

SINCLAIR KNIGHT MERZ

SKM

**Operation Parking
Managing Hospital Parking Demand
without a Cement Transfusion**

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achieve outstanding client success

Outline

- Introduction
- The Hospital Environment
- Hospital Parking
- Case Study: Westmead
- The Role of Parking in Establishing Multi-Modal Transportation Systems
- Recommendations / Conclusion

Introduction

- Purpose: Manage hospital parking demand in a way that is economically, socially and environmentally sustainable
- Excessive automobile dependency (Litman and Laube, 2002):
 - Congestion / overhead costs → Reduced economic development
- Spillover parking and congestion common issue around hospitals
- Parking drives travel behaviour
- Travel Demand Management



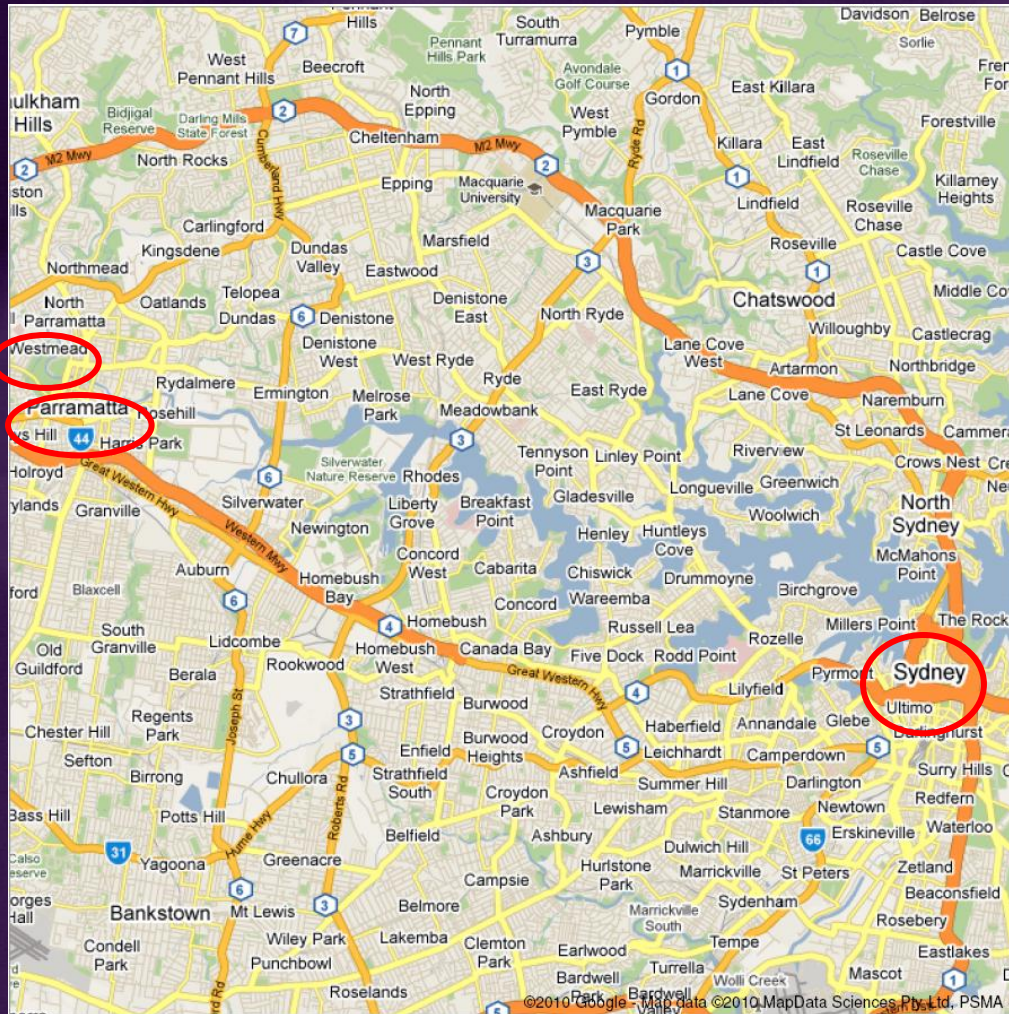
(Travelwise, 2010)

