

## Junction types and arrangements

### Key consideration

- ❑ Junctions should be designed with the considerations of the needs of pedestrians first
- ❑ Junctions should be designed to suit context and urban form – standardised forms should not dictate the street pattern

### Junctions

The success of a well-designed junction frequently derives from the way in which buildings frame the space in which the junction sits. Decisions on building placement should be made first, with the quality of the space in mind, and the junction then designed to suit the space created.

Junctions that should be used in residential areas include:

- ❑ crossroads and staggered junctions;
- ❑ T and Y junctions;
- ❑ formal and informal squares; and
- ❑ mini roundabouts.










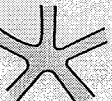
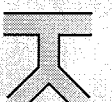
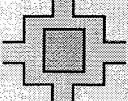
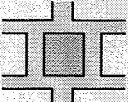
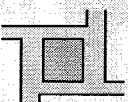

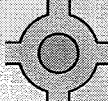





Junctions are generally places of high accessibility and good natural surveillance. Junctions generally, and crossroads junctions in particular, are therefore ideal places for locating facilities such as public buildings, shops and public transport stops.

Junction design should facilitate direct pedestrian desire lines, and this will often mean using small corner radii. The use of swept path analysis will ensure that the junctions are negotiable by vehicles. However, consideration should be given to the robustness of the design and quality of construction to withstand any occasional vehicle overrun.

Crossroads are convenient for pedestrians, as they minimise diversion from desire lines when crossing the street. They also make it easier to create permeable and legible street networks.

Where designers are concerned about potential user conflict, they may consider placing the junction within a square or on a speed table.

Conventional roundabouts are not generally appropriate for residential developments. Mini-roundabouts may have some application in residential areas, as they cause less deviation for pedestrians and are easier for cyclists to use. In addition, they do not occupy as much land. Practitioners should refer to *Mini-roundabouts: Good Practice Guidelines*<sup>13</sup>.

Nodal form	T	Y	Cross/ staggered	Multi-armed	Square	Circus	Crescent
Regular ↑ ↓ Irregular		   	   	 	   	 	   



Quadrant kerbstones used instead of large radii at junctions reduce the dominance of the carriageway and respond to pedestrian desire lines – this is reinforced by the placement and form of the adjacent buildings

### Spacing of junctions

The spacing of junctions should be determined by the type and size of urban blocks appropriate for the development. Block size should be based on the need for permeability and, generally, tends to become smaller as density and pedestrian activity increases.

Smaller blocks create the need for more frequent junctions. This improves permeability for pedestrians and cyclists, and the impact of motor traffic is dispersed over a wider area. Junctions do not always need to cater for all types of traffic. Some of the arms of a junction may be limited to pedestrian and cycle movement only.

### Turning areas

Connected street networks will generally eliminate the need for vehicles to turn around.

Where it is necessary to provide for vehicles turning (e.g. in a cul-de-sac or court), a tracking assessment should be made to indicate the types of vehicles that may be making this manoeuvre and how they can be accommodated. The turning space provided should relate to its environment, not specifically to vehicle movement, as this can result in a space with no use other than for turning vehicles. To be effective and usable, the turning space must be kept clear of parked vehicles. It is essential, therefore, that adequate parking is provided for residents in suitable locations.

### Overrun areas

Overrun areas should generally be avoided in residential and mixed-use streets. They can:

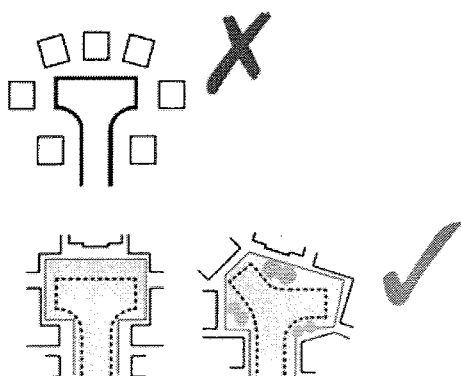
- ❑ be visually intrusive;
- ❑ interfere with pedestrian desire lines; and
- ❑ pose a hazard for cyclists.

Overrun areas can, however, help to overcome problems with regular or high volume access for larger vehicles.

### Frontage access

One of the key differences between streets with a 30 mph speed restriction or below and roads is that streets normally provide direct access to buildings and public spaces. This helps to generate activity and a positive relationship between the street and its surroundings. Providing direct access to buildings is also efficient in land-use terms.

It is recommended that direct access on roads with a 30 mph speed restriction is acceptable with flows of up to 10,000 vehicles per day.



## Streets for people

### Key consideration

- Streets should allow for and encourage social interaction

### Streets as social spaces

The design of all streets should recognise the importance of creating places for people to enjoy, rather than simply providing corridors for the movement of traffic. Streets should generally be designed with a focus on social interaction.

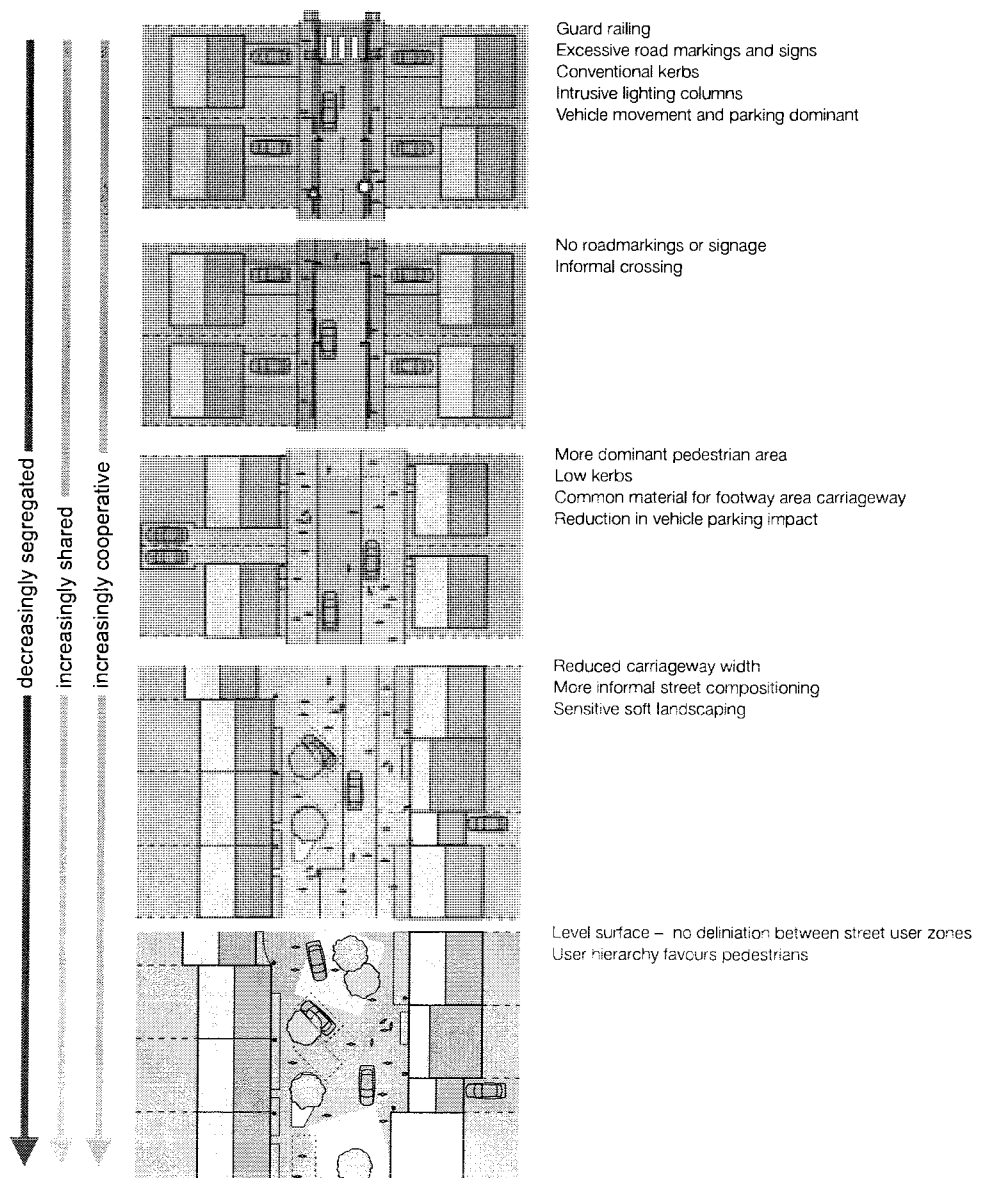
A significant amount of interaction within a community takes place in the external environment, and street design should encourage this by creating inclusive social spaces where children can play, people can stop to chat, and other appropriate activities can take place safely. In order for this to occur, it is essential that vehicular traffic does not dominate the street.

The propensity for people to use a street as a social space is increased by careful design and by applying the user hierarchy where pedestrians are considered first, as indicated in the section *Pedestrians and cyclists*.

### Shared Space

A Shared Space is a street or place accessible to both pedestrians and vehicles that is designed to enable pedestrians to move more freely by reducing traffic management features that tend to encourage users of vehicles to assume priority.

Achieving this reduction in dominance can be assisted by the techniques described previously and also by the minimal use of traffic signs, road markings and other traffic management features where appropriate. With less, or no, traffic management measures giving clear indications of priority, motorists are encouraged to recognise the space as being different, drive more slowly, and respond directly to the behaviour of other users (including other motorists).



Home Zones are essentially Shared Spaces, and are provided in residential areas. Home Zones can be formally designated as such under Section 74 of the *Transport (Scotland) Act 2001*,<sup>14</sup> although there is no requirement to do so. Further guidance on the design of Home Zones concept schemes is given in *Home Zones; Challenging the future of our streets*<sup>15</sup>, *Home Zone Design Guidelines*<sup>16</sup> and at [www.homezones.org.uk](http://www.homezones.org.uk).

### Level surfaces

Some Shared Space schemes feature what is often referred to as a shared or level surface, although not all will do so. There is a variety of terminology used to describe this approach; this document will refer to the technique as a level surface. For the purposes of this guidance, a level surface is a street surface that is not physically segregated by kerb or level differences into areas for particular users. Level surfaces work best in relatively calm traffic environments.

