessible, safe, attractive and well maintained.

Cycling generally falls into three categories;

- Cycling for transport – including people travelling to work, school or to access services.
- Cycling for recreation – including people cycling for fitness and leisure.
- Cycling for play – this is focused on children cycling for play in the street.

Each group has different needs. A confident commuter cyclist may be interested in the quickest and most direct route to work. On the other hand, for children cycling to school or people cycling for leisure a safe and pleasant journey may be a greater priority.
Children cycling in the street will require a safe area with low vehicle speeds.

Designers should consider the needs of each type of cyclist and aim to cater for them where practicable to ensure the environment is attractive for cycling. The six design principles to create a successful cycling environment are:

Convenience – routes should increase permeability and serve all main destinations. They should link to surrounding developments and nearby services. They should increase directness, be signed and be unimpeded by street furniture and other obstructions.

Accessibility – creating environments that encourage and facilitate cycling requires an infrastructure that reflects the needs of people who cycle and provides a network that links key origins and destinations in a logical manner. Design should also consider the needs of people who walk and people with mobility and sensory impairments to ensure that potential conflicts are minimised. Routes should be coherent and continuous with adequate crossing facilities and provided through areas inaccessible to motor cars.

Safety – cyclists are sensitive to vehicle volumes and speeds. Designs should aim to reduce hazard and increase safety for people who cycle through road space reallocation that reduces vehicle flows and speeds. Designs should help people who cycle feel safe by increasing their visibility and providing well lit routes.
More people cycling will increase natural surveillance which in turn helps streets and communities feel safer.

Fit for purpose – routes should meet design standards in terms of widths, gradients and surface quality. A smooth surface is a key requirement for comfortable cycling. Surfaces such as tarmac create acceptable surfaces for cycling, whilst, surfaces such as granite sets can be unpleasant and dangerous when wet.

Attractiveness – cycle infrastructure should be designed in such a way that it complements its surroundings where possible. Aesthetics and noise reduction should be considered to help make cycle routes attractive and interesting.
An excessive use of surfacing contrasts should be avoided, especially in Conservation Areas.

Well maintained – street designs should ensure cycle routes can be easily maintained and be kept free from litter, broken glass and vegetation.

[37] HEAT - http://www.euro.who.int

5.7.1 Design parameters

Practitioners need to consider the dimensions of a cyclist and the space they require. The space needed for a cyclist in motion is typically 1000mm. Clearance to fixed objects and moving objects can vary based on the object (see Figure 5-6). Commonly, for a cyclist to pass another cyclist or a pedestrian, a gap of 500mm should be designed for with a greater clearance for motor vehicles.

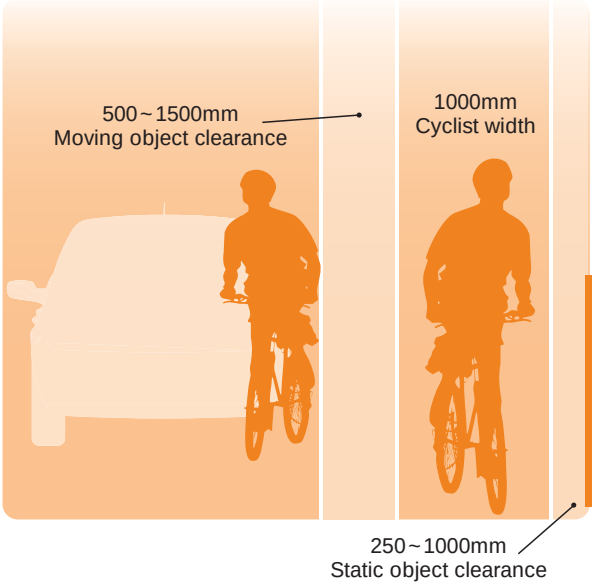


Figure 5-6 Cycle dimensions

5.7.2 Low vehicle speeds and flows

Creating civilised streets that promote comfortable environments for cycling is more achievable if speeds and traffic flows are lowered. A design speed of 20mph on residential streets should be accomplished using natural design features.

5.7.3 Permeability

Designs should aim to enhance permeability wherever possible. Access controls for cyclists should be removed by using 'cycle and walk only links' or cyclist contra flows. Routes should link together and link to surrounding cycle networks, both on and off road. This approach can help create a connected development and provide a safer route than cycling on major roads.

5.7.4 Cycle paths

In residential streets on road cycle lanes will not be necessary. However, cycle paths provide an important link to wider services. Two-way cycle paths can either be located within the highway, separated from the carriageway by a kerb or away from the highway. LCC encourages practitioners to include cycle paths in new developments. Cycle paths should not run through alley ways where they will not be used.

The minimum width of a shared cycle path is 3m where volumes of pedestrians and cyclists are low. Ideally shared paths should be wider. Where widths are between 2-3m consideration should be given to segregation between the footway and cycleway by a delineation strip or surface texture. Where widths are less than 2m people will have to give way to one another and are generally not suitable. Narrow shared use routes that experience high flows and do not have demarcation should be avoided as they increase the likelihood of conflict between user groups and can cause particular problems for people with visual impairments.

Figure 5-7 Shared use path

The average speed of cyclists on a level surface is 12mph. However a design speed of 20mph should be catered for along cycle paths to provide for commuter cycling as well as recreational cycling. The comfort and convenience of a journey can be interrupted by frequent crossings, tight corners and steep gradients. Routes should be open, overlooked and pleasant to use. Gradients should be a maximum of 3%, although where topography dictates, the limiting gradient is 7% over 30m.

Forward visibility on a cycle path affects the ability of a cyclist to interact safely with other cyclists and pedestrians. Sightlines affect the ability to maintain momentum, anticipate actions and stop when necessary. The sight stopping distance (SSD) depends on the reaction time and speed of the cyclist and the braking ability of the bike.

Suggested values are shown in Table 5-1 below.

Type of off-road cycle route	Design speed	Minimum stopping sight distance	Minimum radius of curve
Commuter route	20mph	25m	25m
Local access route	12mph	15m	15m

Table 5-1 Geometries for cycle design

Physical constraints may make it impossible to meet these desired criteria and mitigating measures may be necessary in these situations. It is important that designs do not cause inconvenience or danger to those travelling on foot.

Cycle paths should be separated from planting by a grass verge where possible. A verge allows planting to grow without impacting on the cycle path. A verge can also be considered between the path and the carriageway to act as an informal barrier to help create a pleasant cycling experience.

LCC encourages practitioners to provide a smooth and safe surface. Generally a tarmac service will be suitable for cycle paths. Future maintenance should be considered and agreement sought with the LCC where paths are likely to be adopted.

5.7.5 Cycle lanes

On mixed priority routes where vehicle speeds and flows are higher than residential streets consideration should be given to cycle lanes. Designs should ensure suitable road widths are provided to create a safe and comfortable environment for cycling. Roads which are narrow can result in dangerous overtaking manoeuvres. On two-way streets where speeds are maintained at 20mph cycle lanes will not generally be required. They are appropriate on roads where speeds are at least 30mph.

Cycle lanes can take three forms:

- Lanes shared with motor vehicles.
- Advisory cycle lanes.
- Mandatory cycle lanes.

Providing cycle lanes of a correct width helps ensure drivers give cyclists adequate space when overtaking. LCC supports the provision of a 1.5m wide cycle lane on 30mph roads. Where contra-flow lanes are planned, careful design will be required.

5.7.6 Bus routes and cycling

Cyclists should be allowed to use all bus lanes as part of a new development. Bus lanes should ideally be 4.5m wide as this enables a bus to pass a cyclist safely without having to leave the lane.

5.7.7 Junctions and crossings

Achieving convenient and direct routes will invariably result in cyclists having to negotiate junctions and crossings. At junctions that intersect with minor roads consideration should be given to raised cycle crossovers. This should only be considered where vehicle volumes are low on side roads. Alternatively, a direct informal crossing could be considered. Where cycle paths cross major or busy roads with high speeds a signalised toucan crossing should be used. A design width of 4m is encouraged.

Unimpeded progression for on-road cycle traffic is achievable by allowing progression with general traffic in the carriageway. Integrating cycle traffic with motor traffic can also help minimise the number of cycling conflicts. Where possible Advanced Stop Lines (ASLs) should be provided at junctions as they allow on-road cyclists to be at the front of queuing traffic, sit away from exhaust fumes, be more visible and make right turn movements easier. At roundabouts, cycle lanes should be considered.

To help off-road cycle traffic negotiate roundabouts, splitter islands should be provided where traffic volumes are low. Alternatively, zebra or toucan crossings can be provided.

5.7.8 Signing and lining

Signs should clearly identify cycle routes and be designed to give cyclists adequate information and help warn of potential hazards. Signs should be designed in line with Traffic Sign Regulations and General Directions 2002 (TSRGD). Coloured surfacing has no legal meaning but can be used to emphasise cycle lanes and help remind drivers that the road space is for those on bikes. In residential developments coloured surfacing will not be required. However, it may be appropriate in certain situations, such as lead-in lanes, contra-flow lanes and where cyclists could be at risk, for instance besides parking bays. LCC encourages designers to use this guidance and work in consultation with cycling officers to ensure a consistent and coherent approach to signing.

5.7.9 Integration with public transport

Public transport users can be encouraged to cycle to stations or bus stops if a convenient route and adequate cycle parking is provided. Increasing the number of cycle trips accessing public transport has enormous potential to contribute to wider objectives for health, congestion and climate change. LCC suggests that the distance a person cycling will travel to a station or stop can be in excess of 3km which means a large proportion of people living in Lancashire's built up area can access the rail network. In urban areas therefore, there is potential to increase the number of cycling trips combined with public transport.

