



# Traffic and Transport Assessment Guidelines

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# Traffic and Transport Assessment Guidelines

## Purpose of Document

The purpose of this document is to set down best practice guidance for the preparation of Traffic and Transport Assessments (TTA) and to explain the relevance of TTA in the planning process. In particular, it is intended to provide guidance for developers, their agents, planning authority and National Roads Authority (NRA) staff in scoping and conducting studies for traffic and transport assessment in relation to proposed developments, thereby contributing to the provision of sustainable forms of development and better-informed planning decisions. The integration of land use and transportation considerations is critical to the realisation of these objectives. The use of the TTA methodology can contribute much to facilitating practical efforts in this regard.

This document should inform local authority and NRA staff in decision-making on the need for a TTA by defining the thresholds at which studies are recommended as part of a planning proposal.

Throughout this document, the term planning authority is taken to cover ALL staff working within the local authority that performs the functions of Planning Authority and Roads Authority, including roads, transportation, environment and planning staff.

## This guide is intended for:

- NRA staff evaluating planning submissions.
- Local authority staff dealing with planning applications.
- Local authority staff dealing with transports planning.
- Developers, and their agents, involved in preparing proposals and related planning applications for new developments or the redevelopment of existing sites.
- Public transport providers and operators.
- all local authorities as an aid in the preparation of local, urban, county, and development plans.

The document was prepared by the NRA's Road Safety Team with the assistance of the NRA Planner and is published as the draft NRA Traffic and Transport Assessment Guidelines.

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## Glossary of Terms

**Road Network:** The existing and proposed public and private roads within the study area.

**Traffic Growth:** The normal expected growth in traffic over time.

**Trip:** One movement, in or out of the study area by foot, cycle or vehicle.

**Mode:** Method of travel, whether by foot, cycle, private car, public transport etc.

**Transport Infrastructure:** All facilities relevant to road, rail, sea and air transport.

**Mobility Management Plan:** A development management tool that brings together transportation requirements, employers, staff and site management issues in a coordinated manner.

**Thresholds:** Minimum intervention levels at which Transport and Traffic Assessments are to be conducted.

**Generated Trips:** Additional trips made as a result of the presence of a development.

**Peak Time / Activity Peak:** Time of day at which the transport demands from a development are greatest.

**Incremental or Piecemeal Development:** Repeated, apparently uncoordinated, small-scale development on the same or adjacent sites.

**Phased Development:** Planned coordinated development over a single large site or over a development area.

**Congested:** A junction or link is considered to be congested when traffic flows are at 85% of the estimated capacity of the junction or link.

**Capacity Calculations:** Standardised methods of estimating traffic capacity on links and at junctions.

**Scoping Study:** A preliminary evaluation of a proposal to identify the possible nature and extent of the effects that the proposal may have on trip generation and on the existing and planned transport infrastructure.

**Mode Share Target:** The desired split between different modes of transport.

**Trip Distribution / Directional Split:** The estimated directional distribution of the estimated traffic at each junction in the study area.

**Trip Assignment:** The final estimated flows of traffic for each direction of travel at each junction and along each link within the study area.

**Pass-by Rate:** Proportion of traffic generated by a development estimated to be existing traffic on the network passing by and visiting development.

**Combined Trip:** Trip with two or more purposes to the same destination, or with two or more destinations within one development.

**TRICS:** A database containing empirically obtained trip generation data for a wide range of different types of developments.