The Hospital Environment – Land Use

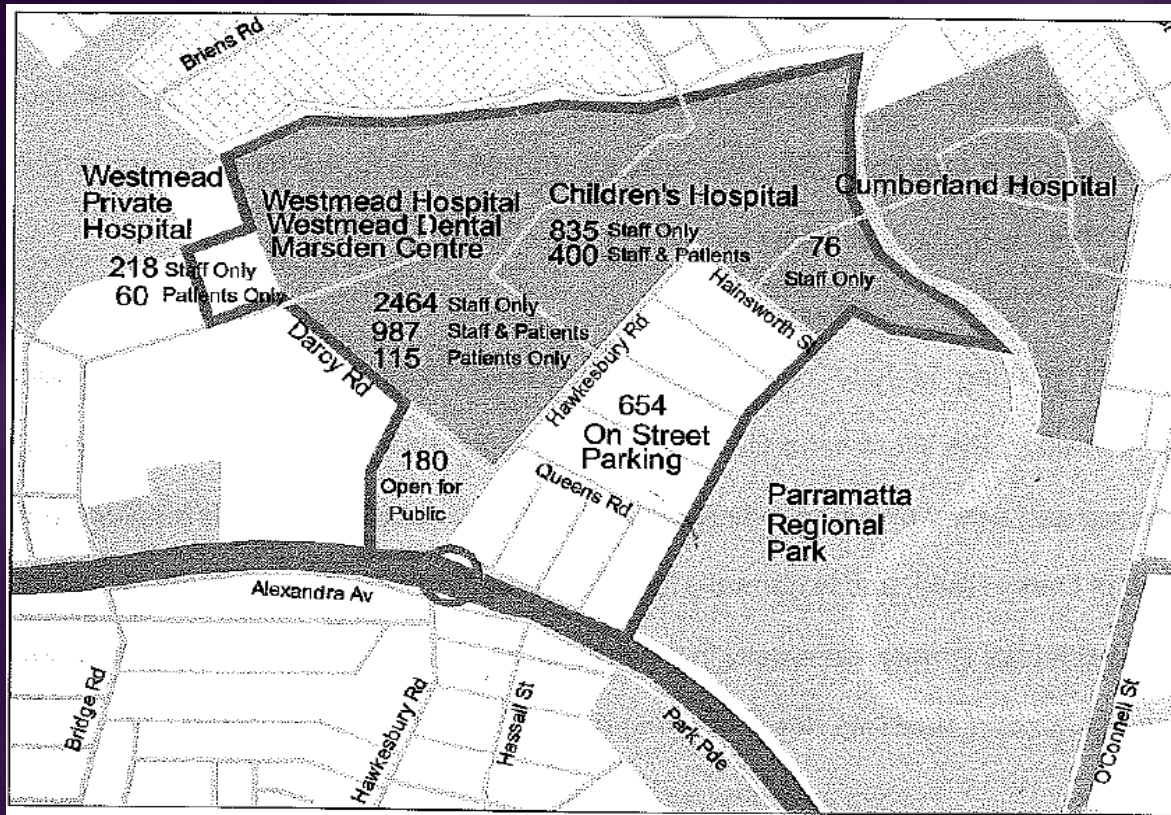
- Often campus-like
- Complementary land uses (tertiary education, hotels, churches, medical centres etc.)
- High value land adjoining hospitals



Case Study – Westmead: Background



Case Study – Westmead: Background



Parking Available in the Westmead precinct (Westmead Implementation Plan, 2007)

Westmead: Alternative Transport Infrastructure

- Public transport system is relatively good:
 - Railway Station
 - A metro or subway service coming?
 - 'Transit Way'
 - Other bus services
- Good active mode provision *but* high traffic volumes



Westmead: Land Use



University of Western Sydney (Corner of Hawkesbury Rd and Railway Parade)

