Arklow Town & Environs

Integrated Framework Plan for Land Use and Transportation

Final Report

October 2003

WSP Ireland Ltd
Floor 4
Harcourt Centre
Block 3
Harcourt Road
Dublin 2
Tel: +353 (0)1 418 2224
Fax: +353 (0)1 418 2248
www.wspgroup.com

ARKLOW TOWN & ENVIRONS

INTEGRATED FRAMEWORK PLAN FOR LAND USE AND TRANSPORTATION

Final Report

CONTENTS **PAGE**

Error! No table of contents entries found.

Maps

1 INTRODUCTION

1.1 Purpose of the Study

The Arklow Integrated Framework Plan for Land Use and Transportation (IFPLUT) was commissioned jointly by Wicklow County Council and the Dublin Transportation Office (DTO) to recommend a set of matched land use and local transport initiatives that would result in the sustainable long term development of Arklow. The study took place in the context of Arklow's designation as a secondary growth centre in the Greater Dublin Area. This designation is afforded within the Strategic Planning Guidelines to 2011 for the Greater Dublin Area and such centres are defined as having:

> *"… a high level of employment activities, high order shopping and a full range of social activities. Ideally such towns should be self-sufficient with little or no commuting to the Metropolitan Area"*

The Guidelines recognise that self-sufficiency is unachievable in the timescale to 2011 however the Guidelines look beyond this timescale when stating that

> *"…the longer-term objective should be to develop self-sustained towns, and in the meantime to establish the conditions in these towns that allow for that"*

Key to the delivery of this longer-term objective is the integration between land use and transportation in order to ensure that, in the future, travel to and within towns such as Arklow is carried out using the most convenient and appropriate mode of travel. This can only be achieved by planning for future provision of homes, jobs, education and social activities hand in hand with transport planning.

Integrated planning of this nature ensures that people are offered the opportunity to travel to and from these land uses by the most appropriate and sustainable mode of transport whether by foot, bicycle, bus, car or train. Such planning fundamentally addresses the future quality of life and social inclusion of the people of Arklow as it looks to build upon the opportunities in the town to make it an attractive place to live, work, play and socialise.

The study findings and recommendations will form the blueprint for the development of the town to 2016 and beyond, both for residents and potential investors. In the shorter term the study will be used to shape the next development plans for the town and environs and will assist in determining planning applications in the area.

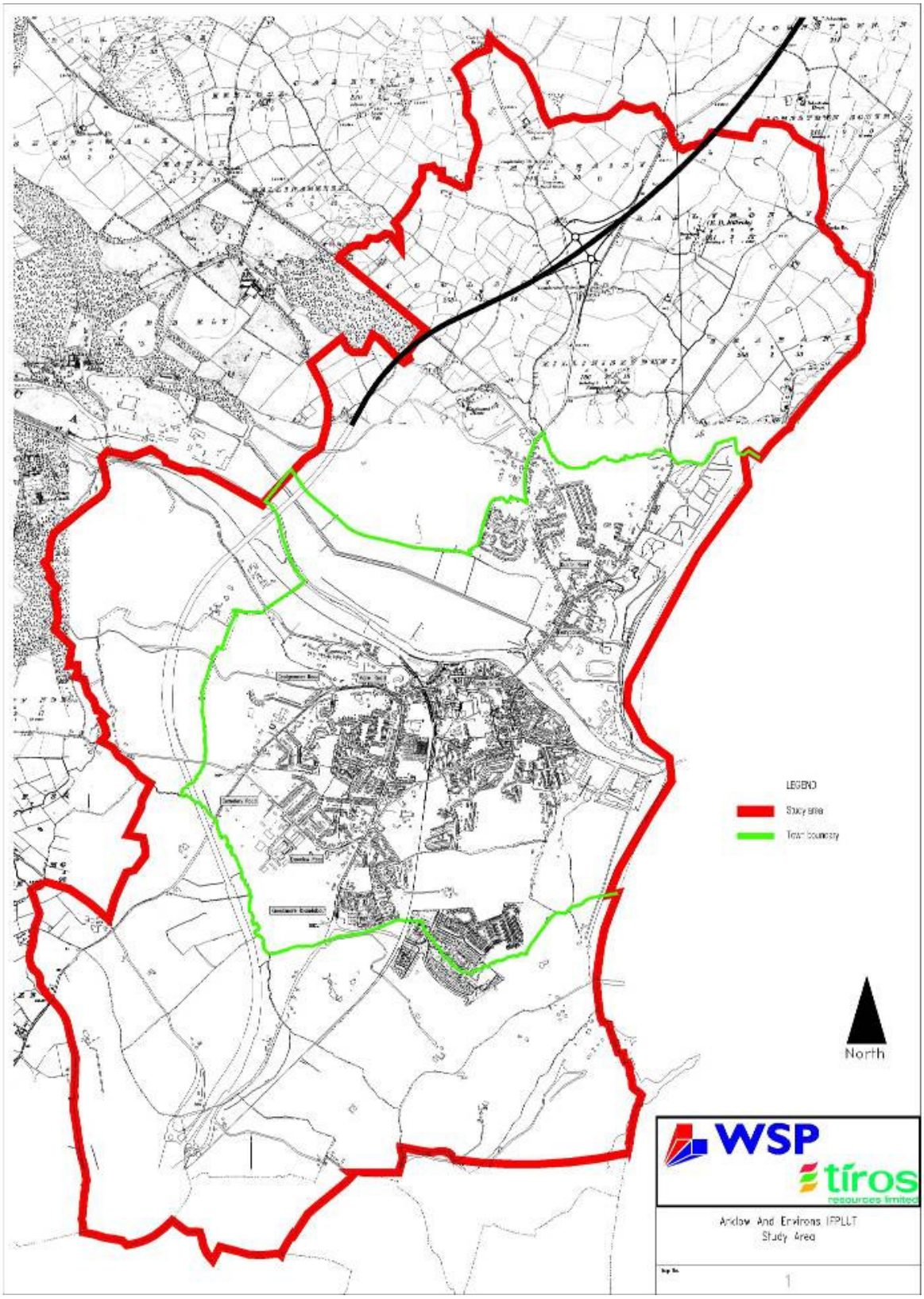
1.2 Study Area

The study area is illustrated on Map 1 and stretches from Templerainey in the north to Kish in the south and is bounded, broadly, by the N11 bypass to the west. This study area includes the immediate environs of the town incorporating the N11 By-pass interchanges and forms the basis for population and employment projections. In addition the study addresses the issue of access to the town from the hinterland beyond the defined study area and from further afield.

1.3 Study Objectives

Within the context of the role of Arklow as a secondary centre the specific study objectives are defined as follows:

- To plan for the growth of the town and its environs to a population of 21,000 by 2016.
- To examine the current and future integration between land use and transport, based on the relevant policy and strategy documents, indicating suitable land use zonings and development standards for both new and regenerated areas that maximise the potential for walking, cycling and public transport trips.
- Consult with key stakeholders including local resident groups and the general public to ensure the widest possible consensus is achieved.
- Identify distributor level transport networks for all modes, which, with the aid of a traffic model and key traffic management measures, will accommodate mode trip targets to be identified in the Study.
- Identify principles to be applied below distributor road level that will provide safe and convenient pedestrian and cycle links between major trip attractors.
- Recommend a timescale and monitoring arrangements for the implementation of proposed measures up to 2016.


LEGEND
Study area
Town boundary
North
WSP
tíros
resources limited
Arklow And Environs IFPLUT
Study Area
1

1.4 Projected Residential and Employment Populations

The population target of 21,000 is based on the latest review of the Strategic Planning Guidelines and is therefore consistent with the total planned population increase in the Greater Dublin Area. At present the population within the study area is approximately 10,500 and therefore a population increase of approximately 10,500 is planned for Arklow and its environs.

It is recognised that the population may not reach the target by the design year, however in the context of this framework study the principle is to set in place the building blocks that will allow the town to grow in an integrated and sustainable manner in order to receive the target population regardless of the timeframe in which the growth occurs.

Of the present population approximately 6,000 are available for employment. The latest employment survey for the town estimates the existing employment base at 2,500 with the remainder of the workforce employed elsewhere or unemployed.

In order for the town to become to a self sustained employment centre by 2016, 9,900 jobs would be required in the study area. This equates to a working population equivalent of 47% of the total population of 21,000 and is based on future population and demographic predictions from the Central Statistics Office.

These projections are described in detail in section 5 of this report.

1.5 Study Methodology and Consultation

The study methodology follows a logical sequence from baseline assessment through the development of appropriate principles and policies for Arklow to the delivery of the preferred development framework strategy for the town and environs. The methodology is outlined in Fig 1.1 and is both a qualitative and quantitative analysis based on the one hand on ongoing consultation and desktop review whilst on the other hand using population and employment analysis and complex transportation modelling.

The study is underpinned by the objectives of the relevant national, regional and local strategies outlined in section 3. This Study is not intended to be a stand alone document but rather it seeks to co-ordinate and address the relevant land use and transportation aspects of these relevant strategies.

The consultation process is key to the delivery of the study recommendations as consensus and compromise with all stakeholders is necessary in order that the recommendations are consistent with the studies aims and also to ensure that they are accepted by the community at large. The details of the consultation process is outlined in Fig 1.2 which indicates that the process was comprehensive and sought the views from as wide a cross-section of stakeholders as possible.

Figure 1.1- Study Methodology

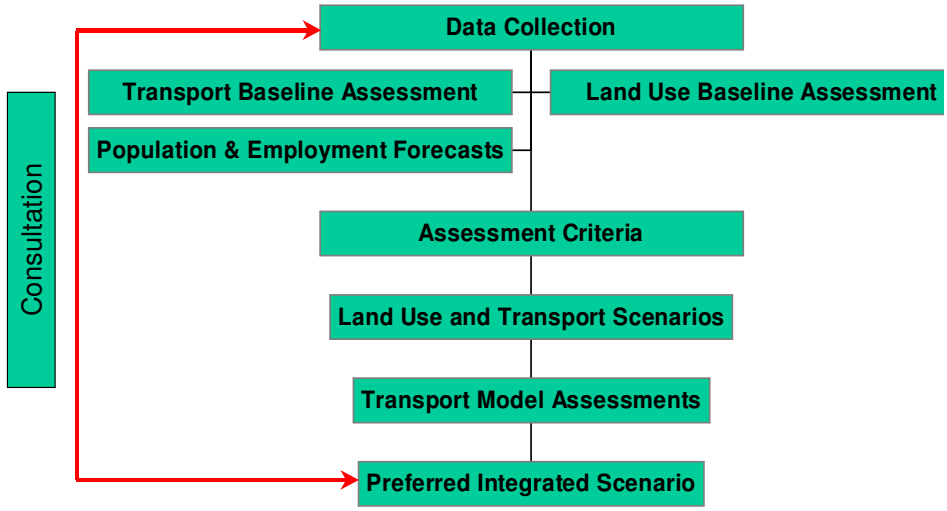
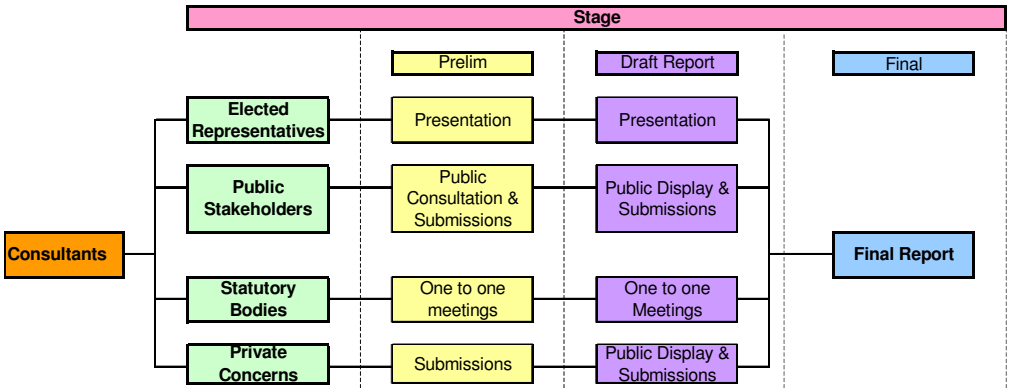


Figure 1.2- Study Consultation

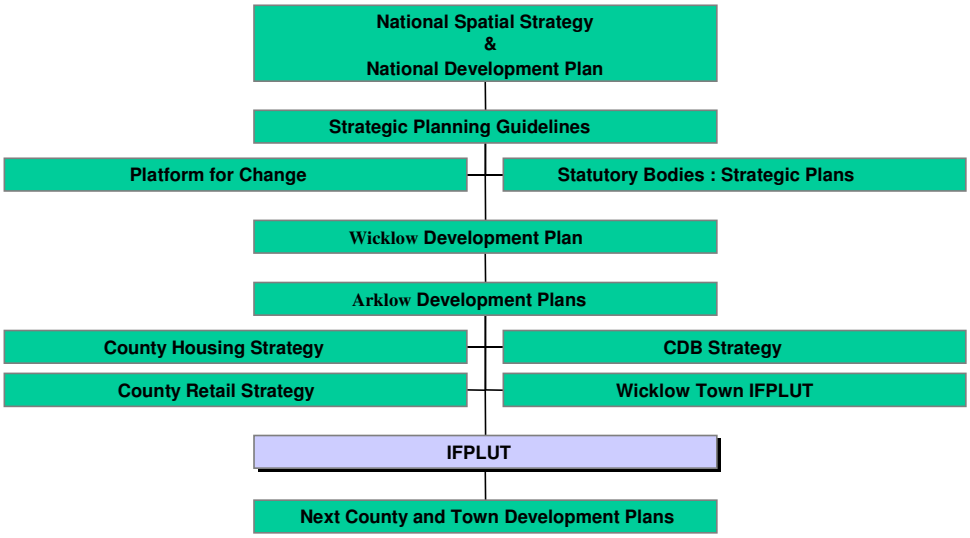


2 STRATEGIC CONTEXT OF ARKLOW

2.1 Introduction

The IFPLUT Study is set in the context of national, regional, county and local strategic development that provides the overriding principles for the Study and create the framework for the assessment of the Study area. The context of the IFPLUTS is shown on Fig 2.1 and the consultants carried out a review of these strategy documents prior to developing the Guiding Principles and Specific Policies for the Arklow area.

Figure 2.1: Study Context



The following documents are reviewed in more detail in this section. In addition other studies such as the Arklow Bypass socio economic study, and the OPW Flood Study were reviewed in the context of the IFPLUTS.

- National Development Plan
- National Spatial Strategy
- Strategic Planning Guidelines for the Greater Dublin Area
- Dublin Transportation Office- Platform for Change
- National Rail Strategy
- Wicklow County Development Plan
- Wicklow County Development Board Strategy
- Wicklow County Development Board - Rural Transport Audit
- County Wicklow Retail Strategy
- Arklow Town and Environs Development Plan

2.2 Strategic Policy Review

2.2.1 National Development Plan

The National Development Plan 2000-2006 (NDP) is a framework strategy, which will guide development in Ireland over the plan period. It has the following key national objectives:

- Continuing sustainable national economic and employment growth.
- Consolidating and improving Ireland's international competitiveness.
- Fostering balanced regional development.
- Promoting social inclusion. (Page 33, NDP.)

Arklow and the S&E Region

Arklow is located in the S&E (Southern & Eastern) Region (NUTS II Classification), or the Mid-East Region according to the NUTS III Classification. The primary objectives of the S&E Region that are relevant to this Study include:

- Consolidate and build on its recent economic performance.
- Further develop counter-balances to Dublin.
- Address urban congestion and bottlenecks to growth through targeted investment in infrastructure and human capital.
- Facilitate more balanced economic growth across the Region. (Page 164, NDP.)

The S&E Region, which comprises 73 % of the population of Ireland, is characterised by a predominantly urban population concentrated in a relatively small number of centres. However, these statistics mask the considerable variations in population spread in the S&E Region. Many of the more peripheral settlements in the region are lagging behind in terms of economic development and require investment in infrastructural facilities and urban and village renewal in order to increase their attractiveness as places to live and work. Such investment will encourage more spatially balanced socio-economic development and will ease capacity constraints in the major urban centres.

Regional Development

The objective for regional policy is to achieve more balanced regional development in order to reduce regional disparity, in particular the disparity between the S&E and BMW Regions. In this context, the NDP notes that a number of medium-sized towns have emerged as major county / local hubs for economic growth, supporting the development of smaller towns and villages and rural areas.

Arklow could be considered as an example of a medium-sized town (or major county / local hub) in this context. The NDP notes in relation to these settlements that:

> *"These towns have the potential to attract smaller scale foreign direct investment and to develop indigenous and services…Investment in these towns to support their ongoing development as locations for smaller scale industry and enterprise will be a key factor in spreading the benefits of national economic development more widely across the Regions."* (Page 44, NDP.)

Under the National Development Plan, a number of transport projects are planned, including the enhancement of the existing national road network, including the N11, the network of suburban rail services, and an extension and increase in capacity of the bus network.

2.2.2 National Spatial Strategy

The National Spatial Strategy (NSS) adds a spatial dimension to social and economic planning for the first time in Ireland. It is designed to improve the effectiveness of public investment in infrastructure and other relevant services around the country. It will provide a national framework for regional, county and city plans in relation to policy guidance for the long-term development of Ireland.

The NSS is concerned with patterns of population, the scale and nature of activities and services necessary to influence and create sustainable location choices.

Guiding Principles for the NSS

The NSS is a national policy document that will enable every part of the country to grow to its full potential. It identifies Gateways and Hubs as well as recognising that many other county and larger sized towns in Ireland are critical elements in the realisation of balanced regional development.

"Balanced patterns of growth are supported by towns that capitalise on local and regional roles and are also linked to the roles of the gateways and development hubs." (NSS, page 39.)

Greater Dublin Area

Arklow is located in the Hinterland of the Greater Dublin Area. The NSS requires that development is concentrated in strong towns in this area, where there is capacity for growth on well-serviced public transport corridors. It also requires that an Integrated Framework Plan be developed and implemented for these towns.

"Concentrate development in strong towns with capacity for growth on well-serviced public transport corridors, such as Navan, Naas, Newbridge, Kilcullen, Arklow, Drogheda and Balbriggan.

Develop and implement Integrated Framework Plans for land use and transportation in such development centres."(NSS, Section 3.3.1(B) page 43)

Key Infrastructure

The NSS proposes strategic radial links incorporating international access points for the country. Arklow will form part of one of the Strategic Radial Corridors to the South East on the Dublin to Wexford Corridor and also has the potential to develop as a transit port. A transit port as defined by the National Spatial Strategy unit facilitates the movement of both goods and people.

Regional Spatial Development

The NSS provides guidance regarding a regional approach to the spatial development of the country. There are 8 no. regions and four main considerations for each region as follows;

- cities and city catchments
- small towns and village structure
- county town and large towns
- protecting rural assets and rural areas

Arklow is located within the hinterland of Dublin and may also be considered a county town/large town in the context of the NSS. In this regard, two of the main messages for regional spatial planning of particular relevance to Arklow are as follows:

"Frameworks for spatial planning of cities around the country and their catchments must be developed and implemented. *This involves addressing the planning issues for metropolitan and hinterland areas of cities in an integrated way. Cities and surrounding counties must put in place sustainable and public transport-centred settlement and development strategies within the planning system to support continued progress and competitiveness into the future*." (NSS, page 74.)

"*The county town and large town structure must be strengthened. This will be achieved through regional and county settlement and planning policies. These should support the towns, as both generators of business activity and delivery points for the key services that people need if they are to continue living in or be drawn to a particular area."* (NSS, page 74.)

The Dublin and Mid East Regions

Arklow is located within the "Dublin and Mid East Regions" as described in the NSS. The NSS finds that the future roles of these towns must take account of wider considerations in addition to their relationship to Dublin. In other words, they must also question how they can energise their own catchments and examine their relationship with areas in neighbouring regions.

According to the NSS, gateways, county towns, primary development centres, sizes of towns, national transportation corridors, airport, transit ports, urban strengthening opportunities, strategic rural assets within a metropolitan hinterland, village strengthening and rural area opportunities are all features of the "Dublin and Mid East Regions". Arklow's designation and relationship to these policies may be summarised as follows:

- A town with a population greater than 5000 people
- A transit port
- A town with urban strengthening opportunity.
- Located on a national transportation corridor to Wexford and Rosslare
- Within proximity to areas with strategic rural assets that are within a metropolitan hinterland.
- Within proximity to areas with village strengthening and rural area opportunities.

Of particular interest is Arklow's designation as a town with urban strengthening opportunities. These towns are located on important economic and transport corridors or in important locations and have a capacity to grow.

2.2.3 Strategic Planning Guidelines for the Greater Dublin Area

The principal objective of the Guidelines is to put in place a broad planning framework for the GDA, which will provide an overall strategic context for the Development Plans of each local authority. The Guidelines also provide a framework for future investment in sanitary services, transport and other infrastructure. The Planning and Development Act 2000 requires that planning authorities give specific recognition to these Guidelines when making or adopting their development plans.

Context of Arklow within the Greater Dublin Area

Arklow is situated on the southern periphery of the Greater Dublin Area (GDA), and is designated in the Guidelines as a Secondary Development Centre in the Hinterland Area as shown on Fig 2.3.

Emphasis of the Guidelines

The Guidelines encourage the concentration of future development into the metropolitan area and in designated development centres, such as Arklow, located on transportation corridors in the hinterland area. These development centres will have balanced residential and employment functions and will be the principle service centres for the hinterland area. It is recognised in the Guidelines that, in the short to medium term, commuting from the development centres into the metropolitan area will continue and the strategy is to accommodate as much of this commuting as possible on the public transport vision for the Greater Dublin Area as detailed in 'Platform for Change'.

Key Planning Elements of the SPGGDA

- Land use and transport planning are to be more closely coordinated.
- The zoning of land will not necessarily imply the servicing of these lands.
- Planning strategies and policies will be expected to achieve a reduction in the growth in demand for transport.
- Planning strategies and policies will be expected to achieve a clearer demarcation between urban and rural land uses than at present.
- There will be increasing emphasis in the future on transportation alternatives to the private car, with particular attention given to the rail network.

In essence, the Greater Dublin Area is to have a much improved transport system, allowing good access into and through the area. Development plans are to facilitate the development of business through the availability of land and the adequate provision of all the necessary services. A sustainable settlement strategy, having a clearer demarcation between urban and rural areas, should offer choice in terms of residential and employment location, and good education and recreation facilities.

Arklow and the Hinterland Area

Arklow lies within the hinterland area of the Greater Dublin Area, as opposed to the metropolitan area. An important issue in the hinterland area is the spill-over of development pressures from the built-up area of Dublin. Separate development strategies for the respective areas are proposed in these Guidelines. In both areas the strategy seeks for, and facilitates, a better balance between public and private transport. For the hinterland area, this will require the consolidation of future growth into a limited number of locations.

The growth of the Metropolitan Area will be balanced by the concentration of development into major centres in the Hinterland. These 'development centres' will be located on existing or future transportation corridors at Naas-Newbridge-Kilcullen, Navan, Balbriggan and Wicklow, with additional secondary centres at Arklow, Athy, Kildare-Monasterevin and Rush-Lusk. The Development Centres will be separated from each other and from the Metropolitan Area by Strategic Green Belts. It is intended that these 'development centres' will develop, in the longer-term, as self-sufficient towns, with only limited commuting to the Metropolitan Area. This will involve the development of a strong employment and service base in each of the Development Centres.

Long Term Objective of Development Centres

The objective for the Development Centres such as Arklow is the creation of self sustaining towns each complete with a high level of employment activities, high order shopping and a full range of social facilities. Although such towns should be self-sufficient, with little or no commuting to the Metropolitan Area, it is recognised that this is an unachievable target in the timescale covered by the Guidelines. Nevertheless, the longer-term objective should be to achieve self-sufficient towns, and in the meantime to establish the conditions in these towns to allow for ultimate achievement of this objective.

Employment in the GDA

Future employment will be located in existing employment centres. Additional employment centres will also be required and will be given to locations served by adequate public transportation. Specific measures, such as the

provision of advance factory units and/or taxation incentives, for the attraction of employment provides to the Development Centres may also be required. This will ensure that these Centres are relatively more attractive for development than other areas. This will support their growth within the context of the overall strategy.

Retail and Commercial Development in the GDA

Retail provision for food and similar goods will be distributed throughout the Greater Dublin Area, whilst comparison goods shopping will be located in the city centre and at selected nodes in the Metropolitan Area and in the Development Centres of the Hinterland Area.

Broadly, the additional convenience goods floorspace requirements should be distributed in line with additional population growth. The predominance of Dublin city centre for commercial and retailing activity is likely to continue. However, the need for significant levels of additional comparison floorspace provides an opportunity to strengthen the role of other centres, including the Development Centres in the Hinterland Area such as Arklow and selected nodes within the Metropolitan Area in line with the overall strategy. Each Development Centre should develop a mix of convenience and comparison shopping . In assessing the capacity of these towns for additional retailing regard should be given to their role as service centres for the wider rural hinterland. This integration of transport infrastructure with commercial development is a priority.

Recreational, Social, Educational infrastructure in the GDA

Future facilities should be located at sites that are well served by public transport. Adequate recreational facilities should be available in conjunction with, or ahead of, new housing development. The future provision of major education and healthcare facilities should be located at the Development Centres. Provision should be made for local and regional scale parks.

2.2.4 Dublin Transportation Office - Platform for Change

The Dublin Transportation Office's (DTO) strategy for transportation in the GDA is outlined in 'Platform for Change' (PFC) which in turn is fully co-ordinated with the objectives of the SPGs. The DTO's overriding strategy consists of two interdependent elements, on the one hand to implement transport infrastructure and service improvements whilst on the other hand managing demand to reduce the overall growth in travel. In particular demand management is targeted at encouraging a transfer of trips, where appropriate, from private car to walking, cycling and public transport. Land use and transportation integration is a critical element in demand management and underlies the DTO strategy

Clearly the implications for Arklow vary from other population centres in the GDA and in particular the emphasis on public transport must be tailored to suit a town of the size of Arklow in terms of its projected population and land area. However in terms of the overarching traffic management, demand management and complementary land use policies contained in PFC these are , by and large, as applicable in Arklow as they are in any other settlement centre in the GDA.

In particular PFC explicitly states that policies to be adopted in development centres such as Arklow should be consistent with the objective of achieving self-sufficiency.

2.2.5 Strategic Rail Review

As outlined in the Wicklow County Council submission to the National Strategic Rail Study it is important that there is a reasonably fast and frequent rail service in place between Dublin and County Wicklow in both directions at all times of the day. With Arklow being a designated growth centre it is vital that links with Dublin are maximised to attract business development into the town.

The Strategic Rail Review indicated minimal improvements to the line between Dublin and Rosslare upon which Arklow lies. Minor signalling improvements, a passing loop and two suburban stations are proposed on the section between Greystones and Arklow in the longer term (2016-2022). South of Arklow no improvements are proposed.

2.2.6 Wicklow County Development Plan

Arklow is identified as a Primary Growth Centre within the county settlement strategy, similar to Baltinglass, Blessington, Bray, Greystones / Delgany, Carnew, Wicklow, Newtownmountkennedy and Rathdrum. The County Development Plan 1999 was varied in order to give specific recognition to the SPG.

Development will be channelled into the primary and secondary growth centres. The Council will, in consultation with the relevant town councils, use its industrial land purchasing policy to promote the growth centre strategy, to ensure a better distribution of employment throughout the county (Paragraph 2.8.2 of the Development Plan, and Variation No. 2 adopted 9/4/2001).

The Development Plan recognises that, traditionally, Arklow has had a comparatively low population growth rate within the county. This situation will be reversed by the adoption of the SPGGDA, with an indicative 2016 maximum population of 21,000 persons.

Development Control Objectives

Industrial Development

Where no zoned lands for industry are available within towns, the Council will consider proposals on suitable land within the town environs[1]. Proposed industry should not seriously interfere with the existing or proposed land uses in the area, and should accord to several other criteria on location and need. The Council will specifically encourage manufacturing and service industry in the south of the county, through the provision of serviced land, enterprise units etc.

Coastal Management

The Council promotes the establishment of a roll-on roll-off freight port at the Roadstone site, in addition to Arklow Port.

The area between Clogga and Kilmurray shall be reserved as an agricultural area.

An Action Plan shall be prepared for the area between the coast road and the shoreline in the context of the expansion of the Roadstone Jetty and Arklow Port developments.

2.2.7 Wicklow County Development Board Strategy

In 2002 Wicklow County Development Board published its strategy document entitled 'Outlook – The Ten Year Strategic Plan for County Wicklow'. This strategy addresses the development of the county in key areas including social inclusion and Housing & Infrastructure. These areas of development, in particular, overlap with the vision for the IFPLUT Study.

Outlook specifically addresses Housing and Infrastructure in the context of Wicklow's location in the 'Urban Shadow' of the Dublin metropolitan area. The strategy identifies a clear link between the commuting travel pattern to the metropolitan area and quality of life in Arklow and in common with the NSS and SPG identifies specific objectives as follows that must be addressed in order to tackle this issue and related issues.

- To create a safe, accessible quality living environment for all members of the community.
- To provide for balanced sustainable growth while preserving a sense of community where residents can live and work in a quality environment.
- To support the provision of safe and efficient transport systems to meet economic, social and recreational needs of the various sectors of the county.

The strategy outlines specific objectives in relation to housing provision, accessibility in the urban and rural context and the provision of facilities for slow mode and public transport provisions.

2.2.8 Wicklow County Development Board - Rural Transport Audit

The service audit and needs assessment report for County Wicklow was conducted as part of a national study of rural transport under the direction of the Interdepartmental Working Group on Rural Transport. The audits were carried out in three distinct stages incorporating desktop studies of existing services, postal questionnaires and workshops with key stakeholders including the general public. This information was brought together to form a comprehensive report, which formed the basis for developing a 10 year rural transport strategy for County Wicklow.

The report focuses on the target groups within the county that potentially have the highest demand for public transport. These groups include the elderly, people with disabilities, low-income, home duties and the youth.

The report highlighted the lack of public transport provision in County Wicklow, especially when compared to its neighbouring counties of Meath and Kildare. In Wicklow, Only 35% of rural residents live in District Electoral Divisions (DEDs) with some form of scheduled service, compared to 45% for Kildare and 41% for Meath. With regards to Arklow, the report illustrated the problem that a significant proportion of the public transport services coming from Dublin, terminate north of Arklow in the towns of Bray, Greystones and Wicklow.

[1] Town Environs is described in the Development Plan as lands within one kilometre of a town's development boundary.

2.2.9 County Wicklow Retail Strategy

Context and Status of the Retail Strategy

The Draft County Retail Strategy, prepared in accordance with the Retail Planning Guidelines (DoELG, December 2000), provides the strategic policy framework for the spatial distribution of new retail development. The Retail Strategy for County Wicklow is currently in its draft form. Once adopted, the provisions of the Retail Strategy will have to be incorporated into the development plan for Arklow. (The Development Plan may also include a confirmation of the extent of the Core Retail Area2 within the town.)

Arklow as a Sub-County Town Centre

Arklow is identified as a Sub-County Town Centre within the Hinterland Area of the Greater Dublin Area. (For comparison, Wicklow Town is identified as a County Town Centre, and Ashford, Avoca, etc. are Local Centres.) Arklow has the third highest population of any town in Wicklow, and the second largest total retail floorspace, reflecting its important and developing retail role in the county. On the whole, however, the county's main centres are not competitive in terms of the quantum and quality of comparison floorspace when compared to centres in other counties on the same levels in the Greater Dublin Area.

The Retail Planning Strategy for the Greater Dublin Area partly instructed the preparation of the Draft Wicklow Retail Strategy. The GDA Strategy states that Sub-County Centres in the Hinterland should perform the same functions as Town or District Centres in the Metropolitan Area. They are:

> *"…usually anchored by convenience shopping, offer lower comparison retailing and have a more limited service role."*

In terms of the distribution of major new retail floorspace, the primary focus of the GDA Strategy is on the upper levels of the settlement hierarchy namely Bray, Wicklow and environs, Greystones / Delgany and Arklow. The distribution should also be appropriate in scale and character to the hierarchal status of the Centre.

2.2.10 Arklow Town Development Plan 1999

Development Plan Strategy

Arklow is ideally suited to expand its present function as an industrial town, as a service centre for the surrounding area, and a focus for tourism in the region. It is the policy of the Planning Authority to strengthen the town's local and regional role by:

- Encouraging manufacturing and service industry by the provision of services to industrial lands.
- Providing for population increase by increasing utility and community services.
- Promoting tourism through environmental improvements and improving tourist facilities.
- Protecting and improving the socio-economic and environmental assets of the area in an efficient and orderly manner that will maximise resources and promote sustainable development.

Strategic Land Use Objectives

To improve and reinforce the development and attractiveness of the town centre, and to encourage the development of river frontages and properties.

