Integrated Land Use and Transport Planning Policies

A review of selected initiatives outside Australia and their applicability to strategic land use planning in Perth, Western Australia

A Discussion Paper prepared by Carey Curtis for Ministry for Planning on behalf of the Western Australian Planning Commission

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The Western Australian Planning Commission has commissioned this report on integrated land use and transport planning policies. This report reviews the current metropolitan planning strategies against the wider context of international examples of integrated land use and transport planning practice. The intention is to provide the Transport Committee of the Western Australian Planning Commission with information on appropriate approaches to adopt from overseas experience in respect of the integration of land use and transport planning. The report will assist in the development of appropriate strategic land use planning policies relating to transport for the Perth Metropolitan Region and assist in the implementation of the State Planning Strategy.

This report has been prepared by Ms Carey Curtis, a lecturer at the Department of Urban and Regional Planning at Curtin University of Technology and a land use and transport planning consultant. The author wishes to acknowledge the advice given by colleagues at Curtin University, in particular Stephen Jennings, and to employees at the Ministry for Planning including John Chortis, Roger Hill and Ian MacRae. While the report is commissioned by the Ministry for Planning the author takes full responsibility for any errors contained herein.
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Study objectives

The Ministry for Planning (MfP) commissioned this report on integrated land use and transport policies. The objectives of the study are:

• To provide information and comment on selected ‘best practice’ initiatives currently being applied in the UK, Europe and North America. Of particular interest to the Ministry is detailed comment on the English national planning policy Planning Policy Guidance Note 13: Transport (PPG13) and

• To consider the application of these best practice initiatives within Perth’s strategic planning framework.

Policy context - Perth

As a starting point an overview is made of the current and emerging land use and transport policy environment in the Perth Metropolitan Region. The aim is to identify specific objectives and actions in order to provide a context against which to consider best practice initiatives being implemented outside Australia.

There is no one central document which provides the policy for integrated land use and transport. Instead there is a range of documents, the most recent being the Metropolitan Transport Strategy (a joint publication of the MfP and transport agencies) and the State Planning Strategy. Both offer strategies which seek to move away from car dependence. It must be noted that while these are the most recent documents, the main actions and approach do not vary significantly from that found in earlier documents. There is therefore a long standing policy environment in favour of private car travel reduction.

A review of policy found that there is a wealth of good ideas and proposed actions, many of which are found in policies established for some years. The study does not focus on implementation approaches in Perth but it may be that problems in this area prevent policies moving into actions.

A comparison with the UK

An examination of the relationship between the Perth strategy for integrated land use and transport and the UK approach reveals that the actions identified for land use planners in both countries follow broadly similar approaches. There are some differences:

• the amount of development expected to be accommodated on brownfield sites (UK=60%; Perth=20%);
• parking constraints are tougher in the UK;
• locational requirements for recreation and leisure are defined in the UK but not in Perth and
• a car pooling and high occupancy vehicle strategy is mooted in Perth but not in the UK.

A review of the implementation process in the UK found that not only are planning controls more robust (for example there are key links between development plans, planning application decisions and appeals) but also that other measures add to the effectiveness of implementation. These other measures include

• other separate but linked legislation;
• development of Local Agenda 21 at the local level;
• a funding process for local authority transport which encourages non-car based options such as bus priority.
Executive Summary

measures, traffic calming and provision of cycle facilities and park and ride.

Selected best practice initiatives

The best practice initiatives are drawn from the linkages between Perth and UK policies. As such initiatives are reviewed under three sections:

- Location of Development;
- Choice of Transport Modes and
- Complementary Transport Measures

Location of development

Two broad areas are considered - i) self-containment and urban form and ii) intensive development in transit corridors and stations. Examples are drawn from the UK and Netherlands for the first item. The initiatives demonstrate that there are a number of factors which may be important in implementing a self-containment policy in Perth:

- A clear framework for defining appropriate locations which focus on public transport, cycling and walking. This could build on existing WAPC policies such as Metropolitan Centres and Development near Metropolitan Railway Stations;
- Joint working with regional groupings of local authorities to define the framework;
- A Section 5AA policy statement on location of development in order to ensure implementation;
- A State-led process;
- An assessment of existing and proposed non-car based transport operations in order to define appropriate locations (this will require joint working with transport operators);
- Effective approaches to monitoring and implementation. Such tasks could build on the model of the MfP Local Housing Strategy and
- A facilitator for land assembly in urban locations.

In examining location of development in relation to transit corridors and stations, initiatives in Canada, Copenhagen and the UK are reviewed. In addition current research findings on travel behaviour in relation to rail are examined. A number of suggestions are made to assist in the implementation of Perth’s existing station precincts policy including:

- Clear setting of objectives and targets;
- An evaluation framework;
- A State-led role using development briefs as a tool;
- Collaboration with local authorities and transport operators;
- The need for site assembly, LandCorp to facilitate;
- Providing for ‘people intensive’ uses at stations (offices, education etc);
- Creation of and priority to walkable environments in the station precinct and
- Financial incentives to use rail can also be explored.

Choice of transport modes

Three initiatives are considered:

- the use of accessibility profiles;
- use of the UK model of Transport Policy and Programs (TPPs) to enable local authorities to provide for modal choice and
- pedestrianisation schemes which provide for integration of all modes.

All three initiatives report on UK practice. From this review it is clear that a range of tools are available to land use planners in seeking to ensure development provides for a choice of transport modes. It is also important to address the decision-making process in funding arrangements for transport infrastructure to ensure priorities are given in relation to established policy.
Complementary transport measures

The final section examines the use of parking constraints. It is suggested that this is the most powerful tool available to land use planners in contributing to travel reduction in the short term. The first initiative reports on the coordinated approach to provision being adopted in London. The second initiative looks at the development of an integrated strategy (for park and ride, bus priority, pedestrianisation) which uses car park policy as a key tool. A number of requirements are suggested for achieving implementation in Perth including reassessment of parking requirements and avoidance of competition between local government areas.

The suggested approach for WA

A consideration is made of how the above initiatives might be applied in WA. The existing strategic planning process is reviewed and a number of questions are raised about the current implementation process.

Three groups of initiatives are suggested in order to ensure integrated land use and transport policies are implemented:

- **Planning Process**
  - suggests the need for clear policy guidance in order to direct local government and other players;
  - an implementation plan for each action in the strategy with guidance on existing and new areas;
  - use of transport impact statements and investigation of financial incentives.

- **Policy Issues**
  - identify actions and policies in relation to journey purposes as well as land use;
  - apply initiatives to existing areas as well as new greenfield sites;
  - include more details on recreation and leisure trips/uses;
  - high density employment at stations;
  - introduce an integrated package of measures and pursue a parking strategy.

- **Further research**
  - undertake a travel audit to establish what deficiencies there are in existing areas.

Next Steps

The final section considers the next steps towards an integrated strategy in WA. These include:

- the need for a more robust planning and appeals decision-making system;
- monitoring policies;
- development of a good practice guide;
- education of practising planners;
- clearly defined local government roles and
- use of financial incentives, joint working of all agencies.

The need for early progress is identified given the long lead times in effecting change through the land use and development planning process.
1 Introduction

1.1 Scope of report

In the past two years significant policy developments have occurred in Western Australia. First the publication of a Metropolitan Transport Strategy for Perth. This was produced under the umbrella of the State Transport Policy. Second the more recent publication of a State Planning Strategy. These documents provide the most recent policy statements on the need for integrated land use and transport planning. This report reviews those emerging policies (where they relate to the Perth metropolitan area) together with the current metropolitan planning strategies against the wider context of international examples of integrated land use and transport planning practice. The intention is to provide the Transport Committee of the Western Australian Planning Commission with information and to comment on the next steps required for strategic land use planning.

Section two provides an overview of the current and emerging policy environment in the Perth Metropolitan Region. The purpose is to identify specific objectives and their resultant actions and so provide the context against which to consider selected ‘best practice’ initiatives being implemented outside Australia.

As part of this report the Ministry required detailed comment on Planning Policy Guidance Note 13: Transport (PPG13), a planning policy published by the UK Government in March 1994. This policy advice applies to England only. Section three outlines this policy and its implementation, and considers its application in the Perth context.

Section four provides information and comment on practice in respect of integrated land use and transport policies as currently being applied in the UK, Europe and North America. The review starts by selecting examples which relate to those actions identified in the Perth strategy (in section two). Other actions which are not identified in the Perth strategy but which have been successfully implemented elsewhere are also reviewed where they are considered relevant to the Perth context. The objective is to consider the ‘realism’ of solutions which seek to reduce travel demand (particularly by private car), with particular reference to the time scale that such solutions will take to become effective.

Section five considers how far examples of practice elsewhere can be usefully “imported” to the Perth situation. This entails a review of the existing strategic planning process for Perth in order to establish whether any changes would be required to ensure effective implementation.

Section six draws the report together by outlining the key issues which could be considered in progressing the integrated land use and transport strategy in Perth, and the time horizons for implementation.
Section 2 Current and emerging land use planning and transport strategies for Perth

In order to assess the relationship between ‘best practice’ initiatives and the existing planning strategies in Perth it is necessary to first identify the broad thrust of those strategies. The intention in this report is to provide only a brief outline of current policy with the main purpose to identify key actions for integrated land use and transport. Appendix 2 identifies the key strategies which are of direct relevance to this study. There is no one central document which provides the policy for integrated land use and transport. Instead it is necessary to take account of a range of documents produced by both the Ministry for Planning and the Department of Transport.

