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chapter 16 Parking

16.1 Parking policy and management

The oversupply of parking has manifested itself in an evening peak traffic problem in all the principal development areas. While traffic filters into car parks during the day, most traffic leaves between 4.30 and 7.00pm exiting onto a limited central network. Therefore the amount, purpose and control of parking is central to any future transport plans. Parking policy is an important element in an authority's overall planning and transport policy. The level of car parking provided, its location, fee structure and enforcement levels can all have a considerable effect on car use and traffic flow patterns. The availability of convenient and affordable parking in an area can influence people's decision on their mode of travel and has the potential to be a powerful travel demand management tool. An off-street parking policy should recognise the role that the provision or otherwise of additional parking spaces can play in encouraging or discouraging travel by car. If demand management policies are being implemented then a reduction in the number of parking spaces may be desirable in congested urban areas. Planning policy may seek to limit the number of parking spaces provided for new developments.

In addition to cars, parking policy should include provision of parking for:
- commercial vehicles
- taxis
- coaches
- cycles
- motor cycles
- people with disabilities

It is important to gain public support for an on-street parking policy. However, there are many conflicting needs for parking and for parking control. For example:
- shopkeepers may want free parking directly outside their shops
- delivery drivers will want to be able to load and unload outside their destination
- shoppers want free or cheap parking near to where they shop
- employees want free or cheap parking near to where they work
- emergency services want routes clear of parked cars
- public transport operators and cyclists want routes clear of parked cars
- residents want free or cheap parking outside their homes for themselves
- commuter parking is not wanted anywhere

Parking needs an overall management approach, which encompasses both on-street and off-street elements. In many urban areas it is difficult to accommodate all of the parking and loading needs that people may have. A clearly defined policy and management strategy will help resolve some of these conflicts. Parking can be a very sensitive issue and it is often necessary to produce a strategy that provides a balance between some of these conflicting needs. Public consultation may be required to explain to the community why various aspects of the parking policy are necessary, in addition to any statutory consultation required for individual schemes.

Parking policy will need to consider:
- different journey types and duration of stay for different users (commuters, shoppers, leisure etc.)
- short stay and long stay periods together with associated parking charges
- enforcement
- road safety

One of the most important elements of car parking policy will be the way in which different users are catered for. For example, an authority may wish to discourage car commuters from parking on-street whilst allowing parking for short-stay shopping. The duration of stay and charges for on-street parking has an important impact on parking policy. For example:
- limited waiting will prevent commuter parking
- short period limited waiting (30 to 60 minutes) encourages high turnover of spaces
- free parking for 30 to 60 minutes followed by an hourly charge encourages high turnover of spaces

Enforcement is a key element in any parking policy. Unless an effective enforcement strategy is in place (by the local authority) any on-street parking policy is likely to be ineffective.

Another important issue is road safety. A policy for on-street parking may need to set certain fundamental rules designed to ensure the safe passage of vehicles and other road users. For example:

- no parking at any time within 50m of a traffic signal stop line
- no parking at any time within 15m of a junction
- no parking during peak hours on all national and regional roads

16.2 On-street parking
Legislation

Legislation for the introduction of on-street parking is contained in the Road Traffic Acts 1961 to 1994,[1] with details contained in Road Traffic (Signs) Regulations, 1997[2], Road Traffic (Traffic and Parking) Regulations, 1997[3] and Road Traffic (Traffic and Parking) (Amendment) Regulations 1998.[4]

The Road Traffic Act enables road authorities to make bye-laws creating parking spaces on-street and for introducing fees for parking in these places. Before making bye-laws, the road authority needs to consult with the Commissioner and publish a notice of the proposals in a local newspaper. The road authority is obliged to consider any observations made during the consultation process before deciding whether or not to proceed with the bye-laws.

Enforcement

Good enforcement is vital to the implementation of any on-street parking scheme. An Garda Siochana are responsible for enforcement of parking restrictions, although in the City of Dublin and an increasing number of other urban areas the road authority also has an enforcement role. Parking enforcement based on clamping has proved highly successful in Dublin city centre, while other local authorities have developed strong compliance through the use of parking officials. Early consultation with An Garda Siochana is very important to gain their support for any proposals and to ensure if required that adequate priority is given within their enforcement activities.

