

**WAITAKERE ECO-CITY: POTENTIAL FOR
LOCAL SUSTAINABILITY INITIATIVES:
INTEGRATING TRANSPORT & URBAN GROWTH
STRATEGIES**

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ABSTRACT

This paper argues that post-war urban development derived from low density, segregated land use patterns and car/truck based transport systems is unsustainable in economic, social and environmental terms. These systems can be replaced by more compact urban forms supported by public transport systems, particularly light rail/train/integrated bus systems.

These strategic initiatives relatively well developed in Europe and Asia, are now emerging in New Zealand, Australia and North America. Waitakere, as one of the cities of the Auckland region, is committed to this approach. The recently adopted strategy for public transport for the Auckland region reflects these imperatives to integrate transport and land use planning.

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Waitakere Eco-City: Potential for Local Sustainability Initiatives: Integrating Transport & Urban Growth Strategies

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Overview

Most New Zealanders live in cities (over 80%). More than two-thirds of the urban areas we live in have been created since the Second World War. Characteristically, cities in New Zealand, like those in Australia, South Africa, the USA (especially the West Coast) and Canada, have been shaped by factors which encouraged low density development. These key factors were:

- ⌘ subsidised family housing (until the 1980s)
- ⌘ subsidised roadway/motorway construction
- ⌘ underpriced petroleum (at least till the 1970s)
- ⌘ land use zoning practices separating out home and work
- ⌘ centralised utility/infrastructure provision: water/sewerage etc

The evidence is overwhelming that this pattern of accommodating people who wish and have to live in our cities, is unsustainable. It is evident in terms of pressures on:

- ⌘ the environment
- ⌘ community life and wellbeing
- ⌘ resources - to service dysfunctional urban growth

There are alternatives - and in fact these alternatives are already emerging here and overseas as solutions in the making.

Part of the solution lies in being clear about what needs to be done to build more sustainable cities. This includes to:

- ⌘ check and remove threats to environment
- ⌘ find the capital required for infrastructure construction and reshaping (may be more a matter of diversion of resources from traditional ways not new dollars)

- ↳ make more liveable, safe, compact, lively and self-sufficient cities (based on concepts like groupings of urban villages)
- ↳ relitigate and relegitimate the role of government (who should and will make the changes)

These issues are being taken seriously world-wide - and the follow-up to the 1992 Rio Earth Summit, the global sustainable cities conference Habitat II in Istanbul in June this year is one indicator of that. Here in New Zealand, including specific urban initiatives in Wellington, Christchurch, Nelson, Hamilton and across the Auckland metropolitan area, there are signs at last of a co-ordinated proactive response to these challenges.

1. The Issues and the Case for Urgency

For much of human history cities have been crucial to economic prosperity and to cultural creativity and diversity. There is growing evidence that cities dependent on cars and sprawling land use patterns like ours now constitute threats to the global (as well as local) environment and therefore to economic prosperity.

