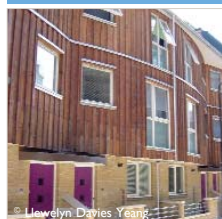


If you would like to find out more about the impact of Manual for Streets please contact our MfS team:

Alan Young
Senior Technical Director
Tel: +44 (0)121 352 4730
alan.young@wspgroup.com

Andrew Cameron
Technical Director
Tel: +44 (0)20 7314 5772
andrew.cameron@wspgroup.com



INFORMATION ONLY



TRANSFORMING STREETS, CREATING COMMUNITIES

MANUAL FOR STREETS SUMMARY

WSP has led the development of **Manual for Streets (MfS)** on behalf of the **Department for Transport**. **MfS** supersedes **Design Bulletin 32** and its companion document, **Places, Streets and Movement** and forms technical guidance for the design of residential, lightly trafficked and mixed use streets.

Many of the key principles set out in **MfS** are also applicable to other types of street, for example high streets and lightly trafficked lanes in rural areas.

This briefing note sets out the key findings and recommendations of **MfS**.

AIMS OF THE DOCUMENT

MfS will bring about a transformation in the quality of new and existing streets. This requires a fundamental change in working culture, which includes a more collaborative approach. People will need to think creatively about their various roles in the process of delivering streets, breaking away from standardised prescriptive risk-averse methods, to create high quality places inclusive of all people regardless of age or ability. The process is based on a clear user hierarchy of pedestrians, cyclists, public transport and finally, motor vehicles.

MfS is expected to be used predominantly for the design of new streets, but it is also applicable to existing streets where they are subject to re-design.

STREETS AND ROADS

A clear distinction can be drawn between streets and roads. **Roads** are essentially highways whose main function is accommodating the **movement** of traffic, whereas **streets** are part of the public realm with a **place** function that essentially distinguishes a street from a road.

Creating a sense of place is fundamental to the achievement of richer and more fulfilling urban spaces. It comes largely from achieving a strong relationship between the street and the buildings and public spaces that frame it; and the activities that go on there.

TEAM APPROACH

A common failing in the past has been that street design has been dominated by some stakeholders at the expense of others. This has often resulted in unimaginatively designed streets which have tended to favour motorists over other users. MfS aims to address this issue by encouraging a more holistic view, whilst assigning a higher priority to the needs of pedestrians, cyclists and public transport before other motorised vehicles.

Consultation with representatives of various user groups is important for informing the design of streets so that they meet the needs of all. Street design should be inclusive of all people regardless of age or ability. Poor design can exacerbate the problems of disabled people - good design can reduce or even eliminate them.

Streets should no longer be designed by assuming **Place** to be automatically subservient to **Movement**. Both should be considered in combination, with their relative importance depending on the street's function within the network. It is only by considering both aspects that the right balance will be achieved.

MASTERPLANS/SCHEME LAYOUTS

A masterplan that evolves through a collaborative process with key stakeholders will usually be more robust and realistic as a result. For smaller sites a simpler process will normally be appropriate, resulting in what may be termed a concept scheme layout.

Design codes are a distinct form of detailed design guidance, relating to the masterplan. They comprise two and three dimensional design elements such as layout, architectural and landscape considerations, and building performance issues such as increased energy efficiency. They can be valuable tools that help local authorities and developers deliver high quality and inclusive design.



1 An example of a large scale masterplan, Sherford new community near Plymouth.
© Red Tree LLP, The Prince's Foundation and Paul Murrain

LAYOUT AND CONNECTIVITY

Street networks should, in general, be connected. Connected, or 'permeable', networks encourage walking and cycling and make places more legible and easy to navigate. A consequence of this approach is that vehicular traffic is more evenly spread through an area. People should generally be able to walk or cycle along all-purpose streets rather than having to use paths that are segregated from motor traffic. People prefer to walk and cycle along streets where they feel comfortable and can be seen by drivers and residents as well as other pedestrians.

The desirability of public fronts and private backs applies equally to streets with higher levels of traffic, like those that link or provide access to residential areas. Such streets should be fronted by housing (or other development). If they are lined by back garden fences or hedges, security concerns are increased, drivers are encouraged to drive faster, land is inefficiently used and there is no sense of place.

DESIGN SPEED OF 20MPH

For lightly trafficked residential streets, a maximum design speed of 20mph should be encouraged. The severity of pedestrian injuries or the likelihood of death resulting from a collision at 20mph is considerably less than would be expected at 30mph. In addition, vehicle noise and intimidation of pedestrians and cyclists is likely to be significantly lower.

QUALITY PLACES

There is growing evidence that high quality public spaces, developments or buildings have far reaching benefits in terms of health and well being. However, evidence is also growing of the wider economic, social and environmental benefits of good urban design. Good design need not be considered as an avoidable expense - it should pay for itself.