Cycle parking

On street pay parking to discourage long stay parking

Types of scheme

Parking schemes fall into the following general categories:

- Prohibitions of parking which prevent vehicles parking at certain times of the day (single yellow line) or at all times (double yellow lines). Signs indicating the hours of operation of the restriction should accompany the markings.
- Limited parking (either free or with a charge) in marked parking spaces. If a charge is to be levied then this can be made by a variety of methods
  - parking meters
  - pay and display
  - parking discs
  - permits.

There are advantages and disadvantages to each of these methods and it is likely that a combination of methods will be used in a large urban area. The advantages and disadvantages of these methods are summarised in Table 16.1.

Large urban areas are often divided into zones where different management principles could apply. For example:

- central business and commercial district – parking meters or pay and display
- fringe zone (multiple-use) – free limited parking
- industrial area – parking restrictions
- residential area – residents' parking scheme

Dimensions for parking spaces

The Traffic Signs Manual[5] gives details of the recommended dimensions for different types of parking spaces. Parking spaces are generally only marked out on the road when there is a specific parking restriction such as limited parking (free or paid) or the provision of a parking space for a disabled driver.
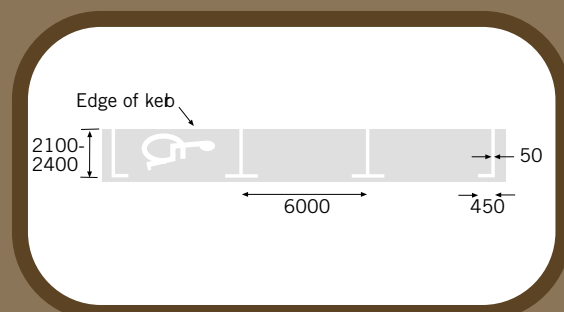
Diagram 16.1 Parking parallel to kerb

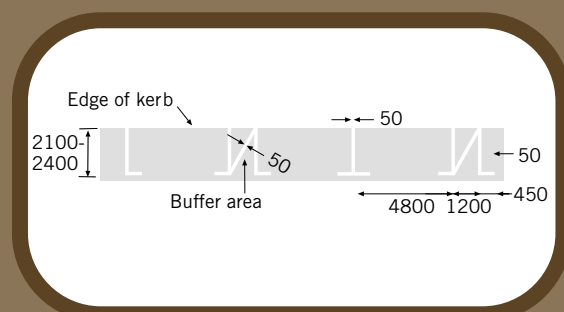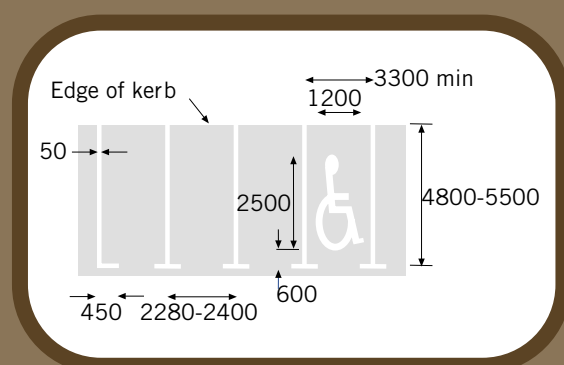Diagram 16.2 Parking with buffer strips

