

How minimum parking standards underpin car dependence: The New Parking Management Paradigm

Julie Anne Genter (MRCagney)

10-12 December 2008



McCormickRankinCagney

Prepared by:
McCormickRankinCagney
www.mrcagney.com



Introduction

Integrating land use and transport is currently promoted as a way to address the sustainability 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





Introduction

- I. Sustainable development & car dependence
- II. How did we get here? The History of Minimum Parking Requirements
- III. The unintended consequences
- IV. The New Parking Management Paradigm and Strategies



I. Sustainable development & car dependence

Car dependence = when you have to use a car to access most goods & services (Newman & Kenworthy, 1999)

Increases personal transport costs

Increases GHG emissions, air pollution, stormwater runoff and contamination

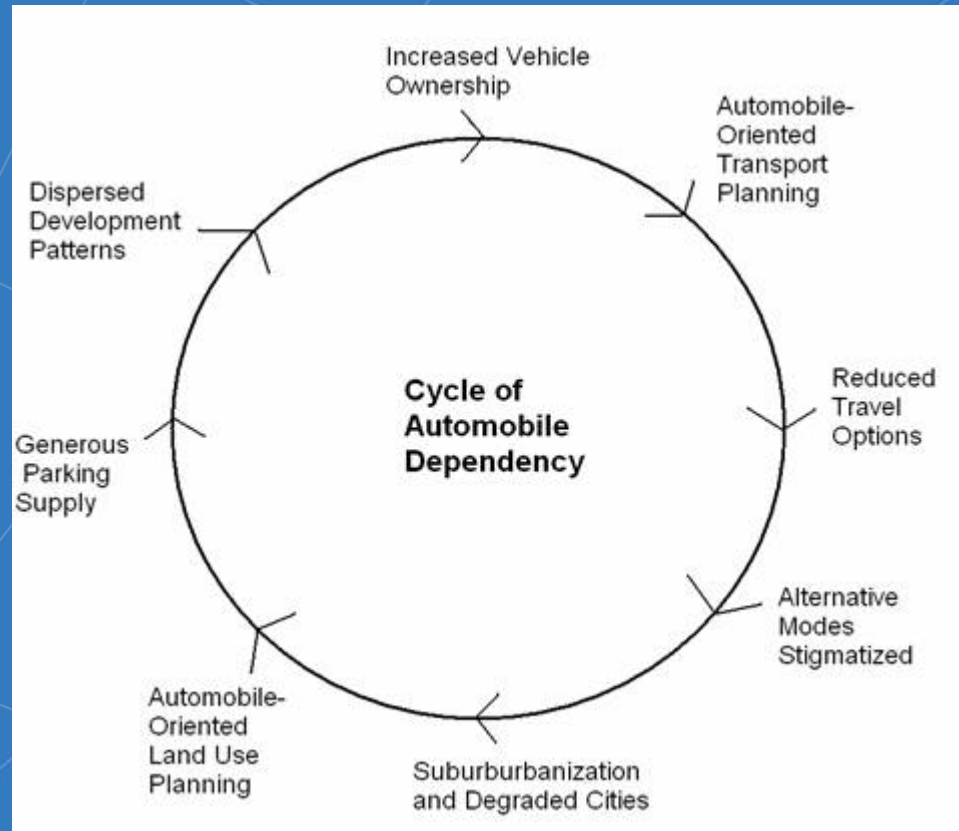
Not available to everyone (elderly, young, low income, disabled)