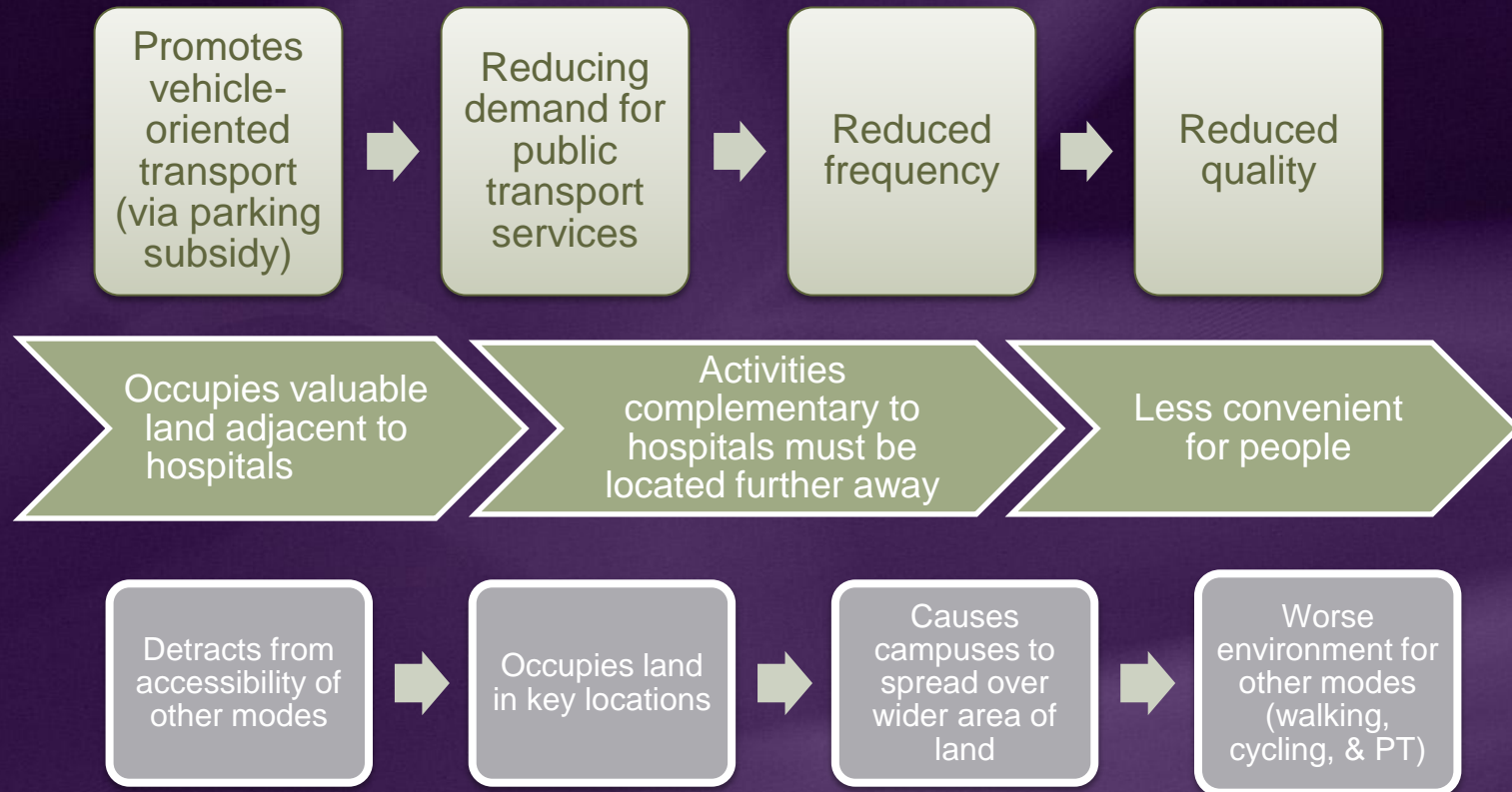
Westmead: Land Use



Skin & Cancer Foundation Australia

Hospital Parking – The Value of Land

- Land that a parking space occupies, often valued between \$30k - \$100k. In areas like hospital precincts, where land values are high, subsidised parking:



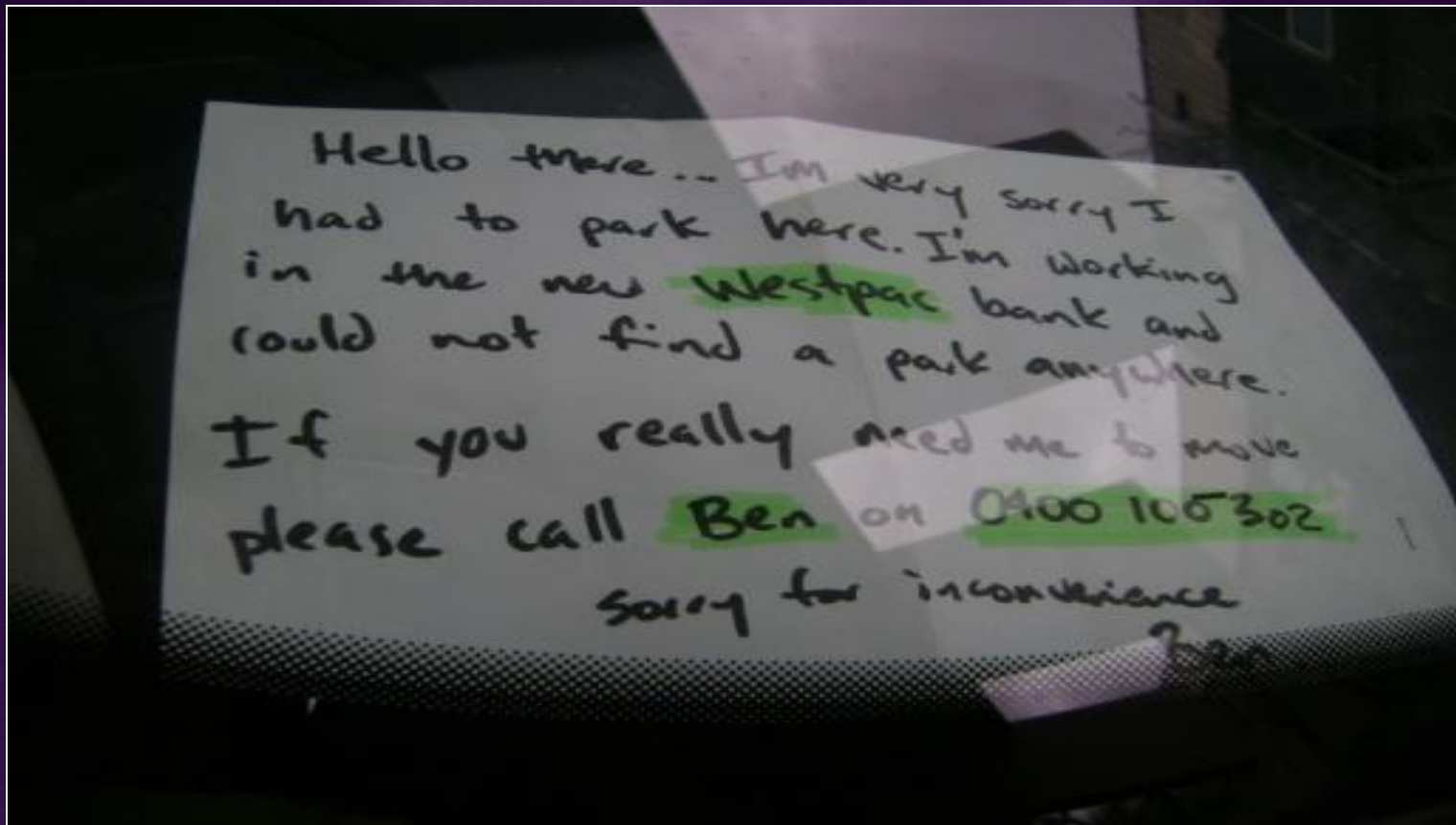
The Hospital Environment – Travel Demands