This is an important concept and as such, new developments should provide cycle routes to public transport nodes. Consideration should also be given to providing additional cycle parking facilities at these destinations to cater for the increased demand.

5.7.10 Further guidance

Further guidance is provided within:

- Connect2 Design Guide. (Sustrans, 2009).
- LTN 2/08: Cycle Infrastructure Design. (DfT, 2008).
- Lancashire Cycle Design Standards. (LCC, 2005).

5.8 Designing for public transport

LCC will support design that integrates and encourages public transport use.

Planning for a high quality public transport infrastructure plays a central role in creating an accessible environment. Catering for the needs of all users including public transport users' helps create civilised streets.

5.8.1 Bus travel

In residential developments the focus is on bus-based transport as this is the most likely mode to be used. The key concept in residential streets is to avoid bringing bus routes deep into residential areas but keep them within walking distance. Walking is the main access mode for bus-based travel. The table below highlights the percentage of people in large urban areas with a population over 250,000 who can access a bus stop.

Walking distance to bus stop	6 mins or less	7~13 mins	14 mins or more
% of people in large urban areas who can access a bus stop	86%	11%	2%

Table 5-2 Walking distance to bus stops (White, 2002)

The table shows the capacity to access public transport and infrastructure needs to encourage this. For larger developments, bus through routes should be considered, however, for smaller developments a bus stop should be within walking distance. The walking distance to a bus stop should be based on likely demand and should be no greater than 400m (a 5 minute walk). Where possible this distance should be significantly less.

For new developments it will be necessary to necessary to work in partnership with public transport operators to plan potential new routes and set frequencies based on likely demand.

Buckshaw Village - Bus Travel:
Buckshaw Village, a new housing and business development in Chorley has been provided with a new bus route. The 109 (operated by Stagecoach and John Fishwick) runs down Central Avenue (the spine of the development), meaning a large proportion of residences are within walking distance. The bus provides links to Chorley and Preston.

For redevelopment sites, a route may already exist but it may require an additional bus service, increased frequencies or headways, new bus stop locations or a re-direction of services. Enhanced walking and cycling routes to access the network may also be required.

The following guidance is applicable to large residential developments and mixed priority routes rather than residential streets.

Bus routes and bus stops are central to creating a walkable neighbourhood which provides a viable alternative to car travel. It is suggested the minimum average load for a conventional bus service to be viable – averaged over the whole day in both directions is about 10 – 12 passengers (White, 2002). The type of buses used will depend upon the average load anticipated over a day and whilst they vary in height and length, width is relatively fixed at around 2.5m. As part of the design process the streets to be used by public transport should be identified and appropriate road widths designed. The use of swept-path analysis can be used to determine necessary widths and ensure efficient operation (section 5.10.2).

Where bus routes are planned, bus priority measures may be appropriate in certain circumstances to ensure a reliable service:

- With- or contra- flow bus lanes.
- Pre-signals and bus gates.
- Rising bollards.
- Guided bus ways and park and ride.

This list is not exhaustive and detailed guidance is available in *Bus Priority – The Way Ahead* (DfT, 2006) but such measures can help provide a service that offers a realistic alternative to car journeys. Streets with bus routes should not generally be less than 6m wide (unless for short sections). This allows two way bus movement and use by other modes. The arrangement of on-street parking will require consideration and careful design. If designated bus lanes are to be provided they should be a consistent minimum width of 4.5m to allow for shared use with cyclists. All bus routes should be free from vertical traffic calming features.

Well designed bus stops and shelters are an important aspect in improving the overall journey quality for people using the bus. The location of bus stops is a central element in creating an environment that encourages public transport use. The location should be decided through consultation and consideration of local network and operational requirements including existing users. They should also ensure ease of access by foot and be near to junctions and key destinations.

Any potential visual impact should be considered and a shelter must be designed to accommodate the likely number of waiting pedestrians. Interviews undertaken by LCC[38] identified that bus stops and shelters are inconvenient and inadequate, can be difficult to board and often result in a fear of crime at night. As such, LCC encourages designers to think carefully about the location of bus stops to ensure they will cater for the needs of the local community.

As stated in section 5.6.8 kerb heights of 160mm will facilitate ease of access for people with mobility impairments. In addition, better information should be provided via timetables and Real Time Information and security should be improved by working with the Safer Travel Unit and ensuring waiting areas are well lit.

To encourage civilised behaviour, bus stops should not be located opposite one another to allow other vehicles to continue to pass a bus at a stop. Footways at bus stops should be wide enough for anticipated use. Inclusive Mobility suggests a footway width of at least 3m to allow for waiting travellers and passing pedestrian movement.

Bus bays should not be used unless there is a compelling safety issue as they result in operational problems for buses. Bus stops and shelters should either be located along the footway within the furniture zone or bus boarders can be used to permit full use of the footway. Bus boarders are generally built out from the existing kerb line and provide a convenient platform for boarding and alighting.
They commonly take one of two forms; full width or half width.

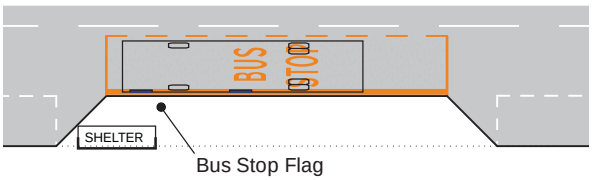


Figure 5-8 Full width bus boarder

Well designed bus stops can provide qualitative benefits for passengers by improving the quality of their journey and perceptions of safety.
They can also provide quantitative benefits by improving journey times and reliability.

[38] http://www.lancashire.gov.uk/environment/ltp/ltp_web/section_10661157946.asp

5.8.2 Rail travel

In most cases, new residential developments will not be provided with new rail stations unless the development will result in much higher densities than for bus travel. A new route would require several thousand passengers per hour (White, 2002). However, lower densities can be justified when investment in infrastructure has already taken place, for instance the provision of a new station along an existing line.

Buckshaw Village - Rail Travel:
Buckshaw Village (Chorley), mentioned previously, is to be provided with a new railway station along the existing Manchester to Preston line. It will be located to the south of the Village, but would be well within 2km of residential properties allowing access by foot and bike. the station will also benefit from connecting bus services and a park & ride car park.

In the majority of situations, an assessment of the surrounding transport infrastructure as part of the context appraisal will identify the location of any nearby rail stations. Although 800m is the distance generally recognised for walking trips, the Public Transport Accessibility Level (PTAL) approach to public transport accessibility suggests a 960m walking distance to rail stations, equal to 12 minutes walk whilst PPG13 suggests walking is a viable option up to 2km, equal to 25 minutes. Where stations exist within these distances, the walking routes should be safe, direct and convenient for users of all abilities. The same is true of walking routes to bus stops.

5.9 Designing for motor vehicles

LCC wants to create developments that serve the needs of all modes.

Motor vehicles should be able to access streets but designs should ensure speeds and flows are appropriate to create a civilised place where children can play and people can interact.
Best practice has identified that technical standards for road widths and junction visibility can move away from guidelines in documents such as DMRB for residential and mixed-use streets. LCC encourages practitioners to use their technical expertise to apply the guidance in this document in an appropriate and safe way.

5.9.1 Emergency vehicles

The requirements for emergency vehicles are determined by the needs of the fire service. Providing access for fire service vehicles will cater for other emergency service vehicles. MfS section 6.7 (p.75) provides more detail but in general designs should:

- Provide a minimum width of 3.7m.
- Provide access for a pump appliance within 45m of a house or dwelling.

Widths may be reduced to 2.75m over a short distance but if carriageway width designs are to be below 3.7m the local fire safety officer should be consulted. Parked cars and some forms of traffic calming can impact on emergency service response times. Both are discussed below with further advice available[39].

5.9.2 Service vehicles

The design of streets should accommodate service vehicles such as refuse lorries. The likely usage should be considered although vehicles that will serve a neighbourhood infrequently need not be fully designed for.

Creating well connected streets has advantages for service vehicles as routes can be shorter and the need for turning movements removed.

Waste collection is a vital component of a working community and the storage and collection of waste should be a major consideration in street design. There is a growing realisation of the impact we have on the environment. As such, waste collections have varied. In addition to everyday household waste and common recyclable materials some councils now collect food and green garden waste separately.

Designers, working in consultation with waste, planning, highways and building authorities should agree on the types of waste to be collected and how this will be catered for.
For kerbside collections, space should be provided to accommodate waste bins and service vehicles rather than a design that means the footway will be blocked. Alternatively, a waste recycling centre or underground collection facility could be considered. Further guidance is available in MfS section 6.8 and from the ODPM[40].

[39] Car Parking: What Works Where (English Partnerships, 2006 and LTN 1/07 Traffic Calming (DfT, 2007)

[40] PPS10: Planning for Sustainable Waste Management (ODPM, 2005)

5.9.3 Other motor vehicles

Streets need to be designed for a range of motor vehicles, from private motorcycles and cars to delivery vans. However, a street layout designed to accommodate the needs of emergency service vehicles will cater for all other types of motor traffic. The main aim should be to provide an environment which caters for its users rather than each mode. Design based around the principles of place, civility and movement can help create harmonious environments for all.

5.10 Street geometry

Several issues need to be considered to provide for road users, in particular, carriageway widths, junctions and visibility.

5.10.1 Carriageway widths

Designing new or improved streets needs to take account of the street's function, the type of development and other key factors such as movement volumes, traffic composition and parking. Carriageway widths can be narrowed to 2.75m over short distances but this can result in vehicles trying to squeeze past cyclists.
This should also be avoided at bends where larger vehicles may be forced to use the footway or full road width. The common approach should be to provide a carriageway width between 4.5m to 5.5m, with parking and footways catered for through additional width.