Public and Private Housing

Housing land requirements shall be reviewed frequently if recent trends of becoming a dormitory town continues at the same pace, and also to enable a better choice of housing stock and density. Meeting existing shortfalls and curbing ribbon development will also increase relative demands.

Industry

Industrial development will be focussed to Tinahask Upper and various smaller lots within the urban area, as well as adjacent to the proposed Port Relief Road (South) and/or at the proposed ro-ro port at Roadstone.

Areas close to the North and South Quays and Docks area, currently zoned for heavy industry, should now accommodate light industry, crafts, leisure, commercial and residential developments. Future development should be largely directed towards the environs area.

---

[2] Priority should be given to locating new development within town centres. If town centres are not readily available with a reasonable and realistic timescale, then an edge-of-centre site may be acceptable. The latter is defined in the Retail Planning Guidelines (DoELG, December 2000) as being within 300-400 metres of the Core Retail Area. The Draft Retail Strategy considers that the exact definition will vary, however, with the local circumstances.

Tourism and Amenity

The Development Plan proposes greater use of the Avoca River for leisure purposes, enhancing its banks and encouraging the provision of a marina and maritime park in the harbour area.

Land Requirements

Industry

40 hectares is required by 2006 to achieve an unemployment rate approaching 5%. The current level of zoned lands is 7.5 ha at Croghan Industrial Estate and 14.5 ha east of the railway line at Knockenrahan. This implies that 18ha of new industrial land will be required outside the urban area. In the light of subsequent rezoning in the County Council area this requirement is now dated.

It should be noted that the capacity of these zoned lands have substantially changed since the previous Development Plan review.

Housing

Land requirements for private housing has been significantly underestimated, but an optimistic view of housing requirements should be taken in the light of the increasing attractiveness of Arklow, on-going investment opportunities and an improved road system generally. An estimated 750 houses are required over a 5-year period from 1999, or 50 hectares allowing for 20% open space.

The Development plan states that 90 ha of land is zoned for residential purposes. The development plan considers that some further rezoning is desirable for the following reasons:

- There is approximately 25-30 hectares of land largely in the south west of the town that has been zoned in the last two plan periods. It has remained undeveloped and is likely to continue as undeveloped in the current plan
- All land currently zoned is “not serviceable”
- Public housing will require some of these lands

These conditions were taken into account in Section 5 below which details the current zoning requirements for the town in order to accommodate the population target of 21,000

Schools

2.6 hectares are zoned for an 8-room primary, and 500-pupil secondary school, situated on the SW section of the lands zoned for residential use in Tinahask Upper.

Open Space

2.5 ha are zoned in the Tinahask Upper area for recreation purposes.

Transport Objectives

The plan contains the following specific transport objectives

- Co-operate with the County Council in the construction of a port relief road at the southern end of the town and spur road to Tinahask.
- Widen South Quay from Arklow Bridge to its junction with Harbour Road.
- Provide car parking at Upper Main Street.
- Improve junction between Johnstown and Coolgreaney Road.

2.3 Summary

The strategies, plans and studies that form the frame of reference for the Arklow IFPLUT Study are broadly consistent in terms of the integration of spatial planning and transportation objectives. The role of Arklow as a target growth centre is a consistent theme across the policies and objectives. Similarly there is a consistent theme in relation to the development of transport in the town in relation to public transport links within and beyond the town and the need for growth in travel by foot and bicycle.
This strategic review of Arklow is complemented by the detailed review of the existing profile of the study area outlined in the next section.

3 EXISTING PROFILE

3.1 Introduction

The detailed review of the existing profile of Arklow and its Environs in terms of population, employment, education, land use and amenity provision, water supply and wastewater treatment, transport provision and waterfront activities is outlined below. The purpose of this review is to identify at the local level the particular opportunities and issues that the town faces in terms of developing into a self-sufficient centre with a population of 21,000 people.

3.2 Population

3.2.1 Total Population

The preliminary results of the Census 2002 illustrate a period of rapid population growth between 1996 and 2002, with the national population increasing by 8%. The Greater Dublin Area reached a population of 1.53 million in 2002, an increase of 9.2% on the 1996 figure of 1.405 million. Although the population in the Greater Dublin Area (GDA) increased at a slightly faster rate than in Ireland as a whole, there were clear differences in the population growth rates for individual counties located within the GDA. While the Dublin Region grew by only 6.1%, the population in the Mid-East Region, in which Arklow is located, increased by 18.8%. Corresponding to this development the population in Arklow also grew substantially in the last six years.

The IFPLUT Study Area comprises the Arklow Urban District (U.D.) and parts of the DEDs of Arklow Rural and Kilbride (Rural Area of Study Area). The population figures for the Study Area can be derived from the 1996 Census and 2002 Census as well as from the CSO Small Area Population Statistics (SAPS) using townland data (see Appendix A).

Table 3.1 summarises the actual population figures for the Study Area in the years 1996 and 2002. The figures illustrate how the population growth differs between the different administrative areas included in the Study Area with 98.8% of the overall growth located in the Arklow Urban District.

Table 3.1 1996 and 2002 Population of Arklow IFPLUT Study Area

	1996	2002	Change 1996-2002	
			Actual	Percentage
DED Arklow Rural	952	1082	130	13.7
DED Kilbride	771	766	-5	-0.6
Arklow U.D.	8,519	9,963	1,444	17
Rural Area of Study Area	392	409	17	4.3
Arklow IDFPLUT Study Area	8,911	10,372	1,461	16.4

Table 3.1 shows that 10,372 persons lived in the Study Area in 2002.

However, it is likely that the increase in population in Arklow Rural and Kilbride took place close to the Urban District of Arklow and therefore in the Study Area. Under this assumption the total population in the Study Area in 2002 would increase to 10,485.

In conclusion, approximately **10,380 - 10,500** persons lived in the Study Area in 2002.

3.2.2 Demographic Profile

The 1996 SAPS provide data concerning age groups only on a DED level. To determine the number of people in the various age groups in the Study Area, the DED percentages are applied. To be able to forecast the change in the share of the age groups in the population in 2002, the projections in the CSO Regional Population Projections 2001-2031 for the Mid-East Region were used. The following table illustrates the age groups in the Study Area for 1996 and 2002. The population figures for 1996 are derived from Table 3.1. The baseline population for 2002 is assumed to be 10,500.

Table 3.2 Demographic Profile for the Study Area in 1996 and 2002

	1996		2002	
	Actual	%	Actual	%
0-14	2,144	24.1	2,256	21.5
15-24	1,510	16.9	1,725	16.4
25-44	2,480	27.8	3,001	28.6
45-64	1,827	20.5	2,414	23.0
65+	950	10.7	1,103	10.5
Total	8,911	100.0	10,500	100.0

3.2.3 Households and Household Sizes

The number of households (HH) in 1996 is available from the SAPS, based on the 1996 Census and therefore the size of households can be accurately calculated. There are no figures available for 2002. The number of households is therefore estimated on basis of the national average household size of 2.97 determined in the National Spatial Strategy (NSS). The baseline population for 1996 is derived from Table 3.1.

It should be noted however that in assessing the location of the likely future population in Section 5 below, a more conservative household size of 2.7 was applied. The smaller household size of 2.63, predicted in the NSS, is a national average, and therefore includes large urban areas, which tend to have lower household sizes. As the average household size in Arklow and its environs in 1996 was 3.26, it is considered unlikely that average size will fall below 2.7 by 2016.

Table 3.3: Number of Households and Household Sizes for the Study Area 1996 and 2002

	Population	Households	Household Size	% Change in no. of HH
1996	8,911	2,847	3.13	
2002	10,500	3,535	2.97	24.17

3.3 Employment

3.3.1 Total Employment

The most recent census on employment available for the Study Area is for the year 1996.The 1996 SAPS provide accurate data by household location and at DED level. The SAPS distinguish between "unemployed" and "those seeking regular work for the first time". For the purpose of this exercise both figures are combined. The "Workforce" is defined as the sum of those people at work and those who are unemployed. The "Participation Rate" is the proportion of the people living in a particular area who are in the workforce. The baseline population is derived from Table 3.1.

Table 3.4 Employment Figures in 1996

	At work	Unem-ployed	Workforce	Participation Rate	Unemployment Rate of Workforce	Unemployment Rate of Population
No.1 Urban	2,207	611	2,818	41.1%	21.7%	8.9%
No.2 Urban	506	101	607	36.5%	16.8%	6.1%
Arklow U.D.	2,713	712	3,425	38.8%	19.3%	7.5%
DED Arklow Rural	345	49	394	41.4%	12.4%	5.1%
DED Kilbride	287	37	324	42%	11.4%	4.8%
Total DEDs	3,345	798	4,143	40.7%	14.4%	5.8%

For 2002 certain assumptions have to be made, since the preliminary results of the 2002 Census do not provide up-to-date figures.

Based on information supplied by the DTO, the key data for 2002 is as follows:

- Existing Jobs in Arklow: 2,500
- People Unemployed: 700 (6.7% at a population of 10,500)
- Net Outward Migration: 1,440
- Total Labour Force: 4,640
- Participation Rate: 44.2% (of a population of 10,500)

3.3.2 Employment Profile

In relation to the employment profile, SAPS are only available for 1996 on DED level. Table 3.5 illustrates the share of people in work in the different employment sectors.

Table 3.5 Distribution of Employment Sectors on DED level in 1996

	Arklow U.D. in %	DED Arklow Rural in %	DED Kilbride in %
Agriculture	2	31.9	20.6
Mining	0.5	0.6	0.3
Manufacture/Industry	30.6	16.2	19.5
Building/Construction	8.7	9.9	8.7
Electro/Gas	0.5	0.6	0
Commerce	21	14.2	11.8
Transport	5.4	2.9	3.5
Public Admin	4.4	2.3	8
Prof. Services	13.6	10.7	15.7
Other	13.3	10.7	11.8

3.4 Existing Land Use

Existing land uses are detailed below and illustrated on Map 2.

3.4.1 Residential

Arklow is a relatively compact town in terms of location of residential development with an existing population within the study area of approximately 10,500. Most of the existing residential development is located to the south of the river, although there is a proportion located on either side of the Dublin Road to the north of the river.

The type of residential development existing in the town is typical of a similar sized Irish town. It varies from one-off housing on the outskirts of the town, to ribbon development on all the road approaches, to housing estates of varying design and densities.

Most new development is occurring, or is proposed to occur, to the south and west of the town, where the majority of the zoned, undeveloped land exists.

There has been some degree of new infill development occurring on vacant or underused sites in the town centre area, most notably along the north and south harbour areas.

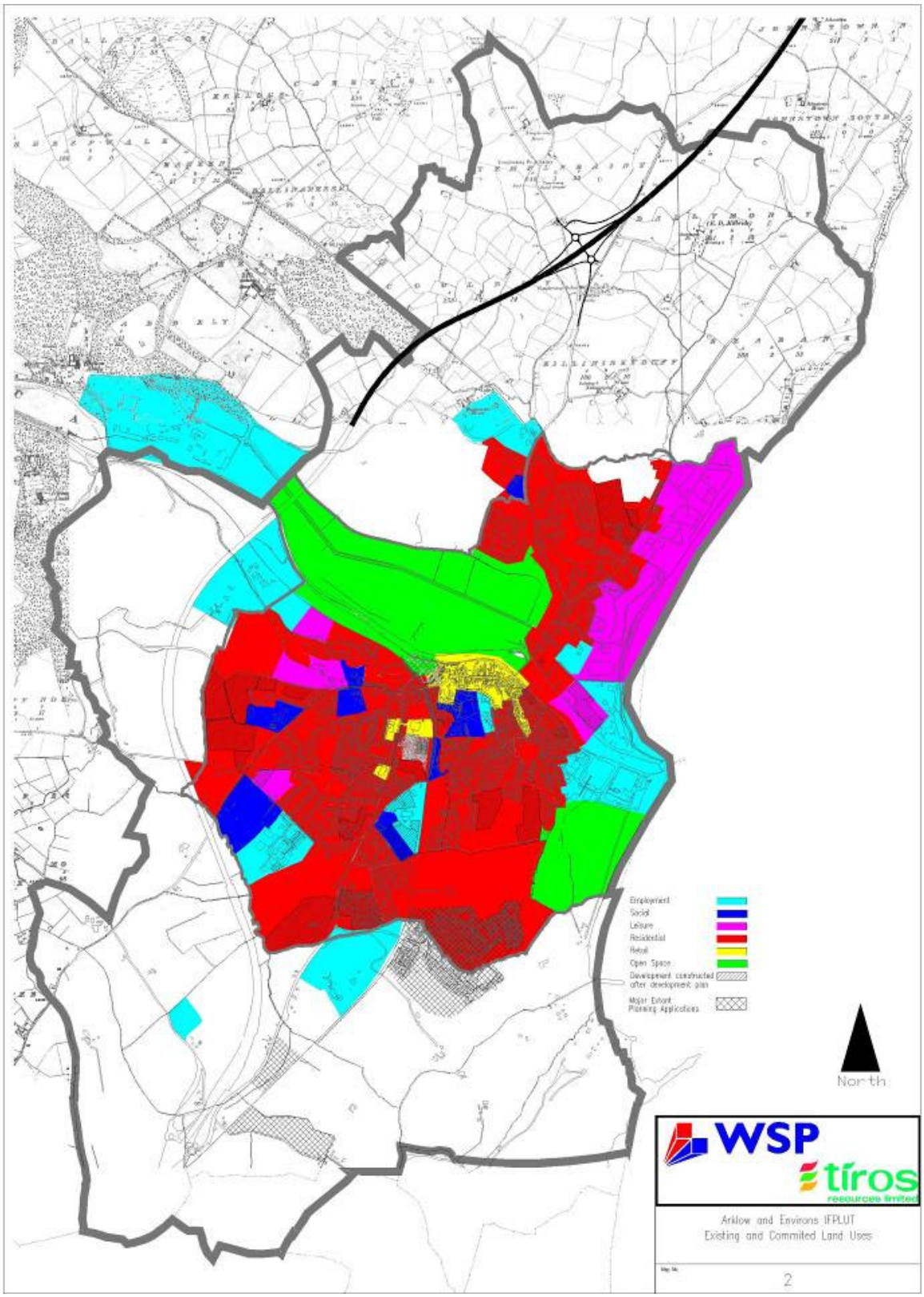
3.4.2 Employment

Total employment in the town is in the region of 2,500 people. Spatially, it is mainly concentrated in the town centre itself, the port area, and also in a number of industrial / business park estates located around the periphery of the built up area. Town centre employment is primarily composed of retail and service employment and is mainly concentrated on the Main Street and adjacent streets, and also along the Wexford Road, where three supermarkets exist. There is also some employment north of the river, for example small retail, a sawmills and hotel and leisure employment.

The port area, which used to be a prime source of employment for the town, is less important in terms of employment numbers. This is reflected in the fact that the port area on the north of the Avoca River has been zoned in the Arklow Town Development Plan 1999 as MP/C, which allows for primarily marine, commercial and residential use. The port area on the south of the river, however, has retained some employment uses, including Vitra Tiles, with over 100 employees.

Other employment 'centres' in Arklow include Croghan Industrial Estate, Kilbride Industrial Estate and the newly developed IDA Arklow Business Park. The former industrial parks contain a number and variety of businesses, many of which are promoted by IDA and Enterprise Ireland. The Arklow Business Park (zoned as Kish A in the Wicklow County Council Development Plan) covers 62 acres, and currently contains EuroConex Technologies Ireland, which employs approximately 160 people. The IDA proposes to develop the business park to its full extent once appropriate client companies have been identified.

There are also a number of single industries on the outskirts of the town, which are significant employers. These include Servier Industries Ltd., on the Gorey Road, which employs 100 and is expected to double the workforce in the next year.


Employment
Social
Leisure
Residential
Retail
Open Space
Development constructed after development plan
Major Extant Planning Applications
North
WSP
tíros resources limited
Arklow and Environs IFPLUT
Existing and Commited Land Uses
2

3.4.3 Educational Facilities

Arklow currently has six primary schools and three secondary schools. The primary schools are shown in Table 3.6 below.

Table 3.6: Primary Schools in Arklow

School	Area (hectares)	Capacity	No. of Students (2001)
St Michael's	0.75	540	373
Carysfort	1.0	120	154
St Peter's	0.8	250	107
St Joseph's	0.4	400	455
Arklow Boys NS	1.52	460	235
Gaelscoil	n/a	300[3]	128[4]
Totals		**2,070**	**1,452**

The three secondary schools, which are all operating under capacity, are shown in Table 3.7 below.

Table 3.7: Secondary Schools in Arklow

School	Area (hectares)	Capacity	No. of Students (2001)
St Mary's College	3.6	650	483
St Kevin's CBS	1.66	300	231
Arklow Community College	3.08	430	373
Totals		**1,380**	**1,087**

3.4.4 Leisure

Arklow is relatively well catered for in terms of both active and passive recreational facilities. The passive recreational facilities (not including open space in housing estates) include the Lake and Nature Reserve at North Beach, Abbey Park and Main Street Park. These total approximately 14 hectares. The Lake and Nature Reserve is a large, mainly pedestrianised area located adjacent to the coast. The two town parks are both small in size, but are formally laid out with park benches and flower beds.

The North and South beaches are also a major quasi-passive recreational facility. The bathing beaches and adjoining dune systems are a major amenity resource to the town. Improved water quality and improved walkways will increase their value.

The existing active recreational facilities can be divided into both public and private facilities. The former includes the athletics track, the municipal pitch and putt course and the town leisure centre. The latter includes an indoor soccer pitch, squash courts, a fitness room, sauna and lounge bar / coffee shop. An indoor heated swimming pool has recently been constructed adjoining this facility.

Private facilities include three soccer clubs, two GAA clubs, a tennis club, rugby club, golf club and a sailing club. Each have their own facilities / grounds. There are also two athletics clubs, a boxing club and a cycling club in the town.

[3] The Gaelscoil is currently at capacity with the existing pupil numbers. However, as the school is relatively new (opened in 1998), they are expanding each year until it achieves the desired capacity of 300 pupils.

[4] This is the figure of the current academic year.

3.5 Extant Planning Applications

There are four outstanding applications of note, two of which are located within Arklow Town Council functional area, one of which is located in both Arklow Town Council's and Wicklow County Council's functional area, and one of which is located solely within the functional area of Wicklow County Council. These applications by virtue of their strategic importance were considered as committed land uses in the development of the framework scenarios in section 5.

- P.166/2000 (Arklow Town Council) and 00/3686 (Wicklow County Council): Permission sought by Reville Limited for a mixed use scheme comprising residential, commercial, leisure, office based employment and transport development at Tinahask Upper, Arklow. In brief, the development comprises 266 no. dwellings, over 50,000 sq m of office based employment, a number of retail units, a hotel, an educational building and a railway station.
- P.98/2001: Permission sought by Alp Construction Limited for a mixed use scheme comprising a cinema, crèche, doctors surgery, gymnasium, restaurant, 2 no. cafes, 11 no. retail units, 14 no. office units, 135 no. dwellings, 225 no. car parking spaces, and a landscaped public park at Upper Main Street, Arklow.
- P.52/2003: Permission sought by Tesco for a new shopping centre of almost 5,300 sq m and parking for 442 no. cars at Wexford Road, Arklow.
- 01/4100: Permission sought by Arklow Business Park Limited, a consortium of local business people, for two retail units, five manufacturing units, an office building, and two warehouse units at Kish townland, Arklow.

Since the beginning of 1996 there have been a total of 105 no. planning permissions granted in the study area for non-domestic development. Non-domestic is defined in this context as all development other than minor extensions or alterations to existing residential, commercial, leisure and institutional use, and any development greater than a single house.

Of the 105 planning applications, 67 or 64% have been for residential development, 17% were for new industrial / warehousing and related development, 8% were for new retail development, 5% were either educational (including crèches) or public buildings, 3% related to office development, and the remainder were for leisure and agricultural development.

There were three noteworthy applications that have recently received planning permission:

- 00/2285: Permission granted for the site development works for a business park on a site of 13.4 hectares. The applicant was Wicklow County Council.
- 00/2286: Permission granted for the site development works for an industrial estate on a site of 7 hectares. The applicant was Wicklow County Council.
- 01/4751: Permission granted to Arklow Business Enterprise Centre Limited for an enterprise centre of 2,100 sq m, located on a site of 1.8 acres, which is in the industrial estate granted under planning application 00/2286. A number of start-up units ranging in size from 60 to 200 sq m are in the enterprise centre.

Following consultations with Wicklow County Council it is assumed that the larger outstanding planning applications will be granted, not necessarily in their current format, but sometime in the future. The impact of these planning applications on the sustainable development of the town is assessed in Section 5 below

3.6 Land Availability: Opportunities and Constraints

3.6.1 Existing Zoning

The existing land use zones in the Town Council functional area and in the Environs must be taken into account in any land use study. This study was carried out on the basis that the existing land uses would be reviewed, and that recommendations would be made regarding existing individual zones, where necessary.

Arklow and its Environs appears to have a reasonable supply of both undeveloped residential and employment zoned lands.

There are approximately 49 hectares (121 acres) of residential zoned lands that are currently undeveloped. This does not include the 8.8 hectares of residential zoned land that are subject to the planning application by Reville Limited. It also excludes approximately 7.5 hectares of underused land either zoned for town centre uses, or for port/commercial/residential uses north of the Avoca. Finally there are numerous small infill sites in residential areas that could also be developed for minor residential schemes.

This amount of zoned land will probably be adequate for the needs of the town for the near future, although whether it is adequate for the needs up to 2016 is further explored in Section 5.

In terms of land zoned for employment, there are two types of employment zones – high density and low density. High density is usually in more central locations and will cater for office and retail uses. Low density is on the edge of urban areas and consists of business parks and industrial estates.

For high-density employment, it is estimated that there are approximately 7.5 hectares of underused land either zoned for town centre uses, or for port/commercial/residential uses north of the Avoca River. Finally there are numerous small infill sites in central areas, that could also be further developed for employment opportunities.

The adequacy or otherwise of this supply of land is also discussed in more detail in Section 5.

3.6.2 National Heritage Area

The town marsh is a significant constraint in terms of development of the built environment in Arklow. It is a designated National Heritage Area that is a large wetland area located north of the Avoca River, immediately to the north and west of the built-up area of the town. A disused roadway bisects the site from east to west.

The site is a designated NHA because it is a good example of a relatively large wetland despite the impacts of atmospheric pollution and its proximity to the town. The scarce 'Broad-leaved Cottongrass' has been recorded on the site, adding to its interest. Its designation ensures that no development is permitted on the site. Consultations with Dúchas, however, have stated that a sensitively designed elevated boardwalk would be permissible as a pedestrian and cycle route across the site.

3.6.3 Arklow Bypass

One of the purposes of the Arklow Bypass was to relieve the town centre of traffic congestion by the removal of through traffic and it also fulfils another purpose as a barrier to the spread of the town in a westward direction. There has been some recent development occurring on the western side of the bypass, most notably the IDA industrial estate at Ballyhattin. The bypass should be used to control the spread of urban generated development into the surrounding rural area. Higher density employment generating uses should not be located on the bypass (e.g. office and business parks).

3.6.4 IFI Site

The Irish Fertilizers Industry site is, potentially, a major constraint on the development of the town, depending on the type of industry that is likely to be located there in the future. The IFI, which closed its operations during the course of this study was an industry governed by the Seveso II Directive.

The Seveso II Directive (Council Directive 96/82/EEC) came into force in Europe on 9 December 1996 and relates to the control of major-accident hazards involving dangerous substances. The Seveso II Directive replaces the 'Seveso I' Directive (Council Directive 82/501/EEC). One of the main differences between Seveso I and II is the inclusion of a regulation concerning land use planning.

Seveso II requires Member States to take account of establishments subject to the requirements of the Directive in their land-use policies and/or other relevant policies. The National Authority for Occupational Safety and Health (otherwise known as the Health and Safety Authority) is required to provide advice to planning authorities in respect of the risks arising from major accident hazard establishments. The stated objectives of land-use planning are to be achieved through controls on:

- the siting of new establishments;
- modifications of an existing installation, establishment, storage facility or process, or changes in the nature or quantity of dangerous substances which could have significant repercussions on major accident hazards;
- new developments surrounding existing establishments such as transport links, establishments frequented by the public and residential areas, where the siting of developments are such as to increase the risk or consequences of a major accident.

Land-use policy must take account of the need to maintain appropriate distances between major accident hazard establishments and residential areas, areas of substantial public use and areas of particular natural sensitivity or interest, and, in the case of existing establishments, of the need for additional technical measures so as not to increase the risks to people. It is important to note that these provisions are to be applied to all establishments subject to the provisions of the Regulations.

The main industries affected are the chemical industry, petroleum storage facilities over 5,000 tonnes, incinerators, gas storage facilities, etc.

The IFI was an industry governed by the Seveso II Directive. The implications for Arklow are that if a similar industry were to relocate to the existing facility, new residential development may not be permitted in proximity to the site, including for example, the Kilbride area. Furthermore more favourable locations for industrial areas exist within the town such as Killiniskyduff, which has far better access than the existing site. The IFI site can also be viewed has having major potential to develop as an amenity area given its strategic location within the Avoca River valley. For the purposes of this study, it is therefore assumed that a Seveso II industry will not occur at the IFI site

Water Supply and Wastewater Treatment

Water supply and wastewater treatment provision in the town are potentially a major constraint against development. Whilst the provision of these services is beyond the scope of this study it is important to recognise the significance of these services in terms of future development and investment. The issues relating to these services are outlined below.

3.6.5 Water Supply

Water supply is a particular problem in Arklow. The existing water treatment plant in Ballyduff is about to undergo an upgrading program, which is likely to be completed by early 2005. The upgraded plant will cater for a p.e. of 14,000 people. When designing the plant a number of years ago, The Local Authority's consultants estimated that the highest possible population in the town would be 14,400. The main difficulties are that the Avoca River is unsuitable as a water source due to problems of pollution and the Goldmine River is fully utilised. Ground water testing is ongoing in order to identify further potential sources.

3.6.6 Sewage treatment

The proposed treatment plant will have capacity for 18,000 p.e., broken down as follows:

- Residential population: 12,850.
- Industry: 3,500.
- Schools: 1,200.
- Summer visitors: 500.

The design of the treatment plant, however, allows for the capacity to be doubled relatively easily to 36,000 p.e. The plant has a construction time of three years and it must be in operation by December 2005, or else the town will suffer penalties under the EU Urban Wastewater Directive. At present the construction is being held up due to legal proceedings. The overall treatment system also includes major reconstrction of sewer pipes in the town incorporating the north and south quay interceptors and two pumping stations.

There are no lands in the vicinity of the town that cannot be serviced, other than land on the west side of the bypass. Lands south of the Coolgreaney Road are also difficult to service, as a result of capacity in the existing drains and large-scale development in this area will require an upgrade in the pipe system.

3.7 Flooding

This OPW report presents conclusions and short term and long terms recommendations to try to prevent a repeat of the flooding experienced by the town during 1986 and 2000 which occurred primarily in Lower Main Street, South Quays and Ferrybank. The report states that flooding experienced in the summer of 1986 was caused by a combination by two factors, the magnitude of flow in the Avoca River and by tidal conditions. The flooding in the South Quay/Tinahask areas was caused primarily by the tidal conditions and in Condrons Lane and Ferrybank areas by the magnitude of flow in the river. The occurrence of the "Hurricane Charlie" storm is attributed as the main cause of the flooding.

Some of the short-term recommendations are as follows:

- Undertake tree trimming and debris removal from the banks of the Avoca River.
- Provide a material depot and sand bagging facilities to provide to properties in the event of a flood.
- Installation of a permanent tide gauge and a flood warning system.
- Ensure lands liable to flooding are not developed.

The cost of all the short-term measures is estimated to be of the order of €138,000.

Some of the long-term recommendations are as follows:

- Provide a levee along the eastern side of the Marsh floodplain.
- Provide flood defence walls on the southern bank of the river stretching from the riverside car park approximately down to and including the south quay docks.
- Provide flood defence walls on the northern bank of the river stretching from south of Arklow bridge approximately down to and including the frontage to the marina.
- The Arklow bridge be modified so as to provide improved flow capacity. This would entail deepening of the river under the arches and some excavation of the river bed up stream.

The cost of all the long-term measures is estimated to be of the order of €3.33m.

The report also recommends that the Marsh Floodplain be maintained in its current form as it reduces the severity of flooding in Arklow.

3.8 Transport Network

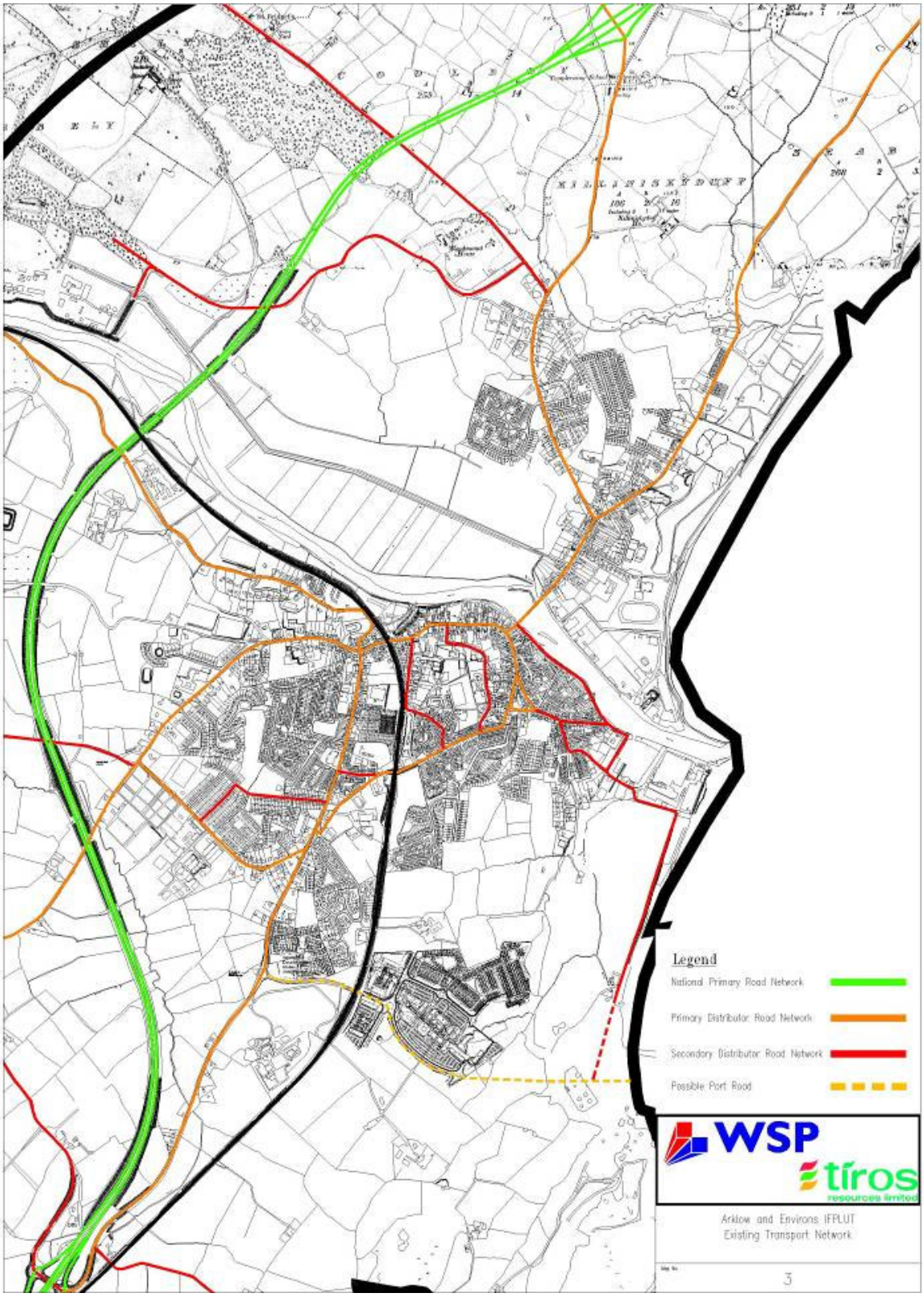
The existing transport network in the town is shown on Map 3, including the hierarchy of the road network. Based on this information the consultants constructed a SATURN and MEPLAN transport model on which land use scenarios and traffic management proposals were tested. More information is given in Appendix C.

3.8.1 Hierarchy of Road Network

Completed in 1999, the N11 Arklow bypass relieved the town from the heavy traffic flows travelling from Dublin to the south-east, thus improving traffic flow within the town centre.

The old N11 road running through the centre of the town still provides the main route for local traffic and joins the N11 bypass to the north and south of the town. The regional R747 link forms the main route, north-west to Avoca, whilst the R750 coastal road provides an alternative route to Wicklow in the north. To the south west of the town, Coolgreaney Road, Cemetery Road and Emoclew Road form a distributor ring to the west of Wexford Road. To the east of the N11, Main Street, Abbey Street and Yellow Lane form a similar loop to the east of Wexford Road.