Diagram 16.3 Perpendicular parking

TABLE 16.1 ADVANTAGES AND DISADVANTAGES OF DIFFERENT TYPES OF PARKING SCHEME

Method	Advantage	Disadvantage
Ticket Dispensing Machine (Pay and Display meters)	– Enforcement is relatively easy – Cheaper and less intrusive than meters – Suitable for short-and long-stay – Potential for separate residents' tariffs – Mobile phone interlink possible	– Drivers have to walk to meter – Extra signing is required
Pre-purchase discs cancelled and displayed by user	– Enforcement is relatively easy – Cheap to implement and operate – Environmentally unobtrusive – Price can be changed easily	– Risk of fraud – Need for outlets to sell cards – Inconvenient for visitors
Parking meters	– Detection of non compliance is straightforward – Help to impose physical parking discipline – Generate revenue – Useful for short-stay – Help match demand to supply – Potential of electronic versions	– Relatively expensive to install, operate or adjust to new charges. – Environmentally intrusive – Cannot be used to favour specific user-groups – Can be an obstacle to pedestrians (especially with cycles attached)
Parking permits or Season tickets	– Enforcement is easy – Availability can be restricted to specific types of users – Can be issued for varying time-periods	– No control over duration – Fraud is possible as holders can allow others to use them – Fraudulent requests – Administration effort is required
Time Limited parking	– Cheap to install and modify	– Enforcement is very difficult – Markings and signs can be environmentally intrusive – Need substantial patrolling
Specific permitted-vehicles (eg vehicles for disabled, motorcycles, car pools)	– Spaces can be marked out	– Enforcement can be difficult – Permits need to be displayed when vehicles are used in a specific way

Parking parallel to kerb

Parking spaces parallel to the kerb should be 6m long and 2.4m wide (2.1m minimum). This allows sufficient room for vehicles to manoeuvre in and out of the spaces when other vehicles are parked (see Diagram 16.1). It is possible to provide buffer strips between parking spaces. These guide drivers where to park so that their exit manoeuvres are easier. It also helps to provide adequate gaps between cars for pedestrians to use (see Diagram 16.2).

Perpendicular parking

Perpendicular parking spaces should be 5.5m long and 2.4m wide (4.8m by 2.28m minimum). This type of parking arrangement is more difficult for drivers to manoeuvre into and out of and consequently should only be used on roads with low traffic volumes and speeds, such as traffic calmed residential roads (see Diagram 16.3).

Angled parking

On wider roads or one-way streets with parking on one side only, parking spaces can be angled according to the available road width (see Diagram 16.4). This may help to provide more parking spaces than with traditional parallel parking arrangements. The minimum angle between the parking space and the kerb should be around 30° (less than this produces no significant benefit).

16.3 Off-street parking

Off-street parking fall into a number of categories:

■ publicly owned – open to the public. These are often designated either short or long stay with parking charges (if applicable) set at levels which encourage the designated use. Generally more popular (or centrally located) car parks will be designated short stay

■ publicly owned – not open to the public (staff car parks, often open to the public at weekends)

■ privately owned – open to the public. Many of these are in prime locations in town and city centres and will charge for parking. In contrast there are many car parks which are provided free of charge for employees and customers of specific facilities such as retail or leisure outlets

Diagram 16.4 Angled Parking

Edge of kerb

up to 5500

50

2280-2400

Variable angle

450
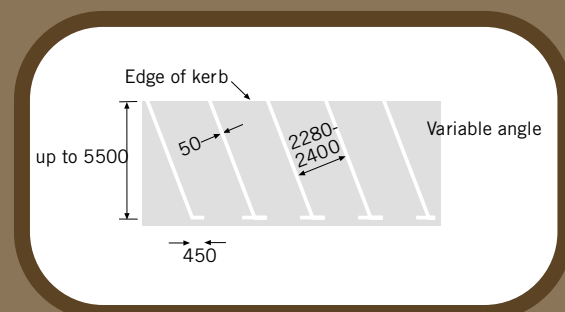
Poor car park layout

Solar powered pay & display ticket dispensing machine

privately owned non-residential (PNR) – which is provided for the employees of businesses (often free) and not open to the public
private residential – provide for the use of residents of the property concerned.

Off-street car parks can be either single level (often surface-level) or multi-storey. Surface car parks are cheaper to construct and often more popular with users because they generally have less personal security concerns. However, in land use terms, surface car parks occupy a lot of land for the number of spaces that they provide. Multi-storey car parks can provide a high number of parking spaces for the land they occupy. However the design and layout of many of the older ones cause personal security concerns for people because of poor lighting and enclosed layout. More modern designs have addressed these concerns with better quality lighting and open layouts.