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## **TABLE OF CONTENTS**

<b>Purpose of Document</b> .....	<b>i</b>
<b>Glossary of Terms</b> .....	<b>ii</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Overview .....	1
1.2 Statutory Responsibility of NRA.....	1
1.3 Transport Assessment.....	3
1.4 Sustainable Transport.....	4
1.5 Development Plans.....	5
1.6 Further Information on Assessments .....	5
<b>2 Thresholds</b> .....	<b>7</b>
2.1 Thresholds for Traffic and Transport Assessment.....	7
Table 2.1 Traffic Management Guidelines Thresholds for Traffic and Transport Assessment .....	7
Table 2.2 Thresholds for Traffic and Transport Assessment Where National Roads are Affected .....	8
2.2 Sub-thresholds for Supplementary Information .....	9
Table 2.3 Sub-Thresholds Criteria for Traffic and Transport Assessment .....	9
<b>3 Scoping The Assessment</b> .....	<b>11</b>
3.1 Scoping.....	11
3.2 Scoping Discussions Agenda .....	12
<b>4 Traffic and Transport Assessment: Form and Content</b> .....	<b>13</b>
4.1 Introduction .....	13
4.2 Form .....	13
4.3 Content .....	13
<b>5 Understanding and Evaluating TTAs</b> .....	<b>15</b>
5.1 Evaluation of the Assessment .....	15
5.2 Key Elements of Evaluation of the Assessment .....	16

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# 1 Introduction

## 1.1 Overview

The scale and pace of the national road development programme witnessed in recent years has been unprecedented. This pace is set to continue for the foreseeable future following the launch of Transport 21, the Government's blueprint for the further development of Ireland's road and public transport infrastructure over the next decade. The policy objectives concerned have been included in the National Development Plan, 2007-2013. The Government's transport-strategy provides assurances on the funding to be made available enabling the National Roads Authority to plan the national road development programme to deliver a modern, safe and efficient national road network to serve the needs of our expanding economy and improve our living standards.

A major challenge for land use and transportation planning is to reduce the need to travel, to improve accessibility and to achieve the use of more sustainable modes of transport that do not have adverse environmental impacts while maintaining economic vitality. The production of Traffic and Transport Assessment Guidelines aims to provide a framework to promote an integrated approach to development, which ensures that proposals promote more efficient use of investment in transportation infrastructure, reduce travel demand and promote road safety.

The planning authority should encourage early discussion with developers so as to agree the approach to TTA. This discussion is best undertaken at the pre-planning application stage. This will enable clarification of whether the transport elements of the proposals are likely to be acceptable or whether additional analysis or measures will be required so that the development proposed will be sustainable.

Throughout the process of securing planning permission, the main point of contact for the developer will be with the planning authority. However, other bodies may also need to be involved, depending on the nature, scale and location of the proposal. Where a development could have a direct or indirect impact on the flow or safety of traffic on the National Road network, the planning authority should have regard to official policies for development management and access to national roads. These policies should also be highlighted to the developer. Initial contact with the planning authority can also identify the need for discussions with other stakeholders. Early discussions between developers and the planning authority will save time later in the planning process by ensuring that all relevant issues have been covered in the TTA from the outset.

## 1.2 Statutory Responsibility of NRA

The National Roads Authority is responsible for securing the provision of a safe and efficient network of national roads in accordance with section 17 of the Roads Act, 1993.

National roads play a key role in providing access to all regions of the country and connections between the main centres of population. Although national roads account for less than 6% of the total length of public roads throughout the country, i.e. approximately 5,400 km out of 94,600 km, their significance in serving our

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economic and social transport needs is reflected in the fact that they carry over 46% of all road traffic in Ireland.

The National Roads Authority, in partnership with local authorities, is working to provide a high quality national road network by removing inefficiencies such as bottlenecks and congestion, thereby delivering positive benefits in terms of improved journey times, safer roads, reduced environmental impacts and more efficient energy use.

The strategy for the development of the network of national roads is intended to provide roads of a standard that will give a satisfactory level of service to road users taking account of the growth in traffic over a design period of at least 20 years. The traffic carrying capacity of these roads, the level of service they deliver and the period over which they continue to perform efficiently will be determined by a range of factors in addition to traffic growth, in particular:

- the frequency of access points to the network;
- the extent of development adjoining national roads, including interchanges, and in the environs of such roads;
- the traffic volumes generated by such development;
- the quality and capacity of the local road network, and;
- the segregation of local traffic from inter-urban, inter-regional traffic using the network of national roads.

