TII
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Transport Infrastructure Ireland

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National Transport Authority

ABTA
HOW TO GUIDE
Guidance Document
PILOT METHODOLOGY

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GLOSSARY

Accessibility to Opportunities and Services (ATOS)	A tool to investigate accessibility to services such as education, retail, GPs and open space
Area Based Transport Assessment (ABTA)	A complementary assessment process focused on understanding transport needs and land use integration, used in the preparation of Local Area Plans, planning schemes and masterplans.
Census Small Area (CSA)	Areas of population generally comprising between 80 and 120 dwellings created by The National Institute of Regional and Spatial Analysis (NIRSA) on behalf of the Ordnance Survey Ireland (OSi) in consultation with CSO.
Central Statistics Office (CSO)	Ireland's national statistical office.
Common Appraisal Framework	A framework produced by the Department of Transport providing guidance on the steps to be used in the appraisal of publicly funded transport projects and programmes.
Demand management	The application of policies, strategies or interventions to manage transport demand and travel patterns.
Development Plan	A plan that sets out a local authority's planning policies and development objectives.
DOECLG	Department of the Environment, Community and Local Government
GIS	A Geographic Information System is a framework for analysing spatial location and organizing layers of information into visualisations using maps.
Key settlement	An urban area of size and importance likely to attract or generate significant levels of transport demand
Local Area Plan (LAP)	A plan that sets out detailed planning policies for areas where significant development and change is anticipated.
Local Transport Plan (LTP)	A plan that sets out a local authority's transport policies and transport investment objectives.
Multi-Criteria Analysis (MCA)	A framework used to evaluate alternative and/or conflicting scenarios or proposals against a set of identified criteria.
National Development Plan (NDP)	A plan that sets out the investment priorities that will underpin the implementation of the National Planning Framework.
National Planning Framework (NPF)	A planning framework to guide development and investment at a national level, containing a set of national objectives and key principles from which more detailed and refined plans will follow.
National Transport Authority (NTA)	A statutory non-commercial body responsible for developing and implementing strategies to provide high quality, accessible, sustainable transport across Ireland.
Place of Work, School or College – Census of Anonymised Records (POWSCAR)	Data detailing the location of the place of work, school or college for each person recorded in the Census.

Permeability	For the purpose of this guidance, Permeability describes the extent to which an urban area permits the movement of people by walking or cycling.
Public Transport Accessibility Levels (PTALs)	A tool to investigate accessibility to public transport stops.
Regional Spatial and Economic Strategy (RSES)	A strategy prepared by the Regional Assembly to support the implementation of national government policies, such as the National Planning Framework, and set the framework for local economic development and spatial planning in each of the local authorities in the region.
Small Area Population Statistics (SAPS)	Census statistics produced for a range of geographical levels under a number of themes.
Strategic Development Zone (SDZ)	An area of land that is proposed to contain developments of economic or social importance to the State.
Topography	The natural and artificial physical features of an area, which can often affect travel patterns, route choice and mode choice.
Transport demand	Relates to the movement of people and goods in order to fulfil a need (e.g. trips to school, work, shops etc.)
Traffic and Transport Assessment (TTA)	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
Transport Analysis Guidance (TAG)	The transport appraisal guidance and toolkit of the Department for Transport in the UK.
Transport Infrastructure Ireland (TII)	A state agency responsible for road and public transport infrastructure.
Trip distribution	The pattern of trips from an origin (typically a home) to a destination (for example a place of work, school, shop etc).
Trip length distribution	The profile of trips from an origin (typically a settlement or area) in terms of distance (and often mode of transport).
Vulnerable road user	Generally considered to be pedestrians and cyclists, and particularly mobility impaired people and children.

1. INTRODUCTION AND CONTEXT

1.1 About this Guidance Document

This Guidance Document, issued by the National Transport Authority (NTA) and Transport Infrastructure Ireland (TII), has been prepared to enable a consistent approach to the preparation of transport assessments to inform the preparation of Development Plans and Local Area Plans. This guidance has been prepared to supplement the National Transport Authority's and Transport Infrastructure Ireland's Advice Note on Area Based Transport Assessments (ABTAs) published in December 2018. It provides a 'step-by-step' guide to undertaking transport assessments including practical advice on the appropriate use of transport planning tools and datasets.

> **This guidance document is issued as a pilot methodology. It is intended that the guidance will be revised as the processes and methodologies set out are practically applied by local authorities and others, allowing for the identification of potential future improvements which will inform the preparation of a final ABTA guidance document. As such, it is considered a 'working' document that is likely to be amended over time.**

1.2 Application of ABTA to Plan Making

For the appropriate application of this Guidance, it is firstly important to establish the type and scale of plans that it is intended to support.

Development Plans are produced by county councils and city councils and are the main public statement of planning policies, setting out the land use, amenity and development objectives and policies of the planning authority, for a six year period. The core strategy of the plan shows that the plan is consistent with the National (NPF) and Regional (RSES) policies. In transport terms, policy-making within these plans will need to account for movement between key settlements or districts, and cross-boundary movement (i.e. between counties, or on strategic routes which facilitate longer journeys in a regional or national context). The technical analysis which supports the application of the ABTA principles is expected to be contained in a supporting transport study (or studies) which is then referenced within the main Development Plan. It is noted that this work may identify a need for further dedicated studies relating to particular modes (for example, a Cycling Strategy) that can then be undertaken in support of Development Plan objectives.

Local Area Plans (LAPs) provide more detailed planning policies for areas where significant development and change is anticipated. A local area plan must be compatible with national and regional guidance documents, and with the core strategy and policies of the development plan. An LAP valid for six years. Policies which directly or indirectly relate to transport will be focused on transport demand and associated movement patterns to, from and within the LAP area of interest. This will include reference to selected external destinations which exert a major impact on travel patterns and choices by business, residents and visitors (including those working within the LAP area).

An ABTA is recommended as the preferred form of technical assessment, which can be used to appraise and guide the formulation of transport policies within the LAP and, more generally, the integration of land use and transport planning in the form of the LAP's accompanying Local Transport Plan (LTP). The ABTA will appraise transport demand and opportunities in a manner which typically results in firm proposals for transport infrastructure and accompanying transport demand management, including non-infrastructural measures to encourage sustainable travel behaviour that can be incorporated into the LAP. Applying the ABTA principles to LTPs and related studies will enable the identification and selection of transport measures that are compatible with the policy objectives set out in the relevant Development Plan and emerging as part of the LAP.

Figure 1 demonstrates how the ABTA process can be applied to plans at different scales.

Figure 1.   ABTA Process and Plan-Making
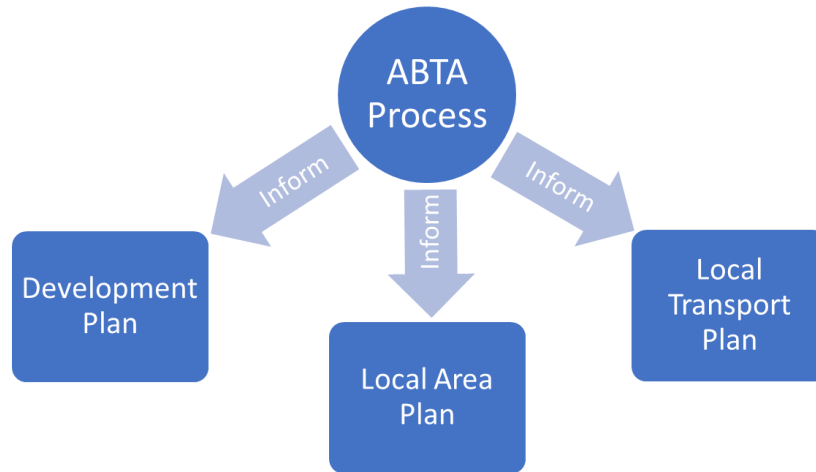
Figure 2 below provides examples of the geographical scales at which Area Based Transport Assessments would be undertaken at Development Plans and LAP levels.

Area Based Transport Assessment applied at the Development Plan Level	**Area Based Transport Assessment applied at Local Area Plan Level**
- supporting the integration of land use and transport policy - identification of associated objectives and measures in relation to development location, land use, densities, development standards and supporting transport interventions	- the application of Development Plan policies and objectives at the local (settlement / development area) level - supporting the integration of land use and transport planning at the local level - identification of local policies and associated transport objectives and measures.

1.3   Target Users

This Guidance Document is primarily intended to be used by Local Authorities to undertake the preparation of ABTAs to inform the preparation of Development Plans and Local Area Plans by:

- Identifying and understanding current travel patterns (presenting a baseline), in particular mode split relating to the Plan area;
- Using the analysis of baseline conditions to identify strengths, weaknesses, opportunities and threats, to inform the development of potential transport objectives and measures within the Plan;
- Undertaking an assessment of the likely impact of land use policy scenarios and associated transport measures to establish likely transport patterns and mode split outcomes, from which mode share ambitions can be established;
- Formulating measures that will achieve the objectives identified and that can be incorporated into the relevant Development Plan or LAP;
- Facilitating repeat analysis in the future to monitor actual outcomes against established ambitions, as a basis for assessing efficacy of / compliance with Development Plan / Local Area Plan policies and measures.

The ABTA Parts and the techniques which are explained in this guidance can also be applied to the development of large site Master Plans and Strategic Development Zone planning schemes.

There is also a general complementarity between the ABTA undertaken at settlement / development area level and the Traffic and Transport Assessment (TTA) undertaken for a specific development proposal within that settlement or development area. It is recommended that the use of the ABTA approach in informing the preparation of a development TTA should be promoted and facilitated at pre-planning stage with the prospective applicant.

2. OVERVIEW OF GUIDANCE DOCUMENT

2.1 Introduction to ABTAs

ABTAs seek to facilitate and inform the integration of land use and transport planning at the earliest possible stage in the preparation of the Plan, with an emphasis on enabling sustainable transport outcomes for the Plan area.

The ABTA approach provides a clearly defined methodology to support better integration of land use and transport planning at different spatial levels, from strategic to local, enabling greater consistency and effectiveness at local, county, regional and national levels.

The Advice Note, below outlines the key stages in the preparation of an ABTA.

Figure 3. **Assessment Methodology**

PART 1 Baseline Assessment	Policy Context Plan Area Characteristics Area of Influence Identification Existing Travel Patterns, Transport Infrastructure & Transport Services, and Environmental Conditions
PART 2a Establish Context	Identify Principles and Objectives Forecast Transport Demand
PART 2b Options Development	Options Development: Develop Transport Options and Associated Land Use Scenario(s)
PART 3 Options Assessment	Screening of Options Long List Packaging of Land Use and Transport Options (Scenarios) Multi-Criteria Analysis
PART 4 & 5 Plan Preparation & Finalisation	Development of Preferred Scenario for Planning Purposes Incorporation of Text into the Plan Setting Plan Objectives to Support Delivery Establish Mode Share Ambitions Review of Consultation Feedback Finalised Scenario(s)
PART 6 Monitoring & Evaluation	Monitor Mode Share Ambitions Benchmark Performance

Informing the Plan

2.2   Structure of Guidance Document

This 'step by step' Guidance Document is supplementary to the NTA / TII Advice Note on the preparation of Area Based Transport Assessment published in 2018 https://www.nationaltransport.ie/planning-and-investment/strategic-planning/guidance-documents/ and is structured in the same way for ease of reference.

As this Guidance Document relates to the application of ATBA at both Development Plan and Local Area Plan levels, each section provides separate practical examples for how the ABTA approach can be applied. Following this section, this ABTA Guidance Document is structured as follows:

- **Section 3** – **Part 1**: **Baseline Assessment**: establishes the receiving plan area characteristics in terms of transport demand / demand patterns, mode split and infrastructure provision, with practical examples of how this information can be illustrated.
- **Section 4** – **Part 2a: Establish context for the ABTA:** provides guidance on the forecasting of future transport demand, how objectives can be set for an ABTA.
- **Section 5** – **Part 2b: Options Development:** methods for identifying potential transport measures
- **Section 6** - **Part 3: Scenario Assessment**: provides guidance on how to appraise the transport options developed, using the defined transport objectives, with practical examples at the Development Plan and Local Area Plan levels.
- **Section 7** – **Parts 4 & 5: Plan Preparation and Finalisation**: provides guidance on the preparation of the ABTA, as supplemental to the Development Plan or Local Area Plan preparation, in particular the establishment of transport policies/objectives and associated steps to finalise the ABTA report.

- **Section 8** - **Part 6: Monitoring and Evaluation**: Sets out the requirements relating to monitoring and evaluation of the ABTA plan.

Appendices to the document are structured as follows:

- **Appendix A – Tools for Analysis and Understanding Data**: provides details on available, commonly used data sets and tools for assessing the transport characteristics of settlements. Throughout the remainder of the guidance, reference is made to how these data sets and tools can be applied to the preparation of ABTAs.
- **Appendix B** – **Planning Chart:** presents a graphical representation of the statutory plan-making process and key policy documents, showing how this ABTA guidance integrates with these processes.
- **Appendix C** – **Key Policy Documents**: Provides a list of key policy documents which are referenced in this guidance.

3. PART 1: BASELINE ASSESSMENT

3.1 Overview

Part 1 of the ABTA approach is the Baseline Assessment, and its place in the overall development of the ABTA is presented in Figure 3 above. (This part corresponds to Figure 5.1 of the ABTA Advice Note).

The preparation of baseline assessments to inform the Development Plan and Local Area Plan review process should be focused around the relevant spatial scales which have been previously described within Section 1 of this guidance.

Section 3.2 of the report firstly presents the analytical techniques which should be applied when preparing an ABTA which can inform transport policy making for a Development Plan and provides examples of the outputs which will be created. Techniques and advice which are relevant to the preparation of an ABTA to inform a Local Area Plan (LAP) are then presented subsequently in Section 3.3. It should be noted that some elements of analysis and data collection are relevant to both Development Plans and LAPs, and therefore are present in both relevant sections of this chapter.

Figure 4.   **Development Plan Baseline Outputs**

	BASELINE OUTPUT
Policy Context	Summary of relevant policy
Plan Area Characteristics	Data and/or maps on the location and concentration of land uses categorised by trip generators (residential / population) and trip attractors (destinations, e,g, employment)
Area of influence identification	Map showing the trip movements of interest and the plan area

	BASELINE OUTPUT
Existing Travel Patterns	Maps of trip origins and destinations Trip distribution graphs by mode
Transport Infrastructure and Services	Public Transport Services Access to Public Transport Local Road Network Hierarchy Existing Accessibility levels to key services
Environmental Conditions	Maps of relevant Environmental Conditions

Figure 5 shows the Baseline Assessment's position within the wider ABTA methodology.

Figure 5.   **Part 1: Baseline Assessment within the ABTA methodology**
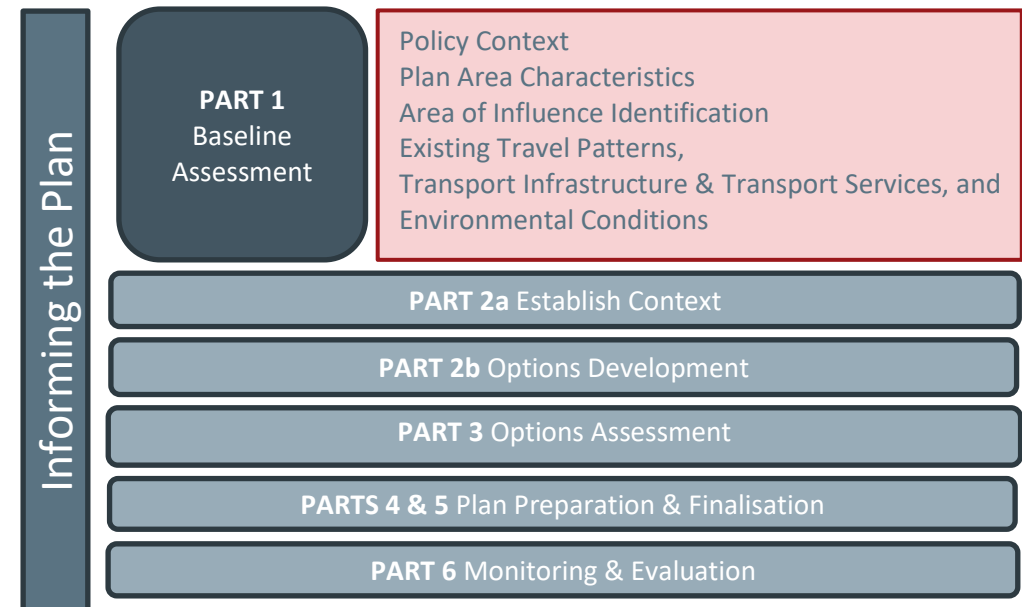
3.2 Development Plan Transport Considerations

When gathering baseline information to inform the preparation of an ABTA it should be acknowledged that the focus of Development Plan transport policy will be on movement between key settlements or districts, and cross-boundary movement (i.e. between counties, or on strategic routes which facilitate longer journeys in a regional or national context).

3.2.1 Policy Context

National and regional policy and legislation (including the NPF and RSES) set out a clear requirement to increase travel by sustainable modes – walking, cycling and public transport – and to reduce demand for travel by private car. It is a requirement for these policies to be reflected at other levels of plan making (which includes Development Plans and LAPs) to ensure consistent policy making and objective setting.

Key policies relating to transport from the National Planning Framework (NPF) and National Development Plan (NDP), and examples of regional policies that need to be reflected in Development Plans, are listed in Appendix C.

The purpose of identifying applicable policies as part of the baseline assessment process is to ensure that all relevant information is collated to enable a robust appraisal of options at later stages of the process. For metropolitan and larger towns, this may assist in identifying the need for additional data extraction from larger data sets, such as POWSCAR (see Appendix A for further information on POWSCAR) or existing traffic models (e.g. the NTA's Regional Modelling System, as described in Section 3.3, or other strategic models held by local authorities).

More specifically, in considering policies and their application in Development Plans, special attention must be paid to the Core Strategy, the purpose of which is to articulate a medium to longer term, quantitatively-based strategy for the spatial development of the area of the planning authority and, in so doing, to demonstrate that the development plan and its objectives are consistent with national and regional development objectives set out in the NPF and RSES, especially as regards:

(1) the hierarchy and role of Cities and metropolitan areas, county towns, other towns and villages, and rural areas outlined in the documents above; and

(2) the process of giving effect to the hierarchy above by setting regional and national population targets and associated requirements for housing land.

Whether zoning objectives are outlined in the relevant development plan or in subsidiary Local Area Plans, the Core Strategy of the development plan must be sufficiently specific in setting population targets and housing requirements across the overall area of the planning authority and the elements of the settlement hierarchy outlined above, thereby to act as a clear framework for amendments to existing zonings or new zonings in lower-level plans. In turn, the population targets and housing requirements of lower-level plans must agree with the Core Strategy of the city or county development plan and this will be achieved either in subsequent amendments to such plans or in the preparation of new LAPs.

3.2.2 Development Plan: Plan Area Characteristics

A review of existing land uses within the Development Plan area should be undertaken to identify the locations and intensities of land uses categorised as trip generators (residential) and trip attractors (destinations). This review should extend to settlements which are external to the local authority area, where the Area of Influence considerations have identified significant external settlements that generate cross boundary Inter-Settlement movements.

At the Development Plan level, examining plan area characteristics will provide an understanding of:

- **Trip Generators**: how population is distributed (i.e. the populations within specific towns and villages, and those more widely dispersed in rural areas); and
- **Trip Attractors**: the key locations for employment, retail and leisure, and any large institutional sites relating to health or education.

Some of this data may already have been produced to inform the preparation of other elements of the Development Plan such as in the preparation of utility assessments, or work to estimate future healthcare or education facility provision. If this is the case then this information should be used for consistency and supplemented with additional data where necessary to allow transport-specific issues to be considered.

The process for carrying out analysis of this data is similar at both the Development Plan and Local Area plan levels. Examples are provided in Figures 6 and 7 to illustrate employment and population density using census data to identify the key trip generators and attractors in a particular area.

The employment density in Figure 6 is derived from Census 2016 POWSCAR data (see Appendix A for further information on POWSCAR). The POWSCAR data was used to identify the total number of destination work trips for each of the Census Small Areas within the relevant study area. The number of work trips was then divided by the area for each Small Area providing employment density data to determine the key employment locations within the town.

Where multiple towns are being considered in relation to a Development Plan, these types of datasets can be aggregated (merging small areas into larger geographic levels such as townlands) and mapped so that the relative amount of employment provided in towns and other sites can be compared more easily.

The employment density map in Figure 6 illustrates that there is a greater employment density towards the centre of the town, with the lighter shaded areas further out from the town centre denoting fewer jobs per square kilometre.

Figure 6.   **Example map of Employment density (POWSCAR)**
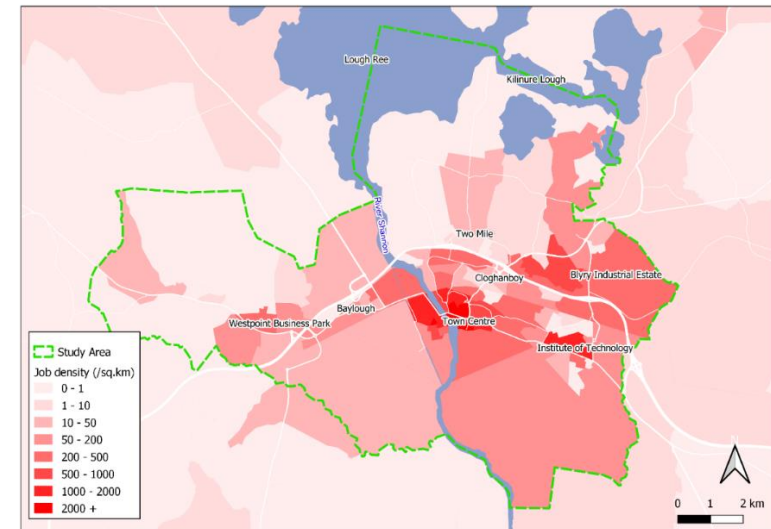
The population density in Figure 7 is derived from Census 2016 Small Area Population Statistics (SAPS) (see Appendix A for further information on SAPS). The data is presented at 'Small Area' level which is designated as the lowest level of geography for the compilation of statistics in line with data protection and generally consists of between 80 and 120 dwellings.

The overall population levels for each of the Small Areas were divided by the associated area to identify the most densely populated regions of the settlement (population per square kilometre). As previously noted, where areas of significant physical extent are being considered for Development Plans, the use of aggregated data is likely to be appropriate. The SAPS data may however be helpful in identifying any locations of high demand density arising from activities such as employment or leisure within larger towns. This

will assist with the refinement of options at subsequent stages of the assessment process.

Figure 7.　　**Example Map of Population density (SAPS)**
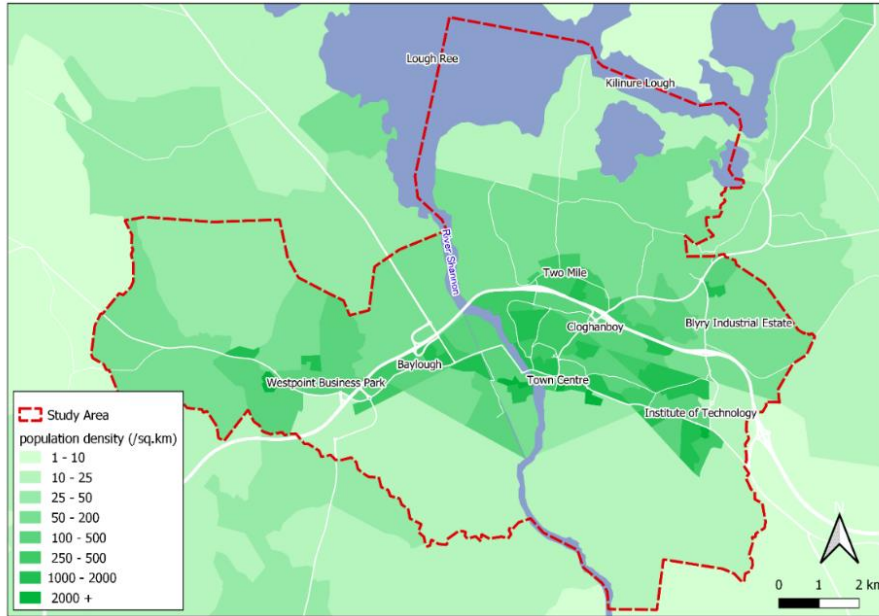
3.2.3　Development Plan: Areas of influence identification

There are two main areas of influence when considering transport demand: internal trips and external trips. The approach to identifying specific areas of influence for the Development Plan are shown in Table 1.

Table 1.　Area of influence trip types

	Trip type		
Development Plan	*Intra-Settlement Trips (possible inclusion):* Internal trips within key urban centres in the Development Plan Area	**Inter-Settlement Trips**: Trips between urban centres / towns within the Development Plan Area	**Inter-Settlement Trips:** Trips between urban centres / towns in the Development Plan Area and urban centres / towns in external neighbouring areas (e.g. other counties)

When identifying relevant settlements to consider in terms of intra- or inter-settlement trips, the focus should be on where there will likely be a high number of daily trips. Generally, the key settlements will include employment, retail and educational facilities that are likely to attract significant volumes of trips.

