

INTEGRATING LAND USE AND TRANSPORT

Overview

Integrating land use and transport will encourage development that:

- increases access to public transport, walking and cycling
- encourages people to travel shorter distances and make fewer trips
- reduces car dependency.



ABOUT THIS OVERVIEW

Integrating land use and transport explains the policy which has been developed to reduce car travel and provide more equitable access to jobs and services. The overview introduces and summarises the strategies and guidelines that will implement the policy.

Background

This overview is part of a series of policies, guidelines and research supporting *Shaping Our Cities*, the metropolitan planning strategy for the Greater Metropolitan Region. *Shaping Our Cities* contains strategies to reduce car travel, make greater use of walking, cycling and public transport and provide more equitable access to jobs and services.

Implementing the strategies outlined in this policy and in *Shaping Our Cities* will:

- help achieve the aims of the government's air quality management plan, *Action for Air*
- enhance the viability of investment in new public transport under the NSW transport plan, *Action for Transport 2010*
- help achieve a range of social, environmental and economic goals including equity, neighbourhood amenity and lower road congestion
- support the NSW Government's commitment to the National Greenhouse Strategy.

This policy applies to urban areas throughout New South Wales. The policy will be reviewed after a year in consultation with councils and industry. It will be modified if necessary and otherwise amended as the need arises. Register for updates with metro@duap.nsw.gov.au

The policy package

This overview introduces four further elements of the policy package:

- *The right place for business and services* — planning policy on the management of travel demand by encouraging the location of appropriate trip-generating development in centres
- *Improving transport choice* — practice guidelines to implement the policy
- Draft State Environmental Planning Policy (SEPP) 'Integration of Land Use and Transport' — draft statutory instrument
- *Employment and journey to work patterns in the Greater Metropolitan Region* — a working paper with key statistics.

It also contains an explanatory note to guide the policy's implementation in the Urban Development Program.

More information is available on our website — www.duap.nsw.gov.au/transportchoice

Some technical terms used in this policy

Managing travel demand

— refers to measures which:

- minimise the need to travel and the length of trips, particularly by cars
- direct travel to the most sustainable mode of transport

Mixed use centres

— centres containing a variety of services and activities such as businesses, shops, community services and entertainment facilities

Multi-purpose trips

— trips taken for more than one purpose, for example, shopping is done on the way home from work

Trip-generating development

— businesses and services that are frequently accessed by many people and create a demand for travel.

ABOUT THE POLICY

The right place for business and services planning policy, together with this package as a whole, aims to moderate unsustainable growth in car travel. It aims to provide more equitable access to jobs and services, by planning to reduce the need for car trips and promote opportunities for walking, cycling and public transport.

Overview

At all stages, planning and development decisions have a crucial role in providing a choice of transport modes and managing travel demand. Planning can open up or reduce opportunities to use viable alternatives to the private car, to lessen the need to travel and shorten trips.

Land use planning practice should result in urban development and change that moderate car reliance so that other measures to reduce car use and the environmental impact of transport will be effective and affordable.

Planning and development must consider all relevant transport modes. In particular, improving access by walking, cycling and public transport must receive equivalent, if not greater, consideration than private car access.

Objectives

The aim of integrating land use and transport is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

- improving access to housing, jobs and services by walking, cycling and public transport
- increasing the choice of available transport and reducing dependence on cars
- reducing travel demand including the number of trips generated by development and the distances travelled, especially by car
- supporting the efficient and viable operation of public transport services
- providing for the efficient movement of freight.

Assessing transport implications

Transport implications must be thoroughly assessed at all stages of the planning process, to ensure that development proposals will not increase car dependence. The NSW Roads and Traffic Authority's *Guide to Traffic Generating Developments* (1993) is being reviewed to reflect the new emphasis of addressing transport and not just traffic.

In the past, the traffic or transport studies supporting development proposals have focused on accommodating private cars and commercial traffic. Now, when considering the location and suitability of development, satisfying the demand for car travel or parking must be balanced against reducing the amount of travel generated by development. This policy aims to reduce car dependency, improve access and maximise the share of travel by public transport, pedestrians and cyclists.