Conflict between various user groups can be minimised or avoided by reducing the speed and flow of motor vehicles. Ideally, designers should aim to create streets which control vehicle speeds naturally rather than having to rely on traffic calming measures which involve vertical deflection. The aim should be to create an environment in which drivers and other street users recognise each other's presence, and in which pedestrians feel comfortable without the use of excessive measures that cause driver frustration.

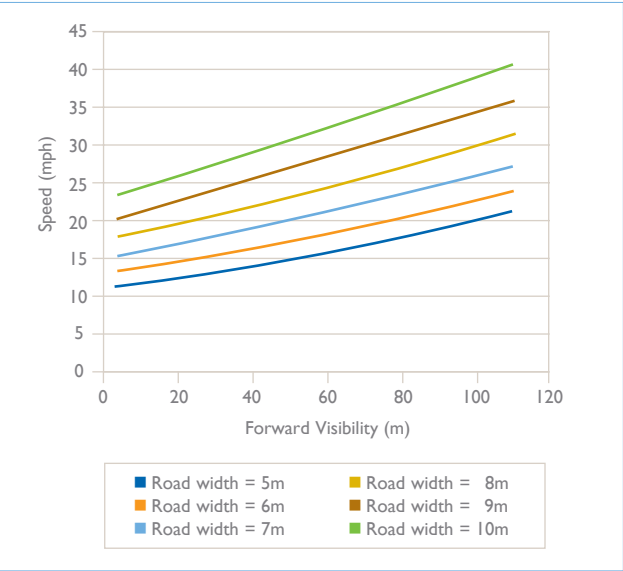
HIGHWAY STANDARDS

Visibility and Road Widths

Research carried out whilst developing MfS considered the influence of the local environment on vehicle speed and casualties. The research identified two highway geometric factors that particularly influence driving speed, all other things being equal:

- Visibility for drivers, on links and at junctions
- Carriageway width

Both of these features are influential in that improved visibility and/or increased carriageway width were found to correlate to increased vehicle speeds. The graph below identifies average speeds related to visibility and varying road widths and can be used as part of the design process.



Stopping Sight Distance

Stopping sight distance (SSD) is defined as the minimum distance that drivers need to be able to see ahead of themselves in order to stop if confronted by a hazard. Parameters used to calculate reaction time and rate of deceleration have remained unchanged for decades. These have been reviewed as part of MfS and significant reductions in SSD are now proposed as set out in the table below:

85th percentile wet weather speed	KPH	48	40	32	24	16
	MPH	30	25	20	15	10
Stopping Sight Distance (m)		40	31	22	15	9

Frontage Development

Further research carried out for MfS has shown that direct access to private drives does not result in safety problems, with few accidents being recorded. MfS therefore recommends permitting direct access to residential property off streets carrying up to 1,000 vehicles per hour, with the potential for these flow rates to increase based on analysis of local accident data.

PARKING

Parking demand and supply are key considerations when designing streets. Simply limiting the amount of residential parking below demand (i.e. below expected levels of car ownership within an area or a development), is unlikely to constrain car ownership, and may lead to poor parking behaviour to the detriment of street safety and quality.

It is recommended that the local parking demand is identified and, in most circumstances, at least some parking demand in residential and mixed use areas is met with well-designed on-street parking.

Providing convenient and secure cycle parking at peoples' homes and at key destinations 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, in order to further encourage cycling.

TRAFFIC SIGNS, MARKING AND STREET FURNITURE

Street furniture and lighting equipment have a major impact on the appearance of a street and should be planned as part of the overall design concept. The design of street furniture should be integrated into the overall appearance of a street.

Some streets feature few, or no signs or markings which require street users to interpret the environment and negotiate priority, thereby encouraging lower vehicle speeds. In a residential context, this approach has been well validated in the UK - in both historic mews streets and Home Zones - where traffic volume and speed can be kept low.



2 Trees planted in the highway at Newhall, Harlow.
3 Street furniture forms an important element of street design (Deal, Kent).
4 Removal of road markings and rationalisation of signing reduce mean speeds by up to 7mph.

QUALITY AUDITS

Quality Audits should now be carried out as part of the design process and should comprise a series of assessments, such as Road Safety Audits, Walking/Cycling Audits and a review of visual quality. A Quality Audit is likely to be carried out by various professionals and each may be undertaken within particular guidelines. By grouping the assessments together in a single document or under a single heading, any trade-offs or compromises in the design will be apparent, and will enable decision makers to view the scheme in the round. The audits inform the process and help to demonstrate that appropriate consideration has been given to the various elements.

When considering the input of a Road Safety Audit to a Quality Audit, it would be useful for Road Safety Audits to contain an assessment of relative significance of any road safety problems that are identified, e.g. a risk assessment approach that considers the likely severity and frequency of occurrence of a safety problem.