A geographical representation of the trip types which are relevant at Development Plan level is shown in Figure 8:

- **Intra-Settlement** shown by blue lines (in this example within Navan)
- **Inter-Settlement Trips** which are internal to the County, shown by green lines (in this example trips between Navan and Kells, Duleek, Trim and Ratoath)
- **Inter-Settlement Trips**, which relate to settlements outside of the County, shown by red lines (in this example trips between Navan and Dublin and Drogheda)

Figure 8. Development Plan Trip Types

Figure 8. Development Plan Trip Types
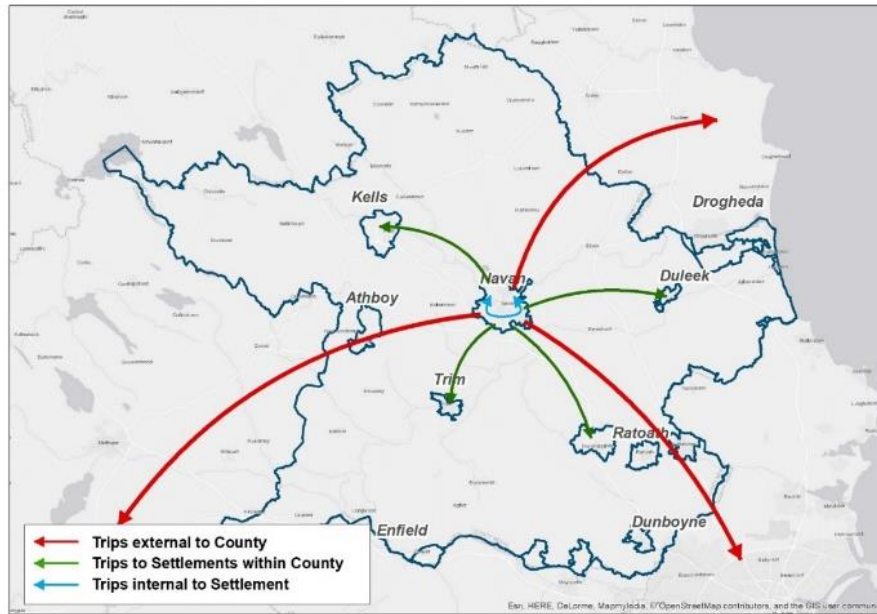
In defining the area of influence for a Development Plan, it is helpful to consider the different types of transport networks which operate within the administrative area in question that support these trip types.

3.2.4 Development Plans: Existing Travel Patterns

Walking and Cycling

At the Development Plan level, consideration of walking and cycling is expected to be focused on Intra-Settlement trips and, where settlements are in close proximity, Inter-Settlement Trips. Consideration should also be given to the potential for commuting cycle routes and greenways to serve Inter-Settlement trips, especially those which support leisure and tourism activity

and potentially commuting. For example, there are a number of schemes in development between local authorities and TII to introduce and improve "strategic" provision for cycling either on or in proximity to the national road network, and therefore access to such routes should be considered as part of the wider exercise to determine the area of influence for a particular Development Plan.

Detailed consideration of walking and cycling for local trip making within settlements would more typically be addressed at the local level and is addressed below in Section 3.3 (**Local Area Plans)**.

Road Networks – Internal and External

At the Development Plan level, consideration of road policy-making will be focused on the strategic network with an emphasis on identifying roads that provide for Inter-Settlement movements. This will, in almost all cases, include national roads and the regional road network and, as such, these routes should always be included as part of the baseline assessment.

If Intra-Settlement movements are being considered at the Development Plan level, the focus will be on existing relief or urban distributor roads (i.e. those designed for significant volumes of traffic, and/or heavy goods vehicle movement).

In some cases, there may be road schemes and projects in development, within the Plan area. In this case, details should be included within the baseline assessment including reference to the planning or construction status. As well as major road schemes, information should be collated on any key infrastructure impacts such as a new bridge or road re-designation.

Public Transport

At the Development Plan level, consideration of public transport will be focused on Inter-Settlement movements, particularly those with high trip volumes. In some circumstances, larger settlements that would support the provision of local bus services will need to be considered too.

It is likely that a majority of bus routes linking key settlements will make use of the road connections identified. However, should the baseline public transport information gathering exercise identify any routes that are of relatively high frequency (i.e. every 30 minutes or greater) or the only public transport link between key settlements identified during the Area of Influence assessment, and which use roads not previously highlighted by the road network analysis, these road links should be added to the baseline assessment data. This is particularly important in the case of cross-boundary routes as these can effectively extend the geographical extent of the area of influence, and this ensures that trips associated with these public transport services are correctly included in subsequent appraisals and options development.

Rail routes should be included in full within a Development Plan; these routes may run parallel to one or more road corridors between settlements, or may form a link between settlements which is more direct than the corresponding route by road.

Bringing this information together should result in a comprehensive baseline for the consideration of transport networks and services that not only covers the administrative area of the Development Plan, but also identifies the connecting routes and infrastructure which form the most important links to adjacent areas.

Examining Travel Demand

Travel demand is derived from the need for people to access employment, schools, goods and services, as well as social and leisure trips. The amount and spread of travel demand, known as the 'trip distribution', is largely defined by the amount and location of population (trip generators) and the scale and location of the goods and services that they need (trip attractors) as identified within the Plan Area Characteristics. How this demand is met is a function of the availability and quality of both the transport infrastructure (by all modes) and the service provision.

Information derived from POWSCAR data (see Appendix A for further information on POWSCAR) can be used to assess the existing baseline for both the Development Plan and Local Area Plan assessments, in terms of travel demand and trip distribution, as it provides trip data and mode split information for journeys to work, school or college. Examples of how POWSCAR can be used in practice for preparing the baseline travel patterns are provided below. The analysis techniques themselves are the same for both Development Plan and Local Area Plan preparation.

In order to establish the existing travel demand patterns, including mode split, data can be extracted from POWSCAR in Excel, supported with GIS mapping of key settlement locations and/or small area boundaries, and population, employment and education-related data for the defined area of influence. This should include the following:

- **Total Trips** – data for work and education trips separately and combined, with a breakdown of intra-settlement trips, internal inter-settlement trips and external inter-settlement trips.
- **Mode Choice** – identifying trips to/from each Settlement individually (intra and inter- settlement trips combined) for work and education (separately and combined) with a mode split for each.

Trip length distribution

There is a general association between trip length and mode choice as there are distances which the average person may be willing to walk or cycle to access goods, services or employment, and there are distances at which these modes are less attractive options than alternative modes. Similarly, short distance trips by public transport may be unattractive compared to alternative modes as the wait time could be a significant proportion of overall journey time. In terms of distance, trips generally break down into:

- ⭕ Short – generally serviceable by walking or cycling
- ⭕ Medium – generally serviceable by cycling, public transport or car; and
- ⭕ Long – generally serviceable by public transport or car.

The generic relationship between trip length and mode is presented visually in Figure 9.

Figure 9.   **Relationship between trip length and mode**
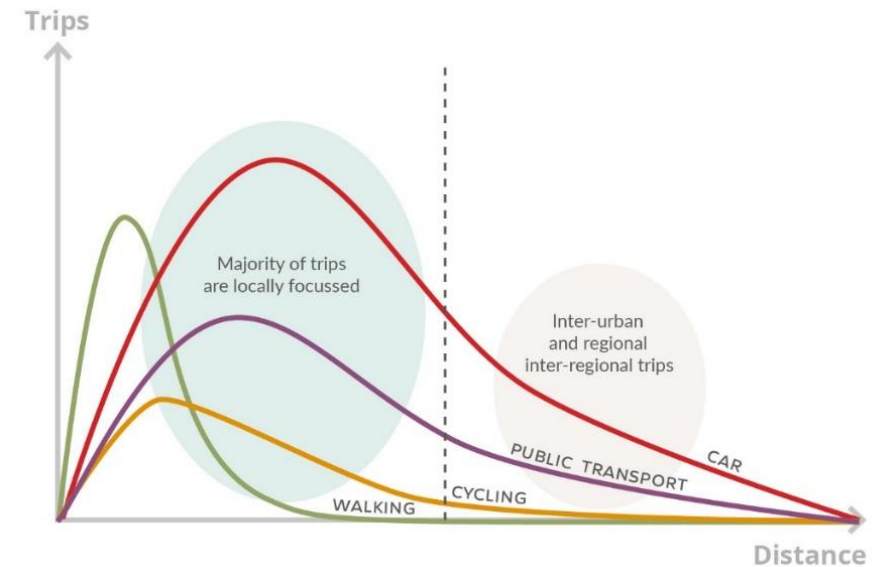
An example of trip length distribution data extracted from POWSCAR is shown in Figure 10. This data can be combined with mode split data to establish a correlation between trip length, journey purpose and mode choice. This is described further below.

Figure 10.   Trip length distribution data from POWSCAR
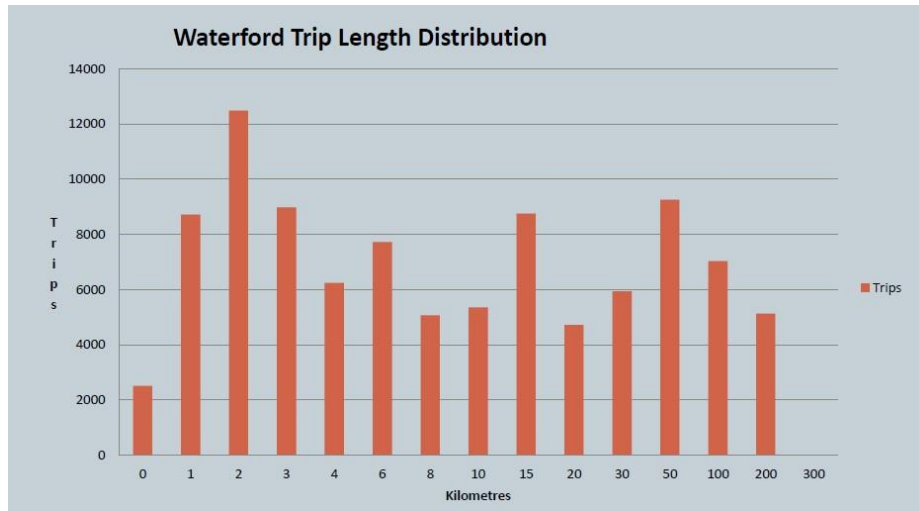
Mode split by distance

Given the general association that can be made between trip length and mode choice, it is useful to analyse mode share data over different distance ranges. Using readily available datasets such as POWSCAR, trip length distribution graphs can be produced for any settlement or area in the country to create a baseline mode share for short, medium and long trips. **At the Development Plan level**, the mode shares for medium and long distance trips are expected to have the greatest influence on subsequent option development and application to policy goals, and this is explained further in Sections 4 and 5.

Including a travel demand / mode share baseline and mode share ambitions within a Development Plan will help to provide an effective basis for setting applicable policy objectives and monitoring the impact of the corresponding transport policies within the Development Plan and its Climate Change Strategy. Examples of how this demand data is applied to the development

and selection of options for transport measures are given in Section 6 of this Guidance Document.

An example of a mode split chart is shown in Figure 11. A corresponding example of how trip length distribution by mode data can be presented is in Figure 12.

Figure 11.   Mode split chart from POWSCAR

Figure 12.   Trip length distribution by mode data from POWSCAR

3.2.5   Development Plan: Transport infrastructure and Services

Within a development plan the extent and quality of the existing transport networks needs to be established. It will be recognised that some of this information has already been generated through the definition of the relevant area of influence in Table 1. Therefore, the aim of this further exercise is to add to this in terms of an understanding of existing road categories and pedestrian / cycle provision, public transport routes and service frequencies.

Using spatial mapping tools the existing transport network (all modes) can be overlaid on the land use information gathered during the preparation of the Plan Area Characteristics, including:

○ **Pedestrian provision** – location with no/substandard footpaths
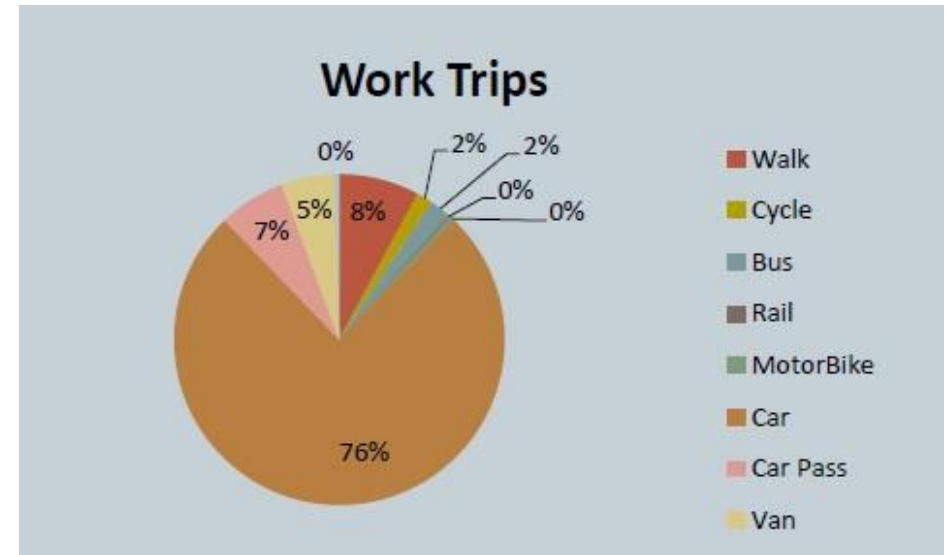○ **Cycling network** – cycle infrastructure, including type/quality; and
○ **Public transport** – Bus and rail routes and stops with an indication of frequency
○ **Roads by category**

For Development Plans, coverage for local roads should be limited to those which play an essential role in connecting more strategic routes; for example, where the main "through route" serving a settlement passes through its centre with no bypass.

Examples of mapping of these characteristics are presented within the discussion of this type of analysis for LAPs in Section 3.3.

3.2.6   Physical Constraints and Environmental Conditions

Physical constraints can often relate to the topography of an area influencing active mode choice, or gaps in the walking and cycling network due to physical features. Information on the presence of significant constraints to certain options should be gathered as part of the baseline assessment, especially where there are limited places within the wider road network for local routes

In preparing these data sets for the baseline assessments, it is intended that the resulting figures can subsequently be adjusted either through transport modelling or spreadsheet assessments to reflect and test the anticipated impacts of options for transport measures. This is explored in more detail in Section 5, which is worth reviewing at this stage so that the data is in an appropriate format (Excel, modelling, GIS) for later analysis.

At the baseline assessment stage, the proportion of medium and longer-distance trips made by private car should be identified as these may be reduced by public transport measures considered later in Section 5. Similarly, if there is a high proportion of short distance trips by car, this data should be highlighted in the baseline assessment and brought forward to the options development stage as there may be permeability, walking, cycling or demand management measures that could reduce car dependency.

to traverse. This may lead to unusually high demand and/or congestion at the locations of valleys, bridges or underpasses which can exert pressure on route choices across a wide area and affect trip patterns at an inter-settlement level, which will need to be accounted for in any proposals to influence and change travel patterns within these areas.

For the purposes of preparing Development Plans, it is expected that only major public transport nodes (such as those in settlements) will be mapped, with the remainder of areas covered through the mapping of routes rather than individual stops.

The NTA is able to provide (in GIS/Excel as appropriate) details of existing public transport services, the road network and cycle network. For national roads, TII provides universal access to traffic counters. These networks (if used) should be reviewed and added to as required to reflect any important additional local elements.

3.3   Local Area Plans (LAP)

This section of the guidance concentrates on details for the application of baseline assessment techniques that are more specific to LAPs. In the majority of cases, LAPs will be informed by previously prepared Development Plans and much of the baseline information prepared to inform these plans can also be used in the ABTA process.

3.3.1   Outputs

The required outputs from the Baseline Assessment stage for LAPs are identified in Table 2 below. In addition to the elements included for Part 1 within the ABTA Advice Note, an additional step has been added to aid the assessment, namely, Area of Influence Identification which is described in Table 1 above.

Table 2. LAP Baseline Outputs

	BASELINE OUTPUT
Policy Context	Summary of relevant policy (including links to Development Plan policies)
Plan Area Characteristics	Data and/or maps on the location and concentration of land uses categorised by trip generators (residential / population) and trip attractors (destinations, e.g. employment)
Area of influence identification	Map showing the trip movements of interest and the plan area
Existing Travel Patterns	Maps of trip origins and destinations Trip distribution graphs by mode
Transport Infrastructure and Services	Public Transport Services (including local infrastructure) Access to Public Transport Local Road Network Hierarchy Existing Accessibility levels to key services
Environmental Conditions	Maps of relevant Environmental Conditions

3.3.2   LAP: Policy Context

The Policy Context for ABTA associated with the preparation of LAPs should include consideration of the policies listed at Appendix C. Additionally, policies established within the corresponding Development Plan for the area in question must be taken into account. It is likely that, for areas which are considered significant enough to require an LAP, the Development Plan will have established certain over-arching priorities for transport within the LAP area. The purpose of the LAP will therefore be to demonstrate how the general goals of these policies are to be implemented through specific transport improvements.

3.3.3   LAP: Plan Area Characteristics

The assessment of the characteristics for the LAP area should apply the methodology and approach described previously for Development Plans (Section 3.2.2).

3.3.4   LAP: Areas of Influence identification

As was noted for Development Plans, there are two main areas of influence when considering transport demand, internal trips within the plan area and external trips (shown in Table 3). In the case of LAPs, "internal" relates to trips made entirely within the LAP and, if the LAP is a designated area within a settlement, the surrounding settlement area.

Table 3.   Areas of Influence (Local Area Plans)

Trip type		
Local Area Plan	**Intra-Settlement Trips:** Internal trips within the LAP Area of interest and the surrounding settlement (if appropriate)	**Inter-Settlement Trips:** relating to trips between the LAP area and external settlements/areas

Figure 13 shows the distinction between these trip types in a mapped format. It is noted that, whilst in principle "external" trips could include trips to destinations outside of the wider Development Plan area, in practice the assessment of such trips should form part of the ABTA prepared at the Development Plan level. An exception to this may arise where the LAP area is located close to a city/county boundary or where an LAP is being prepared for settlements which straddle more than one local authority area.

Figure 13.   LAP Area of Influence – Trip Types
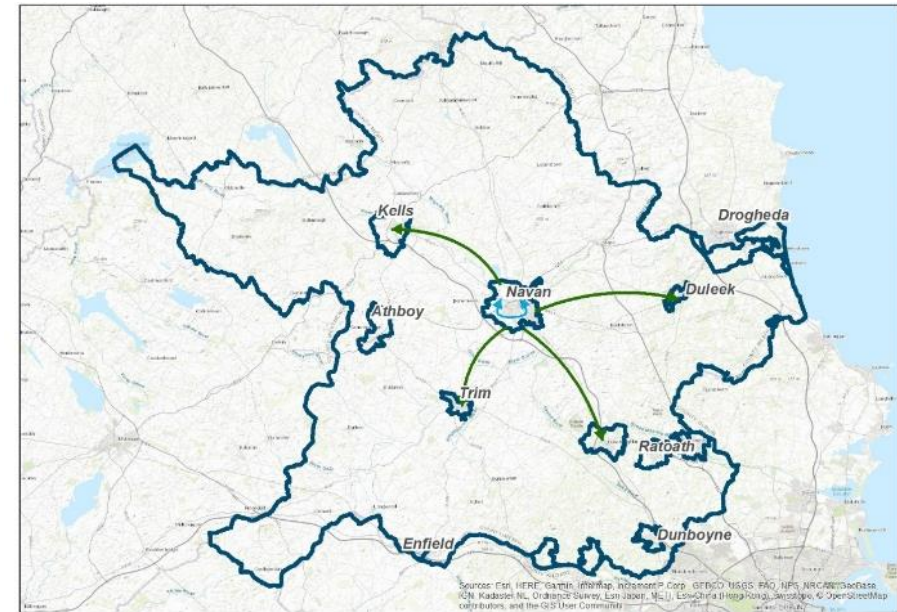
Intra-Settlement trips that are internal to the LAP area are denoted by the light blue line. Inter-Settlement trips are external trips between the LAP and neighbouring urban centres and settlements and are denoted by the green lines. The assessment of the transport baseline for LAPs will focus on travel demands and patterns at a more localised level than for Development Plans. The amount of detail required in particular for the defined LAP area (rather than the wider Area of Influence) means that certain concepts are particularly useful to inform the gathering of data. One of these is the 15-minute neighbourhood.

Concept of 15-minute Neighbourhoods

A principle which has been established through analysis and policy development at national and regional levels is the "15-minute neighbourhood" i.e. the concept that residents of an area should be able to

access key services such as schools, shops, healthcare etc. along with high quality public transport services within a 15-minute walk. This concept can be used to inform the development of the Area of Influence for LAPs. Geographic Information System (GIS) mapping techniques are used to generate a 15-minute Crow-Flies walk catchment boundary from key destinations within a settlement of interest (illustrated in Figure 14). ATOS tools are well suited to this type of analysis, and further explanation is provided within Appendix A of this Guidance Document.

Where a settlement has more than one location which provides services that would form part of a 15-minute neighbourhood offer, additional mapping can be undertaken to identify which parts of the settlement fall into one or more of these catchments, and those that fall outside of these areas. Should the analysis identify areas with poor accessibility this should be highlighted within the baseline assessment and brought forward for consideration at the options development stage.

Figure 14. **Example of GIS mapping for a 15-minute 'Crow Flies' walk catchment (red dashed line)**
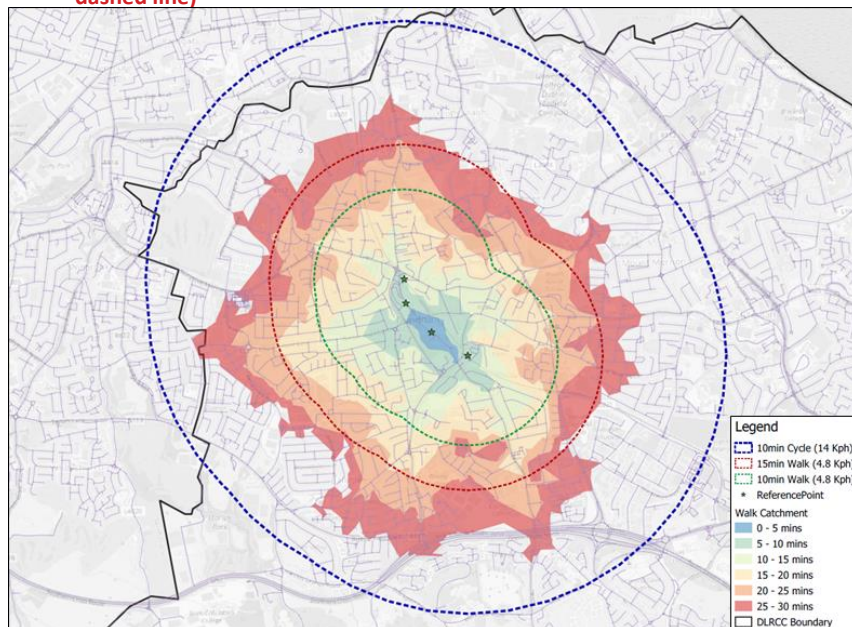
Considering Trips External to the 15-Minute Neighbourhood

Whilst the 15-Minute Neighbourhood captures the more local impacts of existing transport measures, it is also important to investigate the expected influence of any established or planned improvements on access to key destinations within the wider area of influence. An example derived from the exercises outlined above is presented in Figure 15.

The example shows the physical extent of the area covered by the LAP, the main study area for the ABTA (which is where the majority of assessments will be focused) and the defined Area of Influence, which captures the external destinations which are important to the understanding of wider trip patterns.

The main study area has been aligned with the 15-Minute walk catchment. The main study area has also been aligned with Census Small Areas for ease of analysis of census data. Outside of the defined main study area, access to key destinations also needs to be considered; these locations are mapped accordingly.

Figure 15.   Wider Area of Influence and its relationship to the LAP
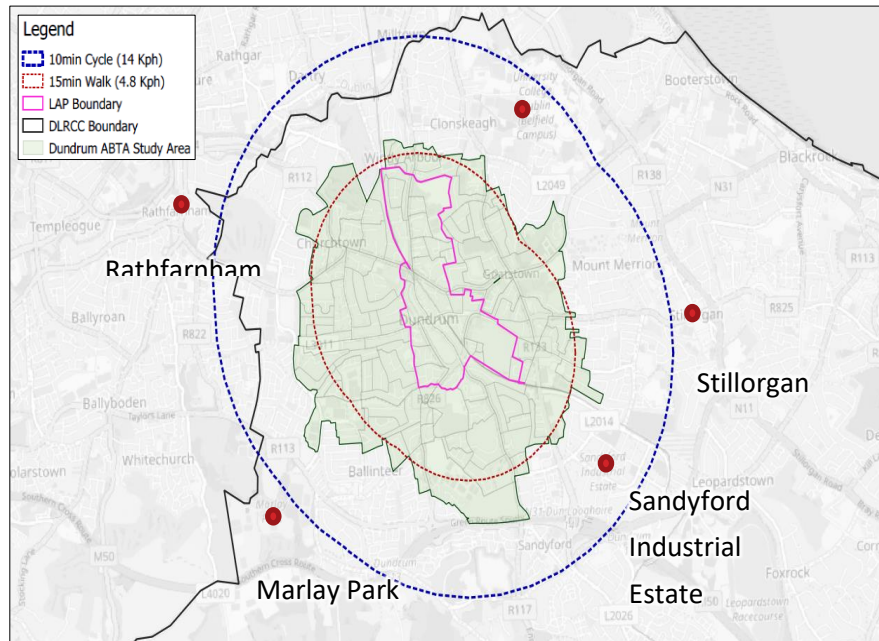
3.3.5   Local Area Plan – Examining Travel Demand

This sub-section of the guidance is similar to that previously presented for Development Plans. Examples which are relevant to LAPs are provided below for reference.