5.10.2 Junction radii and swept path analysis

The DMRB recommends that the minimum circular corner radius at simple junctions should be 6m in urban areas. Whilst this standard can still be used, LCC encourages designers to minimise corner radii. Small corner radii reduces pedestrian deviation and can help slow vehicle speeds. Swept path analysis can be used to determine the space needed for expected vehicles. It is recommended that the potential layout of buildings, pavements and public space be considered first with the carriageway alignment then designed to fit in the remaining space.

Figure 5-9 above, illustrates the potential to use swept path analysis. Design should be developed in the following order:

a) Planning the street and building layout.
b) Introducing kerb lines.
c) Tracking the remaining space.

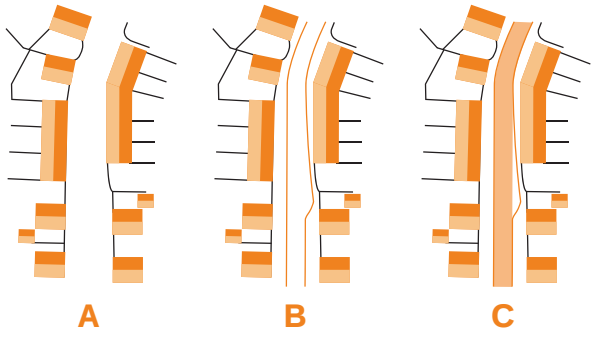


Figure 5-9 Using swept path analysis in design

Where corners are designed to be so tight that large vehicles will be forced to use the footway, the sub-base and finish should be designed to be robust enough to withstand this use.

5.10.3 Junction design

Commonly used junctions in residential areas include crossroads and staggered junctions, T and Y junctions and roundabouts.
The development of junctions can be used to create distinctive places. Junctions are generally places where interaction takes place between people and services such as shops, accessing public transport and between different street users. As such, design which achieves an effective balance between movement and place is crucial.

As discussed previously the location of buildings at junctions has the potential to benefit street design. Building placement should be agreed first, with the junction designed to compliment the space and provide direct pedestrian access.

There are a range of other factors that require consideration through design;

- Whether the junctions will be marked.
- The benefits of each type, e.g. crossroads are convenient for pedestrians whilst staggered junctions are less direct for pedestrians but reduce vehicle conflict.
- Whether raised tables will be used at side roads.
- Whether roundabouts will be used and their type; conventional, mini- or continental-style.

Further detail is provided within MfS section 7.3. The impact of each design on all users including people with sensory and mobility impairments should be considered.

5.10.4 Junction spacing

The spacing of junctions will be determined by the type and size of blocks. Block size should be based on the needs for permeability.
Small blocks tend to result in more frequent junctions. This can help improve permeability for pedestrians and cyclists and disperse motor vehicles. However, as a guide, designers should use a minimum spacing equal to the stopping sight distance for the 85th percentile speed of the road for junctions on the same side of the road.

5.10.5 Sight stopping distances

One significant change from previous guidance within DMRB and DB32 is new guidance on sight stopping distances (SSD). The SSD is the distance within which a driver needs to see ahead to stop from a given speed. In new street developments the speed is set by designers, whereas in existing streets the 85% percentile wet weather speed is used. MfS adopts a driver perception-reaction time of 1.5 seconds (compared to 2 seconds in DMRB and DB32) and a deceleration rate of 4.41m/s^2 (compared to 2.45m/s^2 in DMRB and DB32). MfS (section 7.5) provides further details on the formula and other contributing factors. The revised figures stated above have resulted in SSD's for streets as shown in Figure 5-10. The aim is to design for these distances within new developments and if possible when adapting existing highway.

Speed Kph~ Mph ~	16 10	20 12	24 15	25 16	30 19	32 20	40 25	45 28	48 30
SSD (metres)	9	12	15	16	20	22	31	36	40
SSD adjusted for bonnet length	11	14	17	18	23	25	33	39	43
Additional features will be needed to achieve low speeds									

Figure 5-10 Sight Stopping Distances

5.10.6 Visibility

The derived SSD will determine the design of junctions and street layouts. MfS provides detailed guidance but an 'X' distance of 2.4m should be used as this represents a reasonable distance between the front of the car and a driver's eye. The 'Y' distance should then be based on the above values for SSD.

Visibility can be obscured by obstacles such as street trees, other street furniture and parked cars. The potential impact on visibility of these should be assessed. MfS states that in practice, parking within visibility splays occurs and yet it does not appear to create significant problems. Parking should be located outside of the visibility splay and designed to discourage parking within it.

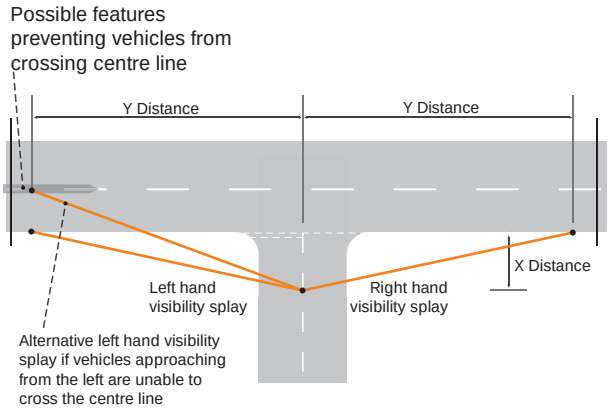


Figure 5-11 Visibility splays

5.10.7 Junctions with major roads

The above standards are supported for streets within new residential developments.
However, where a residential street forms a junction with a major road an 'X' distance of 4.5m should be applied. A major road can be classified as a highway where vehicle movement is the core function. Roads classified as Local Distributors will have a higher movement function. These can be viewed on Lancashire's Mapzone digital mapping system.
An assessment of the levels of use and types of vehicles should be considered and where flows are high or a high number of large vehicles such as HGV's are expected, greater visibility splays should be provided.

Where the residential street junction is located off a secondary road but is in close proximity to a major road both junctions must provide suitable visibility for vehicles accessing and egressing to ensure safety.

In all situations the local environment and terrain must be considered to ensure safety is not compromised.

5.10.8 Gateway treatments

Gateway treatments can be an effective tool to highlight to drivers that there is a 'step change' in the environment. This gateway can be achieved using a mixture of visual techniques for example a raised crossing, a change in surface colour, new street furniture, or trees and planting. Gateway treatments can be provided at the access point to a 'new' street environment or at either end of scheme if it is on a corridor.

5.10.9 Frontage access

In general, streets provide frontage access, whereas roads do not. Streets provide access to buildings and public space. This generates activity and enhances the relationship between the street and its surroundings. The design of frontage access points should be considered from the point of view of people passing along the street as well as those needing access. It will also be important to consider the speed and volume of vehicles, gathered access points and the distance between the residential boundary and the carriageway. The DfT recommends that the limit for providing access on a 30mph street is 10,000 vehicles/day. LCC wish to see a design speed of 20mph. As such, a value higher than 10,000 may be appropriate dependant upon the site conditions.

5.10.10 Turning heads

Where possible developments should be designed to maximise permeability and connectivity and design out cul-de-sacs. However, where design layouts are constrained the roads should provide turning facilities. These should be designed to allow service vehicles to turn within the highway without affecting pedestrian movement. MfS suggest the following layouts:

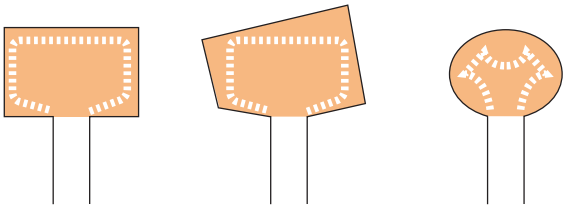


Figure 5-12 Turning head layouts

Swept path analysis, as discussed in section 5.10.2 can be used to check expected vehicles ability to turn.

5.10.11 Overrun areas

Overrun areas should be avoided in residential developments as they cross pedestrian desire lines and can pose a hazard to cyclists.

5.11 Parking

Accommodating parked vehicles is a core function of most streets in residential areas. In most situations there is a need to provide for cycles, cars and motorcycles. When making decisions regarding the design and location of all parking the following principles should be followed.

- It should not negatively impact on the design quality of the street.
- One solution will not fit all; a combination of parking forms may be appropriate.
- On-street parking should play a role in most developments.
- Security needs to be considered.
- The needs of all users including visitors and mobility impaired people should be considered.

More details on types of parking provision are provided below and additional design guidance is also available[41].

5.11.1 Cycle parking

Providing enough convenient and secure cycle parking is critical to increasing cycle use. In residential developments, access to cycle parking should be designed to be at least as convenient as access to car parking. In a residential development cycle parking can be accommodated within garages if they are to be provided. However, within flats shared parking is likely to be more efficient. LCC encourages practitioners to cater for cycle parking within a communal parking area that is easily accessible, covered, safe and secure. The maintenance cost of the communal parking area could be included within the service charge of the property.
The amount of parking depends on a range of factors including likely ownership levels, the type of housing/development and its location. Census data can reveal useful information for approximating likely levels. As set out within the Draft North West Plan Partial Review (July, 2009) new developments should provide the following levels of cycle parking:

Dwelling size	Level of Parking
1 Bedroom	1 allocated, 1 communal
2~3 Bedroom	2 allocated, 1 communal
4+ Bedroom	4 allocated, 2 communal

Table 5-3 Cycle parking standards

[41] Car Parking: What Works Where (English Partnerships, 2006) and Residential Car Parking Research (DCLG, 2007)

A discussion with local cycling officers will help agree total numbers. Cycle parking facilities should also be provided where there is an existing need and where practitioners aim to encourage modal shift. Designers should take care when including cycle parking to minimise any visual and physical impact.

