

# TRANSPORT IMPACT ASSESSMENT GUIDELINES

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VOLUME I  
INTRODUCTION AND GENERAL GUIDANCE

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Department of  
**Planning**



Western  
Australian  
Planning  
Commission

# TRANSPORT IMPACT ASSESSMENT GUIDELINES

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## Structure of the guidelines

Volume 1 – Introduction and general guidance

Volume 2 – Planning schemes, structure plans and activity centre plans

Volume 3 – Subdivisions

Part A – The assessment process

Part B – Transport impact statement

Part C – Transport impact assessment

Volume 4 – Individual developments

Part A – The assessment process

Part B – Transport impact statement

Part C – Transport impact assessment

Volume 5 – Technical guidance

## 1 Introduction

These Transport Impact Assessment (TIA) guidelines have been prepared by the Department of Planning (DoP), on behalf of the Western Australian Planning Commission (WAPC), to assist land use planners and transport planning professionals to undertake transport impact assessments of land use development proposals.

The term 'development' in the context of this document is used in the broader sense, covering various land use development proposals such as scheme amendments, structure plans, subdivisions and individual development applications.

The purpose of the TIA guidelines is to clearly identify which type of development proposals require supporting transport planning information, the level of information required and the format in which it should be presented for consideration.

## 2 Background

A draft of the TIA guidelines was released for comment in August 2005. The comments received were then incorporated into a revised 'Version for Trial and Evaluation', released in August 2006.

The latest version (August 2016) is an updated and revised edition, incorporating:

- updated references to the latest versions of WAPC's development control policies and planning documents;
- revised trip generation figures; and
- examples of the type of information and the preferred presentation format required in a TIA.

## 3 Current status

The current version of the TIA guidelines (August 2016) has been endorsed by the WAPC.

Planning officers within the DoP will be using the guidelines to assist them in assessing the transport planning implications of land use development proposals. Transport planning officers within local government are encouraged to do likewise.

Proponents of land use developments, and their planning and transport consultants, will be required to comply with the guidelines when determining the type of transport infrastructure required to support their development proposals and the potential transport impacts on the existing/proposed transport infrastructure within the surrounding area.

## 4 Structure of the guidelines

The guidelines are intended for use by a wide range of stakeholders within the land use planning and development industry; from developers through State and local government planning officers to transport planning professionals.

The guidelines have been structured to accommodate, and be used for, different stages of the land use planning and the approval process, that is, planning schemes, structure plans and activity centre plans, subdivisions and individual development proposals.



# TRANSPORT IMPACT ASSESSMENT GUIDELINES

The guidelines are divided into five volumes.

Volume 1 – Introduction and general guidance

Volume 2 – Planning schemes, structure plans and activity centre plans

Volume 3 – Subdivisions

Volume 4 – Individual developments

Volume 5 – Technical guidance

## **Volume 1 – Introduction and general guidance**

Volume 1 is intended primarily for use by developers and land use planners. It sets the context of the guidelines within WAPC's development control and planning policy framework and provides general guidance on the level of TIA that should be undertaken in support of a development proposal.

## **Volume 2 – Planning schemes, structure plans and activity centre plans**

Volume 2 is targeted at land use planners and transport planning professionals. It contains information regarding planning scheme amendments for rezoning of land to allow for changes in land use, as well as technical advice on the scale and content of the transport impact assessment that should

be undertaken as part of a structure planning development and approval process. For the purposes of these TIA guidelines reference to structure plans also includes activity centre plans.

## **Volume 3 – Subdivisions**

Volume 3 is targeted at land use planners and transport planning professionals. It provides technical advice on the scale and content of the TIA that should be submitted to the approving authority in support of a subdivision application approval.

## **Volume 4 – Individual developments**

Volume 4 is generally targeted at transport planning professionals. It provides detailed technical advice on the scale and content of the TIA that should be submitted to the approving authority in support of an individual development application approval.

## **Volume 5 – Technical guidance**

Volume 5 is generally targeted at transport planning professionals. It provides additional advice and guidance on the technical aspects of undertaking a detailed TIA.

Volume 5 also contains a number of examples illustrating the use of graphical representation of data within a TIA report.

## 5 Policy context

Western Australia's land use planning and development requirements are contained within a range of WAPC policy documents, including the WAPC's operational policies, often referred to as the development control (DC) policies and Liveable Neighbourhoods. These policies require a range of transport planning issues to be addressed as part of any development approval process.