- Challenging and unique travel demand pressures
 - Large employers
 - Non-traditional work hours
 - Patients & Visitors
 - Service Deliveries
 - What does this mean?
 - Some employees, patients & visitors are unable or may not want to drive
 - Can be challenging to accommodate unusual working hours by alternative modes
- + Pressure from complementary land uses on network



Hospital Parking - Travel Demand Pressures

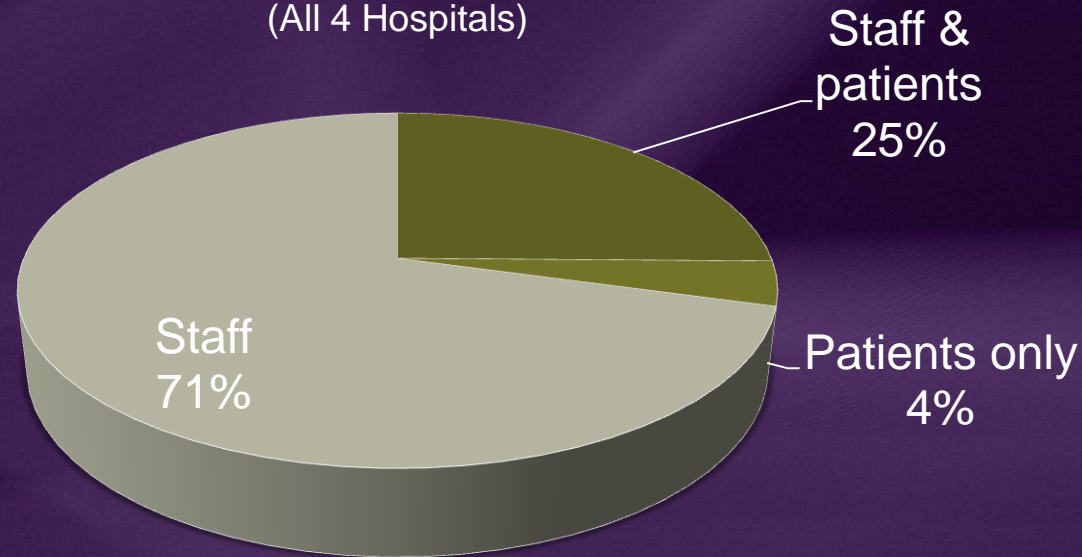
- Hospitals generate substantial travel demands.



Case Study – Westmead: Off-Street Parking Provision

Allocation of Hospital Parking

(All 4 Hospitals)



- Staff parking charges managed differently at each hospital in precinct

Case Study – Westmead: Off-Street Parking Utilisation

- Parking is well used throughout the day.
- Saturated occupancy earliest at main hospital (where cost is lower)
- Pressure worsened by overlapping nursing shifts
- Patient parking shortages



Case Study – Westmead: Initial Observations

- Council concerns about parking in target area
- Substantial amount of the on-street parking available
- Weekday parking occupancy very high during business hours
- Varied parking restrictions



Redbank Special School

Children's Medical Research Institute

Westmead Hospital

University of West Sydney

Sydney West International College

Westmead Railway Station

Children's Hospital

Cumberland Hospital

Mayflower Aged Care Centre



Case Study – Westmead: General Observations - (Weekday)

- Greatest on-street parking occupancy during business hours, reducing in late afternoon / evening
- Spillover parking
- Westmead Hospital has numerous 'pool' hospital cars.
- Many buses, low occupancy (under-utilised?)
- Extremely long queues of vehicles (primarily SOV) leaving the hospital around 5:00pm.

Case Study – Westmead: Saturday observations

- Parking occupancy lower on the weekend
- Some streets still had high occupancy on Saturday (between approximately 90 – 95%)
- Parking demand not a major issue on weekends.