2.1 Recent strategy

The current strategy is derived from three main phases of strategic planning, each of which contributed to the current philosophy on the land use and transport relationship. The first strategic plan for the metropolitan region was the Stephenson-Hepburn Plan of 1955. This was a master plan essentially concerned with the physical use of land in order to plan for population growth for a 50 year period. At a broad strategic level the principle of integrated transport and land use planning was established in the early planning of Perth. The key principles of relevance to this report are that the plan was based on urban containment and within this the creation of self-contained communities. One focus was therefore on the provision of land for employment in close proximity to residential areas.

The Stephenson-Hepburn Plan was reviewed in the late 1960s. There was a need to reconsider the strategy in the light of the minerals boom and the resultant population growth, the considerable growth in car ownership and use, and congestion in the Perth central area. The review culminated in the publication of the Corridor Plan (1970). This proposed an urban form based on four corridors each surrounded by non-urban wedges. Regional centres were identified as a means of counterbalancing congestion in the central area. The review then sought to replace the continued outward growth of the corridors by widening them in order to bring residential land closer to jobs. The final strategy was presented in Metroplan for the period to 2021. While this strategy retained the above principles of the review process, Metroplan had been modified to some extent to reflect the lack of public support for some land releases.

Metroplan (1990), while essentially oriented towards the private car (see for example the proposed Reid Highway and Northern Perimeter Road which sought to improve access to the middle suburbs; the widening of Albany Highway, and the City Northern Bypass to reduce congestion in the central area), it also had an important public transport emphasis (see for example the proposals for the North West Corridor, but also the land use strategy more generally). First the strategy seeks to concentrate employment-generating activities and higher residential densities around public transport routes while discouraging commercial and community facilities away from the public transport network. Second, the strategy for urban consolidation was also supported by the argument that this would reduce travel distances and lead to transport improvement (a higher density of population provides a more efficient catchment for public transport). One of the issues this sought to address was the need to reduce energy consumption.
Metroplan’s key land use and transport strategy then includes:

**Land Use**
- One fifth of new housing needs to be satisfied through suburban renewal/infill;
- Service sector growth encouraged in middle suburbs where public transport links are well established;
- Encourage increased availability of jobs and services within suburban centres (to reduce travel);
- Rail links offer opportunities for urban intensification (increased residential density, mixed uses) along their routes and in vicinity of stations and
- Limit non essential parking in Central Area.

**Transport**
- Aim to provide for more choice between public and private transport;
- Increase importance of public transport for the journey to work;
- Extend bus services into city, increase capacity on rail links;
- Provide park and ride facilities;
- Provide bus priority lanes and
- Provide better facilities for walking and cycling.

In addition to Metroplan a series of policy statements and development control policies have been produced which further articulate the integrated land use and transport strategy. See for example Metropolitan Regional Centre Plans for Stirling, Mosley, Canning and Residential Density Guidelines, Development near Metropolitan Railway Stations.

2.2 Emerging strategies

In the most recent and emerging policy documents and strategies, a more detailed approach seeking to integrate land use and transport policies is developed. It must be noted that the main actions and approach proposed do not vary significantly from the current policy approach. In this respect the main tools have been evident in policy rhetoric for some time. An important aspect of this paper will then be to explore the implementation process for these earlier policies (see section 5).

Emerging policy has developed through a series of discussion papers and workshops, with separate and joint reports produced by both the Department of Transport and the Ministry for Planning, and in some cases by transport service providers. This section of the report focuses on the principal features of the integrated strategy (through a review of key documents identified by the MfP), and in particular those which require a key role for land use planning.

The strategy evolved from a set of Discussion Papers produced in mid/late 1993 (see Appendix 1). These set out the vision for Perth, considered futures scenarios and reviewed some current transport issues. These papers considered a limited number of the key issues including the home-working; location of vehicle intensive land uses; car parking in central Perth and car-pooling.

**Balanced transport strategy**

A discussion paper produced by the Department of Transport in August 1995 [A Balanced Transport Program for Perth] marked the birth of the current Metropolitan Transport Strategy. This covered both transport and land use issues, it set out a series of actions required in order to implement a ‘balanced transport program’. In the land use domain the analysis recognises the issue of implementation time scales, i.e. achieving benefits in the short term and long term. Addressing cycle and walk access, cycle parking and car park provision are seen as some of the limited measures which could take effect in the short term. What is important to note is the recognition that matters which take a long time to take effect should be implemented sooner. This includes mixed use development and development around public transport nodes.

Following this discussion paper the land use and transport strategy was further developed by both departments through the production of further discussion papers and draft policy. The Department of Transport developed the transport...
Integrated Land Use and Transport Planning Policies

The MfP developed the land use dimension with the draft State Planning Strategy. While this separation of the two dimensions of the integrated strategy is evident in the fact that there are two publications there has been an integrated ‘input’ into both strategies, which flows from the joint working of organisations on the Metropolitan Transport Strategy.

**The Way Ahead: Metropolitan Transport Directions for Western Australia**

Taking transport policy first, the Department of Transport produced a series of documents under the umbrella of the WA State Transport Policy. Of most relevance to this paper is that covering the metropolitan area (The Way Ahead: Metropolitan Transport Directions for Western Australia). This continues the ‘balanced transport strategy’. The main aims of the strategy are to continue to provide for cars as the main form of transport, but to increase the car occupancy rate; to increase the modal share of trips made by walking, cycling and public transport. Increasing the public transport modal share is to be supported by provision of 50 new low floor buses per annum and providing for new rapid transit services to outlying centres of Mandurah (rail), Ellenbrook (rail), and Alkimos.

While it is acknowledged that road-based transport will continue to dominate, the journey to work is to be targeted for car travel reduction using a range of actions including awareness programs, priority lanes and parking restrictions to encourage a switch to public transport and car pooling.

**Metropolitan Transport Strategy**

A Metropolitan Transport Strategy produced by Department of Transport in close consultation with MfP and the transport operators was published after the State Transport Policy. This is the key document for the integrated strategy. It was “the outcome of a series of transport and related planning initiatives which recognised the need for a coordinated approach”. The theme of a “balanced transport system” remains. As with ‘The Way Ahead’ the objective of moving away from low occupancy car use towards public transport, non-motorised and higher occupancy modes remains. This is articulated as a target for modal share to be achieved by 2029.

The main focus is on achieving a different modal split for trips. The strategy does however seek to reduce the distance travelled (from 8.4km to 7.2km per person/day) but this target is not so clearly stated. Reducing the distance travelled is an important factor given the low density of development and its large spread, and the growth in trip distances (from 8.1km per person/day in 1991 to 10km estimated in 2001) and clearly land use planners have an important role in this respect. While the strategy seeks a reduction in the number of trips by car, it is not clear whether those trips which remain will be high km or low km trips.

In order to achieve these modal change targets, the strategy proposes a number of actions relating to integrating and coordinating land use and transport. These together with those derived from the State Planning Strategy and other supporting documentation are itemised in Table 1.

**State Planning Strategy**

Land use policy in relation to transport issues is considered in detail in the State Planning Strategy. This process began with the publication of a discussion paper in November 1995, a draft Strategy was published in November 1996 with the final Strategy adopted in December 1997. This provides a statewide land use planning strategy for development to 2029. The comments here relate only to those aspects of the strategy relevant to the Perth metropolitan area.

The Strategy is organised around a set of principles, under each of these are a series of strategies and related actions. Integrated land use and transport is achieved through a number of different strategies under the umbrella ‘principles’ of environment, infrastructure and economy.
2.3 The main land use planning actions in the current integrated strategy

From this review of the current and emerging strategy, a collection of objectives can be identified and from these a series of actions. An understanding of the main objectives of the integrated land use and transport strategy is important to this paper. First, any assessment of these actions must be made within the context of these objectives. Second, in any review of practice elsewhere a comparison between the two should be made in relation to their main objectives since differences in approach may relate to differing objectives. The main objectives identified in the current and emerging strategy for Perth are:

- halt the increase in travel distances;
- provide for a close home-work relationship;
- provide for a high level of accessibility;
- provide uncongested routes for freight;
- reduce demand for travel by private car;
- provide transport alternatives for travel to local facilities;
- promote public transport;
- enhance quality of life for all;
- make provision for efficient and equitable transport and public utilities;
- achieve a reduction in fossil fuel use;
- protect the environment and progress the concept of sustainable development;
- increase use of energy sources which have minimal impact on the environment;
- ensure air quality is protected and
- respond to the changing needs of the population

These objectives are intended to be met by a collection of land use actions as specified in Table 1. These actions have been identified in the main strategy documents. They are grouped according to the main type of approach required. Assessing the actions in this way is intended to aid comparison with examples of practice elsewhere. There are essentially four main types of action which land use planners can take responsibility for in an integrated land use and transport strategy:

- those concerned with the location and type of development;
- those concerned with providing for modal choice;
- those seeking to limit car access and
- those actions which seek to provide for or protect transport infrastructure.

Comment

It is clear from this brief review of policy that since the introduction of strategic planning in Perth (1955) the important relationship between land use and transport has been acknowledged. One of the key issues arising from this review of policy is that:

- There is a wealth of good ideas and actions, many of which are found in policies established for some years.
- It remains to be established why implementation of the policies appears to be a key problem. One reason for this arises from the difficulties of drawing all the players and policies together, for example the policies themselves are enmeshed in a range of documents including other transport provision oriented actions or other land use actions. Later sections of the report will return to this issue and develop suggestions for action which land use planners could take.
## Current and emerging land use planning and transport strategies for Perth

### Table 1

**Current and Emerging Policy For Perth**

**Approaches to Achieving Integrated Land Use and Transport**

**A: Location and type of development**

1. **Self-containment** - Location of employment in relation to residential uses and public transport; provision of local facilities.
   - i) Maintain Perth CBD as main centre.
   - ii) Develop employment centres in regional centres; provide for higher residential densities in these locations too.
2. Encourage mixed use development.
3. Encourage/facilitate intensive development around rapid transit stations.
4. Locate new business parks close to residential areas and with good public transport access.