The National Roads Authority has prepared a policy statement on “Policy on Development Management and Access to National Roads” (May 2006), which reflects the principles of earlier DoEHLG policy and guidelines contained in “Development Control Advice and Guidelines” (1982) and “Policy and Planning Framework for Roads” (1985).

In summary, the objectives of Government policies on development and roads, which the National Roads Authority seeks to uphold, are to:

- protect the substantial investment being made by Government in upgrading national roads;
- maintain the intended transport function, traffic carrying capacity and efficiency of the network of national roads;
- ensure high standards of safety for road users and that these standards are not compromised by risks arising from traffic movements associated with multiple access points to the network;
- extend the service life of the national road network, thereby deferring to the longer term the need to reinvest in further road improvements and the construction of new roads which would have implications for landowners, local communities, the environment and public expenditure;
- protect the routes of future roads, including road upgrades, from development;
- strongly advocate the use of established town and district centres as the preferred locations for new retail developments that attract many trips, and
- establish a presumption against large retail centres being located adjacent or close to existing, new or planned national roads or motorways as such centres can lead to an inefficient use of costly infrastructure, may undermine the regional and national transport role of the roads concerned and could conflict with the official policy preference for locations in

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established town and district centres except under limited circumstances as indicated in the Retail Planning Guidelines 2005.

### 1.3 Transport Assessment

A Transport Assessment is a comprehensive review of all the potential transport impacts of a proposed development or re-development, with an agreed plan to mitigate any adverse consequences.

All new developments will generate trips on the existing transport network, either by car, commercial vehicle, cycling, walking or public transport. Many of these proposed developments are of a size or type that would generate significant additional trips on adjoining transport infrastructure. In certain circumstances this additional demand may necessitate changes to the road layout or public transport service.

It is essential that the developer or promoter should provide a full and detailed assessment of how the trips to and from the development might affect the transport network. The assessment should be an impartial description of the impacts of the proposed development and should outline both its positive and negative aspects.

#### **Traffic And Transport Assessment**

Although there is an increased awareness of the need for public transport in both rural and urban areas, most development in rural areas and town peripheries will continue to attract private vehicle trips more than those by public transport or other modes. From a National Roads perspective, it is the level of private vehicle trip generation that generally creates congestion, affecting investment, made in safety and operational efficiency of national roads. It is, therefore, important to continue to give particular attention to the use of roads based transport when assessing the predicted impact of proposed developments while also assessing impacts on other transport modes.

The **Traffic and Transport Assessment (TTA)**, as defined and promoted in these guidelines, is a review of the transport impacts of a proposed development and a consequent plan, including, as appropriate, measures to upgrade the road network, to ensure the road links and junctions in the vicinity of the development are adequate to accommodate the proposed development without causing additional delays to existing and future road based traffic.

The use of Transport Assessments is advocated in Section 1.11 of the Traffic Management Guidelines published by Department of Environment, Heritage and Local Government, Department of Transport and Dublin Transportation Office in 2003. With respect to achieving the National Roads Authority objectives, the requirement for Traffic and Transport Assessment is based on the material impact of proposed developments on National Roads. Developments may impact on national routes both directly and indirectly and in many different situations. Impacts on National Roads can arise from developments within urban centres, on the periphery of urban areas, at strategic and important interchanges and junctions and also on sections of road where the maximum speed limit applies outside urban areas.

Early discussion of proposals between developer and the relevant staff of the local authority (planning, roads) is essential to decide on the need for and extent of assessments and may well reduce the length of the decision making process. The

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extent of both study and resulting recommended measures is dependent on the scale and location of the proposed development. Guidance as to when a TTA may be appropriate is given in the following chapters dealing with **Thresholds** and **Scoping**.