Case Study – Westmead: Parking Utilisation Survey

- Measured occupancy of parking spaces throughout target area.
- Surveys took place during three periods of the day
- Parking spaces were monitored to gauge:
 - Whether or not a vehicle was parked in a space
 - The length of stay of each vehicle
 - Whether or not any permits were displayed (Residential etc.)

Case Study – Westmead: Outcomes of Parking Utilisation Survey

- Wide range of permits displayed & used (mobility impaired, residential etc.)
- Long term parking in areas with no restrictions on parking
- Unrestricted train station fully occupied early
- At peak occupancy times, restricted parking still not saturated
- Off-peak parking occupancy low
- Parking primarily used during business hours

Case Study – Westmead: Discussion

- Parking supply under significant pressure in Westmead
- Majority of cars observed - SOV's
- Sydney residents accustomed to travelling by car conveniently with an abundance of cheap/free parking at destination
- Manage parking strategically but balanced with people's expectations



Integrated parking management using travel modes other than only the private car

Principles of Parking Management Reform

- Significant opportunity to achieve local authorities goals at low cost
- Key principles (Litman, 2006):
 - Consumer choice
 - Pricing
 - Prioritisation
 - Sharing
 - Efficient utilisation
 - User information
 - Flexibility
 - Peak demand management
 - Emphasis on quality
 - Comprehensive analysis



Case Study – Westmead: Discussion / Recommendations

Key issue: availability of un-priced parking



Key Recommendation: Price parking which is currently un-priced

Parking Management Strategies: Price

- Parking currently undervalued
- Goal: Directly internalise the cost of parking to road users for the *fair price of land*
 - Must be done incrementally
 - Within the context of the area
- Priced parking:
 - Provides for high priority customers
 - Discourages the inefficient use of convenient parking resources by long stay users
 - implement in areas with more than 85% maximum occupancy (Litman, 2006)
- Price level:
 - aim to keep occupancy levels high, but not saturated
 - Some parks available for those who are willing to pay for them.



Parking Management Strategies: Unbundled Parking

- *Separating* the costs of purchasing or leasing residential and commercial property from parking resources.
- Costs of car parks account for between 20-25% of the total purchase price of smaller dwellings.
- In hospital precincts - ideal to unbundle parking space costs in rents for businesses and residents.
- Westmead – Staff Salaries



Parking Management Strategie: Removal of Minimum Parking Requirements

- Avoid implementing MPR until all on-street parking in the area is either priced or restricted by time
 - Will ensure that a market can develop to meet supply
 - Removal of MPR allows developers freedom to determine the marginal value of providing car-parks.
- Removing parking requirements can result in:
 - Development of land into more productive activities, resulting in higher densities
 - Revitalised town centres
 - Mode shift. Without abundant supply of free parking at destinations, travel by other modes will be seriously considered
 - Parking best provided to meet needs
- MPR have been removed from district plans throughout Europe - detrimental effect on urban form and communities

Parking Management Strategies: Shared Parking

- Allows for efficient parking utilisation than provision by individual sites
- Seeks to ensure that parking resources are accessible to a range of users
 - Regulated through Plans; or
 - Allow market to emerge that encourages shared parking in order to realise financial savings.
- In Westmead, *shared parking* opportunities should be explored



Case Study – Westmead: Discussion / Recommendations (Continued)

- Retain existing reasonably-priced unrestricted parking for highest-priority users
- Railway station parking can be restricted to rail users?
- Establish rideshare parking priority schemes & a rideshare database for people to connect to one another to arrange rides.