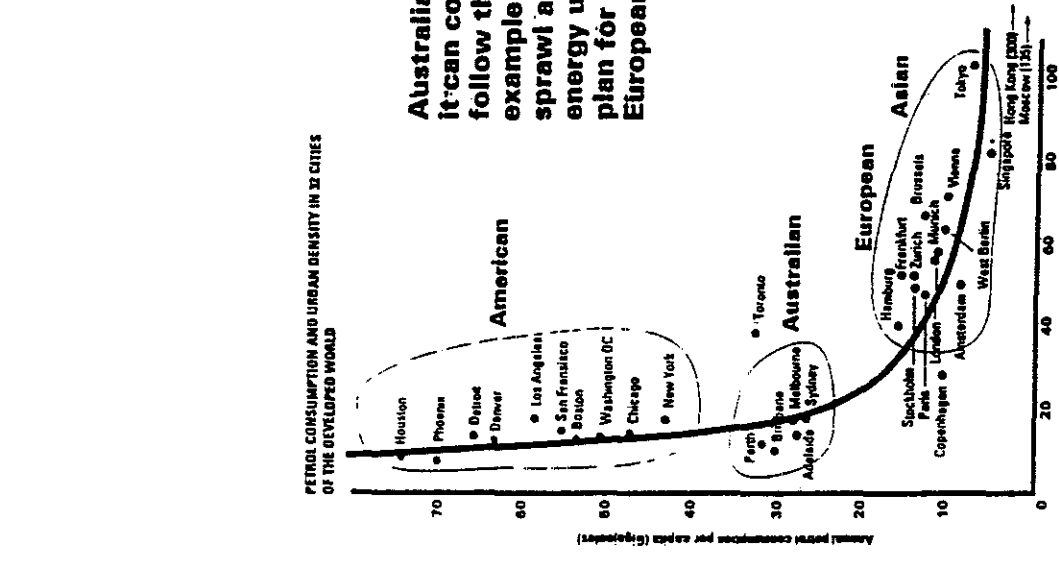
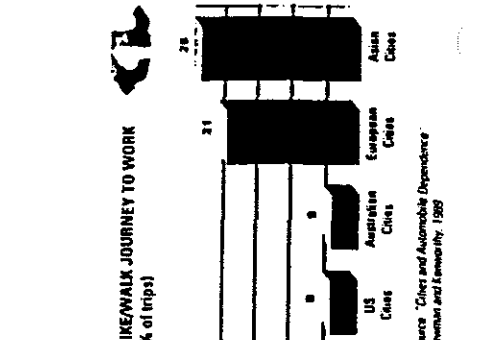
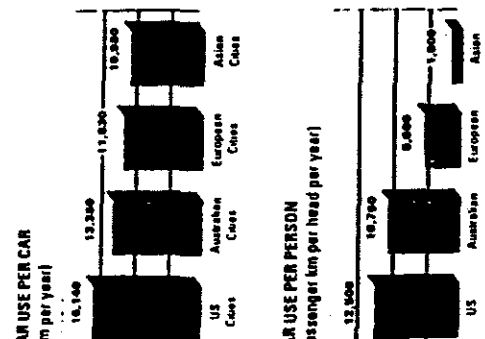
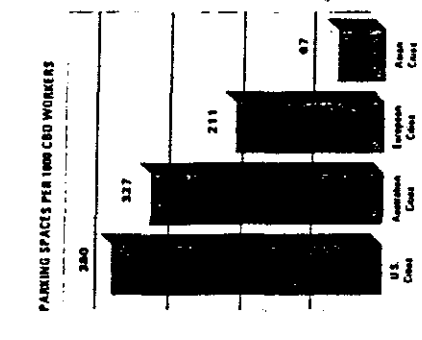
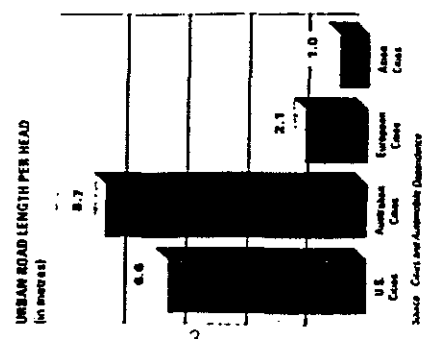
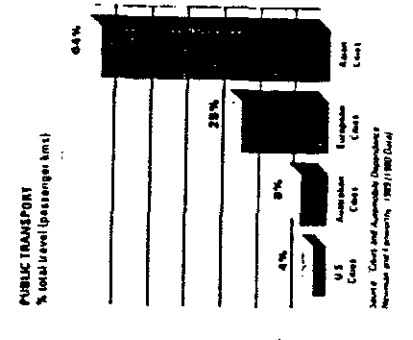
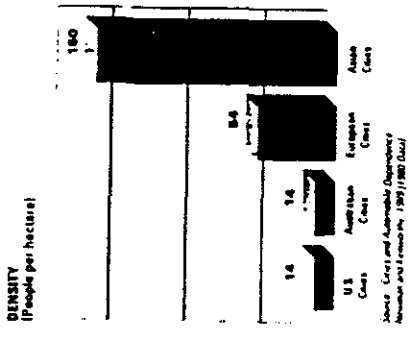
Dependence on the car, and the assumption about the right to own and use a car enabled a pattern of land use to emerge where public transport could not work. Bangkok is often cited as the ultimate example of a city choked by its dependence on cars, and visitors to Siam Square know what the air smells and tastes like, what it feels like to attempt to cross roads, of traffic that never stops, of journeys that should take 20 minutes, taking two hours. The essence of that story is: the solution has been seen as more motorways, more traffic engineering and distant suburbs. Bangkok is simply the example that more of the same (more cars more roads) does mean more of the same (more pollution, more delays, less public transport).

This is so in the Auckland region too - but I trust, not for much longer. There is still a pathetic belief justified by "public demand" and so called safety concerns that more motorways, more road widening, will provide "improved access", speed up the journey to work. The lesson has yet to be heeded that while such large investments may over a short time frame give motorists a few minutes a day less in their cars, in no time at all the slack is taken up and it's bumper to bumper again.

Professor Peter Newman from Perth, Western Australia - now an almost frequent visitor to New Zealand - has systematically researched the issues around the unsustainability of car dependence and the associated land use patterns. His research can be summarised in these diagrams (see next page). Conclusions drawn for Australian cities apply to us too

He describes how our sort of cities were made - the results of specific policy decisions not as some appear to think due to some divine intervention (see Appendix I pg xii and xiv, xv). He has also usefully described the challenges facing Australian cities in the next 20 years. These are also relevant to our situation (see Appendix I pg xiii)

PATTERNS OF CAR DEPENDENCY



Australia has a choice: it can continue to follow the American example of 'suburban sprawl' and high energy use, or it can plan for higher-density European-style cities;

Source: 'Cities and Automobile Dependency: Numbers and Emotions' (1987) (1988 Data)

There is an opportunity to do things differently and to take the resources earmarked for perpetuating a system that at best will work badly, to build systems that can and will generate better communities, less environmental damage and more local jobs.