Travel demand is derived from the need for people to access employment, schools, goods and services, as well as social and leisure trips. The amount and spread of travel demand, known as the 'trip distribution', is largely defined by the amount and location of population (trip generators) and the scale and location of the employment, schools, goods and services that they need (trip

attractors) as identified within the Plan Area Characteristics. How this demand is met is a function of the availability and quality of both the transport infrastructure (by all modes) and the service provision.

Information derived from POWSCAR data (see Appendix A for further information on POWSCAR) can be used to assess the existing baseline for both the Development Plan and Local Area Plan assessments, in terms of travel demand and trip distribution, as it provides trip data and mode split information for journeys to work, school or college. Examples of how POWSCAR can be used in practice for preparing the baseline travel patterns are provided below. The analysis techniques themselves are the same for both Development Plan and Local Area Plan preparation.

In order to establish the existing travel demand patterns, including mode split, data can be extracted from POWSCAR in Excel, supported with GIS mapping of key settlement locations and/or small area boundaries, population-, employment- and education-related data for the defined area of influence. This should include the following:

- **Total Trips** – data for work and education trips separately and combined, with a breakdown of intra-settlement trips, internal inter-settlement trips and external inter-settlement trips.
- **Mode Choice** – identifying trips to/from each Settlement individually (intra and inter- settlement trips combined) for work and education (separately and combined) with a mode split for each.

An example of a trip origin map using data from POWSCAR can be found in Figure 16.

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Figure 16.   **Example map illustrating the origin of trips travelling to a LAP**

Figure 17.   **Relationship between trip length and mode**

Trip length distribution

There is a general association between trip length and mode choice as there are distances which the average person may be willing to walk or cycle to access goods, services or employment, and there are distances at which these modes are less attractive options than alternative modes. Similarly, short distance trips by public transport may be unattractive compared to alternative modes as the wait time could be a significant proportion of overall journey time. In terms of distance, trips generally break down into:

- Short – generally serviceable by walking or cycling
- Medium – generally serviceable by cycling, public transport or car; and
- Long – generally serviceable by public transport or car.

The generic relationship between trip length and mode is presented visually in Figure 17.

An example of trip length distribution data extracted from POWSCAR is shown in Figure 18. This data can be combined with mode split data to establish a correlation between trip length, journey purpose and mode choice. This is described further below.

Figure 18.   Trip length distribution data from POWSCAR
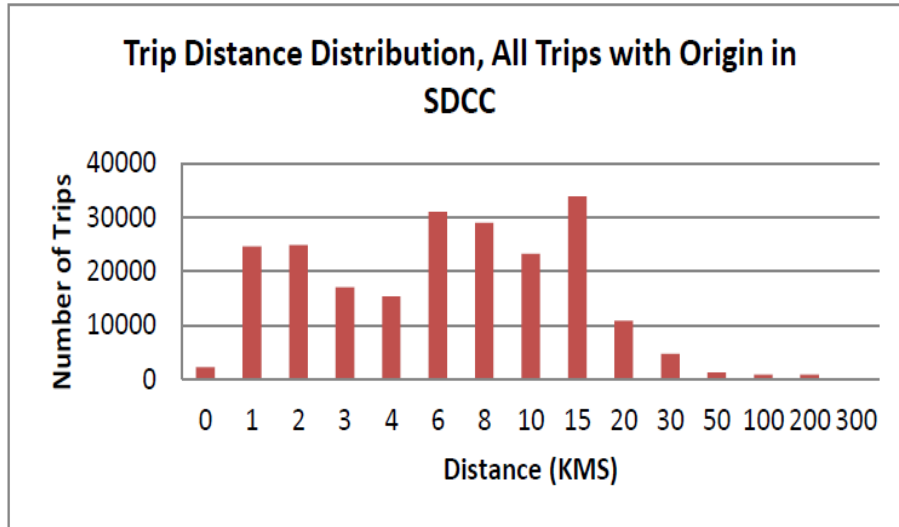
Mode split by distance

Given the general association that can be made between trip length and mode choice, it is useful to analyse mode share data over different distance ranges. Using readily available datasets such as POWSCAR, trip length distribution graphs can be produced for any settlement or area in the country to create a baseline mode share for short, medium and long trips. **At the LAP level**, the mode shares for short and medium distance trips are expected to have the greatest influence on subsequent options development and application to policy goals, and this is explained further in Sections 4 and 5.

Including a travel demand / mode share baseline and mode share ambitions within a Local Area Plan will help to provide an effective basis for setting applicable policy objectives and monitoring the impact of the corresponding transport policies within the Development Plan and its Climate Change Strategy. Examples of how this demand data is applied to the development

and selection of options for transport measures are given in Section 6 of this Guidance Document.

An example of a mode split chart is shown in Figure 19. A corresponding example of how trip length distribution by mode data can be presented is shown in Figure 20.

Figure 19.   Mode split chart from POWSCAR
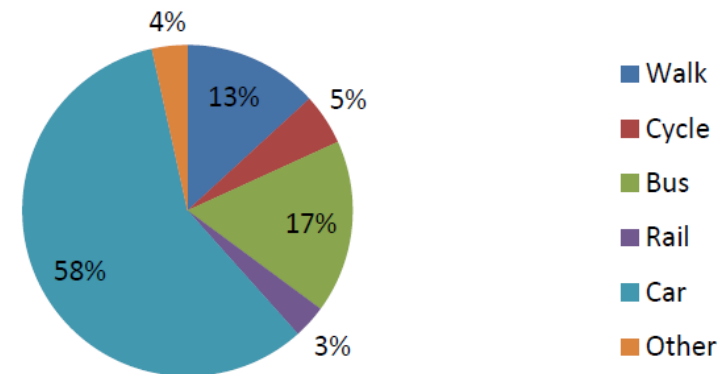
Figure 20.   Trip length distribution by mode data from POWSCAR

In preparing these data sets for the baseline assessments, it is intended that the resulting figures can subsequently be adjusted either through transport modelling or spreadsheet assessments to reflect and test the anticipated impacts of options for transport measures. This is explored in more detail in Section 5, which is worth reviewing at this stage so that the data is in an appropriate format (Excel, modelling, GIS) for later analysis.

At the baseline assessment stage, the proportion of medium and longer-distance trips made by private car should be identified as these may be reduced by public transport measures considered later in Section 5. Similarly, if there is a high proportion of short distance trips by car, this data should be highlighted in the baseline assessment and brought forward to the options development stage as there may be permeability, walking, cycling or demand management measures that could reduce car dependency. Figure 21 illustrates how trip length distribution can be represented alongside mode share data.

Data showing trip length distribution by mode can also be analysed and presented by journey purpose, as illustrated by the examples for trips at each settlement level in Figures 22-24.

This is particularly useful in identifying where anticipated travel demands are likely to coincide in terms of both timing and geographical location. For example, trips to school will converge within school start and end times, and if there is a high concentration of school trips by car between specific settlements this should be highlighted in the baseline. This should then be brought forward to the options development stage to explore the possibility of serving these trips by public transport enhancements at school start and finish times.

Figure 21. **Trip length distribution by mode**

DIST (km)		TRIPS			
		ACTIVE	PT	CAR	TOTAL
0	2	88	9	164	261
2	5	89	128	400	617
5	10	7	68	468	543
10	15	2	43	341	387
15	20	0	30	271	302
20	30	0	18	187	205
30	40	0	8	113	121
>40		0	3	59	63
TOTAL		187	308	2,004	2,498
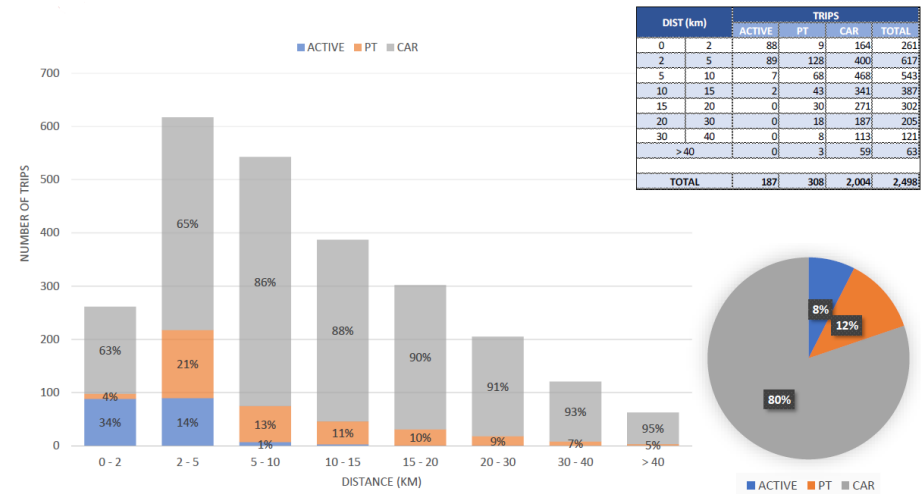
Figure 22. **Intra-Settlement Trip length distribution by mode and journey purpose (example of trips within Navan)**
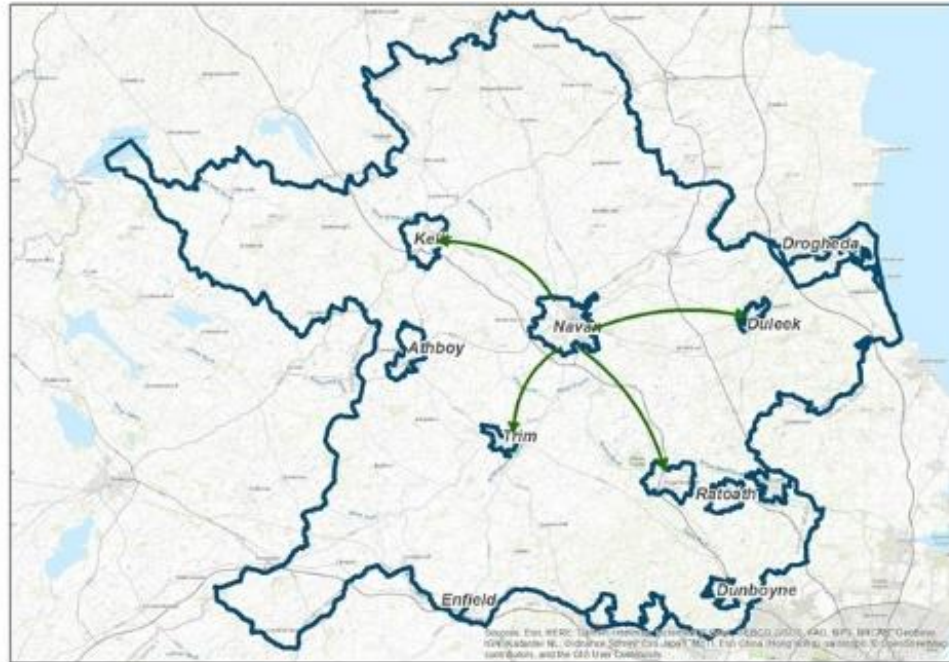
Note: Trips exclude Internal Trips within the Settlement of Navan and within County Meath
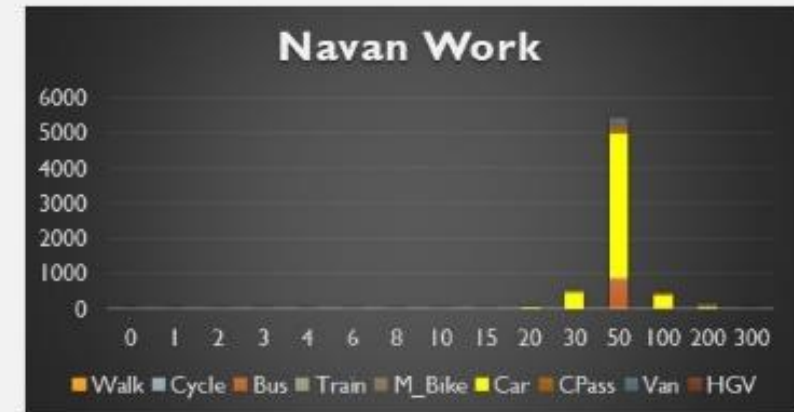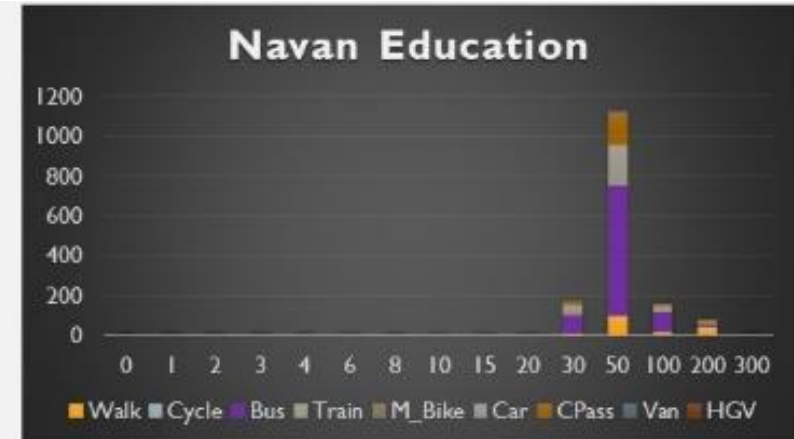
3.3.6   LAP: Transport Infrastructure and Services

The LAP process provides an ideal opportunity for the provision and geographical distribution of local public transport infrastructure to be assessed. Figure 25 provides an example of mapping of the existing public transport network highlighting stop locations, route numbers and service frequencies. A good level of detail can be applied to mapping undertaken to inform LAPs as the geographical area of coverage will be relatively small, and the ABTA undertaken at LAP level is able to consider transport interventions at the local level.

Figure 25.   Local Public Transport Mapping Example
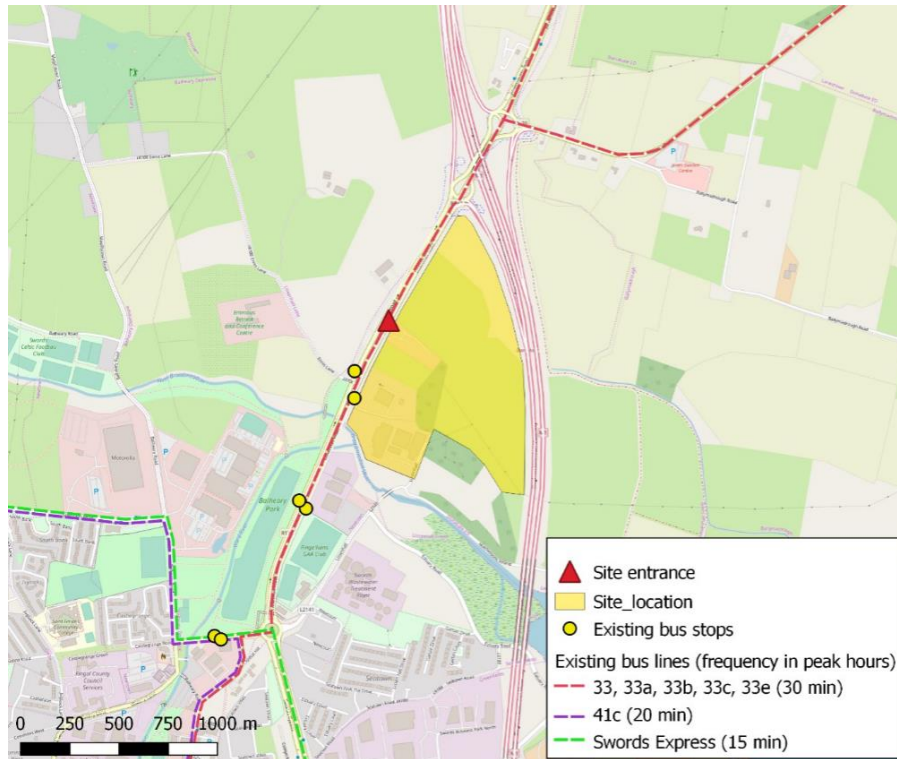
Preparation of these maps to cover the study area for the ABTA can be combined with data on population (for residents) and employment (for jobs) to identify "high demand" and "low demand" locations for public transport coverage. Whilst it is recognised that changes to public transport service patterns are not within the direct remit of councils, this data provides a foundation for dialogue with the NTA, transport operators and other groups with an interest, and should also be used in conjunction with walking and cycling infrastructure information at the options development stage (see Section 5).

The techniques previously described in relation to assessing the road network hierarchy for local transport infrastructure are also relevant to LAPs; the description and examples are therefore also provided here for completeness.

Figures 26 and 27 provide examples of presenting the road network hierarchy of an area, in this case an existing and proposed network. The maps include colour-coded national, regional, town centre and local roads, with proposed or potential scheme interventions presented. This method can equally be applied at the Development Plan and Local Area Plan scales.

Figure 26.   Example of a Road network hierarchy (Existing)

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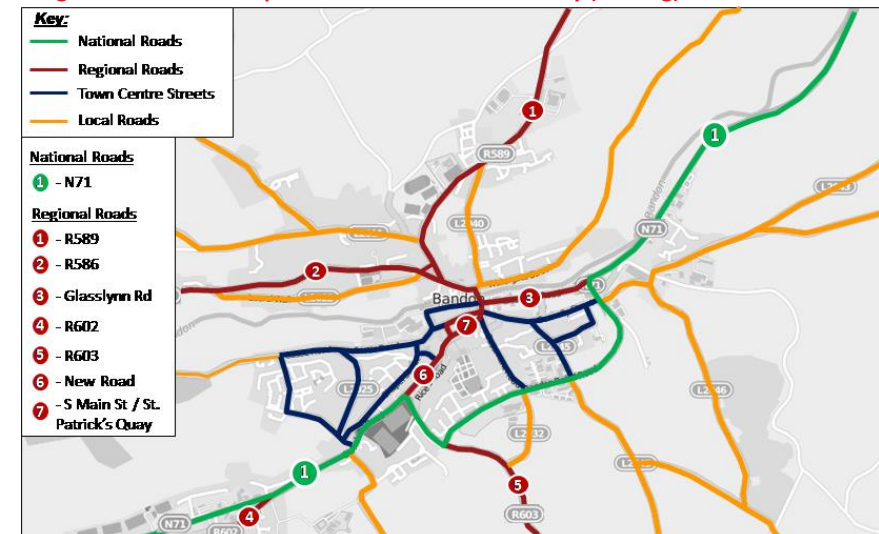
Figure 27.   Example of Road network hierarchy (Proposed)

upgrading, and can provide context to simple "shortest route" analysis when walking and cycling networks are being appraised.

Figure 28.   Physical constraints – example contour map
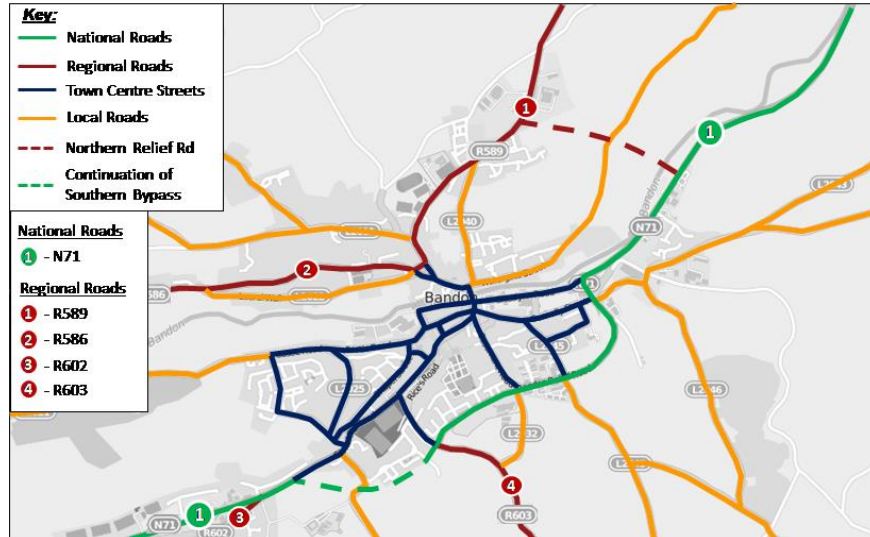
3.3.7   LAP: Physical Constraints and Environmental Conditions

The assessment of the environmental conditions for the ABTA main study area should at a minimum apply the methodology and approach described previously for Development Plans (Section 3.2.6). At the LAP level it may be appropriate to explore more localised constraints such as architectural heritage.

At the LAP level, it is also appropriate to consider more localised physical characteristics; the map in Figure 28 demonstrates another way to present the physical characteristics and constraints of an area by looking at its topography, which can be important when considering barriers to the take up of active modes. Having this type of information available can significantly aid the process of screening walking and cycling routes in particular for suitability for

3.3.8   LAP: Part 1: Baseline Assessment Completion

At this stage, the baseline assessment for an ABTA comprising the elements set out above will support the preparation of the LAP by providing the information necessary to undertake a Strengths, Weaknesses, Opportunities and Threats Analysis (see Section 3.4). This baseline assessment should in turn provide the policy makers with a good understanding of travel within the Plan area and to/from other key destinations that will inform the subsequent parts of the ABTA, particularly Part 2b: Options Development and Part 6: Evaluation.

3.4 Strengths, Weaknesses, Opportunities and Threats Analysis

By the end of Part 1: Baseline Assessment, a wide range of background data and information will have been gathered in relation to influencing policy, area characteristics, travel patterns and transport infrastructure for the Plan's study area. At this stage it is advisable to summarise the findings of the baseline assessment as a Strength, Weaknesses Opportunities and Threats (SWOT) Analysis. The strengths and weaknesses should focus on the existing characteristics of the Plan area, whilst the opportunities and threats focus on the external or long-term influences on the Plan.

As outlined in this Guidance Document, the consolidation of the baseline assessment into a SWOT analysis will help inform the latter stages of the plan, including:

- **Part 2a: Establish Context –** SWOT will support the development of objectives and principles
- **Part 2b: Options Development-** SWOT will guide the development of transport and demand management options
- **Part 3: Options Assessment –** SWOT can be used to screen the initial long list of options

The example in Table 4 presents a typical SWOT analysis that has been undertaken for an ABTA.

Table 4. Example of SWOT Analysis

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
• Strong links to National and Regional Road • Serviced by heavy rail, light rail and frequent bus services • Greenway provides connectivity to the city and suburbs adjoining the route • Approximately 7.5km to the city centre • Street network conducive to implementation of improved walking and cycle facilities subject to appropriate planning considerations • A flat topography suitable for active modes	• Physical constraints that create potential for severance to a permeable street network, particularly for north south movements • Road network is highly trafficked operating at or near capacity throughout the day • Public Transport operates at or near capacity, particularly on city bound AM Peak Services and outbound PM Peak Services • No established urban centre such as a village or retail core with community facilities • The area has developed with private vehicles being predominant mode of transport • M50 is a barrier for integration to the west	• Transit orientated development around high-capacity public transport nodes • A series of existing green spaces to anchor delivery of green active mode network • Proposals for increased capacity on public transport corridors including BusConnects and DART+ • Developable lands are of sufficient scale to influence trip making and future travel behaviours, for example local trips within mixed-use districts	• Impact on the capacity and function of the National Road Network • Scale of achievable development is reliant on substantial public transport enhancements and substantial investment in walking and cycling infrastructure • Phasing of development to create continuous active mode infrastructure and a sense of community • Ability to fund and deliver critical infrastructure required to overcome physical severances in order to deliver a permeable street network

4. PART 2A: ESTABLISH CONTEXT

4.1 Overview

Part 2a of the ABTA process is Establishing the Context. The activities which are required are set out below:

Figure 29. ABTA Methodology – Part 2a
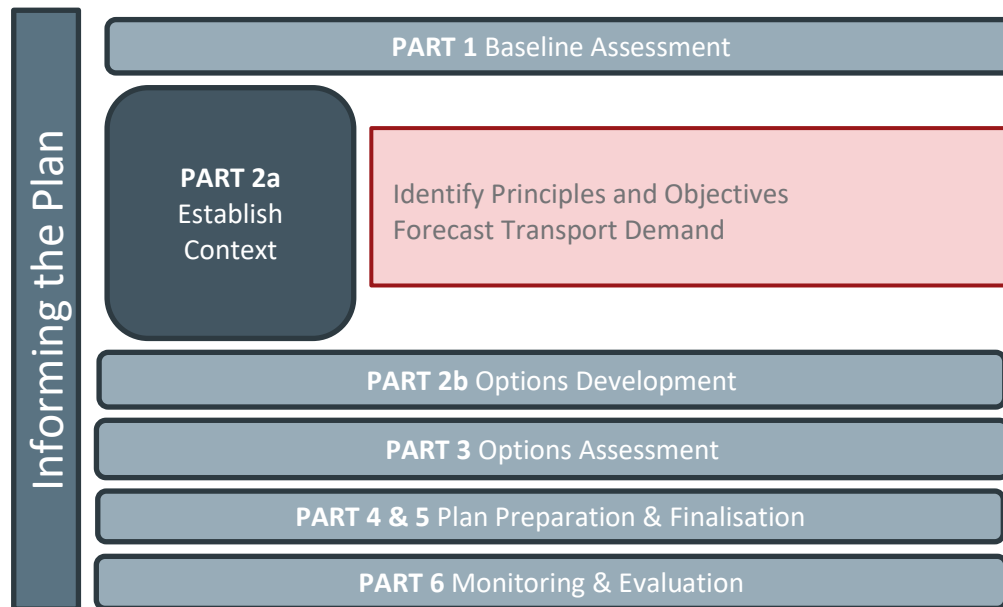
The purpose of this part of the ABTA process is to apply the information gathered from the baseline assessment (including the SWOT analysis) to determine the principles and objectives for the Plan and the forecast change in travel behaviour. How this is to be achieved in relation to Development Plans and Local Area Plans is explained in this section.