The lack of defined areas for pedestrians and vehicles is intended to indicate that the street is meant to be shared equally by all users. Motorists are expected to adapt their behaviour to that of other street users, driving slowly and giving way as appropriate.

The key aims are to:

- encourage low vehicle speeds;
- create an environment in which pedestrians can walk, or stop and chat, without feeling intimidated by motor traffic;
- make it easier for people to move around, particularly wheelchair users and people pushing wheeled equipment such as prams; and
- promote social interaction.

In the absence of a formal carriageway, experience shows that motorists entering the area will tend to drive more cautiously and negotiate the right of way with pedestrians on a more conciliatory level.

Control of car parking needs to be considered in level surface areas. Car parking should be organised to deter cluttered streets and sufficient provision, including the provision of disabled parking spaces, should be allocated around a scheme to ensure that parking is distributed evenly and clearly.

Level surfaces are only one component of the principles of Shared Space and should not be solely relied upon to create good streets or to slow traffic.

### Ensuring inclusive design

Shared Space, and level surfaces in particular, can cause problems for some disabled people. The absence of a conventional kerb in level surfaces can pose problems for some blind or partially-sighted people, who often rely on this feature to find their way around. The lack of visual cues may also pose problems for pedestrians with cognitive difficulties. It is therefore important that level surface schemes include an alternative means by which visually-impaired people can navigate. Such elements can be designed in collaboration with local people, including representatives from local disability groups and access panels.

Disability groups should also be invited to provide input throughout the Quality Audit stages. Quality Audits are explained in more detail in Part 3 *How to achieve better outcomes*. Any design solution should be informed by local context and the local community.

Research commissioned by the Department for Transport looking into Shared Space is currently underway and is due for final publication in 2011. The first stage of the research was published in *Shared Space Project Stage 1: Appraisal of Shared Space*.<sup>17</sup> The conclusions of this report include the statement that *"evidence broadly suggests that Shared Space Schemes can deliver benefits: they appear to support economic activity, improve perceptions of personal security, be popular generally with the public and traders and increase freedom of movement for many people including some vulnerable pedestrians."* The report concluded that *"a case can be made for level surfaces as a valid feature in some settings but that the detailed design of particular schemes needs to recognise and respond to the needs of all users."*

It should be noted that this is an intermediate report and its findings will be subject to final clarification. Final outcomes of this research should be taken into account when considering Shared Space.

Research commissioned by the Disabled Persons Transport Advisory Committee (DPTAC) on the implications of Home Zones for disabled people was published in 2007. *Designing for Disabled People in Home Zones*<sup>18</sup> contains relevant guidance.

### Surface treatments

Shared Space streets are often constructed from pavements or other materials rather than asphalt, which helps emphasise their difference from conventional streets. Research for *Manual for Streets* shows that block paving reduces traffic speeds by between 2.5 mph and 4.5 mph, compared with speeds on asphalt surfaces. The use of block paving can also provide permeable surfaces for drainage.

Block paving may not be appropriate in all Shared Space or level surface areas, and contextual circumstances are key to decisions on materials. Coloured or textured asphalts can provide an effective delineation. Many Scottish towns and villages contain existing areas of successful level surfaces that use traditional materials or simple asphalt surfaces.



## Integrating parking

### Key considerations

- ❑ Parking should be accommodated by a variety of means to provide flexibility and lessen visual impact

### Cycle parking

Providing enough convenient and secure cycle parking at homes and other locations for both residents and visitors is critical to increasing the use of cycles. In residential developments, designers should aim to make access to cycle storage at least as convenient as access to car parking.

Reference should be made to the relevant local guidance and any relevant travel plans to determine the appropriate level of provision of cycle parking. The following key principles should, however, apply:

- ❑ Shared cycle parking facilities should be secure, overlooked and convenient to use with shelter provided wherever practical.
- ❑ Appropriate provision should be made for all potential users including children and visitors.
- ❑ Cycle parking can be provided in a number of ways such as: within garages; bespoke cycle storage; communal areas in flats; and on-street cycle racks.
- ❑ Cycle stands need to be located clear of pedestrian desire lines, and generally closer to the carriageway than to buildings.
- ❑ Cycle parking should be provided at bus and train stations to assist transition between transport modes.
- ❑ Cycle parking should be detectable by blind or partially sighted people.



Cycle parking that has good surveillance and is at a key location – in this example near a hospital entrance

Further guidance on the design of cycling facilities is provided in *LTN 2/08 Cycle Infrastructure design*.<sup>19</sup>

### Car parking

The Scottish Government's general planning policy for car parking is set out in the Transport section of the *Scottish Planning Policy (SPP)*<sup>20</sup>. This makes it clear that it is important to consider a design-led approach to the provision of car parking space that is well-integrated with a high-quality public realm. A design-led and contextual strategy for car parking can often lessen the impact on the built environment. Car parking can be provided in a number of ways as set out over the following pages.

## ■ On-street parking

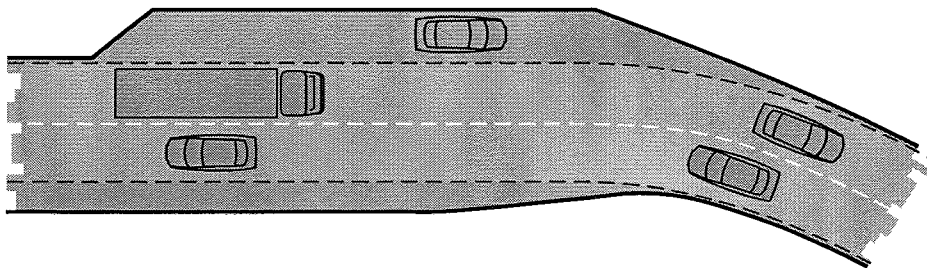
On-street parking in residential streets can help to reduce traffic speeds. This kind of parking can be counted towards the overall provision required in new developments, both for residents and visitors. Parking on adopted roads cannot be allocated to individual properties, but is a common resource.

In the past, on-street parking bays have been rigidly defined, creating an artificial constraint on street layout. More informal parking arrangements are to be encouraged, such as the use of subtle widening within a street or by using end-on or angled parking within a square. Trees, planting or street furniture can be used to discourage indiscriminate parking in an attractive way. Parking violations, however, cannot be acted upon without Traffic Regulation Orders, with traffic signs and road markings to indicate the restrictions in place.

An arrangement of parking bays adjacent to the running lanes is often the preferred way of providing on-street parking. It is recommended that, in most circumstances, at least some parking demand in residential and mixed-use areas is met with well-designed on-street parking:

Breaking up the visual impact can sometimes be achieved by limiting on-street parking to small groups of around five spaces.

In deciding how much on-street parking is appropriate, it is recommended that the positive and negative effects listed in the 'On-street parking' box are considered.



Gradual widening of the carriageway to create more informal on-street spaces, with running carriageway checked using vehicle tracking

### On-street parking: positive and negative effects

The positive effects of on-street parking are that it:

- provides a common resource, catering for vehicles used by residents, visitors and service providers in an efficient manner;
- is able to cater for peak demands from various users at different times of the day, for example people at work or residents;
- adds activity to the street and slows traffic;
- is typically well overlooked, providing improved security;
- is popular and likely to be well-used;
- can provide a useful buffer between pedestrians and traffic; and
- potentially allows the creation of areas within perimeter blocks that are free of cars.

The negative effects of on-street parking are that it:

- can be visually dominant within a street scene and can undermine the established character;
- may lead to footway parking unless the street is properly designed to accommodate parked vehicles;
- can be dangerous and intimidating for cyclists, due to car doors opening and cars moving in and out; and
- can impair the social and play function of shared spaces if it is overly dominant.

In most situations, it will not be necessary to provide parking spaces specifically for service vehicles, such as delivery vans, which are normally stationary for a relatively short time.

### ❑ Off-street parking

Off-street parking will be required in many developments, whether on the house plot, in rear courtyards or in underground structures. On-plot parking should be designed so that the front garden is not overly dominated by the parking space.

Off-street parking includes off-street courtyards and rear courtyards, and the key principles are that that they:

- ❑ are not car parks but places which have parking in them;
- ❑ should be overlooked by adjoining houses or by buildings entered from the parking area; and
- ❑ should normally include, at most, 10 parking spaces. If there are more spaces, the courtyard layout should be broken up.

Where spaces are allocated in shared areas, these may not be adopted and do not constitute roads under the *Roads (Scotland) Act 1984*. Alternative arrangements for the future maintenance of these areas will need to be found, whether by a factor or through other agencies.

Care must be taken to ensure good natural surveillance in any off-street parking areas. Vehicular accesses to any off-street parking areas will need to be taken into account within the overall street design.

### ❑ Basement or undercroft parking

The advantage of putting cars underground is that it preserves the street frontage, uses land more efficiently and may be more convenient for drivers accessing the building, particularly in adverse weather. However, as with courtyard parking, much depends on the location and design of the entrance. Careful consideration should be given to the visual impact of undercroft parking at street level.

### ❑ On-plot parking

Parking within the front curtilage should generally be avoided as it breaks up the frontage, can be unsightly and restricts informal surveillance. On-plot parking may be suitable in restricted situations when integrated with other parking solutions and when considered in terms of the overall street profile.

### ❑ Garages

Garages are not always used for car parking and this can create additional demand for on-street parking. Car ports are a good alternative. Dimensions for garages should be sufficient to recognise current vehicle sizes in order to encourage their use for car storage.

### ❑ Parking spaces for disabled people

It is recommended that parking bays for disabled people are designed so that drivers and passengers, either of whom may be disabled, can get in and out of the car easily. They should allow wheelchairs users to gain access from the side and the rear. The bays should be large enough to protect people from moving traffic when they cannot get in or out of their car on the footway side. Dropped kerbs should be conveniently sited to enable drivers who use wheelchairs to gain easy access to footways. Further information is contained in *PAN 78 Inclusive Design*.