The assessment should assist the developer and local planning authority in deciding if any adverse traffic impact identified is **significant** enough to require revision of the development proposal or whether the proposed response measures are sufficient to accommodate the impact of the development on the road network. This is the fundamental test and is often regarded as the main purpose of a Traffic and Transport Assessment as related to road infrastructural considerations.

## 1.4 Sustainable Transport

The DoEHLG's National Spatial Strategy established Government policy for integrating sustainable approaches to transport and land use. In keeping with the DoEHLG policy of promoting sustainable development, sustainable transport plans should be considered in an effort to promote and develop public transport, as well as alternative modes of or measures for travel where feasible. The Traffic Management Guidelines advocated these principles in a practical manner.

The practice of requiring Traffic and Transport Assessments serves to integrate transport within sustainable development principles and to promote alternative travel modes to private car use at the earliest stages within not only the development management framework (individual planning application process) but also can be considered at a more strategic level during the drafting of development and local area plans in line with international best practice.

The aim of the TTA process is to ensure that both traffic impacts and opportunities to use alternative modes of transport are sufficiently identified by planning authorities in partnership with developers at the earliest stage possible in the development planning application process, i.e. pre-planning stage. This will enable all parties to maximise the gains and minimise the possible detrimental effects of a development.

For large-scale developments, discussions should be encouraged between public transport providers and developers to examine the potential for public transport provision in conjunction with the development. In the absence of public transport providers, attention may be directed to the production of mobility management plans (travel plans) to promote alternative sustainable modes or practices of transport for proposals. These discussions could review the timescale and extent of facilities required to service the development adequately. If the modal split assumed in the assessment is based on such agreed provisions, the plan should define how and when the facilities are to be provided and by whom. Where an assessment assumes a modal split dependent on certain public transport facilities, the assumed provision of such facilities must be consistent with programmes of public transport delivery. The development concerned should be staged to coincide with phased completion of public transport facilities.

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## 1.5 Development Plans

Effective land use planning which integrates transportation as part of a holistic plan is essential in achieving the Government's policy objectives for proper and sustainable development. This can be achieved through:

- reducing the need to travel by regulating the pattern of land uses in relation to each other and to transport facilities:
- enabling people to access local facilities over local networks by short walking or cycling trips, in turn contributing to social inclusion, and
- supporting provision of high quality public transport access to development, in order to offer an attractive and efficient alternative to car use.

In formulating development and local area plans, an integrated approach to land use and transportation should be undertaken as advocated in the National Spatial Strategy and the Traffic Management Guidelines. An assessment of the road network and other requirements for transportation should be addressed during the preparation of these plans.

Thus the application of the transport assessment methodology should be mindful of the key position that the development plan occupies together with wider national and regional planning policies.. Transport Assessments in the context of Development Plans should be about enabling local, regional and national policy objectives to be reconciled with safe and satisfactory roads planning objectives.

With respect to National Roads, the NRA has prepared a policy statement on "Policy on Development Management and Access to National Roads" (May 2006). This statement is intended to outline the principles of earlier DoEHLG policy and guidelines on these matters.

## 1.6 Further Information on Assessments

For detailed descriptions of use, scope, purpose, process and implementation of traffic impact assessments and transport assessments and related measures consult the following:

- Guide to Transport Assessment for Development Proposals in Scotland, Scottish Executive (2002).  
Available on the web at: [www.scotland.gov.uk/publications](http://www.scotland.gov.uk/publications)
- Transport Assessment Guidelines for Development Proposals in Northern Ireland, Department for Regional Development (2006).  
Available on web at: [www.drdni.gov.uk/DRDwww\\_regionalplanning](http://www.drdni.gov.uk/DRDwww_regionalplanning)
- Guidelines for Traffic Impact Assessment, Institution of Highways and Transportation (IHT) (1994).  
Available through the IHT website at: [www.iht.org](http://www.iht.org)

The following publications are particularly relevant in the Irish context when preparing traffic and transport assessments for proposed developments:

- NRA Circulars/Policy Statements, in particular "Policy on Development Management and Access to National Roads" (May 2006).
- Traffic Management Guidelines, Department of Transport / Department of Environment, Heritage and Local Government / Dublin Transportation Office (2003).