**B: Choice of transport modes**

1. Regional centres - improve public transport access and access by other modes.
2. Local centres - provide for alternative modes of travel (walking, cycling) and traffic calming.
3. Concentration of major traffic generators (hospitals, employment, universities) in locations served by all forms of transport.

**C: Limiting car access**

1. Limit car access in congested areas by:
   - i) parking constraints and
   - ii) promotion of higher vehicle occupancy rates.

**D: Development and provision or protection of transport infrastructure**

1. Ensure service providers make early provision of public transport in new residential areas (in order to encourage adoption of non-car dependent journeys).
2. Designate/resume where necessary regional cycle network.
3. Car-pooling - provide strategically located “pick-up and drop-off points” - for journey to work.
4. Provide reservations for extended rapid transit system to new periphery of metropolitan area.
5. Identify public transport routes and protect and enhance them through transport planning.
6. Transport impact statements for major development.
As part of this report, the Ministry required detailed comment on Planning Policy Guidance Note 13: Transport (PPG13) published by the UK government. The Ministry has further refined this to include information on the objectives behind the policy, detail on the means of implementation, and measures taken to ensure that implementation is achieved.

3.1 PPG13 - Policy background and objectives

PPG13 is one of a collection of 22 national planning policy guidance notes produced by the then Department of Environment, a central government department with responsibility for land use planning, housing and local government. While there has been national planning guidance provided for many years (previously in the form of circulars and development control advice notes) the revision of guidance following the 1990 Environment White Paper and its production in the form of a set of PPGs was seen as an important ingredient of the Government’s Sustainable Development Strategy. The intention has been to review and revise national policy to ensure the approach is consistent with the need to achieve a national environmental strategy for sustainable development.

PPG13 is also notable because it is a joint publication of both the Department of Environment and the Department of Transport (under the new Labour administration these two departments have since been merged). This joint policy was seen as an important statement of the government’s acceptance to integrate transport and land use planning. A consultative draft of the PPG was published in April 1993, the final version coming one year later in March 1994. The planning and development industry was therefore well aware of the principles of the advice well in advance of its final ‘adoption’.

The main driving forces behind PPG13 are concerns about environmental issues (pollution, global warming and destruction of natural habitats) and worsening levels of congestion. A research study commissioned by the DoE indicated that land use planning could have a significant role to play in resolving these issues. The ECOTEC study (DoE, 1993) indicated a relationship between settlement form (including size and density of urban areas) and fuel
The relationship between the Perth strategy and PPG13: Transport and other emerging UK policies

Consumption, and a relationship between location and travel and mode chosen. The research concluded that “land use policy changes supported by transport measures could reduce carbon emissions by up to 15% over a period of 25 years” (Quinn, 1994:68).

The PPG gives comprehensive advice on two broad areas, the location of development and on complementary transport measures. There are a large number of policy recommendations (Breheny identifies 24 policy areas, (DoE, 1995). In brief the guidance seeks to ensure new development is sited where there is genuine transport choice. In strategic location terms this should ideally be in central urban areas.

Table 2 provides a summary of the recommendations grouped according to locational measures or transport measures.

Under the new Labour administration further progress is being made in achieving better integration between land use and transport planning. A consultation paper was published in August 1997 entitled ‘Developing an Integrated Transport Policy’. This again emphasised the need for major development to take place in locations and ways which facilitate and encourage the use of public transport rather than the private car.

<table>
<thead>
<tr>
<th>Location of development</th>
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<tbody>
<tr>
<td>1. Residential development to be located so as to provide a choice of means of travel to other facilities - a hierarchy of locations is recommended, the intention is to locate housing as high up the hierarchy as possible, vis:</td>
</tr>
<tr>
<td>• first in central locations in existing larger urban areas, failing this in</td>
</tr>
<tr>
<td>• non-central locations but capable of being well served by rail or other public transport.</td>
</tr>
<tr>
<td>2. Concentrate higher-density residential development near public transport centres, or alongside corridors well served by public transport.</td>
</tr>
<tr>
<td>3. Mixed use development (to make it easier for people to live near their work).</td>
</tr>
<tr>
<td>4. Employment uses - locate travel-intensive uses in urban areas well served by public transport.</td>
</tr>
<tr>
<td>5. Retail uses - promote in existing centres which provide a choice of access. [Note: this policy has been substantially reinforced with the publication of PPG6: Town Centres and Retail Development - see section 3.2]</td>
</tr>
<tr>
<td>6. Leisure, tourism and recreation - ensure major new attractions are readily accessible by a range of means of transport and where possible use sites in existing urban areas.</td>
</tr>
<tr>
<td>7. Education and other public facilities - locate close to residential areas so that they are accessible on foot or bicycle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complementary transport measures</th>
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<tbody>
<tr>
<td>1. Car parking - standards set as a range of maximum parking and ‘operational minimum’ amount for broad classes of development. The aim is to provide fewer car parking spaces for employees. Use commuted payments (in lieu of parking provision) for measures to assist public transport, walking and cycling instead of funding more car parking.</td>
</tr>
<tr>
<td>2. Provide for a network of cycle routes and secure parking.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessibility profiles for public transport</th>
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<tbody>
<tr>
<td>1. Local authorities to establish accessibility profiles for public transport (reflect catchment area and quality of service) in order to determine those sites which could meet locational criteria set out in A.</td>
</tr>
</tbody>
</table>
The relationship between the Perth strategy and PPG13: Transport and other emerging UK policies

3.2 Other related Planning Policy Guidance

It is important to note that PPG13 polices are further supported by the policy stance taken in other PPGs, including PPG4 on commercial development, PPG6 on retail development and PPG7 on rural development. All three PPGs seek to reinforce the locational approach put forward in PPG13. Indeed the introduction of PPG13 resulted in the need to revise PPG 6 only two years after its publication in order to resolve the conflict over provision of parking in town centres.

The retail policies represent a significant policy change from the approach adopted in the 1980s, “they represent the first major attempt to moderate the growth of out of town shopping development and encourage revitalisation of traditional town centres.” [Pharoah, 1995:26]. PPG6 adopts the idea of a sequential approach both in the selection of sites for retail development in the development plan and also in assessing applications for development. This means that first preference will be for town centre sites, followed by edge of centre, then district and local centre. Only after these possibilities have been exhausted are out of centre sites accepted and only then if they are accessible by a choice of means of transport (other planning considerations also apply).

3.3 Means of implementation

3.3.1 Development plans and development control

Local authorities have responsibility for land use planning in the UK. In April 1997 local government was reorganised and the resulting structure does not follow a consistent pattern. Broadly, in large urban areas, there is only one tier of local government (a unitary authority) which has the responsibility for preparation of development plans to guide future development and for the control of development. In unitary authorities both the local and strategic development planning function is carried out by that authority, there is no overarching body. In some cases, unitary authorities collectively agree upon a strategic approach, although there is no statutory requirement to do so.

Regional Guidance produced by the regional office of the DoE also provides a strategic overview. It is useful to note that the production of regional guidance is very much a “bottom up” process with local authorities working up draft advice on the strategy for the region. This is considered by regional office especially in relation to PPGs and national policy and a Regional Planning Guidance note is issued. In this way PPG13 is filtered down the policy hierarchy.

Outside large urban areas a two-tier system remains with the County Council and District Council both having responsibility for planning. In this case development plans are prepared by both authorities. At county level this comprises a structure plan. Unlike the WA Structure Plan this is a strategic plan focusing on the overall policy direction for a 15-year period. It considers the broad location of major development (housing, retail, employment) but does not use a specific map base, instead locations are presented in diagrammatic form only. At district council level the authority prepares a Local Plan covering the whole district. This is a 10-year plan working up the structure plan proposals in detail. Specific sites are identified for plan proposals, although unlike the WA Town Planning Scheme usually only land allocated for future development is considered on a site specific basis. All other areas are then subject to a set of written policies against which planning applications are assessed.

The development plan is a statutory document, all authorities are required to produce one for their whole local authority area. It has increased in importance in the decision-making process since the Planning & Compensation Act 1991 (Section 54A). This is explained by a change from a presumption in favour of development to a presumption in favour of development in accordance with the development plan. Therefore any planning application must be consistent with the development plan unless there are very strong reasons why not.

In addition to the statutory development plans local authorities can produce development briefs, a detailed brief indicating the local authority’s preferred policies and development approach for
The relationship between the Perth strategy and PPG13: Transport and other emerging UK policies

a particular site. These can be beneficial in that they are usually used more proactively. For key sites such as station precincts this would be a useful way of pushing forward early implementation of PPG13 principles.

For development control the district council determines almost all planning applications (exceptions are minerals, waste and some county council functions such as education which are determined by the county council).

The policy recommendations in PPG13 are therefore implemented by local authorities both in the production of the development plan and in assessing applications against that policy. Quinn (1994) sets out the way in which PPG guidance filters through the planning system and the opportunity for central control to ensure national policy is implemented as shown in Table 3.