*Car Parking; What Works Where*<sup>21</sup> provides a comprehensive toolkit for designers that gives useful advice on the most appropriate forms of car parking relevant to different types of residential development. Consideration should also be given to the *Safer Parking Scheme* initiative of the Association of Chief Police Officers (ACPO) and aimed at reducing crime and the fear of crime in parking areas. *PAN 77 Designing Safer Places*<sup>22</sup> also discusses this issue.



Parking courts should be considered as positive places



Discreet undercroft parking

## Motorcycle parking

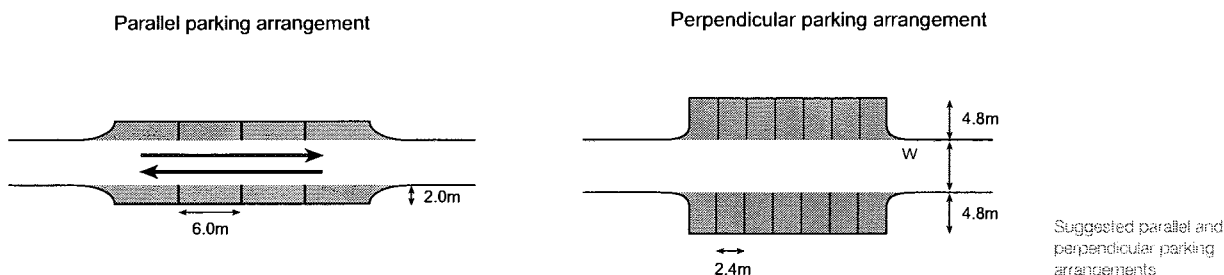
In planning for private residential parking, in most situations motorcycles will be able to use car parking spaces, but in some situations it will be appropriate to provide designated motorcycle parking areas. Guidance on motorcycle parking is contained in *Traffic Advisory Leaflet 02/02*.<sup>23</sup> General advice on designing streets to meet the need of motorcycles is given in the *Guidelines for Motorcycling*.<sup>24</sup> To estimate the space required for parking motorcycles, it is recommended that a 2.0 m by 0.8 m footprint is allowed per motorcycle.

## Dimensions for car parking spaces and manoeuvring space

For parking parallel to the street, each vehicle will typically need an area of about 2 m wide and 6 m long.

For echelon or perpendicular parking, individual bays will need to be indicated or marked. The rectangular bay area should be sized as follows:

- ❑ Absolute minimum of 2.4 m wide by 4.8 m long
- ❑ Desirable 2.5 m wide by 5.0 m long



The width (*W above*) needed to access echelon or perpendicular spaces conveniently, depends on the width of the bay and the angle of approach. For a 2.4 m wide bay, these values are typically:

- ❑ at 90 degrees,  $W = 6.0$  m;
- ❑ at 60 degrees,  $W = 4.2$  m; and
- ❑ at 45 degrees,  $W = 3.6$  m.

The width requirements can be reduced if the spaces are made wider. Swept-path analysis can be used to assess the effect of wider spaces on reducing the need for manoeuvring space, as illustrated in the diagrams below.

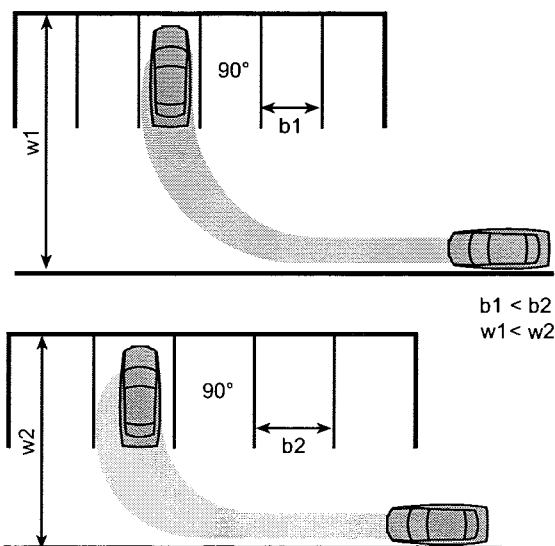
Where space is limited, it may not be possible to provide for vehicles to get into the spaces in one movement. Some back and fore manoeuvring may be required. This is likely to be acceptable where traffic volumes and speeds are low.

## Other parking issues

Other issues for the design team and local authority to consider include:

- ❑ the appropriate level of car parking provision including the level of provision for disabled people (Blue Badge Holders);
- ❑ the negative impacts of conversion of front gardens to parking and parking in conservation areas;
- ❑ provision below normal demand (Lower levels can work successfully when adequate on-street parking controls are present and where it is possible for residents to reach day-to-day destinations, such as jobs, schools and shops, without the use of a car.);
- ❑ the potential for the use of car clubs which provide neighbourhood-based short-term car hire to members;
- ❑ unallocated parking (Not all parking spaces need to be allocated to individual properties. Unallocated parking provides a common resource for a neighbourhood or a specific development.); and
- ❑ the hazards and inconvenience to pedestrians caused by footway parking (It is therefore recommended that footway parking be minimised through the design of the street.).

## Tracking assessment



The effect on overall street width requirements when wider car parking spaces are provided

## Emergency and service vehicles

### Key considerations

- Street layouts should accommodate emergency and service vehicles without compromising a positive sense of place

### Emergency vehicles

The requirements for emergency vehicles are generally dictated by the fire service requirements. All development proposals should be discussed with the relevant Fire Authorities.

The Association of Chief Fire Officers has expanded upon and clarified these requirements as follows:

- A 3.7 m carriageway (kerb to kerb) is required for operating space at the scene of a fire. Simply to reach a fire, the access route could be reduced to 2.75 m over short distances, provided the pump appliance can get to within 45 m of all points within a dwelling.
- If an authority or developer wishes to reduce the running carriageway width to below 3.7 m, they should consult the local Fire Safety Officer.

### Service vehicles

The design of streets should accommodate service vehicles without allowing their requirements to dominate the layout.

On streets with low traffic flows and speeds, it may be assumed that vehicles will be able to use the full width of the carriageway to manoeuvre. Larger vehicles which are only expected to use a street infrequently, such as pantechnicons, need not be fully accommodated – designers could assume that they will have to reverse or undertake multi-point turns to turn around for the relatively small number of times they will require access. The involvement of the local authority in determining design solutions for service vehicles is important.

Well-connected street networks have significant advantages for service vehicles. A shorter route can be used to cover a given area, and reversing may be avoided altogether.

### Waste collection vehicles

It is essential that liaison between the designers, the waste, roads, planning and building control authorities, and access officers, takes place at an early stage.

Planning authorities should ensure that new developments make sufficient provision for waste management and recycling and should promote designs and layouts that secure the integration of waste management facilities without adverse impact on the street scene.

Policy for local and regional waste planning bodies is set out in *Scottish Planning Policy*.

Routing for waste vehicles should be determined at the concept masterplan or scheme design stage. Wherever possible, routing should be configured so that the refuse collection can be made without the need for the vehicle having to reverse, as turning areas may be obstructed by parked vehicles.

While it is always possible to design new streets to take the largest vehicle that could be manufactured, this would conflict with the desire to create quality places. It is neither necessary nor desirable to design new streets to accommodate larger waste collection vehicles than can be used within existing streets in the area.

Swept-path analysis can be used to assess layouts for accessibility. Where achieving these standards would undermine quality of place, alternative vehicle sizes and/or collection methods should be considered.

*BS 5906: 2005* recommends a maximum reversing distance for refuse vehicles of 12 m. Longer distances can be considered, but any reversing routes should be straight and free from obstacles or visual obstructions.

Section 3.25 of the *Scottish Building Standards (Domestic) Technical Handbook*<sup>25</sup> provides guidance on achieving the standards set in the *Building (Scotland) Regulations 2004*<sup>26</sup> with regard to solid waste storage and collection point. The collection point can be on-street or may be at another location defined by the waste authority. Key recommendations are that:

- residents should not be required to carry waste more than 30 m (excluding any vertical distance) to the storage point;
- waste collection vehicles should ideally be able to get to within 25 m of the storage point (although *BS 5906: 2005* recommends slightly shorter distances) and the gradient between the two should not exceed 1:12; and
- there should be a maximum of three steps for waste containers up to 250 litres, and none when larger containers are used (The Health and Safety Executive recommends that, ideally, there should be no steps to negotiate).

*BS 5906: 2005*<sup>27</sup> provides guidance and recommendations on good practice. The standard advises on dealing with typical weekly waste and recommends that the distance over which containers are transported by collectors should not normally exceed 15 m for two-wheeled containers, and 10 m for four-wheeled containers.

# Street detail

## Drainage

### Key considerations

- Streets should use appropriate SUDS techniques as relevant to the context in order to minimise environmental impacts

### Street drainage

The majority of streets are designed to accommodate the disposal of foul and surface water and this needs to be considered at an early stage in the design of street layouts. This includes consideration of foul drainage, surface water and Sustainable Urban Drainage Systems (SUDS).

### Foul drainage

This will normally take the form of drains around the curtilage of buildings which come under the *Building (Scotland) Regulations 2004* and sewers located in the street where the relevant guidance is found within *Sewers for Scotland*.<sup>28</sup>

The adoption process for sewers is set by Section 16 of the *Sewerage (Scotland) Act 1968*.<sup>29</sup> The Scottish Water document *Sewers for Scotland* is a guide to facilitate the procurement, design, maintenance and adoption of sewers by Scottish Water.

### Surface water drainage

The street provides a conduit for the storage or disposal of rainwater and, by its nature and its impact on the environment, the management of surface water runoff is a more complex matter than dealing with foul water. Sustainable drainage solutions adoptable by both local authorities and Scottish Water are set out in *The SUDS Manual*.<sup>30</sup> The emphasis is on the sustainable management of surface water, whereby conveyance is maintained between SUDS features in the traditional sense using pipework and open channels with SUDS features enhancing water quality, amenity and biodiversity, whilst controlling run-off quantity.

When considering the management of surface water, designers, developers and authorities need to take account of the *PAN 61: Planning and Sustainable Urban Drainage*,<sup>31</sup> Scottish Planning Policy, and the *Water Environment and Water Services (Scotland) Act 2003 (WEWS Act 2003)*.<sup>32</sup> *WEWS Act 2003* transposes the *Water Framework Directive*<sup>33</sup> to assess, protect and enhance water environments in Scotland, into national law. The *Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR)*<sup>34</sup> have been introduced under *WEWS Act 2003* to allow regulatory controls on this matter.