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- Dublin Transportation Office general publications such as Advice Notes on Mobility Management Plans, Integrated Framework Plans, and The Route to Sustainable Commuting, all available at [www.dto.ie](http://www.dto.ie).

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## 2 Thresholds

This section considers the thresholds at which the production of traffic and transport assessments in relation to planning applications is recommended. It is important to identify proposals that will affect National Roads and have other transport implications at the earliest stages of development design. This will help ensure that additional costs and delays to the developer are avoided and facilitate best practice evaluation by Planning Authorities, the NRA and other transport facilitators.

### 2.1 Thresholds for Traffic and Transport Assessment

As an indicator for all roads, Table 1.4 of the Traffic Management Guidelines (DoT / DoEHLG / DTO, 2003) gives the thresholds above which a Transport Assessment is automatically required. Table 2.1 below reproduces this.

**Table 2.1 Traffic Management Guidelines Thresholds For Transport Assessments** (Table 1.4 ,Page 29,Traffic Management Guidelines 2003)

Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive.
Residential development in excess of 200 dwellings.
Retail and leisure development in excess of 1000m <sup>2</sup> .
Office, education and hospital development in excess of 2,500m <sup>2</sup> .
Industrial development in excess of 5,000m <sup>2</sup> .
Distribution and warehousing in excess of 10,000m <sup>2</sup> .

Due to the strategic role of national roads and the need to ensure that the carrying capacity, efficiency and safety of the network is maintained, the management of development may in certain circumstances require tighter control. Where applications affect National Routes (including those which impact on interchanges or urban areas with no bypasses) a TTA should be requested if the thresholds in Table 2.2 are exceeded.

**Table 2.2 Advisory Thresholds for Traffic and Transport Assessment Where National Roads are Affected**

<b>Vehicle Movements</b>	100 trips in / out combined in the peak hours for the proposed development	
	Development traffic exceeds 10% of turning movements at junctions with and on National Roads.	
	Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive.	
<b>Size</b>	Retail	1,000m <sup>2</sup> Gross Floor Area.
	Leisure facilities including hotels, conference centres and cinemas.	1,000m <sup>2</sup> Gross Floor Area.
	Business	2,500m <sup>2</sup> Gross Floor Area.
	Industry	5,000m <sup>2</sup> Gross Floor Area.
	Distribution and warehousing	10,000m <sup>2</sup> Gross Floor Area.
	Hospitals and education facilities	2,500m <sup>2</sup> Gross Floor Area.
	Stadia	1,500 person capacity.
	Community Facilities including places of worship, community centres.	1,000m <sup>2</sup> Gross Floor Area.
	Housing	50 dwellings within urban areas with a population less than 30,000. 100 dwellings within urban areas with a population equal to or greater than 30,000.
<b>Parking Provided</b>	100 on-site parking spaces.	

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## 2.2 Sub-threshold Criteria for Traffic and Transport Assessment

In some cases the impact of traffic volumes may not be significant and the thresholds for a TTA may not be exceeded. However, the type and volume of generated traffic on National Roads may be of a nature to raise concerns about effects on road safety and road structure. In such cases, the planning authority should consult the evaluation criteria in table 2.3. It is recommended that if the proposed development meets two or more of these criteria, then a TTA should be requested.