At retail and commercial locations, different standards exist. For short-term parking LCC encourages the use of covered Sheffield stands located near entrances. These should be designed assuming two bikes are attached and located so as to not impact on the footway zone and impede pedestrian movement. For staff parking, a secure location within the building should be provided where possible.

5.11.2 Car parking

Parking needs to be integrated within developments. However, applying rigid parking standards does not always work successfully. Poorly designed parking provision and an environment that does not encourage more active travel can result in inconsiderate parking, congestion and parking on footways causing safety concerns. Alternatively, design that provides too much parking can encourage further car use or excessive parking by non-residents. Both situations can result in environments with no sense of place.

This advice complements parking guidance in the Draft North West Plan Partial Review (July, 2009) which states that new developments should include maximum parking standards for cars and minimum standards for cycles, motorcycles and disabled parking to encourage sustainability.

The Proposed Revised Table 8.1 within the document sets out the North West Regional Parking Standards. The standards relating to residential dwellings are shown in Table 5-4.

Dwelling Size	Area Type A	Area Type B	Area Type C
1 Bedroom	0.5~1	1	25m
2~3 Bedroom	1.5	2	
4+ Bedroom	2	3	15m

Table 5-4 Maximum car parking standards

The Area types relate to Policy RDF1 – Spatial Priorities and group areas based on their general levels of accessibility as follows:

- **Type A** – City and town centres in metropolitan areas and regional town and city centres.
- **Type B** – Non-metropolitan key town centres and district/local towns and city centres.
- **Type C** – All other areas.

The document states that developments should either be in-line with these standards or should use them as maximum standards. The impact of parking on the sustainability of the overall design should be considered. Research undertaken for DfT (MfS, 2007) indicates that car ownership is linked to a number of factors including household size, income, job requirements and socio-economic group. The spatial characteristics of an area will be reflected in car ownership levels.

Research by CABE has suggested an under provision of car parking is unattractive to home buyers[42]. However, it can be successful where viable alternatives are designed for. An effective Residential Travel Plan can help achieve this. Once the level of parking has been agreed, the form parking should take requires careful consideration including type, arrangements and variety. Parking can be provided in the form of a residents' parking scheme through discussions with Lancashire Parking Services. This approach aims to provide prioritised parking spaces that remove any external influences, for instance a football match, but it does not guarantee all residents space. Unallocated parking offers a common resource for a neighbourhood.
LCC support designs which include a degree of unallocated parking as it allows for changes in car ownership and provides for both residents and visitors. Within residential developments parking will generally fall into two categories; either on- or off-street. MfS (section 8.3 p. 102 – 112) provides further guidance on parking while some of the main factors are discussed below.

[42] What Home Buyers Want (CABE, 2005)

5.11.3 On-street parking

On-street parking, if well designed, can offer a common resource, add activity to the street, and help reduce vehicle speeds. In some situations it may be possible to cater for all parking demand on-street. However, poorly designed on-street parking can create road safety issues if speeds are high. It can also be visually dominant and result in footway parking.

Appropriate parking provision and active marketing should prevent pavement parking. However, where it is considered to be a likely problem, appropriate street furniture such as seating, planters and cycle parking within the furniture zone could be considered.

Assessing whether on-street parking is appropriate should involve the review of likely car ownership levels, the amount of off-street and/or allocated parking to be provided and street geometry. Where on-street parking is to be provided on busier streets it is suggested that a parallel parking arrangement is used. This can be achieved through a gradual widening of the carriageway. On-street parallel parking spaces should be 2m wide by 6m long.

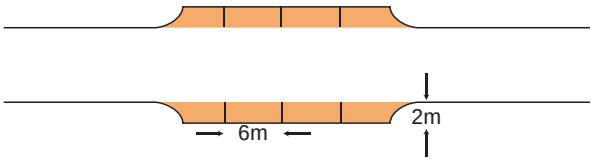


Figure 5-13 Parallel parking arrangement

On quieter streets, on-street parking can take a more varied form including perpendicular, central reservation and angled parking. Access to perpendicular or echelon parking is determined by the carriageway width on the road.
MfS provides details on typical widths based on the approach angle, for instance at 90° the width of W in Figure 5-14 should be 6m. However, the width can be reduced if parking bays are made wider. Swept-path analysis can be used to assess the space needed for manoeuvring.

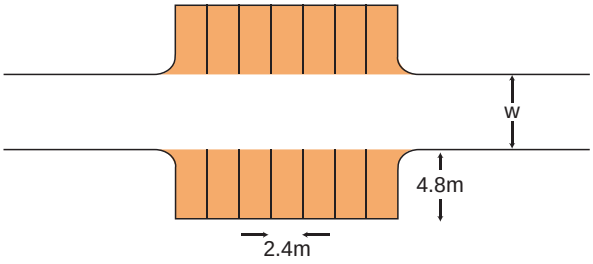


Figure 5-14 Perpendicular parking arrangement

However, parking in a civilised street should be designed to be a good space in which people can park. When empty, the use of designated bays marked out with white lines will make the space look like an empty car park. It is better to provide areas designed to allow parking.

5.11.4 Off-street parking

Off-street parking is typically less flexible than on-street facilities. It can take different forms, including communal parking, allocated spaces, allocated garages or parking within a dwellings curtilage. Although footway crossovers should be avoided where possible, the use of a 65mm kerb will still allow vehicles access.

5.11.5 Blue badge parking

In any situation, appropriate levels of provision should be made for disabled people.
Parking layouts should include appropriate parking provision for blue badge holders. The Draft North West Plan Partial Review (July, 2009) encourages practitioners to negotiate the level of disabled parking in residential developments on a case-by-case basis. Standards for other types of development are provided within the draft review.

Inclusive Mobility provides detailed information on disabled parking bay design but in general:

- On-street parallel parking bays should be 6.6m.
- 2.7m, on-street angled parking should be 4.2m.
- 3.6m and off-street parking should be 4.8m.
- 2.4m bays should be designed so that drivers and passengers, either of whom may be disabled, can easily get in or out of the car.

The bays should allow wheelchair users to gain access from the side and rear and should be adjacent to dropped kerbs. The bays should be located within 50m of services served by the car park wherever possible.

5.11.6 Motorcycle parking

Motorcycle parking should also be considered within new residential streets. With motorcycles representing around 5% of motor vehicle use but experiencing approximately 37,000 thefts a year, secure parking provision is paramount.
IHIE Guidelines for Motorcycling (updated in 2007) summarised good practice in motorcycling parking as “Near and Clear, Safe and Easy to use”. Well located and overlooked motorcycle parking in addition to physical features such as rails or hoops (providing inexpensive locking points) can create suitable parking points.
IHIE quote the 95th percentile dimensions of a motorcycle as 2m by 0.8m. This means approximately four or five motorcycle spaces can be accommodated within one car space.

5.12 Designing for street furniture

Street furniture is a collective name given to the majority of vertical elements within the public realm. Most is located in the footway.
The continued growth in vehicular traffic in Lancashire has resulted in additional elements of street furniture such as safety and enforcement equipment. The amount of street furniture has also increased to serve the needs of pedestrians and includes bus stops and seating.

A combination of space constraints coupled with the uncoordinated and often inappropriate location of street furniture causes problems for pedestrians and people with mobility and visual impairments. It also detracts from the appearance of the streetscape.

Designers need to consider a range of factors when considering the location of street furniture including footway widths, flows, parking needs and activity with an aim to minimise street clutter and promote an efficient use of space.

Generally, the area between the kerb line and highway boundary can be divided into four zones;

- Kerb zone.
- Furniture zone.
- Footway zone.
- Frontage zone.

Figure 5-15 Highway boundary zones

This arrangement is not meant to be prescriptive and is more appropriate to mixed priority routes rather than residential streets.

However, designers should consider the various spatial needs of the street in terms of kerbs, furniture and movement. In addition, where art, trees and signs etc are planned, the potential risks should be assessed.

The kerb zone should be free from street furniture and should typically be 450mm wide to allow for a kerb and vehicle overhang (LTN 1/98 and TD 50/04 in DMRB).

The furniture zone is where street furniture can be positioned. This zone can be a paved or grassed area and provides a buffer between pedestrians and the carriageway to help increase perceptions of safety and comfort. Practitioners should consider the minimum and maximum widths based on place, movement and any commercial requirements and ensure items are positioned correctly to not cause unnecessary deviation.

The footway zone should provide for the unhindered movement of pedestrians along the street and should be free from both permanent and temporary objects. As stated in section 5.6.5 the desirable minimum width of a footway is 2m. This should be increased around bus stops and outside shops and areas of high activity.

The frontage zone is the area between the footway zone and either the property line or highway boundary. This zone should also be kept free of street furniture as it provides the best route for cane users to use the buildings as a guide. Other issues such as awnings, garage doors and balconies should not over-sail the footway at a height of less than 2.6m.

The main principles should be to locate street furniture in a consistent manner so that people with visual impairments can anticipate their position. Where items are no longer required they should be removed to minimise deviation for all pedestrians. When street furniture is being agreed designers need to give consideration to ensure future maintenance is practical without unnecessary disruption to street users. Consideration should also be given to the use of tonal contrast between the street furniture and its surroundings. An agreement regarding future maintenance responsibility should also be achieved at an early stage.

The following sections provide information and guidance on specific items of street furniture.

5.12.1 Street lighting

A well designed and thought out approach to street lighting can help reduce risks of accidents during the hours of darkness, discourage crime, enhance perceptions of safety and improve an area's appearance. The location and type of street lighting should be identified through the design process. Advice should be sought from LCC's street lighting engineers. Within Lancashire there are already effective processes to identify areas of poor or ineffective lighting, for instance, LCC's Community Street Lighting programme. The expertise of officers should be sought as part of the scheme's development.