The *Flood Risk Management (Scotland) Act 2009*<sup>35</sup> requires local authorities to assess and prepare maps of relevant bodies of water and SUDS which will assist in the preparation of flood risk management plans by each local authority.



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The planning and management of surface water discharge from buildings and roads requires a co-ordinated approach to evaluating flood risk and developing an integrated urban drainage strategy.

The responsibility for undertaking site specific flood risk assessments in new developments (FRA) rests with the developer. However, *Scottish Planning Policy* advocates a partnership approach, consulting with the relevant stakeholders to compile the FRA. This will involve the local authority as flood authority, the Scottish Environmental Protection Agency (SEPA) and Scottish Water.

*Sewers for Scotland* recommends, and some local authorities require, that drainage criteria for new development comply with the drainage assessment requirements set out in *Drainage Assessment – A Guide for Scotland*.<sup>36</sup>

## Sustainable Urban Drainage Systems

The term Sustainable Urban Drainage Systems covers the whole range of sustainable approaches to surface water drainage management. SUDS aim to mimic natural drainage processes and remove pollutants from urban run-off at source. SUDS comprise a wide range of techniques, including permeable paving, swales, detention basins, filter strips, filter drains, infiltration systems, bio-retention, ponds and wetlands. To realise the greatest improvement in water quality amenity and biodiversity and flood risk management, these components should be used in combination, sometimes referred to as the SUDS Management Train, as described in *The SUDS Manual*.

SUDS are more sustainable than conventional drainage methods because they:

- ❑ manage run-off flow rates, using infiltration and the retention of storm water;
- ❑ protect or enhance the water quality;
- ❑ are sympathetic to the environmental setting and the needs of the local community;
- ❑ provide a habitat for wildlife in urban watercourses;
- ❑ encourage natural groundwater recharge (where appropriate); and
- ❑ can assist in reduction or removal of drainage network constraints.

They do this by:

- ❑ dealing with run-off close to where the rain falls (source control);
- ❑ managing pollution at its source; and
- ❑ protecting water resources from pollution created by accidental spills or other sources.

The use of SUDS is seen as a primary objective by the Government and should be applied wherever practical and technically feasible. Granting of planning permission will be dependent on agreement between the local planning authority and SEPA, as statutory consultees. It is a SEPA requirement that sufficient levels of SUDS are provided.

New guidance, *SUDS for Roads*,<sup>37</sup> has been developed by the SUDS Working Party, including representatives of SEPA, Scottish Water and local authorities, regarding acceptable forms of SUDS to be applied to roads.

Detailed guidance on the selection and design of SUDS is contained in *The SUDS Manual*, *Sewers for Scotland* and *SUDS for Roads*. All stakeholders need to be aware of the importance of the application of SUDS as part of an integrated urban drainage strategy for a development.



## Utilities

### Key considerations

- ❑ The accommodation of services should not determine the layout of streets or footways

Utilities are an essential component of street infrastructure and can have an important effect on layout issues, such as footway widths. The accommodation of utilities must not, however, compromise the creation of a sense of place or influence the design disproportionately. It is essential to liaise with the utility companies when the layouts of the buildings and streets are being designed.

Service strips should be designed to accommodate the services contained rather than by the application of rigid standards.

The availability and location of existing services should be identified at the outset. Where possible, all utility apparatus should be laid in 'corridors' throughout the site. This will facilitate the installation of the services and any future connections as the development proceeds.

Most residential streets provide routes for statutory undertakers and other services. Detailed advice on providing for utilities in new developments can be found in *NJUG Guidance*<sup>38</sup> and local authority guidelines.



An image of a layout driven by standards and formulaic solutions – the use of large radius bends, overly-dominant lighting columns, large building setbacks, inefficient land use, and inappropriate traffic calming contribute nothing to a positive sense of place

Andrew Cameron WSP

## Planting

### Key considerations

- Street design should aim to integrate natural landscape features and foster positive biodiversity

Intelligent and appropriate planting in street design is encouraged. Planting, particularly street trees, helps to soften the street scene while creating visual interest, improving microclimate and providing valuable habitats for wildlife. Whilst appropriate driver sightlines should be maintained, vegetation can be used to limit excessive forward visibility to limit traffic speeds.

Care should be taken to preserve existing trees, particularly when changes to a street are planned. Consideration should also be given to the relationship of streets to existing and new green networks. Green networks can often provide pedestrian or cycle routes that offer increased connectivity and add a distinctive character area for people to enjoy.

Careful consideration needs to be given to appropriate tree selection, their location and how they are planted. Detailed advice on this issue is contained in the Communities and Local Government document, *Tree Roots in the Built Environment*.<sup>39</sup>

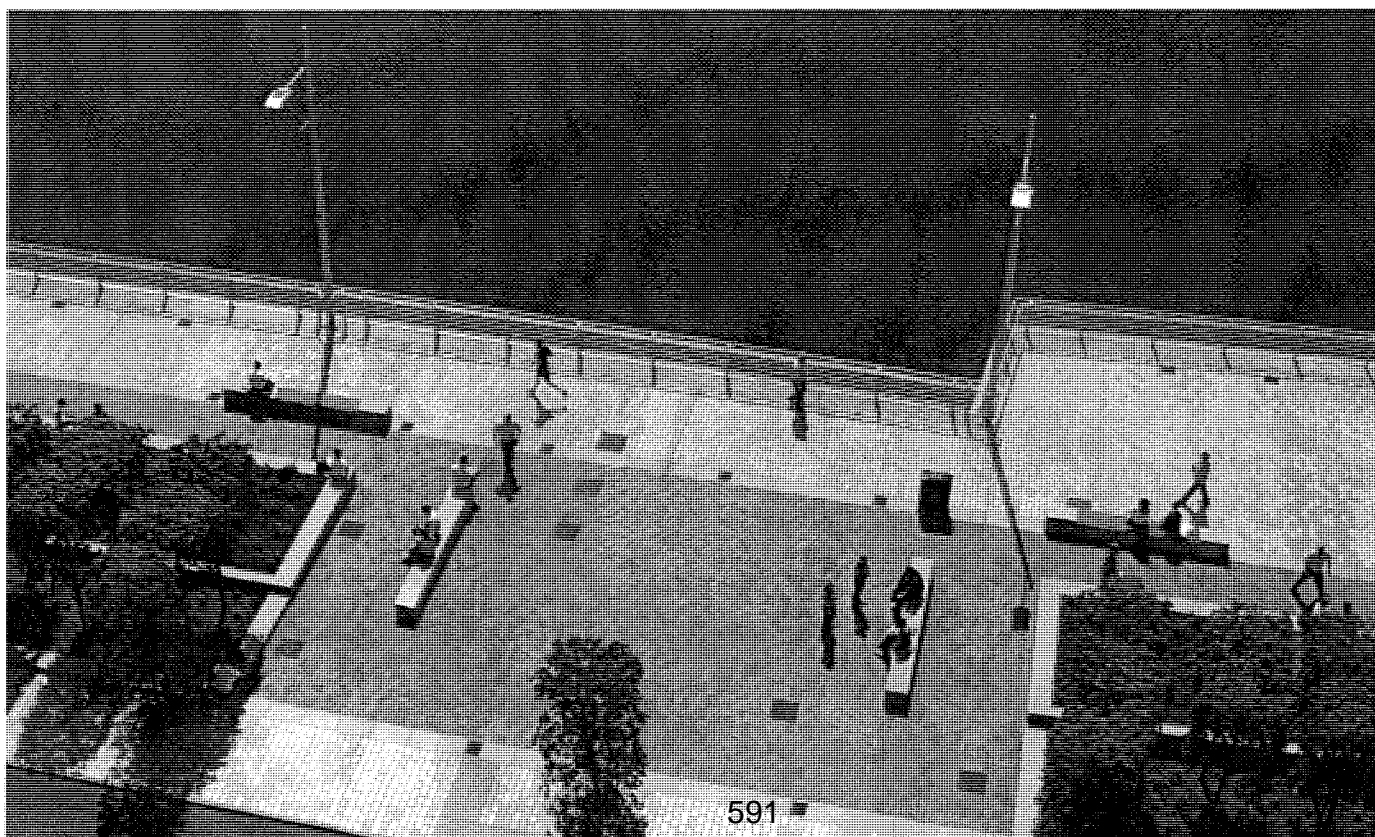
If possible, semi-mature trees should be planted. Slow-growing species with narrow trunks and canopies above 2 m should be considered.

Maintenance arrangements for all planted areas need to be established at an early stage, as they affect the design, including the choice of species and their locations. The approval and maintenance of proposed planting within the street boundary will be required to comply with Sections 50 and 51 of the *Roads (Scotland) Act 1984*.<sup>40</sup>

Alternatives to formal adoption may require innovative arrangements to secure long-term management of planting. These may include the careful design of ownership boundaries, the use of covenants and annual service charges on new properties.



Detail



## Materials

### Key considerations

- ❑ Materials should be distinctive, easily maintained, provide durability and be of a standard and quality to appeal visually within the specific context

### Materials and construction

Places need to look good and work well in the long term. Design costs are only a small percentage of the overall costs, but it is the quality of the design that makes the difference in creating places that will stand the test of time. Well-designed places last longer and are easier to maintain, thus the costs of the design element are repaid over time. The specification for materials and maintenance regimes should be written to provide high standards of durability and environmental performance. Maintenance should be straightforward and management regimes should ensure that there are clear lines of responsibility. The long term success of places can be as dependent on visual appeal as durability. The quality of the design and its appropriateness to an area can have a significant effect on the extent to which a place is liked and well-used.

Local authorities should be prepared to allow the use of alternative materials, landscaping treatments and features to those normally approved if they will help to create a positive sense of place and enhance context.

It is recommended that all materials:

- ❑ are easy to maintain;
- ❑ are safe for purpose;
- ❑ are durable;
- ❑ are sustainable (including the manufacturing process and energy use);
- ❑ are appropriate to the context; and
- ❑ provide clear street definition and hierarchy.