Below this distributor level network are secondary routes that provide through and loop access to the town centre, residential areas and other sectors of the town. At a tertiary level are mainly cul-de-sac accesses to developments.


Legend
National Primary Road Network
Primary Distributor Road Network
Secondary Distributor Road Network
Possible Port Road
WSP
tíros resources limited
Arklow and Environs IFPLUT
Existing Transport Network
3

3.8.2 Transport Movement Patterns

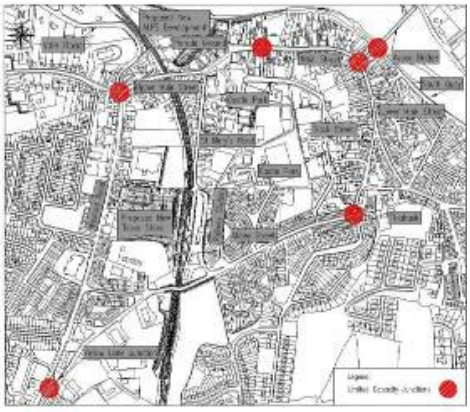
Prior to the completion of the N11 bypass, large volumes of through traffic contributed to the congestion problems suffered within the town centre. The opening of the bypass has resulted in a reduction in through traffic in the vicinity of Main Street however traffic volumes are slowly increasing due to increases in internal trips. Traffic within the town centre will need to be carefully managed if the full benefits brought about by the bypass are to be maintained.

Traffic flow on a number of the main routes within the town centre is restricted due to the restricted capacity of the junctions. In particular, road access across the Avoca River to the town centre is limited by the capacity of the Lower Main Street priority junction.

On the southern fringe of the town centre Abbey Street links the N11 to the South Quay Industrial area and the Roadstone Quarry. These developments give rise to a high degree of HGV movements on routes that have limited carriageway width (e.g. Back Street), whilst the use of alternative routes such as South Quay contribute to congestion within the town centre.

Traffic demand, restricted junction layouts and conflicting movements have contributed to the limited capacity on a number of other junctions. These include:

- Bridge Street / The Quay
- Abbey Street / Back Street
- Yellow Lane / Emoclew Road / Wexford Road
- Wexford Road / Upper Main Street / Vale Road / Coolgreaney Road
- Main Street / Castle Park / Riverwalk Car Park
- Main Street / Bridge Street



3.8.3 Car parking

Within the town centre there is a combination of free on-street and off-street parking. A review of the town centre's existing on-street parking demand has identified a number of problematic areas, these include:

- Lower Main Street
- River Walk
- Castle Park
- Upper Wexford Road

These parking problems are largely attributed to an absence of length of stay restrictions, no parking charges and a limited enforcement of no parking zones. Detailed below in Table 3.8 is a review of the own centre car parks. The assessment shows that the capacity of some of the town centres car parks are reached and in some cases exceeded.

Table 3.8 Existing town centre of street parking facilities

Car Park	No. of available spaces	No. of vehicles in Car Park	Percentage full (%)
Castle Park Car Park	92	124	135%
River Walk Car Park	87	96	110%
Tourist Info. Car Park	21	21	100%
Pettitt's Car Park	92	30	33%
Lidl Car Park	100	26	26%
Tesco Car Park	120	84	70%

Source: WSP survey August 2002

Proposals are being developed by the Town Council for the introduction of pay and display parking with the objective of introducing a greater degree of management of town centre parking.

3.8.4 Pedestrian Routes

Within recent years, considerable work has been undertaken in the vicinity of Schools in Arklow to increase driver awareness and improve pedestrian safety. In the case of Coolgreaney Road, where there is a cluster of schools, the implementation of traffic calming measures and construction of a pedestrian crossing has helped to reduce vehicular speeds and increase pedestrian safety. However, improvements still need to be made to manage pedestrian and vehicular conflicts in the vicinity of St Peters and Carysfort School to name two examples. On a wider scale, further consideration is needed to identify safe routes from residential areas to schools.

Along Main Street vehicular speeds are lowered due to a combination of factors such as off loading of goods, on-street parking and conflicting traffic movements. The limited width of footpaths and the location of some street furniture along Lower Main Street create problems for pedestrian movements.

In general, there is a limited provision of pedestrian crossings within the town centre. The pedestrian crossing outside of the post office is the only designated crossing for pedestrians along Upper and Lower Main Street, whilst the pedestrian crossing adjacent Pettitt's food store is the only safe crossing for pedestrians on Wexford Road.

Traffic calming measures have been introduced along some of the distributor roads including Cemetery Road, Emoclew and Yellow Lane. In the case of Cemetery Road, speed ramps have been implemented at 400m spacings and are therefore of limited effectiveness.

A large proportion of the residential estates fronting Wexford Road and Abbey Street have had some traffic calming measures, mainly in the form of speed ramps, introduced to control vehicular speeds. Some of the new housing estates on the periphery of the town have been developed with various forms of traffic calming measures.

Recommendations are included later in this report on traffic calming measures in new and existing development.

3.8.5 Cycle Routes

There are no existing dedicated cycle lanes in Arklow and its Environs with cyclists currently sharing the road space with other vehicular traffic. Cycle parking is currently unmanaged in the town centre and in some cases cyclists use street furniture to secure their bicycles.

3.9 Public Transport

3.9.1 Bus

Bus Eireann operate between 10 and 13 daily Expressway services from Rosslare Harbour to Dublin stopping at Arklow, Gorey and Wexford on route. This includes a commuter service which arrives in Dublin before 9:00am and departs Dublin in the evening after 5:00pm, the journey to Busaras from Arklow taking between 1hr 30 mins and two hours. The Waterford, New Ross, Enniscorthy Dublin Expressway service operates 3 times daily and serves Arklow on route, although this service is unsuitable for commuter travel.

In addition to the above expressway services, Bus Eireann operate a local service from Arklow to Dublin via Avoca and Wicklow twice daily. This service connects the rural hinterland to these two centres but only one service enables a daily return journey to Arklow, limited to 90 minutes stopover within the town. The route connects Arklow and Wicklow in a circuitous manner, with existing alternative services offering limited connections between Arklow and Wicklow. A summary of the Bus Eireann scheduled services is detailed below in Table 3.9.

Table 3.9: Bus Eireann scheduled services operating through Arklow

No.	Service Route	Direction	Frequency
Bus Éireann (Expressway)			
2	Dublin – Arklow – Gorey – Wexford – Rosslare Harbour	Arklow to Rosslare Harbour	11 daily services Mon-sat 9 daily services Sun only
		Arklow to Gorey	1 daily Service Mon – Fri
		Rosslare Harbour to Arklow	12 daily services Mon-sat 10 daily services Sun only
		Gorey to Arklow	1 daily Service Mon – Fri
5	Waterford – New Ross – Enniscorthy – Gorey – Dublin	Waterford to Arklow	3 daily services Mon-sat 2 daily services Sun only
		Rosslare to Arklow	1 daily service Mon-sat 1 daily service Sun only
		Arklow to Waterford	3 daily services Mon-sat 1 daily service Sun only
		Arklow to Rosslare	1 daily service Mon-sat 1 daily service Sun only
Bus Éireann (Local Services)			
133	Arklow – Avoca – Wicklow – Dublin	Dublin to Arklow	2 daily services Mon-sat 1 daily services Sun only
		Arklow to Dublin	2 daily services Mon-sat 1 daily services Sun only
Dublin Bus (Local Services)			
Dublin Bus services do not extend as far south as Arklow			

According to the Wicklow Rural Transport Audit, undertaken in December 2001, there are currently 20 privately licensed bus route services operating in County Wicklow. A number of these operators provide a service to Arklow, however a large proportion of these are school and college runs.

All of the existing bus stops in Arklow are located on the old N11 route on Ferrybank, Main Street and Wexford Road and the current location of the Main Street bus stop impedes the free flow of traffic as there is no designated lay by.

3.9.2 Rail

Iarnród Éireann operate four daily services from Rosslare Europort to Dublin Connolly, which pass through Arklow on route. This includes for a commuter service, which arrives in Dublin before 9:00am and departs Dublin in the evening after 5:00pm. Due to capacity restrictions between Arklow and Dublin the journey time by rail to Tara Street station is approximately one hour and fifty minutes in the morning peak. The capacity of the train is 600 passengers and a recent survey by Iarnród Éireann indicates 80 boardings onto the morning commuter train in Arklow.

The existing DART rail service only extends as far as Greystones. A summary of the Iarnród Éireann scheduled services is detailed below in Table 3.10.

Table 3.10: Iarnród Éireann Scheduled services operating through Arklow

No.	Service Route	Direction	Frequency
Iarnród Éireann (Intercity)			
	Rosslare Europort – Wexford – Enniscorthy – Gorey – Arklow – Rathdrum – Wicklow – Kilcoole – Greystones – Bray – Dublin	Arklow to Dublin Connolly Station	4 daily services
		Dublin Connolly Station to Arklow	4 daily services
		Arklow to Rosslare Europort	3 daily services
		Rosslare Europort to Arklow	3 daily services

The majority of rail users travel to the train station by car and park on Station Road or in the near vicinity. The current parking arrangement puts additional pressure on the surrounding road network and will therefore need reviewing if the number of rail passengers is to increase.

3.9.3 Hackney

According to the Wicklow Rural Transport Audit, undertaken in December 2001, there are currently 31 hackney vehicles operating in Arklow and its Environs.

3.9.4 Community Services

Within Wicklow, a scheduled Health Board mini-bus service operates twice daily from Wicklow Town and surrounding area to hospitals in Dublin. The Day Care centre bus is available for the sole purpose of transporting Senior Citizens to and from the centre.

The Wicklow Rural Partnership Group, consisting of a consortium of 7 local groups, has submitted an application to the Department of Public Enterprise to operate a number of services within County Wicklow. In relation to Arklow, the group proposes to operate a scheduled service from Tinahely to Arklow via Aughrim. This service would be run daily from Monday to Friday, departing from Tinahely at 08:00 and returning at 5:45pm, thus enabling commuters to avail of this service. The service will be scheduled, with an option for minor diversions for passengers who make a booking over the telephone. The service will also operate as a feeder service for Iarnród Éireann services and Bus Éireann services.

The group also proposes to operate a shopping/social bus service once a week on a Friday from Aughrim to Arklow via Tinahely. This service would depart Aughrim at 9:30am and return at 1:30pm. On completion of a successful application, the group were to commence operation in January 2003.

3.10 Waterfront Activities

3.10.1 Port Facilities

Commercial port activities take place on the north quays whilst the south quays is dedicated to fishing related activities. Within the framework plan it is assumed the both activities will be maintained.

In addition the private jetty facility operated by Roadstone at Rock Big will continue solely to serve the quarry operation for the foreseeable future. The objective in the Town Development Plan to operate a roll on / roll off facility at this location is therefore beyond the lifetime of the IFPLUT Study. However the Port Access Route is considered in terms of other strategic access issues in the town and environs.

3.10.2 Leisure Pursuits

The marina facilities may be extended in the future and such extensions would be consistent with the principles of the framework study.

3.11 Summary

The existing profile of the town defines the local opportunities and constraints in relation to the development of the framework plan. Combined with the broader strategic issues identified in section 2 and the consultation feedback in section 4 the existing profile is used to define the principles and objectives of the framework that form the basis of the development scenarios detailed in section 5.

4 CONSULTATION

4.1 Introduction

In addition to consultation with the Client Group and Arklow Town Councillors, the consultants have consulted widely with identified stakeholders and a summary of this consultation is outlined in this section. Details of the feedback from consultation with the stakeholders outlined on Fig 1.2 are described below.

4.2 Statutory Bodies

The following bodies were consulted on a one to one basis during the study process

- National Roads Authority (NRA)
- Iarnród Éireann
- IDA Ireland
- Harbour Commissioners Board
- Office of Strategic Planning Guidelines
- Bus Éireann
- Garda Síochána
- Enterprise Ireland
- Department of Education and Science

4.2.1 NRA

WSP consulted with Mr Gerry O'Brien of the NRA to discuss the implications and opportunities in relation to the bypass. The main issue is the potential to create a third interchange on the bypass in the vicinity of Vale Road. The interchange was included in the original design of the by-pass and slip road construction was undertaken at that time.

4.2.2 Bus Éireann

WSP consulted with Mr Sean Forde and Mr Robert O'Mahony of Bus Éireann who indicated that commuting volumes and hence bus services from the south of Dublin are much lower than from the north of the city. Bus Éireann have no immediate plans to extend services within the town beyond existing inter-urban routes however, in the longer term, as part of Bus Éireann's ongoing review policy they welcome the provision to keep the bus in the heart of the town. This is seen as vital for all concerned as permeability and speed is key to a customer-focussed service.

Bus Éireann are also examining, on an on-going basis, the potential to provide increased services to Wicklow with onward connections to Dublin. The provision of services to Wicklow and beyond will be considered in the context of the proposed public transport interchange at Rathnew that is being recommended in the Wicklow Town IFPLUT Study. There is also the potential to review the local 133 service.

Bus Éireann are interested in investigating the provision of improved waiting facilities on route and at the town centre and are in broad agreement with the proposals outlined in section 5. In addition the provision of a garage facility would facilitate early morning departures to Dublin. The town centre does create a congestion problem in particular in relation to double parking and policies introduced a number of years ago need to be reinforced for the sake of all road users.

4.2.3 Iarnród Éireann

WSP consulted with Mr Cormac Downes of Irish Rail's suburban rail division. Mr Downes advised that no new services are presently being planned for Arklow but the provision of new cars on existing services is imminent. A new service at 7.00am is being planned from Wicklow and preliminary investigations are being carried out to provide more frequent services from Wicklow. The major issue regarding the provision of new services is capacity restriction in the Dublin area and no new capacity improvements are planned apart from safety issues such as the introduction of continuously welded track.

In further correspondence WSP have asked Iarnród Éireann to consider a number of issues including the implications of paid on street parking in the vicinity of the station, the upgrading of the southern entrance to the station and the provision of a pedestrian route through the new TESCO site. This latter issue has also been raised with TESCO's consultants and both parties agreed in principle with the proposed measures.

4.2.4 IDA

Tíros Resources Limited met with Conor Agnew, Manager, East Region, IDA Ireland, to discuss future employment prospects for the Arklow.

Existing IDA Development

The main IDA sites in the town are Croghan Industrial Estate, Kilbride Industrial Estate and Ballynattin Industrial Estate. Croghan is fully developed. Kilbride is also fully developed, with the exception of the potential two acre expansion of an existing entity.

Ballynattin is a 62 acre site on the edge of the bypass (zoned as Kish A in the County Development Plan). EuroConex, a financial services call centre, is currently based there. It occupies a 50,000 sq ft building, with options to expand. IDA are also applying for a 25,000 sq ft 'advance technology building' this year. The business park is capable of accommodating the equivalent of another 10 operations of a similar size to EuroConex (the existing building can accommodate up to 600 employees).

An existing industry located in the south harbour area is seeking to move into Ballynattin. Servier is also an IDA client company located on a 'standalone' site and will not develop into an industrial estate.

Future Prospects

There are serious questions regarding the future of manufacturing in Ireland unless linked to high value goods, for example, pharmaceuticals. The IDA has noticed that lower order service manufacturing companies, for example plastics, computer housing etc., are leaving Ireland, to establish in cheaper labour markets such as eastern Europe.

The companies that the IDA are seeking to attract to Ireland generally, including Arklow, are:

- Biotechnology companies.
- Telecom companies, and suppliers of telecom products, for example the design and testing of new generation mobile phones.
- Higher order processing of financial transactions (away from existing market centres such as London, Luxemburg etc.), for example EuroConex.
- Shared services industries, for example the worldwide financial transaction centre for Oracle. These are not mere call centres. They tend to employ greater numbers of skilled people and are less internationally mobile.

The difficulty in attracting these industries is whether the country can remain competitive. It should be noted that IDA companies are responsible for only 9-10% of total job numbers nationally.

Arklow

The IDA, currently, does not have any companies seeking to establish in Arklow. However, the situation is very unpredictable and a new company could "come knocking on the door tomorrow" and 60% of IDA jobs are from the expansion of existing IDA companies.

Arklow would be suitable for a pharmaceutical or biotechnology company, particularly given its tradition in the chemical industries. These industries also tend to have a good mix of employment from processing through to management. However the lack of water and waste water treatment is a significant shortcoming in the ability of the town to attract such industries. These issues must be solved if a medium- to large-scale operation is to locate in the town.

Another infrastructural problem is the inward railway service, which is very poor and encourages employees to drive to work. For example the earliest that EuroConex employees can get to work from Bray and Greystones by rail is after 10am. Arklow is too small to attract a very large industry (for example Hewlett Packard), even with a population of 21,000. These industries tend to locate adjacent to bigger labour markets.

There has been a culture change in senior management of internationally mobile companies regarding locating in Dublin. Less than five years ago all such companies wanted to locate in Dublin. However, traffic congestion, recruitment problems etc., have resulted in a greater willingness to locate outside Dublin. Recent examples include MBNA in Carrick-on-Shannon, and AOL Europe in Waterford. Obviously, this trend bodes well for Arklow.

4.2.5 Enterprise Ireland

Tíros Resources Limited met with John O'Dea, Area Director, Dublin and Mid-East Region, Enterprise Ireland, to discuss future employment prospects for the Arklow.

The Role of Enterprise Ireland (EI)

EI supports indigenous manufacturing companies and internationally traded services (for example software writing, consultancy, digital media etc.). Their general goal is to support the establishment of new businesses and assist in their development. Typically, 75% of all EI venture capital funding supports companies located in the four Dublin local authorities, and three-quarters of that amount is concentrated on companies located in Dublin city. EI cannot either support or encourage existing companies operating elsewhere in the country to relocate to Arklow. EI supported companies account for approximately 10% of the Irish labour force.

Future Prospects for Arklow

EI does not know of any existing companies with plans to move into Arklow. Any EI funded companies that are likely to locate in Arklow are either new companies, or expansion of existing companies but they are not aware of any such companies that are likely to establish in the town in the near future. Any new companies will probably be small operations, at least initially. In terms of existing companies, EI are not aware of any that will experience major growth in the future. This is difficult to predict however, and there may be major growth companies existing in the town of which EI are not aware.

It is likely that a company from biotech or pharmaceutical sector could be attracted to the town, because of the town's tradition in process engineering. The food sector may also be a possibility (for example a ready meals manufacturing plant), although it is unlikely. Only two of these types of companies establish in Ireland each year, and current policy is to attract them to areas outside the Dublin and Mid-East regions.

Enterprise Centre

EI have supported the proposed Wicklow County Council enterprise centre located on the eastern side of the southern interchange, to the tune of €1.3 million. The centre, if developed to its full potential, could provide 200 to 250 jobs. It will accommodate micro-enterprises, which tend to have low employee numbers. On average, only 1 in 30 of such companies will grow to a significant size in terms of employee numbers.

4.2.6 Harbour Commissioners Board

Waterside Traffic

The port operates 4 berths on the North Quays, and is capable of handling vessels up to 85m long, 4.2m draught, up to 2,600 tonnes, being limited by the angle of the existing walls. A vessel of this size can enter the port in the morning and be ready for departure later that day. Approximately 200 vessels a year were entering the port, carrying fertiliser products (including gypsum)(in/out) and timber (in). These were carrying in the region of 750,000 tonnes per annum but clearly this volume is now diminished following the closure of IFI.

The fishing fleet within the town is minimal and primarily relies on Whelk fishing. Ammonia used to be brought in by sea to IFI but this stopped approx.15 years ago. The pipeline is still in working order, and was tested early in 2002.

Land Side Traffic

Traffic from the port travels along a number of routes, but there is heavy usage of the South Quay by HGV's. It is a concern of the Commissioners that the quay walls are suffering from this traffic, and this roads continual deterioration needs to be addressed.

Land Use

The Board is responsible for the quay walls, piers, and has under it's ownership limited land on the north and south quays. This land is leased to a number of interests including Qualcream, warehousing, and tile production. The Qualcream site is on a 999 year lease, whilst other sites are on shorter term arrangements.

Plans/opportunities/concerns for the future

- The port is still under public ownership that has benefits and problems.
- The Arklow Bank Offshore wind farm is located off the Arklow coast, and will site it's operations in the port. This includes long term maintenance, shorter term construction and the landfall point for the transmission cables.
- New outer walls were proposed that would increase the ports capacity with new quays, the ability to handle larger ships (6,000 tonnes) and room for more recreational moorings.

- The port has a lower tidal range and can offer low set up costs for any RO/RO operation in terms of embarkation ramps.
- Several sites around the harbour area have leases due to expire in the next 12-20 years and offer re-development opportunities.
- The port is heavily dependent on agriculture and is effected by any agricultural crises e.g. Foot and Mouth.
- New works planned for the town's sewage system could incorporate an expanded southern quayside, providing opportunities for new parking, footways and an improved junction with Bridge Street.

4.2.7 Garda Síochána

The local Sergeant at Arklow Gardai Station was consulted twice during the study, once to obtain general information, and secondly to assess traffic management proposals put forward by the consultants.

Road Safety

Traffic levels have fallen since the bypass to the benefit of the town. Traffic has since increased as larger numbers of local trips that were previously suppressed have occurred. Primary junction of concern is Bridge Street and Main Street. Accidents are minimal, as drivers are cautious due to the confusing layout. Car parking is insufficient in the town on Thursday through to Saturday. Road markings have deteriorated within the town in the past few years, and should be re-painted and improved. Cycling is on the increase and measures should be in place to ensure cyclists safety within the town.

Schools

Coolgreaney Road: Despite the concentration of schools there are no specific concerns. Traffic calming has reduced speeds and the design of these measures could be improved. Better management of parking during school pick up and set down times is required, along with the introduction of school bus parking areas need to be considered to allow for safer traffic movements

St Michaels, Castlepark: There are a large number of conflicting movements between school related trips, shoppers and workers. The Gardai are also concerned about illegal parking and suggest better management is needed.

St Joseph's, Templerainey: There are concerns regarding traffic speed along Dublin Road. Efforts have been made to address this issue with new road markings, but these have been disturbed with recent roadworks.

Carysfort C of I, Lower Knockenrahan: The proximity of the school to adjacent housing estates causes a range of conflicts. A new gate has been opened to bring children to waiting coaches avoiding the front of the school. The nature of school's catchment population involves pupils travelling from further afield and that are subsequently dependent on motorised modes.

Traffic Management Proposals

As South Quay is prone to flooding, there may be a need to keep access onto Main Street during these periods. Concerns were highlighted over the increase in traffic along South Green. An option to consider would be to direct one way traffic down Harbour Road. Overall Gardai were satisfied that the one way system proposed along Bridge Street/Lower Main Street and South Quay. It was highlighted that the system would alleviate some of the congestion at the existing Bridge Street/ Lower Main St junction

Personal Safety

The town can be viewed as having comparable crime rates for a settlement of it's size and social structure. The Gardaí are supportive of initiatives to improve personal safety and reduce concerns including a local CCTV scheme, and sufficient lighting on walkways and pedestrian short cuts. the decommissioning of Main Street car park to an amenity area will require careful design through good lighting and open layout. These measures should be implemented so as to avoid anti social behaviour in and around this area

4.2.8 Department of Education and Science

Tíros Resources Limited consulted with the Planning Section of the Department of Education and Science, with a view to ascertaining information on the existing schools in the town. Their opinion was also sought in relation to the likely number of new schools that would be required in the town, given the proposed population increase, and also suitable locations for such new schools.

4.2.9 Office of Strategic Planning Guidelines

Tíros Resources Limited consulted with Ms Mary Darley, the technical director of the Office of the Strategic Planning Guidelines for the Greater Dublin Area (SPGGDA), to discuss the role of Arklow within the Greater Dublin Area.

Vision for Arklow

Ideally, Arklow in 2016 would be a sustainable employment centre, which would be an attractive place for the future population to work in, and also an attractive employment centre for the rural hinterland population. The main objective of any future plans for the town should be to prevent commuting for work purposes.

In terms of the railway service, it could be set up to encourage business commuting, as opposed to job commuting. The former relates to people who may need to travel to Dublin or other population centres for meetings etc. The train service would therefore be improved after the morning peak to accommodate these people, and not commuters going to Dublin on a daily basis. A phasing plan for the town should tie into the development of the railway.

Population Projections

The Office of the SPGGDA is satisfied with the population target of 21,000 people by 2016, providing it is developed as an alterative to the growth of surrounding villages. A large increase in population over a similar period in the rural hinterland surrounding the town and environs would be contrary to the SPGGDA. They are satisfied though that Wicklow County Council has devised a countywide strategy that will allow the Guidelines population targets to be achieved, both spatially and numerically.

The household size projections for Wicklow County Council for 2002 contained in the Guidelines, appear to be accurate, compared to the recently issued preliminary census data.

Density of Development

The Office of the SPGGDA would strongly support a higher density of development than currently exists in Arklow. The recommendations of the Residential Density Guidelines should be used as a starting point. Mixed use, high density development zones should be considered, to prevent the need to travel, and adhere to the principles of sustainability.

4.3 Public Consultation

Preliminary public consultation took place over two days at Arklow Bay Hotel on September 18th and 19th. The format incorporated a public display of theme boards that identified specific issues in relation to land use and transportation in the town. Attendees were invited to view the boards accompanied by facilitators from WSP and Tíros and they were then asked to complete a questionnaire in relation to the issues raised.

Following the publication of the Draft Final Report a public display was held in the Library for three weeks from April 1st 2003 and again the public were invited to make submissions to the consultants. Details of the replies from both consultations are shown below.

4.3.1 Preliminary Public Consultation

The following summary details the questions and range of answers received during the exhibition.

Land Uses

Q1 Are the towns existing amenities (Schools, Shops, Leisure etc) adequate for your needs and are they located in a convenient place?

- Inadequate amount of post offices
- Adequate for the present
- Arklow needs a large town park
- Arklow needs a large town plaza to centre of town
- Leisure centre/beaches/park areas too remote from some housing areas
- Shops – Yes except health food store and large department store like Dunnes
- Leisure – Skateboarding area, safe cycling and good playgrounds needed
- Only one school north of the river
- The schools are all located in one area.
- All the shopping centres are on one road creating traffic congestion

Q2 The population of Arklow is planned to grow from 10,000 to 21,000 by 2016. New housing, employment and retail will be needed in the town to accommodate this growth? What new amenities and services do you think will be needed and where can they be placed?

- More car parking spaces required
- Second town bridge upstream
- Second or third post office
- Secondary schools require better and more advanced facilities
- 3rd level facility required for new youth and for adult education/training and retraining
- Shops and public houses should be located adjacent to new housing
- Public transport by 2016
- Large shopping centre to accommodate stores like M&S, Superquinn, etc it doesn't matter where they are situated if there was a bus service in the town
- Arklow is almost surrounded by industrial – important to retain farm/residential on main entrance from Dublin
- Industrial in existing parks zoned for industrial sewage treatment between bypass and IFI (pipe system already there)
- Decent cinema, Teenage facilities e.g. coffee and tea bars, Internet cafes, local bus route, more frequent trains
- A hospital is required in the town, or at the very least, a park and ride and frequent bus service to Loughlinstown

Traffic congestion and safety

Q3 Do you think the town is a safe environment for pedestrians and cyclists? If no, why not? (Give specific examples if you can)

- Cars and lorries travel (and park) on footpath
- Speed of traffic on main street
- One central street – Too narrow for cyclist
- Not too bad but cyclist use the pavement anyway
- More pedestrian crossings needed

- Duck pond area by Arklow Bay Hotel should be pedestrianised

Q4 Do you think the parking within the town is adequate? Is it managed in a correct way? How would you change it?

- Street parking should be one-hour limit on Main Street
- Main Street car park could be extended to hang over the river or could be made split-level
- Shuttle bus around town at peak times
- More through roads are needed not just one main thoroughfare
- Pay parking to prevent spaces been used all day by workers
- Multi level car park on upper main street
- Chicane removed on Coolgreany Road
- Leave more room for short term parking for schools
- The town marsh should be filled in to provide a large car parking area for the town.
- The introduction of pay parking will be detrimental to employers, as many employees travel to Arklow by car, due to lack of alternative modes of transport. Pay parking may force employees to seek employment elsewhere.

Q5 How has the new Bypass affected the town?

- Removal of pass through traffic i.e. Wexford traffic and HGVs – reduced congestion
- Large increase in residential traffic after bypass. Residential traffic is still increasing and will cause congestion
- Better for Business
- Great – less traffic jams – more people in town
- Shopping a pleasure

Employment

Q6 Where do you work, and how do you currently make the journey?

- Majority of people drive to work

Q7 If you travel to work by private car would you consider walking, cycling or using Public Transport? If no why not?

- Some would use public transport if available

Shopping

Q8 Do the retail facilities in Arklow meet your needs? (Give consideration to food, clothes electrical etc)

- Inadequate range of products generally
- Wexford Rd damaged High St
- A shopping mall would be nice
- lack of selection/range of products

Q9 Where do you shop outside of Arklow and for what goods?

- Dublin – Stationery, Books, toys & Sports shops
- Enniscorthy
- Local good enough for personal use
- Gorey – Farm equipment & hardware
- Dublin – Food, clothing & drapery

Education

Q10 How do your children currently travel to school?

- Walk
- Driven by parents

Q11 Do you think it is safe for children to walk or cycle to school? If no why not? (e.g. School to far away, safe route not available)

- Inadequate dedicated cycleways
- Walking – Generally safe
- Cycling – No. No cycle lanes, No respect for cyclist, Kids talk, chat and use mobiles
- 30mph speed limit not adhered to and so dangerous for children and pensioners
- Walk accompanied for safety
- Safe route not available from Coolgreany rd to Knockenrahan

The way forward

Q12 What transport improvements do you think are necessary to achieve a safe and sustainable growth within the town?

- Third access from by-pass for Dublin & Wexford bound traffic from Woodenbridge direction.
- Cover over rail line from Vale road to station on to Abbey road.
- Pedestrian link from Parade ground to Castle Park
- Multi-storey car park required.
- Second town bridge to take harbour and other traffic off main st.
- Shuttle bus around town
- Better train and bus service out of town to neighbouring town centres and Dublin
- 3rd Level education centre outside town with public transport access
- Some form of public transport as town grows
- Make the town more people friendly i.e. pedestrian
- Arklow needs buses that travel from the top end of Coolgreany road down to leisure centre area and take in Dock Rd and back up to cemetery on Coolgreany rd
- A roundabout at the Wexford rd/Yellow Lane junction is badly needed and pedestrians crossing
- Mini roundabout at Lamberton/Coolgreany Road & Park Junction
- Proper space for bus stops on main street

Q13 Any other thoughts…

- Yard attached to Bolands Hardware shop could be relocated.
- Footbridge over the river to utilise the open space (NHA area)
- Widen South Quay – Link road to either side of bridge on south bank
- Public transport too expensive to run – Private / public enterprise should be considered
- Green field sites are very limited in the town. Consideration should be given to paying certain property holders to relocate and redevelop the sites (e.g. Bolands hardware & Ormonde Cinema)
- More Gardai to patrol the streets – more discipline needed
- Industry should be centred towards the town centre and not around the edges – this would minimise traffic
- If Arklow is going to double in size its development should be done with a certain amount of flair i.e. think on a European town scale
- Houses should be higher and have more of a town feel not a village
- Have buildings that make a statement

4.3.2 Draft Final Report Public Consultation

The following is a listing of the major issues that were raised during the public display of the draft final report.

- Opinions expressed in favour of and against retaining existing town centre car park
- Consideration should be given towards retaining Killiniskyduff as a residential area
- Pedestrianisation of Main Street generally looked upon favourably
- The local bus service would be beneficial for local school children and for food retail shopping
- A need for bus stops to be located in strategic locations through the town with appropriate loading and unloading provision
- Introduction of the local bus service would be welcomed straight away
- Improvements to parking facilities throughout the town would be well received
- Safe walking routes considered favourably as an idea especially in relation to schools
- Regeneration of Harbour and Docks should be a priority
- Community centre required in the town
- Access road required from the N11 on to the Vale Rd to access West Wicklow which would save people travelling through Arklow
- Concern over volume of traffic on South Quay if complete pedestrianisation introduced
- School at Castle Park must be considered with consideration to increased traffic flow
- Laffins Lane Car Park – questioned whether size of site is adequate for multi storey car park
- North Quay development sites should be developed as mixed use with appropriate parking
- Realignment of River Bank in tandem with potential car access route
- Side streets of Main Street should be utilised with small retail facilities
- One way system should be considered when introducing pedestrianisation on Main Street
- Proposed footbridge should facilitate high mast boats
- Proposed footbridge to east of existing bridge could be located closer to the existing bridge and be used by more people than those at Marina.
- Reinforce river frontage development within the town plan
- Emoclew Road residents opposed on traffic grounds to new developments
- Development of secondary distributor route on Coolgraney/ Ballyduff Road requires redesign of junction at cemetery
- Arklow needs town square/ plaza to create a focal point
- Introduction of broadband would facilitate hi-tech industries. There is too much emphasis in plan on service sector jobs.