Peter Newman demonstrates there are alternatives.

“We have recently completed a study which looks to the cost savings if over the next 20 years we built urban villages throughout the metropolitan areas of Australian cities instead of sprawling suburbs.

Our study found that this strategy would:

- ⌘ save 20% of per capita fuel use by 2005,
- ⌘ reduce the costs of urban infrastructure (power, water ...) by \$2 billion by 2005 and \$5.5 billion by 2021,
- ⌘ cut back on the number of cars bought by 200,000 by 2021
- ⌘ pay for extensive new light rail systems and traffic calming projects by transferring road funds not needed due to the stopping of urban sprawl,
- ⌘ save \$600 million per year in costs due to smog, accidents and noise pollution each year by 2005.

The economic advantages of this transit-oriented urban village approach appear to be powerful.” (Newman 1992: 34)

The evidence of the correlation between low density urbanisation and the level of CO₂ emissions is conclusive. Car use means petrol consumption which means CO₂ emissions which scientists now agree is more likely than not to be an influence on global warming.

So far I have focused on physical matters - for two reasons. Partly to make the point that our historic decisions to give preference to cars and suburbs have shaped our cities and lives - with some gains - but big losses. And that it is decision making sector by sector rather than in an integrated way (at all levels) from the local community, the suburb (or potential urban village), city, region or national level that has given us our dysfunctional cities, long journeys to work, unsafe travel systems, unsafe neighbourhoods - and all the things most of us see now as everyday life. But we need to be clear. These have been neither fair nor wise decisions - in an equity and an economic sense

The deprived (the carless in particular) who subsidise those with cars, and are less able to access resources, services etc (shopping, education, health, employment) are not a minority but around 50% of the population. They are the young, the old, the poor, the disabled, or one car families during the day. How much money goes into roading then is not just a matter of engineering, or demand. It is also a matter of roading for whom, with expenditure on the needs of one part of the community rather than another, and therefore a matter of social justice (a good source on this issue is David Engwicht who recently visited New Zealand. His book is “Towards an Eco-city - Calming the Traffic”). Given Maori and Pacific Island groups are over represented in the categories of “poor”, one or no car per household, these matters are pertinent to the resolution of wider social equity issues.

In summary then the problems of automobile dependence are:

Problems of Automobile Dependence		
ENVIRONMENTAL	ECONOMIC	SOCIAL
↳ Oil vulnerability	↳ External costs from accidents, pollution	↳ Loss of street life
↳ Photochemical smog	↳ Congestion costs despite endless road building	↳ Loss of community
↳ Lead, Benzene ...	↳ High infrastructure costs in new sprawl suburbs	↳ Loss of public safety
↳ High greenhouse gas contributions	↳ Loss of productive rural land	↳ Isolation in remote suburbs
↳ Urban sprawl	↳ Loss of urban land to bitumen (30-50%)	↳ Access problems for carless and those with disabilities
↳ Greater stormwater problems from extra hard surface	↳ Loss of time due to sprawl increasing distances	
↳ Traffic problems - noise, severance amenity		

Source: Newman 1995 adapted

2. Waitakere : Eco-city

In 1993 Waitakere City, under its then new Mayor (Bob Harvey), made two significant commitments. Both involved becoming a sustainable city. The first involved transforming a suburban edge city into an eco-city, the second a commitment to the local government initiatives flowing from Agenda 21 the sustainability programme for the 21st century arising from the Earth Summit at Rio de Janeiro in 1992.

The strategy adopted involves:

- ↳ ecologically based planning, within the natural framework of two magnificent harbours, the Tasman Sea and Waitakere Ranges;
- ↳ creating urban villages, through consolidating urban growth on key transport nodes - especially rail
- ↳ greening the city, by protecting and restoring ecological corridors, streams, linking bush remnants in the urban areas, protecting the Ranges and coasts, creating a green network;
- ↳ promoting green business and safer communities;
- ↳ retrofitting suburbia
- ↳ more self-sufficient locally based water, wastewater, stormwater and solid waste (rubbish disposal) systems.

The programme is being implemented by target setting, planning systems oriented towards those goals, high profile leadership, community involvement and demonstration projects. The concept and approach early on drew scorn and disbelief. Idealism, however practical and doable, is out of fashion. That government, national or local, can do anything half way good seems a thought few care to entertain. Substituting Waitakere for West Auckland, replacing images of hoons and wacky politicians with those of the Ranges and of films such as *The Piano*, involves a PR campaign reflecting real actions. This created the base for community and business acceptance that sustainability makes sense and can be made to work. And the so-called Auckland water shortage in 1994 helped because a high proportion of the City's population became involved in conservation - and gained an appreciation of the dependence of sophisticated societies like ours on basic resources.

So three years down the track where are we? What has been done? And I need to say we don't kid ourselves there's a long way to go from where we are - suburban, car dependent, job deficient, energy wasting, socially polarised.