Parking Management Strategies: Flexible parking permits

- Recommendation: work with hospitals/university to offer flexible parking permits for occasional car commuters → incentivise not having a permanent parking place
- Flexible parking permits assist staff who opt to give up an on-site carpark
- Guarantee space for when it is really needed (highly valued)
- Example

Parking Management Strategies: Directional Signs

- Real-time directional signals enable drivers to find parking more easily:
 - Reduced driver frustration
 - Increase autonomy
 - More efficient use of parking
- Place on key access roads
 - Location
 - Availability
 - Price (Optional)
 - Maximum duration of stay (Optional)



Parking Management Strategies: Car-share Organisations

Key Features:

- Management of a pool of vehicles parked at numerous locations around a community.
- Members of the organisation are able to book vehicles online and then gain access to the vehicles via electronic swipe cards.



Recommendation: Work with *carshare* companies to set up cars in Westmead (perhaps with designated or discounted parking spaces)

Parking Management Strategies: Public Transport

■ Recommendations:

- Subsidised public transport passes
- Free pass promotions (e.g. for 1-month periods)
- Campus area shuttle bus
- Increase & improve information

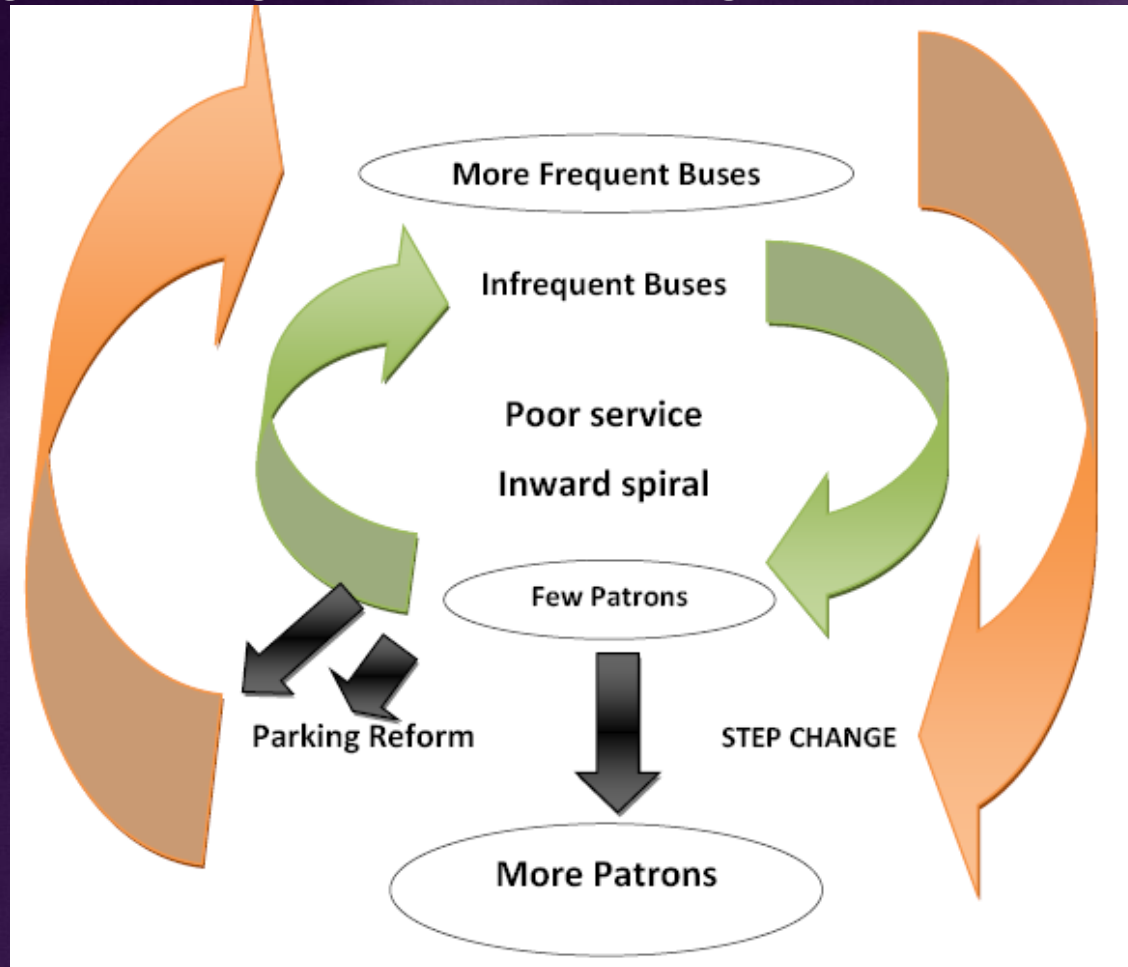


■ Revitalising public transportation networks takes time:

- People need time to adjust travel behaviour by their own accord
- For the transition from car-dominated to multi-modal travel systems, a sound public transport system, with potential to expand, needs to be in place.
- Implementing parking controls will help to ensure PT success

Reliable and efficient alternatives to car travel facilitate acceptance of parking management reform

Parking Management Strategies: Public Transport



Parking Management Strategies: Marketing / Travel Awareness campaign

- *PR campaign:*
 - Publicise justification of priced parking
 - Alternative options travel options, RPS, available
- If well-executed:
 - Leads to increased levels of knowledge about the adverse effects associated with driving
 - Stimulates a perception shift
 - Provides the foundation for transitional parking reforms and travel behaviour change.

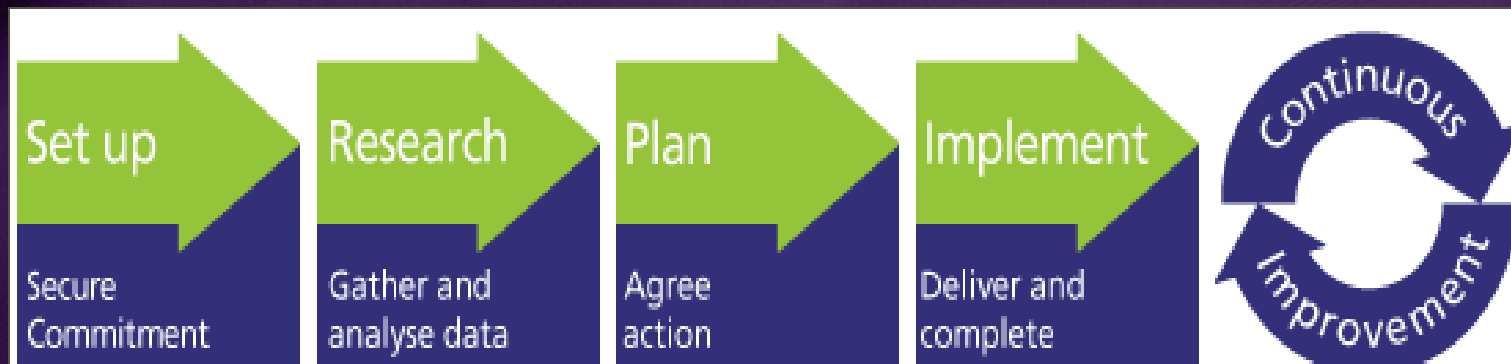


A “well thought out education and information campaign” can mitigate adverse public perception when travel space is reallocated (Jepson & Ferreira (1999:17)

Parking Management Strategies: Travel Plans



- Typically audit home-to-work and work based travel demands
- Recommend ongoing management strategies to reduce demand for private vehicle travel
- Supports other parking strategies → detailed understanding of institutional barriers to mode shift



Conclusion

- Hospitals: campus-like environment & generate unusual and substantial travel demands → pressure on parking supply.
- Demand is typically generated during traditional peak business hours
- Parking is primarily allocated to staff, not patients and visitors.
- SOV dominated transport during traditional peak periods, despite good PT
- Great potential to manage travel demand:
 - To promote more economically and environmentally efficient travel before further parking expansion is considered

Conclusion

- Progressive parking management strategies adjusted to the hospital context:
 - Promote a transportation network that is:
 - More attractive
 - Economically efficient
 - Better for the environment
 - Suits the needs of the hospital environment
 - Benefits:
 - Improved parking access (as demand is better managed) and
 - Transparent costs from which to make decisions.



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Questions? Comments?