Lighting columns should be positioned to effectively illuminate both the carriageway and footway and remove dark spots to help reduce fear of crime. MfS section 10.3 provides further detail but the following should be considered:

- The use of different lighting types to distinguish different areas, e.g. moving to an area with a high place function.
- Lighting that is in context with the development to add to the sense of place.
- Lighting should be continuous as sudden changes can cause problems for partially-sighted people.

The intensity of lighting should depend on a range of factors including the type of road, levels of use and whether there is a need for CCTV. However, use should be made of carbon reducing bulbs where possible. The number of lighting columns should be kept to a minimum and the height should be as tall as possible but in context without exceeding building heights.

Consideration should also be given to reducing street clutter when designing street lighting. One option is to provide wall-mounted lighting where frontages allow and owners give their consent. Another option is to coordinate street furniture with lighting columns. This could include placing traffic signal heads, traffic signs, bus flags and timetables, litter bins, banners and flower baskets on lighting columns. Where such an approach is proposed, LCC's Street Lighting Manager should be consulted and consideration must also be given to ensure features to do not overhang the carriageway resulting in potential hazards. Ongoing maintenance responsibility will also require consideration to gain support from both LCC and the district authority.

5.12.2 Traffic signal controllers

Traffic signal control boxes are a necessary piece of street furniture, without which Lancashire's road network would quickly cease to work.

However, when they are poorly located they can have a significant negative impact on pedestrian movement and detract from the surrounding streetscape. The boxes should be located in such a way that they do not hide pedestrians from approaching vehicles and be side-on to pedestrian movement to maximise footway space. Practitioners should consider more innovative design approaches, for instance, locating traffic signal control boxes under benches as recently done in the Borough of Hammersmith and Fulham (Figure 5-16), to minimise street clutter. However, such an approach would need to be assessed in terms of costs and benefits.

Figure 5-16 Signal control benches

5.12.3 Traffic signs

Within residential streets designers should start from a position of no signs and only introduce them where they serve a clear purpose.
A fundamental step is to remove any highways type signs from schemes within residential streets which might be the source of ambiguity suggesting it is a highway for vehicles. It is acceptable to make road users think their way through an environment through a lack of signs because people will slow down. However, it is not acceptable to encourage ambiguity because this means people will interpret the space in different ways resulting in raised hazard.

Within a mixed priority route, signs will be necessary and should be considered as an important component of street design. Practitioners should aim to minimise the level of street clutter where possible. Signs should be located to reduce visual and physical intrusion and if lighting is required designs should ensure no glare to cars or buildings. Traffic signs should be located to ensure a minimum clearance of 450mm. LCC design standards state a 600mm clearance between the sign and kerb line is appropriate. There should be a clearance height of 2200mm for signs on footpaths and 2400mm on cycle tracks.

Detailed guidance is provided within the Traffic Signs Manual (DfT) (2008) and Traffic Signs Regulations and General Directions (TSRGD) (2002) which is currently being reviewed by the DfT. In addition to this guidance LCC encourages designers to consider the following elements;

- A limited number of signs that convey a coherent message.
- A consistent approach to sign design and siting.
- Reduce signs to the minimum size possible based on design standards.
- Use the minimum number of posts.
- Only illuminate signs where there is a legal requirement.
- Consider potential for low hoop signs (Figure 5-17) instead of illuminated bollards as used at Friargate in Preston.

Figure 5-17 Hoop signs

5.12.4 Pedestrian information

To encourage walking and make it a viable alternative for shorter trips people need to be able to find their way around with ease. This is especially important in town centres but can also play a significant role in more residential areas. A truly legible public realm would minimise the need for signs. However, even new developments have to integrate with existing urban structures, the majority of which are not easy to navigate when travelling on foot.

Pedestrian signs and/or information boards should be located within the furniture zone so that as with other street furniture visual and physical intrusion is minimised. In general, signs and/or information boards should be located at key decision points and be appropriate to as wide a range of pedestrians as possible.
LCC promotes a move towards signing that builds on the principles of schemes in Bristol and London. These schemes, known as Bristol Legible City and Legible London are wayfinding projects designed to provide better information throughout the cities for those who want to walk. These projects are based on providing a consistent set of wayfinding tools including paper maps and finger-posts in addition to the heads-up 'monolith' and minilith' sign types.

[43] http://www.rnib.org.uk/gooddeaign

LCC advocates an approach that would see consistent, clear and intuitive mapping across Lancashire. Nevertheless, LCC understands and appreciates that the needs of pedestrians in each district are different and therefore would encourage each district to develop their own signing style based on the following set of principles:

Figure 5-18 Minilith, London

- Heads-up mapping – where on-street signs are orientated to face the same way the user is facing.
- Ensure information is provided within 900mm to 1800mm above ground so it can be read by most people.
- Use a consistent language, set of icons and graphical palette.
- Ensure the sign is visible and that information is in contrast to the sign background.
- Show the time rather than distance to reach destinations.
- Consider the use of audio wayfinding[43].

The signs can include a range of information based on local needs and should use iconic buildings as wayfinding markers. For instance the signs could identify key attractor destinations such as public transport nodes, tourist attractions and key shopping centres. LCC believes that developing a sign style will build on each district's local identity whilst providing a coherent move towards enhanced wayfinding across the county.

Initial funding for new and improved signs should be agreed and secured through developer contributions. Enhanced wayfinding results in both qualitative and quantitative benefits including improved confidence, health benefits and time savings. However, signage should not be provided for signings sake, where a legible street design is achievable the use of signage should be minimal and carefully considered to ensure future sustainability.

5.12.5 Street nameplates

Street nameplates are an important and useful navigation tool for all road users. In Lancashire each the district authorities are responsible for the naming and numbering of streets within their local area. The local authorities are required to provide nameplates by law under the Town Improvement Clauses Act 1847. The Act allows nameplates to be attached to walls, buildings and other structures.

Within new developments, the developer will be responsible for erecting nameplates to the council's specification. As such, developers will need to liaise with the local council at an early stage.

Generally, signs should be positioned in a clear, uncluttered location, free from obstructions and foliage so they are visible to both pedestrians and other traffic. LCC encourages practitioners to ensure signs can be seen and read clearly but understands the need for local variation to fit in with surrounding street furniture and building frontages.

5.12.6 Seating

Seating is required to provide resting places for pedestrians and to provide places where people can interact socially. Seats should be provided on key routes and in areas of pedestrian activity. Inclusive Mobility states that in commonly used areas the interval between seats should be no more than 50m and where possible located at bus stops and taxi ranks. However, seating should be located so as to not cause obstructions to pedestrian movement. Inclusive Mobility includes standards on seating. District authorities are responsible for seating in Lancashire and should be consulted.

5.12.7 Bollards

Bollards are commonly used to physically stop vehicles entering pedestrian space. However, bollards are commonly over used as an 'easy' design solution resulting in a cluttered streetscape that can create hazards for people with mobility and visual impairments.

LCC encourages designers to use bollards only when no alternative is acceptable.

Design teams should consider relocating other items of street furniture or using planting to replace the need for bollards where safe to do so. Where bollards are used they should be a minimum height of 1000mm (*Inclusive Mobility*). The use of colour contrast on top of bollards can help partially sighted people and should be considered.

5.12.8 Pedestrian guard railing

Pedestrian guard railing is frequently used to discourage pedestrians from entering the carriageway by channelling them to a safer section or one that does not impede vehicles. Nevertheless, pedestrian guard railing can result in severance, the feeling that vehicles have priority over pedestrians and can also create hazards for cyclists being trapped between vehicles and the railings. It also reduces the available footway space and in many situations pedestrian guard railing has been installed for incorrect reasons having a significant negative impact on streetscapes.

Recent research undertaken by the DfT in producing LTN 2/09 Pedestrian Guardrailing identified that sites with pedestrian guard railing have a higher number of total and pedestrian collisions, higher traffic flows and higher speeds. The research states that while there is no statistically significant effect on safety, a clear effect on pedestrian behaviour does exist.

The provision of pedestrian guard railing will not be necessary in a residential development and alternative solutions should be found along mixed priority routes. In general guard railing should not be provided unless a clear need for it is identified and its use should solely be based on improving safety. LCC encourages practitioners to consider alternative approaches such as measures to reduce vehicle flows, vehicle speeds as well as enhancements to the pedestrian environment.

Where pedestrian guard railing currently exists or is identified as a potential measure to be included within a scheme, the design team should follow the Assessment framework set out within LTN 2/09. This includes a site assessment and an effectiveness assessment to support removal or installation.

5.12.9 Public art

The use of public art in new developments, especially in residential areas and town centres can help reinforce local identity and character. It can provide both a decorative feature and a landmark to help pedestrians find their way. Public art can strengthen the role of a place as somewhere people want to and can gather. It can also add visual interest to enhance people's daily experience. It should be designed to complement its surroundings. District authorities are responsible for the maintenance of public art and should be consulted. However, it may also be appropriate to involve the local community in the design, development and judging of the art work.

Figure 5-19 Public art in Morecambe

5.12.10 Bins

The provision of litter bins and recycling bins is important in places with a high footfall, including town centres, local shopping centres and residential developments. Other locations that may require additional litterbins include fast food outlets, schools, seating and bus stops.
Dog fouling bins should also be provided near public open spaces. The provision of bins is the responsibility of the district authorities.
Commonly, bins should be robust, functional, of a simple cost-effective design and facilitate ease of access.

As with other street furniture bins should be set back 450mm from the kerb and located within the furniture zone where possible. This will help remove potential obstructions to pedestrian movement and maintain a footway zone above minimum standards.

When providing bins, practitioners also need to consider street cleaning regimes. The collection of waste is a vital component of a working and civilised community.