**Table 2.3 Sub-threshold Criteria for Traffic and Transport Assessment**

<b>Vehicle Movements</b>	The character and total number of trips in / out combined per day are such that as to cause concern.
<b>Location</b>	The site is not consistent with national guidance or local plan policy or accessibility criteria contained in the Development Plan.
<b>Other Considerations</b>	<ul style="list-style-type: none"><li>• The development is part of incremental development that will have significant transport implications.</li><li>• The development may generate traffic at peak times in a congested area or near a junction with a main traffic route.</li><li>• The development may generate traffic, particularly heavy vehicles in a residential area.</li><li>• There is significant concern over the development's effect on road safety.</li><li>• The development is in tourist areas with potential for congestion.</li><li>• Planning authority considers the proposal will result in a material change in trips or raises significant transport implications.</li></ul>



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## 3 Scoping the Assessment

### 3.1 Scoping

The scoping study is a very important part of the traffic and transport assessment process. It is precursor to the preparation of a TTA and should be undertaken at the pre-planning stage. This may be the initial contact between a developer and a planning authority and as such the opportunity should be taken to emphasise the role of transport as both a possible asset and liability to the development. The planning authority should avail of such contact to address traffic and transport implications as an integral element of the development proposal.

The scoping discussion allows early consideration of the data to be collected, the area of analysis, the methodology to be adopted and the years of assessment to be examined. Scoping discussions will also provide the opportunity for developers to enquire as to the availability of local data that may assist in the preparation of an assessment. This in turn allows an assessment of the resources required to undertake the TTA.

In urban areas, ways to promote non-car access to the proposed development need to be explored. Non-car access includes convenient pedestrian and cycle interconnection between existing and proposed developments and public transport facilities. The assessment should also look at the existing levels of public transport use and, where appropriate, identify measures to maximise such use.

The threshold approach should be used to establish the area of influence of the development. In general, the study area should include all road links and associated junctions where traffic to and from the development will exceed 10% of the existing traffic movements, or 5% in congested or other sensitive locations, including junctions with national roads.

Similarly, where two or more of the supplementary criteria as indicated in Table 2.3 are or have been reached in relation to any of the adjoining links or junctions, then those links and junctions should also be considered for inclusion in the study area.

In addition to defining the level of detail required for TTA, on-going liaison between developers and planning authority will facilitate agreement as to the nature and scale of the development, including any required road network changes and/or enhancements. These discussions could be used, where appropriate, to reach agreements on funding and the use of planning conditions and planning and other legal agreements to secure the required infrastructure, including improvements, where appropriate.

There is a tendency to consider works within the curtilage of a development as being outside the concern of the planning authority, road authority or other public bodies. This may be acceptable in some instances, but best practices indicate that where there is the likelihood that the public areas within a development may come under public or local authority control in the future then the accesses and layout within the development should be addressed by the TTA. This is particularly important in relation to housing developments and industrial estates.

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## 3.2 Scoping Discussions Agenda

The detailed scoping discussions with local authorities at pre-planning stage should consider as many of the areas of interest as are likely to be relevant from the list below:

- Location, size and nature of the proposed development.
- Is the development in line with National, County and Local Area Plan policy?
- Description of existing uses of the land.
- Does the development involve relocation of an existing use?
- What provisions are there for pedestrians / cyclists / public transport / disabled access?
- What is the carrying capacity of the existing transportation networks?
- Are traffic surveys of the existing condition required?
- Potential trip / traffic generation from the site. Initial estimates can be obtained from available databases (see paragraph 5.1), from existing similar development in the locality, or from existing travel patterns if the development is relocating.
- What is the potential modal split?
- What are the targets for mode share?
- Are trip distribution and assignment models to be used?
- Are further traffic generation surveys required?
- What is the rate of traffic growth locally?
- When is the critical time period of assessment?
- What are the assessment years?
- When will the site become fully operational?
- Are there significant phases to the project?
- Will the site attract traffic from other adjacent sites?
- Are there any adjacent developments committed or proposed that will have significant trip / traffic implications?
- What will be the area of impact of the proposal? i.e. which adjacent local and National Road routes and junctions will be affected and require capacity calculations?
- Will adjacent links or junctions become overloaded or be impacted significantly?
- Is a new or modified road access likely?
- What level of car-parking provision is proposed?
- What are visibility splay requirements?
- Are there any road safety implications?
- Are there any special circumstances relevant to this proposal?
- Is a Road Safety Audit required?