Locating businesses and services

The right place for business and services provides directions for:

- locating trip-generating activities near one another
- supporting a network of mixed use centres to accommodate these activities.

Businesses and services which generate transport demand should be in the 'right place' — that is, locations which offer a choice of transport and increase opportunities for multi-purpose trips. The siting of trip-generating development in dispersed locations carries significant community and environmental costs.

Vibrant, accessible, mixed use centres closely aligned with the public transport system should be encouraged. The role and status of these centres should correspond to their accessibility. Responsive planning, consistent decision-making and good design and management are needed to ensure that:

- there are development opportunities in centres for businesses and services
- community investment in infrastructure is protected
- investor confidence in centres is maintained.

Councils or consent authorities wishing to depart from these directions should only do so within the context of a local or regional strategy that meets the state government's integrated land use and transport objectives.

Parking as a travel demand management tool

Planning decision makers can limit the supply and increase the cost of parking to influence the choice of transport mode choice. People will be encouraged to use their cars excessively if there is abundant or cheap parking, even in areas with good access by public transport.

Local parking policies and codes should reflect the accessibility of public transport, walking and cycling and favour their use.

Councils should therefore:

- set maximum parking requirements for development
- limit the amount of long-stay parking in destinations which have good alternative access by public transport.

Councils should carefully consider placing restrictions on car parking in centres with good public transport access in circumstances where this may disadvantage the attractiveness of the centre for the public and business — relative to areas with poor public transport access (i.e. industrial areas). Measures to improve public spaces and pedestrian access should be considered to maintain the attractiveness of the centres in the face of such competition.

New residential development areas

New residential areas provide an opportunity to ‘get it right from the start’. To promote more viable public transport and reduce car dependence, it is important that the location, density, design and development (including staging) of new residential areas maximise access to public transport.

The Urban Development Program (UDP) is a state government planning program to manage the availability of land for urban development consistently with the metropolitan strategy (*Shaping Our Cities*). Ensuring that new urban areas are accessible to the existing and planned transport network is a key consideration.

Accessibility criteria have been developed to provide a framework for assessing areas for inclusion in the UDP or setting priorities for the development of areas which are already in the UDP. The accessibility criteria are outlined in the attached explanatory note.

The state government has adopted a target minimum density of 15 dwellings per hectare for new residential release areas. This will slow the consumption of land and ensure there are enough people to support viable and effective public transport services.

To ensure use of public transport is maximised, building forms and subdivision designs and layouts must encourage walking, cycling and the use of public transport, and bus services must be introduced early in the development process. There should be consultation with transport operators as early as possible and this should continue throughout the planning and development process.

THE GUIDELINES

Improving transport choice

Improving transport choice provides guidelines for integrating land use and transport. The guidelines will assist councils in converting metropolitan planning and transport objectives into outcomes at a local level in relation to precincts or individual developments.

The guidelines are based on ten 'accessible development principles', which are:

1. Concentrate in centres
2. Mix uses in centres
3. Align centres within corridors
4. Link public transport with land use strategies
5. Connect streets
6. Improve pedestrian access
7. Improve cycle access
8. Manage parking supply
9. Improve road management
10. Implement good urban design

The guidelines also advise local councils, the development industry, state agencies, other transport providers and the community how they can:

- locate land uses and design development to encourage the use of more sustainable transport such as public transport, walking and cycling
- help provide transport choice and manage travel demand to improve the environment, accessibility and livability.

The Department of Urban Affairs and Planning, Transport NSW and the NSW Roads and Traffic Authority have jointly prepared *Improving transport choice*.



THE DRAFT SEPP

Integration of land use and transport

'Integration of Land Use and Transport', a draft state environmental planning policy (SEPP), has been released for consultation with councils, the public, the development industry and transport agencies and providers.

It aims to better integrate land use and transport planning at the local level by putting in place provisions to guide:

- the preparation of draft local environmental plans
- the adoption of development control plans and master plans
- the consideration of development applications.

The provisions contain matters to be considered including:

- the aims and planning objectives of the SEPP
- appropriate consultation with transport authorities and transport providers
- the need to moderate and manage (rather than satisfy) travel demand, particularly the way traffic impacts are studied, assessed and acted upon
- the provision of an urban structure that will assist the viability of and encourage walking, cycling and public transport use
- the achievement of minimum gross residential densities of 15 dwellings per hectare and suitable layouts in new residential release areas which will promote the viability of any public transport service.