4.4 Other Stakeholder Groups

4.4.1 Major Landowners

Tíros Resources Limited has contacted, in writing, twenty one of the identified major landowners in Arklow and its environs. The purpose of the consultation with the landowners was to determine their vision for the future of the town, and to ascertain the issues particular to them as landowners. It was not the intention to establish where and how much land was owned by each landowner, or to invite rezoning submissions as per a Development Plan review.

Seven of the landowners responded to the letters sent to them. The issues raised were comprehensive and often conflicting. A summary of the major issues is detailed below:

- One landowner intends to continue farming, although would desire his land closest to the existing built up area of the town to be rezoned.
- Another landowner cannot see any future in agriculture, due to the size and location of his landholding. He has a number of off-spring and would desire all his land to be rezoned in order to provide a future for them.
- One landowner expressed concern regarding trespassing, particularly in the future when new residential areas are developed close to his landholding.
- One landowner owns land, which is dissected by the bypass. The land for 100 metres on either side of the bypass is sterilised. No development is permitted. This sterilisation should be lifted, as the land is useless for anything other than development.
- Illegal dumping on agricultural lands around the town is an increasing problem.
- One landowner expressed concern regarding speeding traffic on the narrow roads north of the town. Traffic calming measures are required.
- Car parking outside the Arklow Bay Hotel is causing traffic congestion. The narrowness of the road at this location, combined with on-street car parking during a function at the hotel, results in increasing difficulty for through traffic to get by.
- There was a general desire to see lands rezoned. One landowner suggested that each landowner should get some of their land rezoned.
- Infrastructure in the town is very poor, and a hindrance to attract business to the area. Water drainage and the internal roads system all require major improvement. A number of businesses have been ready to move to industrial zoned land in the Arklow area in the last number of years but could not do so due to lack of water and drainage. The businesses included a large hotel chain, a number of motor companies, a timber manufacturer, a retail warehouse operation, and a steel manufacturer.
- The 'Seabank' land north of the town should be zoned for residential development, because of the attractive sea views in this area.
- Land on either side of the proposed port relief road should be zoned for development, although there was a restriction placed on a portion of this land, during a recent sale, which limits all future use to green belt.
- The proposed port access road should be constructed in accordance with the alignment illustrated on the Development Plan. If there is a deviation from this alignment, provision should be made to ensure that all landowners who would have had access to the alignment shown in the Development Plan.

4.4.2 Arklow Town Chamber of Commerce

The Chamber of Commerce have been in direct contact with WSP and have forwarded their comments to Arklow Town Council in respect of the Town Development Plan. This was a wide ranging document commenting on, inter alia, land use zoning, the Vale Road N11 interchange, car parking and potential pedestrianisation of part of Main Street. In addition the consultants met with the Chamber to review the draft final report and among the issues raised were the following:

- As an alternative to pedestrianisation of Main Street a possible one way system west bound with a link from Castle Park to Parade Ground was proposed with Main Street one way system east bound.
- Provision must be made for service deliveries on Main Street.
- Provision must be made for high masts between proposed foot bridge and existing Avoca Bridge
- Eastern Natural Heritage Area was suggested as suitable for town centre but it was recognised that this is not possible under current designation
- The distance of proposed new car parks from Town Centre Area was reviewed
- The feasibility of a mutli-storey car park at Laffin's Lane requires further investigation

4.4.3 Arklow Retail & Business Association

WSP consulted directly with this Association and received a copy of their submission to the Town Council with respect to the proposed introduction of paid parking.

4.4.4 Roadstone Quarry

WSP held a meeting with the quarry to ascertain the future lifetime of the quarry, and any aspirations for the development of the jetty as a RO/RO facility. The meeting confirmed that the jetty would be essential to the quarry's operation for the foreseeable future, and the development plan objective to create a new port facility would not occur at this time.

4.5 Summary

Combined with the broader strategic issues identified in section 2 and the existing study area profile in section 3 the consultation feedback was used to define the principles and objectives of the framework that form the basis of the development scenarios detailed in section 5.

5 DEVELOPMENT OF THE INTEGRATED FRAMEWORK PLAN

5.1 Assessment Criteria

5.1.1 Introduction

In order to develop the framework strategy the consultants firstly developed assessment criteria upon which the strategies would be based. These criteria were developed in the form of guiding principles and specific policies based on the strategic policy review in section 2, the existing profile of the study area in section 3, the feedback from the consultation process and the consultant's expertise and experience. The principles and policies are as follows.

5.1.2 Guiding Sustainability Principles

- **Reducing uncontrolled urban expansion.**
- **Ensuring the efficient use of existing infrastructure.**
- **Strengthening sustainable means of transport.**

Therefore enhancing quality of life for all residents.

The Guiding Principles for the study were chosen to accord with the policy aims and options for the territory of the EU as set out in the European Spatial Development Perspective (ESDP) (European Commission, 1999) and the Sustainable Development Strategy for Ireland (1997). The ESDP outlines policy aims in relation to promoting the control of the physical expansion of towns and cities, promoting a mix of functions and social groups and aiding better accessibility by different means of transport which are not only effective but also environmentally friendly.

5.1.3 Policies

1. **Promote the development of a compact urban form that facilitates a mix of uses compatible with the increased use of sustainable transportation.**

   The promotion of a compact urban form will maximise the use of land that is accessible by all modes of transport, but particularly that of public transport, walking and cycling. The provision of a mix of functions within the core urban area will serve to reduce trip numbers by concentrating various functions within the most accessible zone. In the context of Arklow, this policy attempts to concentrate higher-density uses on available land within the town centre. Any uses that cannot be accommodated here will be provided for on land that is most readily accessible to the town centre. In assessing this policy the modal split ratio of mechanised versus slow mode trips was examined.

2. **Provide a range of housing types and employment opportunities to create a balanced community, economically and socially.**

   By providing an adequate supply of accessible zoned land for housing and employment purposes, it will be possible for different house types to develop, as well as attracting a variety of employment to the town. This will increase vitality and enhance social and economic sustainability. The development of housing at higher densities than currently exists in Arklow will offer a greater range of dwelling types, and not just semi-detached houses, which currently dominate new housing schemes. Similarly the zoning of an adequate supply of land for employment purposes at appropriate locations will make the town an attractive location for prospective employers.

3. **Create opportunities to use alternatives to the car through the creation of**

   - Cycle routes
   - Safe convenient walking routes
   - Increasing the ease with which people can use public transport

   By increasing the means of accessing residential and commercial areas (essentially those areas with the potential for walking and cycling access), and by providing clear linkages between living and working areas, the potential for trip reduction by private car is greatly enhanced. Peripheral areas, i.e. those areas dominated by private car access at a maximum distance from the town centre, must be minimised and linked to a greater mix of land uses to facilitate the use of sustainable transportation and greater ease of access to services. Using the traffic model, the modal split, total volume and average distance of non-mechanised trips was examined.

4. **Create high-density employment opportunities near public transport nodes and adjacent to the town centre.**

   Employment is a high generator of traffic. Well-located employment can reduce the demand for travel and travel distance. High-density employment located in close proximity to public transport nodes and the town centre will increase the possibility of sustainable travel patterns by increasing the viability of walking, cycling and public transportation routes and facilities.

   In the context of Arklow there should be a focus on ensuring that land within walking distance of the train station, bus stops and the town centre are zoned such that offices, retail and other employment uses can be accommodated. Using the traffic model the modal split, total volume of town centre public transport trips will be examined.

5. **Create a vibrant and expanded town centre with increased penetration for public transport, cyclists and pedestrians.**

   It is important that as Arklow develops the town centre grows to enable it to serve an increasingly large population and hinterland. This expansion will include more civic, retail, cultural and community services and facilities. Provision of such services and facilities will improve the attractiveness of the town and create greater urban vitality.

   It is important that the town centre be accessible by a choice of sustainable transport links, including bus, pedestrian and cyclists. Linkages between such facilities described above are key to ensuring their use and subsequently maintaining a vibrant place within which to live, work, shop and socialise. Furthermore permeability, from the centre into existing residential areas is vital for the successful integration of the town as a whole. This was examined through the modal split, and total volume of non-mechanised trips to the town centre

6. **Minimise the number of through car trips within the town centre.**

   A fundamental objective of the framework is the minimisation of the number of through car trips within the town centre. A number of measures are envisaged to fulfil this objective including locating car parks on the periphery of town centre, providing alternative routes and maximising opportunities to use alternatives to the car. The success of this policy was analysed based on the number of cars on routes within the Town Centre Cell.

7. **Appropriate designation and provision of key distributor routes.**

   It is important as the town grows traffic growth is not accommodated on routes that are unsuitable for HGV's or large volumes of traffic. This includes residential roads (Connolly Street), roads passing by schools (Coolgreaney Road) or pedestrian priority areas (Main Street). This can be summarised as ensuring the right traffic is on the right road and will be assessed by the volume of vehicles on designated distributor routes.

8. **Create a network of routes to schools that enable children to safely make their own way to school.**

   The development of travel by foot and bicycle is a major priority for Arklow Town and is an achievable goal when considering its size and topography. An important part of the route planning and design process for the town is the ability to provide safe routes to schools for children and youths.

   Safe routes to schools are important for both pupils and the local residents as they not only improve the safety of children but also help reduce traffic congestion and pollution in the local environment. Walking or cycling to school benefits children's health and helps them become more confident and independent. Furthermore, in developing a culture of walking and cycling among young people the foundations are set for the next generation of working people and parents to consider walking and cycling as second nature. A pattern of travel behaviour can therefore be established that will result in sustainable transport choice into the future. This modal split of trips to school was used to evaluate the success of this policy.

9. **Provision of internal bus services to maximise social inclusion.**

   In accordance with the overall transportation strategy for the Greater Dublin Area the framework strategy has been developed to encourage travel by sustainable means such as train, bus, cycling and walking and thus reduce the need for car travel on a frequent basis. In achieving such an objective the provision of an efficient and frequent public transport service can make a significant contribution to this goal. It is envisaged that the service will provide an alternative modal choice to the community at large and will strive to be as accessible to as many as possible regardless of their social status, and is particularly aimed at, but not confined to, the target groups identified in the CDB's strategy. The service aims to provide a reliable, efficient alternative for those who currently use a car thereby reducing private vehicular usage within the town centre

10. **Provision for walking, cycling and where appropriate local public transport within key residential areas.**

    The provision of sustainable transportation networks within residential areas will encourage sustainable travel patterns, decrease the reliance on the private car, and improve the safety and attractiveness of walking and cycling. Arklow is a relatively compact town and with the provision of appropriate sustainable transportation networks, residents can be encouraged to walk, cycle and get the bus to work, shops and school, as opposed to relying on the car.

11. **Phase development with respect to the provision of key physical infrastructure and services.**

    The creation of a sustainable community is dependant on the provision of infrastructure at the same time as residential development, and not many years afterwards, as has often been the case in the past. The provision of residential development in Arklow without expanded introduction of employment opportunities, schools, shops, recreational facilities, roads, walking and cycling routes etc., will result in a car dominated, congested town with no facilities for local residents, most of whom will commute to other urban centres for employment and other purposes.

12. **Promote social inclusion through the provision of linkages between community facilities and both established and planned residential areas.**

    The provision of spatial linkages (i.e. provision of a mix of land uses that are ideally accessible and linked by walking and cycling routes) between community facilitaties and residential areas increases the potential for access to essential services thereby promoting the principle of social inclusion through spatial planning. It is important for the future development of Arklow that community facilities, such as schools, shops, recreational facilities, are located in close proximity to all existing and future residents. Otherwise those who do not have access to a car will be marginalised from normal use of these facilities.

13. **Promotion of tourist and leisure pursuits through the provision of recreational routes for cyclists and pedestrians.**

    A first step in achieving modal shift away from the car can be providing the ability for cycling and walking as a leisure activity. Such routes, such as Sli na Slainte, have many benefits from general health and well being, as well as being a way of attracting visitors and tourists. Arklow is able to build on the natural assets of coastline, Avoca River and marshes whilst other routes should also be provided to link locations such as the leisure centre and sports fields.

5.2 Assessment of Future Growth and Needs

In this section the future growth is assessed in terms of population growth (5.2.1), employment requirements (5.2.2), school requirements (5.2.3) and travel demand (5.2.4).

5.2.1 Population Growth

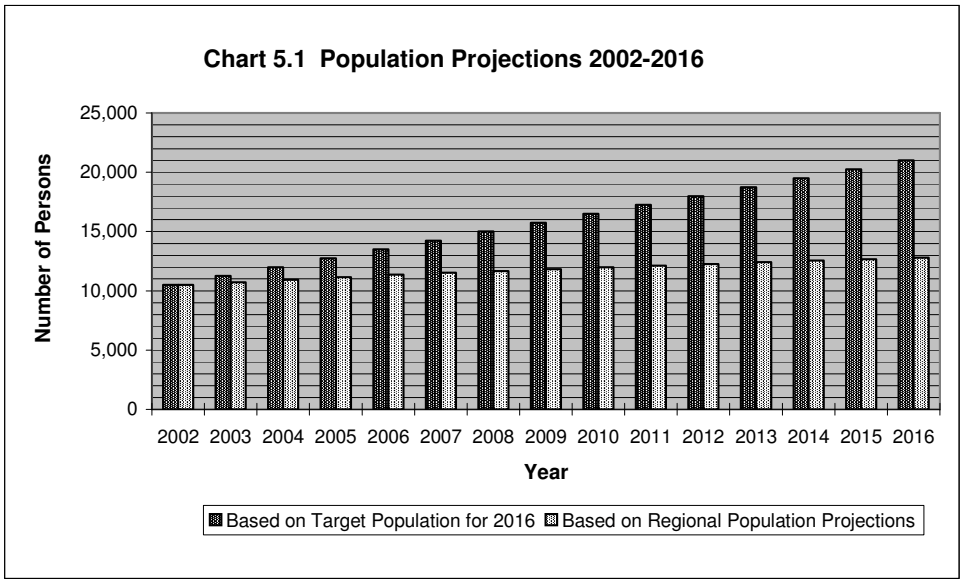
Various population projections for different administrative levels in Ireland have been published in the last months and years.[5] The assumptions for the development of the Arklow IFPLUT Study Area population can be based on those publications (see Appendix A). If the various projections are applied to Arklow (Study Area) with a baseline population of **10,500** in **2002** the following estimates in Table 5.1can be made:

Table 5.1 Various Population Trends for the Arklow IDFPLUT Study Area

Population Trends	2006	2010/2011	2015/2016	2020/2021
SPG Review 2001 (GDA)	11,015	11,775		
SPG Review 2002 (GDA, M1F2 Scenario)		12,312		
NSS Current Trend Scenario (National)		11,547	11,906	12,197
NSS Econ. Growth Scenario (National)		12,522	13,239	13,925
NSS Current Trend Scenario (GDA)				12,989
NSS Econ. Growth Scenario (GDA)				15,015
Regional Population Projections (Mid-East)	11,365	12,135	12,801	13,398

At the outset of this Study the DTO carried out a top down review of the population projections in the Greater Dublin Area and it was confirmed by the client group that the 2016 target population for Arklow and its environs, based on the Strategic Planning Guidelines, is 21,000.

Chart 5.1 visualises the two contrasting population projections above. Taking the target population of 21,000 for 2016 as the basis, a yearly average increase of 750 persons between 2002 and 2016 is assumed. Taking the Regional Population Projections 2001-2021 as the basis the average growth in population would be 145 persons per annum.



To reach the target population of 21,000 in 2016 an **increase of 10,500 persons** is necessary if - 10,500 persons are assumed to have been living in the Study Area in 2002. It is recognised that the population may not reach the target by the design year, however in the context of this framework study the principle is to set in place the building blocks that will allow the town to grow in an integrated and sustainable manner in order to receive the target population regardless of the timeframe in which the growth occurs.

[5] National Spatial Strategy (NSS), Strategic Planning Guidelines for the Greater Dublin Area (SPGGDA), Regional Population Projections 2001-2031.

Demographic Profile

In order to forecast the change in the share of the age groups the projections in the CSO Regional Population Projections 2001-2031 for the Mid-East Region were employed. The following table illustrates the age groups in the Study Area for 2006 and 2016, as well as1996 and 2002, which are included for comparative purposes. The population figures for 1996 are derived from Table 3.1. The baseline population for 2002 is assumed to be 10,500 and the population for 2006 is estimated on the basis of an average annual growth in population to 21,000 in 2016 (see Chart 5.1).

Table 5.2 Demographic Profile for the Study Area in 1996, 2002, 2006 and 2016

	1996		2002		2006		2016	
	Actual	%	Actual	%	Actual	%	Actual	%
0-14	2,144	24.1	2,256	21.5	2,760	20.4	3,926	18.7
15-24	1,510	16.9	1,725	16.4	1,941	14.4	2,533	12.1
25-44	2,480	27.8	3,001	28.6	3,929	29.1	5,814	27.7
45-64	1,827	20.5	2,414	23.0	3,413	25.3	5,774	27.5
65+	950	10.7	1,103	10.5	1,457	10.8	2,953	14.1
Total	8,911	100.0	10,500	100.0	13,500	100.0	21,000	100.0

Households and Household Sizes

National and international trends indicate that household sizes in Ireland are likely to decrease in size in the future. The Society of Chartered Surveyors[6] predicts for 2006 a household size of 2.72. Further to this the NSS indicates a convergence to the EU average of 2.63 in 2011. Table 5.3 illustrates the various household sizes and the resulting number of households in the Study Area based on a target population of 21,000 in 2016 (see Chart 5.1).

Table 5.3 Number of Households and Household Sizes for the Study Area 1996-2011

	Population	Households	Household Size	% Change in HH
1996	8,911	2,847	3.13	
2002	10,500	3,535	2.97	24.17
2006	13,500	4,963	2.72	40.40
2011	17,250	6,559	2.63	32.16

Based on a household size of 2.7 the population growth of 10,500 will require **approximately 3,900 new housing units** in the study area.

5.2.2 Employment Requirements

Because of the uncertainty involved in long term projections of labour force participation rates (LFPR) the CSO[7] restricted their projection period up to and including 2011. Two scenarios have been developed, the first (M1) being the one consistent with the Irish economy and the labour market to performing strongly in comparison with other countries, and the second (M2) taking a more pessimistic view on Irish economic growth rates and therefore net migration (See Appendix A).

To be able to provide some indication of the labour force in 2016 a participation rate of 47% is being assumed. This is based on the M1 scenario, which suggests a labour force participation rate of 47% in 2011. Given the difficulty of long term projections in this regard, it is considered reasonable to assume that the participation rate will remain relatively stable between 2011 and 2016. .

Under this assumption, there will be a labour force of 9,870 persons in 2016, based on a population of 21,000.

The Arklow Development Plan 1999 aims to reduce unemployment by 2016 to 5%. At a population of 21,000 this means 1,050 persons. Furthermore, if it is assumed that the level of net outward migration remains the same as at present, at approximately 1,400 the following employment requirement projections can be made:

[6] Society of Chartered Surveyors, Housing Supply and Urban Development Issues in the GDA, Oct. 2002.

[7] CSO, Population and Labour Force Projections 2001-2031, July 1999.

Total Population	21,000
Participation rate:	47%
Labour force:	9,870 (at a population of 21,000)
Unemployment rate:	5% (1,050 persons at a population of 21,000)
Net outward migration:	1,400 (assumed to remain constant)
Existing jobs 2002:	2,500
Additional jobs between 2002-2016:	4,920 (allowing for migration and 5% unemployment)
Additional jobs between 2002-2016:	7,370 (allowing for no migration or unemployment)

In an ideal situation the total available labour force would be employed in Arklow itself. In this scenario the Arklow IFPLUTS aims to identify land use opportunities within which approximately **7400** person equivalent jobs could be provided in the timeframe of the plan.

5.2.3 School Requirements

To project the future needs for school facilities it is considered reasonable to apply the share of school going age groups of the total population predicted for 2016 in the M1F2 scenario:

- Primary school going age group (5-12): 11% of total population
- Secondary school going age group (13-18): 8.26% of total population

Note that these percentages were also cross-referenced against the age categories derived from the CSO Mid-East regional projections. The results were almost identical.

Primary School Provision

Population 2002:	10,500
Population 2016:	21,000
Existing Primary School Capacity:	2,070

If one assumes a percentage of 11% as a share of persons in the primary school age in 2016, 2,310 persons will be in the primary school age categories in 2016. Given that the existing schools capacity is 2,070, there will be a shortfall in the primary school provision for 240 pupils by 2016. If one assumes that the average primary school caters for 360 students (30 students per class, 2x6 classes), one small new primary school has to be provided. The location of this new school, is dependant on where the future population resides. This issue is discussed in more detail in section 5.4 below.

Secondary School Provision

The current capacity in the secondary schools in Arklow is 1,380 pupils. Based on the CSO national population projections, 8.26% of the total population will be in the secondary school age categories in 2016. If the target population of 21,000 is achieved by 2016, there will be 1,735 persons in the secondary school age categories. Given that the existing capacity is 1,380 there will be a shortfall of 355 places. This shortfall could be provided for through upgrading of existing facilities or in a new secondary school.

5.2.4 Travel Demand

In order to test the proposed scenarios a SATURN transport model was built. The traffic model has been created in conjunction with a multimodal travel demand model using WSP's MEPLAN modelling package. This unique modelling package analyses the trip making patterns, rates and characteristics for differing purposes, age groups and car ownership levels. In turn this highlights the implication of different land use decisions. Full details of the modelling process and outputs are detailed in Appendix C.

The first stage in estimating the future travel demand was to undertake baseline surveys. These provided base traffic data (traffic counts and registration plate matching) and travel through the completion of a travel diary survey. The SATURN computer programme suite was used to model traffic behaviour in and around Arklow and so evaluate possible future development options.

The SATURN model was built by connecting a number of discrete origin and destination zones by a series of nodes and links that represent the existing road network. In order to do this a network inventory was undertaken in a series of site visits, which established the physical nature and geometry of junctions and the road links connecting them. Input into this model was in the form of nodes for the junctions and links for the roads. Information included length of route, speed limit, number of lanes and capacity. Free flow link speeds were either the true speed limit, or an adjusted speed identified through the site visit with respect to the road's characteristics. The traffic model was used to calculate future traffic volumes within the network, and provide information on the number and length of trips. This information is used in the assessment of any development scenario.

The MEPLAN multi-modal travel demand model was created to assess the modal split and use of slow modes for journeys within the town. The MEPLAN model builds upon the data listed below in order to predict the derived demand arising from the land use proposals. This creates a pattern of intra-zonal trips distinguished by mode and purpose, the subsequent highway matrix then being assigned onto the highway network in SATURN,

- Population/Age Profile:- Children (0-16), Adult (17-64) and OAP (65+)
- Trip Purpose:- Work, Education, Shopping and Other
- Car Ownership:- Car owning, Non car owning household
- Land Use:- Schools, employment, and retail used to base trip attraction/generation

In evaluating these Scenarios from a transport perspective, two distinct data sets exist. The MEPLAN model presents the total movements as based upon the Travel Diary, and hence concentrates on internal movement within the urban area, rather than those into, or passing through the study area. Modal choice is derived from this MEPLAN output. Link flows and global SATURN statistics relate to both internal and external trips and hence all mechanised traffic throughout the modelled area. Statistics derived from the SATURN model include total travel time and distance. Data is shown in Appendix C, Tables 5.1 (AM Peak) and Table 5.2 (Inter Peak). A further discussion of the modelling results is contained in section 5.6.

5.3 Alternative Scenarios

5.3.1 Introduction

In order to assess the appropriate location for future development in the study area, a number of potential land use scenarios were analysed. A total of six scenarios were initially assessed in terms of their compliance or otherwise with the guiding principles as discussed in section 5.1 above. The six scenarios are:

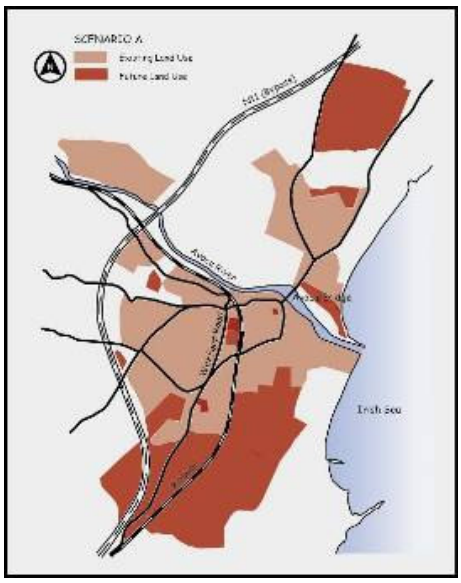
A	Do minimum approach – continue development as per the Development Plan.
B	Consolidation of development south of the Avoca River, at higher densities, on appropriate town centre sites and existing zoned land.
C	Concentration of development on appropriate town centre sites, and development of additional lands north of the Avoca River.
D	Concentration of all development west of the Arklow Bypass.
E	Concentration of all development south of the town.
F	Concentration of all development north of the town.

The scenarios include the following common elements:

- To accommodate a population increase of approximately 10,500 by 2016, in almost 3,900 new households resulting in a total population of 21,000.
- To accommodate almost 7,400 jobs, assuming full employment and no outwards migration.
- To accommodate one new primary school and one new secondary school.
- To provide adequate local service facilities within walking distance of residential communities.

The assessment of each scenario is discussed below.

5.3.2 Scenario A



This scenario is essentially a do-minimum approach i.e. the continued development of the existing land use zones in the study area, in line with existing Development Plan policies regarding density of development. The Arklow Development Plan currently permits the following densities:

Apartments:

Two storey development: 24 units per acre (59.3 per hectare).

Three storey development: 30 units per acre (74.1 per hectare).

Four storey development: 34 units per acre (84.0 per hectare).

Houses:

Detached dwellings: 8 units per acre (19.8 per hectare).

Semi-detached dwellings: 9 units per acre (22.2 per hectare).

Terraced dwellings: 14 units per acre (34.6 per hectare).

Reducing Uncontrolled Urban Expansion

From an initial assessment of the available zoned land, it would appear that there is inadequate zoned land to accommodate the projected number of households. There is a significant degree of land zoned for employment purposes. If fully developed these lands could lead to a degree of urban sprawl, and potentially attract commuting workers into the town. In this regard this scenario would partially fail to reduce uncontrolled urban expansion.

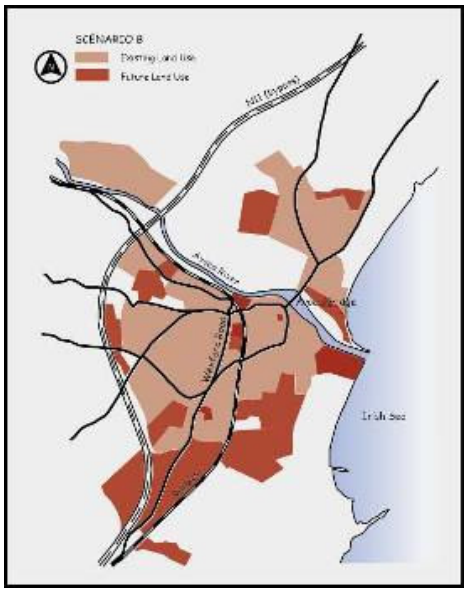
Efficient Use of Existing Infrastructure

Existing zoned undeveloped residential land is well located adjacent to the built up area, thus ensuring that it will maximise existing infrastructure, for example the existing roads, public transport, walking, cycling, water and drainage networks. The employment-zoned land is generally located in close proximity to the bypass junctions, which is only desirable if industrial, warehousing and other low density employment type developments are proposed. These lands are, however, remote from public transport, walking, cycling, water and drainage networks. In this regard this scenario would only partially comply with this guiding principle.

Strengthening Sustainable Means of Transportation

The location of the residential zoned lands promotes a compact urban form, which is ideal for the creation of sustainable means of transportation. In contrast, the relative remoteness of the employment zones, at Killiniskyduff and Kish A in particular, will tend to promote the use of the car. In this regard this scenario would only partially comply with this guiding principle.

5.3.3 Scenario B



This scenario focuses on the consolidation of development on appropriate town centre sites and existing zoned land south of the Avoca River. Higher residential densities are advocated in line with the Residential Density Guidelines, particularly within walking distance of the public transportation nodes and Main Street. Gross densities of 50 dwellings per hectare are recommended within 600 m of the train station and Main Street. Gross densities of 35 dwellings per hectare are recommended for lands outside this 600m radius.

Reducing Uncontrolled Urban Expansion

As the whole philosophy of this scenario is to consolidate development on existing undeveloped zoned sites, particularly within the town centre, it is therefore considered that it would comply with this guiding principle.

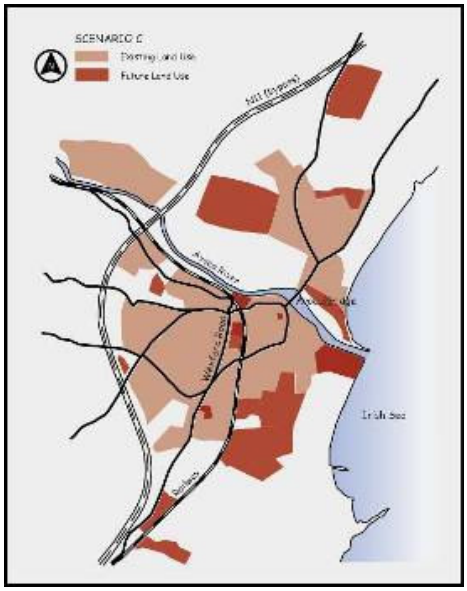
Efficient Use of Existing Infrastructure

It is considered that this scenario will maximise the use of existing infrastructure, as it will concentrate high-density development in the town centre, and will promote higher densities than currently exists in locations adjoining the built up area.

Strengthening Sustainable Means of Transportation

Similarly, higher density development in a restricted urban area, as opposed to a sprawling urban area, will allow sustainable means of transportation to be developed, as distances between residents, their jobs and their community facilities will be minimised.

5.3.4 Scenario C



This scenario focuses on the consolidation of development on appropriate town centre sites, and development of additional lands north of the Avoca River in close proximity to the town centre. Residential densities similar to those discussed under Scenario B above, are advocated.

Reducing Uncontrolled Urban Expansion

This scenario will concentrate development on available sites in the town centre. Any additional development will be encouraged adjoining the built up area to the north of the Avoca River in close proximity to the town centre. It is therefore considered that it would comply with this guiding principle.

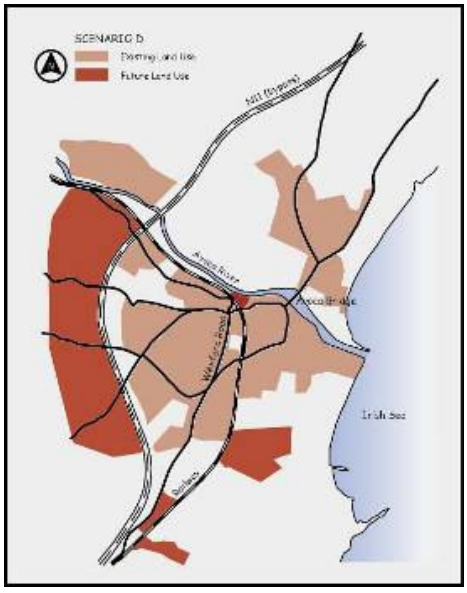
Efficient Use of Existing Infrastructure

Similar to Scenarios B, it is considered that this scenario will maximise the use of existing infrastructure, as it will concentrate high-density development in the town centre, and will promote higher densities than currently exists in locations adjoining the built up area.

Strengthening Sustainable Means of Transportation

Similarly, higher density development encourages sustainable means of transportation by the promotion of a more compact urban area.

5.3.5 Scenario D



This scenario focuses on the promotion of new growth, both residential and employment, on available lands to the west of the bypass. It is assumed that existing zoned and undeveloped lands will not be developed.

Reducing Uncontrolled Urban Expansion

This scenario will fail to comply with this guiding principle, as in effect, a town of equal size to Arklow will be developed to the west of the bypass, thus leading to unsustainable urban expansion.

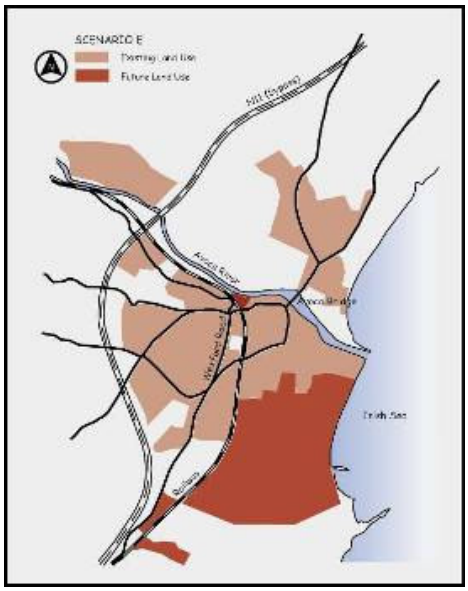
Efficient Use of Existing Infrastructure

This scenario will cause inefficient use of existing infrastructure as new roads, public transport, walking, cycling, water and drainage networks for a town of 10,500 will have to be developed.

