

Managing travel to a major health campus: Travel plan for QEII Medical Centre

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1 Introduction

Traffic congestion and growing car parking demand are common problems for health campuses, affecting their accessibility and efficiency. Hospitals and associated activities are major generators of travel. The trend to consolidate health services on fewer sites will exacerbate these issues.

Site managers and employers can act to ease car dependence and site congestion by enabling greater use of alternatives such as public transport. Taking a proactive approach to manage travel generated by a health campus can enhance access for site users and reduce impacts. This has been done at many public hospitals in the United Kingdom where travel plans have been implemented. For example, Addenbrooke's Hospital in Cambridge, the Nottingham City Hospital and Derriford Hospital in Plymouth have implemented travel plans to achieve reductions in solo car commuting by employees of 20 to 30 per cent (Cairns et al 2002).

A travel plan is a package of measures implemented by an employer or site manager to manage car access and shift solo car trips to alternative modes, such as public transport, carpooling and cycling. Health campus managers and employers influence how employees and visitors travel to their site in many ways, such as car parking provision, public transport facilities, remuneration options, work practices and information provided on travel options. These factors can be changed to encourage different travel choices, for example providing incentives, information and workplace facilities to support cycle commuting and public transport use and changing car parking allocation and charges.

As well as addressing site access and local traffic impacts, travel plans can improve environmental performance and improve workforce health. Commute and visitor trips and the use of fleet vehicles generated by health sites should be considered as part of their ecological footprint along with energy and water consumption and waste. Providing options for active transport can be part of efforts to promote employee health and model health promotion initiatives to the wider community (Owen, Scullion and Day 1997).

This paper outlines the travel plan prepared for a major health campus in Perth's inner suburbs, the QEII Medical Centre. The rationale for the plan, how it was developed and the key strategies adopted to manage travel demand are described. Challenges for implementing travel plans at hospital sites are discussed.

2 Site profile

The QEII Medical Centre (QEII MC) is a 30ha health campus in Nedlands, in Perth's inner suburbs about 4km west of the CBD (Figure 1). It is a regional hub for health services and research. The centre accommodates several tertiary and allied health services and research facilities, many form part of the state government's North Metropolitan Area Health Service.

Major employers at the site include:

- Sir Charles Gairdner Hospital – tertiary public hospital with 607 beds, providing for 75,000 inpatients and 500,000 outpatients per year
- PathWest – the state laboratory medicine service, whose major diagnostic testing centre is at the site
- Lions Eye Institute – international eye research institute also providing clinical services and medical training
- University of WA’s Faculty of Medicine, Dentistry and Health Sciences – faculty administration and medical and dental education
- Oral Health Centre – provides public dental services and dental training.

QEII MC site is adjoined by Hollywood Private Hospital, residential neighbourhoods and public open space. The University of WA’s main campus is located 750m to the south of the site. Winthrop Avenue/Thomas Street is the main arterial road near the centre, linking with Stirling Highway and the Mitchell Freeway. About 3,300 parking bays are provided at QEII MC, including 2,100 for employees. Public transport access is via bus services that connect with Perth city, train stations on the Fremantle and Joondalup train lines and the University of WA. Some 385 bus services (six routes) run through the centre with buses every five to 15 minutes in weekday peak periods.

Currently about 5,000 people work at QEII MC (including 2,740 FTE at the hospital) and the site attracts many patients and visitors, generating over 19,000 trips per day. Most of these people arrive at the site by car creating significant demand for parking on the site and contributing to traffic congestion on the local road network (Sinclair Knight Merz 2006). Table 1 summarises the mode split for employee and visitor travel to the centre.

Table 1. Travel to QEII Medical Centre by mode

Mode	Employees (% trips)	Patients and visitors (% trips)
Car driver	85	78
Car passenger	3	4
Taxi	0	4
Ambulance or hospital transport	0	<3
Public transport	6	10
Bicycle	2	<1
Walk	2	1
Other	1	0

Source: Sinclair Knight Merz 2006. Note: Figures do not sum to 100 due to rounding.

