

The Missing Link

Parking as the integration of transportation and land use

Julie Anne Genter (MRCagney)
Lorelei Schmitt (SKM)

5 November 2008



Prepared by:
McCormick Rankin Cagney
www.mrcagney.com

Introduction

Integrating land use and transport is currently promoted as a way to address the challenges posed by car dependence. But what does it mean in practice?

Parking management may be the key to:

Increased density
Mode shift
Better urban design

www.mrcagney.com/resources/in-transportation

Introduction

- I. Why is parking relevant and exciting?
- II. How did we get here? The History of Minimum Parking Requirements
- III. The unintended consequences
- IV. The New Parking Management Paradigm and Strategies (Lorelei)
- V. Political Viability: Selling it to the Public (Lorelei)

www.mrcagney.com/resources/in-transportation

I. Why Parking?

Every form of motorised transportation has three components:

1. Vehicle (car, bus, train carriage)
2. Running way (roads and tracks)
3. Storage area (car parking, stabling facilities)

In the case of private car transport, the land required for storage is significant. Each car usually has several parking places, one at home and several at different destinations.

www.mrcagney.com/resources/in-transportation

I. Why Parking?



www.mrcagney.com/resources/in-transportation

I. Why Parking?



www.mrcagney.com/resources/in-transportation

I. Why Parking?

Resource management → Major Land Use in urban areas

Travel Demand Management → Determines mode choice (generalised cost)

Urban design → creates areas that are uninviting, unsafe, detracts from green space or public open space

www.mtrading.com/consultants-in-transportation

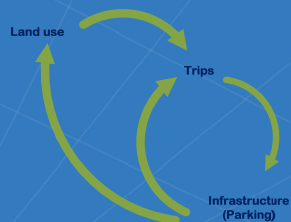
II. How did we get here?

Minimum Parking Requirements (District Plans):

- Site specific
- Based on demand (trip generation) for FREE parking at 85-95th percentile of peak hour
- Put in place so local authorities could avoid having to enforce on street parking
- Usually based on gross floor area (gfa) and type of land use

www.mtrading.com/consultants-in-transportation

II. How did we get here?



www.mtrading.com/consultants-in-transportation

II. How did we get here?

Examples in New Zealand:

Squash Club with Sauna	7 spaces per squash court
Child care centre	Employee parking 1 spaces per employee on site at a time
Retail and Commercial Area	1 space per 15m ² gfa

www.mtrading.com/consultants-in-transportation

III. Consequences

- 1) Creates over supply of parking → under values land
 - Inflates cost of all other goods and services through higher land costs (e.g. housing affordability)
 - Discourages compact development in areas with high land prices by raising costs
 - Reduced development densities and sprawl
- 2) Over supply reduces user price for parking (usually free)
 - Subsidises vehicle trips (approx 50% of perceived journey cost)
 - Undermines efforts to increase public transport, walking and cycling
- 3) Reduces land available for open green space and public squares

www.mtrading.com/consultants-in-transportation

III. Consequences



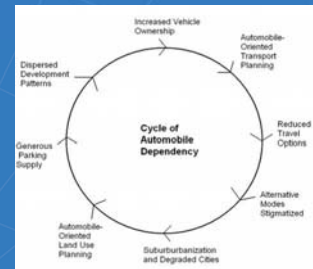
www.mtrading.com/consultants-in-transportation

III. Consequences



www.mccargny.com consultants in transportation

III. Consequences



www.mccargny.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

First, do no harm –

1. Remove Minimum Car Park Requirements

This allows developers to provide the amount of parking that they expect to require.

Low risk → political win – win

Creates economic incentive to increase density in areas close to origins/destinations, PT,

Allows the real estate market to begin pricing parking.

What if there's a shortfall??

www.mccargny.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

2. Price Parking

If demand for parking is high, that means people are willing to pay to park.

Users should pay directly for the cost of new parking facilities. Council can provide shared parking in a strategic area and should at least break even.

Most elastic responses to price parking are in the order of 10-30%.

Varies significantly depending on length of stay.

In an Auckland-specific report (Booze Allen Hamilton):

0-2 hours -0.1
2-4 hours -0.3
4-7 hours -0.5
7+ hours -0.9



www.mccargny.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

3. Shared Parking

Enable developments with complementary peak hours to utilise the same facilities. Public on or off street parking.

Resource consent conditions, or parking brokerage services.



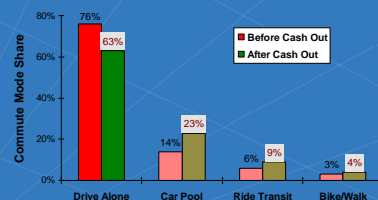
Weekday	Evening	Weekend
Banks and public services	Auditoriums	Religious institutions
Offices and other workplaces	Bars and dance halls	Parks
Park & Ride facilities	Meeting halls	Shops and malls
Schools and colleges	Restaurants	
Daycare centers	Theaters	
Transit terminals	Hotels	
Distribution centers		
Medical clinics		
Professional services		

www.mccargny.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

4. Unbundle Parking – e.g., cash out

Require that parking spaces be leased or sold separately from individual units / offices.