### Arrangements for future maintenance

It is important that decisions on the future maintenance arrangements of the streets and public spaces in a development are made early in the design process. If the streets are to be adopted by the local roads authority, the layout and material choices must be acceptable to the authority.

It is possible for streets to remain private but, ideally, a properly-constituted body with defined legal responsibilities will need to be established to maintain the streets to the common benefit of residents.

A road authority will require legal certainty that the streets are going to be properly maintained in perpetuity by these private arrangements. Approval for construction of new private streets will be required under Sections 17 and/or 21 of the *Roads (Scotland) Act 1984* and, under Section 13 of this Act, the local roads authority has powers to require a private road is maintained to a reasonable standard (as set by the authority).

A roads authority may be unwilling to adopt items such as planting and street furniture (e.g. play equipment and public art) which are not considered to relate to the movement functions of the street. If there is no private management company, arrangements can be made for such features to be maintained by another local authority department.



## Reducing clutter

### Key considerations

- Signs and street markings should be kept to a minimum and considered early in the design process
- Street lighting should be as discreet as possible, but provide adequate illumination
- Street furniture should be located for maximum benefit and to reduce pedestrian obstruction

### Traffic signs

*The Traffic Signs Regulations and General Directions 2002*<sup>41</sup> (TSRGD), is a regulatory document which details every traffic sign prescribed for use in the UK. It includes all of the prescribed road markings, as a road marking is legally a sign. *TSRGD* also stipulates the conditions under which each sign may be used.

Further advice on the use of signs is contained in the *Traffic Signs Manual*,<sup>42</sup> which gives advice on the application of traffic signs in common situations. Compliance with *TSRGD* is mandatory. The *Traffic Signs Manual* is guidance and there is therefore scope for moving away from its recommendations if justified by local circumstances.

### The requirement for signs

No sign is fundamentally required by *TSRGD* per se. Signs are only needed to warn or inform, or to give effect to Traffic Regulation Orders (TROs) and *TSRGD* simply sets out how signs must be used once it has been decided that they are necessary.

Signs are most effective when used sparingly. Designers should ensure that each sign is necessary – they should use the flexibility within the *TSRGD* and associated guidance documents to ensure that signs are provided as required, but do not dominate the visual appearance of streets.

The non-provision of signs and markings may be appropriate in lightly-trafficked environments specifically designed to promote low speeds. It reduces clutter and the relative lack of signage may also itself encourage lower vehicle speeds.

Signs which have no clear purpose should be removed to reduce clutter and to ensure that essential messages are prominent. Although much signage is provided for the benefit of motorised users, it is generally located on the footway and can contribute to clutter.

In the case of new developments, some road authorities seek to guard against having to install additional signs at their own expense later, by requiring all manner of signs to be provided by the developer at the outset. This will lead to clutter and is not recommended. The preferred way of addressing such concerns is to issue a bond to cover an agreed period, so that additional signs, if deemed absolutely necessary, can be installed later at the developer's expense if required.



Inappropriate signage



Overly dominant signage that detracts from the place

John Thompson & Partners

Detail

Andrew Cameron WSP

It is desirable to limit the number of posts in footways. Where possible, signs should be attached to adjacent walls, not more than 2 m from the edge of the carriageway, or be grouped on posts.

Existing streets should be subject to a signs audit to ensure that they are not over-signed and, in particular, that old, redundant signs have been removed.

The use of centre lines is not an absolute requirement. There is some evidence that, in appropriate circumstances, the absence of white lines can encourage drivers to drive at lower speeds.

Most unsignalised junctions are designed assuming a dominant flow, with priority indicated by give-way signs and markings. There is no statutory requirement for junction priority to be specified. Unmarked junctions that require drivers to 'negotiate' their way through may be appropriate on lower volume streets, as this can help to control speeds.

### Street furniture

Every piece of street furniture should earn its place in the street.

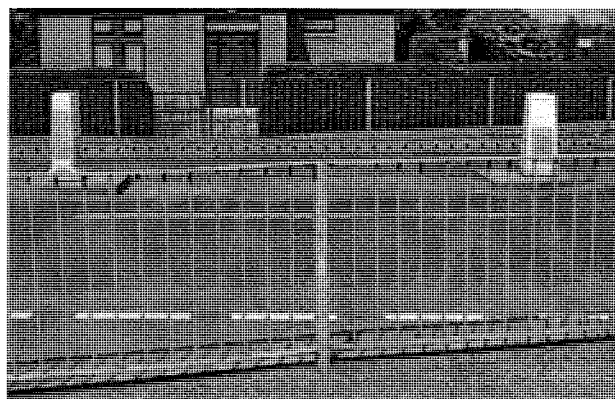
Street furniture should have a clear function and should not be regarded as simple ornamentation. Street furniture should be integrated into the overall design of a street and relate to context.

Street furniture that encourages human activity can also contribute to a sense of place. The most obvious example of this is seating, or features that can act as secondary seating such as low walls or planters. Wherever possible, street furniture should perform more than one function in the interests of reducing clutter and improving amenity.

Seating is necessary to provide rest points for pedestrians, particularly older people or people with mobility or visual impairments, and extra seating should be considered where people congregate, such as squares, local shops and schools. Guidance is given in *PAN 78 Inclusive Design and BS 8300*.<sup>43</sup> Seating can sometimes attract anti-social behaviour and therefore should be located where there is good lighting and natural surveillance.

### Guard railing

Guard railing should not be provided unless a clear need for it has been identified. Introducing measures to reduce traffic flows and speeds may be helpful in removing the need for guard railing. In most cases, it is unlikely that guard railing will be required on residential streets.



As well as being visually intrusive, the inappropriate use of guard railings can block pedestrian sightlines, with consequential possible dangers.

## Lighting

Where streets are to be lit, lighting should be planned as an integral part of the design of the street layout at an early stage. Lighting should illuminate both the carriageway and the footway.

Consideration should be given to attaching lighting units to buildings to reduce street clutter. Under Section 35 (5) of the *Roads (Scotland) Act*, local authorities have the power to fix lighting to walls and buildings, subject to a statutory consultation with involved parties and a specified notice period.

Lighting should be appropriate and sympathetic to the context. A street lighting assessment can be helpful in determining both the level of lighting and the type of equipment used in the area.

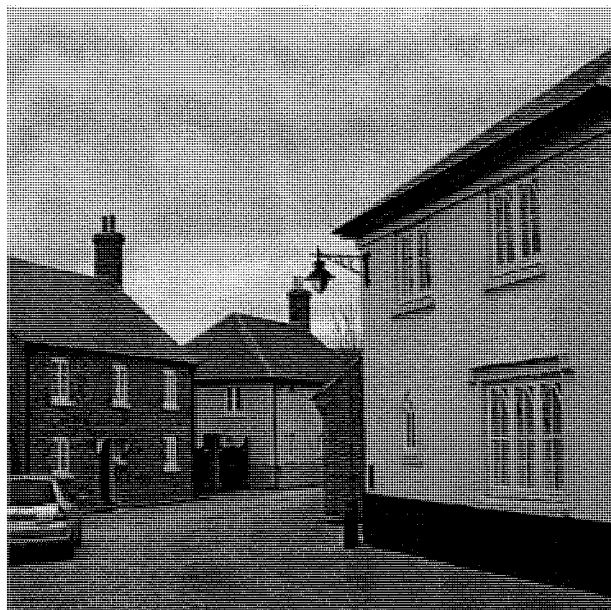
In street design, consideration should be given to the purpose of lighting, the scale of lighting relative to human users of the street, the width of the street and the height of surrounding buildings.

Where road and pedestrian area lighting are both required, some road authorities install lamp columns featuring a secondary footway light mounted at a lower height. This can assist in illuminating pedestrian areas well, particularly where footways are wide or shaded by trees.

The colour of lighting is another important consideration. This relates both to people's ability to discern colour under artificial light and the colour 'temperature' of the light. Light colour temperature is a consequence of the composition of the light, ranging simply from blue (cold) to red (warm). Generally, pedestrians prefer whiter lighting.

Lighting should generally be in accordance with *BS EN 13201-2*,<sup>44</sup> *BS EN 13201-3*,<sup>45</sup> and *BS EN 13201-4*.<sup>46</sup> Guidance on lighting design is given in *BS 5489-1, Code of Practice for the Design of Road Lighting*,<sup>47</sup> to comply with the requirements of *BS EN 13201*. This is a guidance document only and local circumstances may require different approaches.

Further guidance is contained within *Controlling Light Pollution and Reducing Lighting Energy Consumption*,<sup>48</sup> *PAN 51: Planning, Environmental Protection and Regulation*<sup>49</sup> and *PAN 77: Designing Safer Places*.



Building-mounted lighting

Andrew Cameron WSP

# How to achieve better outcomes



### How to achieve better outcomes

*Designing Streets* recognises that good design requires to be supported by an informed process. The large number of stakeholders involved in street design demands that the overlaps between professionals, decision makers and the public are fully integrated and work in a collaborative way.

## policies

- Street design should be based on balanced decision-making and must adopt a multidisciplinary collaborative approach
- Street design should run planning permission and Road Construction Consent (RCC) processes in parallel

### Joint working processes

Street design involves a wide range of contributors and it is essential that these individuals and organisations work together from the earliest point towards a common objective – the delivery of distinctive streets where functionality is accommodated within a positive sense of place.

It is important for the various parts of local authorities to work together when giving input to a development proposal. Developers may be faced with conflicting requirements if different parts of local authorities fail to coordinate their input. This can cause delay and a loss of design quality. This is particularly problematic when one section of a local authority – for example the roads adoption/Roads Construction Consent (RCC) or maintenance engineers – become involved late in the process and require significant changes to the design. A collaborative process of partnership and cooperation is required from the outset between all relevant parties.

Similarly, it is vital that developer teams also work in an integrated manner to deliver quality street design and provide appropriate interfaces with local authorities and other stakeholders. Engagement with agencies is encouraged as early as possible, preferably at pre-application stage. Detailed policy issues must be addressed as early in the process as possible in order to integrate solutions and streamline processes.