Activity at QEII MC is planned to increase significantly under the health reform process. A reconfiguration of health services is being implemented to address the growing and ageing population and increasing demand for high cost tertiary hospital care (Health Reform Committee 2004). Sir Charles Gairdner Hospital is to be the central tertiary hospital in the metropolitan region and expand to around 1,118 beds (including day surgery, mental health) by 2015 (Department of Health 2005). King Edward Memorial Hospital for Women and Princess Margaret Hospital for Children may relocate to QEII MC and additional research and allied health facilities are proposed. As a result, activity levels and the workforce at the site will grow significantly within the next ten years (Department of Health 2005, Hassell 2007).

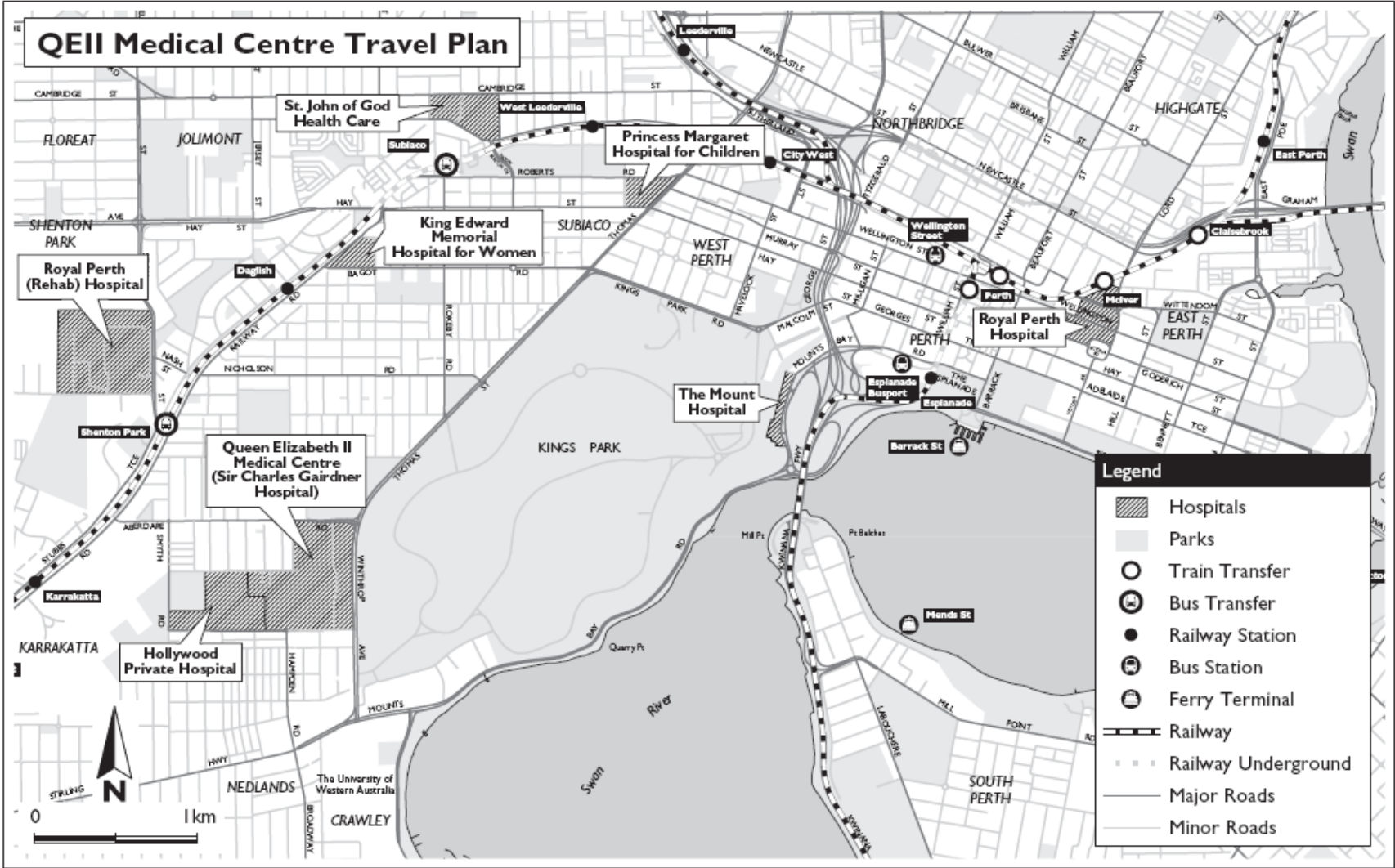


Figure 1. Site location

3 Developing the plan

In 2005, the QEII MC Trust decided to develop a travel plan to address employee car commuting to the site. The Trust joined the TravelSmart Workplace program, a state government initiative to support employers in moderating car commuting and promoting alternative travel choices. The program provided practical assistance to develop the plan including background research, stakeholder consultation and writing the initial draft.

Growing competition for car parking on the site provided the initial impetus for the travel plan. Lack of car parking is a common complaint from visitors and employees. A car park survey in 2005 found that up to 40 per cent of car parking set aside for visitors was used by employees (Sinclair Knight Merz 2006). The significant capital cost of multi-storey car parking is prohibitive in the short-term, so demand management was seen as an important response.

The planned redevelopment made managing travel demand a critical issue. The WA Planning Commission identified parking and traffic as important considerations for the site structure plan and any development applications for the QEII MC. At full development the site would attract an estimated 33,300 vehicles per day (Hassell 2007). The transport assessment for the redevelopment forecast that if current heavy reliance on car travel grew in parallel with health activity at the site there would be severe congestion on local arterial roads, causing significant delays in peak periods (Sinclair Knight Merz 2006). Further, expanding employee car parking at the current ratio would require a capital outlay of up to \$100M (Sinclair Knight Merz 2006).