Ecologically Based Planning: A new District Plan, premised on ecological principles, based on exhaustive studies of the natural and human environments, built on equally exhaustive public consultation to resolve issues, with significant Maori components (iwi input directly funded by Council in a spirit of partnership).

Creating urban villages, through revitalisation programmes (10 year strategy) in year 4 with 2 centres nearly complete and four more underway, a sustainable residential village through Council's development company at Harbour View (resource consent granted), through design competitions, and more recently significant private sector interest. The City is using innovative planning tools to introduce and apply new urbanism concepts at New Lynn.

Greening the city - a green network which does and will address ecological, leisure, and amenity objectives by linking key areas in public and private ownership, in effect to take the ranges to the sea. More than 30 separate programmes from the Parks Strategy to "Trees for Babies" and the Cemetery development programme are being drawn together.

Promoting green business and a safer community: business partly through an Enterprise Board and safer community through a wide range of community processes such as the Safer Community Council. Waitakere is a national pilot area for programmes relating to Maori and Pacific Islanders as well as the general community, eg injury prevention, co-ordinating health, welfare and education.

Retrofitting suburbia - seen as crucial given the preponderance of suburban living, involves redesign, planting, review of facility provision to promote and encourage neighbourhoods and linkage.

Water, wastewater, stormwater, solid waste - the Council is actively pursuing a business-like approach to these service areas that will deliver locally based, sustainable outcomes. Feasibility work is underway on smaller scale water supply and wastewater disposal units and plants. In solid waste progress towards a 40% reduction in waste volumes per capita is on target.

Transit initiatives - while the rapid increase in people travelling by train (by 73% in 1995) and investment in cycleways, walkway safety programmes and initiatives to improve bus services signal some success, this remains the most challenging area. Regionally Auckland TLAs have committed to an integrated transport system where public transport particularly light rail features strongly.

For Waitakere, the analogy some three years ago was that achieving the long term change from an edge to an eco city, from unsustainable development to sustainability, was like turning the liner, the QE II around. You need to know where you are, where you want to go, to know your resources, to be prepared to reallocate them and stick to the script. The shift initially is imperceptible but in time it is apparent and irreversible.

For us that is now so. It is evident in our urban centres. Communities through debate, reflection and involvement are reclaiming streams, coastlines, bush areas. It's their bush, heritage, passion not just a Council thing. Business is in expansion mode - and house prices are booming. From being the socially undesirable West, it's now among the most desired addresses in the Auckland region.

Transport and the systems that support it are now very much within the Council's sights. The Council is determined to stop spending on services and capital works it regards as fostering unsustainability, environmental and social damage. Road widening designed to enable cars to go 100 kph in 50 kph zones will stop. Roads will be narrower, footpaths better designed, traffic slowed. Stormwater runoff will be handled by "natural" rather than "engineered" through piped systems.

The financial strategy is based on simple principles - stopping waste, securing more efficient systems (better controls, implementation, techniques) and systematically reallocating resources. Rebuilding cities goes on day by day. The trick as we see it is to direct resources from lost causes to investments that will make a future for the next generation and their children.

There is much that other local authorities are doing that is compatible with sustainable development. The Resource Management Act and the Local Government Act are certainly enabling. These have been picked up well by Wellington, Christchurch and Hamilton - and some other cities and towns. But most appear still to find planning and plotting for the future (a real future as against an environmentally and socially degraded one) too hard, too challenging. New Zealand is in fact in danger of falling well behind European and Japanese cities, many in North and South America - and some Australian ones. The partial myth of a clean green NZ is beguiling and encourages an over reliance on nature to clean up after us.

Consciously or otherwise we can shape our living spaces for better or worse - and Waitakere intends to be part of the solution.

3. Securing Change: Transport a Case Study

If I were not a masochist I would focus on just about any part of the new urbanism action areas other than transport. When Waitakere embarked on its eco-city programme, supporters and critics both said you won't get anywhere, most of what happens is dictated elsewhere. Acceptance of that view, that big players (governments or business) and invisible forces shape our lives, numb us into inaction. We retreat to hedonism, to inanity to escape feelings of impotence.