4.1.1 Outputs

Part 2a outputs are identified in Table 5.

Table 5. Part 2a outputs

	CONTEXT FOR THE ABTA OUTPUT
Principles and Objectives	List of Principles and objectives for the ABTA
Forecast Transport Demand Information	Reference case population, employment and education places growth data preferably mapped by location.

4.2 Identify Principles and Objectives

4.2.1 Common Terms

Several common terms are used when discussing these activities. To assist with understanding, the use of these terms within this guidance document is clarified as follows:

A **Principle** is a transport or planning practice which is considered to be desirable. Common examples of principles include the increased use of sustainable transport, improvements to access to key services, better integration of land use and transport, and the efficient management of transport networks.

An **Objective** builds upon the transport principles by establishing a clear goal by which the performance of the ABTA Plan can be measured and assessed. Common examples of objectives include vehicle emissions reduction targets or sustainable transport mode share ambitions.

A **Measure** refers to the actual actions which are taken to fulfil objectives.

Where multiple measures have been identified for consideration against an objective, these are referred to **Options**. The process of options development and options assessment is described in Parts 2b and 3 of this guidance.

4.2.2   Integrating with Wider Policy

The integration of land use and transport planning in a manner that can affect significant modal shift to walking, cycling and public transport, for both existing and planned areas, is the starting point for a coherent approach to the development and application of principles and objectives for transport. It is important to recognise that every Development Plan or LAP will be the successor to previous documents and that there will be elements of previous principles and objectives which will sensibly carry over into the preparation of new documents.

The ABTA should identify a series of objectives against which subsequent transport options can be tested. The ABTA objectives would normally be informed by:

- O The opportunities and constraints identified in the Part 1 Baseline Assessment SWOT Analysis (Section 3.4);
- O The outcomes of relevant statutory consultations which have been undertaken;
- O Existing local policies and objectives within the framework of the plan being considered. For development plans, this will include consideration of the RSES and policies and objectives from any preceding development plans. For Local Area Plans, this will include the County Development Plan for the area which will be covered by the LAP; and
- O National level policy guiding the delivery of sustainable development.

Figure 30.   Sources of ABTA Objectives and Principles
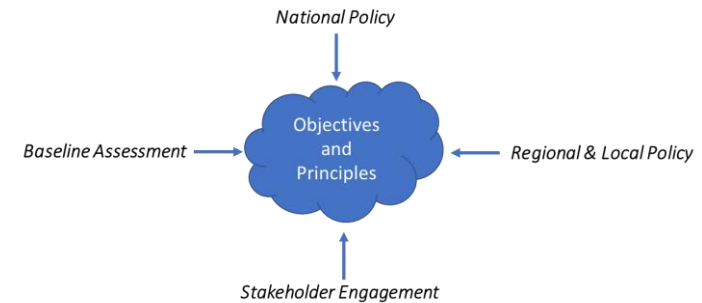
It is good practice for objectives to have a clear purpose and be SMART (Specific, Measurable, Accurate, Realistic and Timely).

It is highly likely that there will be considerable overlap between the formulation of transport policies and objectives within the Development Plan making process, and the establishment of principles and objectives which govern the ABTA. In some cases, initial work on the policies and objectives for the Development Plan may precede commencement of the ABTA. Alternatively, Parts 1 and 2 of the ABTA may be used as the foundation for the policies and objectives within the Development Plan making process. Either approach can deliver appropriate outcomes, as long as the principles and objectives of the ABTA will demonstrably address the issues identified from the SWOT analysis in part 1 and the future demand analysis in part 2.

A clear statement of the principles and objectives which are to be applied to the ABTA should therefore be prepared and retained for use within the assessments which are to be carried out in relation to the later parts of the ABTA process.

4.2.3 Measurable Performance Indicators

For each of the objectives identified, an associated measurable performance indicator will be required for use in later scenario assessment (Part 3). Examples would include:

- Objective: improve safety for cyclists
  - Measure: quantity of segregated cycle infrastructure
- Objective: reduce delays to buses
  - Measure: extent of bus priority infrastructure in congested areas
- Objective: reduce the need for transport
  - Measure: accessibility to trip attractors

4.3 Forecast transport demand (Demand Analysis)

The process of forecasting future transport demand is typically undertaken through an analysis of existing trip patterns and capacity across different transport modes gathered as part of the baseline assessment, with the anticipated type, scale and location of new development within the ABTA study area.

4.3.1 Projected Population, Education and Employment Levels

The assumed growth in population, employment and education places within the study area and the distribution of growth should be aligned with the end date of the Development Plan or LAP being prepared and should take account of the longer term land use forecasts, in addition to policies and objectives, as identified in the NPF and RSES. Figures 31 and 32 show examples of maps produced in GIS using Planning Sheet data. They show areas of population and employment growth between 2016 and 2040. The darker colours on the maps represent the areas that are forecast to have greater population and employment growth.

Figure 31. **Example Map of Population Growth (2016 to 2040)**
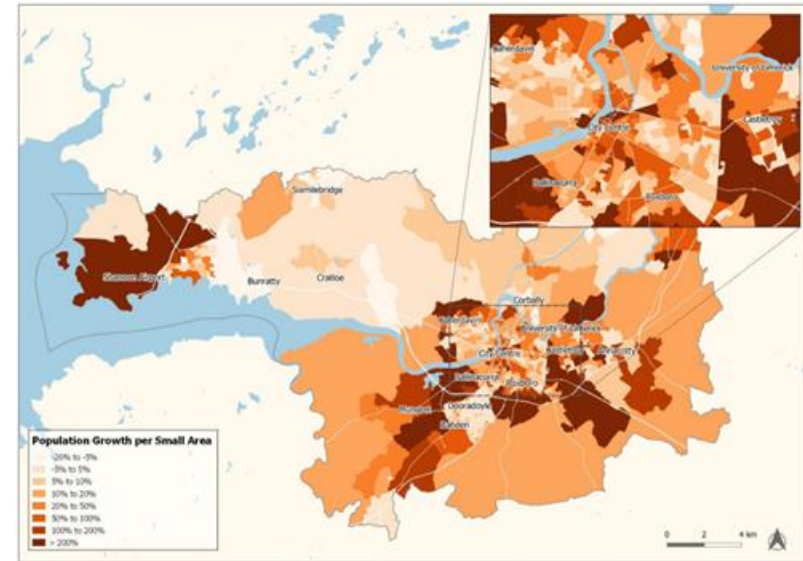
Figure 32. **Example Map of Employment Growth (2016 to 2040)**
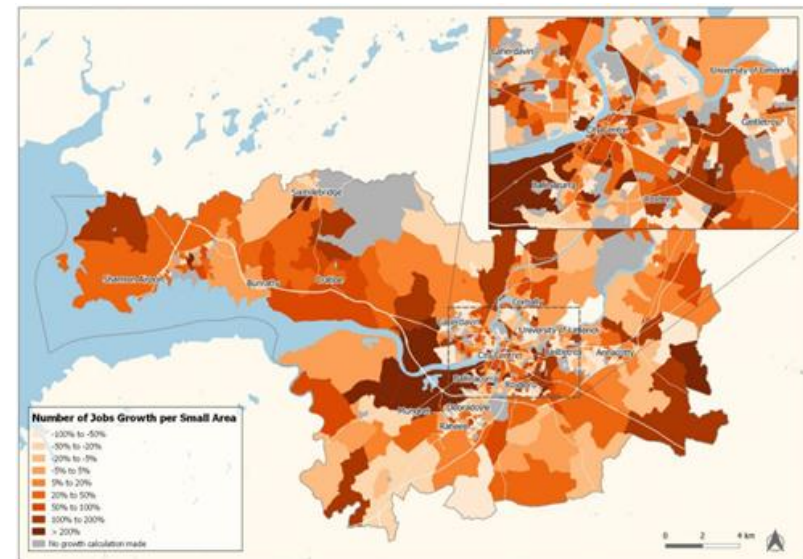
4.3.2 Trip Generation

The projected growth maps allow for an initial understanding of where the forecast trip generators (population growth areas) and trip attractors (employment growth areas) are likely to be. Variations of these types of maps can be used to help visualise the effects of different land use choices on expected transport demand as part of the assessment process.

Using NTA household survey data, it can be inferred that the average person makes a certain number of trips per day, generating a total number of daily trips across all modes for the population. This process is presented in Figure 33 below.

* NTA Household Survey 2017
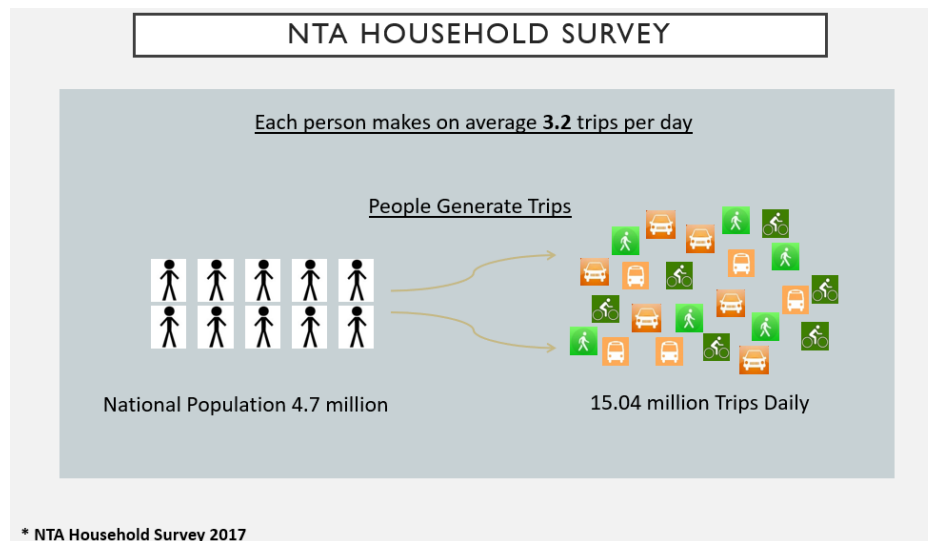
Household survey data can then be used to allocate these daily trips according to trip purpose and time of day, as presented in Figure 34.

* NTA Household Survey 2017
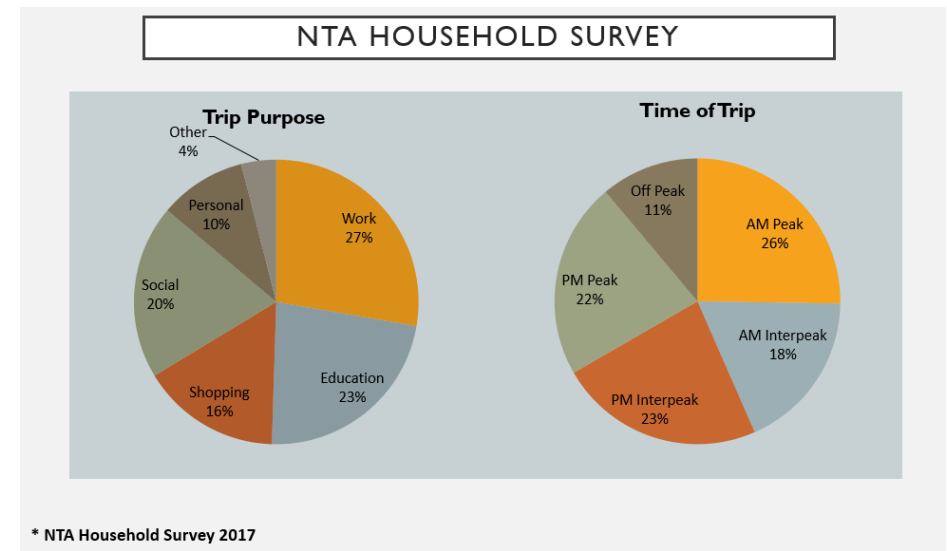
4.3.3 Trip distribution analysis

Trip distribution analysis can then be undertaken using Census data to present where and how many trips are going to and from each location. This trip distribution analysis can be presented by journey purpose and time of day using the data above. This presents an overall picture of travel demand patterns in the study area.

The example in Figure 35 below shows the pattern of trip distribution from a specific 'settlement' area of origin, with a gradation of colours and line thickness to denote trip volume ranges.

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Figure 35. **Example of Forecast Trip Distribution data mapping**
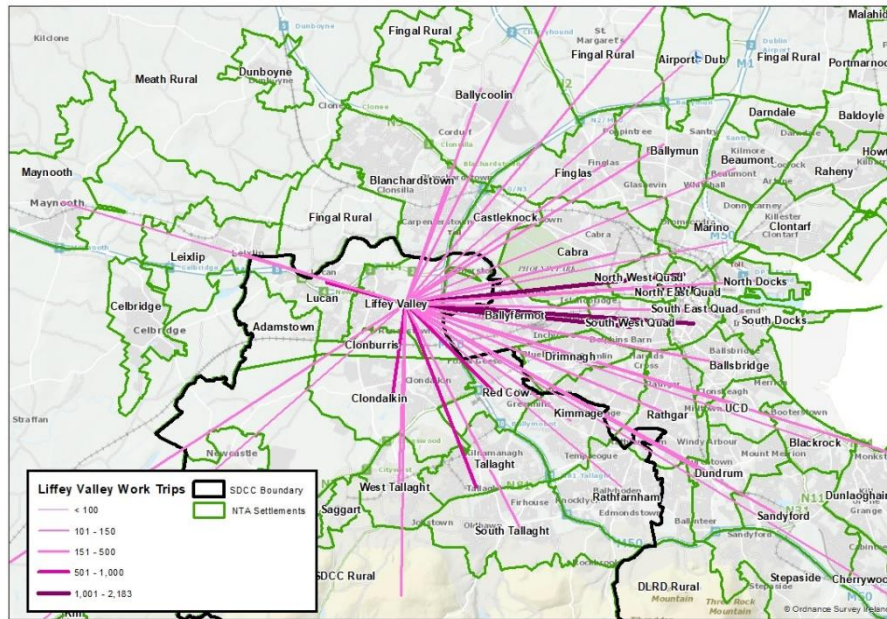
4.4 Part 2a Completion

The next section of this report describes how the outcome of the Part 1 Baseline Assessment is considered with the objectives and principles developed under this section, in order to develop transport options for the ABTA.

5. PART 2B: OPTIONS DEVELOPMENT

5.1 Overview

Part 2b of the ABTA process is Options Development. Its place in the overall ABTA process is shown in Figure 36 below.

Figure 36.   ABTA Methodology – Part 2b
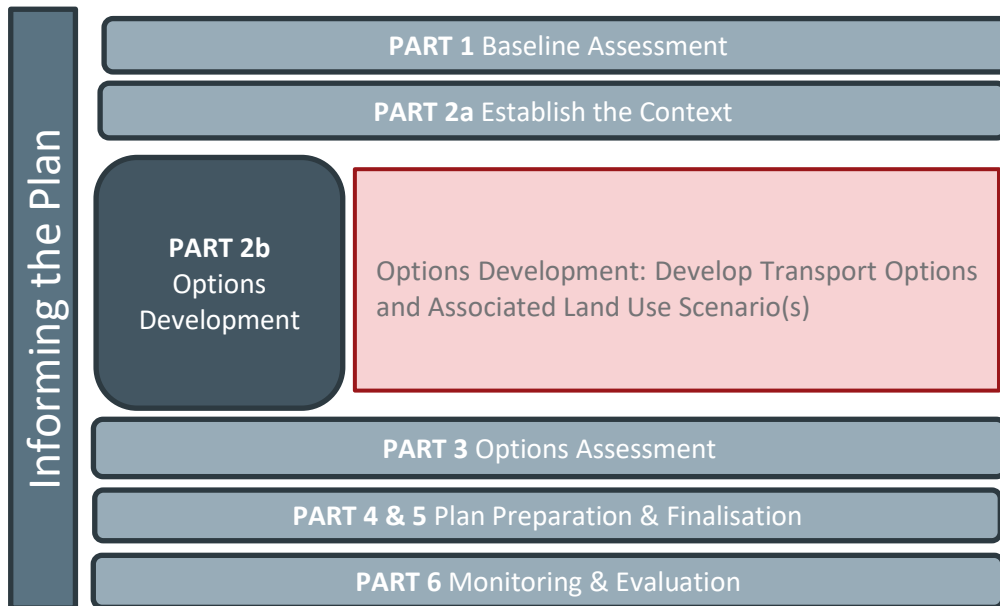
5.2 Interaction with Development Plan / Local Area Plan Making Processes

Part 2b covers the process of identifying a series of measures which have potential to address the objectives of the ABTA that have previously been defined during Part 2. Collectively, packages of measures are referred to as Options for the purposes of the ABTA process.

For **Development Plans**, options will consist of measures which cover a relatively broad geographical area

For **Local Area Plans**, options are likely to be more focused on specific schemes to address particular needs at a more localised level.

5.2.1 Outputs

Part 2b outputs are identified in Table 6.

Table 6.   Part 2b outputs

	CONTEXT FOR THE ABTA OUTPUT
Options Development	List of feasible transport and land use options that could contribute to achieving the objectives

5.3 Option Development Process

Figure 37 shows how the assessments undertaken in Parts 1 to 3 of the ABTA link together to create the development and selection process for the transport measures which will ultimately be delivered as part of the Development Plan or LAP.

Figure 37.   **ABTA Options Development Process**

Part 1: Baseline Travel Characterisitics
focus on trip characteristics of the area under consideration

Part 2a: Principles and Objectives
set out key considerations to avoid/reduce, shift, improve and manage transport demand

Part 2b: Develop Options
individual options considering transport and land use interventions

Part 3: Options Assessment
package options into scenarios for assessment and consider funding arrangements including Development Contribution Schemes

It is envisaged transport networks will be examined for each mode and that the options development process will identify the potential to more effectively support the use of sustainable transport modes for a range of journey purposes and trip lengths.

It is noted that certain options, such as those connected with public transport service patterns, may not be directly deliverable by local authorities. Where this is the case, the relevant option(s) should be framed in terms of appropriate consultation with the NTA and transport operators.

5.3.1 Developing options – Initial Option Generation

In developing options the following should initially be considered:

- transport infrastructure and services requirements identified within previous assessment (e.g. current Development Plan);
- the functional relationship between the study area and settlements within and outside of the area;
- the relationship between land use and movement patterns between settlement areas; and
- the relationship between journey purpose, trip length and mode choice.

It is recommended that options for applicable measures are first considered in relation to "active modes" (walking and cycling), followed by public transport modes, and finally general vehicular traffic. A series of examples of potential measures which could be considered are presented below. These examples are intended to provide a starting point for the identification of measures and to prompt further consideration and ideas. At this stage, the aim is to generate as wide a variety of ideas as possible for potential measures (using the mode-based approach to help organise them).

Walking

- Upgrades and repairs to "day to day" key routes between residential areas and local education, employment and community facilities
- Infrastructure which enables access to public transport services connecting with external destinations, directly and safely
- Improvements to local footpaths or "green" routes for leisure walking, including regional routes
- Upgrades or revisions to crossing facilities on main or busy roads
- Provision of infrastructure which can directly serve "partial" journeys on foot, such as Park and Stride
- New or improved signage for walking routes identified from the above

Cycling

- Creation or upgrade of safe and direct networks to key destinations within settlements and provision of access to the wider network
- Infrastructure which enables access to strategic/regional public transport services directly and safely (this can include new cycle routes and enhanced cycle parking)
- The provision of new or expanded safe and secure cycle parking at public transport nodes, key interchanges and areas such as town or village centres.
- Creation or upgrade of inter-settlement cycle routes – this can include specific provision for links to key employment areas
- Upgrading of national cycle network routes and new connections to these, including those designed to serve leisure and tourism uses

Public Transport

- Improvements to strategic/regional public transport services (routes, scheduling, frequency of service and stopping patterns, in particular at key origins and destinations) – such options may require discussion with the NTA and / or transport operators
- Provision of infrastructure which can directly serve "partial" journeys by public transport, such as Park and Ride
- Improvements which facilitate easier interchange between PT and other modes to maximise the potential of public transport for a wider range of journeys
- Identification of options for rural public transport services, which will provide for social and economic connectivity between small villages/rural areas and larger towns

General Vehicular, including Car and Good Vehicles

- Transport demand management measures, including (at destination) parking policies
- Traffic management measures, for example traffic calming or re-routing (these measures work particularly well alongside walking and cycling infrastructure provision)
- Road schemes to address known safety issues or significant congestion, where it is demonstrated that alternative solutions such as public transport provision, traffic management or demand management measures cannot effectively and satisfactorily address the particular circumstances prompting the road proposal or are not applicable or appropriate
- Other measures which may be identified in response to the need to protect the strategic transport function of the national roads, including motorways (any such measures should be in accordance

with the DOECLG Spatial Planning and National Roads Guidelines (2012).

| Complementary measures |

- Green Schools programmes
- Smarter Travel Workplaces and Campus
- Behavioural Change programmes aimed at encouraging use of sustainable modes of travel
- Mobility Management Plans for existing and planned developments to reduce employment-based single occupancy car trips
- Transport policy reducing demand for travel and promoting sustainable travel choices (Transport Demand Management)

5.3.2 Gap Analysis and Application of Objectives

Once the initial option generation has been completed, the options list for each mode should be reviewed against the SWOT analysis from Part 1 (See Section 3.4) and the future transport demand analysis from Part 2a (See Section 4.3). The aim of this exercise is to broadly match the options to the "gaps" in existing provision and the anticipated future needs; this should identify any areas where there are either limited options, or a lack of implementable options to be considered further. This exercise may also be helpful in identifying any tendencies toward assuming that certain objectives can only be addressed through certain modes or types of measure; in some circumstances this will be appropriate, but in others it will ensure that alternatives are genuinely identified and included in the assessment process.

In carrying out this part of the analysis, consideration can be given to the use of an A-S-I approach (Avoid/Reduce – Shift – Improve)[1] .

This approach aims to:

- **Avoid/reduce** – avoid or reduce the need to travel by organising land use and access to employment, education retail and leisure in such a way that the need for travel and the distances travelled are reduced
- **Shift** – to more sustainable transport modes
- **Improve** – environmental sustainability of residual vehicular traffic
- **Manage** – to address the day to day efficiency of the transport network as it accommodates the residual traffic demands

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[1] Approach adopted in the Government of Ireland's 'Five Cities Demand Management Study: Recommendations Report March 2021'

Demand Management Toolkit

System efficiency

Organise land use and access to employment, education, retail and leisure in such a way that the need for transport and the use of fossil fuels is reduced

Reduce or avoid the need to travel – change the demand for travel

e.g. integration of transport and land use, project appraisal

AVOID/REDUCE

Travel efficiency

Make use of more sustainable modes like active travel and (low emission) public transport to reduce emissions per trip

Shift to more sustainable modes. Reduce vehicle use. Influence travel behaviour.

e.g. parking controls, car clubs, mobility management, behaviour change, incentives to use public transport or active travel

SHIFT

Vehicle efficiency

Emit as few greenhouse gas and air pollution as possible per vehicle kilometre by using advanced technologies and optimising take-up of cleaner vehicle fleets

Improve efficiency through vehicle technology and lower emission vehicles.

e.g. grants towards cleaner fleets, vehicle taxation, Clean Air Zones, eco-driving

IMPROVE

Manage Residual Demand

Use management systems to manage existing/residual vehicle movements to maximise use of existing road space capacity and prioritise sustainable modes

Manage existing/ residual vehicle movements

e.g. Urban Traffic Control Centres, smart parking, dynamic tolling

MANAGE

A worked example of this approach, applied to examples which are relevant to Development Plans and Local Area Plans, is presented in Table 7 below.

Each table presents an example objective (in this case, one relating to a desire to reduce the number of trips made by car for journeys of different lengths) and identifies broad measures which could assist with meeting this objective, classified as "Avoid" (A), "Shift" (S) "Improve" (I) or "Manage" (M). The final two columns of each table show specific measures which could be introduced, and the expected outcomes from implementing these measures. This information can then be carried forward into Part 3 of the ABTA assessment (Options Appraisal) where measures will be compared and selected to form preferred packages for inclusion in the Development Plan or LAP; this is explained further in the next section of this guidance.