Standard working day employees (starting after 7.30am, finishing before 6.00pm weekdays) at QEII MC were identified as the target group. These employees are considered to have greatest capacity to use alternatives and reducing their car commuting would ease peak parking demand. Shift workers starting or finishing outside standard hours have fewer options, including less frequent public transport services.

Representatives of the QEII MC Trust, University of WA and Department for Planning and Infrastructure (DPI) formed a core group to prepare the travel plan. Understanding employee travel choices and building support for change was seen as important to devise effective travel plan actions. A working group comprising interested employees and employer representatives provided input during the process. Work began in late 2005 and it took eighteen months to arrive at an approved plan.

Key steps in this process included:

- Scoping the plan to establish its focus and parameters
- Reviewing good practice in managing travel to hospitals/medical centres, including travel plans by selected National Health Service trusts in the United Kingdom
- Considering the transport assessment prepared for the QEII MC structure plan, including results of a staff travel survey
- Undertaking a basic audit of infrastructure, services and policies affecting employee travel to the site, including field inspection, liaison with facility managers and consulting published material
- Holding discussion sessions with employees recruited from across the site to consider reasons underlying travel choices and attitudes to travel alternatives for commute trips
- Interviewing major employer representatives to seek their ideas for the plan
- Convening a stakeholder workshop with representatives of employers at the site, local councils, the DPI and Public Transport Authority to identify travel plan actions

- Forming a working party that met to guide work on the plan and discuss issues and actions.

Changes to car parking management, improvements to travel alternatives especially public transport and active promotion of these alternatives were agreed as priorities for the travel plan. Car parking changes were contentious – employees did not support higher charges however stakeholder discussions and the review of practice elsewhere pointed to this as a critical element for mode shift.

Parking and traffic impacts were important issues as planning for redevelopment of QEIIMC progressed. The draft travel plan was broadened to address planning requirements, including consideration of visitor travel, management of car parking during redevelopment works and emerging access and parking requirements for health precincts. A consultant was involved to make these changes, extending the planning process but producing a more robust plan that meshed with the site structure plan. The QEIIMC Trust endorsed the travel plan in June 2007.