Reduces incidental activity levels → rising obesity and related health problems

Increases land costs



I. Sustainable development & car dependence



I. Why Parking?

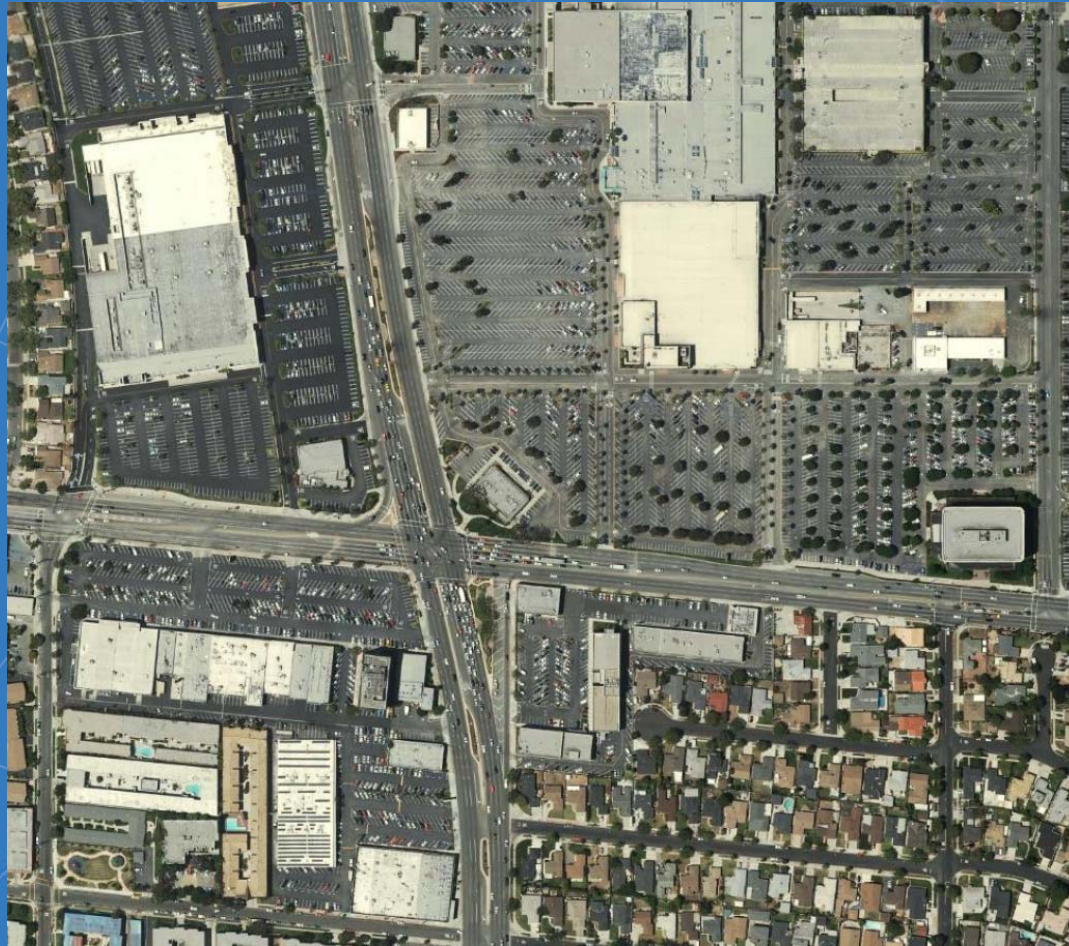
Every form of motorised transportation has three components:

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

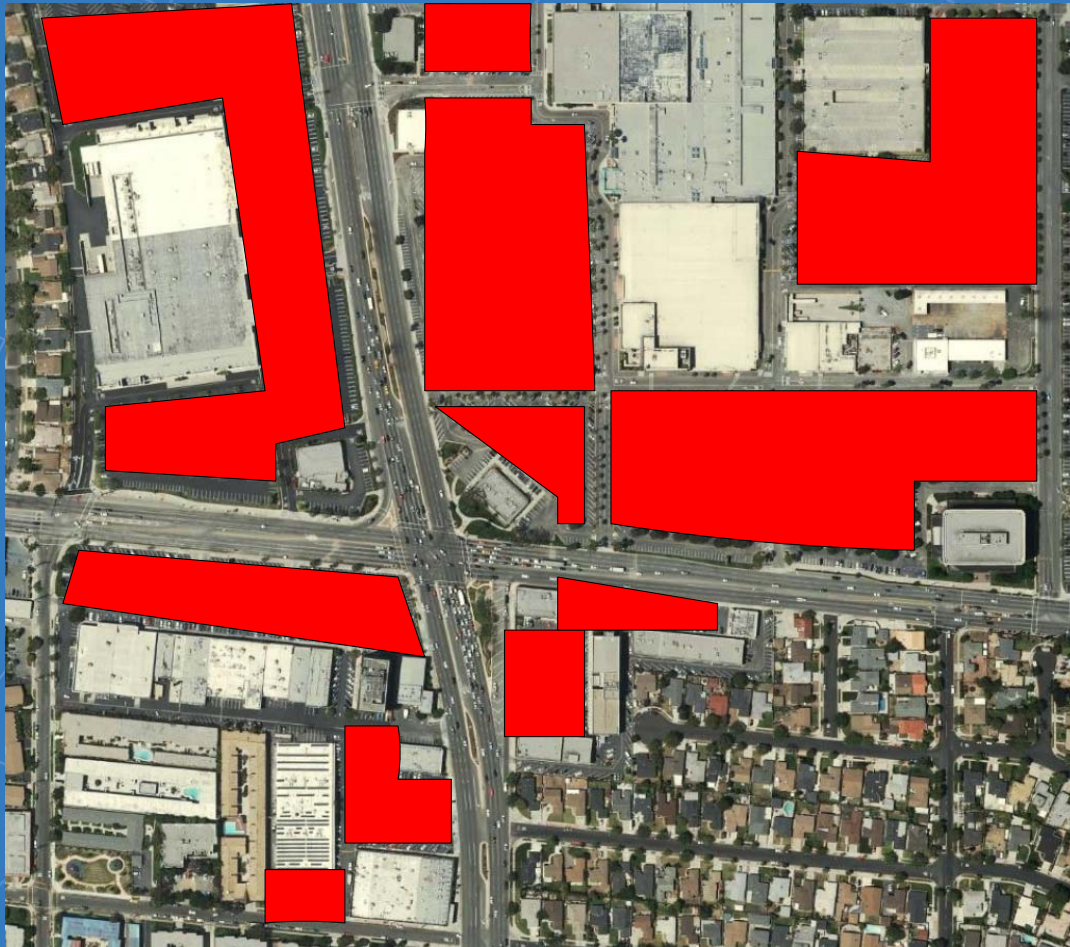
In the case of private car transport, the land required for storage is significant. Each car usually has several parking places, one at home and several at different destinations.