Table 7. Example of an Options Development Table

Issue identified		Example key considerations	Example options	Outcomes
High proportion of long distance inter-settlement movements by car **(Development Plan)**	A	Can the land use mix be altered to reduce the need to travel?	○ alternative land use scenarios that would reduce the need to travel	○ Fewer car trips generated by development
	S	Are there public transport alternatives?	○ options to support public transport use and investment, e.g.: ● Alternative land use scenarios that are orientated to integrate better with public transport ● Parking charging measures at the destination	○ Increased Public Transport use ○ Reduced demand for car parking and lower traffic flows between destinations
	S	Can accessibility by car be managed?	○ parking control measures at the origin and/or destination ○ prioritisation of public transport and active modes at the destination, e.g. through pedestrianisation and/or public transport priority	○ Increased Public Transport use ○ Reduced demand for car parking and lower traffic flows between destinations
	I	Are there means to reduce single car occupancy?	○ car sharing supports such as allocated parking spaces ○ link car parking availability at the origin with household size	○ Fewer car trips generated by development ○ Reduced demand for car parking and lower traffic flows between destinations
	I	Are there means to reduce the environmental impact of car traffic?	○ measures to encourage uptake of low emissions vehicles such as public charging, reduced parking fees, reserved parking	○ Improvements to Air Quality ○ Possibility of increased traffic flows if electric vehicle used in preference to public transport
	M	Can the car demand be better managed to suit the location?	○ parking charging measures at the destination to manage demand in a manner that suits local conditions, e.g. ● limiting all day parking ● reducing parking fees overnight or on Sundays when public transport availability may be reduced	○ Reduced demand for car parking at certain times (but may switch demand to quieter periods)
	M	Can the residual traffic be managed more efficiently?	○ traffic management options, e.g. ● speed limits ● road hierarchy ● local road measures ● junction upgrades	○ Increased road safety (fewer and less severe accidents) ○ Reduction in localised congestion / improvements to air quality ○ May be counter-productive depending on other measures relating to public transport, walking or cycling

Issue identified		Example key considerations	Example options	Outcomes
High proportion of movements between adjacent settlements by car **(Development Plan and LAPs)**	A	Can the land use mix be altered to reduce the need to travel?	○ alternative land use scenarios that would reduce the need to travel	○ Fewer car trips generated by development
	S	Are medium trip length desire lines well served by cycle infrastructure?	○ options to improve cycle connectivity, proposals to address critical barriers along desire lines (e.g. major junction)	○ Increase in trips made by cycling; reduction in risk / accidents to new and existing cyclists
	S	Is the cycle parking infrastructure adequate?	○ Identify locations to increase the volume of secure cycle parking and provision for cargo bikes	○ Increase in trips made by cycling
	I	Are there means to reduce the environmental impact of car traffic?	○ measures to encourage uptake of low emissions vehicles such as public charging, reduced parking fees, reserved parking	○ Improvements to Air Quality ○ Possibility of increased traffic flows if electric vehicle used in preference to public transport or cycling
	M	Can the residual traffic be managed more efficiently?	○ traffic management options, e.g. speed limits, road hierarchy, local road measures, junction upgrades	○ Increased road safety (fewer and less severe accidents) ○ Reduction in localised congestion / improvements to air quality ○ May be counter-productive depending on other measures relating to public transport, walking or cycling
	M	Is there potential for ongoing community engagement?	○ identify potential to include for behavioural change programmes, mobility management plans, etc.	○ Increase in active modes (walking and cycling), possible increase in PT use ○ Magnitude of change likely to be affected by inclusion of other options i.e. walking or cycling infrastructure

| Issue identified		Example key considerations	Example options	Outcomes
High proportion of intra-settlement movements by car (LAPs)	S	Are short trip length desire lines well served by cycle infrastructure?	○ options to improve cycle connectivity, proposals to address critical barriers along desire lines (e.g. major junction)	○ Increase in trips made by cycling; reduction in risk / accidents to new and existing cyclists
	S	Is the cycle parking infrastructure adequate?	○ identify locations to increase the volume of secure cycle parking and provision for cargo bikes	○ Increase in trips made by cycling
	S	Are there barriers to walking?	○ pedestrian network planning ○ car free zones and streets	○ Increase in trips made by walking ○ Possible reduction in car trips
	M	Can the residual traffic be managed more efficiently?	○ traffic management options, e.g. speed limits, road hierarchy, local road measures, junction upgrades ○ school locations that could benefit from school streets programmes	○ Increased road safety (fewer and less severe accidents) ○ Reduction in localised congestion / improvements to air quality ○ May be counter-productive depending on other measures relating to public transport, walking or cycling ○ Increased walking and cycling associated with school travel
	M	Is there potential for ongoing community engagement?	○ Identify potential to include for behavioural change programmes, mobility management plans, etc	○ Increase in active modes (walking and cycling), possible increase in PT use ○ Magnitude of change likely to be affected by inclusion of other options i.e. walking or cycling infrastructure

5.3.3   Development Plan Example: Inter-settlement Travel

The Development Plan Core Strategy identifies the hierarchy of settlements at a county level. The application of the ABTA approach set out in Part 1: Baseline Assessment and Part 2a: Establish Context will help establish the existing and future demand for travel between discrete settlements and between settlements and their wider catchment areas.

The Development Plan area will likely include a number of settlements. In this case, the inter-settlement trips patterns identified in Part 1 for each individual settlement can be combined to identify movement corridors within the Development Plan area. As an example, Figure 39 shows how the Galway County area has been divided into a series of movement areas which link settlements and provide for the identified inter-settlement trips.

Figure 39.   Example of Movement Hierarchy identified within Galway County
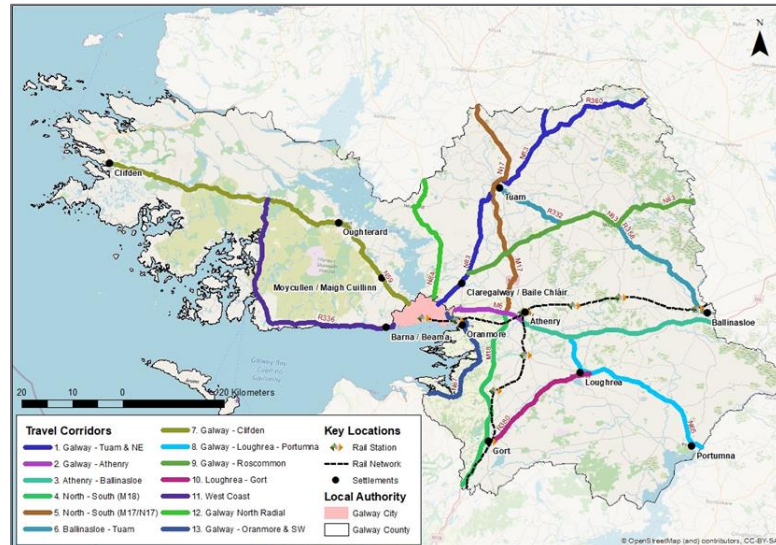
From the combination of data from the baseline assessment, it will be possible to develop an understanding of how the overall volumes of movement within an identified area are split between different modes and between different origin-destination pairs. As an example, a "national" route forming an area (such as the motorway network or major national road) would be expected to carry a significant proportion of longer-distance through-traffic, but depending on the wider road network layout, it may also form the primary link between two or more "local" destinations within a County or Development Plan area. In such a situation, improvement options may provide benefits to all traffic, or may be of greater significance to certain users.

In turn, it then becomes possible to apply real-world knowledge and experience to an optioneering process for potential network and infrastructure changes and/or improvements within the area itself. The development of options can and should include early consideration of how provision for active and sustainable modes within an area can be supported as a priority, in accordance with relevant national, regional and local policies. This can include measures within towns and settlements to increase access to existing public transport services, and prioritisation of road improvements which address existing sources of delay to these services rather than measures which simply provide additional capacity for general traffic. Option development should also carefully consider whether location-specific physical improvements will simply "relocate" existing issues with congestion or delays, to other locations within the area in question.

5.3.4   Local Area Plan Example: Use of ATOS and PTALs to inform the option development process

Appendix A provides an overview of ATOS (accessibility to opportunities and services) as a tool to investigate accessibility to services such as education, retail, GPs and open space. In addition to providing valuable data on the baseline accessibility, ATOS can also be used to assess potential interventions and can be used to assist in the quantification of impacts and benefits. The example in Figure 40 shows how ATOS has been used to assess the benefits of improving access to a primary school.

Figure 40. **School accessibility example**

1. Baseline map of school locations	2. Baseline ATOS analysis of accessibility	3. With Geodirectory data to identify areas of poor accessibility
4. Location of Scoil Naomh Eoin for example	5. Option to improve permeability in the vicinity of SN Eoin	6. Assessment of option showing enhanced accessibility to the south east
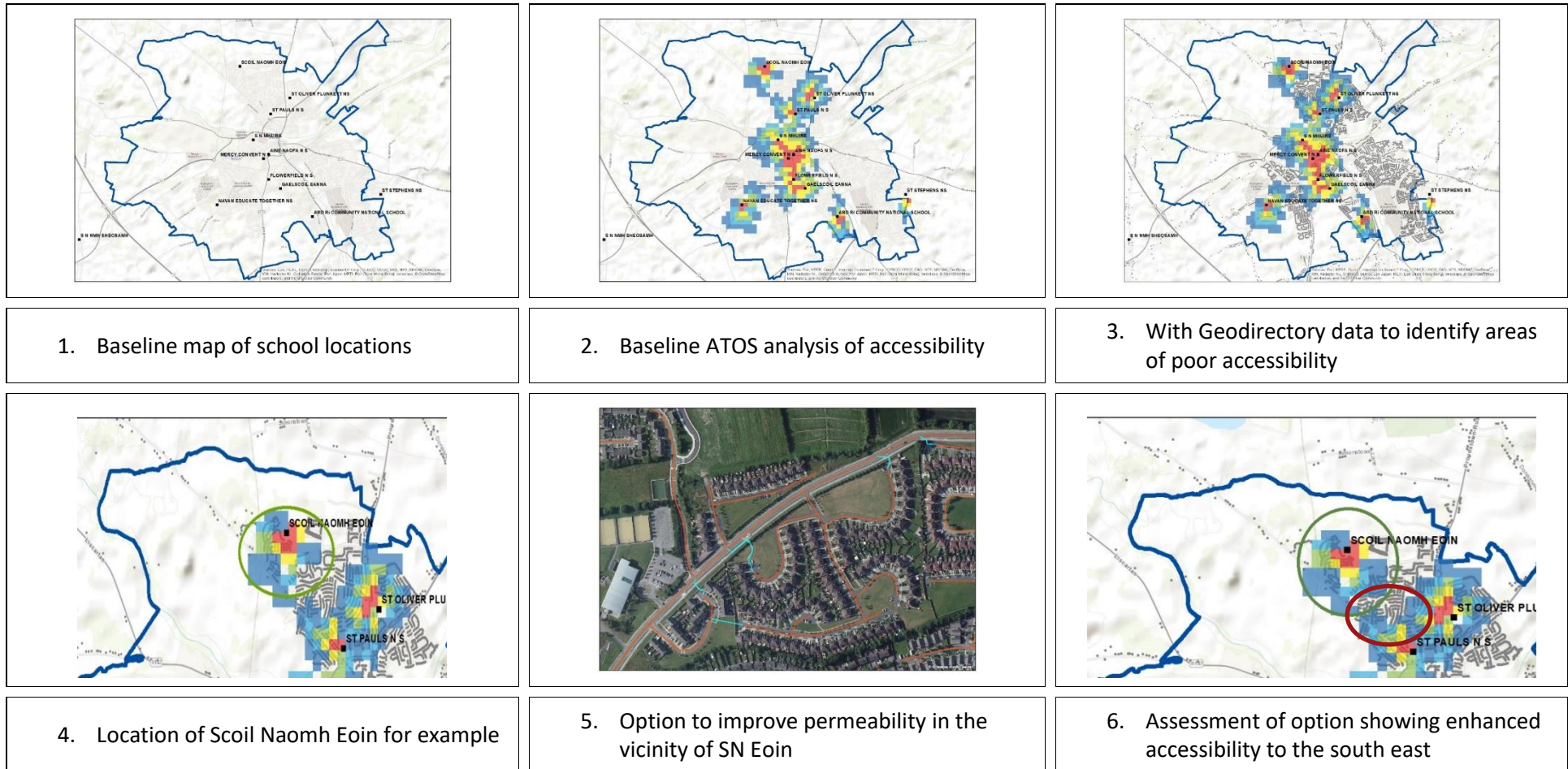
5.4 Part 2b Completion

Once the assessment of potential options has been completed using one or more of the methodologies described in this section, Part 3 of the ABTA process can commence. Part 3 covers the processes of defining "packages" of complementary measures, and the subsequent assessment of these packages in tandem with land use assumptions to form "scenarios" that can then be compared to identify measures for inclusion within the Development Plan or LAP. These processes are explained in the next section of this guidance.

6. PART 3: OPTIONS ASSESSMENT

6.1 Overview

Part 3 of the ABTA process is the **Options Assessment**, and its place in the overall development of the ABTA is presented below.
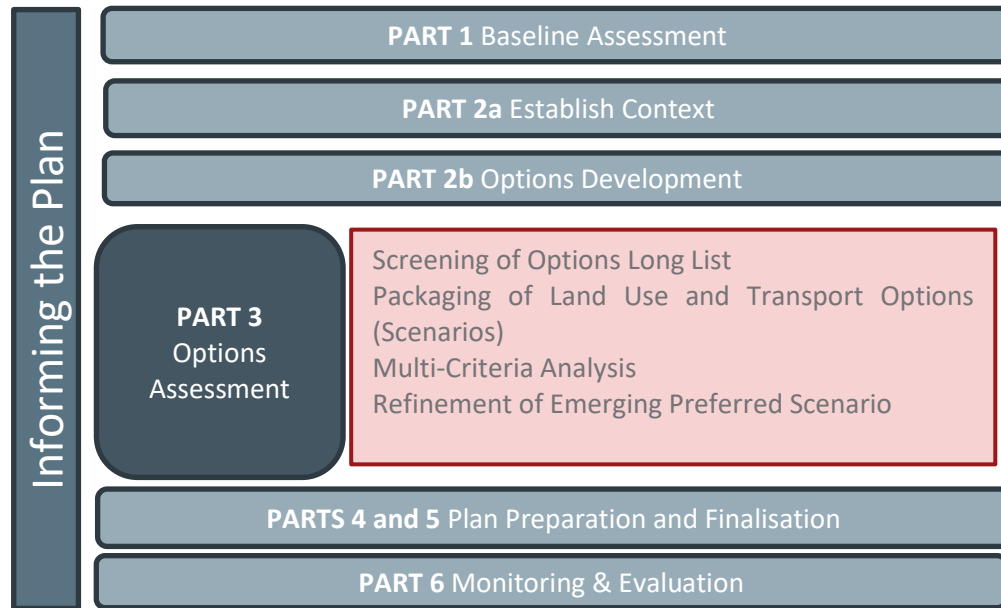
6.2 Development Plan and LAP

6.2.1 Outputs

Part 3 outputs are identified in Table 8.

Table 8. Part 3: Options Assessment Outputs

	CONTEXT FOR THE ABTA OUTPUT
Screening of Options Long List	Screening of measures against the Part 1 SWOT analysis to identify any that do not address identified weaknesses in the baseline.
Packaging of Land Use and Transport Options (Scenarios)	Combination of individual measures (transport and demand management) that are compatible with one another into packages. These in turn will support one or more associated land use scenarios that contribute to achieving the ABTA objectives.
Multi-Criteria Analysis	Multi-Criteria Analysis of alternative transport and land use scenarios.
Refinement of Emerging Preferred Scenario	Further development and refinement of the emerging preferred scenario, which may be a combination of previously assessment scenarios (particularly if there are similarly well performing scenarios).

Part 3 of the ABTA Advice Note outlines a three-step assessment process to be used to assess options. The assessment process can be applied to the preparation of ABTAs in relation to both Development Plans and LAPs.

The first step of the assessment process addresses the screening of the long list of options developed in Part 2b which has been discussed in detail within Section 5 of this Document. The second and third steps of the assessment process from the ABTA Advice Note, address packaging of options and assessment through a Multi-Criteria Analysis.

It is intended that the ABTA approach will inform the development of land use scenarios within the Development Plan or LAP. This can only be achieved on the basis that the ABTA is undertaken in an iterative manner with the preparation of the Development Plan/LAP. Early application of these ideas has previously been described in Section 5 and is included within Part 2a of the ABTA process. Part 3 provides a further opportunity for transport and land use decision-making processes to interact. This is described further in the following Section 6.2.2.

Figure 42 shows how the steps within Part 3 of the ABTA process relate to one another; each step is explained in further detail in Sections 6.2.2 to 6.2.4.

A further diagram is provided at Appendix B which shows the full process chart from the ABTA advice note. The part of the full process which corresponds to the more detailed sequence presented in Figure 42 is highlighted in red.

Figure 42.   ABTA Part 3 – Process Flow Chart
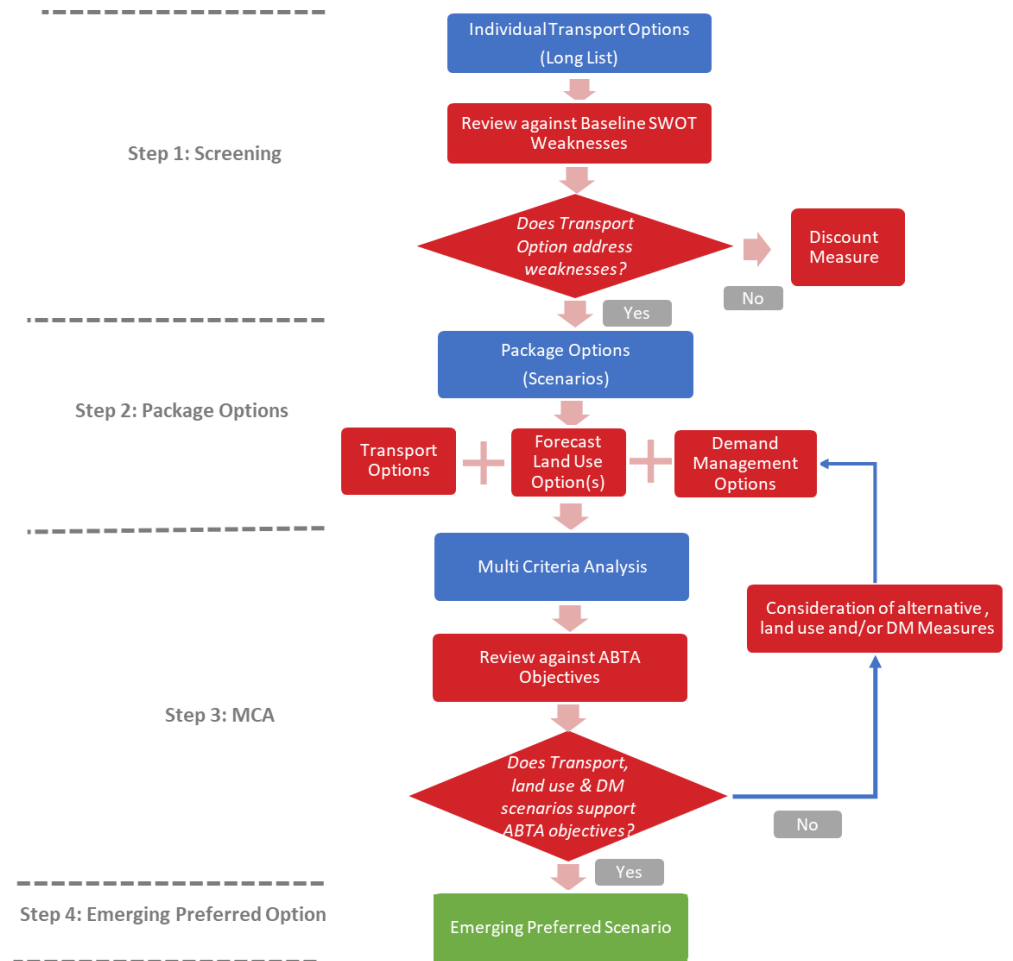
6.2.2 Step 1: Screening of Options Long List

Step 1 of the Options Assessment seeks to take the "long list" of options and examine them individually to see whether they address one or more of the weaknesses identified in the SWOT analysis undertaken within Part 1 (Section 3.4). Options that do not sufficiently address the weaknesses should be discounted. Discounted options should be examined to see if they would perform better in combination with other options or along with demand management options and checked again using the SWOT. Similarly, an outcome of this screening can be the modification or clarification of an option rather than its outright removal.

Individual options and combinations that are considered to sufficiently address the weaknesses will be brought forward to be packaged together and alongside land use scenarios.

6.2.3 Step 2: Packaging of Land Use and Transport Options

As shown in Figure 43, Step 2 seeks to bring together forecast land use, transport and demand management options. These three elements are assembled together to form "scenarios". Scenarios can either include the entire area to be covered by the Development Plan or LAP, or be broken in to sub-areas which each have their own set of scenarios.

Transport Option / Land Use Scenario development

In the development of scenarios for assessment there will likely be an iterative approach required to achieve integration across transport and land use options.

Figure 43.   **ABTA Part 3 – Process Flow Chart**
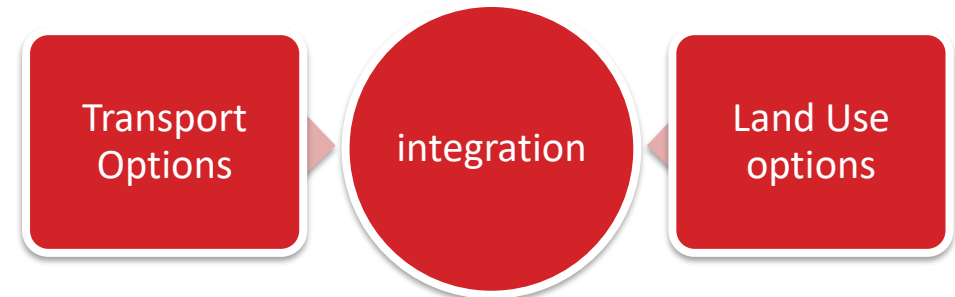
The key influencing factors that need to be considered when packages of measures are being assembled are:

- **Land use patterns and associated transport demand patterns** – what influence do they have on the pattern of travel? Are they in locations that can be served by walking, cycling and public transport? If they represent destinations (trip attractors) such as employment, education and retail, are they best located to serve their intended catchment? How can future development serve to build on the strength of established development areas and mitigate the weaknesses? In assessing the impact of these land use issues, both ends of the trip need to be considered, i.e. trip generators and trip attractors as described in Section 3.2.4.

- **Transport networks serving the trip demand** - What are the weaknesses of the options in providing for the demand in a manner that encourages sustainable travel choices? The quality of the provision for each mode (for example, capacity, ease of access and cost to the user) needs to be considered. An important point to note

is that mode choice is based on consideration of user costs in terms of money and time, and the convenience of a particular mode for certain trips; because of this, while public transport may exist the quality of the offer may not attract people to choose it.

- ⭕ **Demand Management / traffic managemen**t – Will the measures selected for a particular package help networks to operate efficiently? This could be achieved either through capacity enhancements or by reducing pressure on certain locations within transport networks by encouraging re-routing of trips or re-timing of travel. The relationship between different types of transport options can have significant and direct impacts on what types of demand management measure are necessary. In turn, including demand management measures within a package can reduce the requirement for physical transport improvements, or allow these to be focused towards different trip types; for example, combining demand management options to reduce car travel demand, such as parking provision restraint, with physical improvements to busy junctions to give pedestrians and cyclists priority.

Packaging options requires an understanding of what real-world outcomes are desired, and an acceptance that in some cases the priorities of different stakeholders will clash. Local experience and knowledge should be used to identify such potential conflicts and be taken into account in the packaging. Bringing together the technical elements of the available options with views of officers and stakeholders will ultimately allow the selection of combined transport, demand management and land use options into a coherent and justified scenario for assessment.

6.2.4 Assessment of Scenarios – Multi-Criteria Analysis (MCA)

Multi-Criteria Analysis (MCA) is a tool used to evaluate alternative scenarios based on their performance in achieving the objectives for the study identified in Part 2. Part 2 of the ABTA Guidance provides information on defining these objectives along with a set of measurable performance indicators (see Section 5.2.3) that can be used to determine how well specific scenarios perform. The transport indicators can be both qualitative and quantitative. However, they should be clearly related to the identified objectives for the study and comparable between scenarios.

In setting up the MCA, a rating scale should be used to rank the performance of scenarios relative to each other for all of the identified indicators. An optional weighting can be applied to certain objectives to highlight their importance. However, caution is advised when using weightings as they may lead to the introduction of bias towards specific scenarios. A clear rationale should be documented to support the use of weightings in the MCA, and for the specific values chosen.

The MCA will produce a performance matrix outlining how each of the options performs against the various performance indicators. The performance matrix should be reviewed to rank the scenarios and identify which one performs best in terms of achieving the defined objectives of the study.

There are multiple ways in which an MCA can be undertaken to tailor the analysis according to the scale and objectives of the ABTA. Generally this will extend from simple qualitative MCA to more extensive combined qualitative and quantitative MCA depending on the scale, complexity and/or expected impact of the Plan. Examples of quantitative components of the MCA include:

- measurement of the extent of transport infrastructure delivered (e.g. cycle lanes or pavement widths)
- use of the accessibility tools described in Section 2
- multi-modal transport modelling as described in Section 2

A series of examples is provided below showing how the MCA process can be applied, ranging from local level transport studies for town centres to Settlement / LAP level ABTAs.

Worked example 1 – assessment of main street transport and urban realm improvement option assessment

Worked Example 1 presents an assessment which seeks to compare improvement options for a defined part of a town centre's urban realm. This type of scheme is expected to form part of many LAPs and other studies at the town or individual settlement level.