Strengthening Sustainable Means of Transportation

This scenario does not comply with this guiding principle, as it will lead to the creation of new transportation networks, adjoining existing networks, which is contrary to the principles of sustainable development.

5.3.6 Scenario E



Under this scenario new growth will take place on available lands to the south of the town's built up area.

Reducing Uncontrolled Urban Expansion

This scenario will partly comply with this guiding principle, as employment zones to the south of the town can be utilised. However, it is likely that additional residential lands will have to be zoned further to the south of these lands, leading to a substantial increase in the expansion of the town in a southerly direction.

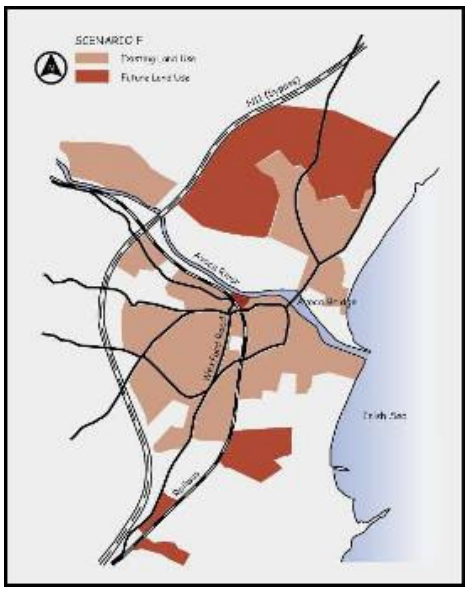
Efficient Use of Existing Infrastructure

This scenario will not comply with this scenario as substantial new roads, public transport, walking, cycling, water and drainage networks for the new residential population will have to be developed to the south of the town.

Strengthening Sustainable Means of Transportation

This scenario does not comply with this guiding principle, as the new residential areas will be remote from the existing train station and bus stops, and also from Main Street which, per the study policies, is to be consolidated and expanded.

5.3.7 Scenario F



Under this scenario new growth will take place on available lands to the north of the town's built up area.

Reducing Uncontrolled Urban Expansion

This scenario will partially comply with this guiding principle, as the employment zone at Killiniskyduff can be utilised. However, it is likely that substantial residential lands will have to be zoned to the north of the town, resulting in urban sprawl.

Efficient Use of Existing Infrastructure

This scenario will not comply with this guiding principle existing infrastructural provision in the town centre will not be fully utilised.

Strengthening Sustainable Means of Transportation

Similar to scenario E, this scenario does not comply with this guiding principle, as a substantial proportion of the new residential areas will be remote from the existing train station and bus stops, and also the existing town centre.

5.3.8 Summary

It is apparent from Table 5.4 below that Scenarios D, E and F do not comply with the guiding principles and were therefore not considered for further investigation. Land Use Scenarios A, B and C are, to a greater or lesser extent, in compliance and were assessed further in the context of the specific polices for the study area. This assessment is carried out in the following sections of this report.

Table 5.4: Assessment of Land Use Scenarios in the context of the Guiding Principles

Guiding Principles	A	B	C	D	E	F
Reducing uncontrolled urban expansion	○	✓	✓	✗	○	○
Ensuring the efficient use of existing infrastructure	○	✓	✓	✗	✗	✗
Strengthening sustainable means of transport	○	✓	✓	✗	✗	✗

✓ - in full compliance with the guiding principles.

○ - in partial compliance with the guiding principles.

✗ - not in compliance with the guiding principles.

5.4 Development of Detailed Scenarios

5.4.1 Introduction

As discussed in the preceding section, Land Use Scenarios A, B and C were tested in more detail in order to ascertain their compliance with the specific policies of the study, as outlined in Section 5.1 above. Each scenario is considered under the following headings:

A. Residential Development

B. Employment

C. Schools

D. Neighbourhood Centres

E. Community Facilities

5.4.2 Scenario A:

The first scenario that was tested is essentially a do minimum approach i.e. the continued development of the existing land use zones in the study area, in line with existing Development Plan policies regarding density of development, as per Map 4.

A. Residential Development

Incomplete Residential Development

There were two major residential developments in the Arklow area that had planning permission but were unoccupied at the time of the last Census, which took place in April 2002. Sites 15 and 17 (see Map 4) received planning permission for 178 dwellings. Assuming an average household size of 2.7 people, a population of 480 people would be accommodated on these sites.

Table 5.5: Dwellings Incomplete at 2002 Census

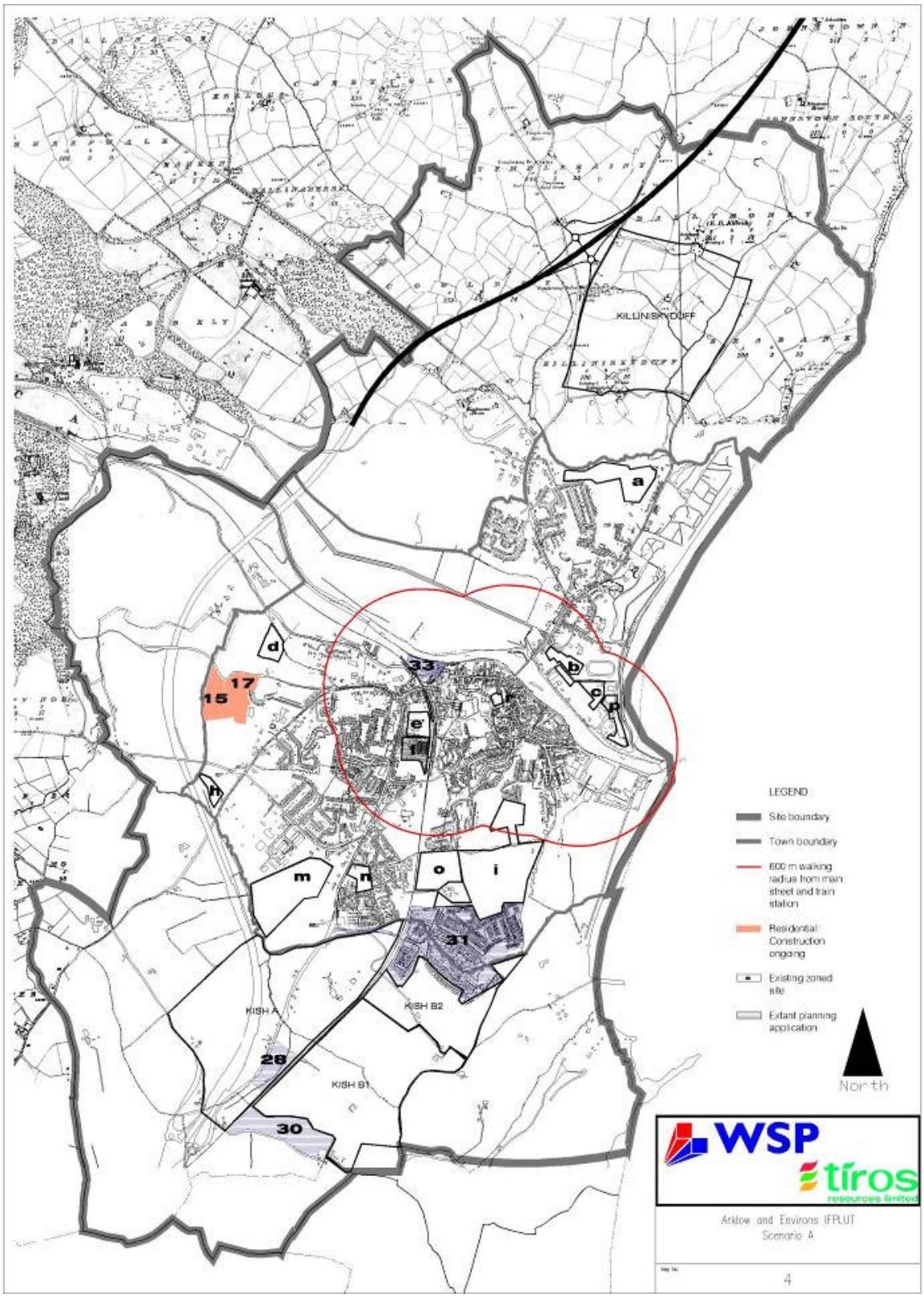
Site	Zoning	No. of dwellings	Population
15	Residential	92	248
17	Residential	86	232
Total		178	480

Outstanding Residential Planning Applications

There are two applications before the Council, which contain a sizeable residential content. Sites 31 and 33 (see Map 4), if granted planning permission, will result in the development of 401 dwellings, thus catering for a population of 1,082 people. Note that for the purposes of this exercise, it is assumed that these planning applications will receive planning permission in the future, not necessarily in their current format, but maybe as a result of a new application.

Table 5.6: Outstanding Planning Applications

Site	Zoning	No. of dwellings	Population
33	Town Centre	135	364
31	Residential	266	718
Total		401	1,082


KILLINISKYDUFF
a
b
c
d
e
f
g
h
i
m
n
o
p
15
17
33
31
28
30
KISH A
KISH B2
KISH B1
LEGEND
Site boundary
Town boundary
600 m walking radius from main street and train station
Residential Construction ongoing
Existing zoned site
Extant planning application
North
WSP
tíros resources limited
Arklow and Environs IFPLUT
Scenario A
4

Undeveloped Zoned Lands

There are a number of sites, which although zoned for residential development in the Arklow Development Plan 1999, are currently undeveloped, namely sites A, D, H, I, M, N and O. The Arklow Development Plan currently permits the following densities:

Apartments:

Two storey development: 24 units per acre (59.3 per hectare).

Three storey development: 30 units per acre (74.1 per hectare).

Four storey development: 34 units per acre (84.0 per hectare).

Houses:

Detached dwellings: 8 units per acre (19.8 per hectare).

Semi-detached dwellings: 9 units per acre (22.2 per hectare).

Terraced dwellings: 14 units per acre (34.6 per hectare).

For the purposes of this study, it is assumed that sites A, D, H, I, M, N and O will be developed as 90% houses, and 10% apartments. This is considered a reasonable split given the suburban location of these sites.

In terms of density, it is assumed that the apartment will be developed at a gross density of 30 units per acre i.e. the apartments will be three storeys in height. It is assumed that the houses will be developed at a gross density of 11 units per acre, which represents the median of the densities permitted on the Development Plan.

Table 5.7: Potential Residential Development on Undeveloped Zoned Lands

Site	Area (acres)[8]	Zoning	No. of apartments	No. of houses	No. of dwellings	Population
A	15.56	Residential	47	153	200	540
D	5.08	Residential	15	50	65	175
H	2.81	Residential	8	27	35	94
I	49.58	Residential	150	487	637	1,719
M	29.95	Residential	90	294	384	1,036
N	4.12	Residential	12	40	52	140
O	13.37	Residential	40	131	171	461
Total					1,544	4,165

Brownfield and Infill Sites

There are a number of brownfield and infill sites (under-utilised or vacant sites), generally located in town centre locations, which may be redeveloped for residential and / or commercial purposes. It is assumed, given the central locations of these sites that apartments, as opposed to houses, would be developed.

Sites B, C, and P are located in the existing port area, north of the river, and all are currently zoned 'port and commercial'. Under this zoning, it is an objective of the Development Plan to develop 'primarily marine – commercial and residential' uses (with a maximum height of 2.5 storeys).

Assuming that one-third of these sites could be developed for residential purposes, at a density of 27 dwellings per acre (i.e. half way between the permitted densities for 2 and 3 storey apartments), a total of 113 apartments could be developed on these sites.

Site E is located adjoining the railway station, and is currently zoned 'town centre'. The Development Plan permits 'use are shops, offices and residential'. Assuming half the area could be developed for residential purposes, at a density of 30 dwellings per acre (3 storey apartments are considered suitable for this site), a total of 75 apartments could be developed on these sites.

[8] Note that for the purposes of assessing densities as part of Land Use Scenario A, acres and units per acre were used in order to comply with the standards as set out in the Development Plan, as conversion to units per hectare may lead to inaccuracies.

Table 5.8: Potential Residential Development on Brownfield / Infill Sites

Site	Area (acres)	Zoning	No. of apartments	Population
B	1.5	Port & commercial	33	89
C	1.9	Port & commercial	42	113
E	2.0	Town Centre	75	202
P	1.95	Port & commercial	43	116
Total			193	520

Total Residential

Arklow is expected to have a population in 2016 of 21,000 people. Given that the current population in the Study Area is 10,380 to 10,500, the town needs to plan for a population increase of approximately 10,500 people, or 3,900 dwellings. Under Scenario A, development of all incomplete residential developments, outstanding planning applications, zoned lands and suitable brownfield / infill sites, will result in approximately 2,316 dwellings, which will cater for 6,247 people.

Under the do minimum scenario, there would be a shortfall in zoned land in the study area, and the target population of 10,500 could not be catered for.

B. Employment

A number of general assumptions were made regarding potential employment. These are as follows

- Retail will be developed at an average of 50% of the site area, with an average occupancy rate of 1 employee per 50 sq m of development.
- Offices will be developed at an average of 125% of the site area, with an average occupancy rate of 1 employee per 32.5 sq m of development.
- Industry will be developed at an average of 50% of the site area, with an average occupancy rate of 1 employee per 50 sq m of development.
- Warehousing will be developed at an average of 30% of the site area, with an average occupancy rate of 1 employee per 100 sq m of development.
- The floor areas of sites 28, 30, 31, 33 and F are based on the actual floor area for which planning permission was sought. It is assumed that these planning applications will be granted planning permission, not necessarily in the short term, but sometime in the future.

In addition a number of site-specific assumptions were made in relation to the identified employment sites. These are as follows:

- Sites B, C and P are zoned 'primarily marine – commercial and residential use'. It is assumed that one-third of the site will be developed for marine related uses, one-third for commercial (half office and retail) and one-third for residential uses.
- Site G is zoned 'primarily marine and port related activity use'. It is assumed that 30% of the site will be developed for industrial use and 30% will be developed for warehousing uses.
- Site E is zoned for 'use as shops offices and residential'. It is assumed that 50% of the site will be developed for residential use, 25% will be developed for retail uses and 25% for office use.
- Site R is zoned for car parking. It is assumed that offices and shops will be developed over, and therefore 50% of the site is assumed as retail, and 50% is assumed as office use.
- As Kish A, Kish B1 and Killiniskyduff are zoned for business park uses, a site area breakdown of 20% offices, 40% industry and 40% warehousing is assumed.
- As Kish B2 is zoned for industrial uses, a site area breakdown of 50% industry and 50% warehousing is assumed.

The result of the total development of these areas is shown in Table 5.9 below. The full development of these sites could potentially result in the creation of 45,411 jobs in the town. Given that approximately 7,400 jobs will need to be created in the town by 2016 to support the target population of 21,000, it is apparent under Scenario A that existing employment zoned land can readily accommodate the future employment in the town.

It is also apparent that current zoning is more than adequate for industry and warehousing employment but insufficient for retail employment, in terms of the proportion of jobs. The issue of employment proportion and splits are discussed in more detail in Scenario B & C.

Table 5.9: Future Employment in Arklow – Land Use Scenario A

Site	Area (ha.)	Area and Employee Numbers by Sector							
		Retail		Office		Industry		Warehousing	
		Area (sq m)	Emp (Nos)	Area (sq m)	Emp (Nos)	Area (sq m)	Emp (Nos)	Area (sq m)	Emp (Nos)
B	1.5	2,501	50	2,501	77				
C	1.9	3,167	63	3,167	97				
G	8.27					24,810	496	57,890	579
P	1.94	3,251	65	3,251	100				
E	2.05	5,123	102	5,123	158				
R	0.40	1,985	40	1,985	61				
31		6,303[9]	212	52,859	1626				
33		6,790[10]	136						
F		5,280	105						
28				1,050	32	1,050	21		
30		4,946	98	2,960	91	8,465	260	4,008	40
Kish A	66.86			133,720	4114	267,440	5,349	267,440	2674
Kish B1	59.20			118,400	3643	236,800	4,736	236,800	2368
Kish B2	24.50					122,500	2,450	122,500	1225
Killiniskyduff	79.00			158,000	4862	316,000	6,320	316,000	3160
Total[11]			**872**		**14,861**		**19,632**		**10,046**
%			**2**		**33**		**43**		**22**

C. Schools

With Scenario A, there would be a population of 16,747 people living in the town by 2016. On the basis of 11% of the future population being in the primary school age groups, and 8.24% in the secondary school age groups, the existing primary and secondary facilities would cope adequately with the population increase.

D. Neighbourhood Centres

It is considered that no neighbourhood centres as part of Scenario A, unless the proposed retail element associated with the planning application by Reville Ltd., on site 33 is not developed. If the Reville proposal does not occur, it is suggested that a neighbourhood centre will be necessary in Site I.

E. Community Facilities

Within the existing development plan provision is given for open space, playgrounds and playing fields and measures to protect existing facilities. The proposed zoning would facilitate the continued provision of such spaces for the town population.

[9] This floor area includes 2,435 sq m of an educational facility, 975 sq m leisure facility and an 86-bedroom hotel (which is assumed to have 86 employees).

[10] This floor area includes a gym, cinema, doctor's surgery and library, all of which are assumed to have the equivalent of retail employment.

[11] Total of 45,411 jobs will be created by 2016.

5.4.3 Scenario B:

The second scenario that was tested focuses on consolidation of development south of the Avoca River, per Map 5. The objective is to concentrate future residential and employment development, on existing zoned land, and also to rezone land where appropriate. It is suggested that development will occur at higher densities than currently exists in Arklow, particularly on sites within walking distance of the town centre and the railway station. Walking distance is assumed to be 600 metres as illustrated on Map 5.

The total future population split north and south of the river in this scenario, as determined in A below would be as follows:

North of River: 5,328 (25%)

South of River: 15,672 (75%)

A. Residential Development

In assessing future residential development, in this scenario, the following key assumptions were made:

- A density of 50 units per hectare will be applicable on all residential zoned lands or mixed use zoned lands within 600 metres of the Main Street and the railway station. Sites B, C, E, G and P, as illustrated on Map 5, are considered to be mixed use zoned lands. The location of these sites, combined with their current zoning, ensures their suitability for a mixture of residential and commercial development. It is considered that 50:50 split on these sites would be reasonable i.e. 50% of the site area could be developed for residential purposes, with the remainder suitable for commercial (office and retail) development.
- A density of 35 units per hectare will be applicable on all lands suitable for residential development that are located over 600 metres from the Main Street and the railway station.

Incomplete Residential Development

As shown in Table 5.5 above, there are two such sites with planning permission for 178 dwellings, and therefore capable of accommodating 401 people.

Outstanding Residential Planning Applications

As shown in Table 5.6 above, there are two applications before the Council, which if granted planning permission, will result in the development of 479 dwellings, thus catering for a population of 1,293 people.

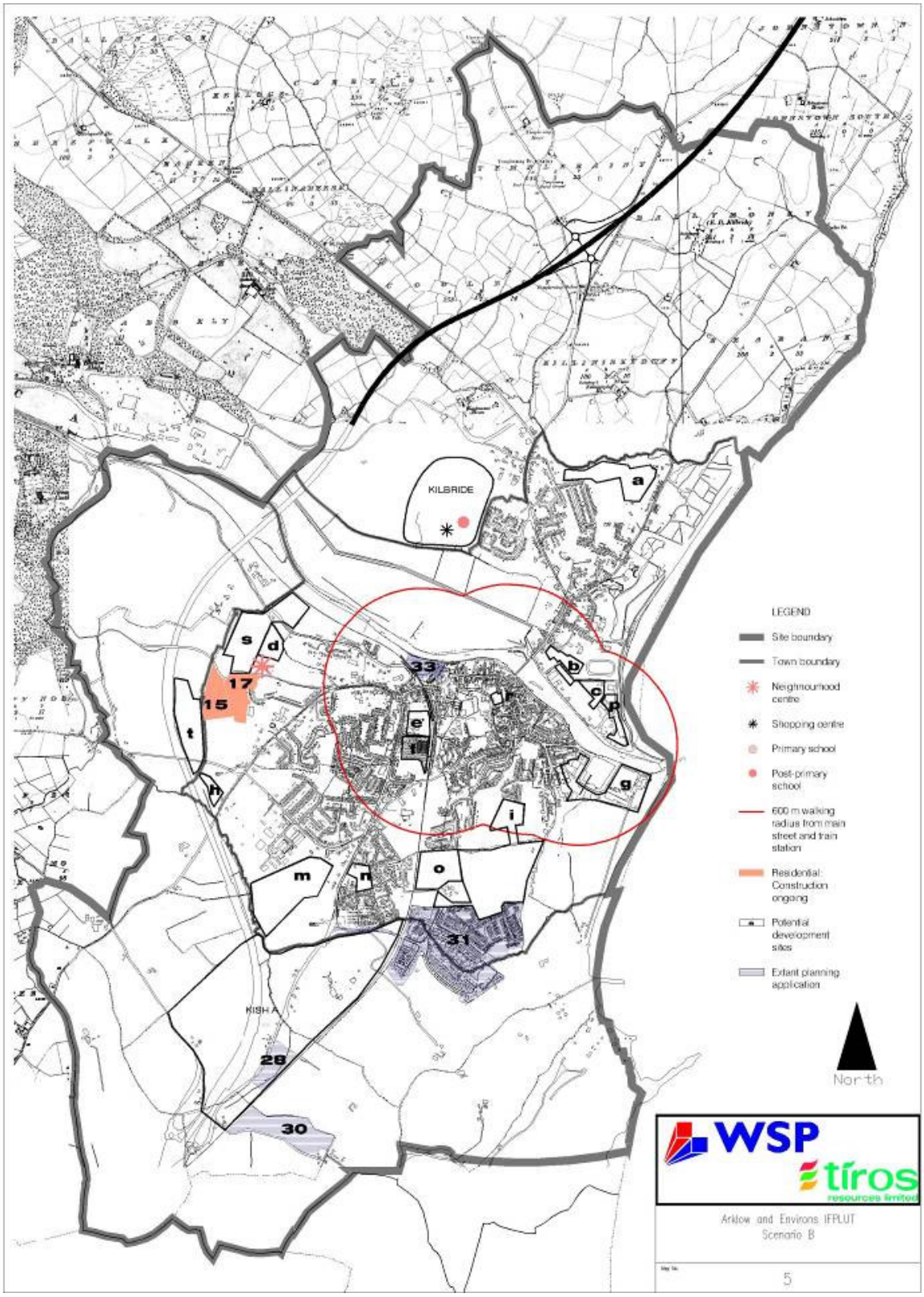
Undeveloped Zoned Lands

There are a number of sites, which although zoned for residential development in the Arklow Development Plan 1999, are currently undeveloped. Sites A, D, H, I, M, N, and O (see Map 5), if developed at a density of 35 dwellings to the hectare could potentially contain 1,705 dwellings, thus catering for a population of 4,600 people.

Note that the northern portion of site I is within 600 metres of the train station, and could potentially be developed at a density of 50 dwellings to the hectare. However, given the juxtaposition of the site to existing low-density residential development, it is considered that a high-density development would be difficult to achieve, without causing an impact on the amenities of the existing development. It is for this reason, that site I is assumed to develop in the future at a density of 35 dwellings per hectare.

Table 5.10: Potential Residential Development on Undeveloped Zoned Lands

Site	Area (hectares)	Zoning	No. of dwellings	Population
A	6.3333	Residential	221	596
D	2.0577	Residential	72	194
H	1.1356	Residential	39	105
I	20.0666	Residential	702	1,895
M	12.1204	Residential	424	1,144
N	1.6692	Residential	58	156
O	5.4094	Residential	189	510
Total			1,705	4,600


KILBRIDE
LEGEND
Site boundary
Town boundary
Neighbourhood centre
Shopping centre
Primary school
Post-primary school
600 m walking radius from main street and train station
Residential: Construction ongoing
Potential development sites
Extant planning application
North
WSP
tíros resources limited
Arklow and Environs IFPLUT
Scenario B
5

Brownfield and Infill Sites

Sites B, C, G and P are all located in the existing port area, and all are currently zoned 'port and commercial'. Site E is located adjoining the railway station, and is currently zoned 'town centre'.

Given the central locations of these sites, it is considered that residential development would be suitable on 50% of the site area, with the remainder of the site suitable for commercial (office and retail) purposes. Given that all the sites are within 600 metres of the Main Street and railway station, 50 dwellings per hectare is considered an appropriate development density, resulting in 391 dwellings, catering for a population of 1,054 people.

Table 5.11: Potential Residential Development on Brownfield / Infill Sites

Site	Area (hectares)	Zoning	No. of dwellings	Population
B	1.5	Port & commercial	37	100
C	1.9	Port & commercial	47	126
E	2.0	Town Centre	51	137
G	8.2696	Port & commercial	207	559
P	1.95	Port & commercial	49	132
Total			391	1,054

Unzoned Land

As outlined in Section 5.2, Arklow is expected to have a population in 2016 of 21,000 people. Given that the current population in the Study Area is 10,500, the town needs to plan for a population increase of approximately 10,500 people, or 3,900 dwellings. The development of all incomplete residential developments, outstanding planning applications, zoned lands and suitable brownfield / infill sites, will result in approximately 2,675 dwellings, which will cater for 7,216. Clearly there is a need, therefore, to rezone more lands for residential development.

In determining appropriate lands to rezone, the following key attributes were assessed:

- Location, particularly proximity to the town centre, and contiguous to the existing built-up area. The objective is to retain the compact urban form of the town.
- The availability of infrastructure including roads access, water and drainage facilities. In relation to water and drainage facilities, consultation with Wicklow County Council, has revealed that there are no locations in the town incapable of being serviced in the future. Developments to the west and north of the town, however, will be better located to utilise the new waste treatment facility. Development on unzoned lands to the south of the existing built up area of the town will entail greater expenditure on a new drainage network.
- Site characteristics: whether the site is capable of being developed, for example the levels are acceptable, it is not liable to flooding etc.
- Environmental capacity: the development of the site would not detract from any existing or potential environmental designations, such as protected views, NHAs etc.

Three appropriate sites have been identified. Sites S and T (see Map 5) are located on the western built-up area of the town, in close proximity to the bypass. Both sites are adjoining recently developed residential developments, and both sites will be accessible from the proposed inner relief route. In this regard, it is considered logical to suggest the rezoning of both for residential purposes. Sites S and T could accommodate 568 dwellings or a population of 1,533.

Whilst not fully complying with the ethos of Scenario B vis-à-vis consolidation of development south of the river, in terms of location, Kilbride is considered ideal for residential development. It is located in proximity to the town centre. Discussions have been held with Dúchas who have indicated the acceptability of a pedestrian / cycle route and bridge across Arklow marsh (a candidate NHA) and the Avoca River. This will ensure that the town centre will become even more accessible for pedestrian / cycle traffic. It is also logical in planning terms to locate development in Kilbride, as it would preserve the compact nature of the town. The topography is appropriate for development purposes, and whilst adjacent to the NHA, appropriate set backs could be introduced to protect the latter.

As approximately 690 dwellings need to be provided, it is only required to rezone 19.8 hectares of land in Kilbride, thereby providing for a population of 1,871 people, assuming a residential density of 35 dwellings per hectare.

Table 5.12: Potential Residential Development on Unzoned Lands

Site	Area (hectares)	Zoning	No. of dwellings	Population
S	9.5	Unzoned	332	896
T	6.745	Unzoned	236	637
Kilbride	19.8	Unzoned	693	1,871
Total			1,261	3,404

B. Employment

As outlined in Section 5.2, if the population of Arklow is 21,000 by 2016, a total of 7,400 jobs, based on a labour force participation rate of 47%. This assumes that the 2,500 existing jobs in Arklow will remain, there will be no unemployment and no out-migration for employment purposes.

The existing employment profile was assessed, and is detailed in Section 5.2. The employment categories used by the CSO are Agriculture, Mining, Manufacturing / Industry, Building / Construction, Commerce, Transport , Public Administration, Professional Services and Other

It is not possible to predict with any degree of certainty or accuracy, what the projected employment would be in these categories in the future, particularly as only 1996 figures are available for Arklow. For the purposes of this exercise therefore, the following categories of employment were used:

- Retail
- Office
- Industry
- Warehousing

Retail is comprised of the CSO category of commerce. Offices comprise the CSO categories of public administration, professional services and other. Industry comprises the mining, manufacturing / industry, and building / construction categories, whilst warehousing is comprised of the transport category. Agriculture is excluded as an employment category, as it is considered that only a very small proportion of the future population will be employed in agriculture.

Applying these categories to the 1996 Arklow labour force (as contained in the 1996 Census) and, for comparison purposes, the 1996 state labour force (as contained in the CSO Yearbook 2001) the following split is apparent:

Table 5.13: Employment in Different Categories

	Retail	Office	Industry	Warehouse
Arklow Urban District	21%	32%	41%	6%
State	17%	42%	31%	10%

It is considered that future employment in the town should have a similar balance to the national split, although given the service nature of the town, a higher percentage employed in retail could be expected. The high percentage of people employed in industry in Arklow is noteworthy and reflective of the industrial tradition in the town. However, given the changing nature of employment as evidenced by the declining importance of the port and the closure of IFI, it is likely that future employment in industry will be closer to the national figures.

The projected employment for Land Use Scenario B is shown in Table 5.14. A number of key assumptions were incorporated in ascertaining the future employment profile:

- The town centre sites will be used for high-density employment, mixed with residential. Sites B, C and G are assumed to incorporate 25% of the site area as retail, and 25% of the site area as office development. The remainder of the site will be developed for residential purposes.
- Sites E and P will be developed with a greater proportion of the site area as retail (37.5%), with a smaller proportion being developed for offices (12.5%). A greater proportion of retail is proposed on these sites due to their location, combined with the need for more retail in the town centre.
- Site R will be developed for retail only, with no offices or residential. The location of this site, combined with its future development as a car park, means that it is considered suitable for retail only.
- A supermarket of approximately 3,500 sq m gross floor space will be developed in the Kilbride area. The supermarket should be located on the proposed distributor road that will provide access to Kilbride. The supermarket will benefit existing residents north of the river and also future residents in the Kilbride area. A supermarket will also comply with the Draft County Wicklow Retail Strategy (August 2002) which suggests the development of a supermarket north of the river in order to increase the supply of convenience retail floor space and reduce traffic congestion on the Avoca bridge.

Per table 5.14 the percentages in the various categories are retail (18%), office (41%), industry (33%) and warehousing (9%).

As is evident from Table 5.14, it is suggested that only a proportion of Kish A should be developed for employment purposes up to 2016, and that development should be focussed on low density industrial and warehousing employment. There are currently over 66 hectares of Kish A that are available for development. Full development of this zone could result in an oversupply of employment in Arklow, causing commuting into the town by workers.

The location of Kish A in proximity to the southern interchange of the Arklow bypass, away from the residential areas of the town means that it would make more planning sense to develop industries and warehousing that will have a large volume of HGV traffic. Large-scale office developments are not deemed suitable, as the location will encourage car-based commuting from future employees.

The partial development of Kish A is considered preferable to the development of Kish B1 and B2, and Killiniskyduff for the following reasons:

- Kish A benefits from proximity to the southern interchange of the Arklow Bypass, which is considered the ideal location for industrial and warehousing uses.
- The development of Kish A would be consistent with Land Use Scenario B regarding consolidation of development the south of the river.
- A number of developments have already received planning permission in Kish A. A number of industries currently exist including EuroConex and Servier. There is, therefore, a degree of infrastructural provision in this area, which will benefit potential new industries.
- Kish A is contiguous to the built-up area of the town, and its development along the bypass would represent a logical extension of Arklow.

Many of these arguments could be made in relation to the development of Kish B1. Proximity to the interchange, and the fact that there is existing industries in Kish A, as opposed to an outstanding planning application in Kish B1, means that Kish A is deemed to have greater advantages.

Table 5.14: Future Employment in Arklow – Land Use Scenario B

Site	Area (ha.)	Area and Employee Numbers by Sector							
		Retail		Office		Industry		Warehousing	
		Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)
B	1.5	1,875	37	4,688	144				
C	1.9	2,375	47	4,938	182				
G	8.27	10,343	206	25,844	795				
P	1.94	7,275	146	2,425	75				
E	2.05	7,685	154	2,562	79				
R	0.40	1,985	40						
31		6,303[12]	212	52,859	1626				
33		6,790[13]	136						
F		5,280	105						
28				1,050	32	1,050	21		
30		4,946	98	2,960	91	8,465	260	4,008	40
Kilbride		7,000	140						
Kish A[14]	43					107,500	2,150	64,500	645
Total[15]			1,320		3,023		2,431		685
%			18%		41%		33%		9%

[12] This floor area includes 2,435 sq m of an educational facility, 975 sq m leisure facility and an 86-bedroom hotel (which is assumed to have 86 employees).