To comment on the draft SEPP, see the back page.

KEY STATISTICS

Employment and journey to work patterns

The package also includes a paper which analyses the results of the 1996 census in relation to trends in employment location and journey to work patterns in different parts of the Greater Metropolitan Region.

EXPLANATORY NOTE — URBAN DEVELOPMENT PROGRAM ACCESSIBILITY CRITERIA

This explanatory note provides criteria to assess the suitability of land for inclusion in the Urban Development Program (UDP) rezoning or subsequent subdivision based on accessibility.

These criteria assess a proposed new residential area in terms of three ‘accessibility factors’:

- 1. location/land use** — the area’s proximity to existing public transport networks and related activity centres
- 2. public transport network** — the area’s potential to be served by economically efficient public transport services
- 3. catchment** — the area’s ability to contain, or form part of, a larger urban area which contains enough people to support public transport services with a reasonable service frequency.

Two sets of criteria are provided for each of the above accessibility factors:

1. criteria to be applied at the **strategic planning** stage, i.e. by councils or DUAP when sites are investigated for possible inclusion in the UDP, or existing UDP sites are being programmed for zoning and development (refer to criterion 1.1)
2. criteria to be applied by councils to subdivision design at the **implementation** stage (refer to criterion 1.2).

These criteria should be provided to councils as part of the approval for inclusion in the UDP, to maximise the accessibility of the proposed development.

Both sets of criteria are essential. While a site can be well-located in terms of the strategic planning criteria, these benefits may be minimised by poor subdivision design, such as circuitous street networks and lack of a safe and direct pedestrian network.

1. Location/land use factor

1.1 Strategic planning

Criterion

New residential development should be substantially within 5 km of an existing or programmed City Rail station (or equivalent mass transit node) served at least every 15 minutes in the peak hour.

'Mass transit' here includes heavy rail, light rail and bus rapid transit such as the M2 Busway.

Justification

This criterion:

- **maximises the proximity of regional public transport services and reduces car dependence**
- **reduces the time taken to access a variety of community and commercial services, because concentrated development within walking distance of a station is accessible as a single trip destination**

Locating activities closer together supports a shift from car use to walking, cycling and public transport use. The provision of locally accessible facilities is a high priority for people moving into a new area, with the lack of them a common cause of dissatisfaction.

The clustering of facilities provides an opportunity for multi-purpose trips, and close association between uses reinforces their viability. Clustering increases the proportion of people using public transport rather than private car by reducing the need for 'trip-chaining'.

- **recognises the capacity of a large section of the community to cycle a distance of 5 km (i.e. a trip of a little over 15 minutes, given a manageable cycling speed of 18 km/h)**

The NRMA conducted a survey on car use in 1996. Walking or cycling on short trips was identified by 63% of survey respondents as the most popular 'realistic action to benefit the environment'. Among the 70% of respondents who have taken weekly action to reduce car use, cycling for short trips was identified as an important behavioural change.

- **maximises the efficiency of bus operations**

At an average operating speed of 25 km/h, a two-bus fleet can serve a 10 km route (i.e. from one side of a 5 km radius area to the other, 'anchored' by the central public transport mode) at a 30-minute frequency. A greater trip length can reduce efficient fleet use.

When an all-day demand generator (e.g. a retail area adjacent to a rail station) is located in the middle of a bus route, off-peak efficiency can be maximised by reducing empty running.

- **helps reduce vehicle emissions, especially the 'cold start' element**

When a vehicle that has not been driven for an hour or more is started, a disproportionately high amount of exhaust emissions are generated until the catalytic converter becomes warm enough to operate at maximum efficiency. As a result, action to reduce car use of trips of less than 8 km will have a high relative impact on emissions.

- **recognises that an increasing proportion of the population will experience reduced mobility due to age, and supports the 'localising of horizons' that will accompany this**

The incidence of walking remains fairly stable over a lifetime, and increases in late middle age. Planning for pedestrian movement will maintain accessibility options for different age groups.