5.12.11 Pavement cafes

Mixed priority routes include areas with high pedestrian as well as vehicle activity, often in town centres and local shopping areas.
The vitality of these places can be enhanced by maximising the potential of public spaces.
A recent growth in a café culture with outdoor facilities for eating and drinking has resulted in an outbreak of pavement cafes.

However, pedestrian movement must be taken into consideration and a footway zone at least 2m wide and based on movement, safety and congestion should be retained. Furthermore, clearance must be allowed for access and emergencies. As a result, pavement cafes will not be appropriate in all locations. To regulate cafes, district authorities are encouraged to issue licences to approved premises under Section 115 of the Highways Act 1980. Once licensed, pavement café areas can be demarcated by a variety of means.

5.12.12 Canopies

Where canopies are planned from building frontages and will overhang the footway, they should not cause discomfort to users or obstruct the highway in any way.

5.12.13 Signs and Lines

As part of the design process practitioners should aim to minimise the level of street clutter where possible. To reduce vehicle speeds and ensure behaviour is consistent with a civilised environment where road users respect each other, LCC has to change the environment from one which is a series of highway engineering instructions and warnings to one where people must negotiate their way through the space.

Where signs are necessary along mixed priority routes consideration should be given to combining signs onto one board and fixing signs to structures (with the owner's permission) to help reduce clutter. Sign illumination should be kept to a minimum although some signs still require illumination. In general, a greater use of reflective materials is encouraged.
Further guidance is provided within the Traffic Signs Manual and available from LCC's Environment Directorate. Designers are also encouraged to remove road markings where appropriate and design the layouts as naturally enforcing to remove the need for TROs.

5.13 Services and adoption

5.13.1 Drainage

One of the five main functions of a street is to provide drainage. This includes the disposal of foul water from buildings and a route for surface water. Foul water is commonly removed through drains and sewers. The adoption process for sewers is set out in Section 104 of the Water Industry Act 1991. Surface water run-off needs careful consideration, as run-off can increase the risk of flooding downstream. It can also contain contaminants such as oil and organic matter.

Climate change is expected to bring greater rainfall in winter and more intense storms, as such, flooding may occur more frequently. Shorter run-off times (as a result of more paved areas) in addition to sudden rainfall can result in urban flooding. Recent advice recommends that Local Authorities take a stronger lead on flooding in their area.

LCC supports the Government and the Environment Agency in promoting the use of Sustainable Drainage Systems (SUDS). The term covers a range of sustainable approaches which aim to mimic natural drainage processes and remove pollutants from surface urban run-off. Techniques include green roofs, permeable paving, ponds, detention basins and wetlands.

Buckshaw Village - SUDS:
Buckshaw Village (Chorley) was provided with swales along both sides of Central Avenue and retention ponds which ensure no water discharge enters neighbouring water courses. Both elements were integrated into the overall design.

SUDS can help manage run-off flow rates and protect water quality. They are sympathetic to the environment and can provide a habitat for wildlife.

As set out in the Highway Maintenance Plan LCC will accept the use of SUDS where the existing watercourses do not have adequate capacity and where commuted sum payments are provided for future maintenance. Detailed guidance for developers is available from the Environment Agency. Consideration should also be given to local watercourse management, introducing permeable surfaces and changing materials to cope with flooding. However, an agreement between LCC and district authorities will be needed with regard to future maintenance.

5.13.2 Utilities

The provision of utilities services are another key street function. Where possible all utility apparatus should be laid in ‘corridors’ within the footway. However, designs should consider how to place utilities in positions that will minimise significant disruption to the public.
Designs should also ensure they do not detract from the streetscape.

5.13.3 Adoption of new roads

LCC has the power to adopt streets through Section 38 of the Highways Act 1980.
The agreement is made between the landowner (typically the developer) and the County Council. The agreements relate to newly constructed streets within residential or industrial developments.

New roads that have been constructed in accordance with LCC’s design guidance are normally adopted. This includes ensuring footpaths form a link on a pedestrian route, that public open spaces are agreed with the district authorities and parking is in-line with guidance given in this document. Existing private streets will not normally be adopted unless they meet the County Council’s adoption standard.

Further information is available in section 11.7 of MfS and from the County Council’s Environment Directorate.

5.14 Maintenance

High quality streets will need continued care to ensure safe, serviceable and sustainable streetscapes.

Successful designs that result in civilised streets do not necessarily have to be costly.
Designs should involve an investment of time and planning so that the right environment is created with the right materials. Whilst financial investment will be necessary to ensure the use of proven and durable materials and high quality workmanship, the emphasis is on good rather than expensive design. By providing a quality yet simple and ageless design future maintenance can be reduced.

Quality design can also result in higher market prices. Research in London by CABE (2007) suggests that better street design can add an average of 5.2% to residential prices.
Correct and timely maintenance is essential to ensure the longevity of a well planned streetscape.

5.14.1 Materials

LCC is developing a recommended palette of materials.

Until publication, materials used should be durable and meet users' needs. Nevertheless, it must be acknowledged that a 'one size fits all' approach is not always the right one. The use of innovative materials and approaches can be considered but should be easy to maintain, safe, durable, unobtrusive and sustainable whilst still offering a shade contrast to help the orientation of visually impaired people.

5.14.2 Approach to maintenance

The County Council has a statutory duty to maintain and manage the highway network as set out in the annual LCC Highway Maintenance Plan (HMP). A well maintained network is a valuable asset and can help achieve a range of objectives, including; helping people to travel safely, adding value to promote social inclusion and improving facilities for vulnerable road users to help all users enjoy a high quality of life.

The UK Code of Practice for Highways Maintenance Management (2005) suggests the main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods. However, there are also objectives for network sustainability and delivering customer satisfaction. Further details can be found within LCC's HMP.

The HMP acknowledges the role of transport in people's quality of life. It highlights the opportunities to improve the network when undertaking maintenance works, especially in respect of footways and crossings. Many of these opportunities align with the principles behind creating civilised streets, including; Making footways fit for purpose;

- Improving integration between pedestrian routes and public transport;
- helping people cross roads; and
- creating a holistic pedestrian network.

5.14.3 Prioritising maintenance

The maintenance strategy allocates funds for maintenance on a priority needs basis in accordance with the principles of asset management. The Local Transport Plan sets out a hierarchy of priorities where pedestrians and persons with restricted mobility have the highest priority and car borne commuters and shoppers have the lowest priority. Future maintenance programmes and associated schemes should have regard for these priorities.

5.14.4 Current situation

The maintenance programme is primarily focused on existing streets and spaces. However, maintenance is also a core consideration within new developments.

The maintenance of both existing and new streets and spaces experience challenges, in particular the allocation of commuted sums. The CSS (formerly the County Surveyors' Society) have released new guidance 'Commuted Sums for Maintaining Infrastructure Assets' (2009) in an attempt to resolve the long-standing issue. This guidance should be reviewed as part of the scheme development stage.

5.14.5 Proposed approach to maintenance

The UK CPHMM sets out a recommended code of practice. This includes a range of measures that align with the principles of this document, including;

- Undertake community consultation and reflecting the needs of all users.
- Focus on the integrity of facilities for walking and cycling to ensure continuity and consistency.
- Encourage sustainable maintenance and the relaxation of technical standards to stimulate innovation and creativity.
- Ensure materials and treatments are consistent with the character of the area.
- Take opportunities to remove or simplify clutter wherever possible.

LCC encourages practitioners to consider the following philosophy when streets and spaces are in need of maintenance or are being upgraded.

1) Work closely and consult with other practitioners and key stakeholders including maintenance engineers.
2) Consider the needs of walkers, cyclists and public transport users.
3) Provide the right design and the right materials.
4) Be innovative where possible.

By encouraging practitioners to work more closely it may be possible to identify opportunities for maintenance programmes or associated schemes to align with other projects to generate wider benefits.

The value of future maintenance programmes can be enhanced by a greater understanding of issues on the network, in particular the needs of pedestrians, cyclists and public transport users. This can be achieved by auditing streets to highlight opportunities for adjustments.
Where possible, Highway Inspectors working with other practitioners should undertake an audit of the environment to allow the quality of environments for people walking, cycling and using public transport to be assessed.
The outputs could then be used within maintenance programmes to align works with wider schemes such as bus stop improvements, cycle parking provision, and enhanced footways and crossings (BVPI 187 and 165).

Maintenance programmes should not just replace like for like but endeavour to ensure that the right design and right material are provided. Work programmes should where possible ensure the materials used are consistent with the character of the area. Carriageway and footway reinstatements must be of a high quality in accordance with the New Roads and Streets Work Act (1991) so as to not detract from the streetscape.

Where possible street clutter should be removed and street furniture such as seating should be located to reduce any impact on footway widths. Where street lighting renewal is planned, the location and type should be reviewed to ensure areas are well lit, inviting and ultimately help people feel safe. Consideration should be given to removing aspects which can create threatening environments such as graffiti.
The use of an audit tool would help identify locations requiring attention.

Maintenance schemes should consider innovative design approaches. This could include the use of an innovative material or design technique, such as;

- Permeable paving.
- LED lighting.
- Locating traffic signal control boxes under benches (5.12.2).
- Removing all road markings.
- Using streetscape features such as trees or planting to reduce speeds.

However, developers and designers may be required to explain their choice where an innovative and untested approach is advocated.

6. Case study

6.1 New Development

A major new development in Chorley was built on the former Royal Ordnance Factory site. The development has included Buckshaw Village, a mixed-use development of up to 2,000 dwellings, Matrix Business Park and a large area of landscaped space.