While PPGs are classified as ‘advisory’ this system ensures that PPGs are reflected in policy guidance at all levels and in individual planning decisions. Where authorities fail to take account of PPG13 in their development plan the DoE can intervene to ensure this occurs. The planning appeals process also provides for the Secretary of State to impose national planning guidance.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>WHO DOES IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Policy Guidance Notes</td>
<td>Secretary of State</td>
</tr>
<tr>
<td></td>
<td>• following non-statutory public consultation</td>
</tr>
<tr>
<td>Regional Planning Guidance Notes</td>
<td>Secretary of State</td>
</tr>
<tr>
<td></td>
<td>• following local authority advice prepared by regional conference of local authorities</td>
</tr>
<tr>
<td></td>
<td>• following non-statutory public consultation</td>
</tr>
<tr>
<td>Structure Plans</td>
<td>Counties/Voluntary groupings of Unitary Authorities</td>
</tr>
<tr>
<td></td>
<td>• following statutory consultation including an Examination in Public, chaired by an appointee of the Secretary of State</td>
</tr>
<tr>
<td></td>
<td>• Secretary of State can object, direct plan modification and ultimately call plans in for his own decision</td>
</tr>
<tr>
<td>Local Plans</td>
<td>District Councils as development control authority (or Counties for minerals and waste)</td>
</tr>
<tr>
<td></td>
<td>• following statutory consultation including a local plan inquiry (held by a Planning Inspector) into unresolved issues</td>
</tr>
<tr>
<td></td>
<td>• Secretary of State can object, direct plan modification and ultimately call plans in for his own decision</td>
</tr>
<tr>
<td>Development control decisions</td>
<td>Local Planning Authority Secretary of State (called in cases or appeals</td>
</tr>
<tr>
<td></td>
<td>• significant decisions which do not conform with the development plan are referred to the Secretary of State and then may be called in for determination at that level</td>
</tr>
<tr>
<td></td>
<td>• where the local authorities refuse permission or grant it subject to conditions the applicant may appeal to the Secretary of State for a decision</td>
</tr>
</tbody>
</table>
3.3.2 Other means of implementation

In addition to the development plan and control system, DoE/DoT are implementing PPG13 policies via other means. The complementary relationship between PPGs has already been discussed. In addition the Housing White Paper (1995) states that at least 50% of all residential development must be on brownfield sites. This figure has now been revised upwards to 60%. The Government has also recently proposed a further reinforcement of the need to ensure brownfield sites are used first. In January 1998 the deputy prime minister announced proposals to apply the ‘sequential test’ to housing sites. This is currently applied to retail sites and will mean housebuilders will have to demonstrate to councils that all brownfield sites have been exhausted before putting forward proposals for greenfield sites. This policy further seeks to reinforce the centralist location policies.

The development of Local Agenda 21 policy documents at district council level is another means of ensuring PPG13 has a wider impact on matters which are not easily dealt with through the planning system. Agenda 21 refers to the international action programme for development and the environment adopted by the United Nations Conference on Environment and Development in 1992 (Rio Summit). ‘Local’ refers to action programmes undertaken at local government level. In the UK almost all local authorities have adopted action programmes, often co-ordinated by the planning departments or Chief Executive Office. The main thrust of the programme is to ensure involvement at grassroots community level. Programmes include the siting of public facilities (civic centres, hospitals etc), employer commuter policies and so on (in some local authority areas the need to provide an employee commuter plan is now a requirement in applying for planning permission).

The funding process for local authority transport grants is another means of ensuring implementation. County councils/unitary authorities are required to produce an annual Transport Policies and Programmes document (TPPs) and this is assessed in their application to DoT for finance. In 1994/5 the DoT introduced a package approach for local transport whereby local authorities bidding for capital support for transport projects are encouraged to put forward nonroad based options in accordance with PPG13 principles. There has been particular emphasis on public transport issues and cyclist provision. Bids have to be supported by a comprehensive transport strategy which is to be consistent with the land use development planning strategy. This process ensures more effective integration between the two policy areas. A survey after the 1994/5 settlement showed new measures most frequently included by local authorities included bus priority, traffic calming, cycle schemes and park and ride schemes.

In these ways central government is able to control financial aspects as well as planning policy development and decision making. Other approaches also ensure all departments at all levels of government are involved in implementation.

3.4 Implementation in practice

Through both the development process and the appeals system central government has strong controls to ensure its policies are implemented. However this process can be undermined. It takes several years for national policies to be written into development plans, this is due to the lengthy time scale by which such plans are prepared, consulted on and finally adopted. Plan production time scales have increased as a result of the greater weight now accorded to the development plan in any planning decision. Until a development plan is adopted (or at least been through key stages in production) it has reduced weight in the decision. This usually presents no problem in the case of an authority wishing to refuse an application on the grounds of conflict with PPG13 since, if the applicant were to appeal, this is most likely to be the view taken by a planning inspector. Where an authority seeks to approve an application not in accordance with PPG13 the DoE has recourse to ‘call in’ powers to determine the application itself. While this system is likely to ‘catch’ the larger applications, the cumulative effect of smaller applications may be overlooked.
Another important issue may work to undermine the effective implementation of PPG13. The long lead times for development may mean that it will be at least 10 years before the real effects of PPG13 policies are seen in the form of changed land use patterns. This is because there are a large number of outstanding planning permissions which were determined pre-PPG13 (planning permissions usually last five years). Slow rates of implementation are partly due to recession and also are a reflection of the economic cycle. This must be coupled with long lead times for the full range of PPG13 policies to be included in development plans and its subsequent impact on development control decisions. Add to this the fact that the built urban fabric is estimated to be renewed at only 1-2% each year. [ECOTEC study cited in Pharoah, 1995:34] suggests that even where PPG13 is implemented quickly the overall impact on car travel reduction is likely to be small for years to come.

These issues therefore underline the importance of acting quickly to ensure the full range of policy actions are in place early and that robust processes are established to ensure their early and consistent implementation. This may mean for example that in addition to policies it is necessary to raise awareness amongst key players in the planning and development professions via continuing professional development courses (CPD). This issue also demonstrates the value of an integrated strategy with complementary measures taken outside the land use planning arena (e.g. transport infrastructure, travel awareness, demand management).

The implementation problem is likely to be compounded by conflicting planning objectives which may have the unintentional effect of undermining PPG13 locational principles. Two key objectives come to mind: first economic considerations. In areas of high unemployment, for example, where there have been heavy losses of traditional manufacturing industry, planning proposals offering employment are likely to be viewed favourably often regardless of their location in respect of PPG13 criteria. Developing employment sites in central locations often requires the re-use of land which adds significant costs to development, therefore peripheral greenfield locations are favoured. Such locations often provide high-speed access to other urban areas along inter-urban motorways.

The second objective which may take precedence is in relation to rural areas where there is a need to maintain services and so on. This often means there is pressure to accept more residential development in the area to support services. Again this would have the effect of undermining the location principles of PPG13.

Parking policies may present a further implementation problem. There is a need for a strategic approach to ensure all local authorities apply the same standards. The problem arises where one authority lowers the standard in order to encourage business to locate in its administrative area. This problem has also been experienced in the Netherlands with the ABC Location Policy [see section 4.3.1]. This was again compounded by employment needs in smaller urban areas.

Pharoah [1995] points to the problem of limited local authority control over public transport as posing a threat to the implementation of PPG13:

“It is no longer easy to plan new developments in relation to public transport routes since neither the routes operated by private companies nor the fares or level of service can be guaranteed for more than a few weeks ahead.”

Clearly at present this is not an issue in the WA context where DoT still holds control over routes and fare structures.

In an effort to ensure PPG13 is put into practice the DoE and DoT published a better practice guide which provides advice and examples (DoE/DoT, 1995).

The DoE has also commissioned research into the implementation of PPG13. An interim report was published in September 1995 with the final report outstanding since May 1997. The interim report sought to gauge responses and provide an overview of any progress and difficulties being experienced. The approach involved a survey of local authorities; review of TFPs and development plans produced since March 1994;
a review of planning appeal decisions and discussion groups with businesses, developers, local authorities and special interest groups. The main findings were:

- there were major differences in awareness of PPG13, particularly outside planning and transport departments and in the private sector (with the exception of housing and retail developers);
- there were major differences in how far changes in policy stance were expected. This refers to the long time scale of development plan production (see above), but also that in the private sector the “majority are likely to avoid change until customer pressure or lack of alternative investment possibilities dictate otherwise”;
- several problems were anticipated, (these included concerns about inconsistency of application, e.g., concerns about economic disadvantage and car parking - see above);
- policies for development at public transport nodes and corridors and car parking standards are less well developed and
- for mixed uses there is concern about the lack of investor interest (because of different time scales of reinvestment).

Clearly this research can only provide a limited view given that it only looks at actions and attitudes in the six-month period after PPG13 was published. Stage two of the project is now complete, the report has been outstanding since May 1997 but it is my understanding that there will be no major surprises when it is finally released.

3.5 PPG13 and the Perth context

From the review of Perth’s land use and transport strategy (Section 2) it is evident that the actions identified for land use planners in both Perth and England are for the most part following broadly similar approaches. First both strategies share some of the same objectives, primarily those relating to environmentally sustainable development.

While the policy responses are similar in the UK and WA, the scale and intensity of the problems are different and this in part accounts for the lack of progress in implementing the policies in WA. It is useful to identify some of the differences between the UK and WA. In the UK the push to tackle congestion can be seen to be a major force behind the strategy, this is not quite so evident in the Perth context. The intensity of the transport problem is evident in the UK with resulting policies already implemented to ensure no new roads are built in urban areas and instead measures are directed to public transport and ‘green mode’ solutions. In the UK there is political support for policies which also aid effective implementation, whereas in WA at a political level there is not the same sense of urgency.