4 Strategies for managing travel demand

The stated purpose of the QEIIMC travel plan is to enhance sustainable travel options and encourage greater use of them by employees and visitors in order to improve site access and efficiency and reduce environmental and community impacts of car traffic (QEIIMC Trust 2007). The plan seeks a change in how people travel to the centre and includes mode split targets (Table 2). These targets reflect the maximum permissible car parking provision for the redeveloped site agreed by the Department of Health and WA Planning Commission, i.e. 5,300 to 5,600 bays including 4,280 for employees (Hassell 2007). The current mode split at Royal Perth Hospital, located in the city centre, was used at the benchmark in setting these targets.

Table 2. Mode shift targets

Target group	Mode	Baseline %	Target mode split %		
		2006	2008	2010	2012
Standard working day employees	Car driver	85	70	65	62
	Car passenger	3	7	7	8
	Public transport	6	15	16	20
	Cycling and walking	6	8	9	10
Patients and visitors	Car driver or passenger	78	75	72	68
	Public transport	10	13	16	20

Source: QEII Medical Centre Trust 2007 p25.

The plan outlines a package of actions to achieve this shift, responding to four objectives: embedding sustainable transport management, reducing single occupant car driving, increasing public transport use and increasing cycling and walking. The actions are listed in Table 3 and discussed below.

Table 3. Summary of travel plan actions

Objective	Action	Responsibility	Timeframe
Sustainable transport management embedded within culture	Leadership from senior management	Trust and employers	Ongoing
	Incorporate travel demand management into redevelopment planning	Department of Health, Trust with DPI, UWA	Throughout redevelopment
	Develop and deliver training for key facilities management employees	Trust with employers, DPI, UWA	Develop by July 2008
	Promote travel alternatives to new employees	Trust and employers	Ongoing
	Evaluate and report annually on implementation of travel plan	Trust	Annually from end 2007
Reduce single occupant car driver trips to site	Implement parking management plan including user pays charges	Trust and hospital parking manager	Depends on legislative change
	Implement carpool commuter program including ride matching and dedicated parking	Trust	From 2007
	Investigate potential for a common vehicle fleet and carpooling for business trips	Trust and employers	By July 2008
	Market travel alternatives through access guide and promotions	Trust	Ongoing
Increase public transport use	Implement the Public Transport Master Plan for the precinct including more frequent bus services and direct connections	Trust, Department of Health, Public Transport Authority, UWA and local councils	Ongoing
	Advocate light rail links to the site	Trust with others	Ongoing
	Market public transport including provision of service information, TravelSmart kiosk	Trust	Ongoing
	Implement an incentives scheme to encourage public transport commuting	Trust with employers and Public Transport Authority	Depends on business plan
Increase cycling and walking	Plan for and improve cycle and pedestrian access to and within site	Trust with local councils and Department of Health	Plan by end 2007, ongoing implementation
	Prepare for and improve bicycle parking and shower and change facilities	Trust, Department of Health, UWA	Progressively from 2007/08
	Support the Bicycle User Group to encourage cycling participation and facility improvement	Trust	Ongoing
	Market cycling and walking through promotional activities and information	Trust	Ongoing

Adapted from QEIIIMC Trust 2007 p26-29.

Most employees (85 per cent) drive to work at QEIIIMC and park on-site. Commuting choices are skewed towards the car by the relative availability and low cost of parking for employees. A large proportion of staff have an annual parking permit and pay the \$1.50/day parking charge through fortnightly payroll deduction. Addressing car parking provision and charges is fundamental to significantly reducing car travel to QEIIIMC. Reforms to parking management need to be matched with improved travel alternatives, particularly public transport services, and marketing, practical information and incentives to enable their uptake.