[13] This floor area includes a gym, cinema, doctor's surgery and library, all of which are assumed to have the equivalent of retail employment.

[14] The employment figures for Kish A assume the following breakdown of uses: 50% industry and 50% warehousing. Note also that the existing site area for EuroConex (1.12 ha), and the site area for the Arklow Business Enterprise Centre planning application (1.8 hectares) are not included in the overall site area.

[15] Total of 7,459 jobs need to be created by 2016.

C. Schools

As discussed in Section 5.2 above, the future school going age groups have been derived from the M1F2 scenario as contained in the CSO regional population projections. As Scenario B consolidates development south of the river, there will be differing needs for schools, north and south of the river.

Primary School Provision

North of River

Population 2002 2,417

Population 2016 5,328 (A, B, C, P = 954; Kilbride = 1,957)

Capacity of Existing Primary School: 400

If one assumes a percentage of 11% as a share of persons in the primary school age in 2016, 586 persons need to be provided for north of the river, of which 186 cannot be accommodated in the existing school. This would mean that either the existing school needs to be upgraded or that a small new school is necessary. Given that 186 pupils is small for a school, an extension of the existing school is recommended.

South of River

Population 2002 8,083

Population 2016 15,672

Primary School Capacity: 1,670 in 5 schools

11% of the total population in 2016 amounts to 1,724 persons. Of these, 54 pupils cannot be accommodated in existing facilities, but they can be catered for through extension of these facilities.

Secondary School Provision

There is a current capacity in of 1,380 pupils in the three existing secondary schools in Arklow, per table 3.7.

Based on the CSO national population projections, 8.26% of the total population will be in the secondary school age categories in 2016. If the target population of 21,000 is achieved by 2016, there will be 1,735 persons in the secondary school age categories. Given that the existing capacity is 1,380 there will be a shortfall of 355 places. They could be provided for through upgrading of existing facilities or in a new secondary school.

Since the secondary school provision is so far solely located south of the river it is recommended that a new secondary school is located north of the river. Such a location will benefit existing residents north of the river, future residents proposed in Kilbride, and the wider catchment area. It also will reduce trips across the existing bridge over the Avoca.

D. Neighbourhood Centres

Site S

A neighbourhood centre is required as part of Land Use Scenario B, at Site S, fronting onto Lamberton Avenue. Site S is considered appropriate for the following reasons:

- There are no neighbourhood facilities in the western suburbs of Arklow. As site S is relatively centrally located in the western suburbs, it will encourage people to travel to it by foot / bicycle, as opposed to possibly travelling to the town centre by car.
- The location of the centre fronting onto the Lamberton Avenue will increase its financial viability, as it will benefit from passing trade.

Site I

The scale of retail development, mix of uses, location of car parking and integration with walking and cycling networks on the Reville site may influence the viability of any retail development on site I. The Reville development should identify its target population for a neighbourhood centre, access to the site by walking and cycling, and location of car parking that will not impede walking and cycling. A full assessment of the retail requirements on site I can then be carried out.

Kilbride

A supermarket is recommended in Kilbride, located adjacent the Dublin Road. The centre will be bigger than a neighbourhood centre in terms of floor area and it is recommended that the supermarket would have an approximate floor area of 3,500 sq m based on a typical supermarket size with a number of adjoining smaller retail units and social services i.e. doctors, dentist etc.

It was noted from the public consultation that an additional post office within the town would be beneficial and should be included within this centre The purpose of this facility is to serve the existing and future population north of the river, and to minimising convenience shopping trips across the river and also to serve the neighbourhood facilities of the new Kilbride development.

E. Community Facilities

Within Scenario B allowance is made for the provision of open space and playgrounds within the proposed residential densities. Within the town there are a number of existing playing fields which would suffice for the proposed population growth. In addition new pitches could be included as part of the school development and should be made available for general public use. The consultation highlighted a perceived lack of children play areas and the development plan should promote the inclusion of these within the new residential areas. Further more the home zones initiative outlined in Appendix E allows for the creation of new play areas within traffic calmed streets thus improving the number of safe play areas within the town. The traffic management proposals include recreational paths that will maximise and protect the use of amenity areas such as the beach, marshes and boating lake.

Scenario C:

This scenario is shown on Map 6 and as with Scenario B, it is recommended that development will occur at higher densities than currently exists in Arklow, particularly on sites within walking distance of the town centre and the railway station. Walking distance is assumed to be 600 metres as illustrated on Map 6.

The total population split north and south of the river in this scenario, detailed in A below, would be as follows:

North of River: 7,829 (37%)

South of River: 13,171 (63%)

A. Residential Development

A similar review was undertaken to Scenario B, in order to assess the likely extent of land that will need to be zoned for residential purposes, and the same key assumptions were used, in terms of density and household sizes.

Incomplete Residential Development

As shown in Table 5.4 above, there are two such sites with planning permission for 178 dwellings, and therefore capable of accommodating 480 people.

Outstanding Residential Planning Applications

As shown in Table 5.5 above, there are two applications before the Council, which if granted planning permission, will result in the development of 401 dwellings, thus catering for a population of 1,082 people.

Undeveloped Zoned Lands

There are a number of sites, which although zoned for residential development in the Arklow Development Plan 1999, are currently undeveloped. Sites A, D, H, I, N and O (see Map F), if developed at a density of 35 dwellings to the hectare could potentially contain 1,281 dwellings, thus catering for a population of 3,456 people.

Site M, as shown on Map 5, although zoned, is not developed as part of Scenario C. Site I could also be considered for omission, but its relative proximity to the town centre and location between the Reville Ltd. planning application site and the town centre means that it is a more suitable than M as a development site.

Table 5.15: Potential Residential Development on Undeveloped Zoned Lands

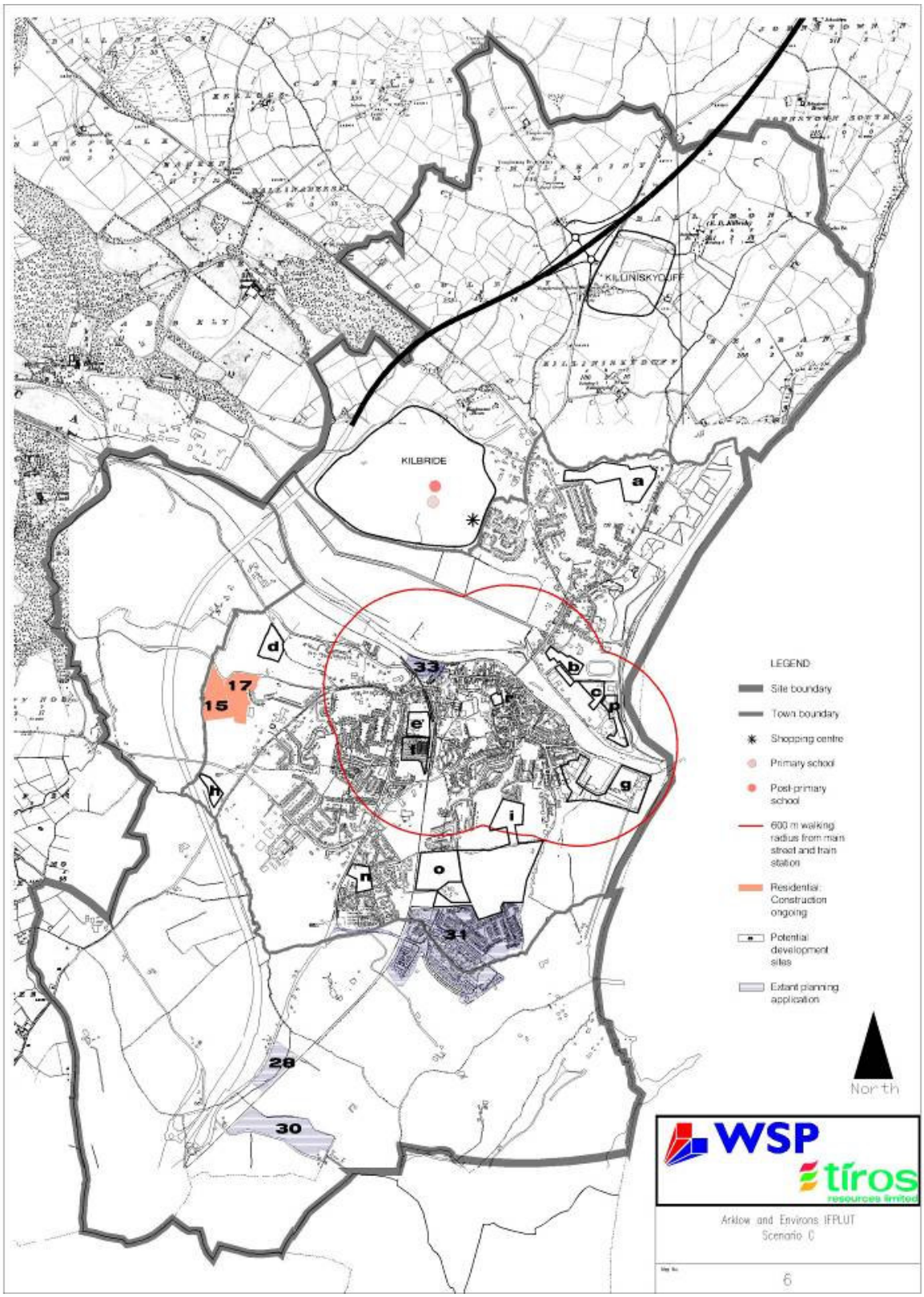
Site	Area (hectares)	Zoning	No. of dwellings	Population
A	6.3333	Residential	221	596
D	2.0577	Residential	72	194
H	1.1356	Residential	39	105
I	20.0666	Residential	702	1,895
N	1.6692	Residential	58	156
O	5.4094	Residential	189	510
Total			1,281	3,456

Brownfield and Infill Sites

As shown in Table 5.11 above, the development of brownfield / infill sites could potentially result in the 391 dwellings, thereby catering for 1,054 people.

Unzoned Land

As discussed under Scenario B, the town needs to plan for a population increase of approximately 10,500 people, or 3,900 dwellings. Under Scenario C, development of all incomplete residential developments, outstanding planning applications, zoned lands, with the exception of zone M, and suitable brownfield / infill sites, will result in approximately 2,251 dwellings, which will cater for 6,072. Clearly there is a need, therefore, to zone more lands for residential development.


KILBRIDE
KILLINISKYDUFF
LEGEND
Site boundary
Town boundary
Shopping centre
Primary school
Post-primary school
600 m walking radius from main street and train station
Residential Construction ongoing
Potential development sites
Extant planning application
North
WSP
tíros resources limited
Arklow and Environs IFPLUT
Scenario C
6

As Scenario C is focused on the concentration of development on appropriate town centre sites, and development of additional lands north of the Avoca River, all additional lands should be located north of the river. As with Scenario B, Kilbride is considered an ideal location for residential development. As approximately 1,685 dwellings need to be provided, it is required to zone 48.14 hectares of land in Kilbride, thereby providing for a population of 4,548 people, assuming a residential density of 35 dwellings per hectare.

Table 5.16: Potential Residential Development on Unzoned Lands

Site	Zoning	No. of dwellings	Population
Kilbride	Unzoned	1,685	4,548

B. Employment

Per Scenario B a total of 7,400 jobs will be required in the town, based on a labour force participation rate of 47%. The projected employment for Land Use Scenario C is shown in Table 5.17. The same key assumptions were incorporated in ascertaining the future employment profile as were used for Scenario B as detailed in section 5.3.3 above.

As is evident from Table 5.17, it is suggested that only a proportion of Killiniskyduff should be developed for employment purposes, and that development should be focussed on low-density industrial and warehousing employment. There are currently over 79 hectares of Killiniskyduff that are available for development. Full development of this zone could result in an oversupply of employment in Arklow, resulting in commuting into the town by workers.

The location of Killiniskyduff in proximity to the northern interchange of the Arklow bypass, away from the residential areas of the town means that it would make more planning sense to develop industries and warehousing that will have a large volume of HGV traffic. Large-scale office developments are not deemed suitable, as the location will encourage car-based commuting from future employees.

The partial development of Killiniskyduff is considered preferable to the development of Kish A, B1 and B2 for the following reasons:

- The development of Killiniskyduff would be consistent with Land Use Scenario C regarding development of additional lands north of the Avoca River.
- Killiniskyduff is in proximity to Kilbride, where it is proposed to zone over 48 hectares of land for residential development. It is considered that warehousing and industrial zonings are more appropriate to Killiniskduff.
- Killiniskyduff benefits from proximity to the northern interchange of the Arklow Bypass, which is considered the ideal location for industrial and warehousing uses.

Table 5.17: Future Employment in Arklow – Land Use Scenario C

Site	Area (ha.)	Area and Employee Numbers by Sector							
		Retail		Office		Industry		Warehousing	
		Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)	Area (sq m)	Emp. (Nos)
B	1.5	1,875	37	4,688	144				
C	1.9	2,375	47	4,938	182				
G	8.27	10,343	206	25,844	795				
P	1.94	7,275	146	2,425	75				
E	2.05	7,685	154	2,562	79				
R	0.40	1,985	40						
31		6,303[16]	212	52,859	1626				
33		6,790[17]	136						
F		5,280	105						
28				1,050	32	1,050	21		
30		4,946	98	2,960	91	8,465	260	4,008	40
Kilbride		7,000	140						
Killiniskyduff[18]	43					107,500	2,150	64,500	645
Total[19]			**1,320**		**3,023**		**2,431**		**685**
%			**18%**		**41%**		**33%**		**9%**

C Schools

As with Scenario B, there will be differing needs for schools, north and south of the river.

Primary School Provision

North of River

Population 2002 2,417 (A, B, C, P = 954; Kilbride = 4,458)

Population 2016 7,829

Primary School Capacity: 400

If one assumes a percentage of 11% as a share of persons in the primary school age in 2016, 861 persons need to be provided for north of the river, of which 461 cannot be accommodated in the existing school. Therefore one new primary school is to be provided north of the river to cater for the new population.

Kilbride is recommended as the ideal location for the new primary school, particularly given the proposed 4,458 people that will be living in this location.

South of River

Population 2002 8,083

Population 2016 13,171

Primary School Capacity: 1,670 in 5 schools

11% of the total population south of the river in 2016 is 1,449 persons in the primary school age categories. All this growth can be accommodated in the existing schools.

Secondary School Provision

There is a current capacity in of 1,380 pupils in the three existing secondary schools in Arklow.

Based on the CSO national population projections, 8.26% of the total population will be in the secondary school age categories in 2016. If the target population of 21,000 is achieved by 2016, there will be 1,735 persons in the secondary school age categories. Given that the existing capacity is 1,380 there will be a shortfall of 355 places. They could be provided for through upgrading of existing facilities or in a new secondary school.

Since the secondary school provision is so far solely located south of the river it is recommended that a new secondary school is located north of the river. Such a location will benefit existing residents north of the river,

[16] This floor area includes 2,435 sq m of an educational facility, 975 sq m leisure facility and an 86-bedroom hotel (which is assumed to have 86 employees).

[17] This floor area includes a gym, cinema, doctor's surgery and library, all of which are assumed to have the equivalent of retail employment.

[18] The employment figures for Killiniskyduff assume the following breakdown of uses: 50% industry and 50% warehousing.

[19] Total of 7,459 jobs need to be created by 2016.

future residents proposed in Kilbride, and the wider catchment area. It also will reduce trips across the existing bridge over the Avoca.

A multi-school campus north of the river in the Kilbride area is recommended. This would entail the development of a primary and secondary school on a single site. This would save costs as it would result in a sharing of facilities and a smaller site.

D. Neighbourhood Centres

Kilbride

A supermarket is recommended in Kilbride, located adjacent the Dublin Road. The centre will be bigger than a neighbourhood centre in terms of floor area. It is recommended that the supermarket would have an approximate floor area of 3,500 sq m based on a typical supermarket size, with a number of adjoining smaller retail units and services i.e. doctors, dentist, post office etc and wider community facilities e.g. church and community centre. The level of services to be provided would be greater than in scenario B The purpose of this facility is to serve the existing and future population north of the river, and to minimise convenience shopping trips across the river. This development may serve the neighbourhood requirements of the total Kilbride site but a detailed assessment of the site would be required in order to ascertain whether or not separate neighbourhood facilities would be required or perhaps located more centrally on the site.

Site I

The scale of retail development, mix of uses, location of car parking and integration with walking and cycling networks on site 33 (the Reville development) may influence the viability of any retail development on site I. The Reville development should identify its target population for a neighbourhood centre, access to the site by walking and cycling and location of car parking that will not impede walking and cycling. A full assessment of the retail requirements on site I can then be carried out.

E. Community Facilities

In line with scenario B play areas, pitches and open space will be inclusive part of any new residential development. The new secondary school will facilitate the provision of new playing fields north of the river counterbalancing the existing fields to the south

5.5 Transport Management Measures

5.5.1 Introduction

This section highlights the guidelines and policies that have been followed in developing specific traffic management and wider transport improvements to the town. Section 5.5.2 lists the overarching measures applicable to any scenario, whilst 5.5.3 expands on the variations to be found in the three scenarios evaluated. Specific traffic management measures are outlined in Appendix B and on Maps 8 to 11. These are a result of applying both good practice, as outlined in 5.5.2, and as a result of outputs from of the transport model. The latter refinements can be found listed in Appendix C.

5.5.2 Overarching Measures

In line with the studies key objectives emphasis was placed on promoting a compact urban form and creating a vibrant and expanded town centre with priority given to cyclists and the pedestrian with increased penetration for public transport, cyclists and pedestrians. The framework has identified a town centre cell that is the focus of such improvements. The area, outlined in Map 8, is bounded by Wexford Road, Yellow Lane, Hudson Square, South Green and extends north of the river to incorporate the approach to Arklow Bridge and Avoca River frontage. Limited improvement work has been identified within the existing Development Plan but the existing environment creates conflict between pedestrians and motorists. With limited footpath widths, few safe pedestrian crossings, the absence of cyclist facilities and restricted provision for disabled people the town centre has numerous barriers to slow mode movement. This enforces the dominance of the motor vehicle and invariably impacts on the economic and retail performance of the town.

The following text in this section 5.5.2 outlines measures that not only improve the attractiveness of the town centre as a place to shop, carry out business and socialise, but are also intended to enhance the interchange to bus and rail. In the wider context the objectives are linked to improved accessibility to the town centre in order to maximise the attractiveness of trip making by foot, bicycle and public transport as shown on Maps 8 and 9.

A fundamental part of this goal is a reduction in the number of through car trips within the town centre. To this end a number of demand management measures have been recommended which discourage the use of cars within the town and would be applicable no matter which scenario is adopted.

To aid the removal of through traffic from the town centre, a further key objective of the study is the identification and creation of key perimeter and distributor routes within the town. In order to restrict vehicle through trips to the primary and secondary distributor routes, a series of transport measures have been established. These include measures such as:

- Reviewing and increasing the levels of traffic calming on residential estates fronting primary or secondary distributor routes.
- Managing HGV movements within the town on completion of alternative perimeter routes
- Upgrading existing junctions on distributor routes to cater for increase volumes of traffic

These and the other proposals are now explained under the headings of Pedestrians, Cyclists, Public Transport, Car Parking and Access to Schools, Employment and Amenities.

Pedestrians

A key objective of the framework plan was to identify a safe and convenient network for pedestrians. A first step in undertaking this task was the identification of existing and post development pedestrian desire lines from homes to key destinations such as schools, shops or local bus stops. Once the pedestrian routes had been determined, the type of pedestrian using the route needed to be considered. Different groups of people have particular requirements, and so have an impact on the layout and design of the route e.g. the needs of shoppers compared to school children.

Within Arklow, a comprehensive network of walking routes already exists and there is little need to construct new routes. However, a number of these principle routes are of poor quality and are therefore not used to their full potential. According to the IHT's guidance entitled 'Providing for Journey's on Foot', there are four main criteria for improvements to existing footpaths. These are:

Improving the quality of the environment:	Specific measures include, cleaner pavements, improved footway surfaces, trees and plants etc
Improving road safety:	Specific measures include, reducing vehicle speeds, provide safer crossings, reduce traffic intimidation etc
Improve personal security:	Specific measures include increase visibility and surveillance, improved street lighting, increase local activity etc
Improved footpath widths:	Specific measures include relocating road space and increasing the useable footpath width.

Within Arklow a number of existing routes linking residential areas to key trip attractions meet the above principles. Within the existing residential neighbourhoods south of Abbey Street, a number of routes linking to the town centre have been recommended for remedial works. These measures include, widening the footpath links adjacent to Rory Place, planting low level vegetation, providing additional pedestrian crossing facilities on Abbey Street at Griffith junction and Castle Park junction and improving the surfacing and lighting on the Abbeyville link.

A major proposal for improving the pedestrian environment is the implementation of a 'Home Zones' initiative. All new planning applications for residential development should adhere to the principles of Home Zones. Where traffic calming measures are required in existing developments, the Home Zone principles should be appliedA Home Zone is a street where people and vehicles share the road space safely. Changes in the layout of the street such as indirect traffic routes, planting and gateway features emphasise the change in use of the street, so that motorists perceive that they should give informal priority to other road users, whilst planting and play furniture are also common features. The remodelling of Connolly Street to form a Home Zone, would significantly reduce traffic speeds in the area, manage parking overspill from the train station and remove the potential of rat running, and would act as a showcase for the town. Further information regarding Home Zones is available in Appendix E and the IHIE[20]'s Home Zones Design Guidelines 2002.

Although the majority of the framework measures are based on existing pedestrian routes, a number of potential new links have been identified through existing and future developments. General measures include:

- Footpaths along missing sections of Coolgreaney Road
- Construct a new footway link for school children from John Pauls Avenue to Arklow CBS/St Kevin's School
- Constructing a new footway link and bridge from Wexford Road to the railway station
- Continue proposed footways through Abbey Lands into developments to the south of the town
- Construct new footway link from proposed North Quay Car Park and development site to Avoca Bridge.

Within this framework, is envisaged the creation of an enhanced focus for the town centre. The reallocation of space to the pedestrian will provide an opportunity to achieve such a goal, and creates opportunities for increased informal contact and the ability for shops to open out onto the streetscape with the incorporation of seating adjacent cafes or restaurants. In its entirety the environment will be safer for all foot traffic and will offer a far more conducive space for people with disabilities through the judicious selection of paving materials and the sensitive location of street furniture. The three scenarios detail the proposals for the creation of such measures.

Links to the train station are also important, whether from existing residential areas, or new developments such as the Mercury site (site 31). These have the potential to generate significant volumes of trips wanting to access the railway station and the creation of pedestrian and cycling routes can minimise the level of car-based demand. The access from Abbey Street to the rail station should be reopened, incorporating pedestrians and cyclists, providing a direct link for residents and commuters to the south of the railway station. This link would remove the need for commuters to travel the circuitous route through Connolly Street. Improved footpath widths and road crossing facilities are recommended on St Mary's Road, as well as directional signage creating improved linkages between the station and the town centre.

In line with best practice guidance, the design of comprehensive routes between arrival points e.g. the train station and the town centre is essential for improving the competitiveness and overall impression of the town. In the DTLR21's document entitled "Going to Town" five guiding principles have been established to assess the town centre routes. These are:

[20] Institution of Highway Incorporated Engineers

[21] UK Dept for Transport, Local Government and the Regions, now the Dept for Transport

Connected: good pedestrian routes form a network which link the places where people want to go

Convenient: direct routes following desire lines, with easy to use crossings

Comfortable: good quality footways, with adequate widths and without obstructions

Convivial: attractive well lit and safe, and with variety along the route

Conspicuous: legible routes easy to find and follow, with surface treatments and signs to guide pedestrians

This philosophy is equally applicable to routes throughout the town whether between residential areas, places of employment or to the town centre. Throughout the route planning process, the above guiding principles have been considered for each link. These guiding principles will also need to be applied to the full design of each route.

Cyclists

In keeping with the key policies for the future development of Arklow, a strategic cycle network has been designed linking residential areas to a range of educational, commercial, and leisure facilities and the town centre. Similar to the pedestrian network, many of the measures required to provide for cycling will involve cycle friendly designs being applied to existing junctions and roads. This can include cyclists being given priorities within traffic management measures or the reallocation of road space to create safe and convenient cycle routes. In order to encourage the public to cycle more frequently the routes need to be direct and convenient. This can be achieved by using short cuts if feasible and designing in cyclist priority at key junctions. It is also important that the cyclist feels safe along the route, but this is largely dependent on the flow and speed of motor traffic.

Within Arklow, the primary distributor routes often form the most direct route between key attractions. Where feasible and where traffic volumes dictate, it is proposed that road space be reallocated to cyclists along these routes, to form segregated cycle lanes. A solid white line will designate the cycle lane, with a coloured surface applied to highlight the route. Although not completely segregated from the traffic, such a route improves cyclist safety, and helps raise the awareness of the driver to the potential presence of a cyclist, and visibly raise the profile of cycling within the town.

The main routes within Arklow where segregated cycle lanes are recommended are Wexford Road, Upper Main Street, Abbey Street, Lower Main street, Cemetery Road, Emoclew Road, Dublin Road and Ferrybank. These routes will be subject to detail design that will, in particular, address points where the provision of segregated lanes will be more difficult. Traffic speeds along these routes will automatically be reduced by the narrowing of the road space, however it is recommended that vehicle speeds be monitored and cycle friendly traffic calming (e.g. speed cushions) introduced if necessary.

To complete the connection from the north across the River Avoca it is necessary to provide a segregated cycle lane on the bridge. To facilitate this provision the bridge must be widened to incorporate cantilever structures either side. This is necessary because it is critical to protect the integrity of this cycle route as far as its arrival at Main Street due to the volume of vehicular traffic on the bridge and Bridge Street.

At the major junctions of Wexford Road / Upper Main Street Roundabout, Yellow Lane / Wexford Road and Main Street / Bridge Street it is proposed that a complete audit and redesign of the junction be undertaken to ensure safe access for cyclists. An example is the Wexford Road / Upper Main Street junction, where replacing the existing roundabout with traffic signals and providing advance bicycle stop lines would be beneficial for cyclists. Further guidelines on the design of cycle friendly junctions can be obtained from the DTO's document entitled 'Provision of Cycle Facilities' and Sustrans ' The National Cycle Network: Guidelines and Practical Details'.

A number of other routes within the town have been identified as providing coherent and direct links between key attractions, but due to low traffic volumes and speeds would not require the introduction of cycle lanes. On these routes it is envisaged that cyclists will share the road space with the motor vehicle, although signage will be erected to inform motorists to exercise caution. A number of residential estate roads and less trafficked town centre streets will be treated in this way. In this way cyclists will be guided along appropriately designated routes that terminate in areas where traffic speeds are low and volumes are decreased.

In line with one of the studies specific policies on promoting tourist and leisure pursuits, a number of cycle routes along the riverside and coastal edge have been identified. These include cycle routes to the Arklow Amenity Area, Arklow Leisure Centre and River Walk. As well as providing an attractive leisure route for cyclists, they will also offer an ideal starting place for young children or inexperienced cyclists to gain confidence.

The focus of the network is the town centre. On arrival to the town centre, it is planned that cyclists will be able to move freely and easily to destinations with minimal interaction with motor vehicles. Studies undertaken by the

Transport Research Laboratory[22] conclude that cyclists and pedestrians can mix in a manner that is not to the detriment of pedestrian safety and will not affect the creation of an open town centre.

Key to the delivery of a successful cycle network is the provision of a complete supporting infrastructure. Throughout the town centre cycle parking facilities will be provided at key locations such as the Post Office and Tourist Information Centre. The removal of parked vehicles along River Walk and the upgrade of existing footpaths along River Walk and the Quay's will provide an attractive leisure route for pedestrians and cyclists as well as an alternative route to the town centre avoiding Bridge Street. Further secure cycle parking facilities at popular destinations such as neighbourhood centres, public transport nodes and places of leisure and tourist interest are also necessary. Additional supporting measures include installing directional signage at junctions and cycle route information at strategic locations.

Public Transport

Key to the integration of land uses and transport within the town is the accessibility by public transport. Further to this, the town centre has the ability to become a local transport hub with its concentration of trip attractions and the ability to change to longer distance bus and rail services. Hence, the framework provides for the operation of bus services through the heart of the town, thus increasing the ease and desirability of using the bus. Recent studies have highlighted that frequency, reliability and fare structure all have a direct effect upon user perception and attractiveness of public transport services and these are issues addressed in the following paragraphs. The improvements are detailed in five parts:

- Local Bus Services;
- Inter-Urban Bus Services
- Bus Stops
- Taxis
- Rail.

Local Bus Services

In achieving the objective of maximising travel by sustainable modes the provision of an efficient and frequent public transport service can make a significant contribution to this goal and is also in accordance with the transportation strategy for the Greater Dublin Area. In order to promote social inclusion and to provide alternative modal choice to the community at large it is recommended to establish a local bus service within Arklow.

This service will strive to be as accessible to as many people as possible regardless of their social status, and is particularly aimed at the target groups identified in the CDB's strategy. The routes have been chosen to maximise the catchment areas whilst providing a reliable and efficient service that links major trip attractors in the town, and that acts as a counter balance to the demand management measures being imposed on car traffic. The service aims to provide a reliable, efficient alternative for those who currently use a car thereby reducing private vehicular usage within the town centre.

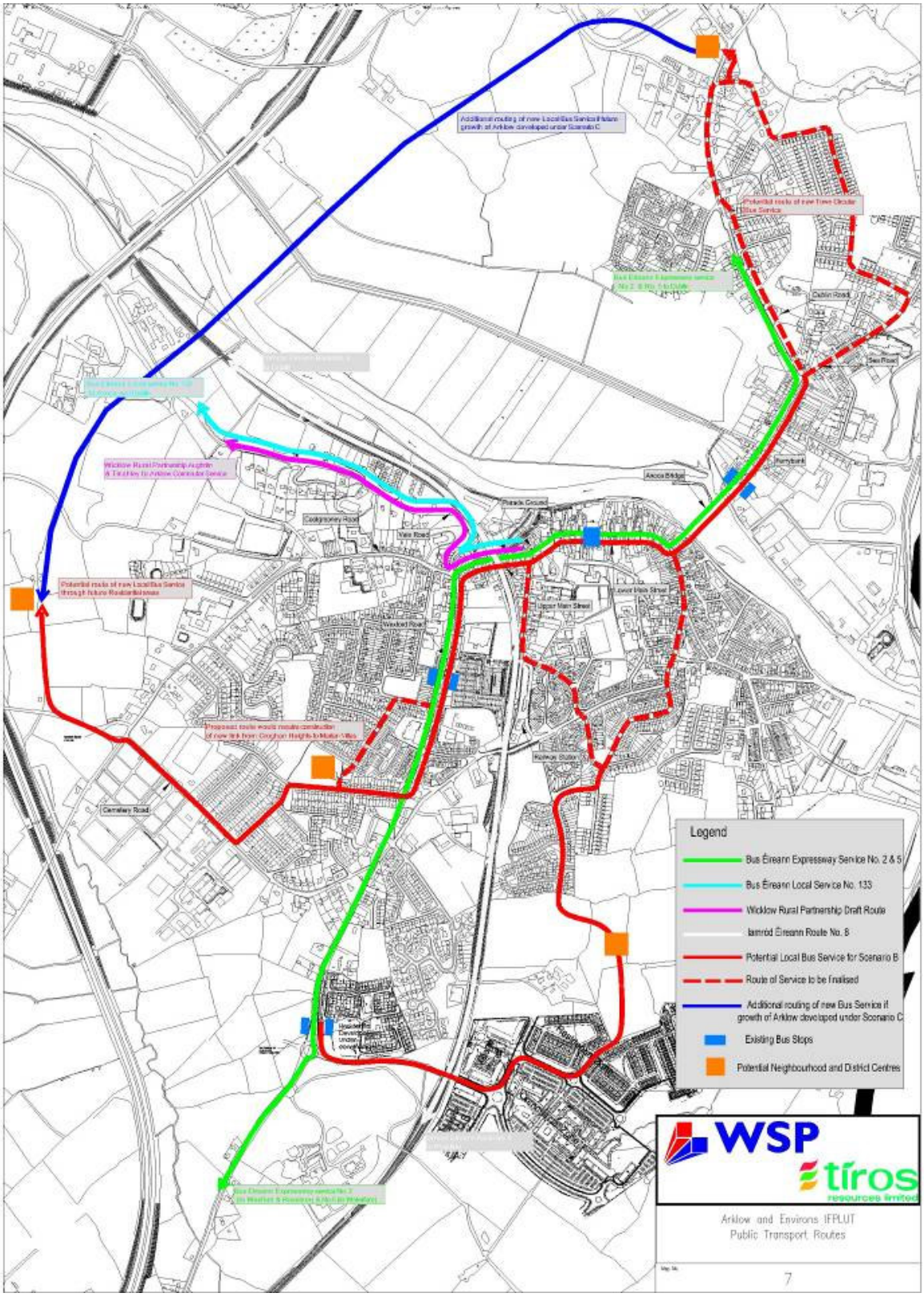
The 'Arklow Local Bus Service' will concentrate mainly along linear routes through the town. The service should strive to incorporate all user groups including commuters, school children and the elderly, in order to optimise its viability and frequency of service. Key to the social and financial success of the local bus is a reliable and frequent service. In order to ascertain the potential frequency of the service it is proposed that a scoping report be undertaken. By way of research and consultation the report should detail the needs of the community, thereby establishing the level and frequency of service required including the phasing in of services as the town grows. The report should also contain plans detailing how the services will be operated, funded, marketed and managed. It is anticipated that experience and support could be drawn upon from similar Rural Transport Initiative schemes that have been set up in the Wicklow region and plans be made to integrate the Local Arklow service with these rural services as well as Bus Éireann services.