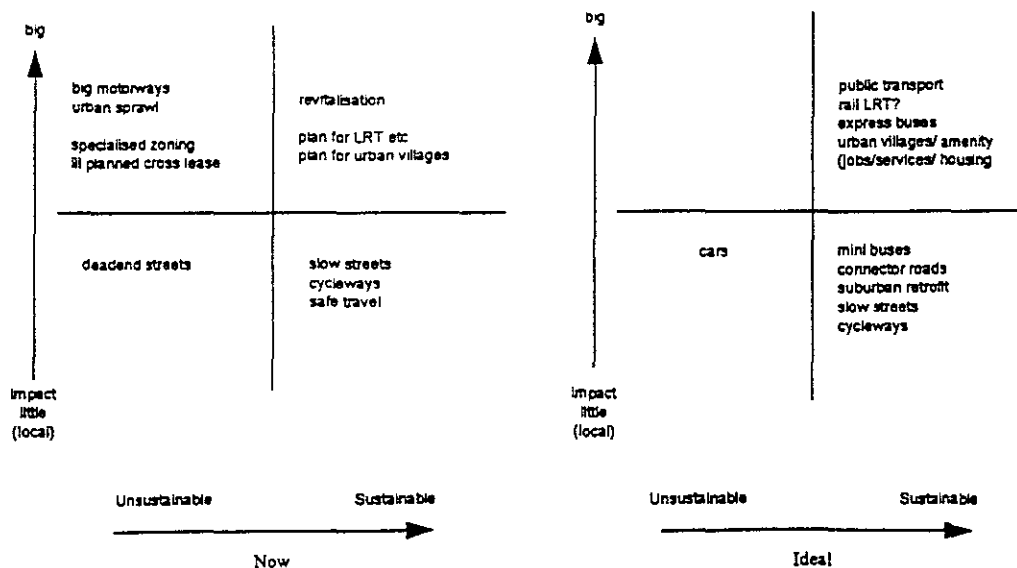
Transport does look hopeless. In Auckland although rail passenger figures are rising overall public transport use is declining. We are car dependent even in the country's largest cities. Transit NZ funds more roads, faster roads, wider roads.

Regional and local authorities also plan for and fund more roads, faster roads, wider roads. Expenditure on safety, bicycle routes, footpaths, pedestrian amenity is miniscule. For Waitakere after six years of lobbying while influencing the parameters for the regional transportation plan (the words sustainability are there) rail aside, the results do not indicate any significant shifts. This has been challenging within the City too. The community sees car transport as a given. The vocal are a long way from being divorced even from the third or second household car - and the carless think access to a vehicle would solve their problems. Elected members often, therefore, regard road spending as a sacred icon - an untouchable budget item, one place where the value for money is visible. And until recently Council's chief advisers were roading engineers, often unable, sometimes unwilling to change. And if those influences are not enough to preserve the status quo then compulsory asset planning and funding locks up the bulk of Council's annual budgets. Perhaps 7 or 8% of the roading budget could be construed as moving towards sustainability goals (that excludes urban consolidation and greening expenditure).

So far the inroads have been symbolic rather than real. In effect the strategy has been to:

- change the goal posts - the outcomes: to urban centres
safe neighbourhoods
- changing the work processes to multi-skilled teams led by non-engineers - particularly community development, using community planning specialists with negotiating skills in groups including elected members, business and the community. The accountability shifts from a focus on the professional, the artefact to the project, the goals and the community.
- passing projects through sustainability criteria scrutiny - and whether the expenditure takes the community towards or away from sustainability. If the impact is negative asking when will it stop and how can it be justified now.

In this approach roading budgets are guided less by transit subsidies and habit and more by where the city is heading. They are allocated to tomorrow's world not yesterday's. Conceptually it looks this way.



However 1996 may be just the year for mould breaking. At the national level the transport sector is being restructured creating the potential to fund public transport alongside private vehicles to secure hopefully improved funding for cities and hopefully a long term strategy. In addition in Auckland agreement has been reached on a region wide approach linking land use and transport planning.

4. Other Cities Experience

There are now many examples of significant shifts among city governments towards sustainable development. In some parts of the world the actions are co-ordinated. In Europe for example the European Commission has co-ordinated action plans. In Germany, the Netherlands and the UK a large number of cities have long term plans for sustainable energy, water, transport and urban systems. Japan is now taking a leadership role with regard to CO₂ reduction with a particular focus on cities. In Canada and the USA there are numerous examples also - Vancouver, Edmonton, Toronto, Portland, Milwaukee, San Diego to select some of the better known examples. Across the Tasman the Federal Government supports a Better Cities Programme and pioneering work relevant to making more compact cities, better public transport, sustainable water and wastewater systems is evident in Perth, ACT, Melbourne and parts of Sydney. The Olympic Village in the year 2000 will model sustainability principles.

Among the examples relevant to the New Zealand setting are:

Melbourne

Until the 1980s Melbourne's growth pattern was typically low density and dispersed. It enjoyed however a strong public transport system. In the 1990s the state government adopted an urban villages approach to planning for growth for the City. At its core was the Victorian Code for Residential Development which provides for higher densities, greater street connectivity and better site design. Following the commitment by the State Government in 1989 to reduce CO₂ emissions the urban strategy has been enhanced by the Greenhouse Neighbourhood Project.

This approach known variously as "new urbanism" or traditional neighbourhood development represents the integration of transport, mixed land use, energy efficiency and design initiatives to promote higher densities. The results from pilot studies so far indicate significant reduction (over 40%) in CO₂ generation between traditional low density suburbs and the newer higher density urban villages. However, with the change of government in Victoria this path breaking programme may stall.