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## 4 Traffic and Transport Assessment: Form and Content.

### 4.1 Introduction

The detailed layout of each TTA will differ in response to the wide range of possible developments and circumstances relating to the individual planning application. This chapter will only outline the form and content that should be covered in a TTA.

The TTA should be written as an impartial assessment of the traffic impacts of a scheme and it should not be seen to be a “best case” promotion of the development. All impacts, whether positive or negative, should be recorded.

The level of detail to be included within the report should be sufficient to enable an experienced practitioner to be able to follow all stages of the assessment process and to end up with a similar set of results and conclusions.

### 4.2 Form

The main TTA report should be clear and concise. It should have a logical structure containing an introductory section, central sections dealing with assumptions and analyses, and should end with conclusions and recommendations.

Calculations should be bound separately in an appendix or provided on compact disc or other electronic format, as appropriate.

Diagrams, drawings and other illustrative material should be used where possible to aid the reader in interpreting the report. The report should include clear headings and full references.

The main report text should contain the key results arising from the analyses and the reader should not be expected to have to refer to calculations or computer output to obtain key information.

The TTA should include a Non-Technical Summary. This could be considered to be an executive summary or a synopsis. The non-technical summary should enable interested parties to obtain a fair and accessible indication of the traffic and transport effects of the proposal without having to work through an extensive and complex technical document.

### 4.3 Content

A comprehensive TTA should include sections under the following headings. The scoping study will establish the need for inclusion and extent of treatment of each and the assumptions established at the scoping study should be clearly stated in the report.

- Non-Technical Summary
- Existing Conditions – Current traffic, critical links and junctions, committed transport proposals in area, other surrounding proposed development.
- Proposed Development – Size and use.

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- Trip Generation / Attraction – Including modal split, directional split, identifying peak and variation over days of week.
  - Trip Distribution – Catchment area, transfer trips, pass-by trips, combined trips.
  - Trip Assignment – Turning movements at site entrance and at critical junctions in area.
  - Assessment Years – Usually year of opening plus 5 years and 15 years. Local traffic growth should be used, or if not available then NRA forecasts.
  - Road Impact – Analysis of junction capacity, including queue lengths and reserve capacity. Alternative designs for critical junctions where necessary.
  - Road Safety – Historical data, effect of development. Road safety audit will be needed on any proposed change to road layout.
  - Environmental Impact – Including measures to mitigate impact.
  - Internal Layout – Circulation, pedestrian routes, visibility and road width, speed control measures.
  - Parking – Numbers, special needs percentage, layout, service areas.
  - Public Transport – Provision, access from site.
  - Pedestrians / Cyclists – Accessing the site, routes through the site and cycle parking.
  - Accessibility and Integration – Access to local area, community severance.
  - Access for People with Disabilities – Any specific provisions.

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## 5 Understanding and Evaluating TTAs.

### 5.1 Evaluation of the Assessment

In most cases the developer for whom the report is being prepared will have development experience and will be primarily focused on obtaining the required planning permission. The developer wants to be assured the development will be a success, and that success will partially be dependent on adequate accessibility to the site.

However, other considerations may apply in the case of large residential proposals and mixed development commercial proposals. These schemes are primarily developed for resale, and successful operation of the completed site is not of primary interest to the developer. These sites may contribute considerably to trip / traffic generation. For such sites extra care should be taken to examine the detail of the transport assumptions and the resulting effects on the existing infrastructure.

Fundamental to the proper assessment of a planning application and the effects on the adjacent road and transport network is the need to ensure that the primary traffic flow data used is reasonable. It is equally important that assumptions made during the scoping meetings and subsequent estimates of trip/traffic generation, growth rates, modal splits and pass-by rates are also reasonable.