Deleted: bus

In establishing such a service it is important that it should be supported over the long term to build confidence among its users. Subject to detailed cost estimation, it will probably be necessary, in the short term at least, to subsidise the service. Any service would also need to meet the necessary regulatory standard and licensing requirements.

Detailed below are the three linear routes that have been proposed within the framework. These route proposals outline a basic service that could be introduced under any scenario with minor adjustment to suit the specific zones developed. The routes are shown on Map 7.

[22] Local Transport Notes, UK Dept of Transport, Shared Use by Cyclists and Pedestrians, 2/86


Legend
Bus Éireann Expressway Service No. 2 & 5
Bus Éireann Local Service No. 133
Wicklow Rural Partnership Draft Route
Iarnród Éireann Route No. 8
Potential Local Bus Service for Scenario B
Route of Service to be finalised
Additional routing of new Bus Service if growth of Arklow developed under Scenario C
Existing Bus Stops
Potential Neighbourhood and District Centres
WSP
tíros resources limited
Arklow and Environs IFPLUT
Public Transport Routes
7

- Route 1: Western Arklow to Town Centre

  The first proposed route will commence service at the proposed neighbourhood centre in the new residential estates under construction in Lamberton, on the western fringes of the town. The bus will then proceed on to Cemetery Road and pass through the residential estates of Croghan Heights. Here existing speed humps will need to be amended to ensure a comfortable ride. The bus will then turn left at Fernhill and continue onto Wexford Road. A future consideration should be the re-routing of the service from Croghan Heights to Marian Villas adjacent the revitalised neighbourhood shops. This route will require construction of a short link across public open space. From Wexford Road the bus will continue onto Main Street via Upper Main Street and the Parade Ground. The bus will stop at the Town Park, before continuing onto on one of the other two routes described below.

- Route 2: Southern Arklow to Town Centre

  The second route will commence service at Knockmore roundabout bus stop and continue eastwards through the proposed Mercury commercial and residential development site. The service will then continue northwards through a potential new bus only road, linking the Mercury site to Church View Road. From Church View Road the service will continue northwards onto Connolly Street via Abbey Street calling at the rail station. From Connolly Street the bus will move northwards onto St Mary's Road, turn right into Parade Ground to the Town Park stop. An alternative route from Church View Road involves travelling eastwards through Abbeyville and continuing onto to Main Street via Back Street and Lower Main Street.

- Route 3: Northern Arklow to the Town Centre

  The third route will commence service at the existing neighbourhood centre on Dublin Road and, in the longer term, at the proposed development centre in Kilbride. The service will then continue eastwards along Ticknock Lane and into Hawthorn Drive. This section of the route will require the construction of a through link connecting Ticknock Lane to Hawthorn Drive. From Hawthorn Drive the service will travel southwards on to Sea Road and Ferrybank and onto the Town Park.

As the existing operator of local services in the Greater Dublin Area, and in the context of the existing regulatory system, Bus Éireann are in a strategic position to provide such a service. As a Transport Management Company with 'associated support and expertise' it is able to offer a wide range of integrated services and at this time offers the best option for route development and support. In the context of Arklow, Bus Éireann position and recognised brand name could be built upon in the establishment of new local services.

As the regulatory market in the GDA changes and the potential to increase partnership arrangements, including funding support, arise, the establishment of Quality Bus partnerships can be considered. Such partnerships are commonplace within Europe with the aim of providing, high levels of reliability, efficiency and quality of service, through the provision of better quality vehicles, bus priority measures, information and stop facilities.

Inter Urban Bus Services-

On a sub-regional scale the Wicklow Rural Partnership Group proposes to operate a scheduled service from Tinahely to Arklow via Aughrim. The service will operate as a feeder service for Iarnród Éireann and Bus Éireann services, and will also provide a shopping/social bus service bringing rural residents into the town. Such services will become increasingly important over the timeframe of the plan, as population growth is contained within the urban centres, and rural services continue to decline.

At the regional level Bus Éireann are examining on an on-going basis, the potential to provide increased services to Wicklow. In parallel with this, the designation of Wicklow as a Primary Centre within the GDA, necessitates that the improvement of links between Arklow and Wicklow will be essential, not only in widening public transport choice over longer distances, but to access the higher level facilities or services that Arklow would not support. As such, a bus based connection between Arklow and Wicklow should be encouraged to ensure Arklow residents could benefit from these improvements.

In considering future growth in Bus Éireann inter-urban services the provision of a local garage facility to service early morning departures to Dublin would not only benefit the town but would also benefit the customer. Such a provision would also reduce direct operating costs for the operator. Existing bus stops situated on Wexford Road, north of Pettitts and on Ferrybank Road need to be retained and upgraded with improved bus waiting facilities.

Bus Stops-

It is likely that people will not be attracted to buses in the long term if their experience is unpleasant or one of inconvenience. It is therefore necessary to invest in the provision of high quality bus stops to ensure the inevitable wait is as convenient as possible for passengers, and is as unimposing as possible for other road users and pedestrians. As a minimum the stops should be sensitively designed, providing both shelter and seating. Up to date timetable information should be clearly displayed in addition to the provision of a local town map.

The town centre will be a hub of local public transport, being the primary call for any local bus service, and the main stop for inter-urban routes. The existing Bus Éireann inter-urban stop is located outside "The Chocolate Box", and on the opposite side of the street outside the vacant Ormond Hall. At the existing stop waiting buses cannot pull off the main carriageway into the designated bus stop due to illegally parked vehicles. This has the effect of impeding flow of traffic on to main carriageway, and this is exacerbated when north and southbound services coincide.

In addition the limited pavements widths result in waiting passengers blocking the pavement for other pedestrians. Furthermore the lack of covered waiting facilities results in unacceptable waiting conditions of intending passengers and quite often intending passengers wait in parked vehicles in the vicinity of the bus stop, particularly in inclement weather. This adds to the congestion problems in the area. In considering the location of the primary town bus stop the following options are considered:

1. Alps Site, Main Street for northbound services (Short Term)- This development of the site includes a new lay-by thereby making it a safer alternative to the existing stop. Its close proximity to this mixed-use development would benefit those visiting the new leisure facilities, or who live/work within the development. Covered waiting facilities should be provided at this point.

2. Parade Ground, for southbound services (Short Term)- At the present time this site is used as a car park for approximate 20 vehicles. The potential for a pull in facility is given through the ample street width at this location. The site is also located mid way between Upper Main Street and Main Street making it easily accessible for potential bus users. This is a temporary measure that will require minimal works, but will enable the bus to pull off the main carriageway.

3. Town Park, Main Street, for all services- (Medium Term)- This site located at the western extent of the proposed pedestrian area (see section 5.5.3) has the potential to develop into a quality bus waiting facility. Location allows for development of a high quality sheltered stop complete with the full range of measures to improve waiting conditions for passengers. The full range of measures would include a coffee shop/restaurant facility. Such a facility would encourage maximum patronage, and become a hub for the local and inter-urban services.

Taxis

Taxis are commonly viewed as an extension of public transport and provide a valuable service in enabling trips to be made outside of public transport operating hours, and to destinations in Arklow's rural hinterland. As the town population grows to 21,000, it is recommended that provision should be made for a taxi waiting area within the town centre incorporating taxi meters under existing regulations. Possible locations include Parade Ground and at the railway station.

Rail

As outlined in the Wicklow County Council submission to the Strategic Rail Review it is important that there is a reasonably fast and frequent rail service in place between Dublin and County Wicklow in both directions at all times of the day. With Arklow being a designated growth centre it is vital that links with Dublin are maximised in accordance with the Council's submission in order to attract business development into the town as well as providing for leisure and other trip types to and from the metropolitan area. Whilst the details of the services are beyond the scope of this study services would be required to serve the morning and evening peak together with off peak services to serve other trip types throughout the day.

Iarnród Éireann has proposed some short and medium term proposals for the upgrading of existing rail services. From late 2003, new improved carriages will be introduced on the 0655 service from Arklow to Dublin and on the 1725 Dublin- Arklow service. These new Arrow trains will increase the capacity of each service and is envisaged to offer marginal reductions in journey times due to better acceleration/deceleration of modern train units. Following this, WCC wish to see the introduction of an hourly off-peak Arrow service between Arklow and Dublin but this is dependent on works being undertake north of Wicklow to improve track capacity.

As part of the ongoing land use and transportation study for Wicklow town, proposals are being considered for the creation of a new multi-modal interchange at Rathnew. This could act as a park and ride facility where commuters from south of Wicklow can transfer from car to train for the remainder of the journey into Dublin. This is a preliminary proposal and at present has no backing from Iarnród Éireann, and does not form a part of any investment strategy.

Arklow station itself should seek to provide an easy interchange and pleasant waiting environment. With full accessibility for all users the proposals recommended in relation to the primary bus stop are applicable on the larger scale to the station i.e. toilet facilities, clear legible timetables, provision to buy refreshments and covered waiting areas.

Car Parking

Removal of unnecessary parking within the heart of the town centre will not only provide a more attractive civic space, but also alleviate congestion for people who **need** to park within the town centre such as delivery vehicles, disabled drivers and buses. In the medium term is recommended that parking be prohibited on River Walk and all of Lower Main Street. On Upper Main Street it is proposed to remove the 20 parking spaces outside of the town hall and the convert this site to a landscaped area, complete with seating, public art and cycle facilities. Disabled parking spaces will be made available in the vicinity of Parade Ground. As a next phase, and upon construction of new parking on the town centre periphery, it is an objective to convert the River Walk car park to a central town park and plaza. Dependent on the feasibility, a new pedestrian and cycle bridge across the Avoca would link to this site. Together, these alterations and improvements would increase pedestrian safety within Upper Main Street by removing excess vehicular movements and would also provide a series of attractive civic focal points.

Within the framework proposals have also been made for the redevelopment of Castle Park Car Park. By intensifying the use of the existing site, high-density employment and retail can be developed and accommodation made for additional private and public parking. In order to accommodate the displaced parking within the town centre, it is recommended that two sites on the periphery of the town centre cell, North Quays and existing Tesco site, be considered for redevelopment with the inclusion of public car parking.

North Quay would provide an ideal location for additional town centre parking as it would not only provide parking for the town centre but also facilitate the redevelopment of the North Quay area. A car park in this location would also have the effect of reducing congestion within the town centre by attracting town centre shoppers accessing the town from the north. Similarly, a new car park on the existing Tesco site on Wexford Road would attract town centre shoppers arriving from the south.

Recent guidance on acceptable walking distances, ('Guidelines for Journey's on Foot' by the IHT23[23]) suggests that the acceptable walking distance from car parks for people without mobility impairment requiring access to common facilities (e.g. shops, banks etc) is 400m. In both cases, car parks located on the edge of the town centre cell would satisfy this criterion. It is noted that, as well as walking distances, a number of other factors influence the quality of the journey from the arrival point to the town centre. Strong links need to be developed from these sites to the Main Street. In the case of the North Quay site, improvements to the North Quay and South Quay junctions with Bridge Street will need to cater for increased pedestrian movements and the footpaths along Bridge Street will require widening to a minimum of 2m to allow for the anticipated pedestrian activity.

The three car parks (North Quays, Castlepark, existing Tesco site) would operate as public car parks, with appropriate charging that would penalise long stay. The aim is to provide parking for shoppers and visitors (most likely up to 3 hour stay), whilst discouraging those working in the town centre from driving and parking all day. Not all workers will have alternatives to driving and a possible initiative is that local businesses would be given the opportunity to purchase permits based on staff numbers and business requirements in designated sections of these car parks The respective employer would then allocate these as they see fit, being encouraged to give priority to staff that travel from outside the town and that have no access to public transport. The Council can determine the charges levied and these would cover administrative charges with any excess used to contribute to the wider transport improvements in the town.

Public on- street parking would be retained on St Mary's Road and Castlepark but parking in the Connolly Street area will be limited to residents only. Parking on Abbey Street would need to be managed in the light of future traffic volumes along this road. Based on the future population targets, the potential to improve Iarnród Éireann services and proposed traffic management measures, it is envisaged that there will be a substantial increase in the use of train services in the future. An increase in commuter parking demand, particularly from the rural hinterland, together with the removal and restrictions to on street parking on surrounding streets will necessitate the provision of parking on the station site possibly in the existing ballast storage yard. This parking would be validated only with a rail ticket via a barrier system to prevent the use of this car park as a town centre facility. Within the railway site it is also recommended that secure cycle parking facilities be made available for commuters who want to 'cycle and ride'.

In the shorter term, the necessary measures that provide alternatives will not be in place, and hence stricter controls on parking spaces would be difficult to justify. Through planning conditions the future decommissioning of car spaces could be incorporated ensuring the longer term goal of reducing workplace parking is met. Reductions in car space provision would be applied hand in hand with improvements to the slow mode and public transport network and service provision. On an individual basis developments will incorporate travel plans in order to co-

[23] Institute of Highways and Transportation

ordinate the provision of car spaces to employees with possible bias to employees travelling from the hinterland or longer distances where no public transport alternative exists.

Outside of the town centre, specific development types should be designed and parking provision based on a medium term objective to apply appropriate guidelines for the scale and location of the development. The guidelines detailed below indicate the parking standards that can be applied based upon a reduction over time from the existing parking requirements as alternatives are introduced to the town and demand management measures encourage sustainable transport.

The future parking requirements detailed below in table 5.18 are derived from existing Wicklow Development Plan standards as well as further Irish and UK Development Plan standards, including reference to the UK's PPG 13 ' Transport'. In contrast to traditional parking guidance the new standards adopt the principle of maximum parking standards instead of minimum parking standards as a means of promoting sustainable travel. In line with the guiding principles of the study, the proposed new standards also reduce parking provision for town centre developments, as a demand management tool, to help reduce town centre congestion. The new guidance also proposes minimum cycle parking standards. As improvements in the public transport and slow mode infrastructure comes on line, it is anticipated that future development plans will further reduce the car parking provision whilst increasing minimum cycle parking standards.

Table 5.18: Parking Standards

Land Use	Parking Requirements						
	Arklow Development Plan 1999	Short term: under Arklow Draft Development Plan 2005			Medium term: under Future Arklow Development Plans		
	Minimum spaces required	Maximum spaces required		Minimum cycle spaces required	Maximum spaces required		Minimum cycle spaces required
		Town Centre	Suburbs		Town Centre	Suburbs	
Residential	1.5 per unit	1.0 per unit	1.5 per unit	1.0 per unit	1.0 per unit	1.0 per unit	1.5 per unit
Office	4 per 100m^2	3 per 100m^2	4 per 100m^2	2 per 100m^2	2 per 100m^2	3 per 100m^2	3 per 100m^2
Manufacturing	3 per 100m^2	2 per 100m^2	3 per 100m^2	2 per 100m^2	1 per 100m^2	2 per 100m^2	3 per 100m^2
Retail-convenience	6 per 100m^2	5 per 100m^2	6 per 100m^2	4 per 100m^2	4 per 100m^2	5 per 100m^2	6 per 100m^2
Retail-comparison	6 per 100m^2	4 per 100m^2	6 per 100m^2	4 per 100m^2	3 per 100m^2	4 per 100m^2	6 per 100m^2
Restaurant	13.5 per 100m^2	8 per 100m^2	10 per 100m^2	4 per 100m^2	6 per 100m^2	8 per 100m^2	6 per 100m^2

Throughout the town disabled parking should be provided at locations that provide easy access from the parking space to the service or facility. As such spaces would be retained within the heart of the town centre, at the train station, and incorporated into the above standards.

Access to Schools

Within recent years, considerable traffic management measures have been undertaken in the vicinity of schools within Arklow to help reduce traffic speeds and increase driver awareness. Although these measures improve child safety outside of the schools, they do little to contribute to a change in travel pattern of the pupils. In order to increase travel to school by sustainable modes, the entire length of the school journey needs to be addressed from home to school. Although this cannot be achieved on an individual basis, routes between neighbouring residential areas and schools can be improved.

Trips to school contribute significantly to traffic volumes in the morning peak, noticeable by the lower traffic volumes during school holidays. To help address this and meet wider goals such as improving children's health, providing routes that children and youths can use to walk or cycle safely to school can make a valuable contribution to the guiding principles of the study.

Within the framework a number of traffic measures have been identified to reduce traffic speeds and volumes in the vicinity of schools and to provide safe walking routes from residential areas to schools. Identified measures have purposefully not included the provision of additional parking, but examples of new measures are:

- Review on street parking and set down facilities in vicinities of schools.
- Construction of additional pedestrian crossing facilities on busy routes such as Wexford Road and Abbey Street.
- Signalisation of Wexford Road / Coolgreaney Road junction with provision of pedestrian phasing in signals.
- Introduction of School Safety Zones in front of Schools on Coolgreaney Road, Castle Park and Dublin Road. This will include for the erection of signs stating such and advising motorists to drive with caution.

Although engineering measures can alleviate some of the problems associated with the journey to school, it is recognised that educational measures have a more prominent role in changing travel patterns. In order to instigate an attitude change towards non-car travel to school, it is important that issues such as personal safety training and

cycle training are addressed. Therefore it is proposed that a School Travel Plan be undertaken by all of the schools within Arklow and its Environs. A school Travel Plan is a comprehensive package of measures aimed at reducing the number of car trips to school and encouraging other modes of transport, especially walking and cycling. Further information regarding safe routes to school is detailed in Appendix D. It is to be noted that the DTO's strategy for the GDA incorporates a Safe Routes to School programme, and any measures to be implemented in Arklow should take cognisance of this wider strategy.

Access to Employment

The network hierarchy outlined in this framework has taken into account the importance of access to employment opportunities. The town centre will be a focus for many new jobs within the service sector such as office employment i.e. higher density people based employment Access to the town centre has been thoroughly detailed previously.

Production and distribution based industries. i.e. goods based employment, with a lower density of employees per sq m are generally located adjacent the national road network as the movement of their products necessitate efficient and easy access, dominated by goods vehicle movements. Therefore the majority of new jobs in this sector will be created close to the N11 interchanges and the new port access route.

To facilitate the movements between residential areas and these new zones of employment the cycle and pedestrian networks has looked to create direct links where feasible. In addition the extension of local bus services to more peripheral employment sites could be considered in the longer term. Green travel plans should be incorporated into planning conditions for significant employment developments.

Access to Services

A large number of services such as health and welfare will remain located within the town centre and so can be accessed via the network already described, whilst existing focal points in residential neighbourhoods have been incorporated in the wider network hierarchy. It is important that links to wider cultural and social facilities are included to enhance the choices available and quality of life of Arklow residents. Links have been incorporated in this manner to the leisure centre, beach areas, and concentrations of sporting facilities.

Port Traffic

Whilst the National Spatial Strategy identifies Arklow as being a potential transit port its overall potential to develop significantly is limited by the established eastern seaboard facilities at Drogheda, Dublin, Dun Laoighaire and Rosslare. The potential for significant development of the existing port facilities are particularly limited both in terms of landing area and the potential to increase traffic flow into this area. Traffic to the existing port will continue to access via the North Quays with a proposed new port access route and to the South Quay via the completion of the southern port access route via the Roadstone site. The potential to develop port facilities at the roadstone site is diminished given roadstones long-term commitment to continuing its activities at this location. Therefore no detailed analysis of the effect of a new port facility at this location was undertaken. However should new port development take place on this site the principle of traffic movement would be to bring all traffic via the southern link of the port access route to the south of site 31.

5.5.3 Specific Scenario Measures

Specific traffic management measures for each of the considered scenarios are outlined in this section under the headings of:

- Town Centre
- Beyond Town Centre
- Access to Schools, Employment and Services

SCENARIO A

Scenario A is the continued development of the town under the existing direction of the Arklow Development Plan. If this scenario were to be followed a number of improvements would be incorporated in the future framework and these improvements would adhere to the design principles applied throughout Scenario's B and C.

Town Centre

The completion of the N11 bypass in 1999 relieved the town from the heavy traffic flows travelling from Dublin to the south-east, thus improving the environment within the town centre. However, since completion of the bypass, local traffic has disproportionately increased, particularly within the town centre and surrounding roads negating the true benefits of the bypass.

Expansion of the town under Scenario A will result in a continued increase in local traffic as the population of the town grows. Under this scenario it is envisaged that a number of the major junctions with in the town centre, primarily Bridge Street / Main Street, will contribute significantly towards town centre congestion due to traffic demand and limited junction capacity in the near future.

The implementation of the Arklow Town Council traffic and parking regulation plan, will help reduce some of the congestion within the town centre by removing a proportion of on street parking on primary distributor routes and long stay parking in the town centre. However, on street parking provision on roads such as River Walk will continue to inhibit the potential development of these areas.

Within Scenario A, the desired modal shift to slow modes and public transport is diminished, and hence the creation of improved pedestrian areas, the introduction of cycle measures, and public transport priority are suppressed by this dominance of the private car.

Beyond the Town Centre

A key objective of the 1999 Arklow Development Plan is the construction of the Port Access Road linking the existing port area of South Quays to Wexford Road. The creation of this link was originally envisaged to provide access to a new port facility within the Roadstone Quarry site, and facilitate the development of industry in the vicinity. Within this framework the route fulfils a different role, in providing an alternative to existing routes through the town, thus reducing congestion within the urban area and in particular the town centre cell. The full benefits of the Port Access Route will not be achieved unless stringent demand management measures are enforced to ensure drivers avail of the new road.

Under Scenario A, the old N11 route will continue to form the primary distributor route for local traffic. A number of junctions along this route have been identified as requiring redesign to improve junction safety and capacity but without parallel measures for demand management and provision for sustainable modes of transport, these junctions will continue to contribute to town wide congestion.

Within recent years, a number of new developments have been constructed on the fringes of the town, with indirect and disjointed pedestrian routes to places of major attraction. If this pattern were to continue, it would lead to increased urban sprawl, which will further encourage the use of the private car.

Access to Schools, Employment and Amenities

Under Scenario A, this trend in car travel is likely to rise as the population growth contributes to increased congestion within the town. Travel to employment parks on the fringes of the town will continue to be primarily undertaken by car, as public transport alternatives would have insufficient critical mass due to the lower density population. Cycle and walking routes would also prove to be unattractive, as the dispersed nature of development would create trips that are beyond acceptable distances.

Within Arklow the under provision of neighbourhood centres necessitates the need for town centre trips for a number of basic requirements and services. Lower residential densities will limit the ability of new local stores to have sufficient customer numbers within their catchment. As such the dependency on the town centre from outlying residential areas would remain, and a greater propensity to use the car over walking or cycling would prevail.

As it became apparent Scenario A does not meet the wider land use and sustainable principles desired for this framework, no further tests of traffic management scenario's were undertaken. Under Scenario B and C the general measures described previously in this section (pedestrians, cyclists, public transport, car parking and access to schools) apply. The additional text contained hereon details further measures that could be incorporated to maximise the opportunities arising from the land use proposals put forward.

SCENARIO B

The land use aims of Scenario B have been outlined previously and will see future development concentrated south of the river, along the quays and in the town centre. In terms of its importance as the major trip attraction area in the town, the town centre is assessed in greater detail than the remainder of the town and for the purposes of this assessment is defined as the area between the Avoca River, Wexford Road and Abbey Street/South Green.

These proposed transport measures are illustrated on Maps 8 and 9, and itemised in Appendix B including details of the specific framework policies that each measure addresses and identifies if the objective should be implemented in the short, medium or long term. These time periods equate to within the next three years (2003-2006), between three to seven years (2006-2010) or greater than seven years.

Town Centre

Pedestrians and Cyclists-

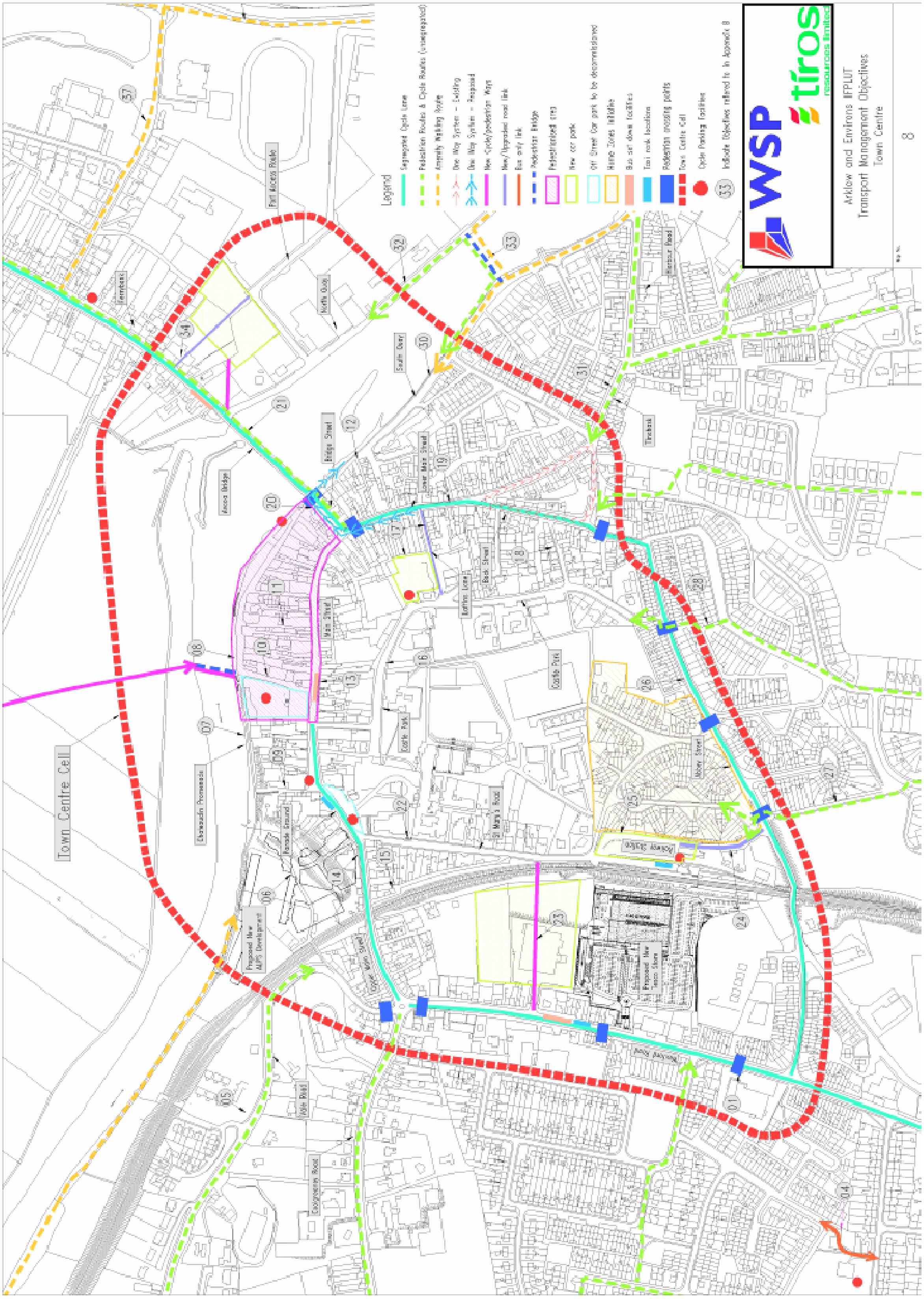
To further enhance the attractiveness, vitality and safety of the town centre, it is proposed to pedestrianise Main Street from Bridge Street to Castle Park. This will provide an attractive, safe and vibrant civic space extending to the riverfront, whilst maintaining vehicular access for buses taxi's and deliveries. The pedestrianisation will consist of maximising pedestrian space each side of the bus route incorporating improved lighting, landscaping and street furniture, which will further enhance the sense of a civic environment.

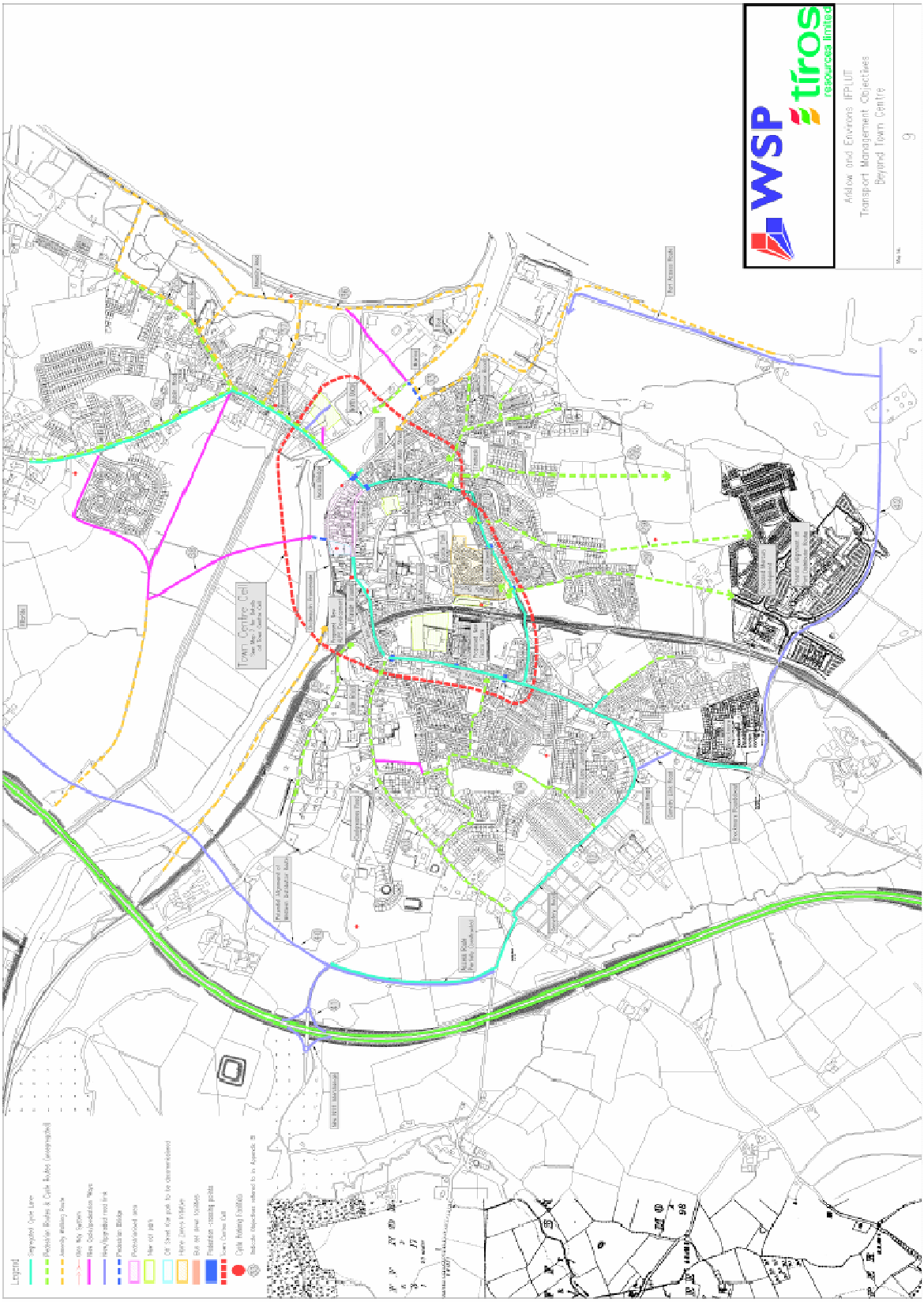
The traffic flows obtained from the SATURN model indicate that the pedestrianisation of Main Street has an effect on neighbouring parallel roads. The constraints and geography of the built and natural environment of Arklow preclude the construction of an alternative east/west route, and so a series of traffic management measures has been developed to manage the traffic growth caused by the increase in population and employment opportunities. These seek to preserve the character of Arklow, and maximise the use of routes that are either designed to cater for such volumes, minimise the impact on residential properties or can be modified without harming the other goals of this IFPLUT study. Overall these management measures are felt to balance the benefits of creating a quality Main Street environment over the potential disbenefits. It should be added that although closed within the model the road would remain open for buses and delivery vehicles in a one-way east bound direction. Outside of primary retailing hours the street would be open to other road users in a similar one way system using the same trafficked carriageway provided for the bus and delivery traffic and therefore the same pedestrian and cycle priorities would pertain during this period. This extra traffic will create more activity on the main street off peak periods that will create a greater sense of personal safety and overall vibrancy of the town centre.