These TIA guidelines provide further direction on the level of TIA required and the scope and content of the assessment to satisfy the above policies.

The guidelines should be read in conjunction with WAPC's Liveable Neighbourhoods and the DC policies. (Where appropriate, the guidelines include cross-references to the above policies).

## 6 Better transport outcomes

Previous versions of the TIA guidelines were primarily focussed on providing a method of assessing the transport components of a development proposal on a more consistent basis. They were not intended to be 'better practice' transport guidelines in that they did not present measures to reduce car use or set targets for the non-car mode share.

Nonetheless, their utilisation assisted officers assessing a development proposal to determine whether the development met the relevant policy requirements with respect to land use and transport integration, promotion of non-car modes, sustainability and universal access.

In addition, the guidance given to developers and planners on how to assess the transport components of their development for all modes often resulted in better consideration of non-car modes and therefore a more sustainable development.



In more recent times, Government policies have become more focussed on sustainability, travel demand management and the reduction in dependency on the private car. This is in keeping with the goal of achieving the various objectives identified within key documents such as *Perth and Peel @3.5Million* (Draft 2015), *SPP4.2 Activity Centres for Perth and Peel*, *Liveable Neighbourhoods* and *DCI.6*, which aim to encourage developments centred around TOD principles. Developers– and particularly proponents of larger developments–are **strongly encouraged** to consider how their development can be designed and improved to meet current thinking and best practice planning principles, including the use of travel demand management measures to reduce private vehicle trips, at an early stage of the planning process.

A new section providing guidance on sustainability and the use of TDM measures is included in this version of the TIA guidelines in **Section 6** of **Volume 2**.

## 7 Links between TIA volumes

There is a significant level of commonality between the transport impact information required and methods of assessment for scheme amendments, structure plans, subdivisions and individual developments.

In many cases the transport information required is essentially the same with only the area to be covered or the level of detail changing. In other cases, there may be a different requirement for assessment of a subdivision than for an individual development proposal.

For clarity and ease of use, the planning schemes, structure plan and activity centres plan, subdivision and individual development sections, (**Volumes 2, 3 and 4** respectively), have been written as “stand-alone” volumes, removing the need to cross-reference back and forth between volumes.

There is, therefore, a significant level of duplication of content within the three volumes but it is hoped that this approach will make the TIA guidelines easier to understand and to use.

Furthermore, this approach has been adopted because the TIA guidelines are not intended to be read from first page to last. Instead, the intent is for the proponent to refer to that part of the guidelines relevant to their particular development, for example, Volume 3 Part C, for a large subdivision, requiring a full TIA.

Volume 5 contains additional guidance on a number of important elements required of a TIA for all levels of development. References to such elements are included where appropriate within the text of Volumes 2, 3 and 4. Users should familiarise themselves with the referenced content within Volume 5 in order to provide the necessary information in the required format.

It is unlikely that many users will work their way sequentially through the TIA guidelines, (that is, start with a structure plan assessment, proceed through both levels of subdivision assessment and finally the two levels of individual development assessment). Knowledge of the earlier content cannot therefore be assumed and the guidelines have been structured accordingly.



## 8 Contact details

Feedback on the guidelines, or requests for further information, should be directed to:

Infrastructure and Land Use Coordination  
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## General guidance

### 1 Introduction

**Volume 1** of the guidelines is intended primarily for use by developers and land use planners. It sets the context of the guidelines within WAPC's development control and planning policy framework and provides general guidance on the transport planning information that should be provided in support of a development proposal.

Volume 1 should be used by developers to determine whether or not their land use/development proposal requires supporting transport planning information and if so, the level of information that should be provided.

Equally, it should be used by planning officers within the approving authority to determine whether or not the appropriate level of transport planning information has been provided in support of the development proposal.

### 2 Background

#### 2.1 The land use/transport planning process

The standard land use planning process starts with the identification of likely future land use requirements; proceeds to planning schemes and the development of structure plans; then subdivision layouts and finally the submission of individual development applications. At each stage of this process, the transport planning requirements of the proposed land uses and the potential transport planning impacts on the surrounding area need to be assessed. This general process is illustrated in **Figure 1**.

The land use/transport planning process should be an iterative one. The initial stage is the development of the desired land use outcome. The required transport infrastructure to support that land use



proposal should then be determined and the economic, social and environmental implications of providing this infrastructure assessed.

