Parking at Hospitals

Irish Parking Association

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Agenda (slide 2)

1. Background
2. Different Hospital Types
3. Parking Demand
4. Supply and Demand
5. Real Numbers
6. Conclusions

1. Background (slide 3)

Demand for parking at hospitals has increased dramatically driven by three principal forces

- Increasing Car Ownership
- Increasing Demand for Hospital Care
- Increasing Concentration of Services at Major Hospital Centres

Increasing Car Ownership (slide 4)

The diagram illustrates the growth in private car ownership in Ireland since 1977 – numbers have almost doubled. Today the number of cars per ‘000 population exceeds 360 and these numbers are expected to increase to central EU levels of 450+ per ‘000 by the end of this decade.

There are over 2 million people licensed to drive in Ireland.

Increasing Demand for Hospital Care (slide 5)

Department of Health figures show that demand for hospital care is increasing at about 3% pa and this is expected to continue for the foreseeable future. The numbers of patient attendances at the 60 publicly funded acute hospitals has increased dramatically in the past 20 years despite a dramatic decline in total beds available at these facilities - 12,000 today down from over 17,000 in 1980.

In 2002 there were over 300,000-day cases treated compared to only 8,000 in 1980. The average length of stay in hospital has fallen from 10 to 5 days.

Increasing Concentration of Services at Major Hospital Centres (slide 6)

The increasing sophistication of medicine and surgery has led to concentration of specialities with their associated consultants, teams and technologies in fewer
large facilities. Today almost 50% of all acute beds are concentrated in the 12 largest hospitals.

The recent Hanley Report and Government’s adoption of its recommendations will lead to a continuation of this trend.

2. Different Hospital Types (slide 7)

The hospital service has several different types of hospital facility providing different types of service to different patient groups and consequently generating different parking demand patterns

- Acute Hospitals
- General Hospitals
- Community Hospitals
- Long Stay Care Facilities

For the purpose of this presentation I will consider only the major traffic generators, i.e. the acute hospitals.

Acute Hospitals (slide 8)

The Department of Health lists and publishes data on 60 publicly funded acute hospitals. The major acute hospitals include Mater, Beaumont, St. James’s, St Vincent’s, Tallaght, Crumlin in Dublin, CUH and Mercy in Cork, Regional in Limerick and Waterford, UCHG in Galway. Tralee, Sligo, Letterkenny and Drogheda also have large centres. There are just under 12,000 beds in these 60 hospitals ranging from less than 100 in Manorhamilton up to 650 in St James and CUH in Cork.

The private hospitals such as Bon Secours in Cork and Glasnevin, Blackrock and Mount Carmel in Dublin and Galvia in Galway provide sophisticated services also.

The larger centres have between 4,000 and 5,000 staff, 300+ beds and cater for 150,000 to 200,000 patients per year.

General Hospitals (slide 9)

The general hospitals are smaller with fewer specialities, but still providing 24hr/7day A&E at towns like Wexford, Athlone, Ennis, Cavan, Longford etc.

These hospitals have fewer than 300 beds, 500 to 600 staff and cater for 50,000 to 60,000 patients per year.
Other Hospitals (slide 10)

Some very specialised hospitals don’t fall easily into any of these categories, including the National Rehabilitation Hospital in Dublin or the Regional Orthopaedic Hospital in Limerick. Crumlin Children’s Hospital is a special case of an acute hospital. Children’s hospitals have the characteristic that none of the patients drive and also that parents regularly stay for 24 hours while the children are receiving treatment – they need special parking facilities.

Other hospitals with special concentrations of services include the geriatric services at Merlin Park in Galway, the psychiatric hospitals, and the maternity hospitals in Dublin – Holles Street, Rotunda and Coombe. They all generate their own unique traffic and parking patterns.

3. Parking Demand (slide 11)

As a general observation the following four categories of drivers generate the most significant levels of parking demand at hospitals

- Staff
- Patients
- Visitors
- Services

Staff (slide 12)

*Nursing* staff work 12-hour shifts in most major hospitals – from 8am to 8pm and this leads to significant demands on parking capacity across the whole working day. Over 66% of nursing staff in Irish hospitals travel to work by private car.

*Catering* staff, while usually small in number, are on-site from about 6am with the second shift arriving at 2pm.

*Administration* staff work normal 9 to 5 shifts from Monday to Friday. They suffer the disadvantage that nurses have arrived on site at 8am and have usually taken up the prime spaces, followed by patients scheduled for 9am clinics, with the result that administrative staff have to search for parking or end up on the perimeter of the car parking area.

*Medical/surgical* staff and on-call staff have to be provided for, as they are central to the smooth operation of the hospital. Normally they are provided with reserved parking. Consultants fall into this group.

*Maintenance and cleaning* staff usually have areas in service yards that they can use without competition from other users of the car parking assets.

Patients (slide 13)
There are several different groups of patients each with their own parking requirements

**In-patients** - mostly do not require parking as they are dropped off or arrive by taxi and similarly are picked up following discharge. Those who do drive require parking for several days – the average in-patient stay is between 5 and 6 days.

**Out-patients** – major source of short-stay parking demand with patterns driven by the clinic appointment process – clinics starting at 9am (e.g. 9am for all patients), 11am, and 2pm generate a very different pattern of parking demand compared to a single appointment time. The spikes generated by poor scheduling are very difficult to accommodate and cause unnecessary stress for everyone involved.