The travel plan incorporates a parking management plan that gives priority to meeting the needs of patients and visitors, employees working non-standard hours and medical consultants. Employee parking permits will be reduced by 25 per cent during the initial phase of redevelopment works when fewer car parking bays will be available. A points system is proposed for allocation of parking permits on the basis of need. Employee parking charges are to change from the current low, flat rate to a pay-as-you-park charge equivalent to a two-zone public transport fare. A user-pays approach will also be implemented for patient and visitor parking and pay-on-exit technology introduced. The Act covering QEIIIMC would need to be amended to enable these changes.

Off-site parking is to be addressed through an agreement with local councils and parking restrictions on neighbouring streets will be promoted to employees. Carpooling can make more efficient use of available on-site parking and will be encouraged by supporting ride-matching for interested employees and offering dedicated or discount parking as an incentive.

Public transport is the mode where greatest shift from private car travel can be accommodated. Currently only six per cent of employees commute to QEIIIMC by public transport even though there are frequent bus services to the site in peak periods including links to train stations and the CBD. The need to boost service levels to cater for growing activity at QEIIIMC and nearby Hollywood Private Hospital and University of WA is recognised in a Public Transport Master Plan recently prepared for the state government (Sinclair Knight Merz 2007). The plan recommends bus service changes to improve connections with public transport interchanges in the CBD and at Shenton Park, increased service levels and bus priority measures on arterial roads. Light rail is being investigated as a long-term option.

The QEIIIMC travel plan supports implementation of these improvements and also proposes actions to promote public transport use. Service information will be made more accessible to staff, patients and visitors and potential incentives for public transport commuting investigated. The idea of a travel pass for employees working at the site has been raised however taxation and management issues need consideration.

Only four per cent of commute trips to the site are made by bicycle or walking, though 10 per cent of employees of the major employers live within 2km and 22 per cent within 6km. Staff involved in the travel planning process formed a Bicycle User Group to promote cycle commuting. The travel plan proposes improving cycle and pedestrian access to the site, improving end-of-trip facilities for cyclists including bicycle parking, and promotional activities. An employee cycling scheme involving loan bicycles and cycle coaching is being developed.

Information and communication are important elements in the travel plan, aimed at informing people's travel choices and building a supportive culture. The QEIIIMC Trust employed a part-time TravelSmart Coordinator in July 2005 and made the position full-time in July 2006. This has enabled greater marketing of travel options to employees. A TravelSmart kiosk is proposed to make transport information and services more readily available to site users and information materials including a site access guide are being prepared. Staff inductions offer an opportunity to promote public transport and other options to new starters before car commuting becomes ingrained – this will be a focus for TravelSmart efforts. Countering lack

of awareness of travel options such as public transport services and promoting the need to change travel patterns to the site are important to support the mode shift sought.

The support of management is also important. To make sustainable transport management part of site planning and operations the travel plan proposes engaging with key decision-makers and facility managers at QEIIIMC. Regular reporting of travel plan implementation and promoting results of annual travel surveys should help in this process.

5 Discussion

Car parking demand and local traffic impacts are issues for health campuses in metropolitan Perth and elsewhere. The realignment of services under the state government's health reform agenda will see more activity concentrated on fewer sites including QEIIIMC. Continuing heavy reliance on car travel to access sites and seeking to meet the resulting parking demand would be costly financially, socially and environmentally. Travel plans can be a framework for managing travel demand to hospital sites to achieve more balanced, sustainable outcomes.

The QEIIIMC travel plan aims to achieve a mode split for standard working day employees by 2012 equivalent to that at Royal Perth Hospital, i.e. 62 per cent solo car commuting and 20 per cent public transport. Royal Perth Hospital is situated in the city centre where car parking is constrained and public transport services are at their peak (this hospital is planned to close as functions are relocated to a new public hospital at Murdoch). By comparison, QEIIIMC has more limited public transport and a history of cheap car parking for employees. A quantum improvement in travel alternatives, especially public transport, reform of car parking allocation and pricing and change in workforce culture, including expectations about staff parking, will be key to realising the 27 per cent reduction (in relative terms) of solo car commuting targeted by the travel plan.