Portland

Portland in the 1970s established a comprehensive strategy to contain and direct urban growth. It has adopted transportation strategy for 2040 that combines urban growth centres and its current and proposed public transport systems. It has committed also to reducing CO₂ emissions to 20% less than 1988 levels. National clean air and state requirements to reduce car dependence are the context within which Portland plans

A light rail system combined with fast train and express buses, local bus and mini bus systems form the transport initiatives complementing a high density mixed land use approach to accommodating new growth. Bikes are welcome on the LRT. In the inner city motorways planning have been scrapped and former blighted areas revitalised. Just for the record when the city government decided to spend on light rail in the late 70s rather than a new motorway, transport experts poured scorn on the proposal. As everyone knows you can't get people out of their cars. Now Portland is a show-piece of "new urbanism". It reflects strong civic leadership and a stubborn determination to put broader issues of community, civic amenity, resource use efficiency and mobility at the top of the city building agenda.

5. Do it Yourself Guide to Sustainable Cities

Peter Newman's research demonstrates what the pay-off could be resulting from working towards more compact, public transport oriented cities.

	US CITIES	AUSTRALIAN CITIES	TORONTO	EUROPEAN CITIES	ASIAN CITIES
Total Transportation CO ₂ (T/capita)	4.64	2.54	3.45	1.40	0.82
Gasoline CO ₂ (T/capita)	4.04	2.06	2.40	0.91	0.44
Diesel CO ₂ (T/capita)	0.51	0.39	0.84	0.32	0.25
Public Transportation CO ₂ (T/capita) +%electric	0.10 (60%)	0.09 (64%)	0.21 (67%)	0.20 (80%)	0.13 (70%)
Public Transportation Service kms per capita	30	57	81	79	103
Road length (m/capita)	6.6	8.8	2.7	2.1	1.0
Parking Spaces per 1000 CBD workers	380	401	198	211	67
Av. speed of traffic and Transit (km/hr)	43/26	44/30	7/25	30/33	24/25
Density (people/ha)	14	13	25	54	160

In the past 10 years New Zealand has scrutinised the role of government and scope of the public sector. In many areas this has produced real gains in efficiency, focus and participation. However much of the debate has been simplistic and despite ongoing revelations of business malpractice, set at the level of "bureaucracy bad" "business good". Without a more decisive approach from public authorities as well as business and the community the future will be as the doomsdayers say and the opportunity to convert the challenges we now face to better more liveable, clean safe cities will be lost. So the action possibilities are:

- ↳ Get inspired and inspiring leaders - there is an alternative to the status quo.
- ↳ Capture "the budgets", ponder the size of the roading budget and reallocate it single-mindedly to alternatives to car based transport
- ↳ Change your land use planning to permit "mixed" land use and urban consolidation (more compact neighbourhoods, suburbs, cities).
- ↳ Take city design from engineers and move to community/business based models.

- ↳ Proactively promote medium density housing mixed land use
 - ↳ development projects
 - ↳ joint ventures
 - ↳ demo projects
 - ↳ design guidelines
 - ↳ seminars for funders, developers, architects, builders
 - ↳ promote and publicise good examples
- ↳ Celebrate the successes, startups, the process and the finish - it is real fun making things better than you found them.
- ↳ Don't under-estimate what can be done locally.

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Australian Urban and Regional Development Review 1995 Green Cities Strategy Paper No.3, Canberra

Engwicht, David 1992 Towards an Eco City - Calming the Traffic, Envirobook, Sydney

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Waitakere City Council 1993 Greenprint for the Future - (revised version to be released for public consultation in May 1996).

Executive summary

This report outlines the background to housing policy that is fashioned by transport and planning policy.

Outline

The forces that shape cities are examined and related to the particular characteristics of Australian cities. The considerable variety in transport and land use patterns within Australian cities are elaborated from census data and recent survey work done by the federal government (Household and Location Survey (HALCS), and Local Area Research Studies (LARS)). The constraints and opportunities associated with the present transport and urban form patterns are examined. Different responses to these constraints and opportunities are also considered. The practices and institutions that give rise to present Australian transport and land use patterns are outlined together with the moves toward a more integrated urban system. A range of strategies, policy instruments and guidelines for different urban zones is summarised from the growing moves in each Australian city to provide a more integrated approach to housing, transport and urban form.

The five chapters of the report are summarised below.

Australian cities in context

The shape of a city is determined by a complex array of factors. Central factors are:

- the transport technologies chosen for the city;
- the economic priority given to capital for new suburban fringe infrastructure;
- the cultural priority given to high space provision in urban development; and,
- planning practices and institutions that serve the above priorities.

A brief history is presented of how Australian cities grew under transport regimes of walking, transit and now, overshadowing the others, the car. Capital investment has favoured new suburban development at the expense of investment strategies that might have concentrated on the city: renewal and redevelopment. Thus our cities, in the main, have been characterised by lower density suburbs. The cultural forces that place a high priority on the generous use of space are briefly examined.