Ongoing dialogue between all parties – developer teams, authorities, agencies, the public including disability groups and access panels – is essential.



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## Case study

### PARC Craigmillar, Edinburgh

PARC Craigmillar is a joint venture company between the ECI Group Ltd and the City of Edinburgh Council. Together with groups and representatives from the Craigmillar community, the Company works on the regeneration of the Craigmillar area in Edinburgh.

Central to the regeneration project is the innovative approach to street design. The project contains successful Shared Space/ Home Zone areas and level surfaces that link the residential streets and new primary schools campus, providing an area in which vehicle movement is secondary to the activity of pedestrians.

Much of the Shared Space area is constructed with permeable paving, which integrates drainage functions within the on-street parking bays and carriageway built-up. This design of the carriageway was undertaken in a collaborative process with the City of Edinburgh Council, to a standard that allowed the Council to adopt the streets including the areas of permeable paving. Careful and efficient incorporation of underground utilities and services was paramount to ensure the successful design of these streets.

PARC Craigmillar's Shared Space development at Waverley Square has been nationally recognised – winning the best Home Zone category in the UK Street Design awards 2006, awarded by Local Government News.

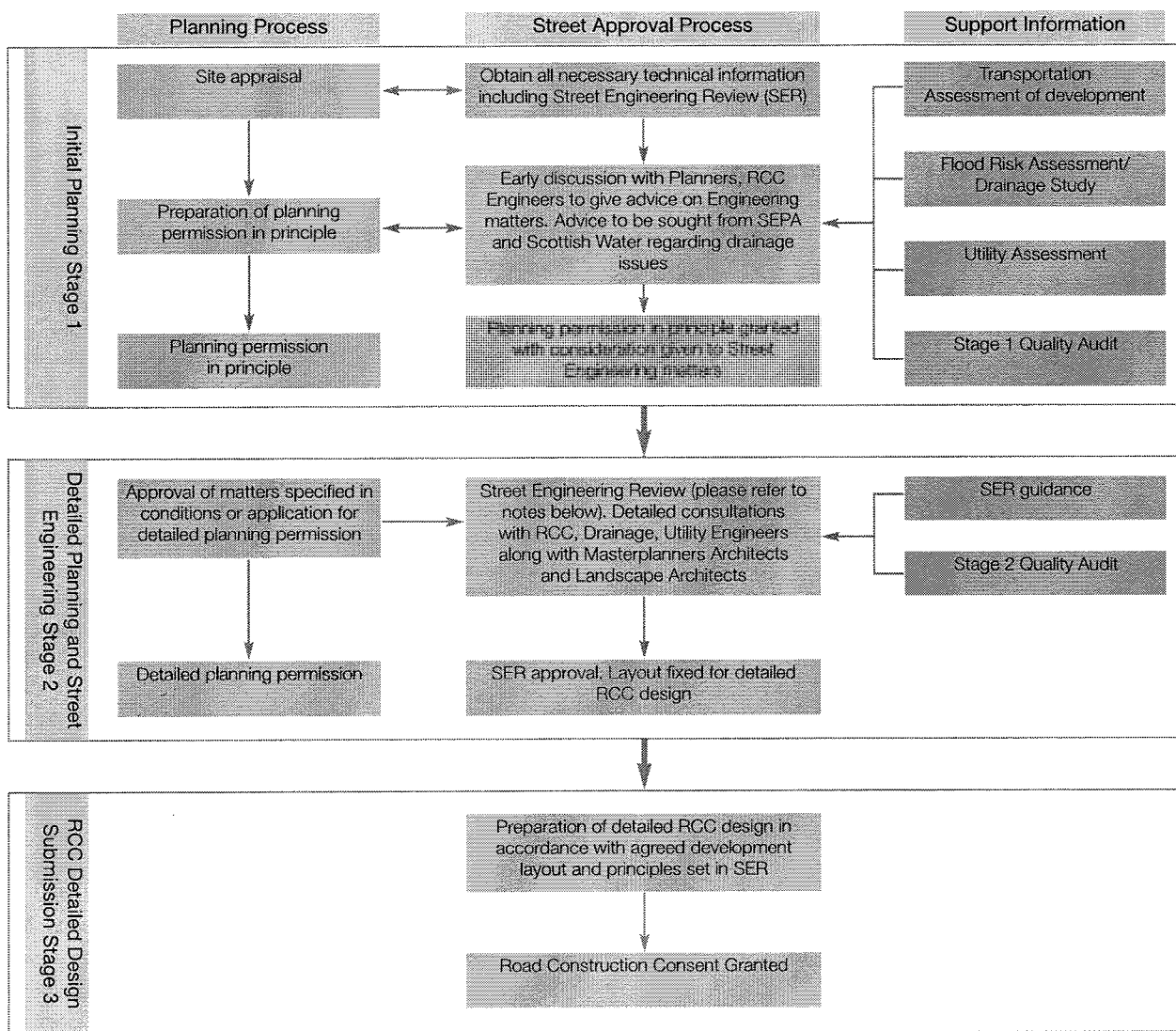
This work at Craigmillar illustrates how many of the functions of streets can be integrated in both innovative designs and collaborative processes that result in streets with a distinctive and positive character and excellent functionality.



## Joint planning permission & RCC processes

Research carried out for the Scottish Government in 2005 identified ways in which the Roads Construction Consent process could be better integrated with the planning approval process. This process has now been updated accordingly, and will provide greater certainty for developers taking forward more innovative designs and meet government objectives for streamlining the planning process. The chart below illustrates a method to follow to comply with the national policy on this matter.

### Residential street approval process



### Street Engineering Review (SER) Notes

Undertake SER in accordance with Local Authority guidance and relevant national policy/guidance (e.g. *Designing Streets*).

SER to include areas such as:

- Agreement of street layout including landscaping proposals in relation to the following:
  - Vehicle tracking of layout (particular attention to be given to refuse vehicles and buses)
  - Approval of key visibility splays
  - Speed control
  - Agreement of drainage discharge rates
  - Agreement of SUDS techniques
  - Schematic drainage layout for foul and surface water including dimension requirements against building and landscaping
  - Key materials palette
  - Utilities strategy

In some instances, insufficient detail may exist at planning permission in principle stage to justify RCC processes to take place. Balanced decisions on individual applications are required.

## Quality Audits

The Quality Audit process aims to allow for more innovative design solutions where over safety-cautious practices can be omitted in favour of creating places that are high quality and enjoyable to use.

A Quality Audit draws together assessments by various professionals, and each may be undertaken within particular guidelines. By grouping the assessments together, any compromises in the design will be apparent, making it easier for decision makers to view the scheme in the round.

Quality Audits can ensure that street designs are appropriate and meet the objectives agreed at the outset. Documented audit and sign-off systems also provide a strong defence against any liability claims that may arise after the scheme has been implemented.

Quality Audits are particularly beneficial in the following circumstances:

- ❑ at option testing stage;
- ❑ at pre-application stage;
- ❑ where strong tensions exist between different objectives, a Quality Audit will aid more balanced decision-making;
- ❑ for schemes within existing streets, where a quality audit will provide an opportunity for decision-makers to make a balanced assessment of different considerations before approving a particular solution; and
- ❑ for smaller schemes where no Design Statement will be required.

The audit may include documents required by the local planning authority to support an application.

A Quality Audit should be integral to the design and implementation and not a tick box exercise. A typical audit may include some of the following assessments but the content will depend on the type of scheme and the objectives which the scheme is seeking to meet:

- ❑ an audit of visual quality
- ❑ a review of how the street will be used by the community
- ❑ a Road Safety Audit
- ❑ an inclusive access audit
- ❑ a walking audit
- ❑ a cycle audit

## Road Safety Audits (RSA)

The purpose of the RSA is to identify potential road safety problems. Road Safety Audits can be a key component within an overall Quality Audit. Road Safety Audits are routinely carried out for many road schemes. The Institution of Highways and Transportation (IHT) Guidelines on RSA sit alongside the relevant standard contained in *DMRB* as the recognised industry standard documents in the UK. The procedures set out in *DMRB*, however, are a formal requirement for trunk roads only.

It is important to understand that RSAs are not mandatory for local road authorities. Many residential streets, where the design is carried out by a developer's consultant, are assessed independently by the local roads authority. In many authorities, there is no requirement for a further check by a Roads Safety Audit team, particularly where it is clear that motorised traffic volumes and speeds, and the degree of potential conflict between different user-groups, is not going to be significant.

An RSA is not a check on compliance with design standards. Audits should take all road users into account, including pedestrians and cyclists. The auditor reviews the proposals and the local authority decides whether or not to accept particular recommendations.

It is also important to note that the design team retains responsibility for the scheme and is not governed by the findings of the report. There is, therefore, no sense in which the scheme passes or fails the RSA process. Designers do not have to comply with the recommendations of a Safety Audit although, in such cases, they would be expected to justify their reasoning within a written report.

The process set out in *DMRB* requires the audit team to be independent of the design team, and road safety issues are therefore often considered in isolation from visual quality and successful place-making issues. It can therefore be difficult to achieve a balanced design through dialogue and compromise. The requirement for independence need not, however, prevent contact between the design team and the audit team throughout the process.

The involvement of road safety professionals as an integral part of the design team is recommended to help to overcome problems. This allows ideas to be tested and considered in more balanced and creative ways, and should overcome situations where perceived safety issues lead to late changes to schemes, often to the detriment of design quality.

Another area of concern with the current system is that RSAs may seek to identify all possible risks without distinguishing between major and minor risks, or quantifying the probability of them taking place. There can also be a tendency for auditors to encourage designs that achieve safety through segregating vulnerable road users from road traffic. Such designs can perform poorly in terms of streetscape quality, pedestrian amenity and security and, in some circumstances, can actually reduce safety levels.

It would therefore be useful if RSAs included an assessment of the relative significance of any potential safety problems. A risk assessment to consider the severity of a safety problem and the likelihood of occurrence would make it considerably easier for decision-makers to strike an appropriate balance. An example of a risk assessment framework is given in *Highway Risk and Liability Claims*.<sup>50</sup>

## Conclusion

Good street design impacts upon a wide variety of issues, and it is, thus, essential for all those involved in designing streets to work productively to achieve the goals of this policy document.