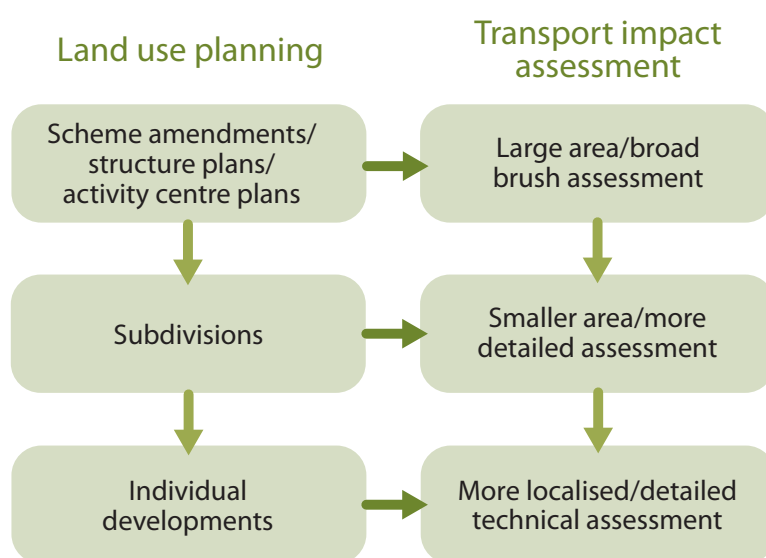
These implications may be sufficient to warrant changes to the initial land use proposal. This may include changes to the proposed land uses themselves and/or changes in densities, plot ratios and the spatial separation of the uses (for example, mixed uses rather than segregated uses).

The transport implications of this revised land use scenario should then be reassessed and further changes made if required until an acceptable (desirable) solution is reached.

The objectives of this integrated process, from a transport planning perspective, include:

- a reduction in the transport task and therefore the infrastructure required;
- a corresponding reduction in the potential adverse impacts;
- a more sustainable overall land use/transport solution (in line with current Government policies);
- the provision of high levels of accessibility for those without ready access to the private car; those who choose not to drive and those who are unable to due to a disability; and
- the provision of high quality and viable transport alternatives and to encourage a mode shift to alternative modes of transport.

**Figure 1: Land use/TIA process**



## 2.2 Transport component

The transport component of this process requires the transport implications to be determined at each stage of the process. The level of detail will be different for each, reflecting the level of land use detail in each stage, as shown in **Figure 1**.

It is especially important that the transport infrastructure requirements and the transport impacts, particularly on the surrounding area, are identified as early as possible in the land use planning process. This allows a transport strategy to be developed, providing the transport direction and guidance for the later planning stages.

Developing these transport strategies at an early stage, and getting the appropriate local and/or State Government approval, should have the added benefit of streamlining the later stages, particularly the development application stage, as the major issues will have already been addressed and agreed upon.

residential and mixed-used development around activity centres, station precincts and along high-frequency public transport routes.

It is therefore important that the potential transport impacts of these developments are adequately assessed at the scheme amendment stage or when intensification of residential land or higher plot ratios is being considered. This will identify the changes to the existing transport infrastructure required to accommodate the proposed land use changes and determine whether or not these would have an adverse impact on existing land uses and infrastructure.

These TIA guidelines cover both the assessment of development within existing urban areas and the assessment of green-field development on the urban fringe.

A discussion of the TIA requirements relating to planning schemes and amendments to schemes has been included in **Volume 2, section 2**, as a prelude to the structure planning stage.

## 2.3 Changes in development patterns

Historically, urban growth has been concentrated on green-field development on the urban fringes of cities. In Perth, green-field development has accounted for almost three quarters of all new development.

However, new and existing urban policies are focusing on accommodating future urban growth in a more consolidated form that will reduce dependence on new urban green-field developments. The *Perth and Peel @3.5 million* framework, for example, aims to guide future infill development to deliver a more compact and connected city. The framework provides opportunities for higher density

## 3 Level of assessment – structure plans and activity centre plans

### 3.1 Policy issues

The WAPC's State Planning Policy No 1 (SPPI February 2006) sets out the key principles relating to environment, community, economy, infrastructure and regional development which should guide the way in which future planning decisions are made. The objective of the infrastructure component is to *"facilitate strategic development by making provision for efficient and equitable transport and public utilities"*.

Assessment of the transport infrastructure needed to support proposed land use development is therefore required for all levels of land use planning.

This requirement is expanded upon in the *Planning and Development (Local Planning Schemes) Regulations (2015)* schedule 2, part 4. Details of the transport-related requirements under these regulations can be found within the document, and in appendix 1 of the *Structure Plan Framework*.