The primary issues that were identified at the commencement of the study are summarised here to provide context to the MCA:

Primary issues identified

- Travel demand increasing due to population growth
- High car demand along main street
- Poor access to main street for sustainable modes
- Need to better integrate urban realm and transport
- Safety for vulnerable road users

Objectives developed

The following objectives were identified to address the identified issues:

Table 9. Example 1 - Objectives

ISSUE	OBJECTIVE
Travel demand increasing due to population growth	Increase person movement capacity of main street
High car demand along main street	Reduce unnecessary vehicular traffic on main street
Poor access to main street for sustainable modes	Improve ease of movement on main street for walking, cycling and public transport
Need to better integrate urban realm and transport	Create an attractive public realm to facilitate increased footfall on main street
Safety for vulnerable road users	Provide a safer environment for users of main street

Additional delivery themes

Additional delivery themes were incorporated into the assessment, namely:

- Engineering feasibility
- Acceptability
- Funding potential and
- Value for money

Options developed

- A long list of options was considered against the objectives to identify a short list of options that would achieve them.

Table 10. Options Short List

OPTION	DESCRIPTION
Do Nothing	No infrastructure or renewal works along main street. Maintenance work to maintain safety.
1	Minor changes to traffic management and urban realm maintaining capacity for general traffic and parking
2	Major traffic management and urban realm improvements. Reallocation of road space comprising removal of traffic lane and on-street parking to provide wider pavements, cycle lanes, bus priority, car access
3	Extended works to include fuller pedestrianisation on a section of main street with associated traffic management alterations including bus route diversions

Assessment

The options were compared to the Do Nothing and qualitatively scored against each objective within a defined five-point scale. The results of the assessment are shown in Table 9. Overall, Option 2 was determined as the best option to achieve the objectives.

Table 11. Assessment Categories

Colour	Performance
(green)	Beneficial
(light green)	Somewhat Beneficial
(yellow)	Neutral (comparable to reference case)
(orange)	Somewhat Adverse
(red)	Adverse

Table 12. Results of Assessment

Objective	Option 1	Option 2	Option 3
Increase person movement capacity of main street	(orange)	(green)	(light green)
Reduce unnecessary vehicular traffic on main street	(yellow)	(light green)	(light green)
Improve ease of movement on main street, particularly for walking, cycling and public transport	(yellow)	(green)	(light green)
Create an attractive public realm to facilitate increased footfall on main street	(yellow)	(light green)	(green)
Provide a safer environment for users of main street	(light green)	(green)	(green)
Engineering feasibility, acceptability, funding potential, value for money	(light green)	(green)	(red)

Worked Example 2 – ABTA for a Settlement

Worked Example 2 presents an MCA which was undertaken as part of a transport study for a discrete settlement area. The area covered by the study is larger than that for Worked Example 1, and includes a wider range of interventions to account for the greater complexity of the existing transport networks and the wider objectives relating to sustainable transport. This methodology is applicable to both LAPs and settlement-specific appraisals within Development Plans.

As part of this ABTA, an MCA was used to determine the optimal strategy measures to support the sustainable development of the area, and to ensure that it can fulfil its strategic function as an employment location, logistics hub and residential community.

Objectives and transport indicators

The objectives and key transport indicators used to evaluate the performance of the various options for assessment are shown in Table 13. The chosen transport indicators were a mix of qualitative and quantitative measures, with the majority of the quantitative values extracted from transport modelling undertaken for the area using the NTA's Regional Modelling System and a Local Area Model.

Table 13. Objectives and Key Transport Indicators

Key project objectives	Key performance indicators	Measure by
Support the existing employment function and planned economic expansion of the area through delivering an efficient and reliable transport network	Network wide delay/queueing	% Junctions with V/C > 85%
	Journey times (car and public transport)	% Change in public transport travel costs
		% Change in car journey times
	Cost efficiency of proposals	High level comparison of cost measures
Develop a safe and healthier transport network for all transport modes and users	Change in vehicle emissions particularly those that cause higher health risks	% change in vehicular emissions
	Sustainable transport mode share	Walking, cycling and public transport mode share
Deliver a multi-modal transport network which supports sustainable travel and reduces the environmental impact of transportation	Minimising impact on environmentally sensitive areas	Rating scale
	Reduce traffic congestion	% Change in total queueing
Provide equal opportunity for all, through improving accessibility and enhancing the integration of land-use and transport	Compatibility of transport measures with local, regional and national policy	Review of policy and rating scale
	Opportunity to interchange with other transport modes	Rating scale

Multi-Criteria Analysis

The rating scale shown in Table 14 was used to assess the performance of each scenario against the performance indicators and to identify the best scenario. A seven-point rating scale was chosen for the MCA; however, this can be altered depending on the number of scenarios to be assessed, and the level of information available to distinguish between the various levels in the rating scale. The MCA also used a colour based rating system; this could be replaced with a scoring system if preferable.

Table 14. Seven point scoring system

Rating	Description
	Major Benefit: The proposal is expected to have a clear and considerable benefit or positive impact, which should be a principal consideration when assessing a proposals eligibility for funding
	Moderate Benefit: The proposal is expected to have a moderate benefit or positive impact, which taken in isolation may not determine a proposals eligibility for funding, but considered collectively may do so
	Minor Benefit: The proposal is expected to only have a minor benefit or positive impact, which is worth noting, but is not likely to contribute materially to determining whether a proposal is funded or otherwise
	Neutral: Overall, the proposal is expected to have neither a positive or negative impact
	Minor Disbenefit: The proposal is only expected to result in a minor negative impact, which is worth noting, but is not likely to contribute materially to determining whether a proposal is funded or otherwise
	Moderate Disbenefit: The proposal is expected to have a moderate disbenefit or negative impact, which taken in isolation may not determine a proposals eligibility for funding, but considered collectively may do so
	Major Disbenefit: The proposal is expected to have a clear and considerable disbenefit or negative impact, which should be a principal consideration when assessing a proposals eligibility for funding

Weighting (optional)

It was decided through discussion with the local authority that each of the evaluation objectives was of equal importance in terms of delivering the overall vision for the area and, as such, no specific weightings were applied as part of the MCA.

Examine the results and make recommendations

A number of different scenarios were identified for assessment including road-based scenarios, public transport-based solutions and a combination of both.

- **Do Minimum:** only committed future year transport schemes included;
- **Scenario 1:** improvement to existing interchange on adjacent national road;
- **Scenario 2:** additional interchange on adjacent national road;
- **Scenario 3:** increased road capacity within the area;
- **Scenario 4:** public transport priority measures (e.g. bus lanes, advance signalling etc.);
- **Scenario 5:** public transport priority measures with improved service levels for bus and rail; and
- **Scenario 6:** a combination of road capacity enhancements along with a range of public transport improvements to support sustainable travel.

Each of the scenarios was examined using the key performance indicators outlined in Table 13, and the identified rating scale (Table 14) to produce the overall performance matrix outlined in Table 15. On review of the results in Table 12, it is evident that Scenario 6 is performing best in achieving the overall objectives for the study. As such, the package of measures included in Scenario 6 was taken forward to be refined and to form the future transport strategy for the area.

Key Project Objectives	Key performance indicators	DM	Sc1	Sc2	Sc3	Sc4	Sc 5	Sc6
Support the existing employment function and planned economic expansion of the area through delivering an efficient and reliable transport network	Network wide delay/queueing	Yellow	Green	Dark green	Green	Light green	Light green	Green
	% change in public transport travel costs	Yellow	Yellow	Yellow	Yellow	Green	Dark green	Dark green
	% change in car journey times	Yellow	Green	Dark green	Green	Light green	Green	Dark green
	Cost of proposals	Yellow	Orange	Red	Amber	Orange	Orange	Orange
Develop a safe and healthier transport network for all transport modes and users	Change in vehicle emissions particularly those that cause higher health risks	Yellow	Green	Dark green	Light green	Yellow	Light green	Dark green
	Sustainable transport mode share	Yellow	Amber	Amber	Amber	Light green	Dark green	Dark green
Deliver a multi-modal transport network which supports sustainable travel and reduces the environmental impact of transportation	Minimising impact on environmentally sensitive areas	Yellow	Orange	Red	Yellow	Yellow	Yellow	Yellow
	Reduce traffic congestion	Yellow	Green	Dark green	Green	Light green	Green	Dark green
Provide equal opportunity for all through improving accessibility and enhancing the integration of land-use and transport	Compatibility of transport measures with local, regional and national policy	Red	Orange	Amber	Amber	Orange	Green	Dark green
	Availability for transport interchange	Yellow	Yellow	Yellow	Yellow	Light green	Dark green	Dark green

Table 15. MCA Results Table

Worked Example 3 – Development Plan Level: Inter-settlement movement

The third worked example is taken from a Transportation and Planning Strategy which has been prepared in support of a County Development Plan. The example considers options for addressing a number of identified issues within a particular area of movement. The definition of each area of movement in the study in question was arrived at using the methodology described in Section 4. The selected scenarios for each transport route were combined to arrive at a County-wide strategy. This methodology is most readily applicable to larger or more geographically diverse areas and allows for a relatively wide range of scenarios to be considered. In practice, a further options study of the type shown in Worked Example 1 is likely to be employed as preferred measures from the corresponding Development Plan level are brought forward.

The actions outlined for Parts 1, 2a and 2b of the ABTA process were carried out to provide the baseline data, future demand profiles and land use growth assumptions, which in turn have been used to generate the options "long list" from which the packaging exercise and subsequent MCA were undertaken.

Option Development

In this example, a series of issues was identified from previous consultation responses (the issues and options consultation conducted at the start of the Development Plan process) and the work undertaken as part of Part 1: Baseline Assessment. These are shown in Figure 44. The geographical extent of the corridor being considered is shown in Figure 45.

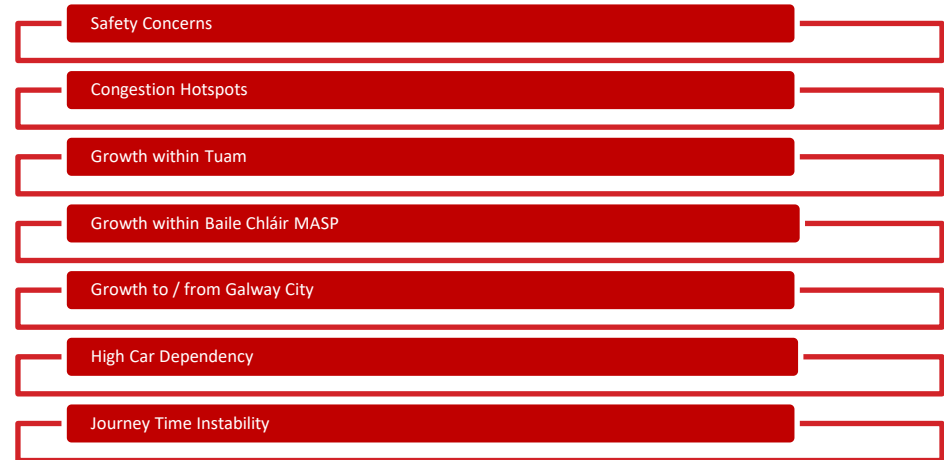**Figure 44.** **Identified Issues for Example Area**

Figure 45. **Example Area Extents Map**
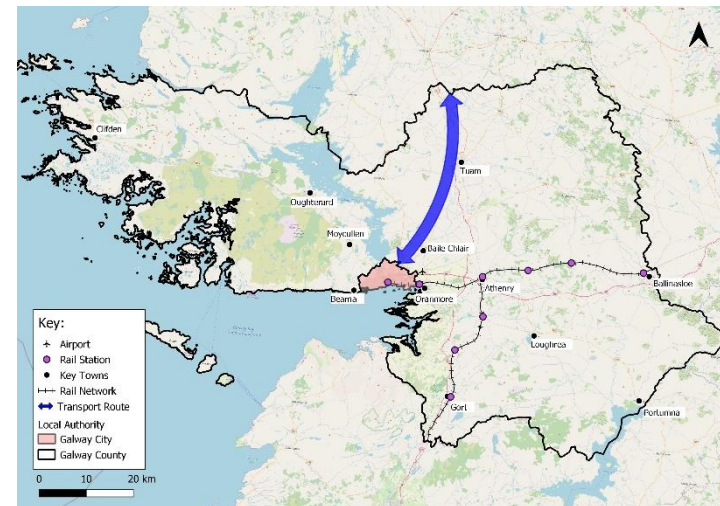
A range of options was developed to address the issues identified for each individual Movement area within the wider study area (see Section 5 for description of identification of Movement areas). These options were packaged into four standalone scenarios as detailed in Figure 46.

Figure 46.   **Scenario Criteria**
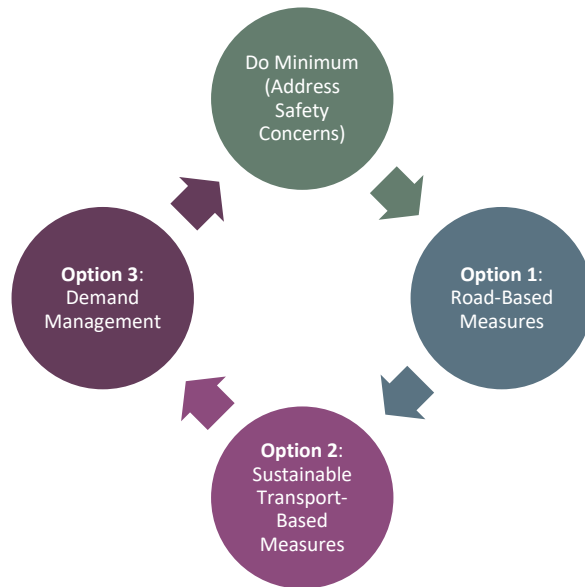
In this particular instance, interactions between land uses and transport choices had been considered within Part 2a activities and, in order to facilitate other areas of work on the Development Plan, the future land use assumptions within the area were considered to be fixed for all scenarios. The scenarios therefore sought to compare a series of different possible approaches to meeting the identified transport and demand management needs.

A definition of each scenario is presented below:

Do Minimum Scenario:

This Scenario considers schemes and measures that seek to address identified Safety Concerns within the movement area only. This recognises the importance of reducing the risk of collisions for all road users as a key priority for the Council.

Scenario 1: Road-Based Measures

This option incorporates measures that are road-based, with aims of improving conditions for vehicular-based travel, with resultant benefits in terms of congestion and delay.

Scenario 2: Sustainable Transport-Based Options

This scenario encompasses a range of measures targeted at increasing the proportion of trips made by public transport, walking and cycling.

Scenario 3: Transport and Demand Management

Scenario 3 incorporates selected demand management alongside elements from the Do Minimum (Safety), Scenario 1 (Road-Based) and Scenario 2 (Sustainable Transport-Based) categories that provide the greatest benefit for each individual movement area.

It can be seen from the applied criteria that the scenarios which fall within each definition are expected to become progressively more aligned with sustainable transport policies. The benefit of this type of MCA is that it makes clear the benefits of prioritising sustainable measures and demonstrates the limitations of more restrictive approaches. This approach can also be used where different land use options are to be tested in addition to the transport and demand management options.

Scenario Appraisal Matrix

An assessment matrix has been developed for the purposes of undertaking the MCA. Objectives were defined that are aligned with the aims and wider policy objectives of the Development Plan (these are summarised in Table 16).

Options were assessed on a qualitative scale using the following categories:

- **Strong Positive**: the measures within the options would contribute significantly to the aims of the objective in question;
- **Slight Positive**: the measures within the options would make a small contribution toward the aims of the objective in question;
- **Neutral**: the measures within the options would not affect the stated objective in a material manner;
- **Slight Negative**: the measures within the options would conflict to a small degree with the aims of the objective in question; and
- **Strong Negative**: the measures within the options would conflict significantly with the aims of the objective in question.

Use of this scale allows for the comparison of scenarios both in individual movement areas and between different movement areas, so that the relative 'strength' of scenarios can be compared. It also allows for an assessment of 'cumulative' expected impacts and benefits across the county for policies and interventions for different modes.

The assessment considers how well each of the scenarios responds to the area-specific challenges identified through assessment of the baseline transport information and policy review.

Table 16. Example Appraisal Table

OBJECTIVE	DO MIN	OPTION 1	OPTION 2	OPTION 3
Support for economic activity / trips	Slight Positive	Slight Positive	Slight Positive	Strong Positive
Alignment with emerging County economic policies	Neutral	Slight Positive	Slight Positive	Strong Positive
Addresses known existing safety issues	Strong Positive	Strong Positive	Strong Positive	Strong Positive
Addresses vulnerable network users	Slight Positive	Neutral	Slight Positive	Slight Positive
Impacts to vehicle emissions	Neutral	Slight Negative	Slight Positive	Slight Positive
Physical impacts to sensitive environments	Neutral	Slight Negative	Neutral	Slight Negative
Support to existing and planned growth	Slight Positive	Slight Positive	Slight Positive	Strong Positive
Support for integration between modes / trip linking	Neutral	Neutral	Slight Positive	Slight Positive
Impacts to those with disabilities	Neutral	Neutral	Slight Positive	Slight Positive
Effects on access to travel choices	Neutral	Neutral	Strong Positive	Strong Positive

The results of the MCA can be summarised for each of the key elements within the preferred Scenario (Scenario 3); an example table is presented below.

Table 17. Example Inter-settlement Transport Needs – Proposed Measures and Forecast Benefits

PROPOSED MEASURES	FORECAST BENEFIT
Multi-Modal Hub	Encourage modal shift; reduce vehicle congestion; improve overall public realm; facilitate easy access between transport modes; secondary benefits to cyclists (e.g. improved safety); potential to increase visitors to the area , increase retail spend and increase dwell times.
Potential Junction Improvements (incl. facilitating improvements for public transport, pedestrian / cyclist movement whilst managing vehicle capacity, bus priority, junction upgrades)	Improvement to conditions for vehicular based travel, with resultant benefits in terms of congestion and delay; manage demand throughout the Travel Corridor. Improvement works In selected locations to reduce general vehicle flows through the area and enhance pedestrian and cyclist safety.
Safety-Led Improvements to Road & Transport Infrastructure (incl. pedestrian / cycle safety measures, changes to traffic speeds, enhanced signage, traffic calming measures)	Address identified safety concerns within the Travel Corridor; improve road user safety, including vulnerable road users; reduce frequency and severity of traffic collisions.
Cycle Greenway Facilitie:	Improved connectivity for cyclists; enhanced safety for cyclists and other road users; benefits to bus journey times (through the removal of cyclists from bus lanes which can reduce bus speeds and increase delay).
Support for Park & Ride Facility	Reduced congestion upon approach and within nearby City by reduction of private vehicle trips improving journey times.

6.2.5 Refinement of Emerging Preferred Scenario(s)

At the conclusion of the MCA process, the assessment should enable an informed choice to be made between the scenarios which have been compared, in order to identify a "preferred" scenario. This scenario can then be used as the basis for formally presenting the associated land uses, transport measures and demand management measures within the Development Plan or LAP document.

Parts 4 and 5 of the ABTA guidance provide additional instructions and advice as to how to integrate the components of the preferred scenario into the Development Plan or LAP.

It is noted that there may be more than one "well performing" scenario if there is uncertainty over aspects such as future funding availability; where this is the case, these scenarios may benefit from being refined so as to either overcome this issue, or to indicate how it will be addressed so that a final choice can be made in order to allow the preferred scenario to be implemented.

6.3 Part 3 Completion

At the conclusion of Part 3, a preferred scenario will be known that includes recommended transport, demand management and land use measures. The next part of the ABTA will seek to incorporate policies and objectives within the Development Plan or LAP that support the delivery of the preferred scenario.

7. PARTS 4 AND 5: PLAN PREPARATION AND FINALISATION

7.1 Overview

Parts 4 and 5 of the ABTA are the Plan Preparation and Finalisation. Their place in the overall development of the ABTA is presented below.

Figure 47.   ABTA Methodology Parts 4 and 5
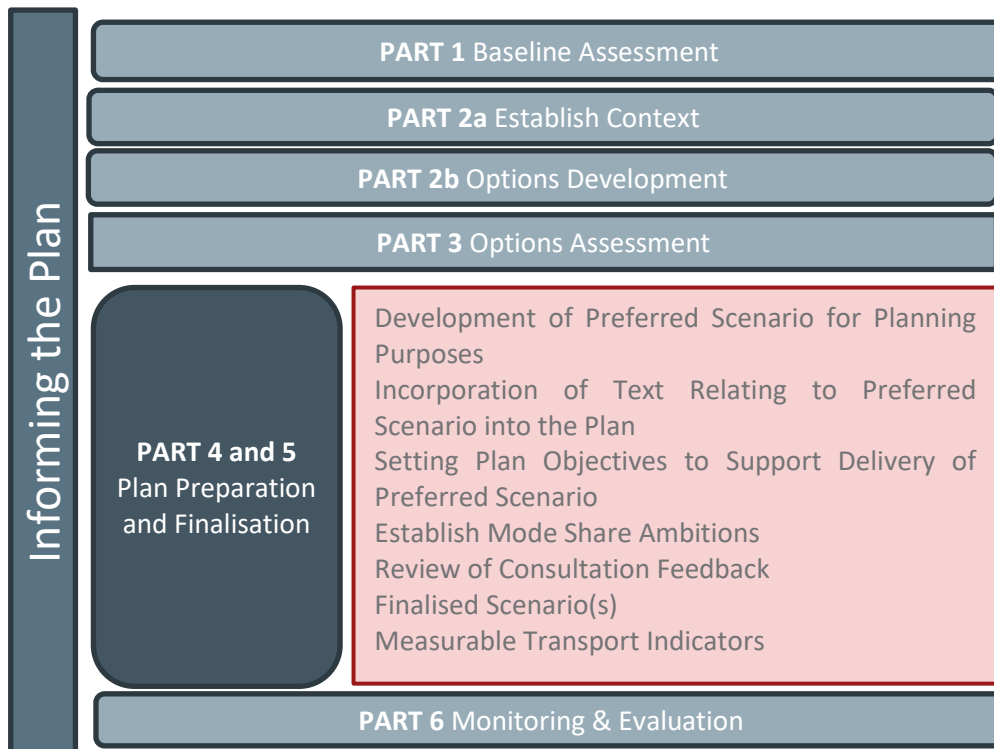
7.2 Outputs

Part 4 outputs are identified in Table 18. Part 5 outputs are identified in Table 19.

Table 18. Part 4 outputs

	CONTEXT FOR THE ABTA OUTPUT
Development of Preferred Scenario for Planning Purposes	Suitable development of the measures contained within the preferred scenario(s) **for Planning Purposes** in accordance with relevant guidance documents
Incorporation of Text Relating to Preferred Scenario into the Plan	Preparation of text and inputs necessary to convey the options within the relevant plan (e.g. maps)
Setting Plan Objectives to Support Delivery of Preferred Scenario	Preparation of specific objectives to support the delivery of the Scenario(s) and their measures to be incorporated into the relevant plan
Establish Mode Share Ambitions	Defining achievable mode share aspirations

Table 19. Part 5 Outputs

	CONTEXT FOR THE ABTA OUTPUT
Review of consultation feedback	Review of consultation feedback relevant to the Scenario(s)
Finalised Scenario	Final list of Scenarios included within the Development Plan or LAP
Measurable transport indicators	Set of measurable transport indicators and plan for monitoring and evaluation

7.2.1 Development of Preferred Scenario for Planning Purposes

For LAPs or for location-specific measures within Development Plans, some additional development of preferred designs for physical measures may be required in order for these to be compliant with relevant guidance. The local Traffic and Transport Department should be consulted on the outputs from Part 3 with reference back to the reference document identified in Appendix A (see Table 15).

7.2.2 Incorporation of Preferred Scenario into Development Plans

The overarching aims of transport inputs to the Development Plan process are to support the identification of both local and inter-settlement transport measures, as well as informing the setting of County (or relevant administrative area) policy and objectives, with a focus on sustainable transport measures.

A Development Plan should include strategic or county-wide objectives and set a framework for the preparation of more detailed lower level plan making. In terms of transport this should include objectives relating to inter-settlement transport and overarching objectives (such as those relating to walking and cycling provision or car parking) that can be applied to all settlements or different types of settlement in the hierarchy. These objectives will inform lower level or more detailed plan making which is largely progressed in two ways:

- Within the Development Plan - When specific zoning and area-based policy proposals are included in the plan, more detailed, location specific, transport objectives and measures will also be required.
- Alternatively, the detail may be provided in a Local Area Plan which should include a Local Transport Plan (LTP) which has been undertaken using Area Based Transport Assessment principles.

7.2.3 Incorporation of Preferred Scenario into Local Area Plans (LAP)

The Local Area Plan represent the base tier of the NPF's framework for the integration of land use and transport planning and the achievement of compact smart growth. It is expected that the preparation of LAPs and associated LTPs would:

- Maximise the opportunities for the integration of land use and transport planning;
- Assess the existing traffic, transport and movement conditions within the Plan area and in its wider context;
- Plan for the efficient movement of people, goods and services within, to and from the Plan area;
- Identify the extent to which estimated transport demand associated with local development objectives can be supported and managed on the basis of existing transport assets; and
- Identify the transport interventions required within the Plan area and in the wider context, to effectively accommodate the anticipated increase in demand.

It is recommended that the NTA and TII is consulted in the preparation of local transport plans.

7.2.4 Setting Development Plan and LAP Objectives for Transport

The monitoring of transport objectives and setting of mode split ambitions would be most meaningful and effective if carried out at the settlement level, using a settlement hierarchy as a framework.