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The patterns of high car use, low transit and low walking, high provision of automobile infrastructure and low-density are examined in comparison to 32 global cities. The patterns linking these parameters are depicted in graphs showing the close interdependence between transport and land use planning.

The interlinkages between housing, transport and urban form are thus seen to be a part of urban history. They are closely associated with the priorities assigned to different technologies, the level of new suburban infrastructure funding and the importance of space in urban development.

Inside Australian cities

The shape of Australian cities represents the variety of its past priorities in transport and land use; a pattern of five zones from core, inner, middle, outer and fringe areas is outlined using Melbourne as an example. Within these zones different 'cities' exist in terms of their transport and access to services.

The patterns of transport and access and how they relate to household choices are analysed using HALCS and LARS data. Although for most Australians the suburban house and a car are sufficient to provide for the urban lifestyle they are seeking, it is clear that there is a significant proportion of people for whom choices are very constrained. In particular, there is a systematic loss of access from core to fringe, and transport disadvantaged groups do exist where public transport is poor, such as single parents, the elderly (especially women) and children.

Constraints on Australian cities

The Australian car-based city, with its strong commitment to new suburban infrastructure, has a number of constraints that are beginning to be obvious. They are classified into issues to do with economic efficiency, environmental sustainability, social equity and human liveability. These problems are addressed by some in terms of particular incremental approaches that are largely technological in nature, and by others in a more systematic or comprehensive way involving social and institutional change. Table 1 summarises the problems.

It is suggested that the interacting and multiplicative nature of the problems is such that the more comprehensive urban systems approach is needed if the issues are to be adequately addressed. This requires an understanding of the practices and institutions that shape our cities before policies for change can be addressed.

EXECUTIVE SUMMARY

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Transport planning practices and institutions that shape Australian cities

The practices and institutions that characterise Australian cities and that are responsible for the high priority given to the car system and to the development of new suburban infrastructure include those listed below.

Transport system

- the transport system has been supply oriented, responding to demand rather than to managing demand, especially when it comes to the supply of roads and parking;
- the transport system has been governed too much by technical experts and has not been sufficiently community-based or visionary in its planning;
- transport users have not paid the full price for their transport; and
- funding systems for transport have been flawed in that:
 - they have assumed road expansion will be economic, normal and necessary but rail expansion has generally been seen as uneconomic, a thing of the past and unnecessary;
 - they have provided grants for road expansion from the federal government but rail expansion has had to come out of state government loans from a highly constrained borrowing limit;
 - they have not provided secure funding for traffic calming or cycling and walking infrastructure; and
 - they have forced transit systems into a narrow kind of commercial operation that can only be funded from users.
- there has been a lack of integration between responsible agencies in that:
 - transport agencies responsible for different modes have tended to compete and operate independently;
 - transport and planning agencies have tended to operate independently most of the time; and
 - state government transit agencies have rarely linked with local government planning agencies, thus preventing transit-oriented land development opportunities.

Table 1 Constraints on the future of Australian Cities

Economic efficiency

- **Infrastructure costs.** There are excessive costs for new suburban infrastructure (usually subsidised) whilst older city infrastructure is under utilised.
- **Transport costs.** The total costs of the car transport system exceed transit system costs by 30 to 40 per cent and are not paid for by users.
- **Time waste.** The more committed a city is to building its way out of congestion the more it loses the battle to save travel time.
- **Land waste.** The loss of rural land and the loss of land for parking and roads represents a major cost as land is allocated to less productive purposes.
- **Housing waste.** The mismatch of housing type and household need is increasing

Environmental sustainability

- **Oil vulnerability.** With global oil production expected to peak around the year 2000, there will be increasing vulnerability to oil shocks, whilst city development assumes oil will be as available over the next 50 years as it has been in the past 50 years.
- **Greenhouse gases.** Pressures to reduce CO₂ will increasingly turn to transport as it is the fastest growing user of fossil fuels and is least able to switch easily to other fuels
- **Photochemical smog.** Clean air is fundamental to the health of a city's occupants and yet Australian car-based cities are regularly exceeding limits.
- **Sprawl impacts.** The loss of bush and rural land on the fringe is proceeding at a rate of one acre per new household in Australian cities.
- **Traffic impacts.** The noise, visual intrusion, community severance, road accidents and parking blight caused by excessive traffic question the sense of a transport system dominated by individual car use.

Social equity

- **Inequities in being without a car.** Over half the population in Australia does not drive because people are too young, too old, too poor, disabled or just unwilling, and are thus transport disadvantaged.
- **inequities in location.** Those living in middle, outer and fringe suburbs are access disadvantaged; this particularly impacts on the transport disadvantaged.

Human liveability

- **Loss of community.** Community and neighbourhood interactions are lessened by the loss of accidental interaction that occurs with pedestrian and transit systems.
- **Loss of urban vitality.** The vitality and culture of the city is reduced as public spaces are dominated by cars rather than people.
- **Loss of public safety.** The safety of the city is reduced as the public realm is lost to privatised urban life.