1.2 Implementation

Criterion

Every household should be within 800 m total walking distance of an existing or programmed metropolitan rail station (or equivalent mass transit node) served at least every 15 minutes, or within 400 m walking distance of a bus route (accessing such a node) served at least every 30 minutes.

Justification

This criterion:

- **offers local access to public transport to people of most ages and capabilities, implying a walking trip of up to 5 minutes to a bus stop and 10 minutes to a station**

Average travel speeds in an urban environment have been estimated at 5 km/h for pedestrians and 18 km/h for cyclists. Importantly, a pleasant and interesting environment can double the distance that people are willing to walk.

In the case of access to a bus route, a 400 m maximum distance standard should be used to govern the distance between bus stops.

2. Public transport network factor

2.1 Strategic planning

Criterion

New residential development should be assessed in terms of the area's trip generation and impact on the performance of the existing subregional transport network serving the area. The strategy for future UDP releases should also take into account the commitments in the state government's transport infrastructure plans.

New residential development should be serviced or have the potential to be serviced by an existing or programmed network of cross-regional transport routes rather than necessitating the provision of a branch addition to existing networks.

Justification

This criterion:

- **supports efficient regional public transport (especially bus) operations**

A new urban development area situated between two rail corridors is likely to be more efficiently served by cross-regional public transport than an urban development area that needs to be connected by a single public transport route 'spur' to the rail system.

2.2 Implementation

Criterion

New residential development should be based on the type of interconnected street network that (a) minimises the travel distance between two points and (b) in its design facilitates walking, cycling and going by bus.

Justification

This criterion:

- **supports efficient local public transport operations and leads to higher user satisfaction and patronage**

Public transport services based on a grid pattern are the most easily understood by users. International research has found there is a link between neighbourhood characteristics associated with a connected street network and an increase in walking, cycling and public transport use.

In Sydney, a recent Transport Data Centre study indicates a positive correlation between off-peak public transport use and a traditional street layout (calculated according to road 'straightness' and the number of 'T' intersections). By contrast, urban development based on culs-de-sac supports only indirect and unattractive bus routes which result in lower frequencies and low bus patronage.

3. Catchment factor

3.1 Strategic planning

Criterion

New residential development should accommodate the highest feasible density, in terms of land capability and market, and either form on its own, or as part of larger area, a public transport catchment with the potential to serve 6000 residents.

Justification

This criterion:

- **supports compactness of development and provides a 'critical mass' of public transport patronage**

A residential density of 15 dwellings per hectare is considered sufficient to justify relatively short spacing of stops and more efficient public transport operations.

In new urban areas, this development will (as illustrated previously) generally support a 30-minute off-peak bus service.

3.2 Implementation

Criterion

Development should be staged in a contiguous manner and with adequate roads to make the early provision of bus services feasible. Councils should work closely with local bus operators to provide services as early as possible after the first residents move in.

Justification

This criterion:

- **supports the early efficiency of public transport operations**

It is important that new residents gain an early positive impression of public transport availability to avoid a possible decision to purchase (usually a second) family car.

Discretionary travel will be hard to influence away from car use once a car becomes available and the up-front fixed costs of purchase have been 'forgotten'.

Comment on the draft SEPP

Let us have your comments on the draft SEPP. It is on our website at:
www.duap.nsw.gov.au/transportchoice

The length of the exhibition period and the location of the exhibition copies are indicated on the website.

Send your comments to:

The Director
Metropolitan and Housing Policy Branch
Department of Urban Affairs and Planning
PO Box 3927
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or

email comments to metro@duap.nsw.gov.au

How do I find out more?

For more information on the package go to www.duap.nsw.gov.au/transportchoice

To obtain the package:

- email information@duap.nsw.gov.au
- phone (02) 9391 2222 or (02) 9391 2223.

For more information on the policies or to lodge any comments:

- email metro@duap.nsw.gov.au
- phone (02) 9391 2201 or (02) 9391 2195
- fax (02) 9391 2399.

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NSW Department of Urban Affairs and Planning

www.duap.nsw.gov.au

Printed August 2001 ISBN 0 7347 0237 X Pubs no. 2001/130

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