The formalisation and setting of objectives within the Development Plan or LAP is likely to strongly reflect the objectives which have been developed for the ABTA itself. The detail of Development Plan and LAP objectives will need to take into account the policies that these objectives are designed to fulfil. This aspect will have been considered originally within Part 2a of the ABTA. A

key outcome from Parts 4 and 5 will be the aligning of Development Plan and LAP objectives, with any amendments to policies that have been proposed as part of work carried out on other topics.

The proposed objectives should make clear how they will be delivered, either:

- in the form of **approved schemes**;
- an **emerging preferred option** (i.e. the type most likely to arise from the use of MCA described for Part 3 of the ABTA process); or
- a **more general concept** which will require further technical development during the lifetime and implementation of the Plan (this last category will be almost exclusively used for Development Plans rather than LAPs).

In addition to those objectives directly derived from the ABTA process, the Development Plan and LAP objectives may also include the following:

- Objectives providing support for Transport Networks – these may relate to specific proposals, such as the creation or re-opening of a rail line or new bus route, or more general objectives designed to support improvements to the transport networks that may become feasible as a result of development or availability of additional funding sources;
- Objectives that support either specific enhancements to public transport service patterns (including those for rural transport) or more general initiatives to increase service frequencies or hours of operation; and
- Objectives that support complementary measures (such as school and personal travel planning) and which make clear their importance within the planning process for development that is more generally supported in the Development Plan or LAP.

Objectives proposed for inclusion within Development Plans and LAPs should be suitably detailed to accurately reflect existing and desired future transport networks for each mode. Examples of considerations which are relevant to particular modes are provided here as an aid to the development of objectives for a Development Plan or LAP.

Walking and cycling

- Improving levels of local accessibility (this can be tested with ATOS) and therefore potentially influencing mode splits through location of needs and services (i.e. local retail, school) proximate to residential areas
- Provide and improve permeability and a high-quality pedestrian network to support local accessibility
- Creation of longer distances cycle routes/networks and cycle services
- Walking and cycling networks should be identified in urban areas, allowing for the retrospective provision of walking and cycling infrastructure, facilitating access to local destinations as well as providing for walking and cycling in the planning of new development areas
- In relation to walking and cycling infrastructure, objectives should refer to the quality of facilities required to make walking and cycling an attractive travel option
- Contain cycle parking standards relating to both volume of parking and location and design; these should be minimum standards

Public transport

- Improved local public transport services
- Consider requiring that significant development in urban areas must have direct access to public transport services with safe, direct and attractive pedestrian routes to stops and stations
- Promote the enhancement of bus services through bus priority measures, as appropriate in cities/large towns

- Promote the provision of park and ride facilities as appropriate at suitable locations near high capacity public transport

Car

- Transport demand management at destination through parking policy.
- Controls on vehicular movement and access through appropriate route configuration and traffic management.
- Where there are grounds for improving access by car, associated car usage should be facilitated in a manner that complements rather than competes with other modes
- Road schemes should be designed to provide safe and appropriate arrangements to facilitate walking, cycling and public transport provision

7.2.5   Establishing Mode Share Ambitions

Completing the analysis through ABTA should give a clear picture of the existing travel demand baseline, the interactions between this travel demand and land use patterns, and how these factors are likely to change over the lifetime of the plan. Examining both the internal and external movement, assumptions about the potential to manage mode share and realise opportunities for sustainable transport growth can be derived. Then, by adding future growth to areas and assuming similar patterns of travel, the effects of the transport measures and the location of land uses can be considered and discussed with the NTA as appropriate to derive mode share ambitions.

The definition of mode share ambitions should reflect the amount of change which would be considered to broadly reflect a "successful" outcome of one or more objectives. It must also be recognised that many of the factors which influence mode choices are not within the direct influence of either

Development Plans or LAPs. The monitoring of these ambitions should therefore look at how change has come about, rather than simply whether a ambition has been met.

In this regard, the setting of future mode share ambitions for inclusion within the Development Plan should be informed by the following:

- The existing mode split from the baseline POWSCAR analysis (described within Section 3 of this guidance);
- The analysis of the existing mode split and the associated trip patterns (i.e length of trips, potential for short trips to transfer to sustainable modes etc) against existing transport provision and land use (the Baseline including SWOT analysis, as set out in Part 1 [see Section 4];
- An identification and assessment of the future growth areas and zoning proposals;
- The identification of potential land use objectives and measures, and transport objectives and measures (for each mode of transport), to contribute to an increase in sustainable transport for both 'internal' and 'external' trips for each Settlement and the remainder of the County; and
- An assessment of the likely impact of the proposed Plan on the mode split, to arrive at mode share ambitions for the plan area.

7.2.6   Consultation on the Plan

Consultation for both Development Plans and LAPs will generally be undertaken at the statutory plan level as opposed to transport in isolation. The consultation documentation should be reviewed to ensure accuracy, legibility and completeness from a transport perspective.

It may be appropriate to communicate on the anticipated outcome of the Plan and its anticipated benefits for transport by way of informing the stakeholders or public as to the rationale. Key issues should be highlighted especially where feedback would be particularly valuable to finalising the options.

Figure 48 provides an example of how transport proposals can be communicated in a simple format to facilitate consultation with a diverse range of stakeholders.

Figure 48.   Example of communication of transport objectives

DESTINATIONS FURTHER FROM HOME

Destinations further from home increase car use adding to congestion.

BRINGING DESTINATIONS CLOSER TO HOME

Destinations closer to home reduce car use and congestion
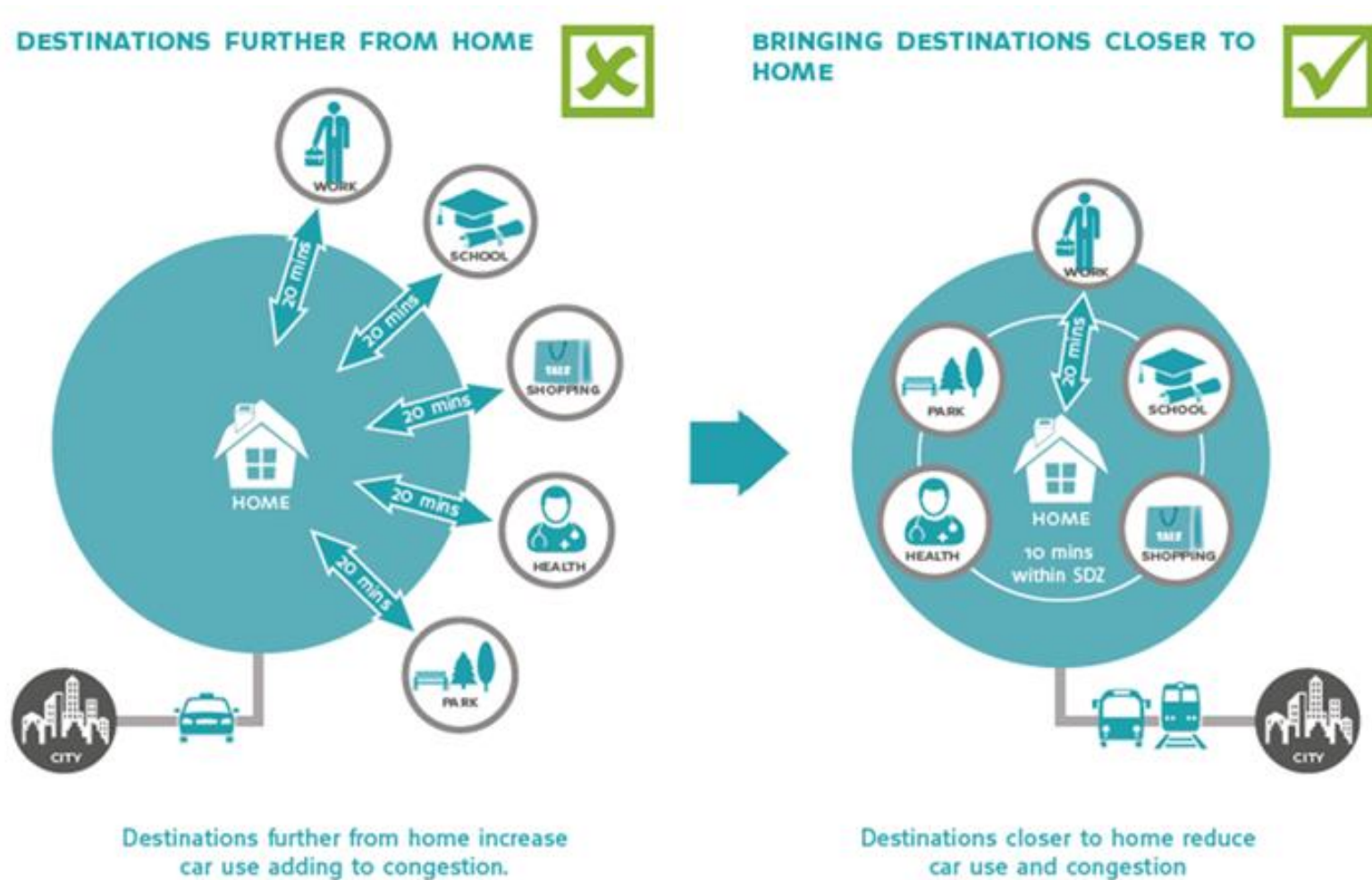
7.2.7 Review of Consultation Feedback

Upon receiving consultation feedback from all key stakeholders on the proposed options, this feedback will be reviewed and updates will be made accordingly.

The final recommendations and associated changes from the Draft Plan for formal inclusion within the Development Plan or LAP will be agreed following this review.

7.2.8 Establish a Set of Measurable Transport Indicators

Measuring the baseline quantum of travel demand, travel demand patterns and associated mode splits, and the subsequent monitoring of changes in these over time provides the ability to demonstrate the extent to which outcomes are supporting higher level policies and objectives.

The identification of transport indicators would also be useful for the following:

- Informing the development of transport policies, objectives and measures within the Plan;
- The comparison between areas to inform decision making around zoning and development phasing, and to demonstrate consistency with higher level plans (RSES);
- To assess the consistency of larger proposed developments with policies and objectives, and to inform developers and others making planning applications of what is expected to be achieved in terms of development plan transport outcomes;
- As a framework for Local Transport Plans and Transport Impact Assessments; and
- As an indicator of how changes in transport demand patterns can contribute to Climate Action objectives.

The Planning Guidelines 'Development Plans, Guidelines for Planning Authorities (DoEHLG, 2007) provide guidance for Local Authorities on the monitoring and evaluation of Development Plans. The Guidelines recommend the 'formulation of quantifiable criteria to facilitate measurement' with the aim of assessing the 'effectiveness or otherwise of policies and objectives in terms of achieving stated aims'. It is the view of the NTA and TII that the proposed mode split indicator could be used to contribute to effectively fulfilling this requirement.

7.3 Parts 4 & 5 Completion

Parts 4 & 5 will be completed when the Development Plan or LAP is adopted. The ABTA approach will ensure the delivery of sustainable transport objectives to meet the existing and future transport needs of the area will be supported by the Plan.

NTA
Údarás Náisiúnta Iompair
National Transport Authority

TII
Bonneagar Iompair Éireann
Transport Infrastructure Ireland

8. PART 6: MONITORING AND EVALUATION

8.1 Overview

Part 6 of the ABTA process is Monitoring and Evaluation, and its place in the overall development of the ABTA is presented below.

Figure 49.   **ABTA Methodology – Part 6**
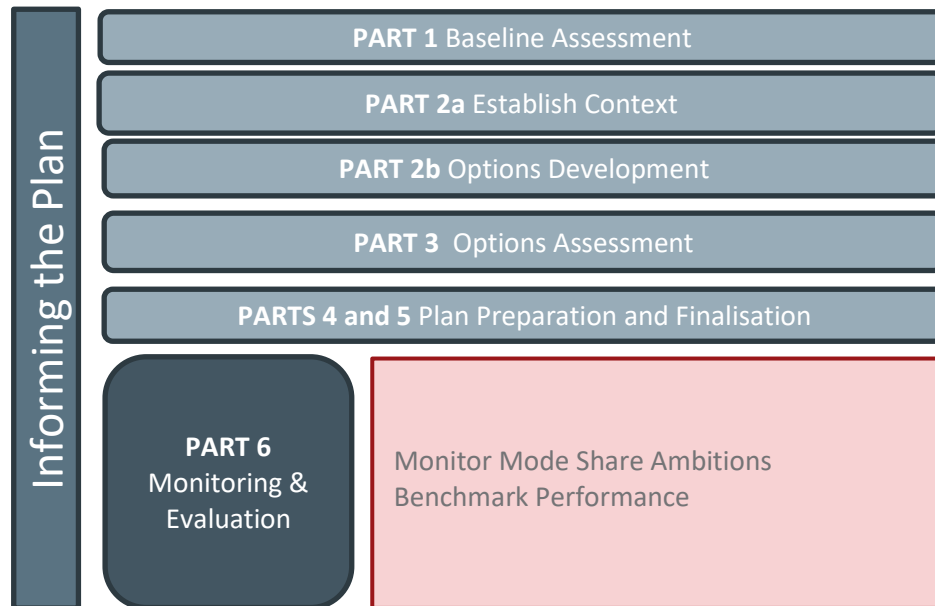
8.2 General

In the case of Development Plans, the Planning and Development Act 2000 ('the Act') requires that an 'in-depth appraisal of the plan be carried out twice during its lifetime', while annual monitoring and evaluation is recommended. Such monitoring can include reviewing progress achieved in securing the objectives of the development plan or experience in implementing its various policies and objectives. Suitable monitoring can also act as part of the monitoring regimes required under the SEA process as required by Art. 10 of the SEA Directive.

8.3 Process in relation to Transport and the ABTA

Given the intrinsic role of the ABTA as part of the Development Plan / LAP preparation, a monitoring and review process should encompass the assumptions and objectives underpinning the ABTA's preparation. It is recommended that a monitoring and review strategy is developed for the ABTA itself as a supplemental element to the Development Plan / LAP monitoring and review process.

Monitoring related specifically to the ABTA will help identify if the ABTA requires amendment; for example, if any changes occur, through development plan variations, or in light of different outcomes to those anticipated in relation to traffic growth levels, mode split and trip distribution patterns.

Monitoring and associated reviews of the ABTA can be conducted on the basis of defined timeframes, for example Short Term (1-2 years), Medium (2-5 years) and Long Term (5-10 years). At the end of each time frame, monitoring can be conducted which establishes the following:

- Progress on implementation of selected measures for each mode of transport;
- Cross-checking of assumptions in the ABTA against current conditions. This may require surveys to establish travel patterns as required, and an updated analysis of Census-based travel data when available; and
- Assessment of actual development outcomes within the Plan / ABTA area against original ABTA assumptions.

8.4   Impact of Uncertainty and Managing Change

It should be recognised as part of any monitoring process that actual travel patterns will be affected by a wide range of factors, including the economic performance of the area covered by a Development Plan or LAP, changes to demographics, and the speed (or otherwise) of new development becoming operational and/or occupied. In the short to medium term, it is also noted that ongoing impacts from the COVID-19 pandemic will continue to influence both choices made by individuals, and those made by organisations which in turn are likely to affect the range of travel choices available. An example would be the evolving expectations of different organisations in terms of how and where their employees are able to work.

Given these sources of uncertainty, the short term review of the ABTA should be used to identify any changes to previously "normal" travel patterns. It will be important to consider carefully whether these changes are likely to be sustained. If this is considered to be the case, it may become appropriate to update the ABTA, taking this (and any related observed changes to travel behaviour) into consideration.

8.5   Conclusion

This document provides a 'step-by-step' guide to undertaking transport assessments to inform the preparation of Development Plans and Local Area Plans. It is a supplementary guide to the National Transport Authority's and Transport Infrastructure Ireland's Advice Note on Area Based Transport Assessments (ABTAs) published in December 2018.

At the Development Plan level it is intended that the ABTA will help support the integration of land use and transport policy, and assist in the identification of objectives and measures in relation to development location, densities and supporting transport interventions.

At the Local Area Plan level, the ABTA will support the integration of land use and transport planning at the settlement level, as well as the identification of local policies and associated transport objectives and measures.

Through the application of the tools and processes set out in this guidance document, the ABTA will inform the preparation of Development Plans and Local Area Plans by:

- Identifying and understanding both current and future travel patterns
- Helping to develop transport principles and objectives to address the strengths and weaknesses of the plan area.
- Identifying transport and land use options that could contribute to achieving the objectives of the plan.
- Robustly appraising land use and transport options.
- Guiding the development of plan objectives to support the delivery of sustainable land use and transport outcomes.
- Establishing mode share ambitions for the plan and a monitoring and evaluation regime.

Finally, it important to note that this document is issued as a <u>pilot</u> methodology. It is intended that both the process and supporting methodology will be subject to further review, based on experience gained from its practical application by local authorities and others, enabling the identification of potential further refinements. ABTA should therefore be seen as a collaborative process between agencies, concerned with the integration of land use and transport and its practical application.

Appendices

Appendix A – Data and Tools for Analysis

This Appendix provides information and advice on available data sets and tools that are commonly used in the transport assessment process - grouped by the following themes:

- ○ Existing trip patterns
- ○ Accessibility analysis
- ○ Transport modelling
- ○ Further guidance and reference documents

Applicability of the use of these data and tools will dependent on the nature of the plan and scale of the settlements involved.

Existing Trip Patterns

Existing trip patterns are driven by:

- ○ **Origin**: generally where people live
- ○ **Destination**: where people want to go (i.e. location of employment, education, services, leisure facilities etc.)
- ○ **Mode choice**: how people travel between origins and destinations, which is influenced by distance travelled and the availability and attractiveness of alternative modes (car, public transport, walking and cycling)

Deriving data on the combination of all three, origin, destination and mode choice, requires specific data collection. The most significant pre-existing data source is the national census which is described below.

Census Data

The Central Statistics Office (CSO) run a population census every five years out of which the SAPS (Small Area Population Statistics) dataset is created. The data is readily available at a variety of spatial levels including county, settlement, ED and Small Area. The dataset covers topics from population to mode share for journeys to work or education to Principle Economic Status and Industry Group. Using the SAPS dataset as part of the baseline analysis of the ABTA approach allows for a large amount of information to be collected about the study area very quickly. A profile of the area based on age profile and economic status gives an idea of the population to be served while mode share may indicate an over reliance on car or a lack of Public Transport for trips to work or education.

The SAPS dataset deals with the population at its place of residence, after the 2016 Census the CSO produced Workplace Zones where they tried to quantify and profile the population based on where they are located during the day. This dataset is based on Census returns where people gave an address for their place of work or their education place. From this dataset, it is possible to get an idea of the number of employment or education places in an area. It also states the mode people used to get there. Combined with the SAPS dataset, this now gives a clear picture of the main trip origins and destinations. Other socio-economic factors such as occupation and social class are included which may have a bearing on a person's trip pattern.

CSO Commuting Data File and POWSCAR

One of the more important pieces of information available from the Census is detail on the trip, in total - knowing both the origin and the destination of a trip. The CSO make this data available in two formats.

Readily available from the CSO website is the Commuting Data File, this provides the number of trips travelling between E.Ds. Using this as part of the baseline assessment will show the overall trip patterns into and out of the study area.

This data is more detailed in the POWSCAR dataset. This is a CSO protected dataset as it contains detailed information on each trip - its origin, its

destination, the mode, the time of departure and industry group or education level. Access to the POWSCAR dataset is available from the CSO, the relevant organisation and researchers have to be approved and become officers of statistics.

The information is limited to trips from home to school or work and utilises the pattern of travel between the Census Small Areas (CSAs) recorded in POWSCAR. This is the most up-to-date, national data set relating to travel patterns that is available. The NTA can provide relevant CSO data at the Settlement level in order to progress analysis for projects involving the NTA. In addition, applications for access to POWSCAR can be made to the Central Statistics Office. A guide to POWSCAR and the application process is available on the CSO website[2].

Whilst POWSCAR provides very valuable information on the distribution and mode choice of a large set of trips, it will not represent all trip data. The number of trips to work and education included in POWSCAR will be lower than the total at work in the area in reality for various reasons such as the numbers of mobile workers with 'no fixed place of work'. At a national level the 2016 Census recorded:

- 2,962,500 persons commuting to work, school and college;
- 94,955 persons who stated they worked 'mainly at for from home'; and
- 174,628 workers who noted they had no fixed place of work and for whom work destination information is unavailable.

When POWSCAR data is grouped to the Small Area or Settlement level, it provides a basis for looking at mode share between settlements. It also provides information needed to produce Trip Length Distribution graphs that describe the trip profile from a settlement in terms of kilometres and mode.

Links to Further Information on CSO Data

Additional information on these datasets are available on the CSO website.

- SAPS – https://www.cso.ie/en/census/census2016reports/census2016smallareapopulationstatistics/
- Workplace Zones - https://www.cso.ie/en/census/census2016reports/workplacezonesand1kmpopulationgrids/
- Commuting Data File - https://www.cso.ie/en/census/census2016reports/powscar/
- POWSCAR - https://www.cso.ie/en/census/census2016reports/powscar/

Forecast Growth in Trip Generators and Trip Attractors

The National Planning Framework and supporting Regional Spatial and Economic Strategies set out the population and employment growth targets across Ireland up to the year 2040. These targets inform the distribution and phasing of growth within each county as set out in the core strategy of local authority development plans.

To assist with long term planning and the development of the Regional Modelling System, The NTA planning department collate (Planning Sheet) and map forecast planning information across the country. In keeping with the Central Statistics Office (CSO), the planning information is presented at Census

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[2] https://www.cso.ie/en/index.html

Small Areas, which are a sub-division of the Electoral Division administrative unit. Census Small Area (CSA) generally cover 65-90 households.

The NTA's National Planning Sheet includes information on a range of parameters including population, employment places and education places. This planning sheet data is forecasted to represent the long-term plans as set down in National and regional development strategies and plans. The use of data from the National Planning Sheet enables longer-term changes in land use to be consistently appraised and accounted for as part of the preparation of an ABTA.

The NTA will provide a base year planning sheet (at Settlement level and CSA if appropriate) containing the key parameters of population, education and employment. The local authority can then revise this to provide a future year forecast - to reflect anticipated development (from the Development Plan). The future year planning sheet will set out where the future growth areas are planned to be during the lifetime of the plan. Further information on how to request and access Planning Sheet data from the NTA can be found at (insert link or footnote here).

For the purposes of examining future travel patterns a simplified approach will be taken using the base year travel pattern. For areas where major growth and change is planned and the existing demand pattern is not expected to be sufficiently representative, trip patterns from neighbouring areas or similar areas elsewhere can be applied. If this is considered to be a major issue for the Plan, it may be appropriate to consult with the NTA on the approach to be taken.

Then, by adding future growth to areas and assuming similar patterns of travel, the likely effects of the proposed transport measures and the location of land uses on mode split should be considered and can be informed through discussions with the NTA.

GIS - Accessibility Analysis

Accessibility analysis is an important element of understanding the relationship between land use and transport. In general terms, accessibility measures what people can reach in a given timeframe such as jobs, schools, parks, shops or other destinations. It is informative to consider accessibility by mode, particularly in relation to sustainable transport to give a measure of trip potential by walking, cycling and public transport. For example, how accessible is the school within a 10 minute walk, or what is the accessibility to the public transport stop within a 15 minute walk.

There are many different accessibility tools and it is possible to build GIS based tools given the appropriate input data. The data collection requirements of accessibility tools can be considerable. To assist in the preparation of accessibility analysis, the NTA maintains and recommends the use of two specific tools which are pre-populated with relevant data, namely:

- ATOS (Accessibility to Opportunities and Services) is a tool to investigate accessibility to services such as education, retail, GPs and open space.
- PTALs (Public Transport Accessibility Levels) to investigate accessibility to public transport stops.

It is considered that certain applications of both the ATOS and PTAL methodologies are likely to be of use within the ABTA approach and other transport studies to support the preparation of Development Plans and Local Area Plans. Application of these methodologies will centre on the accessibility within metropolitan areas, larger towns and "high order" destinations such as major shopping or employment areas, larger healthcare facilities, Universities and other third level Education facilities. Wider application of these techniques would be expected to inform the preparation of Plans in question and associated ABTA.

Both tools are based on a methodology widely used by Transport for London (TfL). TfL has published a document that outlines the methods used: http://content.tfl.gov.uk/connectivity-assessment-guide.pdf

The purpose, application, and associated benefits from using these tools is explained in this section of the Guidance Document. For example, when considering future demand, the PTALs and ATOS tools can be used to 'test' or estimate how an area's score might change into the future with the implementation of transport measures or land use changes. The likely change in score may help inform transport mode share ambition setting for non-car modes and the associated impact on car mode share can then be adjusted accordingly.

The following sections describe examples of how ATOS and PTALs can be applied.