From the outset, the development was underpinned by sustainability with a vision to create a community and 'place to work, rest and play'. The desire to create a sustainable community is reflected in the final design which includes sustainable drainage, integrated transport systems, habitat conservation and innovative building design.

The development aimed to limit its environmental impact. All materials were retained within the site and surface water runs in to a sustainable drainage system (SUDS) that is fully integrated into the overall landscaping programme.

From the outset, the layout was based on a traditional village and this was followed through in design with all houses designed to a strict design code.

The village centre was designed with courtyards and mews and linked to a community precinct to provide local services. Residents are now provided with a primary school, community centre, sports facilities, hairdressers, a beauty salon, chemist and a recently opened GP Surgery.

Central to achieving the vision for a sustainable community was an integrated transport system to provide for the needs of all users.
Central Avenue, the north-south axis, has been provided with re-routed bus services linking Chorley and Preston. The village is provided with high quality footways and cycleways and is linked to National Cycle Network Route 55. A new train station is planned south of the development along the existing Manchester to Preston line. Services between these destinations will increase to four an hour with three stopping at Buckshaw Village. The village is also provided with easy access to the highway network with junctions to the M6, M61, A6 and A49 nearby. The County Council are reviewing the potential to improve driver information to and from the village.

References

1 Highway Risk and Liability Claims – A Practical Guide to Appendix C (UK Roads Board, 2005)

2 Ambition Lancashire (Lancashire Partnership, 2008)

3 Equality and Diversity and Community Cohesion Strategy (LCC, 2009)

4 Safer Places (ODPM, 2004)

5 Choosing Activity (DH, 2005)

6 Take Action on Active Travel (Various, 2009)

7 Choosing Health (DH, 2004)

8 Delivering a Sustainable Transport System (DfT, 2009)

9 Lower Carbon Transport (DfT, 2009)

10 Lancashire Climate Change Strategy (LCC, 2008)

11 UK Sustainable Development Strategy (Defra, 2005)

12 Sustainable Communities in the North West (ODPM, 2003)

13 Walking and Cycling Action Plan (DfT, 2004)

14 The Eddington Transport Study (2006)

15 Delivering a Sustainable Transport System (DfT, 2008)

16 Regional Spatial Strategy (LCC, 2008)

17 Trees, Woodlands and Forests – a guide for developers and planners (4NW, 2009)

18 Economic Strategy for Lancashire (LEP, 2006)

19 PPG13 (DCLG, 2001) and Guidance on Transport Assessment (DfT, 2007)

20 Creating Strong, Safe and Prosperous Communities (HM Government, 2008)

21 http://www.burnley.gov.uk/site/scripts/documents_info.php?documentID=301&pageNumber=1

22 www.buildingforlife.org/criteria

23 Creating Successful Masterplans (Commission for Architecture and the Build Environment, 2008)

24 Design Codes (English Partnership, 2007)

25 Guidance on Transport Assessment (DfT, 2007)

26 Design and Access Statements, (CABE, 2006) and Circular 01/06 (DCLG, 2006)

27 Planning Policy Statement 1 (ODPM, 2005)

28 www.sharedwheels.co.uk

29 Making Residential Travel Plans Work (DfT, 2007)

30 By Design (CABE, 2000); The Urban Design Compendium (Llewelyn Davies, 2000); Better Places to Live (CABE, 2001)

31 Supplementary Planning Guidance 'Landscape and Heritage' (LCC, 2005)

32 The Principles of Inclusive Design (CABE, 2006)

33 LTN 1/07: Traffic Calming (DfT, 2007) and LTN 1/08: Traffic Management and Streetscape (DfT, 2008)

34 LTN 1/95 Assessment of Pedestrian Crossings (DfT, 1995)

35 LTN 2/96 Design of Pedestrian Crossings (DfT, 1995)

36 PPS17: Planning for Open Space, Sport and Recreation (ODPM, 2002) and The Value of Public Space (CABE, 2004)

37 HEAT – www.euro.who.int

38 http://www.lancashire.gov.uk/environment/ltp/ltp_web/section_10661157946.asp

39 Car Parking: What Works Where (English Partnerships, 2006 and LTN 1/07 Traffic Calming (DfT, 2007).

40 PPS10: Planning for Sustainable Waste Management (ODPM, 2005)

41 Car Parking: What Works Where (English Partnerships, 2006) and Residential Car Parking Research (DCLG, 2007)

42 What Home Buyers Want (CABE 2005)

43 http://www.mib.org.uk/gooddesign

44 What Home Buyers Want (CABE 2005)

45 http://www.mib.org.uk/gooddesign

Acronyms & Abbreviations

ASL	Advanced Stop Line
CCS	Creating Civilised Streets
CABE	Commission for Architecture & the Built Environment
CCTV	Closed Circuit Television
CPHMM	Code of Practice for Highways Maintenance Management
CPZ	Controlled Parking Zone
DaSTS	Delivering a Sustainable Transport System
DDA	Disability Discrimination Act
DfT	Department for Transport
DH	Department for Health
DMRB	Design Manual for Roads and Bridges
GHG	Green House Gases
HMP	Highways Management Plan
IHT	Institution of Highways & Transportation
LCC	Lancashire County Council
LCDS	Lancashire Cycle Design Standards
LTP	Local Transport Plan
LTN	Local Transport Note
MfS	Manual for Streets
ODPM	Office of the Deputy Prime Minister
PERS	Pedestrian Environment Review System
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
PTAL	Public Transport Accessibility Level
QA	Quality Audit
RSA	Road Safety Audit
RSS	Regional Spatial Strategy
SSD	Sight Stopping Distance
SUDS	Sustainable Drainage Systems
TaSTS	Towards a Sustainable Transport System
TRO	Traffic Regulation Order
TSRGD	Traffic Signs Regulations and General Directions

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Index (cont)

Appendix A – LCC Project Development Plan

Site location/Scheme name –

Project Manager –

Scheme development stage	Comments	Complete Y/N-N/A
Scheme initiation		
Design Team	Identify potential design team members and who will be invited to participate: • Who, where, role, specialism	
Collaboration	Assess potential for joined-up approach through discussion with other practitioners • Who/what potential?	
Policy	Undertake policy review and wider context appraisal: • Which national, regional and local documents have been reviewed? E.g. DaSTS, Regional Spatial Strategy, Creating Civilised Streets • When was appraisal undertaken? Outcomes?	
Local objectives	Identify local objectives and needs of those who live and work in the area to demonstrate the development is required. How was this achieved? • Research, statistics, public comments?	
Scheme objectives	Identify potential scheme objectives and aspirations based on local objectives and policies: • E.g. Enable local users to walk and cycle safely within all parts of the development	
Scheme Development		
Design Team	Establish design team with practitioners from different disciplines • Who, where, role, specialism	

Design Champion	Appoint a design champion who will oversee the process and 'champion' design principles • Name	
Technical Guidance	Review design techniques within CCS and collate national technical guidance documents • Names of guidance documents reviewed	
Cost/Benefit	Where required, demonstrate qualitative and quantitative benefits of the scheme and display value for money • Explain cost benefit analysis	
Funding	Secure funding sources. Consider commuted sums, s106, s278 and s38 • Review any potential for joint funding and enhanced scheme design with other practitioners	
Establish user matrix	Consider both place and movement and the needs of all users to balance requirements.	
Confirm objectives	Confirm scheme objectives	
Maintenance Plan	Consider whole-life costs including on-going maintenance and consider future maintenance requirements. Consider contribution of good design to prolong life of a scheme, e.g. lower speeds and less motor traffic will prolong life of tarmac	
Monitoring programme	Consider future monitoring	
Risk Identification	Consider potential risks and identify how they will be managed. • E.g. Design to Implementation handover, public unease, lack of political support	
Consultation plan	Formulate a plan for consultation and agree necessary consultees to ensure holistic approach and representation from all sections of the community. • Consultee list – who, where from, contact details	
Pre-evaluation	Project Manager should decide whether a pre-evaluation site visit is required. Should be attended by the design team to understand the local area and discuss design options. • When undertaken, who attended • Main findings and key points	

Initial Consultation	Initial consultation with the local community should take place to provide an early opportunity for input and to understand their needs. • When undertake, how achieved? • Key points?	
Concept Design	Develop concept design that considers needs of all users – people walking, cycling, using public transport and driving.	
Concept QA	Design team to carry out Concept Quality Audit • When undertaken • Key points raised through audit	
Pre-application meeting	Pre-application meeting with Planning Team to discuss context and collate information/guidance documents and provide a Scoping Note • When, who attended, key points • Key points agreed for inclusion in Scoping Note	
Design		
Local Context appraisal	Should be a collaborative process to determine how the area works. Can include; • Spatial context of development within town • Built-form context – scale, form, pattern of streets, buildings heights, landmarks materials • Functional context – urban diversity and gaps in provision • Operational context – management and stewardship of locality • Community context – the needs and aspirations of local community and drivers for investment • When undertaken and key findings	
Master plan/ Design code	Develop master plan/design code principles	
Preliminary Design	Use QA output to feed design. Consider needs of users	
Consultation	Consult on the Preliminary Design • When undertaken, who consulted? • Key points raise	
Detailed Design Detailed QA	Use consultation feedback to enhance scheme and prepare detailed designs Carry out Detailed Design QA • When undertaken • Key points raised through audit	
Consultation	Undertake final consultation • When undertaken, who consulted? • Key points raised	
Final Design	Use QA and consultation to finalise/agree design	

Planning Approval		
Prepare & submit necessary documents	Prepare plans and associated documents such as Transport Assessment, Travel Plan, Design and Access Statement. Submit to appropriate authority for approval • When submitted, to who	
Implementation		
Gain design & technical approval	Collaboration with engineers throughout design process will help ensure technical approval is achieved. • Who approved and when	
Construction Adoption Completion QA	If scheme is to be adopted, does it comply with LCC standards? Carry out Completion QA • Findings	
Monitoring		
Implement monitoring plan	Use Completion QA as benchmark for scheme quality. Where possible, monitor qualitative and quantitative outcomes to demonstrate benefits and ensure future funding allocations offer maximum benefit	

Appendix B – Quality Audits

Concept Design QA

Site location/Scheme name –

Project Manager –

Date –

	Y/N N/A	How Addressed?
Collaborative street design		
Has the potential to align the scheme with other works been considered to encourage a more holistic and cost effective scheme to be developed?		
Does the scheme align with policy objectives? • Enhance people's quality of life • Improve safety, security and health • Address climate change and protect the environment • Create sustainable communities • Contribute to local economic growth		
Sustainable Communities		
Have the needs of the community and all users of all ages and abilities been considered?		
Will the street support social interaction?		
Will the street support the five community functions; place, movement, access, parking and drainage, utilities and street lighting?		
Will the street be well connected and linked to services and facilities?		
Local Character		
Will the scheme encourage civilised behaviour where people give way to those more vulnerable?		
Will the design be specific to the scheme? Will it feel like a place?		
Have public spaces been designed to be attractive and overlooked?		
Will the building layout take priority over the highway and will it enhance legibility?		
Have the local climatic conditions been considered?		
Is the scheme within a conservation area? If so, how has this been catered for?		