The design rationale, processes and justification for a new approach to street design have been clearly laid out. It is, however, of central importance that individuals and organisations

adopt both the spirit and the detail of this policy and engage in a proactive manner.

The outcomes for all of those involved in street design are not simply designs, approvals or agreements: they are the delivery of new lively, vibrant and sustainable places of which Scotland can be proud for generations to come.



## Annex Technical questions and answers

### What is the legal and technical context?

A complex set of legislation, policies and guidance applies to the design of streets. There is a tendency among some designers and approving authorities to treat design guidance as hard and fast rules because of the mistaken assumption that to do otherwise would be illegal or counter to a stringent policy. This approach is wrong. It restricts innovation, and leads to standardised streets with little sense of place or quality. In fact, there is considerable scope for designers and approving authorities to adopt a more flexible approach on many issues. It is, therefore, Scottish Government policy in *Designing Places* and *Designing Streets* to encourage street design which engenders place and quality.

By copying a standard example without due consideration, designers abdicate their own professionalism. When doing so, they still retain responsibility for the design, as it is their decision to copy a standard example which has been produced by individuals who may never have seen the site in question, and which may therefore not be suitable.

The following comprise the various tiers of instruction and advice:

- ▶ the legal framework of statutes, regulations and case law
- ▶ government policy
- ▶ government guidance
- ▶ local policies
- ▶ local guidance
- ▶ design standards
- ▶ evidence and research base and the concept of 'evidence-based design'

The Westminster and Scottish Parliaments and the Courts have established the legal framework. In this respect, certain aspects of transport are reserved to Westminster in terms of the *Scotland Act 1998*<sup>1</sup>. For example, this includes the provisions which are the subject matter of the *Road Traffic Act 1998*<sup>2</sup>, namely traffic signs and speed limits.

The Scottish Government develops policies aimed at meeting various objectives which roads and planning authorities are directed to follow. *Designing Places* and *Designing Streets* are such policies. It also issues supporting guidance to help authorities implement these policies, including the guidance in this document.

Evidence-based design has been developed as a concept within recent years. A distinction needs to be drawn between policies, guidance and practices that are, in essence, rule of thumb and that reflect simply a continuation of a conventional approach, and those that are based on science, statistics and designed experimental studies, and regularly challenged to ensure that they are relevant to modern needs and conditions. *Designing Streets* is supported by an evidence base.

Within this overall framework, road and planning authorities have considerable leeway to develop local policies and standards, and to make technical judgements with regard to how they are applied. Other bodies also produce advisory and research material on which they can draw.

### What is the risk and liability?

Concerns around risk and liability frequently lead to the rigid application of standards that can stifle design-led, contextual approaches. Roads authorities have often applied a very cautious approach in order to avoid potential liability in the event of damage or injury.

This over-cautious approach is ill-advised, and restricts innovation and responses to local context. Recent case law has established that drivers are primarily responsible for their own safety and although road authorities have a general duty under Section 39 of the *Road Traffic Act 1988* to promote safety, this does not create a duty of care.

A major concern expressed by some road authorities when considering more innovative designs, or designs that are at variance with established practice, is whether they would incur a liability in the event of damage or injury.

This can lead to an over-cautious approach, where designers simply comply with guidance regardless of its suitability, and to the detriment of innovation. This is not conducive to creating distinctive places that help to support thriving communities.

In fact, imaginative and context-specific design that does not rely on conventional standards can achieve high levels of safety. The design of Poundbury in Dorset, for example, did not comply fully with standards and guidance then extant, yet it has very few reported accidents. This issue was explored in some detail in the publication *Highway Risk and Liability Claims 2009*.

Claims against road authorities relate almost exclusively to alleged deficiencies in maintenance. Claims for design faults are extremely rare. The duty of the road authority to maintain the road is set out in the *Roads (Scotland) Act 1984*, and case law has clarified the law in this area.

The courts in Scotland have adopted a cautious approach when considering the duty of care potentially owed by roads authorities. Merely because a roads authority has powers, this does not generally open up the authority to liability. The circumstances in which roads authorities have been held liable in damages have been very restricted. The restrictive approach has also been adopted in circumstances where the risk of an accident may well be foreseeable. (See *Murray v Nichols* and *Bennett v J J Lamont & Sons*).

The Scottish line of authority has been recently reinforced by the House of Lords in the case of *Gorringe v. Calderdale MBC* (2004). A claim was made against a highway authority in England ('roads' authority in Scotland) for failing to maintain a 'SLOW' marking on the approach to a sharp crest. The judgement confirmed a number of important points which were that:

- ▶ the authority's duty to 'maintain' covers the fabric of a highway, but not signs and markings;
- ▶ there is no requirement for the road authority to 'give warning of obvious dangers' and natural road hazards; and
- ▶ drivers are 'first and foremost responsible for their own safety'.

A handful of claims for negligence and/or failure to carry out a statutory duty have been made under section 39 of the *Road Traffic Act 1988*, which places a general duty on road authorities to promote road safety. In connection with new roads, Section 39 (5)(c) states that road authorities 'in constructing new roads, must take such measures as appear to the authority to be appropriate to reduce the possibilities of such accidents when the roads come into use'.

The *Gorringe v. Calderdale* judgment made it clear that Section 39 of the *Road Traffic Act 1988* did not create a duty of care and, therefore, does not form the basis for a liability claim.

Advice to road authorities on managing their risks associated with new designs is given in Chapter 5 of *Highway Risk and Liability Claims* (2009). In summary, this advises that authorities should put procedures in place that allow rational decisions to be made with the minimum of bureaucracy, and create an audit trail which could subsequently be used as evidence in court.

Suggested procedures include the following key steps:

- ▶ set clear and concise scheme objectives;
- ▶ work up the design against these objectives; and
- ▶ review the design against these objectives through a quality audit.

### Balanced decisions

A suggested framework from *Highway Risk and Liability Claims* (2009) which accords with those set out in *Designing Streets* is:

**Vision** – there should be an overall vision for an area that reflects local and national policy and, where appropriate, the views of the local community

**Objectives/Purpose** – there should be a robust understanding of what the scheme is intended to do. This will normally include balancing:

- ▶ movement and place;
- ▶ risk and opportunity; and
- ▶ ensuring sustainability.

**Design** – this should be worked up against the objectives

**Quality audit** – this is a review of the design against the objectives set

## What are the issues regarding disability discrimination?

Road and planning authorities must comply with the Disability Equality Duty under the *Disability Discrimination Act 2005*. This means that in their decisions and actions, authorities are required to have due regard to six principles, which are to:

- ▶ promote equality of opportunity between disabled persons and other persons;
- ▶ eliminate discrimination that is unlawful under the 2005 Act;
- ▶ eliminate harassment of disabled persons that is related to their disabilities;
- ▶ promote positive attitudes towards disabled persons;
- ▶ encourage participation by disabled persons in public life; and
- ▶ take steps to take account of disabled persons' disabilities, even where that involves treating disabled persons more favourably than other persons.

Those who fail to observe these requirements will be at the risk of a claim. Not only is there an expectation of positive action, but the duty is retrospective and local authorities will be expected to take reasonable action to rectify occurrences of non-compliance in existing areas.

The Disability Rights Commission (DRC) has published a *Statutory Code of Practice on the Disability Equality Duty*<sup>1</sup> and it has also published specific guidance for those dealing with planning, buildings and the street environment.

## What are the adoption and maintenance issues?

### Key considerations

- ▶ The quality of the environment created by new development needs to be sustained long after the last property has been occupied. This requires good design and high-quality construction, followed by good management and maintenance.
- ▶ Authorities are encouraged to adopt a palette of suitable local and natural materials which allow for more creative design whilst being practical to maintain.
- ▶ Resource efficiency and sustainability should be addressed through the use of appropriate materials and systems including SUDS.
- ▶ The inclusion of planting (in particular street trees) is encouraged within the street environment.

### Roads adoption – legal framework

Provision of roads for new developments is controlled and consented by the local roads authority through the Roads Construction Consent (RCC) process, governed by Section 21 of the *Roads (Scotland) Act 1984*. For the purposes of adoption, all streets are deemed to be roads under this Act.

Under the terms of the RCC, having first secured technical approval of the designs from the local authority, the developer is obliged to construct roads over which there is a public right of passage to an agreed standard. Expenses will be payable by the developer to the roads authority to cover its reasonable costs in inspecting the construction of the works and associated testing.

The Roads (Scotland) Act 1984 sets out the obligations of the developer to construct the roads and maintain them for a set period of normally 12 months. Following the satisfactory discharge of these obligations, the new roads can be offered to the roads authority for adoption. If the road is adopted, it will in the future be maintainable by the roads authority.

### Road Bond Security

Where Roads Construction Consent is granted relative to roads associated with housing development, the granting of the consent will require the deposit of sum or surety (Roads Bond) sufficient to meet the cost of constructing the road. The purpose of this bond is to enable the roads authority to meet the cost of constructing or completing the construction of the roads, should the developer fail in his responsibility to do so under the terms of the granted RCC.

Before any roads works commence on such a housing development, the developer will normally be required to have both the Roads Construction Consent and the Roads Bond in place.

Thus, before any construction begins, the developer will normally be required either:

- ▶ to secure the payment of the estimated cost of the road works under the requirements of the Roads (Scotland) Act 1984; or
- ▶ to make an agreement with the road authority under terms of the Act and provide a Bond of Surety.

### Private streets

Where a developer wishes streets to remain private, some roads authorities have incorporated conditions into the planning approval to require the developer to design, construct and to make arrangements for the future maintenance of the new streets to a standard acceptable to the authority. This agreement may still require the submission and approval of an RCC under the terms of Section 21 of the Act.

### Landscape features adoption

Maintenance arrangements for all planted areas should be established at an early stage, as they affect the design, including the choice of species and their locations. The approval and maintenance of proposed planting within the road boundary will be required to comply with Sections 50 and 51 of the Roads (Scotland) Act 1984.