Residential development system

- financial institutions have been geared towards investment in new land development rather than new industry development and tax laws have facilitated this;
- government planning resources have been heavily committed towards fringe development;
- building by-laws and zoning regulations have favoured greenfield sites at low-density;
- financial institutions and the building industry have been heavily committed to traditional kinds of housing in greenfield locations;
- infrastructure subsidies have favoured greenfield sites;
- separate infrastructure agencies have had budgets for land development not subject to locational scrutiny; thus greenfield development has become part of the normal budget process, whereas redevelopment has had to justify all new expenditure as 'out of budget';
- there has been a lack of strategic planning that incorporates and facilitates redevelopment, renewal, infill type of development through land packaging and other planning assistance;
- housing agencies have tended to catalyse new greenfield developments rather than catalyse redevelopment, especially transit-oriented development; and
- excessive and unnecessary commitment to segregation of housing and employment development.

Such practices and institutions have helped to ensure that Australian cities continue to grow outwards and mostly to be built around the car system, with supporting bus networks. These practices are under review at all levels of Australian government.

Cultural/spatial values system

- the advertising model of the 'ideal home' has been presented as a separate, one-storey bungalow to which all Australians should aspire; other options have been seen as second rate;
- the economic, environmental and social costs of high spatial priorities have rarely been presented to Australians or considered in town planning schemes;

- environmental quality (in building styles and public spaces) has rarely been built into Australian high-density developments; the modernist architecture of the high-rise '50s and '60s development did not do justice to traditional urban values for good urban design and gave 'density' a very bad image in Australia;
- 'space' has been equated with 'health' and incorporated into building by-laws and zoning, without regard for transport implications or the isolation of people in such development;
- the country or rural/bush surroundings has been seen in Australia as a better environment to live in, morally and socially, than an urban environment; and
- a separate house with a large front and backyard has been seen as the only acceptable urban environment for children.

Such practices and institutions have helped ensure that Australian cities have not consolidated, and have built in high car use. However in all Australian cities new studies by consultants and agencies have highlighted alternative priorities and different practices in the use of urban space. Thus, changes are beginning to occur in this spatial/cultural area as well as in the other two areas shaping our cities. State and local governments are much more aware of the trade-offs in providing spacious urban developments, and the move to create more diversity in the housing market reflects an increasing desire for more 'urban' choices.

This is part of a growing international and multicultural element in our cities. Together with the changing demography of Australian society (smaller households with fewer children and increasing proportions of older people), these are reasons why a more space-efficient city could be a more important cultural priority in Australia.

Options for the future: strategies, policy instruments and guidelines

New technologies and developing technologies are assessed to see how they are likely to shape urban form. Some are likely to continue urban sprawl; some will be more likely to facilitate urban concentration. Choices will need to be made which consider this urban dimension. Complementary public policies that facilitate the technologies and the desired urban form are required.

Strategies

The general strategy options that could lead to more efficient, sustainable, equitable and liveable cities are suggested to include:

- providing more balance in transport infrastructure by a higher priority for new transit, cycling and walking infrastructure and a commitment to traffic calming;
- developing transit-oriented integrated precincts of mixed-use development with higher density housing (urban villages);
- reorienting investment priorities through taxation changes and more intensive industry policy;
- characterising all transport decisions by demand management rather than demand responsive approaches; and
- providing guidance across government to achieve preferred urban outcomes by strategic planning based on visions and options developed through community consultation.

Policy instruments

In order to implement such strategies it is suggested that options could include:

- phasing in the pricing of transport on a full 'user pays' basis whilst providing social housing in accessible locations to ease equity problems, and incorporating 'beneficiary pays' principles into transit funding;
- pricing of land use decisions via economic impact statements on all new development (both redevelopment and new greenfield sites);
- specifying where preferred development should be and why through strategic plans and only providing assistance for infrastructure there; any other development is thus left as fully 'user pays';
- providing budget processes to facilitate redevelopment (rather than just greenfield redevelopments) and facilitate new transit (rather than just roads) by capital grants;
- implementing strategic plans through integrated institutions for transport and land use, including a process to enable the provision of new transit (preferably rail services) to all new developments;
- giving local government a more prominent role in public transport to integrate land use at a local level and provide community management;
- establishing mechanisms for joint development and private involvement in rail transit development;
- expanding education programmes to provide examples of better use of urban space that is also socially attractive;
- continuing demonstration projects of urban innovations, such as through the Building Better Cities Program and institutionalising processes to facilitate their replication; and

- researching innovations in transport and communications technology, and building technology in order to achieve more sustainable urban settlement patterns.

Guidelines

In order to guide these policy instruments, specific directions are suggested including:

- guide to urban development—a checklist for improved urban development practices based on efficiency, sustainability, equity and liveability criteria;
- guide to economic impact assessment for urban development;
- guide to physical planning targets for each zone of the city—targets for housing, other land use, transit and traffic calming; and
- guide to the provision of better local public transport and land use integration in Australian cities.