A number of other institutional factors also work against integration of land use and transport policies. In the UK for example education policy has removed the requirement for school catchments. As a result parents can choose any school for their children regardless of location and it is no longer a requirement to live in the locality. Hospitals are increasingly rationalising their site arrangements, which can result in the relocation of hospitals from several disparate departments in the inner city to new greenfield sites. These factors have the potential to increase journeys made by car and work against land use arrangements. In both the UK and WA deregulation, privatisation and corporatisation pose difficulties for government. New autonomous bodies work primarily to a financial remit which often works against land use arrangements.

In comparing the detailed strategies of WA and the UK, a number of points are of interest. First the locational approach identified in both strategies is shared. This includes the need to focus development at larger centres where there is a choice of transport modes, and the push for housing and employment balance in such locations. There are differences. In the UK the settlement structure is clearly quite different to the Perth metropolitan area. Application of a “sequential approach” is therefore more obvious in the UK model where the urban areas are contained and there are more clearly defined...
centres, edge of centres etc. While Perth has clearly defined regional centres (strategic regional, regional, district, neighbourhood/local) in policy documents, beyond this level of the hierarchy it is not always apparent what the status of the mass of other highway frontage development throughout Perth is.

There are also differences in the amount of land expected to be provided on ‘brownfield sites’ (in order to aid comparison I am interpreting this to mean land within the urban fabric). In order to resist the further development of peripheral greenfield sites in the UK 60% of all future residential land is to be met on brownfield sites while in Metroplan only 20% is to be met through suburban renewal and infill. There are clearly major financial considerations (among other factors) to take into account when pursuing such an approach (indeed the need for government grants to assist development of brownfield sites and taxation for development on greenfield sites is under review at present). This aspect of PPG13 policy is driven very much by the belief that a compact city can both reduce journey lengths and encourage modal change.

Both strategies are seeking more intensive development around public transport nodes. In England the move towards development in defined public transport corridors follows the long standing strategy in Perth.

There are differences in approach to car parking. In PPG13 there are clear demands for car parking restraint in all urban areas with maximum car space limits and operational minimums applied (although to date there have been problems implementing this policy, some examples of strategic co-ordination are now under way). In Metroplan it is stated that non-essential parking will be limited in the Central area but no detail is provided as to how or where this will apply. Furthermore the issue of parking at regional centres or elsewhere is not addressed yet this is clearly an important ‘tool’ available to the land use planner.

In the strategy for Perth there is a need to identify more clearly the locational requirements for other activities such as recreation and leisure since these are now generating an increased level of car trips.

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The car pooling and high occupancy vehicle strategies identified in Perth are not referred to in the UK strategy. In the Perth context there is a need for clarification as to what role land use planners may have in promoting such an approach.
Section 4 Review of selected land use and transport initiatives outside Australia and their applicability in the Perth context

4.1 Approach

In reviewing the land use and transport initiatives being applied outside Australia it is important to consider those which are likely to be of more direct relevance to the Perth context. The Ministry’s starting point for defining relevance was to consider cities of a similar size to Perth (between 1 million and 3 million population). Appendix 2 provides a list of cities in UK, Europe and North America falling within this population band.

While settlement size may provide one measure of ‘applicability to Perth’, criteria such as geographical, topographical, socio-economic, political or administrative structures, and provision of transport infrastructure will also affect applicability. Each will have some impact on the approach to land use and transport developments and the travel behaviour of the population. It is clearly not realistic to expect to find a group of cities which are in most respects similar to Perth.

A more useful starting point will be to take the review of stated and derived objectives set out in the Perth documents (section 2), identify those which are similar in the UK (section 3) and from this identify which actions have relevance to Perth. Where experience from outside the UK is relevant, reference will also be made to this.

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Using this approach a review of selected initiatives will be made. Available evaluations in published research are utilised, but this report does not include the findings of new primary research. Section 5 considers how we might apply the reported initiatives to WA by looking at the strategic planning process in Perth and considering approaches to implementation.

4.2 Comparison of policy objectives and approaches in the UK and WA

Section 2 identifies four broad policy approaches emerging in Perth. These are drawn from a series of policy objectives articulated across a large collection of MfP and DoT documents. The UK policy objectives follow for the most part a similar approach, although in the UK there is a greater pre-occupation with congestion than in WA. Section 3 sets out a summary of the broad policy approaches set out in the UK’s national planning guidance on transport [PPG13].

A comparison of the WA and UK approaches is set out in Table 4. It is clear that there are considerable similarities in the approaches, not surprising given the similarity in policy objectives. Perhaps the most significant difference is in the implementation of the approaches. The UK is more advanced in implementing actions and it is therefore useful to review experience. In some cases there are better practice examples implemented outside the UK.

In selecting initiatives to review, the starting point has been to ensure each type of policy approach has been covered (i.e. A to C/D in Table 4). The focus is then on those where land use planners (rather than transport planners) play a primary or lead role in implementing policy. In a research paper of this scale it is necessary to be selective in determining which initiatives to cover. With this in mind an effort has been made to cover one initiative from each main policy approach and to focus on those of more immediate relevance to the Perth context.

The initiatives reviewed are covered under the following three sections:

- Location of Development
  - self-containment and urban form
  - intensive development around rapid transit stations and corridors
- Choice of transport modes
  - accessibility profiles
  - pedestrianisation
- Complementary transport measures
  - parking constraints.
4.3 The initiatives

4.3.1 Location of Development: Self-containment and urban form

There has been wide-ranging discussion on the most appropriate urban form to reduce car dependence (for example Banister & Button, 1992; Breheny, 1992; Owens, 1992). Several strategies are conducive to reduced car dependence and include within them reference to settlement density, urban form and the travel implications of each. Hall (in Banister D, 1995) points out that the trouble in considering the land use and transport combinations is that the combination is “so subtle, no one anywhere seems to have completely understood how to make it work at a fine-tuned level”. He does point out though that there is now overwhelming evidence worldwide that in major metropolitan areas as activities are decentralised, while commuter journeys are shortened there is a huge transfer from public transport to private car and a growth in suburb-to-suburb commuting. Breheny points out (in Banister, 1995) that while the empirical basis for policies now being adopted is as yet rather weak, a package of “compact city”

### Table 4

**A Comparison of Land Use and Transport Approaches in WA and UK**

<table>
<thead>
<tr>
<th>WA (all policy documents)</th>
<th>UK (from PPG13 only)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Location and type of development:</strong></td>
<td><strong>A. Location of development</strong></td>
</tr>
<tr>
<td>• self-containment</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td>• mixed use development</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td>• intensive development around rapid public transport centres or corridors</td>
<td>High density development near transit stops</td>
</tr>
<tr>
<td>• business parks close to residential areas with good public transport access</td>
<td></td>
</tr>
<tr>
<td><strong>B. Choice of transport modes:</strong></td>
<td><strong>C. Accessibility profiles for public transport</strong></td>
</tr>
<tr>
<td>• local centres</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td>• major traffic generators</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td><strong>C. Limit car access:</strong></td>
<td><strong>B. Complementary transport measures</strong></td>
</tr>
<tr>
<td>• parking constraints</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td>• higher vehicle occupancy rates</td>
<td>WA policy is also applied in the UK</td>
</tr>
<tr>
<td><strong>D. Development and provision/protection of transport infrastructure:</strong></td>
<td><strong>WA policy is also applied in the UK</strong></td>
</tr>
<tr>
<td>• service providers to make early provision</td>
<td></td>
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<tr>
<td>• regional cycle network</td>
<td></td>
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<tr>
<td>• car pooling pick-up points</td>
<td></td>
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<tr>
<td>• rapid transit routes</td>
<td></td>
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<tr>
<td>• public transport</td>
<td></td>
</tr>
<tr>
<td>• transport impact statements</td>
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Integrated Land Use and Transport Planning Policies

Review of selected land use and transport initiatives outside Australia and their applicability in the Perth context

...
Review of selected land use and transport initiatives outside Australia and their applicability in the Perth context

Requirements for the implementation of self-containment location policy

There are a number of factors which the above initiatives demonstrate to be important in implementing a self-containment policy. The level of institutional direction, the package of other measures and refinement of the definition of accessibility are important.

The Dutch employment location policy is intended to be accomplished at the regional level. Cooperation between all levels of government is necessary but the push comes from the central government level. ABC policy is also part of a comprehensive policy package combining other measures such as improving alternatives to the car, fuel price increases, road pricing and parking restrictions.

A number of major studies have now been undertaken into the implementation of the policy (Van Wee B & Van der Hoorn T, 1996). The conclusions are that on the whole the policy is sound and should be continued, if necessary with some amendments. The dominant advantage of the ABC classification is its simplicity, although it is suggested that accessibility should be defined by travel times for each mode between employment locations and residential areas (see section 4.3.3).

Another issue is that a large number of existing businesses are in the wrong place which suggests the need for their urban relocation. While ABC policy relates only to new development, preservation of ample parking facilities at existing sites will hinder relocation and also make sites served by public transport less attractive because of strict policy norms applied elsewhere.

As with ABC employment policy, in implementing a residential self-containment policy the need for coordination and cooperation between all levels of government is necessary. In the UK example both tiers of local government (district and county) share responsibility for finding suitable sites for development. Before identifying sites the first stage of the study should be to define locational criteria and use these to evaluate potential sites. Such locational criteria could be derived from or include reference to accessibility profiles (section 4.3.3).