The regulations state that a structure plan must *"set out...the extent to which the plan provides for the coordination of key transport and other infrastructure"* while the framework calls for *"a district or local traffic and transport management strategy, including a Transport Impact Assessment"*.

The WAPC's operational policy, *Liveable Neighbourhoods*, also requires a transport assessment to be undertaken as part of the structure planning process.

Advice on how to design structure plans to satisfy the transport components of *Liveable Neighbourhoods* is provided within Element 2 – Movement network.

### 3.2 Transport information required

The above indicates that all structure plans require a supporting TIA under current WAPC policy. Guidance on how to undertake the assessment is provided in **Volume 2** of these guidelines.





## 4 Level of assessment – subdivision applications

### 4.1 Policy issues

Current WAPC development control (DC) policy requires subdivision applications to be supported by transport information. The requirements are contained within a number of policies, including:

- DC1.1 Subdivision of Land – General Principles (June 2004)
- DC1.2 Development Control – General Principles (August 2004)
- DC1.5 Bicycle Planning (July 1998)
- DC1.6 Planning to Support Transit Use and Transit Oriented Development (January 2006)
- DC1.7 General Road Planning (June 1998)
- DC2.2 Residential Subdivision (August 2013)
- DC2.6 Residential Road Planning (June 1998)
- DC3.4 Subdivision of Rural Land (February 2012)
- DC4.1 Industrial Subdivision (July 1988)
- DC5.1 Regional Roads (Vehicular Access) (June 1998)

Key transport objectives within these policies include:

- the facilitation of appropriate access and movement systems for all modes of transport;
- the integration of development with the surrounding land uses and transport networks;
- minimising vehicular access to regional roads;
- the provision of high quality pedestrian and cycle networks both within the development and connecting to the surrounding area; and
- ensuring that adequate consideration is given to public transport access.

The transport assessment requirements under *Liveable Neighbourhoods* are similar to those required for structure plans, but at a greater level of detail, reflecting the more detailed planning aspects of a subdivision.

The level of transport information required in support of subdivision applications, to satisfy the above policy objectives, is discussed below.

## 4.2 Transport information required

Subdivisions can range from very large scale right down to the subdivision of a single residential lot into two lots. Obviously, each would have widely different transport implications and a “one size fits all” assessment process would not be appropriate.

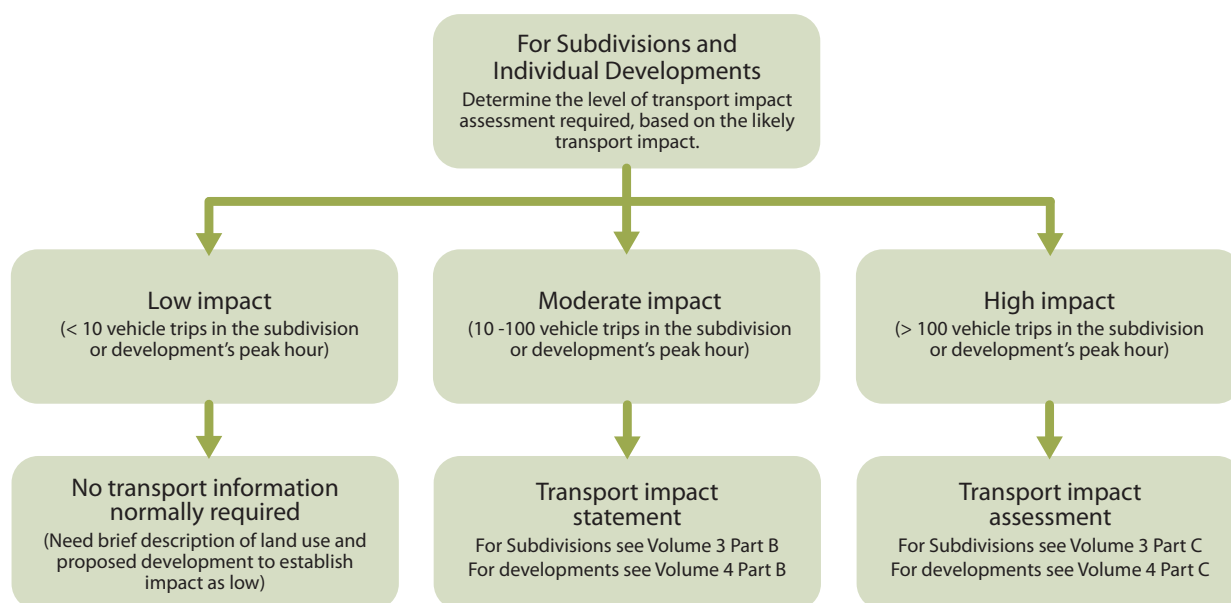
A three level assessment process has been developed to accommodate this diversity.