www.mccargny.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

Factor	Typical adjustment	References
Pricing	Reduce parking supply 10-20% where parking is priced	Kuamleh, 2003; Litman, 2006a; Boone Allen, 2006a
Shared parking	Reduce parking supply where shared parking is available	ITE, 1995b; ITE, 1999; Dean Engineering, 1999; Kuamleh, 2003
Unbundled parking	Reduce parking supply 10-20% where parking is unbundled	Beale, 2002; Naeem, 2002; Rusan, 2001; Shoup, 2000
Co-sharing	Reduce residential and commercial parking supply by 5-15% if co-sharing parking is located within 750m	Carpinus, 2003
Workplace travel plan	Reduce commercial parking supply by 10-20% where workplace travel plans are implemented	Clarke, 2003; Litman, 2006
PT accessibility	Reduce parking supply 10% for housing and employment located within 750m of frequent bus service, and 20% for housing and employment located within 750m of rail transit station	Litman, 2006a
Active mode accessibility	Reduce parking supply 5-10% in walkable communities, with additional reductions if parking is restricted along main arterial and off-street parking	Canessa and Radach, 1999; Litman, 2006a
Availability of nearby parking	Reduce parking supply depending on the location of parking available in surrounding area. The magnitude of effect of this strategy is highly site specific.	N/A
Travel patterns	Adjust parking supply to reflect variations in vehicle ownership and trip rates in area	Litman, 2006a
Residential density	Reduce parking supply by 2-2.5% for each resident per hectare	Litman, 2006a
Employment density	Reduce parking supply 10-15% in areas with 120 or more employees per gross hectare	Litman, 2006a
Land use mix	Reduce parking supply 5-10% in mixed use developments, with additional reductions if	Litman, 2006a

www.skmgroup.com consultants in transportation

IV. The New Parking Management Paradigm and Strategies

5. Overflow and Spill-Over Parking Plans

- > Manage effects of excessive parking demands arising during special events or peak retail season (eg. Christmas)
- > May include:
 - o Signage of full parking
 - o Include cost of PT in event tickets
 - o Residential Parking Permits (RPP)
 - o Temporary Parking



SKM

achieve remarkable success

IV. The New Parking Management Paradigm and Strategies

6. Directional Signs

- > Provide real time information on the location and availability of parking resources.
- > Place on key access roads into town centres and inform drivers of the locations, availability, and potentially the price and maximum duration of stay associated with off-street parking facilities.
- > Informs drivers
- > Prevents needless driving around

SKM

achieve remarkable success

IV. The New Parking Management Paradigm and Strategies

7. Transport Management Associations (TMAs)

- > Usually formed to manage the provision of transport within a particular geographical area.
- > Public & Commercial stakeholders – connect strategic directions with community interests
- > Functions can include:
 - o Parking brokerage services
 - o Input into allocation of parking revenue
 - o Oversee over-flow spillover parking plans.
 - o Case Study- Lloyd District – Portland, Oregon:
 - 650 businesses & 21,000 employees
 - From 1997 – 2006: Drive alone trips have reduced from 60% to 42%; and PT mode share has almost doubled from 21% to 39%

SKM

achieve remarkable success

IV. The New Parking Management Paradigm and Strategies

8. Car-share Organisations

- > City Hop (New Zealand – Auckland, Wellington, Christchurch)
- > ZipCar USA
- > By sharing vehicles, car-sharing organisations may reduce demand for residential and commercial parking by 5-10% (Litman, 2006a)
- > Supports removal of MPR

SKM

achieve remarkable success

IV. The New Parking Management Paradigm and Strategies

9. Travel Plans



- > Audit travel demands & recommend on-going management strategies
- > Parking cash-out
- > Company car cash out
- > PT passes
- > End of trip facilities for cyclists (lockers/showers)

SKM

achieve remarkable success

V. Implementing Regulatory Parking Reforms in a Political Environment

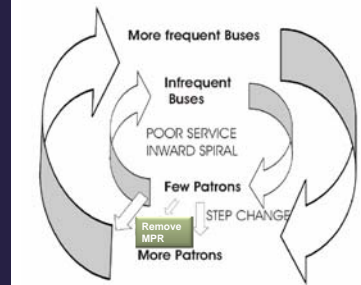
- > **Marketing / Travel Awareness Campaign**
- > Education and information campaign can mitigate adverse public perception when travel space is reallocated (Jepson & Ferreira, 1999)
 - o Information about adverse effects of car-use
 - o Promote car – free days
 - o Communicate benefits of parking regulation reforms (e.g. More interactive communities & desirable urban form etc.)
 - o Demonstrate case studies where parking has been effective in influencing travel behaviour change (Calgary)
 - o Politicians – modelling / promotion

SKM

achieve remarkable success

Implementing Regulatory Parking Reforms – Public Transport

The 'Chicken & the Egg' Co-Dependency



SKM

achieve remarkable success

Implementing Regulatory Parking Reforms in a Political Environment

- > **Community Consultation** – Travel Behaviour Change
- > Work with People in a 'Grass Roots' way – let them discuss own travel issues / solutions
- > Creating personalised travel plans that are measureable, achievable and accountable
- > Autonomy & Interaction – Preferable to only 'top – down' behaviour change approach

SKM

achieve remarkable success

Strategic Parking Management – Radical? - Not Really

- > Many of these methods are not completely new
- > Practiced overseas already – Portland, OR, USA; Calgary, Canada; all over Europe
- > New Zealand is somewhat 'behind' in still have MPR in District Plans
- > One of the only coercive TDM tools available to many practitioners in NZ
- > **Strategic Parking Management is a recommended TDM tool in the NZTS!**

SKM

achieve remarkable success