Alternatives to formal adoption may require innovative arrangements to secure long-term landscape management. These may include the careful design of ownership boundaries, the use of covenants and annual service charges on new properties.

### What is adoptable?

The roads authority has considerable discretion in exercising its powers as to whether to grant a Roads Construction Consent under Section 21 of the Act.

A roads authority can be required to adopt a road constructed in accordance with an RCC. The streets put forward for adoption must be constructed to the agreed standard and will be subject to a 12 month period of use as a road whilst being maintained to the agreed standard by the developer.

Roads authorities have tended to only adopt streets that serve more than a particular number of individual dwellings or more than one commercial premises. Two to three dwellings is often set as the lower limit, but some authorities have set figures above this.

### Design standards for Road Construction Consent

Roads authorities are now encouraged to take a flexible approach to road adoption in order to allow greater scope for designs that respond to their surroundings and create a sense of place. It is recognised, however, that roads authorities will need to ensure that any future maintenance liability is kept within acceptable limits.

One way of enabling designers to achieve local distinctiveness without causing excessive maintenance costs will be for roads authorities to develop a limited palette of special materials and street furniture. Such materials and components, and their typical application, could, for example, be set out in local design guidance and be adopted as a planning policy.

Clear cases must be made where the adoption of designs are sought that differ substantially from those envisaged in a local authority's design guide or *Designing Streets*. Developers should produce well-reasoned design arguments in relation to this.

Roads authorities would normally be expected to adopt:

- ▶ residential streets, combined footways and cycle tracks;
- ▶ footways adjacent to carriageways and main footpaths serving residential areas;
- ▶ Home Zones and level surface streets;
- ▶ land within visibility splays at junctions and on bends (in some cases);
- ▶ street trees;
- ▶ any verges and planted areas adjacent to the carriageway;
- ▶ structures, i.e. retaining walls and embankments, which support the road or any other adoptable area;
- ▶ street lighting;
- ▶ gullies, gully connections and road drains and other road drainage features;
- ▶ on-street parking spaces adjacent to carriageways; and
- ▶ service strips adjacent to level surface streets.

### Private management companies/factors

Any unadopted communal areas will need to be managed and maintained through private arrangements. Typical areas maintained in this way include communal gardens, shared off-street car parking, shared cycle storage, communal refuse storage and composting facilities and sustainable energy infrastructure.

### Approval processes for new streets

The design and approval of new streets is governed by both planning and roads legislation. The design process must therefore recognise both sets of requirements. *The Roads (Scotland) Act 1994* is the primary legislation for new roads, and all new roads must receive RCC under Section 21 of that Act prior to construction. Previous practice applied by most local authorities dictates that the formal RCC approval process only starts with the granting of planning permission, or at least with the agreement of the final planning layout. The process thus results in a 2-stage (planning and roads) approval process that not only significantly extends the overall statutory approval process and delays commencement of development construction but, by more rigid application of engineering requirements at this 2nd stage, can lead to a dilution of overall design quality.

Street design requires an integrated approach to approval, involving collaboration between planning officers and RCC engineers. In this way, roads colleagues will be satisfied with the fundamentals of the development proposal, and can approve it in principle concurrent with the granting of planning permission. RCC engineers will have an important role to play as consultees in the planning application process. It is as a consultee that the roads authority can ensure that an appropriate 2-stage approach is adopted. The roads authority should be satisfied that sufficient information has been provided with the planning application to ensure that a subsequent RCC reflecting the design will not alter the details approved under the planning permission. These discussions should take place as early as possible – before a layout is worked up and a planning application submitted. It is important that any principles that have been agreed at this point in the design process are not revisited later, unless there has been a significant change in circumstances.

Planning policies should set the overall benchmark for the design quality of any new development, which includes the new streets as a key part of the public realm. This is why local authorities should have specific planning policies on street design ideally within the development plan, or as Supplementary Planning Guidance (SPG). Planners and road engineers should work together to ensure policies are up to date and allow for the most appropriate street patterns.

The flow chart contained in Part 3 of this document shows how a more integrated system should operate, and the key design decisions which would need to be taken, and signed off, at each stage.

### Adoption of SUDS

Adoption issues will need to be clarified at an early stage in the design process, with the likely adopting authorities, Scottish Water, local authority and potential private bodies. The amendments to Section 7 of the *Sewerage (Scotland) Act 1968* published within *SUDS for Roads*, focus on adoption of SUDS at a regional level by encouraging a collaborative approach to shared systems between local authorities and Scottish Water. It is important for a continuous, team-based approach to this matter.

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# Scottish Planning Policy

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# **Scottish Planning Policy**

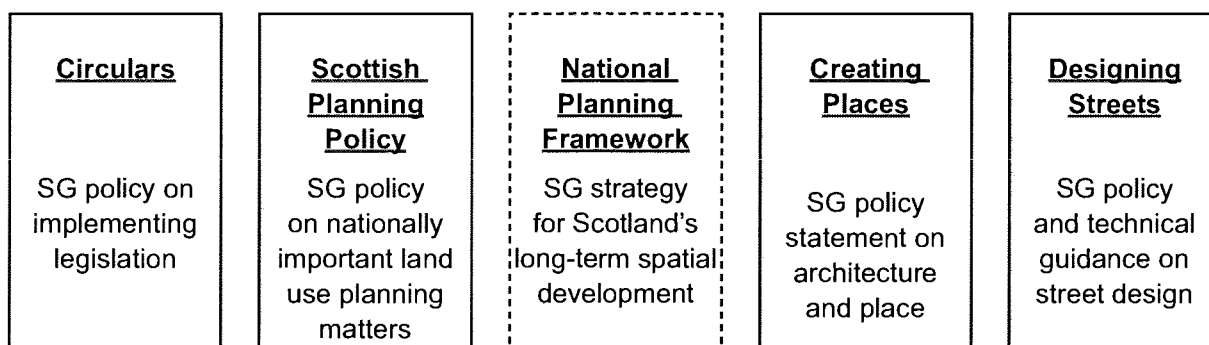
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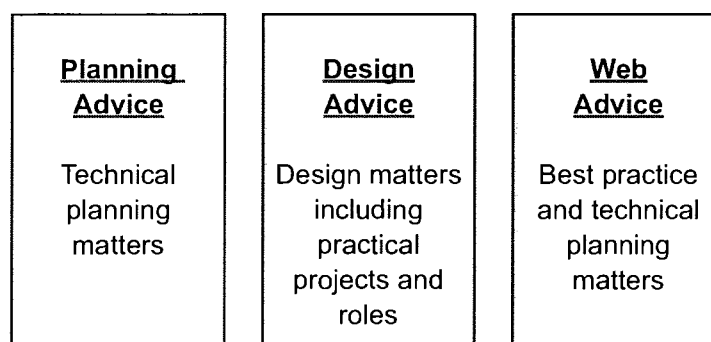
# Planning Series

The Scottish Government series of Planning and Architecture documents are material considerations in the planning system.

## Planning and Architecture Policy



## Planning and Design Advice and Guidance



Further information is available at: [www.scotland.gov.uk/planning](http://www.scotland.gov.uk/planning)

This SPP replaces SPP (2010) and Designing Places (2001)

statutory

non-statutory

# Scottish Planning Policy (SPP)

## Purpose

**i.** The purpose of the SPP is to set out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development<sup>1</sup> and use of land. The SPP promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances. It directly relates to:

- the preparation of development plans;
- the design of development, from initial concept through to delivery; and
- the determination of planning applications and appeals.

## Status

**ii.** The SPP is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed across the country. It is non-statutory. However, Section 3D of the Town and Country Planning (Scotland) 1997 Act requires that functions relating to the preparation of the National Planning Framework by Scottish Ministers and development plans by planning authorities must be exercised with the objective of contributing to sustainable development. Under the Act, Scottish Ministers are able to issue guidance on this requirement to which planning authorities must have regard. The Principal Policy on Sustainability is guidance under section 3E of the Act.

**iii.** The 1997 Act requires planning applications to be determined in accordance with the development plan unless material considerations indicate otherwise. As a statement of Ministers' priorities the content of the SPP is a material consideration that carries significant weight, though it is for the decision-maker to determine the appropriate weight in each case. Where development plans and proposals accord with this SPP, their progress through the planning system should be smoother.

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1 The Planning (Scotland) Act 2006 extends the definition of development to include marine fish farms out to 12 nautical miles.

**iv.** The SPP sits alongside the following Scottish Government planning policy documents:

- the National Planning Framework (NPF)<sup>2</sup>, which provides a statutory framework for Scotland's long-term spatial development. The NPF sets out the Scottish Government's spatial development priorities for the next 20 to 30 years. The SPP sets out policy that will help to deliver the objectives of the NPF;
- Creating Places<sup>3</sup>, the policy statement on architecture and place, which contains policies and guidance on the importance of architecture and design;
- Designing Streets<sup>4</sup>, which is a policy statement putting street design at the centre of placemaking. It contains policies and guidance on the design of new or existing streets and their construction, adoption and maintenance; and
- Circulars<sup>5</sup>, which contain policy on the implementation of legislation or procedures.

**v.** The SPP should be read and applied as a whole. Where 'must' is used it reflects a legislative requirement to take action. Where 'should' is used it reflects Scottish Ministers' expectations of an efficient and effective planning system. The Principal Policies on Sustainability and Placemaking are overarching and should be applied to all development. The key documents referred to provide contextual background or more detailed advice and guidance. Unless otherwise stated, reference to Strategic Development Plans (SDP) covers Local Development Plans outwith SDP areas. The SPP does not restate policy and guidance set out elsewhere. A glossary of terms is included at the end of this document.

<sup>2</sup> [www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Framework](http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Framework)

<sup>3</sup> [www.scotland.gov.uk/Publications/2013/06/9811/0](http://www.scotland.gov.uk/Publications/2013/06/9811/0)

<sup>4</sup> [www.scotland.gov.uk/Publications/2010/03/22120652/0](http://www.scotland.gov.uk/Publications/2010/03/22120652/0)

<sup>5</sup> [www.scotland.gov.uk/Topics/Built-Environment/planning/publications/circulars](http://www.scotland.gov.uk/Topics/Built-Environment/planning/publications/circulars)