I. Why Parking?



I. Why Parking?



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



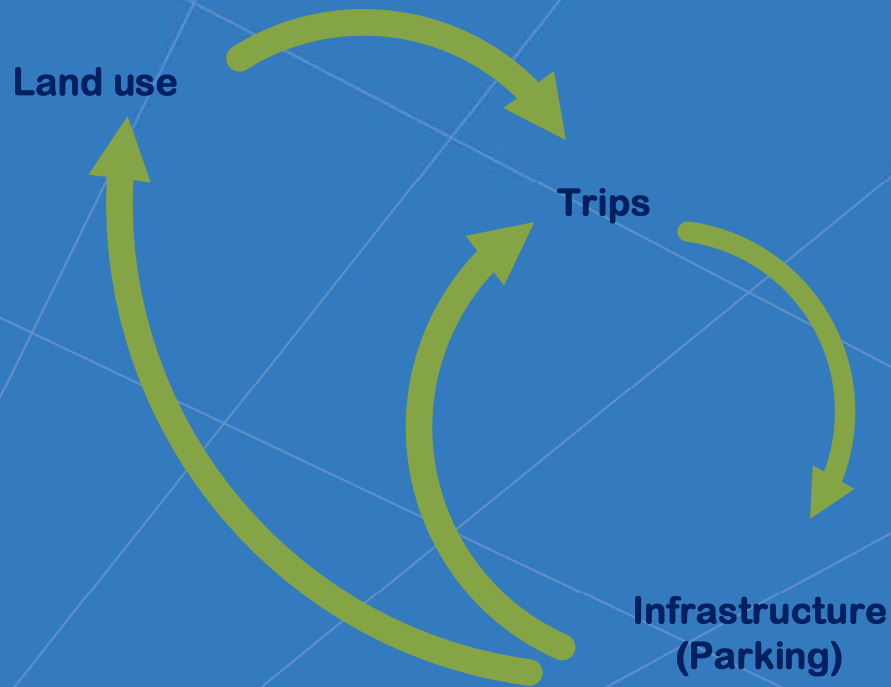
II. How did we get here?

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



II. How did we get here?



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



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



III. Consequences



III. Consequences

New Lynn – site identified for increased compact growth

Current supply of car parks (on & off street) → 11, 200

Maximum demand → 6,100

54% of available supply is used at max peak hour

Current supply is LESS than district plan requirements



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??



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

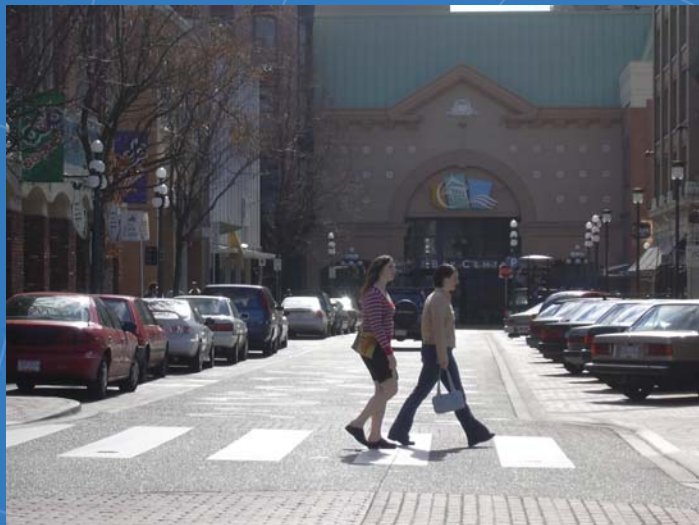


IV. The New Parking Management Paradigm and Strategies

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.