There are four main methods of trip attraction estimation for developments; first principles, comparison, formulae and complex modelling. These methods have varying degrees of accuracy and reliability. In practice, the comparison method has become the established norm in production of assessments.

The preferred source of trip generation data using the comparison method would be from local existing developments. However there is generally a lack of such local data.. In order to evaluate adequately the traffic and transport assessments submitted it is necessary for local authorities in Ireland to have access to local trip generation data. The measured existing trip generation of a similar development in the same town or nearby will give a generally acceptable estimate of the generated trips from any site. Each authority should regularly collect local data from existing developments of all types of use in order to build up a local database. This type of traffic survey is easily done and would add a wealth of knowledge to the local authority's resources, especially if the data is collectively shared between local authorities.

Where local data are unavailable, estimates of traffic generation can be obtained from wider based databases. The most commonly used source is TRICS (Trip Rate Information Computer System). TRICS was originally a co-operative to share data between county councils in south-east England, and provides an easily available database containing empirically obtained trip generation data for a wide range of different types of developments. Although this database is largely based on data from developments in the United Kingdom, many of the consultants and developers working in Ireland use the TRICS system because of the current lack of an alternative source of data.

There are currently very few studies assessing the accuracy of trip attraction predictions through post-implementation data collection. Availability of such data

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would increase the reliability and robustness of the techniques used and would improve the general level of confidence in assessing the impact of future development proposals.

## 5.2 Key Elements of Evaluation of the Assessment

There are a number of specific assumptions made in an assessment that are crucial to securing a good or fair estimate of the likely transport effects on existing networks of any proposal. It is essential that these assumptions be checked in evaluating the assessment.

- i) If development is incremental, piecemeal or part of a phased plan, ensure that trip generation from **all the relevant sites/phases** is included in the assessment.
- ii) Traffic **growth rate** on surrounding network. Local traffic growth rate estimates should be used, if available, and care should be taken to check they are applicable to each case. NRA forecasts should be used if local rates are not available.
- iii) **Timescale**. Traffic volumes for **opening year**, opening year **+5** and opening year **+15**. These time scales are fairly standard and should normally be used.
- iv) Care should be taken to **check the times of the peak flow** on the network and that of the development (activity peak). If the times are different, the implications for the site may be different.
- v) **Trip generation rates** are estimates of the volume of trips generated by particular development types. If not obtained, locally these rates often come from comparison databases. The source and relevance of all generation rates should be examined to see if they are reasonable.
- vi) Assumptions on **modal split**. If allowance for **public transport, cycle or pedestrian** use is being claimed to reduce the infrastructural contributions from the developer, the figures should be substantiated and the facilities installed to achieve the allowances concerned. This may necessitate discussions between the developer and the public transport provider.
- vii) Assumptions on **directional split** should be checked. TTAs may frequently assume as close to 50/50 directional split as possible. However, this will not always be the likely scenario in practice.
- viii) Assumptions on **pass-by rates / combined trips**. These should be checked for shopping centres and retail parks, in particular. Higher than reasonable pass-by rates might be claimed to reduce the apparent effect of a development on the existing network.
- ix) **Parking provision** can be critical to the internal layout of a development and the related traffic movements. Where parking restrictions are suggested reasonable alternative means of transport are required. Care should be taken to check that the proposed development is consistent with the town or county development or local area plans or relevant Government guidelines, i.e. Retail Planning Guidelines, etc.
- x) **Multi-purpose sites** require provision of details of each significant element. Multi-purpose sites are generally mixed use sites where there may be significant differences in traffic generation per square metre or in times of peak flow for the different elements within the development. An example of this might be a large development comprising retail, commercial, industrial and residential units. In such cases, the transport demands of each element

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should be evaluated separately and their effects combined so as to be determine the cumulative effects.

- xi) Justification for the **values used** in all the measurements above should be checked and verified to ensure they are fair and reasonable.