**Day-patients** – mostly admitted early in the morning and discharged in late afternoon. As many require anaesthetics they are advised not to drive and so parking demand tends to be limited to drop-off and pick-up traffic.

**Casualty/A&E** patients are a source of significant parking demand spread across the day and the whole week. They account for 70% of hospital admissions. At large A&Es there can be as many as 100,000+ patients a year. They require specific attention as they arrive at the hospital in a distressed state and may spend a prolonged period in Casualty.

**Specials** – only some hospitals cater for dialysis patients but those that do require parking for them – usually 3 to 5 hours three times per week. Other special groups include blood donors at St James’s, people dropping off samples for testing at laboratories, funerals, post mortems, psychiatric wards etc.

**Visitors (slide 14)**

Visitors to hospitals fall into a small number of groups and generally generate significant levels of short stay parking demand:

- Family
- Casual
- Volunteers including clerics
- Trade/Commercial

*Family* visitors are in and out several times a day for the duration of the patient’s stay. In ICU or oncology cases they may have high frequency visits of long duration. They are unhappy to be charged normal hourly rates.

*Casual* visitors e.g. friends tend to be low frequency visitors with no objection to paying for parking.
Volunteers – hospital visitors who are in and out every week all year long require special arrangements for parking

Trade and commercial visitors including service traffic are usually happy to pay for access to good parking. High frequency visitors may require special arrangements.

Services (slide 15)

Hospitals have high volumes of commercial and service traffic including food and supply deliveries, waste removal, gas tankers, photocopier service engineers as well as PET Scanner technicians; these are usually accommodated in service yards.

Ambulances generally do not require special parking as they tend to drop off or collect and depart. When they do have to stay then parking arrangements need to be thought through as they are larger than private cars and may not be able to get into multi-storey facilities.

4. Supply and Demand Patterns (slide 16)

Translating these many patterns into a parking scheme for a particular hospital is usually a complex process.

Supply

Most hospitals are on sites not originally intended for facilities of their current scale and capacity. Parking has been provided on a piece meal basis and is usually surface parking supplemented by on street parking on internal roads. Fire routes are regularly compromised by parking patterns.

Tallaght, Beaumont and St Vincent’s now have purpose built multi-storey car parks on their sites.

Supply is totally inadequate to meet current demand, never mind projected future demand, except on these sites.

Demand Patterns (slide 16)

The following graphic illustrates the complex picture that emerges at a typical acute hospital

Staff (slide 17)

Large blocks of all day parking tie up large portions of available capacity and also tend to occupy the prime spaces. Staff can account for 75% of total available daytime capacity in normal hospitals.
Patients (slide 18)

- In-patients typically staying 5/6 days – low parking demand
- Day patients – stay all day but low parking demand
- Outpatients – short stay but high volumes of demand
- Casualty – high demand

Outpatients (slide 19)

The following graph illustrates the tidal wave nature of OPD parking demand

Visitors (slide 20)

Visitor patterns tend to concentrate at the traditional 2pm to 4pm and 7 to 9pm visiting times but some visitor activity is going to be present across the whole day.

The special cases mentioned above need to be catered for but do not normally impact on overall numbers.

In a busy acute hospital 250 spaces will cater for all patient and visitor traffic across a normal day – 1200 to 1400 cars per day.

5. Real Numbers (slide 21)

- Acute Hospitals 4,000+ vehicles arrive each day Monday to Friday
- Staff 1,200+ cars per day staying 8 to 12 hours
- Patients/visitors 1,200 to 1,400 cars per day staying 1 to 2 hours
- 90% of all patient/visitor cars stay for less than 3 hours
- Weekends – volumes at 50% of weekday traffic
- Car parks active from 7am to midnight

6. Conclusions

The golden rules of parking apply – location, location, location – i.e. proximity to destination is the major factor in the parking decision

Short stay parkers are price insensitive and distance sensitive
Long stay parkers are price sensitive and distance insensitive – except for night shifts

Most patients and their families tend to be disoriented – they may never have been to the hospital before, some are disabled or damaged and almost always they are distracted and worried. Car park management needs to address these issues with signage, sympathy and understanding

Staff parking accounts for 80% of the parking demand measured in space.hours i.e.

600 staff cars parked for 12 hours = 7,200 space hours
600 visitor cars parked for 1.5 hours = 900 space hours

The same number of staff cars occupy eight times more available capacity than the visitor cars.

Staff parking demand is growing rapidly as car ownership increases. Increasing numbers of staff on individual sites is compounding this process, and together they are currently or in the very near future going to lead to unsustainable demand for parking on restricted sites.

Modal switching strategies have to be introduced at all of these sites to manage this demand – car sharing, car & van pooling, park & ride, parking charges, public transport services, walking, cycling etc.

All major acute hospitals require multi-storey car parks if they are to cater for the predictable growth in demand.

Hospital car parks are commercially viable if open market charges are applied.

Unless staff parking is tackled there is no solution.

Finally we are pleased to note that the not-so-recent arrival to the parking industry – Parking at Hospitals – is alive and doing very well. The future outlook is very positive and the ‘child’ is expected to grow and prosper.

Liam Keilthy