Users		
Will the scheme be accessible for all users and enable people of all ages to enjoy the space?		
Will the scheme encourage greater sustainable travel by designing for walking and cycling?		
Geometry, parking & street furniture		
Have different types of parking been considered? Will parking be well integrated to support the street scene?		
Have crime statistics been reviewed? Will the scheme help reduce crime, hazards or fear of crime		

Detailed Design QA

Site location/Scheme name –

Project Manager –

Date –

	Yes /No	How Addressed?
Sustainable Communities		
Does the scheme aim to create sustainable communities?		
Is the scheme designed for the most vulnerable users to ensure access for all?		
Is the scheme designed to allow children to play and all people to engage with the street?		
Will the scheme be well integrated and connected to its surroundings and local services?		
Local Character		
Will the scheme have a local character and sense of place? Will streets and spaces be enhanced where possible?		
Is there a mix of housing types? Are buildings located to reduce corner radii and will they be designed to encourage active frontages and avoid dead space?		
Have street dimensions and materials been developed in line with guidance in Creating Civilised Streets?		
Are trees being provided to add to local character and if so have future maintenance agreements been arranged?		
Users		
Does the scheme comply with DDA standards and provide access to services for all people		
Will the street be safe? Are routes overlooked, will the design allow 'play' and encourage people driving to travel at 20mph?		
Are the design speeds within the development and on approach to the development appropriate?		
Is the development connected to its surroundings for those walking, cycling, using public transport and those travelling by private vehicles?		
Does the development help reduce vehicular traffic volumes and promote sustainable modes.		

Users (cont)		
If through routes are included is the potential for rat runs removed?		
Is it permeable? Is the network conducive to walking and cycling?		
Will the street layout be legible? Are pedestrian signs provided?		
Are adequate facilities provided for people wanting to walk? Are the streets connected, convenient, comfortable, conspicuous and convivial? • Do pedestrians have priority on key routes? • Are streets designed to give people walking priority when crossing residential streets? • Is tactile paving correctly laid? • Are footways wide enough? • Has sufficient public space been designed?		
Are adequate facilities provided for people wanting to travel by bike? Is the street convenient, accessible, safe, fit for purpose, attractive and well maintained to encourage cycling? • Do cycle routes link together? • Have cyclist dimensions been considered to ensure cycle paths are wide enough? • Has visibility been considered? • Are routes shared with buses wide enough for cyclists as well? • Have junctions and crossings been designed to aid cycle movement?		
Are public transport facilities located nearby? • Are facilities in good condition and accessible by all users? • Are the walk/cycle routes to transport nodes suitable to encourage use? • Has the potential for bus priority and other improvements been considered?		
Will the scheme provide suitable access for emergency, service and private vehicles?		

Geometry, parking & street furniture		
Have adequate street widths been provided and tested based on users' needs?		
Has junction design been carefully considered? • Is the type of junction appropriate to the design and expected levels of flow, types of vehicles and proximity to major roads? • Do locations aid permeability? • Have appropriate sightlines been provided using X distances and SSD based on the road types?		
Has adequate provision been made for the parking of cycles, cars, motorcycles and blue badge holders?		
Has street furniture been limited/removed where possible? Will the remaining street furniture be aligned within zones to help movement along the street?		
Have innovative solutions been used to reduce street clutter and enhance the local character?		
Services, adoption & maintenance		
Has the scheme been designed with maintenance in mind? Will it be maintainable?		
Have innovative drainage measures such as SUDS been considered?		
Have utilities been laid in corridors and locations to minimise disruption to users?		
Is the street to be adopted? If so, does it meet LCC standards?		
Has agreement been made the Districts regarding the ownership and future maintenance of scheme aspects?		

Post Completion QA

Site location/Scheme name –

Project Manager –

Date –

Post Completion	Yes /No	How Addressed?
Sustainable Communities		
Does the development encourage people to walk, cycle and use public transport? Any evidence?		
Is the development well connected to surrounding services and facilities? Are shops and local facilities easily accessible?		
Has a prudent use of resources been made?		
Is the area accessible for people of all ages and abilities? Are controlled crossings provided with tactile information?		
Has a Travel Plan and its objectives been delivered?		
Local Character		
If public space has been provided, is it being used?		
Is there a sense of place? How has this been achieved: • A mixture of housing? • Providing trees and planting? • Good use of street dimensions and materials that compliment the surroundings?		
Users		
Is the development, clean and free from evidence of crime?		
Does the development feel safe? Evidence of children being able to play on street?		
Is the area easy to walk around, are surfaces even, is crossing the road easy, are routes direct, are tactile paving and kerbs correctly laid?		
Any evidence of increased walking activity? Is the area conducive to cycling? Any evidence of cycling activity?		
Is access to public transport convenient? Are public transport facilities free from the effects of crime?		
Is the area easy to access by vehicle?		

Geometry, parking and street furniture		
Are junctions easy to negotiate?		
Are facilities for cycle parking provided? Any evidence of inadequate provision, i.e. cycles chained to railings?		
Are facilities for motorbikes provided?		
Is car parking well integrated? Any evidence of excess demand, i.e. anti-social parking?		
Is street furniture well designed and located?		
Services, adoption & maintenance		
Is the street in a good state of repair? Are utilities well laid in terms of location and appearance?		

Lancashire County Council

Evaluation Sheet for local residents and businesses

Site location –

Assessor –

Date –

Introduction *...to be written for interviewer based on local circumstance*

	Y/N Don't Know	Comments
Purpose		
Do you live or work in the area? If no, reason for being there?	N/A	
Local character		
Do you think the street encourages social interaction?		
Does it feel like a place with its own character rather than a highway for vehicles?		
Are public spaces attractive and used by the community?		
Do you like living/visiting/working here?		
Do you find the area interesting?		
Would anything have helped enhance the street's identity?		
Comfort		
Do you find moving around the street comfortable and enjoyable?		
Do you find anything unpleasant? Are gradients and widths comfortable to negotiate?		
Do you think the area is generally clean and free from litter?		
Would anything have helped improve your level of comfort and enjoyment?		
Safety		
Do you feel safe when using the street? During the day? During hours of darkness?		
Any experiences of crime or vandalism in the area?		
Do you think lighting levels are sufficient for walking around during the hours of darkness?		
Do you think vehicle speeds are slow enough? Do you feel safe crossing the road?		
Are traffic levels or rat-running ever a problem?		

Connectivity		
Is it easy to access the street by walking, cycling, using public transport or driving?		
Is the street well linked to surrounding services and facilities? Are they easy to access on foot or by bike?		
Are the routes to these services and facilities easy to find and legible?		
Do you use the local businesses and shops?		
Users' needs		
Do you think the street is accessible for users of all ages and abilities?		
Do you think the street design encourages people to walk and cycle?		
Is the street comfortable when walking and free from obstructions?		
Is crossing the road easy and are crossing points located where you would expect to find them?		
If you cycle in area – do you find it convenient and safe to do so? Is cycle parking adequate		
If you do not cycle – would you consider cycling in the street and local area?		
Is it easy to access public transport		
Is adequate public transport information provided and are the facilities accessible and in good condition?		
Is parking your own car a problem?		
Do you think parking has been well integrated? Is inconsiderate parking a problem?		
Are you aware of a Residential Travel Plan? If so, what measures are you aware of/have you used?		
What do you think of the street in general?		
Could anything be improved?		

Appendix C – Policy Matrix

		Creating Civilised Streets Objectives				
		Enhancing people's quality of life	Improving safety, security and health	Addressing climate change and protecting the environment	Creating sustainable communities	Contributing towards local economic growth
DaSTS Goals	Quality of life and a healthy natural environment	✓			✓	
	Equality of opportunity	✓				
	Safety, security and health		✓		✓	
	Climate change			✓		
	Economic growth					✓
RSS Principles	Marry opportunity and need	✓				
	Promote sustainable communities				✓	
	Reduce emissions and adapt to climate change			✓		
	Promote environmental quality			✓		
	Manage travel demand, reduce the need to travel and increase accessibility			✓		
	Make the best use of existing resources and infrastructure			✓		
	Promote sustainable economic development					✓
	Maintstreaming rural issues	✓				
Ambition Lancashire Priorities	Health and well-being		✓			
	Community safety		✓			
	Education, training and skills	✓				
	Environment			✓	✓	
	Economy					✓

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