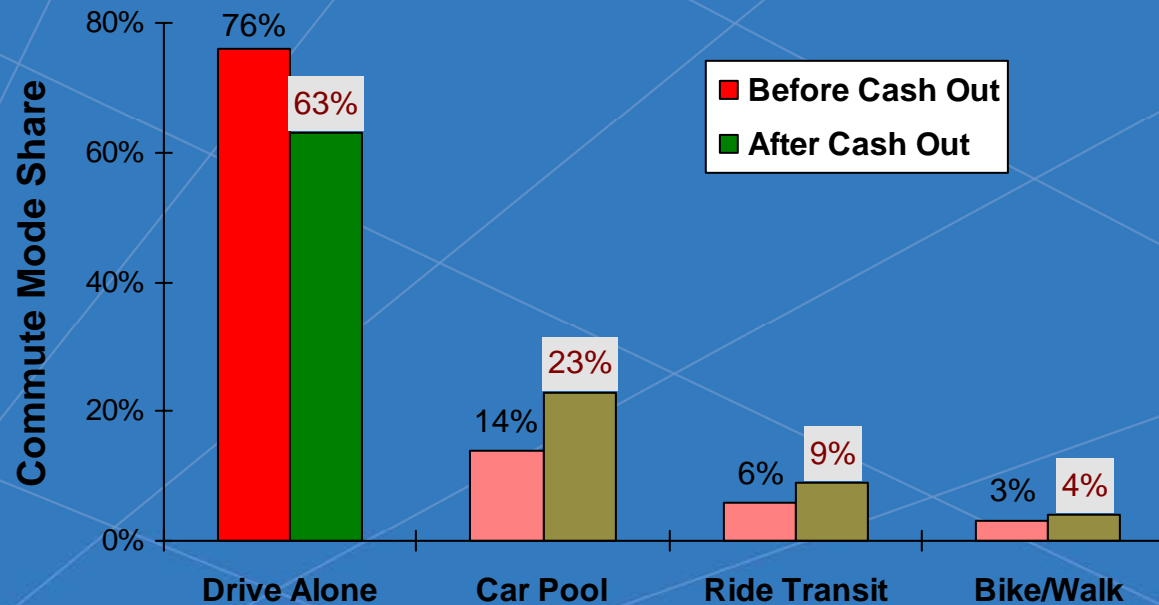
Weekday	Evening	Weekend
Banks and public services	Auditoriums	Religious institutions
Offices and other worksites	Bars and dance halls	Parks
Park & Ride facilities	Meeting halls	Shops and malls
Schools and colleges	Restaurants	
Daycare centers	Theaters	
Transit terminals	Hotels	
Distribution centers	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



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.



IV. The New Parking Management Paradigm and Strategies

Parking provision adjustment factors

Factor	Typical adjustment	References
Pricing	Reduce parking supply 10-30% where parking is priced	Kuzmyak, 2003; Litman, 2006a; Booze Allen Hamilton, 2006.
Shared parking	Reduce parking supply where shared parking is available	ITE, 1995; ITE, 1999; Stein Engineering, 1997; Kuzmyak, 2003.
Unbundled parking	Reduce parking supply 10-30% where parking is unbundled	Baker, 2002; Nelson, 2002; Russo, 2001; Shoup, 2005.
Car-sharing	Reduce residential and commercial parking supply by 5-10% if a car-sharing service is located within 750m	Carplus, 2003.
Workplace travel plan	Reduce commercial parking supply by 10-20% where workplace travel plans are implemented	Carplus, 2003; LTNZ, 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, 2007a.
Active mode accessibility	Reduce parking supply 5-10% in walkable communities, with additional reductions if walking improvements allow more shared and off-site parking Reduce commercial parking supply by 5% where end of trip facilities are available, such as showers and lockers are available	Cervero and Radisich, 1995; Litman, 2007b.
Availability of nearby parking	Reduce parking supply depending on the surplus 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% 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.



V. Conclusion

If we do what we always did,



We'll get what we always got!