These points reinforce the following three conclusions:

- Land use policy alone is not sufficient, other measures such as fuel pricing, parking constraints and congestion charging are also needed.
- Long lead times in development and planning decisions mean ABC location policy will have effect only in the longer term and
- The responsibility for enforcement has to be with the State, not local authorities.

Applicability to Perth

The notion of self-containment is supported by objectives in the State Planning Strategy and other policy documents such as Metroplan include the objective of providing for a close home-work relationship. Past experience has shown that a good degree of self-containment can be achieved in some locations (for example British new towns), but it may not be possible to achieve a similar outcome today. Hall (in Banister 1995) and Kemp (1996) point to the changing employment structure with dual income households, greater specialisation and sophistication in the employment market. This means a household may have quite diverse travel patterns no matter how much opportunity land use planners can provide for a close home-work relationship. It is clear then that location policy alone can only provide for modal choice (to reduce car travel), other measures are needed to ensure the ‘right’ mode is chosen.

In defining appropriate locations the need to define urban areas will differ between Perth, Dutch and UK settlement structures. In the UK a hierarchy of locations is determined by settlement size and the overriding assumption is that most employment will be in the central area. In the Perth metropolitan area there is not the array of settlement patterns, and while much employment is located in the CBD, policies such as those applied in the Metropolitan Centres Policy seek to decentralise this employment. Service sectors have been located in other areas which are not well served by public transport. With this structure there is perhaps even more need to seek self-containment and some order to future housing and employment location if sustainable.
transport objectives are to be met. The need to use brownfield sites first as pursued in the UK strategy could be readily applied (reinforced) in the Perth context but less are available as there is less obsolete industry or housing.

A strategy seeking to locate development in the right place [in accordance with policy objectives] would require a clear framework defining appropriate locations. It should focus on public transport, cycling and walking. A finer grain definition in relation to transport service provision will be required. This work could build on the existing WAPC policies such as those on Metropolitan Centres and Development near Metropolitan Railway Stations.

Joint working with regional groupings of local authorities to define this framework would help to ensure early implementation of the final location policy. There may be difficulties with compromise and decision-making with such an approach.

Defining appropriate locations may include an assessment of existing and proposed public transport operations (service provision, frequency etc.), existing and proposed provision for walking and cycling. In this way the move towards integration of land use and transport will be achieved. Such an approach will require joint working with DoT and transport operators. Defining locations according to such criteria may also highlight shortfalls in provision and so lead to pressures to improve the service.

If priority is to be given to development in some locations and not others then effective approaches to monitoring and implementation will be important. Mechanisms will be required to ensure development is located in the most appropriate locations.

The above recommendations give guidance on the approach required to determine appropriate locations for development. There is also a need to consider the most appropriate tool(s) to ensure actual and effective implementation. It would be useful to explore the potential for monitoring using the WAPC Local Housing Strategy as a model for other land uses in this respect. It is clear from initial reading of the Guidelines for Preparing Local Housing Strategies (DPUD, 1992) that this tool is intended to link the process of site selection to policy considerations (see for example section 5.4). To date only a few local authorities have adopted this approach (such as Stirling and Melville cities). How effective it is as a means of implementation remains in question. For example on such site potential issues how far are local authorities required to demonstrate they are implementing regional policy? Are residential density considerations still required by the State planning authority? Who vets this? How are conflicts resolved? The introduction by the WAPC of the Model Scheme Text which seeks to strengthen the town planning scheme by requiring local authorities to consider strategic issues in the production of a local planning strategy could also provide for more effective implementation.

It is suggested that adoption of a section SAA policy statement on ‘Location of Development’ is more likely to ensure the proposed strategy is implemented. This will also ensure the process is State-led and therefore introduces measures to ensure that State policies set out elsewhere are implemented at the local level. Such an approach will further add weight to the principles of integrated land use and transport at all levels of government and all State government departments.

The role of LandCorp as a facilitator of land assembly in appropriate urban locations should also be considered. One of the difficulties of ensuring brownfield or other land within urban areas is better utilised is the difficulty of assembling suitable parcels of land. Powers for resuming land for community purposes are embodied in the Public Works Act and planning legislation but for other land assembly resumptive Town Planning Schemes or special legislation such as the East Perth Re-Development Authority Act is required.
4.3.2 Location of development: intensive development in transit corridors and around transit stations

WA has an excellent policy statement - Development near Metropolitan Railway Stations - which seeks to make provision for the optimum use of land around station precincts by the planning for intensive uses. There is little evidence that this policy has been implemented in any station location and there is clearly a need for further work by the MfP in this area. The following initiatives may give guidance on how to progress implementation.

Initiatives which have been implemented

Canada has made significant progress towards locating intensive development around railway stations. In the past 15 years both Toronto and Vancouver have pursued initiatives seeking to achieve intensification of residential and commercial activity around stations on the suburban commuter lines. A three-stage program of area planning was applied. First, a review of station precincts to make sure positive development opportunities were preserved and negative impacts minimised. Second, a series of concept plans were developed for each station (to an area of a 10 minute walk from the station). The aim was to maintain housing opportunities for existing residents but allow for redevelopment to maximise the number of residences within walking distance of the station. Finally, community-wide reviews were undertaken. Private landowners and public bodies were brought together to coordinate their separate decisions for development potential. Zoning and land use regulations were reviewed and revised.

The Netherlands has also pursued a complementary policy of urban growth and infrastructure in encouraging development at transport nodes. This develops one aspect of the ABC location policy (see 4.3.1). Amsterdam and Den Haag are two cities which have implemented land use change. Intensive development at Amsterdam Central Station has been under construction for the past five years and achieves integration with regional and suburban commuter trains, city trams, bus interchange, cycle routes and water-based transport. At Den Haag the central government led the initiative by relocating its department of transport and planning to the station complex. The result has been a significant modal shift from car commute to rail. Also offered to employees were financial incentives which contributed to the success of the initiatives.

The most recent initiative in Denmark includes the intensification of development within a new transit corridor. Orestad, a new urban corridor of 310 ha, runs south of Copenhagen city and west of the international airport. The Act on Orestad 1992 designated the area for urban development in conjunction with a new rail line with six stations. Development is based on six neighbourhood-based stations. In the northern part closest to the city centre, a new university integrated with research and development and other knowledge-based industry is being developed.

The project is jointly funded by the Danish government and the Copenhagen Municipality. In 1994 a competition was held to find a team to draw up a master plan, the procedure for which was set out in the 1992 Act. Development is being phased so that each station node is fully completed before developing the next one. The rail line and first buildings are programmed for completion in 1999. The last urban areas will be finished by 2030.

Proposed initiatives

In the UK, the West Midlands Region is also pursuing a land use and transport strategy based on transit corridors. Regional Planning Guidance Note 11 (1995) provides a strategy for siting of development at selected locations along well-served public transport corridors and public transport centres. The guidance encourages local authorities within the region to assess the scope for such development jointly with local transport providers. The following criteria are provided for assessment:

- presence of sufficient nodes on the corridor with evident capacity;
- need for development not to undermine greenbelt or result in ribbon development;
- presence of spare public transport capacity;
Review of selected land use and transport initiatives outside Australia and their applicability in the Perth context

- presence of local facilities and existing infrastructure and
- need for corridor to have minimal impact on the road network

The strategy adopts a hierarchy approach to location selection: conurbations first then freestanding towns then (and only then) locations in the greenbelt.

Several county councils have progressed this strategy - Shropshire and Worcestershire being the most advanced. The latter has now published its strategy in its draft structure plan for public consultation. Eventually it will be implemented via local plans and planning applications (see section 3 for details of the UK planning process).

Research issues to consider in implementing future transit-based initiatives

Cervero and Radisch [1996] in their study of household travel and neighbourhood design found neighbourhood design only affects access mode to the station but does not affect choice of mode for the commuting trip. Instead this is determined by levels of congestion and the travel times of different modes. Use of rail for the commuting trip is determined more by the environment at the destination end (walkability) than at the origin end, where people can opt to cycle or kiss and ride. Van Wee and Van der Hoorn (1996) in their analysis of Dutch case studies found a similar result: “a central conclusion... is that the ease of egress transport from the station to the work address is much more important as an incentive to use public transport than that of access from home to the station” [pp 84].

Curtis and Godfrey (forthcoming) in their analysis of rail users and non-users in Worcestershire, UK drew the same conclusion.

Issues to consider in implementing further transit-based initiatives

These initiatives demonstrate the importance of:
- using regional authorities as the lead in strategic decisions;
- full involvement of local authorities (and other parties) in working up local detail for schemes;
- setting clear objectives and targets and
- working with transport operators to maximise efficiency of the existing system.

In order to get Perth’s existing Development near Metropolitan Railway Stations Policy implemented there is a need for:
- clear objectives and targets (i.e. which stations, which roles and therefore what land uses) and an evaluation framework;
- State-led role using development briefs as the tool;
- full collaborative involvement of local authorities in working up local detail;
- site assembly (a role for LandCorp®);
- working with transport operators to maximise efficiency of system and promote better transport interchange;
- a push for high density uses at stations, particularly people intensive such as education, offices;
- creation of and priority given to a walkable environment in the precinct and
- a package of measures to provide financial incentives to use rail (employees subsidised to use rail, which could be linked to incentives to the business for savings in not supplying 100% car parking on site).

4.3.3 Choice of transport modes

The main objective is to ensure key locations (regional and local centres, major employment destinations) are served by a choice of modes. This is reflected in the strategy statements (section 2).