The process for determining the level of assessment required is illustrated in

**Figure 2. Table 1** presents these levels in terms of land use units, (for example, number of dwellings or retail floor space), for the main land use categories, based on indicative trip generation rates.

Further guidance on how to determine the appropriate level of assessment and detailed guidance on how to undertake the various levels of assessment to satisfy Liveable Neighbourhoods and DC policy is provided in **Volume 3** of these TIA guidelines.

**Figure 2: Level of assessment required**



**Table 1: Level of TIA required by land use and size**

LAND USE	MODERATE IMPACT	HIGH IMPACT
	Transport Impact Statement required	Transport Impact Assessment required
	10 – 100 vehicle trips in the peak hour	> 100 vehicle trips in the peak hour
Residential	10–100 dwellings	> 100 dwellings
Schools	10–100 students	> 100 students
Entertainment venues, restaurants, etc.	100–1000 persons (seats) OR 200–2000 m <sup>2</sup> gross floor area	> 1000 persons (seats) OR > 2000 m <sup>2</sup> gross floor area
Fast food restaurants	50–500 m <sup>2</sup> gross floor area	> 500 m <sup>2</sup> gross floor area
Food retail / Shopping centres with a significant food retail content	100–1000 m <sup>2</sup> gross floor area	> 1000 m <sup>2</sup> gross floor area
Non-food retail	250–2500 m <sup>2</sup> gross floor area	> 2500 m <sup>2</sup> gross floor area
Offices	500–5000 m <sup>2</sup> gross floor area	> 5000 m <sup>2</sup> gross floor area
Service Station*	1–7 refuelling positions	> 7 refuelling positions
Industrial/Warehouse	1000–10,000 m <sup>2</sup> gross floor area	> 10,000 m <sup>2</sup> gross floor area
Other Uses	Discuss with approving authority	Discuss with approving authority

\* Service Stations generally rely on very high levels of passing trade, and do not normally require a full TIA. Impacts are usually limited to the access points and the nearest significant intersection, however; some may be coupled with other land uses.

## 5 Level of assessment – individual development applications

### 5.1 Policy issues

Current WAPC development control policy requires individual development applications to be supported by transport information. The transport objectives and requirements for individual developments under DC policy are similar to those outlined above for subdivisions.

In particular, DC1.2, Development Control – General Principles (August 2004) sets out the requirements for the transport information to be provided in support of individual development applications.

Section 3.1 of the policy outlines what the WAPC needs to consider in making its decision. This includes:

- the integration of the development into the site and its surroundings;
- transport and traffic impacts; and
- vehicular and non-vehicular access, circulation and car parking.

Appendix 2 of Policy DC1.2 outlines what needs to be submitted to the WAPC in support of a development application (DA).

The transport information required includes:

- “1 (v) The existing and proposed means of access and egress for pedestrians and vehicles to and from the site;*
- 1 (vi) The location, number, dimensions and layout of all car parking spaces intended to be provided, including provision for the disabled;*
- 1 (vii) The location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas; and*
- 3 Any specialist studies that the responsible authority may require the applicant to undertake in support of the application, such as traffic, heritage, environmental, engineering or urban design studies.”*

The level of transport information required in support of an individual development application to satisfy the above policy objectives is discussed below.

## 5.2 Transport information required

As with subdivisions, individual developments can range from very large scale, generating large volumes of traffic over a wide area, to small developments, generating minimal traffic at a very localised level.

The process for determining the level of assessment required is the same as for subdivisions, as illustrated in **Figure 2** and **Table 1**.

Further guidance on how to determine the appropriate level of assessment and detailed guidance on how to undertake the various levels of assessment to satisfy DC policy is provided in **Volume 4** of these TIA guidelines.

## 6 Checklists

**Checklists** are provided in **Appendix A of Volumes 2, 3 and 4**, appropriate for the specific stage of development covered by each volume and the levels of assessment within each stage.

The correct checklist may be used by the proponent and/or the person undertaking the TIA as a method of ensuring that all items have been addressed and submitted with the transport information.

Whilst it is not mandatory for the checklist to be submitted with the application/ TIA report, this may assist the assessors in identifying any further information required to process the application.