Car parks should not be located in Central Business Districts or town centres when vehicle flows associated with them would be likely to cause congestion on the local street network.

Layout and design

The essential element of efficient car park design is to bring vehicles deep into the facility offering a variety of parking options: if parking spaces are available near the entrance, queuing may develop for these convenient spaces. It is important that the parking layout is well designed so that drivers can circulate safely and manoeuvre easily into and out of parking spaces. Car park entrances should be designed and laid out so that drivers do not queue on the public road whilst waiting to enter the car park. Careful consideration should also be given to the design of entry and exit roads to off-street car parks in order to minimise conflict with pedestrians and cyclists. Where conflict between the different modes of travel needs to be catered for vehicle speeds should be kept to a minimum by the use of

appropriate maximum radii and lane widths and high angle of entry and exit (close to 90 degrees). Consideration also needs to be given to the capacity of the local street network to cater for the entry and exit vehicle flows associated with any off-street car park development (see Chapter 1.11 for Assessment of Traffic Impacts).

Safe and direct pedestrian routes within the car park should be provided in the design and clearly signed and marked out.

Parking spaces should be provided for cyclists, motorcyclists and disabled drivers. These spaces should be at prime locations such as pedestrian entrances and exits.

The layout of the car park should be open and well lit so that people feel secure and safe. In multi-storey car parks, ramps should be positioned so that vehicles entering the car park drive past the majority of parking bays to assist in finding a space. However those exiting should be able to do so quickly without having to drive past the parking bays. This will increase the efficiency of flow in the car park. If parking charges are levied than the method of payment needs to be considered. Pay at exit can cause problems when large numbers of vehicles are likely to exit at the same time e.g. when offices close. Pay and Display is now commonly used and offers advantages in terms of lower running costs for wardens to patrol.

Management of car parks

Car parks need to be managed to ensure that they are maintained to a high standard. Litter collection, cleansing, removal of graffiti, repairs to items damaged by vandalism and replacement of lighting units should be carried out on a regular and frequent basis. Surveillance by CCTV cameras or regular foot patrols can help to discourage crime and reduce peoples concerns. Maintenance plans should be

drawn up and let as contracts (if appropriate). Failure to maintain car parks can lead to increased concerns about personal safety and vehicle crime. This can discourage people from parking in these facilities and lead to an increase in parking on-street, which can exacerbate residents concern over parking spaces and add to existing traffic flow problems.

Signing for car parks

In larger towns and cities it is becoming increasingly common to see active car parks signs which display the directions to car parks and the number of spaces available. These variable message signs can be a useful traffic management tool. Much of the traffic circulating in a town centre at any time is looking for a parking space. The use of these signs can help to direct traffic to the nearest car park rather than having people cruising around looking for parking spaces. If there is major congestion or an incident on a particular route then vehicles can be directed to car parks via other routes which helps to reduce congestion.

Charging for workplace and private (non-residential) car parking spaces

Many people have free private car parking spaces provided at their place of work. Similarly many free parking spaces are provided for customers at retail and leisure facilities. Charging a levy for these parking spaces that can be passed on to users is being considered by government and some local authorities in the UK as a measure to encourage modal shift away from car use. In Ireland such measures would require new legislation.

16.4 Cycle Parking

Fear of cycle theft (or partial theft/damage) is known to be a significant deterrent to cycling. The National Cycling Strategy in the UK identified cycle security as a key issue. It sets out objectives of improving cycle parking at major destinations, including town centres, shopping developments, educational establishments, hospitals and leisure facilities.