ATOS (Accessibility to Opportunities and Services)

Accessibility analysis within ATOS is a measure of the accessibility of key services and employment by walking and cycling modes. This Guidance Document follows the method outlined by TfL in their document "Assessing transport connectivity in London". Some minor adjustments have been made to the TfL methodology to make it more suitable for use outside of large metropolitan areas in Ireland. The ATOS tool calculates accessibility to Employment, Primary Education, Post Primary Education, GPs, Food Shopping and Open Spaces. The data sources used in the ATOS tool, as adjusted for this Guidance Document, are listed in Table 20.
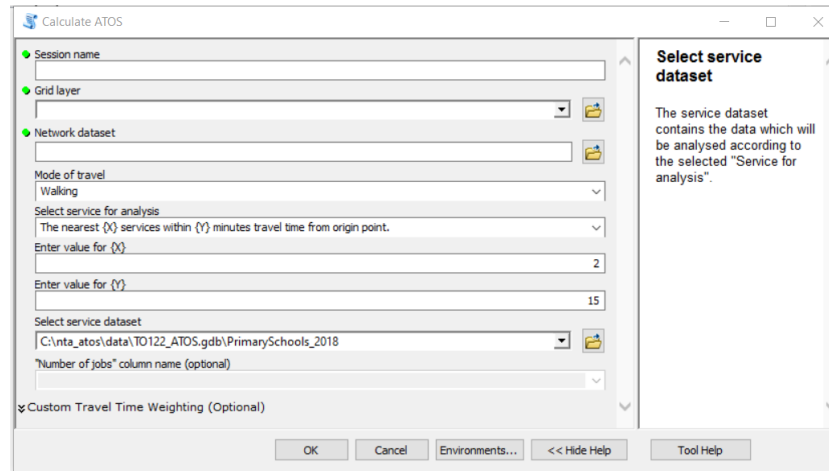
Table 20. ATOS data sources

SERVICE	DATA SOURCE
Employment	Census Workplace Zones
Primary Education	Dept. of Education School Lists
Post Primary Education	Dept. of Education School Lists
Health (GPs)	GeoDirectory (NACE Q.86.21)
Food Shopping	GeoDirectory (NACE G.47.11)
Open Spaces	Development Plans

The number of services relating to a particular service type and an acceptable walk/cycle time have to be specified for each calculation. Figure 50 below shows the input screen for ATOS, which has been set up for a query relating to access to primary schools on foot.

The spatially defined origin for the application of ATOS is based on a 100m grid. For the example presented in Figure 52, the tool will calculate the average journey time by all the grid squares that can reach two primary schools within 15 minutes. It will then calculate the journey time for each square individually and compare it to the overall average journey time. Each square will be scored based on how it compares to the overall average.

Figure 50.   Example of ATOS tool set-up for school (criteria = to find two primary schools within 15 minute walk)

Figure 51.   Example of ATOS scoring symbology and calculation of score

ATOS Score	Map colour
A	
B	
C	
D	
E	
NULL	

A	0 - (Mean – stdev)
B	(Mean – stdev) to Mean
C	Mean to (Mean + stdev)
D	(Mean + stdev) to (Mean + (2 X stdev))
E	> (Mean + (2 X stdev))

The tool is repeated for each service type. The application of ATOS in this Guidance Document deals with employment places differently to that of TfL. Instead of having to find a fixed number of employment places within a specified journey time, it calculates the number of employment places available within a specified journey time. This is to ensure that the tool could be applied in smaller urban areas as well as in large Metropolitan areas.

Using ATOS as part of the baseline toolkit allows for the identification of areas that have good accessibility to key services. A poor ATOS score may point to poor permeability in areas. The ATOS tool allows for changes to be made to the underlying walk network to see if these changes can improve the accessibility of an area.

ATOS can also help in informing the location of new services. Potential sites can be tested and an optimum location identified. The results from ATOS analysis across different settlements can be compared, in order to investigate and better understand why one settlement area scores better than another.

The examples in Figure 52 illustrate the effect of the placement of primary schools, GPs and parks on ATOS accessibility scores and highlight the areas that lack provision of these services. The outputs from ATOS are primarily displayed using a (100 metre) grid map, overlaid to a suitable base image, with squares shaded to indicate the relative accessibility to the specified facilities from the grid square in question.

Figure 52. **ATOS analysis examples**
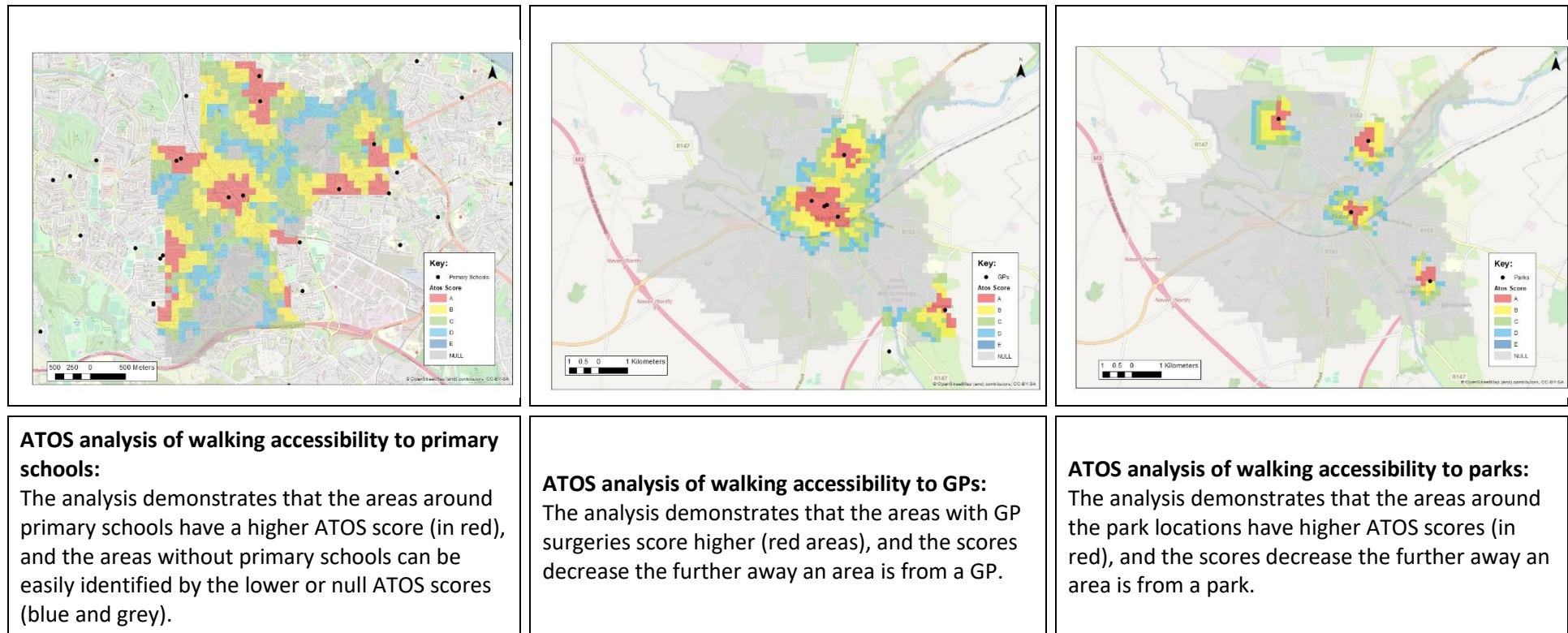
ATOS analysis of walking accessibility to primary schools: The analysis demonstrates that the areas around primary schools have a higher ATOS score (in red), and the areas without primary schools can be easily identified by the lower or null ATOS scores (blue and grey).	**ATOS analysis of walking accessibility to GPs:** The analysis demonstrates that the areas with GP surgeries score higher (red areas), and the scores decrease the further away an area is from a GP.	**ATOS analysis of walking accessibility to parks:** The analysis demonstrates that the areas around the park locations have higher ATOS scores (in red), and the scores decrease the further away an area is from a park.

PTAL (Public Transport Accessibility Analysis)

PTAL is a measure of connectivity by public transport. The methodology recommended in this Guidance Document is based on the Transport for London (TfL) method, outlined in detail in their document "Assessing transport connectivity in London".

PTAL gives an overview of how well an area is connected by public transport. The score is a combination of the walk time to the transport stop (bus or tram stop, railway station) and the level of service at that stop. As well as walk time and frequency, the calculation also introduces the average wait time at a stop and a reliability factor which is different for rail and bus.

The origin for any PTAL calculation is a 100m grid. An accessibility index is calculated for each public transport stop and each route at the public transport stop for every square that is within an acceptable walk distance. The accessibility index is calculated using the information above, as well as frequency, average wait time and a reliability factor. The accessibility index for each stop and route is summed in order to give an overall accessibility index for a grid square. The accessibility index for each grid is then converted to a PTAL based on a standard range. Areas with high PTAL levels will usually have more services passing a stop, have more than one mode available and are easily accessible by walking.

Combining the output from a PTAL calculation with housing location data allows for an estimation of the number of people that have access to public transport. Combining it with Development Plan data may help to inform the optimum location of new housing developments and where it is necessary for additional public transport provision to service that development.

It should be noted that the calculation does not apply any weighting in terms of the "usefulness" of destinations served, and PTAL data should therefore be combined with a manual assessment of the destinations which can (and cannot) be directly accessed from a given site by public transport services.

The PTAL tool also allows for testing of future scenarios. For example, improvements to the permeability of a walking and cycling network, either by the removal of barriers or provision of new links, can be made to see if this would result in an improved PTAL score. Changes to public transport schedules can be tested, as can major transport infrastructure changes such as the effect of Connecting Ireland, Bus Connects or MetroLink.

The example in Figure 53 demonstrates that the areas in yellow and green that score highest are around the rail station with the most frequent connecting bus services (evidenced by the areas with greater numbers of bus stops). The areas around the smaller stations score lower due to the bus service options, compared to the larger station.

Figure 53.   PTAL analysis
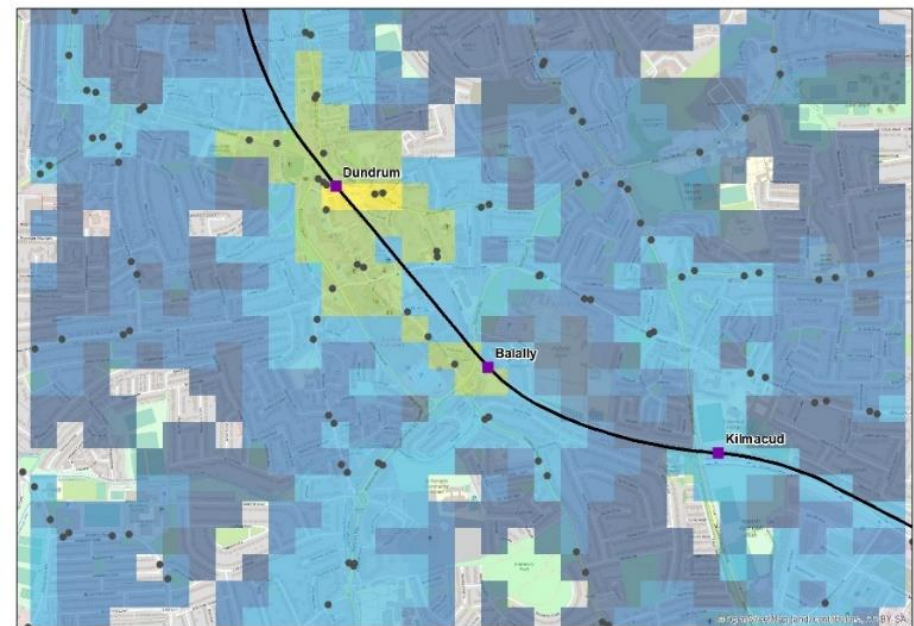
The tools presented in Appendix A of this Guidance Document explain how the accessibility of an area can be simply assessed using GIS mapping and publicly available census data. In many cases, these tools are sufficient to review the accessibility of an area and help identify appropriate land use or transport interventions. In complex urban environments, it may be necessary to undertake a more detailed review of transport demand in order to identify potential land use or transport solutions.

Transport Modelling

Within Metropolitan Areas and large settlements (key towns) the use of transport modelling would be important, and offers an efficient way of assessing existing and future transport patterns and demand for large or complex settlements and areas.

The Regional Modelling System (RMS) is the NTA's strategic transport planning tool. The RMS comprises 5 separate multi modal transport models covering the entire country as illustrated in Figure 7. The models represent all surface transport modes (walking, cycling car, bus, rail, tram, light goods and heavy goods vehicles) and are capable of assessing the impact of population/employment growth on the demand for travel.

The NTA's regional transport models can be used to provide trip demand and distribution data. This data provides estimates of the total number of trips which are expected to be made by particular modes, and the start and end points (origins and destinations) of these trips. The models provide data on all journey purposes (travel to work, education, retail, leisure etc) as well as for forecasting to future years.

The Regional Modelling System can be considered to be composed for two distinct elements, the National Demand Forecasting Model (NDFM) and region specific demand and assignment models, known as the Regional Multi Modal Models. The NDFM estimates total travel demand on a national scale, while the Regional Multi Modal Models estimate mode and destination choice, as

well as undertaken assignment for road, public transport, walking, and cycling networks. The models can be used to quantify and predict changes in travel patterns and network performance over time, including in particular:

- Trip demand – identifying the level of travel demand on each of the main modes of transport
- Trip distribution – focused on the origins and destinations of travel demand, quantifying journey time and trip distance (by mode and trip purpose)
- Mode share – an assignment of the trip demand and trip distribution to road, public transport, walking and cycling networks.

Figure 54. **Geographic coverage of the five regional models within the NTA's RMS**

The representation of land use and transport networks is a key input to the modelling process. Each model contains a large number of zones that were established by taking Census Small Areas and making adjustments where needed to account for physical boundaries or to represent certain land use types and activities. Development growth can be represented in the zones to test future potential changes to land use. The transport networks, such as new road links, bus or rail routes, can be coded to test the likely demand they will attract. In this way, the models can be used to estimate changes in transport demand and the performance of the transport network based on changes to transport provision and policy, or land use changes such as those set out in Development Plans.

Figures 55 and 56 present examples of model output data for walk and cycle flows (source: Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) . The thicker lines represent the higher flows. Mapping of this type is invaluable in identifying corridors or other geographical designations for the development of transport improvement options.

More information on the NTA's transport modelling tools, including how to access them, are available on the web at

- ⭕ https://www.nationaltransport.ie/planning-and-investment/transport-modelling/

Figure 55. **Example of RMS AM Walk Flows for Persons Commuting**

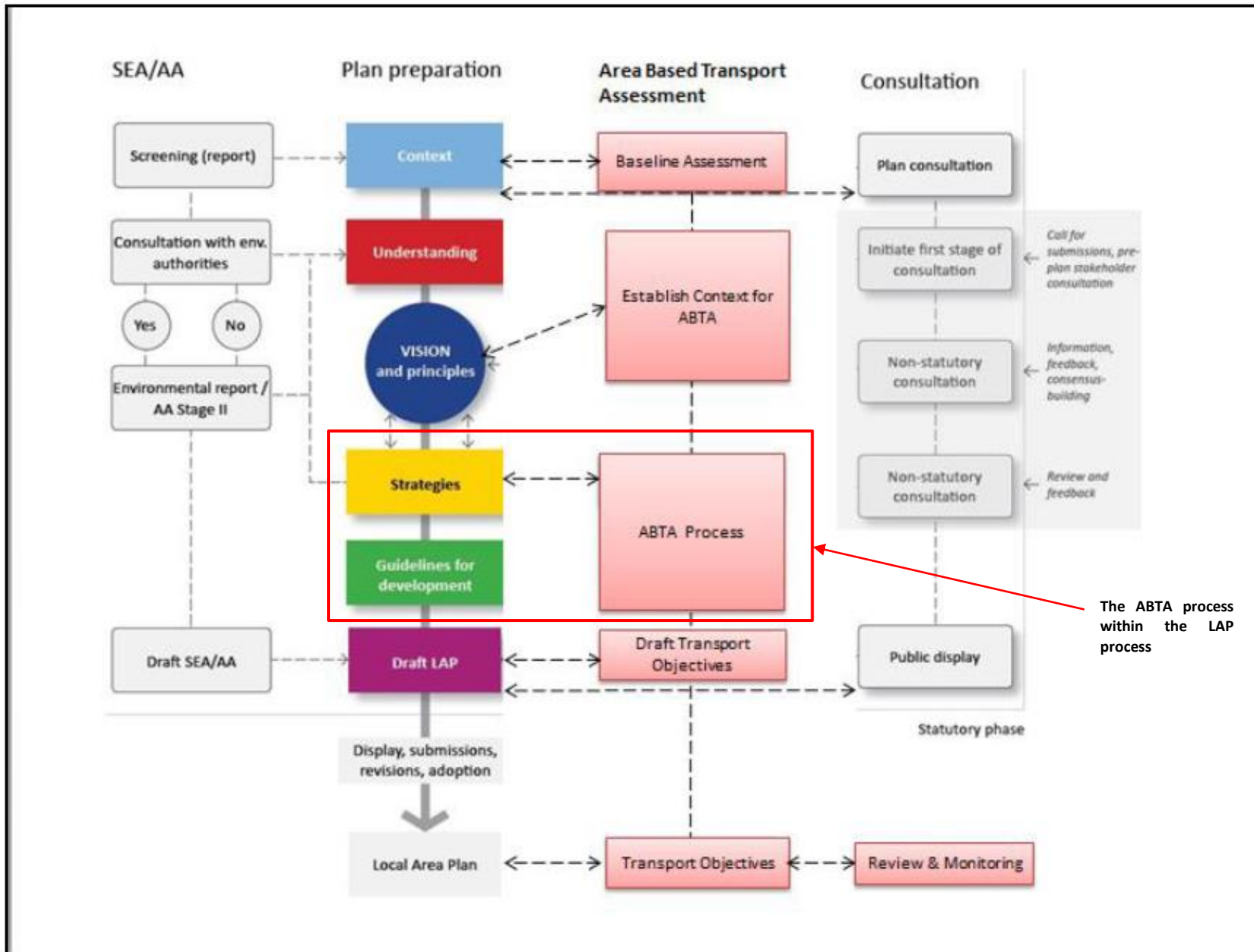**Figure 56.** **Example of RMS AM Cycle Flows for Persons Commuting**

Further Guidance and Reference Documents

There are a number of existing guidance and reference documents that are of benefit to the ABTA approach. Table 21 provides a summary of key reference documents along with their potential application within an ABTA approach.

Table 21. Summary of Key Reference Documents

REFERENCE DOCUMENTS	DESCRIPTION	APPLICATION WITHIN ABTA
National Cycle Manual (NTA, 2011)	Advice on best practice in design for cycling facilities	To inform the design process and requirements for cyclists, as well as providing a template for the implementation of cycle facilities both on- and off-road.
Design Manual for urban Roads and Streets (Department of Transport and Department of Environment, Community & Local Government, 2013)	Guidance for the design of urban roads and streets	The hierarchy of users set out in the manual should be clearly evident in plans
Spatial Planning and National Roads Guidelines for Planning Authorities (Department of Environment, Community & Local Government, 2012)	Planning Policy guidance relating to development along National Roads	To ensure proposed development and transport strategy protects the strategic traffic function of the national road network, by limiting the extent of development that would give rise to the generation of short trip traffic on national roads.
Permeability Best Practice Guide (NTA, 2013)	Guidance on improving permeability of street networks to improve accessibility for pedestrians and cyclist	To inform the design of the street network, ensuring pedestrians and cyclists have a competitive advantage over private vehicular traffic

Appendix B: ABTA Process Flow Chart

The ABTA process within the LAP process

Appendix C: Key National and Regional Level Policies

National Level Policy Examples

National Planning Framework
National Policy Objective 27
'Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by
National Development Plan
National Strategic Outcomes
1 Compact Growth This outcome aims to secure the sustainable growth of more compact urban and rural settlements supported by jobs, houses, services and amenities, rather than continued sprawl and unplanned, uneconomic growth.
2 Enhanced Regional Accessibility A core priority under the NPF is the essential requirement to enhance and upgrade accessibility between urban centres of population and their regions, in parallel with the initiation of compact growth of urban centres.
4 Sustainable Mobility The expansion of attractive and sustainable public transport alternatives to private based car transport will reduce congestion and emissions and enable the transport sector to cater in an environmentally sustainable way for the demands associated with longer term population and employment growth envisaged under the NPF. Furthermore, the provision of safe alternative active travel options such as segregated cycling and walking facilities can also help alleviate congestion and meet climate action objectives by providing viable alternatives and connectivity with existing public transport infrastructure.

Regional Level Policy Examples

Southern Regional Spatial and Economic Strategy
Regional Policy Objective (RPO) 165
aims to ensure the consolidation of development at higher densities within existing urban centres and provision for permeability (improved for existing areas and included in any new development), with a focus on locations where it can be demonstrated that such development supports the use of walking, cycling and public transport.
Waterford MASP Policy 6(b)
highlights the aim to develop the '10-minute neighbourhood' for Waterford

Eastern & Midlands Regional Spatial and Economic Strategy
Objective 3.6
City and county development plans shall undergo assessment of their impact on carbon reduction targets and shall include measures to monitor and review progress towards carbon reduction targets.
Objective 4.2
Infrastructure investment and priorities shall be aligned with the spatial planning strategy of the RSES. All residential and employment developments should be planned on a phased basis in collaboration with infrastructure providers so as to ensure adequate capacity for services (e.g. water supply, wastewater, transport, broadband) is available to match projected demand for services and that the assimilative capacity of the receiving environment is not exceeded.
Objective 4.3

Support the consolidation and re-intensification of infill/brownfield sites to provide high density and people intensive uses within the existing built up area of Dublin city and suburbs and ensure that the development of future development areas is coordinated with the delivery of key water infrastructure and public transport projects.

Objective 5.2

Support the delivery of key sustainable transport projects including Metrolink, DART and LUAS expansion programmes, Bus Connects and the Greater Dublin Metropolitan cycle Network and ensure that future development maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, existing and planned.

Objective 5.3

Future development in the Dublin Metropolitan area shall be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe attractive street environment for pedestrians and cyclists

Objective 5.6

The development of future employment lands in the Dublin metropolitan area shall follow a sequential approach, with a focus on the re-intensification of employment lands within the M50 and at selected strategic development areas and provision of appropriate employment densities in tandem with the provision of high quality public transport corridors.

Objective 8.1

The integration of transport and land use planning in the Region shall be consistent with the guiding principles expressed in the transport strategy of the RSES.

Objective 8.2

The capacity and safety of the Region's strategic land transport networks will be managed and enhanced, including through the management of travel demand in order to ensure their optimal use.

Objective 8.3

That future development is planned and designed in a manner which maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, both existing and planned and to protect and maintain regional accessibility.

Objective 8.4

Land use plans within the GDA shall demonstrate a consistency with the NTA's Transport Strategy for the Greater Dublin Area and plans with or outside of the GDA shall be consistent with the guiding principles expressed in the RSES.

Objective 8.5

To support the preparation of a regional strategy for freight transport in collaboration with the relevant transport agencies and the other Assemblies.

Objective 8.6

In order to give local expression to the regional level Transport Strategy within the Region in conjunction with the NTA, Local Transport Plans (LTP) will be prepared for selected settlements in the Region

Objective 8.7

To promote the use of mobility management and travel plans to bring about behaviour change and more sustainable transport use.

Northern & Western Regional Spatial and Economic Strategy

RPO 3.1

Develop urban places of regional-scale through: g Delivering on the population targets for the Metropolitan and Regional Growth Centres through compact growth: g Delivering significant compact growth in Key Towns; and developing derelict and underutilised sites, with an initial focus within town cores.

RPO 3.7.14

Promote Athlone as a sustainable transport hub, of national and regional importance. The regional centre shall become a fulcrum for multi-modal transport facilities and services.
RPO 3.7.16
Promote Athlone as a sustainable transport hub, of national and regional importance and support the preparation of a joint Local Transport Plan between Westmeath and Roscommon County Councils in collaboration with transport agencies and key stakeholders to improve sustainable mobility in the town.
RPO 6.1
Support provision of Smarter Travel infrastructure.
RPO 6.2
Undertake network reviews for city, regional centres and support towns across the region, to provide local bus services.
RPO 6.23
To provide sustainable travel which will be supported by providing walking and cycling facilities (including Greenway and Blueway projects) as a priority across the region.
RPO 6.27
(a) The Assembly supports the collaborative preparation of Local Transport Plans led by local authorities in conjunction with the NTA and other stakeholders, based on Area Based Transport Assessment (ABTA) guidance and alignment with environmental policy, for Athlone, Letterkenny, Sligo Town, Cavan Town, Monaghan Town, Castlebar, Roscommon Town, Ballinasloe, Carrick on Shannon, Donegal Town, Tuam, Ballina and other areas as may be determined. The LTP will inform the urban area plans, development plans, local area plans and other planning framework documents. (b) Local Transport Plans (LTP) will represent the lowest tier of the NPF's framework for the integration of land use and transport planning and the achievement of the NPF's objective of 'compact smart growth'. They will be subject to further transportation and environmental assessment at local level as appropriate based on guidance available and alignment with environmental policy. (c) LTPs will be based on a clear set of objectives and the most recent demographic and travel information taking into account the policies and objectives of the local authorities, insofar as they align with those of National and Regional Policy. (d) Local Link Offices (Transport Coordination Units) will be consulted in the development of LTPs.

RPO 6.29
The management of space in town and village centres should deliver a high level of priority and permeability for walking, cycling and public transport modes to create accessible, attractive, vibrant and safe, places to work, live, shop and engage in community life.
RPO 6.30
Planning at the local level should promote walking, cycling and public transport by maximising the number of people living within walking and cycling distance of their neighbourhood or district centres, public transport services and other services at the local level such as schools.
RPO 6.31
New development areas should be permeable for walking and cycling and the retrospective implementation of walking and cycling facilities should be undertaken where practicable in existing neighbourhoods, to give a competitive advantage to these modes. Prioritisation should be given to schools and areas of high employment density.