Reducing the level of car commuting to QEIIIMC has been contemplated for some time. Some measures included in the travel plan were agreed by stakeholders in a precinct access plan nine years ago (BSD Consultants 1999) yet slow progress was made in instituting them. The redevelopment of the site should provide the impetus for putting travel demand management into effect. The travel plan started as a three-year plan to tackle current parking pressures and became a longer-term plan demonstrating how greater travel demand will be managed as activity at the centre expands. The plan has changed from a voluntary initiative by the site manager to an integral part of planning commitments by the Department of Health to secure approval from the WA Planning Commission for the QEIIIMC redevelopment.

Changes to car parking proved to be the most contentious issue in the QEIIIMC travel plan and will be challenging to introduce, though necessary to achieve the change in travel choices sought. The low cost of employee parking at QEIIIMC is a key factor in the high level of car commuting. Some employers are concerned about the impact of higher parking charges on staff recruitment and retention. Plans for consistent parking management across public hospitals in Perth should go some way to addressing these issues. The WA Department of Health proposes setting parking fees according to site accessibility and public transport fares so that parking is charged at a higher rate at sites with good public transport access – for standard working hours only (Sinclair Knight Merz 2006a). An employee travel pass that can be used to pay for public transport commuting and car parking is also being considered.

Developing a travel plan for health campuses can be challenging given multiple employers and complex governance arrangements, a large and varied workforce including shift workers and the volume of visitor trips. A consultative approach should help build support for the plan and ensure key issues are considered. This was done for the QEIIIMC plan, including

focus groups with employees, interviews with employer representatives and inclusion of other stakeholders such as local government, planning authorities and transport providers. In hindsight the Department of Health should have been engaged earlier in the process to integrate the travel plan with planning for site redevelopment.

Responsibility for implementing the travel plan rests largely with the QEIIMC Trust. The Trust has powers to manage the site including parking and infrastructure; though in practice its authority is mediated by the Department of Health which is its largest tenant. Involving the Department and other employers in actioning the plan will be essential as will ensuring travel demand aims are carried through into detailed planning and on-ground works as the redevelopment of QEIIMC occurs.

Planning for redevelopment of QEIIMC focussed attention on the need for a consistent approach to managing access across Perth's public hospitals. The WA Department of Health has drafted an Access and Parking Strategy for metropolitan health campuses to provide for equitable, safe and sustainable access for all site users (Sinclair Knight Merz 2006a). The strategy seeks consistent car parking policies across hospitals and requires the preparation of a travel plan for each health campus. The travel plan for QEIIMC is a comprehensive strategy for managing travel demand and offers a model for health campus managers.

Travel plans are relatively new in Australia and few have been prepared for health campuses. Travel plans have potential to enable better management of access to hospitals to address traffic and environmental impacts and the capital and operation costs of car parking. Their effectiveness in moderating travel demand is yet to be seen, however an integrated approach involving employers, transport providers and local authorities holds promise. For most hospital sites simply expanding car parking is not a viable alternative. A process of continual monitoring and improvement should be used to progressively assess performance against measurable targets and review travel plan measures.

6 Conclusion

QEIIMC is a major health campus serving Perth's central and northern suburbs. Car parking demand and local traffic are issues that will grow significantly as public health services are concentrated at the site. The travel plan developed for QEIIMC aims to achieve a shift in site access, including a 27 per cent reduction in employee car commuting within five years. Over this timeframe, key strategies for managing travel demand will include introducing user-pays car parking, improving public transport services and actively marketing travel alternatives. Employees working standard hours are the target for this change, though actions will also address patients, visitors and shift workers.

A consultative approach to developing the travel plan and linking it to statutory approval for the site redevelopment should ensure the actions it outlines are put into practice. Ongoing monitoring and review against mode split targets should aid implementation.

The QEIIMC travel plan is being used as a model in Perth where managers of public health campuses are now expected to develop their own travel plans. Travel plans offer a framework for addressing travel demand at hospitals to promote efficient, sustainable access. They warrant consideration by site managers and planning authorities seeking to tackle traffic generated by growing activity at health campuses.

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