Three useful initiatives that can be considered:
- Use of accessibility profiles to determine the most appropriate locations for encouraging intensive development or alternatively discouraging, depending on the level of accessibility at that location;
- The role of local authorities in providing for transport choice and the use of financial packages (TPPs) and
- Pedestrianisation.
Accessibility profiles

The London Borough of Hammersmith and Fulham, UK have adopted an approach under which improved accessibility is rewarded by higher plot ratios (DoE & DoT, 1995 p16). A series of six public transport accessibility zones has been drawn based on access times to public transport services. The calculation includes walking time, waiting time, number of public transport routes available and frequency of service. Maximum walking times establish catchment areas. Parking standards are also defined in relation to these accessibility zones.

Local authorities providing for transport choice

Transport Policies and Programmes (TPP) enable local authorities to bid for central government resources to cover local road and public transport investment proposals. In this way local authorities can adopt a key role in promoting choice of modes. One of the packages supported by the DoT in the 1994/5 round was for Brighton. The package is closely linked to local planning policies set out in the East Sussex Structure Plan and Brighton Local Plan. The Strategy proposes bus priority measures, real time bus information systems, traffic management measures to reduce the accessibility to the town centre by the private car, high parking charges and improved facilities for cyclists and pedestrians.

Pedestrianisation

There is now wide international acceptance of the value of pedestrianisation schemes in improving the attractiveness and commercial success of central areas. A review of pedestrian schemes in Germany (Monheim R, 1988 in C Hass Klau ed) New Life for City Centres cited in the Royal Commission Report, 1995) showed that nearly all experienced a substantial increase in the number of pedestrians using them. Hass Klau’s work reviewing studies in Germany and Britain showed a positive effect on retailing with shops inside pedestrian areas more successful than outside.

Initiatives of the City of York, UK (a tourist, retail and manufacturing town with a population of 100,000) include strategies to reduce traffic in main shopping areas and give priority to non-motorised travel together with park and ride schemes. Since 1987 York has progressively introduced a large pedestrianised centre by providing:

- operational only car parking for all new developments within the city precincts;
- five park and ride sites (500 spaces) on radial approaches;
- reallocation of road space to buses, cyclists and pedestrians;
- speed management strategy of 48km/h on major radials and 32km/h on all other roads to improve road safety;
- creation of 80km of safe cycle network of which 40km is built and
- improved pedestrian route network throughout the city.

Some centres within the metropolitan area would benefit from such an approach, Fremantle, WA, is an ideal example.

4.3.4 Complementary transport measures: parking constraints

This is arguably the most powerful tool available to land use planners in contributing to travel reduction in the short term. Evidence shows that the availability of parking spaces is the key factor influencing modal choice. The effectiveness of policies will be limited by the ability to influence private car parking spaces. While public spaces (both on and off street) can be readily controlled, control over private spaces is limited. Planning authorities can influence supply on applications for new development or change of use and this is a powerful tool. Existing private car parking cannot be controlled through the planning system. Instead some suggest this should be controlled through a taxation system (e.g. as an employee perk).

Two initiatives are reported here. The first looks at the need for a coordinated regional parking strategy. The second reviews a local authority approach using car parking standards as a key measure in developing an integrated strategy.
**Parking strategies**

The London Planning Advisory Committee (LPAC) (a strategic grouping of London authorities) worked with the London Boroughs and the Government Regional Office for London to prepare a coordinated approach to the establishment of car parking space standards throughout London. A matrix of car parking standards was proposed. This is based on levels of public transport accessibility (see 4.3.3 above) and levels of restraint on the car commuter. Parking standards then are relatively high for developments that have poor public transport provision and low car restraint and where developments have good public transport provision the parking standards are reduced. So far this matrix has only been applied to retail and office use.

**Integrated strategy with parking as key feature**

Reading Borough Council, UK has been developing and implementing an integrated strategy for the past five years or so. All development proposals for office development in the town centre are subject to stringent parking standards. A minimum car space standard is applied so that only operational spaces are provided for on site. Developers are then expected to comply with a legal agreement to provide a commuted payment for all other car spaces required (using the Borough’s standards). In the past such commuted payments were used to provide for public car parks. Under the new strategy payments are used to fund park and ride schemes with bus priority measures on radial roads. Planning policies have been used to reinforce the decision-making for planning applications and use of legal agreements.

**Requirements for the implementation of a parking strategy**

- Reduce car parking requirements for private non-residential use on all new developments;
- Ensure all local authorities comply with such an approach, which must be determined by a regional or State level body to avoid competition between local authorities;
- Introduce local charging schemes which promote a reduction in spaces in all existing public and private car parks (a levy based on number of employees, number of permitted car spaces beyond a minimum threshold and business location (especially in relation to accessibility profiles);
- Enable businesses to buy out of parking provision requirements by using a green travel reduction plan and
- Aim to increase the attraction for development in locations with good accessibility by non-car modes.
Section 5 The strategic planning process in Perth - the application of an integrated strategy

Following the report on the land use and transport initiatives being applied outside WA, this section considers how the initiatives might be ‘imported’ to WA by first considering them within the context of the current strategic planning process and then reviewing other potential implementation processes.

5.1 The current planning process in WA

Broadly and simplistically the key elements of the current strategic planning process can be identified as follows.

5.1.1 Planning policy

At State level the State Planning Strategy (SPS) provides strategic guidance on matters of State significance. This document also notionally articulates policies generated at a national level through the Commonwealth Government’s involvement in international agreements or treaties at an international level such as global warming. The Commonwealth mandate on topics such as national economic development and Aboriginal development may also be reflected in the State Planning Strategy. The SPS is essentially a State Government initiative coordinated by the Ministry for Planning. Stakeholders such as regional development commissions, regional planning committees and local government as well as business and community groups are consulted in the preparation of the document.

Within the State the regions recognised in the Regional Development Commission Act 1995 provide an administrative focus for regional planning and regional economic development. The MfP prepares regional plans for all or part of defined regions or topics within a region. These plans use the range of implementation tools available within the Town Planning and Development Act 1928-1995, supplemented in the case of the Perth Metropolitan Region by the Metropolitan Region Town Planning Scheme Act 1963.

At the most prescriptive level come town planning (zoning) schemes such as the Metropolitan Region Scheme and Statements of Planning Policy (Section 5AA statements). At an indicative level come the non-statutory regional strategies such as Metplan or the Bunbury-Wellington Region Plan and the corridor “structure plans” which elaborate on the broader regional statements in the metropolitan region. These State and regional/subregional strategies are intended to provide a strategic context for local planning strategies which influence the planning decisions taken in the local government sphere.

Broad statements of direction and resource allocation by local governments are prepared under the provisions of the Local Government Act 1993 and known as a ‘community’ or ‘corporate’ plan. Local Town Planning Schemes are prepared for all or part of local government areas and consist of a scheme report and a scheme text (legal document) which provide the rationale and statutory basis for zoning maps and policies contained in local schemes.

A key issue in the policy area is the extent to which State and regional level policies are put into effect through local planning controls. When new schemes are prepared, how are they vetted for conformity with State and regional policies? What is the process and evaluation methodology for checking scheme reviews and amendments for such conformity? How are the officers concerned with such appraisal trained and informed about integrated land use and transport strategy for example? Is there an independent system of review for resolving disputes between local and State/regional planning agencies over policy implementation issues? To what extent is the Minister for Planning bound by policy set by regional or State agencies when arbitrating between ‘regional/State’ and ‘local’ planning interests?

5.1.2 Planning applications

Most planning applications for consent to develop land are examined at local government level. In areas which have approved town planning schemes, discretion by local councils is limited by the particular scheme provisions expressed through zoning and policy. The tendency is still for increasing discretion to be afforded by the scheme to local councils over the nature of development.
In certain categories or areas, development control powers may have been retained at State level by the WAPC, either exclusively or jointly with local governments. In these situations an application may require approval from both levels of government, or solely from the State level. In the metropolitan region, development of land within MRS reserves for transport links or regional open space are examples, as are retail developments over a stipulated size.

Where the planning agency (local or State) exercises discretion under the relevant scheme(s) to refuse an application or applies conditions, there is a right of appeal by the applicant to either the Minister for Planning or the Town Planning Appeal Tribunal. Implementation of policy on land use and transport integration (or any other topic) can be influenced by Ministerial decisions which do not formally have to take account of policy or even give planning reasons for decisions. Tribunal deliberations are more likely to adhere to established policy. It is understood that the appeals system is now currently under review.

5.1.3 Players

Development decisions are influenced by key players in the property industry as well as in planning agencies and other government structures. The influence of the public as groups or individuals is also significant. Input from these players may be formally provided for in the process of preparing a strategic plan, formulating or amending a statutory instrument or considering a development application.

Equally important are the informal mechanisms for informing decision-makers in the planning sphere. At both local and State level the distribution of political patronage in exchange for political support is inevitably part of the scene where discretion is exercised by elected politicians. In a system where Council or Ministerial discretion can be exercised over a wide range of planning decisions the influence of patronage is particularly evident. This feature may well work against a transport and land use policy where the outcomes are long-term or diffuse compared to more immediate electoral or resource benefits.

5.2 The implementation of an integrated land use and transport strategy

A number of areas need consideration if an integrated strategy is to be effectively implemented. While it is important, it is not enough to simply produce metropolitan-wide or state-wide policy documents (see section 2). These must be articulated both by feeding down through other policy documents and by measures taken to ensure these are considered in all planning decisions. While the above account identifies that provision is made for State policy to filter down to local planning, it remains unclear how effective this is. Measures setting up techniques which will ensure implementation and monitoring as a means of continual checking are required for both policy devolution and in monitoring planning decisions.