Experience in the UK has revealed the following information in respect of cycle parking:
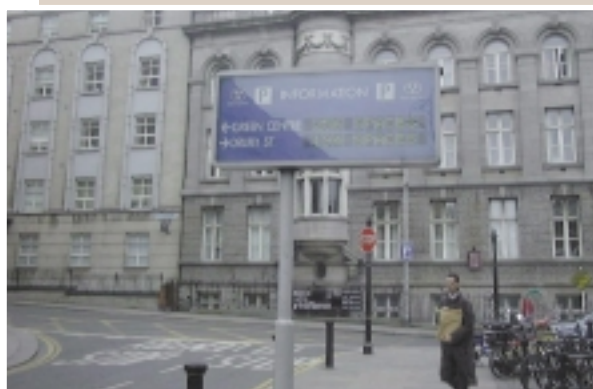
Variable message sign

- Short/Mid Stay Cycle Parking – Short and mid-term parking cyclists will use Sheffield type parking stands, and any convenient items of street furniture.
- Long Stay Cycle Parking – For longer term parking cyclists will tend to seek a higher level of security. This is available from cycle lockers, cycle centres or manned cycle parking. Cyclists may be more willing to pay for such facilities.
- Cycle Centres – Cycle centres offer under cover long term high security cycle parking for a fee. In addition they offer showers, lockers and changing facilities. There may also be the attraction of cycle repairs, and sales of bikes and accessories.
- Cycle parking involving colleges or work as destinations was often well used straight away, with a demand for more. This is not surprising, since these are traditionally areas of relatively high use. Cycle parking at rail stations tends to vary by station.
- Cycle lockers provide additional security, either alone or as an option to standard cycle parking by way of Sheffield stands. Cyclists are more likely to be willing to pay for lockers because of the extra security and convenience they offer. Lockers could be abused by users and a tight system of monitoring and of issuing keys is needed. Coin operated lockers are more likely to suffer from vandalism and theft. Lockers installed at stations can carry a security risk, and need to be designed so that staff can see into them and inspect the contents.
- Closed circuit television (CCTV) can add considerably to the security of all cycle parking provision. In some cases cycle parking can be located so that it benefits from existing CCTV installed to cover car parking.

Location/Signing of Cycle Parking

Cycle parking should be easily accessible to regular commuters as well as to shoppers, visitors and passing trade. This is because cyclists will park informally, if it is easier for them to do so than to seek out designated cycle parking areas. Cyclists will only be prepared to park more than a short walk from their normal parking place if there is a significant gain in security. Cyclists prefer locations where their bicycles are in regular view of local shops or passers-by. Placing cycle parking at or very near cyclists' destinations is important. Shopping centres, theatres, cinemas, leisure centres and libraries are amongst the most obvious places at which cycle parking should be established. Signing to the parking is important, especially for casual users or in tourist areas. Transport interchanges such as train and bus stations are other obvious locations. Cycling can be used for part of a longer journey if secure parking can be provided for part of the trip.

Off street cycle parking, such as at cycle centres or cycle parking in car parks, needs to complement, not compete with, nearby on street parking.

The Cycle Manual contains detailed information and cycle parking and policy options.

16.5 References

1. Road Traffic Act 1994. (Available from Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2, or by mail order from Government Publications, Postal Trade Section, 51 St. Stephen's Green, Dublin 2, Tel 01 6476879; Fax 01 6476843)

2. Road Traffic (Signs) Regulations 1997. (Available from Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2, or by mail order from Government Publications, Postal Trade Section, 51 St. Stephen's Green, Dublin 2, Tel 01 6476879; Fax 01 6476843)

3. Road Traffic (Traffic and Parking) Regulations 1997. (Available from Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2, or by mail order from Government Publications, Postal Trade Section, 51 St. Stephen's Green, Dublin 2, Tel 01 6476879; Fax 01 6476843)

4. Road Traffic (Traffic and Parking) (Amendment) Regulations 1988. (Available from Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2, or by mail order from Government Publications, Postal Trade Section, 51 St. Stephen's Green, Dublin 2, Tel 01 6476879; Fax 01 6476843)

5. Traffic Signs Manual – Department of the Environment. (Available from Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2, or by mail order from Government Publications, Postal Trade Section, 51 St. Stephen's Green, Dublin 2, Tel 01 6476879; Fax 01 6476843)

6. Transport in the Urban Environment (UK) IHT 3 Lygon Place, Ebury Street, London SW1W 0JS

7. Traffic Advisory Leaflet 6/99 (Available free from the Traffic Advisory Unit, Zone 3/23, Great Minister House, 76 Marsham Street, London SW1P 4DR Tel. +44 20 7676 2478)