It is also important to ensure all players are charged with the responsibility for implementing policy so that a coordinated approach is achieved. With these points in mind the following initiatives are suggested as a means of ensuring integrated land use and transport policies are actually implemented. These initiatives are organised under three headings:

- planning process;
- policy issues and
- further research

5.2.1 Planning process

What is needed is a very clear statement of land use policy guidance in relation to integrated land use and transport. Its purpose would be to direct local government planning departments and other potential players (development industry, transport service providers etc). The objective would be to make integrated land use and transport a priority planning consideration. This would suggest the need for some form of strategic guidance policy which develops further the Metropolitan Transport Strategy in relation to the land use aspects. An overall strategic policy statement (section 5AA) is needed which clearly articulates the land use planning actions/policies and indicates responsibilities of all players. Players must be clearly defined to include all...
government departments and all levels of government.

In addition a detailed implementation plan should be prepared for each action in the strategy. This should be two pronged:

- **For existing areas**
  - Concentrate on providing for modal choice as soon as possible by:
    - conducting an audit of areas in deficit (this would include identifying major developments which are not accessed by all modes of transport and preparing an inventory of other related needs such as cycle parking, bus shelters etc);
    - prepare development briefs which identify desired forms of development in areas which are currently well served by public transport;
    - prepare a program of works for public bodies to implement accessibility improvements by other modes and
    - consider the role of government departments in facilitating appropriate forms of development.
- **For all new forms of development**
  - Very clear guidelines should be designed which provide for the actions. Measures should be undertaken which ensure these actions are implemented with immediate effect. This is especially important given the long lead times for development, the amount of existing development in the pipeline which does not comply with these new guidelines as well as the relatively small impact new development has on the existing urban fabric and travel activity patterns.

  The use of ‘transport impact statements’ would enable impacts of development proposals to be clearly considered. Statements should consider travel generated by the development by means of access, mode split and provision for all modes (include cycle rack standards, access to cycle network, on site bus stops/shelters etc.) in all development proposals. In this way one could apply criteria to ensure major developments are sited where they provide transport choice in all three categories [motorised car, motorised public and non-motorised).

  Investigation of financial incentives to promote non-car modes using the UK’s Transport Policies and Programmes model would be of value. In this way local governments become more involved in implementing an integrated strategy and may be compensated by loss of rate revenue in not supporting the most beneficial site from the land market’s viewpoint. A development tax applied to certain types of site could have a similar effect.

**5.2.2 Policy issues**

As well as identifying actions/policies in relation to the land uses, policy statements could also show them in relation to journey purpose, for example:

<table>
<thead>
<tr>
<th>Policy statements framed in relation to journey purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commuter trips</strong></td>
</tr>
<tr>
<td>Aim - encourage public transport or car pooling</td>
</tr>
<tr>
<td>Actions: - awareness campaigns</td>
</tr>
<tr>
<td>- parking restrictions (standards)</td>
</tr>
<tr>
<td>- priority lanes (check development proposal can access a priority lane)</td>
</tr>
<tr>
<td><strong>Local shopping/ personal business trips</strong></td>
</tr>
<tr>
<td>Aim - promote walk and cycle</td>
</tr>
<tr>
<td>Actions: - audit of facilities existing and required</td>
</tr>
<tr>
<td>- provide walk and cycle facilities</td>
</tr>
<tr>
<td>- awareness campaign</td>
</tr>
</tbody>
</table>

Applying appropriate initiatives to existing and pre-existing areas is likely to have a wider...
The strategic planning process in Perth - the application of an integrated strategy

and more immediate effect than those actions applied in new greenfield sites with a long development lead time.

The existing planning strategies do not tackle sufficiently recreation and leisure trips, or employment travel outside the Perth central area and the strategies should be amended to take this into account. Strategic Regional Centres are already seen as entertainment and recreation venues.

Where high density employment development can be achieved this should be encouraged around station precincts in addition to the current focus on high density residential development.

It is important to stress the need for an integrated package - there are many good initiatives in strategies but they lose the full impact because they are not utilising the potential to address all aspects (the package of measures). For example existing measures often miss out on the potential to raise awareness/educate e.g. the CATS bus would benefit from a media campaign plus messages on the buses and bus stops about why for example the need for green transport, or keeping Perth city moving.

The need for a parking strategy is important. This offers a key role for land use planners. It is important that this is addressed at regional or metropolitan level to ensure consistency of approach. A tax on parking could generate funds for development incentives in transport efficient locations.

5.2.3 Further research

As a first stage some baseline information is needed.

A travel audit is required to establish what deficiencies there are in existing areas. It should include pedestrian, cycle and public transport access. This is an area where local governments could take responsibility given their knowledge of the local area. Target areas should be regional and district centres first (given their importance in locational/distribution strategy), followed by existing major travel generators.

These findings should be used to define targets for Transport Strategy and to prepare an implementation plan.

Very simple and cost effective strategies could be undertaken such as simple modifications to areas with publicity as to why - e.g. “WA government - giving the pedestrian/cyclist priority”.

The strategic planning process in Perth - the application of an integrated strategy
A review of WA’s land use and transport strategies to date shows that while attempts have been made to ensure integration of land use and transport, further progress could be made. This is particularly important in order to ensure the wealth of good ideas, actions and policies are in fact implemented. If land use and transport are to be fully integrated then the wide range of plans and policies should be designed to ensure strategic objectives are pursued in an integrated fashion. It is important that this is not hindered by problems of institutional, administrative and sectoral boundaries. All agencies (from all State departments to local level agencies) must be involved and have a clearly articulated role to play.

An integrated strategy involves not only the physical relationship between land uses and transport uses/networks but also the administrative relationship. This calls for the coordination of agencies, services and operations. The MfP has an important role as coordinator in this respect. A number of measures could be taken to ensure effective implementation of an integrated strategy. Section 5 sets out those measures of direct concern to land use planners. It suggests the most important next step would be to develop an overall strategic policy statement such as a Statement of Planning Policy (section 5AA). This policy would aim to provide a very clear statement of land use policy guidance in relation to integrated land use and transport. It would build on the Metropolitan Transport Strategy and aim to clearly articulate the land use planning actions and policies together with an indication of the responsibilities of all ‘players’.

A Statement of Planning Policy would then act as a pivot point for the development of other measures. These measures would be equally important and should be seen together as a package of measures which ensure effective implementation. They are as follows:

- Monitoring
  It is recommended that a review of the implementation of policies is conducted to check for policy effectiveness. In WA monitoring of land supply through the Metropolitan Development Program is done well. The scope for applying such a monitoring approach in the policy implementation area should be explored.

- Good Practice Guide
  This would for instance explore the potential of links with the AMCORD /AUSROADS work on Integrating Land Use, Transport and the Environment. Production of an accessible and user friendly WA-based good practice guide would further reinforce effective implementation.

- Education of Practising Planners
  It is recommended that a series of workshops are conducted after the proposed section 5AA statement is issued. Gaining direct experience of the issues will assist in ensuring that the issues receive priority consideration in the decision-making process.

- Local Government Roles
  Need to be clarified, these should be clearly set out both in the Statement of Planning Policy and by use of a good practice guide.

- Financial Incentives
  Following the UK TPP model, this approach would also encourage local government to be more actively involved.

- Joint Working
  Between all agencies to ensure the side effects or spinoff benefits of one department’s initiatives are fully utilised by other departments.

- Public Workshops
  To ensure all in the community are involved and share ownership of the policy.
In addition to these measures consideration must be made to the time scales involved in ensuring land use policies are effectively implemented. The role of land use planning in ensuring a sustainable transport policy occurs is of central importance. Initiatives involving the impact of policy changes on future land use patterns clearly involve long lead times before change on the ground is evident. Research on this matter in the UK (Oxford Brookes University, WS Atkins, 1998 forthcoming) suggests that it could be up to 10 years before changes are evident in land use patterns resulting from the implementation of PPG13. It is therefore important that a strategy developing the ‘next steps’ progresses on a number of ‘fronts’, implementing measures which can be effective in the short term (for example, measures to control parking and measures to aid a choice of transport modes including walking and cycling) and putting in place early measures to provide change in the longer term.
## Appendix 1 Existing Land Use Policies in Perth - Key references of direct relevance to this study

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<td>Bike Ahead: Bicycle Strategy for the 21st Century Government of Western Australia</td>
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<td>Department of Planning and Urban Development</td>
<td>1990</td>
<td>Metroplan</td>
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<td>Department of Transport Transport</td>
<td>August 1995</td>
<td>A Balanced Transport Program for Perth: A Report. Transport Report 95/1</td>
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<td>Department of Transport Transport, Main Roads WA, Ministry for Planning, Fremantle Port Authority, Westrail, Metrolux</td>
<td>December 1995</td>
<td>The Way Ahead: Metropolitan Directions for Western Australia</td>
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<td>Government of Western Australia</td>
<td>April 1996</td>
<td>State Transport Policy - Western Australia</td>
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<td>State Planning Strategy Western Australian Planning Commission</td>
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<td>Metropolitan Region Planning Authority</td>
<td>1970</td>
<td>The Corridor Plan</td>
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<td>Metropolitan Transport Strategy Group</td>
<td>September 1993</td>
<td>Information for Urban Transport Committee: MTSG Workshop</td>
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<td>Report of the Review Group to the State Planning Commission of Western Australia</td>
<td>October 1987</td>
<td>Planning for the Future of the Perth Metropolitan Region</td>
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<td>Policy DC1.6 Development near Metropolitan Railway Stations</td>
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## Appendix 2 Cities of between 1-3 million population

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# Cities of between 1-3 million population

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<th>Urban Agglomeration</th>
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