As part of the car parking management plans, the removal of cars from River Walk offers the potential to fully develop the riverside as an amenity area with new development frontage onto the river. The amenity would be provided with a focal point of a new town park on the site of the existing car park, linking the river to the Main Street. In the longer term a new bridge could open up the amenity value of the Arklow marshes, providing an alternative cycle and pedestrian crossing, and a new connection to residential areas within Kilbride and north of the river.

It is also anticipated that there will be an increase in the number of pedestrian movements from the North Quay Development site to the town centre, further enhancing the desirability of a pedestrian and cyclist river crossing from North Quay to South Quay. Such a new link would also form a central link as part of a wider amenity route network for leisure walking. A number of the existing links between Main Street and River Walk would also be upgraded as part of the regeneration of the town core. These would include River Lane, Coombes Lane, Paramount Arcade and Doyles Lane incorporating improved lighting, re-surfacing and directional signage and will further enhance the linkage between Main Street and the river.

West of Main Street, along Parade Ground and Upper Main Street, it is anticipated that work will need to be undertaken to improve road crossings to ensure that they meet the access and mobility needs of disabled people. Additional crossing facilities are also required on Upper Main Street. Enhanced crossing facilities are proposed on Abbey Street and a new pedestrian and cycle link is proposed to the north of the new Tesco development that will provide a more direct access to the town centre, railway station and schools from Wexford Road. This direct link would cross the rail line, and would in some circumstances reduce the distance of trips to the rail station and schools by as much as 800m.


Legend
Segregated Cycle Lane
Pedestrian Routes & Cycle Routes (unsegregated)
Amenity Walking Route
One Way System - Existing
One Way System - Proposed
New Cycle/pedestrian Ways
New/Upgraded road link
Bus only link
Pedestrian Bridge
Pedestrianised area
New car park
Off Street Car park to be decommissioned
Home Zones Initiative
Bus set down facilities
Taxi rank locations
Pedestrian crossing points
Town Centre Cell
Cycle Parking Facilities
Indicate Objectives referred to in Appendix B
Arklow and Environs IFPLUT
Transport Management Objectives
Town Centre
8
Town Centre Cell


WSP
tíros resources limited
Arklow and Environs IFPLUT
Transport Management Objectives
Beyond Town Centre
Legend
Town Centre Cell

Public Transport-

Public transport improvements were outlined in the previous section. The proposed land use pattern of Scenario B, through increased densities and re-enforced town centre, will encourage modal shift away from the private car. Careful design of the Main Street bus route will enable the bus to efficiently access the street whilst maintaining a safe and pedestrian friendly environment. Delineation between the bus route and the pedestrian only areas can be achieved by a number of methods including, different coloured and textured surfaces and installing street furniture, such as bollards, lighting and planting.

Vehicular Traffic Movements-

On completion of the town centre pedestrianisation, all vehicles, except buses, taxi's, emergency vehicles and deliveries will be unable to access Main Street. In the short term, access to River Walk car park will be maintained, from Upper Main Street, however this will be removed once alternative parking on the edge of the town centre has been provided. Final arrangements for town centre deliveries would be designed in direct consultation with the businesses affected.

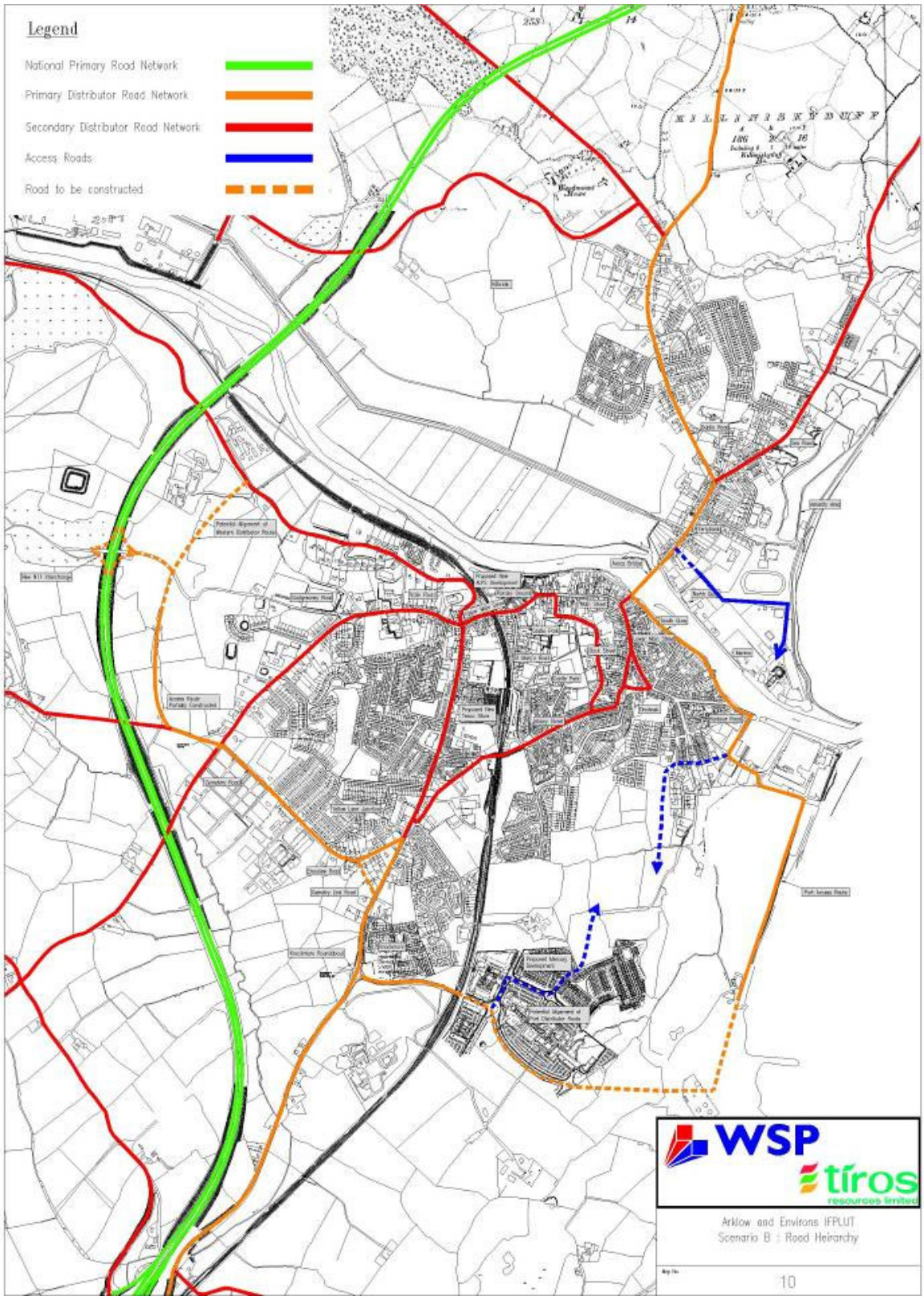
In order to relieve congestion at the Bridge Street / Main street junction it is proposed that a one way system, operating in a clockwise direction, be implemented along Lower Main Street (between Laffins Lane and Bridge Street), Bridge Street and the northern section of South Quay (see Map 8). All vehicles accessing the town centre from the north (except buses) will be unable to gain access to Bridge Street and will be directed onto the South Quay via a one way system. These traffic proposals will require the widening of South Quay from Arklow Bridge to its junction with Harbour Road. This particular objective has already been identified in the 1999 Arklow Development Plan and could be undertaken in conjunction with planned sewage works for the South Quay.

To access Main Street buses and cyclists will use a bus lane on Bridge Street and it is envisaged that traffic signals will facilitate the admission of buses and cyclists into Main Street. To allow for vehicular access around the town, it is proposed to upgrade the existing Laffins Lane to a two way carriageway that will be extended through the current Castle Park car park and thus create a new link avoiding Main Street. Due to it's limited residential frontage, available carriageway width and access to Castle Park Car Park and Parade Ground, Castle Park has been designated a secondary distributor route, notwithstanding safety issues being resolved at schools fronting this road (see Appendix B). Alternatively vehicles will be able to access the town centre via Abbey Street and Wexford Road. Further restrictions on Back Street are also proposed to minimise the impact of this displaced traffic on Abbey Street. See Maps 8 and 9 for further detail.

As stated above, Abbey Street will become the primary distributor route for vehicles accessing the town in an east / west direction. In order to reduce the potential level of congestion along this route, it is recommended that Heavy Good Vehicles restrictions be implemented on Abbey Street on completion of the Port Access route. HGV vehicles requiring access to the town centre, will then be able to do so via South Quay and the Port Access route from the N11 junction to the south of the town.

Car Parking-

A large number of the town centre objectives detailed within this framework involve giving greater priority to pedestrians, by increasing footpath widths and pedestrianising streets. In order to achieve this pedestrian friendly environment, a large proportion of the existing town centre parking provision will need to be relocated to car carks on the periphery of the town centre as described previously. These are desirable locations in that they remove the necessity for car traffic to pass through Main Street whilst at the same time providing convenient parking for town centre activities.


Legend
National Primary Road Network
Primary Distributor Road Network
Secondary Distributor Road Network
Access Roads
Road to be constructed
WSP
tíros resources limited
Arklow and Environs IFPLUT
Scenario B : Road Heirarchy
10

Beyond Town Centre

Distributor Network-

The routes detailed within this section are illustrated on Map 10. A primary concern in evaluating the growth of the town, is the ability of Arklow Bridge to cope with significant increases in traffic volume. From the modelling results it has been shown that Arklow Bridge has marginal capacity to support the development of the town up to the projected population of 21,000, and significant delays and congestion remain through the town centre. Under scenario B, Dublin Road / Ferrybank Road will remain the primary route into the town from the north, but the opening of a new N11 junction in the vicinity of Vale Road, provides relief for the existing bridge.

The creation of a third N11 interchange at Lamberton, providing a connection to the western distributor road, would perform four key functions:

a) Remove traffic travelling from the Vale of Avoca from Vale Road and routes through the town

b) Provide an alternative point of access for areas in the west of Arklow. This would remove the need to travel through the town centre and crossing Arklow Bridge, extending the bridge's lifetime.

c) Reduce traffic flows on the secondary distributor routes of Abbey Road, Castle Park Upper Main Street and.Coolgreaney Road

d) Provide an alternative route for vehicles accessing the Mercury development site, via Cemetery Road, Emoclew Road, Wexford Road and the Port Access Road. This route will remove excessive HGV traffic from sensitive routes in the town centre.

On completion of the Port Access route, Heavy Goods Vehicles restrictions will be placed on Abbey Street. The Port Access Road will become the main distributor route for cars and Heavy Goods Vehicles requiring access to the new residential and commercial zones to the south and west of the town centre. It is anticipated that further secondary distributor routes will need to be developed linking the new residential and commercial zones in the south to the existing town network. As part of the wider network development some of these links would be designated bus only. Turning restrictions are proposed at the south end of Coolgreany Road in order to limit traffic volumes accessing the town centre on this route from the Western distributor route.

Access to Schools, Employment and Amenities

As previously stated the town centre will be a focus for many new jobs within the service sector such as office employment. Scenario B reinforces this emphasis through the redevelopment of brownfield sites in or about the town centre such as the quays. With the wider focus of the travel network on the town centre this concentration of employment strengthens the opportunities for the use of alternatives to the car.

Away from the town centre new employment sites are to be incorporated in the Mercury development and within existing zoning. This mixed use zoning, connected with the proposed bus service also provides a balanced land use and enables easy travel by modes other than the car.

Schools within the town will be incorporated into the cycle and pedestrian network and will benefit from the wider improvements. A retail facility as part of the Mercury development will aid local shopping trips, as well as providing the ability to cater for other local needs such as a chemist or dry cleaners. The provision of a retail centre in Kilbride provides an alternative destination for residents living north of the river.

SCENARIO C

In contrast to Scenario B, Scenario C incorporates a greater concentration of development north of the river within the Kilbride, and Killiniskyduff townlands. Existing residential zoned lands within Arklow would be developed in line with existing permissions, however the aim of scenario C is to create a critical mass of housing, retail and employment to meet the needs and services of the population north of the river as outlined on Map 6. The existing town centre will remain the major focal point within Arklow and the principles of route provision and network development outlined in scenario B will hold true in this scenario and therefore reference is made to Maps 8 and 9. Outlined below are transport management objectives that differ to Scenario B.

Town Centre

In the case of scenario C, a significant increase in pedestrian, cycle and vehicular movements will enter the town centre from the north of the river. In order to accommodate the increase in slow mode trips from the north, a direct new footway / cycle route has been recommended linking Kilbride to the town centre. In providing a direct link from the north to the town centre, pedestrians will be able to access the central zone avoiding the busy junctions on Dublin Road and Bridge Street. This route will require the construction of a pedestrian river crossing and will need to be carefully designed to account for the crossing of the ecologically sensitive nature reserve.

In considering the development of the North Quay Car Park, it is also recommended that a greater provision of parking spaces be made under Scenario C, to account for the increase of vehicles accessing the town centre from the north.

Beyond the town centre

Distributor Network

In line with the spatial distribution of land uses within scenario C, a complimentary range of measures that conform to our vision statement and guiding principles were devised and tested The land use scenario envisages the creation of a retail and service centre that combines educational, significant food retail, and commercial ancillary uses that will serve the new residents of Kilbride and become a focal point of the entire community north of the river.

With the greater population to the north of the river, there will be a potential increase in cross river movements as residents from both north and south of the river seek to gain access to employment schools and shops. This increase will necessitate an additional river crossing as;

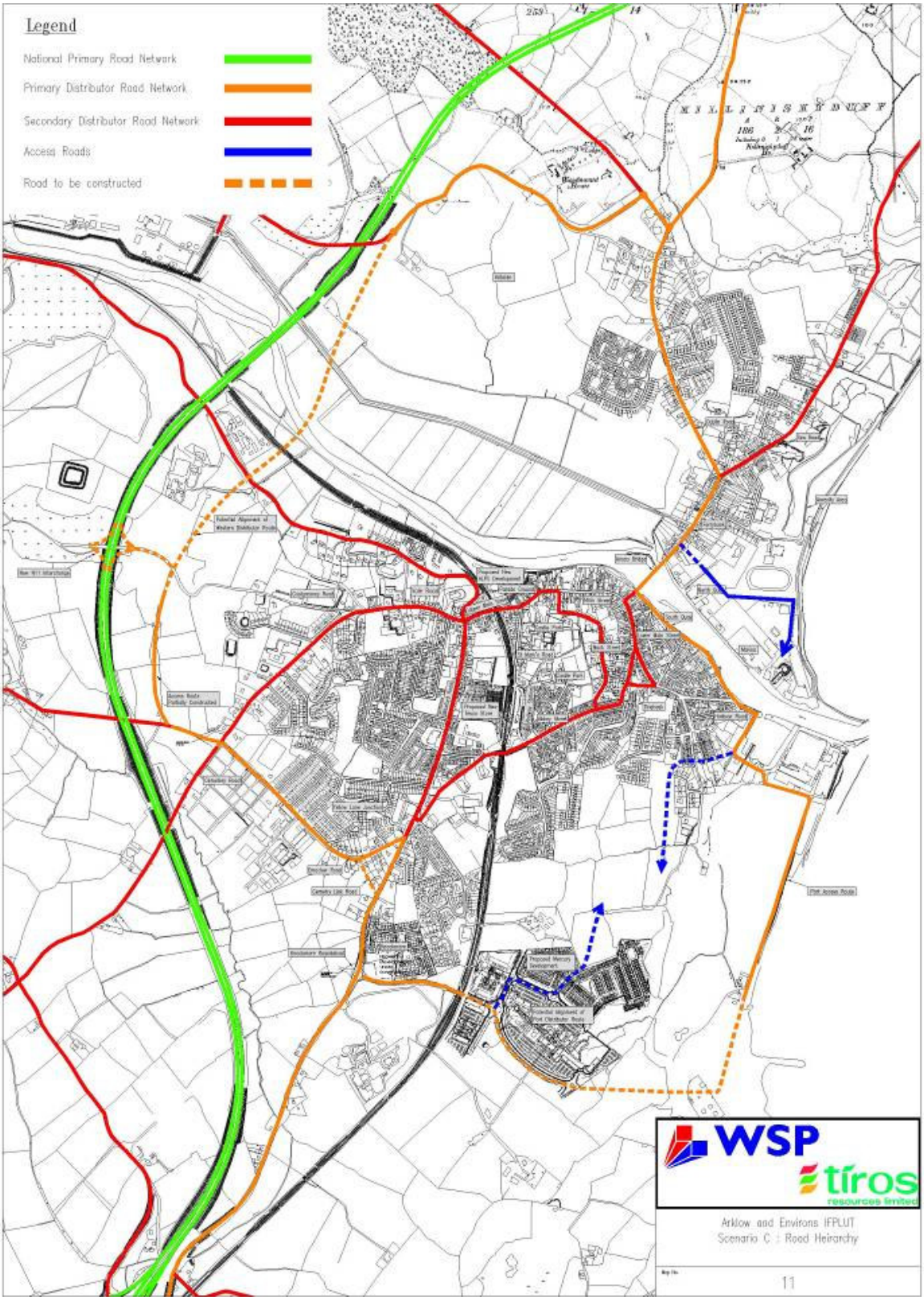
- The existing bridge and junctions will be unable to cope with the resulting volume of traffic.
- It would be undesirable for the increase in volume of traffic to pass through the roads adjoining the town centre.

A new bridge crossing is proposed to the west of the NHA to cater for movements. Such a bridge is envisaged as a natural expansion of the Western Distributor Road from the south and across the river, and requires a single carriageway crossing, with an at grade junction with Vale Road. This route would continue to Dublin Road as outlined in Map 11. The results of the traffic modelling indicate this crossing provides a key role in facilitating movement around the town, and has a direct consequence of removing a significant volume of through traffic from the town centre.

As part of the development of employment lands at Killiniskyduff, a new spine road is envisaged that links Dublin Road and Sea Road. Further secondary distributor routes will need to be developed linking the Western Distributor route to the new residential and commercial zones in Kilbride and the existing town network. In addition to this, the residential area of Ticknock and Sea Road will need to be provided with access to the new district centre and its ancillary facilities.

Public Transport-

In developing the lands to the north of Arklow, the proposed local bus service would be routed to be within easy reach of the new residential areas and provide a direct connection with the district centre of Kilbride. Depending on the hierarchy of the network developed, a new service linking Kilbride to the town centre and / or employment centres in the south via the Western Distributor route may be desirable. Under the development of Scenario C, a single bus stop facility in the proximity of the Kilbride district centre would be able to accommodate local and interurban bus services.


Legend
National Primary Road Network
Primary Distributor Road Network
Secondary Distributor Road Network
Access Roads
Road to be constructed
WSP
tíros
resources limited
Arklow and Environs IFPLUT
Scenario C : Road Heirarchy
11

Access to Schools, Employment and Amenities

In keeping with the guiding principles of the framework plan, a number of community services will be provided within the Kilbride development achieving one of the study's guiding principles. The provision of such facilities on a local level also helps to reduce the need to travel, and increase the ability of residents to avail of such services, improving their ability to meet their own needs independently. The provision of health, community and welfare facilities will reduce the dependency on town centre services, which from a transport perspective maximises the potential for these trips to be undertaken by means other than the car and reduce the volume of cross-river movements.

To accommodate the growth in population of Kilbride, a primary and secondary school will be needed, and these are to be located adjacent the district centre. These will need to be developed in tandem with the pedestrian, cyclist and vehicular network to ensure that safe and convenient routes from the schools to the outlying residential estates are provided. On site school facilities such as bus lay-bys and cycle parking will also need to be addressed in the design.

Due to its close proximity to the N11 interchange the zoned lands at Killiniskyduff will be attractive to production and distribution based industries which generate significant HGV movements. Such a location is preferable as it minimises the conflict between HGV's and neighbouring residential traffic. To facilitate the trips between residential areas and the new industrial zones, cycle and pedestrian links will need to be considered at the outset of the industrial estate design.

5.3.4 Transport Modelling

Scenarios B and C were tested within SATURN and MEPLAN. These two packages allow an examination of the trip generation/attraction within the town, based upon the land use, population profile, car ownership and transport measures introduced under the three traffic management scenarios as follows.

Do Minimum: Changes in traffic flows and modal share are firstly judged against a do minimum scenario, that contains no significant improvements to the town's road network, or the construction of new footpath/cycle links. These are options B0 and C0. Two further packages of measures were then tested and subsequently refined through the modelling process.

Package 1: involves the pedestrianisation of Main Street and other slow mode improvements, with a one way system introduced along South Quay and Bridge Street, and the completion of the Port Access Road. In addition Laffins Lane is improved and made two way to enable it to act as an alternative east/west road to the Main Street area. This is called **Town Centre Sustainable Mode Improvements,** shortened to B1 or C1 (Map 7).

Package 2: sees the introduction of either a 3rd Junction on the Arklow Bypass, under Scenario B, or the construction of a new western cross river link under Scenario C. Both these provide alternative routes that can avoid the town centre and existing Avoca Bridge. These are called **New N11 Interchange** , B2, and **New Western Bridge** , C2**.**

Packages 1 and 2 contain new **cycling and pedestrian** links including new foot/**cycle** bridges across the Avoca, shorter paths through existing estates, and links between new developments and the major trip attractors. The model included new internal town **bus services** linking suburban areas to the town centre plus local centres and the proposed Kilbride retail centre. Furthermore restrictions were introduced on short cuts and at key junctions to encourage traffic to use the primary road network. Lastly for the do-something options, **car park restrictions** were included within the SATURN model to discourage vehicles from entering the town centre cordon, and use car park's on the periphery of the town centre. This involves linking town centre zones so that if a car park reaches capacity, a vehicle can access that zone through accessing an alternative zone (i.e. car park) and walk to the desired destination. Modelling car parks in this way reflects the reality of car park selection faced by drivers approaching a town, when a preferred car park could be full, and one elsewhere with spare capacity, and hence produces a model better matched to real life.

Details of the final resulting traffic management measures are shown on Maps 7, 8, 9,10 and 11 of the IFPLUT report. These are the preferred traffic management measures for the relevant scenario. Details of the traffic management changes arising through the model development are listed in Appendix C3.

5.6 Selection of Preferred Scenario

5.6.1 Introduction

In this section the three tested land use scenarios are assessed in terms of their compliance or otherwise with the 13 policies, as discussed in section 5.1 above. This enabled the selection of the preferred scenario, or highlight elements of particular scenarios that would be beneficial to the future development of the study area.

5.6.2 Policy Review

Policy 1: Compact Urban Form

Scenario A will not comply with this policy. The oversupply of employment-zoned land could result in urban sprawl if fully developed. Furthermore, there has to be additional lands zoned for residential development, which depending on the location, could lead to more sprawl.

Scenarios B and C both comply with this policy. Higher-density development is proposed within walking distance of the town centre and public transportation nodes. The shortfall in residential zoned is proposed to take up Kilbride, which is in relative proximity to the town centre. The MEPLAN model indicates, per the following table, that Scenario C is the most sustainable option, with better modal splits in favour of sustainable modes, when the Package 1 and 2 measures are introduced.

			2016			2016		
			Scenario B			Scenario C		
		2002	B0	B1	B2	C0	C1	C2
Work	Car	73%	65%	54%	52%	68%	52%	49%
	Sustainable Modes	27%	35%	46%	48%	32%	48%	51%
Education	Car	68%	57%	42%	41%	61%	40%	38%
	Sustainable Modes	32%	43%	58%	59%	39%	60%	62%
Shopping	Car	63%	60%	49%	47%	65%	47%	44%
	Sustainable Modes	37%	40%	51%	53%	35%	53%	56%
Other	Car	56%	52%	41%	40%	55%	41%	39%
	Sustainable Modes	44%	48%	59%	60%	45%	59%	61%
Global	Car	68%	59%	46%	45%	63%	44%	42%
	Sustainable Modes	32%	41%	54%	55%	37%	56%	58%

Policy 2: Range Of Housing Employment Types

Scenario A will only partially comply with this policy. Whilst a range of employment opportunities is provided for on the outskirts of the town, there is a lack of high-density sites in the town centre. In addition, the lack of residential zoning will restrict the size of the future residential community.

Scenarios B and C both comply with this policy. Adequate zoned land is available for the future residential and employment needs of the town. High density residential and employment is suggested in the town centre, whilst lower density development is proposed on the outskirts of the built-up area. The various densities will facilitate a range of dwelling types and job opportunities.

Policy 3: Alternatives to the Car

Scenario A will only partially comply with this policy. The existing employment zones are not in proximity to residential area, particular the office based zones, and will therefore, encourage the use of the car by workers as opposed to walking and cycling.

Scenarios B and C both comply with this policy. The concentration of high-density employment and residential development in the town centre will reduce the travel to work trips by car. The compact urban form advocated in both scenarios will facilitate the development of a public transportation system in the town particularly during peak hours. The modal split shown under Policy 1 indicates C is preferable, supported by the volume of trips and distance travelled by non motorised modes as shown below.

AM Peak	2002	2016 Scenario B			2016 Scenario C		
		B0	B1	B2	C0	C1	C2
Number of Mechanised Trips	4372	7783	6541	6410	8132	6342	6112
Average Motorised Journey Length (km)	3.86	3.58	3.89	3.95	3.86	4.11	4
Average Non-motorised journey distance (km) (MEPLAN)	1.14	1.34	1.09	1.10	1.26	1.02	1.04

Policy 4: High Density Employment Opportunities

Scenario A will not comply with this policy. The Development Plan plot ratio standards are too low for town centre sites, and the maximum height of 2.5 storeys in the port area is too restrictive.

Scenarios B and C both comply with this policy. Available sites adjoining the train station and in the central area are zoned for high-density employment.

Policy 5: Vibrant Town Centre

Scenario A will partially comply with this policy. Whilst the town centre zone provides for a mixture of uses, the residential zoning adjacent to Main Street and the south port area zoning do not provide for an adequate mixture of uses. Furthermore there are no specific objectives to encourage public transport, cyclists and pedestrians.

Movements to Town centre		2002	2016 Scenario B			2016 Scenario C		
			B0	B1	B2	C0	C1	C2
To	Car	67%	53%	43%	41%	57%	42%	38%
	Sustainable Modes	33%	47%	57%	59%	43%	58%	62%
From	Car/HGV	59%	42%	40%	39%	45%	41%	41%
	Sustainable Modes	41%	58%	60%	61%	55%	59%	59%

Scenarios B and C both comply with this policy. It is proposed to rezone all available sites in the town centre for mix uses, which will encourage vibrancy. In addition, it is proposed to rezone the south port area, thereby expanding the town centre. Finally there are a number of objectives in each that will encourage public transport, cyclists and pedestrians, for example pedestrianisation, new cycle route and facilities, less through traffic, and a new focus for public transport. Scenario B and C both actively promote this policy aim, with C the most successful attracting the most favourable modal spit in traffic travelling to the town centre. The Table below presents the predicted modal split to the town centre.

Policy 6: Minimise Car Trips in Town Centre

Scenario A will not comply with this policy. There are no specific objectives in the Development Plan to decrease the number of car trips in the town centre.

Movements through Town centre	2002	2016 Scenario B			2016 Scenario C		
		B0	B1	B2	C0	C1	C2
AM Peak	1375	2850	1600	1275	2625	2225	1525
Inter Peak	1136	3476	1339	1348	2729	1345	1149

Scenarios B and C both comply with this policy through demand management measures that transfer trips to walking cycling and public transport, or attract traffic to alternative routes. The model assessment undertaken highlights that the traffic management in both scenarios achieve these aims.

Policy 7: Key Distributor Routes

Scenario A will partially comply with this policy. There are two objectives in the Development Plan to provide the port relief road and the Castle Park relief road. However these will provide little relief with the proposed doubling in the town's population. In scenario C new routes include an extension of the Western Distributor Road, whilst it is felt that no additional routes are needed in Scenario B.

In support of this objective it is important that the routes are not only designated, but used by the appropriate form of traffic. In conjunction with the traffic management measures the goal has been to ensure that the appropriate routes are used by the appropriate traffic. The Table below shows a sample of predicted traffic flows around Arklow for each of the scenario's tested and highlight that Scenario C, with transport measures Package 2 performs best.

(AM Peak two way traffic flow pcu's)	2002		2016- AM				2016- IP			
	AM	IP	B0	B2	C0	C2	B0	B2	C0	C2
Arklow Bridge	1013	1070	**1048**	1431	1764	1256	1761	1463	1773	**1394**
Bridge Street	804	809	902	747	1540	**606**	1555	798	1513	**759**
Coolgreaney Rd	234	167	218	192	549	**154**	521	205	327	**103**
The Parade Ground	769	982	964	734	1649	**585**	1850	686	1609	**638**
Western Distributor Rd	Under construction		186	**434**	315	340	444	420	166	**498**

Note: Figures in bold indicate optimal flow for the AM or IP

Policy 8: School Routes

Scenario A will not comply with this policy. There are no specific objectives in the Development Plan to provide any school routes.

Scenarios B and C both comply with this policy. Through the consideration of the survey results, and building upon the all purpose network of cycle/walking routes, school locations have been incorporated into the network in order to encourage children to adopt sustainable modes of travel to school, and reverse the trend of parents driving, New schools have been located in primary locations where such networks converge and allow for linked trips. Traffic management proposals have also restricted movement on routes passing schools such as Connolly Street and Coolgreaney Rd. The table below provides the modal split for school trips as aggregated in the MEPLAN model, and demonstrates C is preferable.

			2016			2016		
			Scenario B			Scenario C		
		2002	B0	B1	B2	C0	C1	C2
Education	Car	68%	57%	42%	41%	61%	40%	38%
	Sustainable Modes	32%	43%	58%	59%	39%	60%	62%

Policy 9: Internal Bus Services

Scenario A will not comply with this policy. There are no specific objectives in the Development Plan to provide any internal bus services.

Scenarios B and C both comply with this policy. Both scenarios include a local bus service that is designed to optimise patronage across all sections of the community.

Policy 10: Local Linkages

Scenario A will not comply with this policy. There are no specific objectives in the Development Plan to encourage walking, cycling and public transportation facilities in residential areas.

Scenarios B and C both comply with this policy. It is intended to provide such facilities in residential areas, for example an internal bus route is proposed through many existing and future residential zones. The modal split given under Policy 1 highlights that Scenario C has a higher level of walking/cycling trips and hence is more successful in attracting such trips away from the private car.

Policy 11: Phasing Development

It is recognised within the scope of this study that development will be limited until infrastructural improvements are commissioned. In phasing future development the Development Plan must be reviewed every six years. It is general practice, however, to include long-term objectives in the Development Plan for development over the next 20 years

Taken overall Scenario A will partially comply with this policy as it is implicit in the Development Plan that planning permission will not be granted for development proposals unless appropriate infrastructure to serve the development is available. Scenarios B and C both comply with this policy and further detail is given in section 6.2 as to the timing and nature of the proposed supporting infrastructure

Policy 12: Social Inclusion

Scenario A will not comply with this policy. There are no specific objectives in the Development Plan requiring the provision of spatial linkages (for walking and cycling in particular) between community facilities and residential areas.

Scenarios B and C both comply with this policy. Both scenarios propose spatial linkages by the close proximity of residential areas to community facilities, and also by the provision of dedicated walking and cycling routes.

Policy 13: Recreational Routes

Scenario A will partially comply with this policy. There are existing walking and cycling routes along the coast particularly on lands zoned for recreational open space. There is no provision, however for dedicated routes between the coast and residential areas.

Scenarios B and C both comply with this policy. with the introduction of new river crossings, walkways and expanded coastal path . The creation of such routes will be of benefit to residents and visitors alike whether scenario B or C is developed.

5.6.3 Conclusion

Based on the policy assessments the three scenarios were rated against each other in terms of their performance under each policy. Table 5.19 summarises the ranking order, 1 indicating best performance. As such from a land use perspective there are few differences B and C and no obvious preference. It is when taking into consideration the traffic management proposals that Scenario C performs better. From table 5.19 and taking into account the review of policy objectives it can be seen that scenario C is preferable. This is on the grounds of

- Better modal share in favour of sustainable modes
- Minimising the volume of traffic passing through the town centre
- Better allocation of vehicular traffic

Map 12 illustrates the preferred scenario incorporating the main distribution road network.

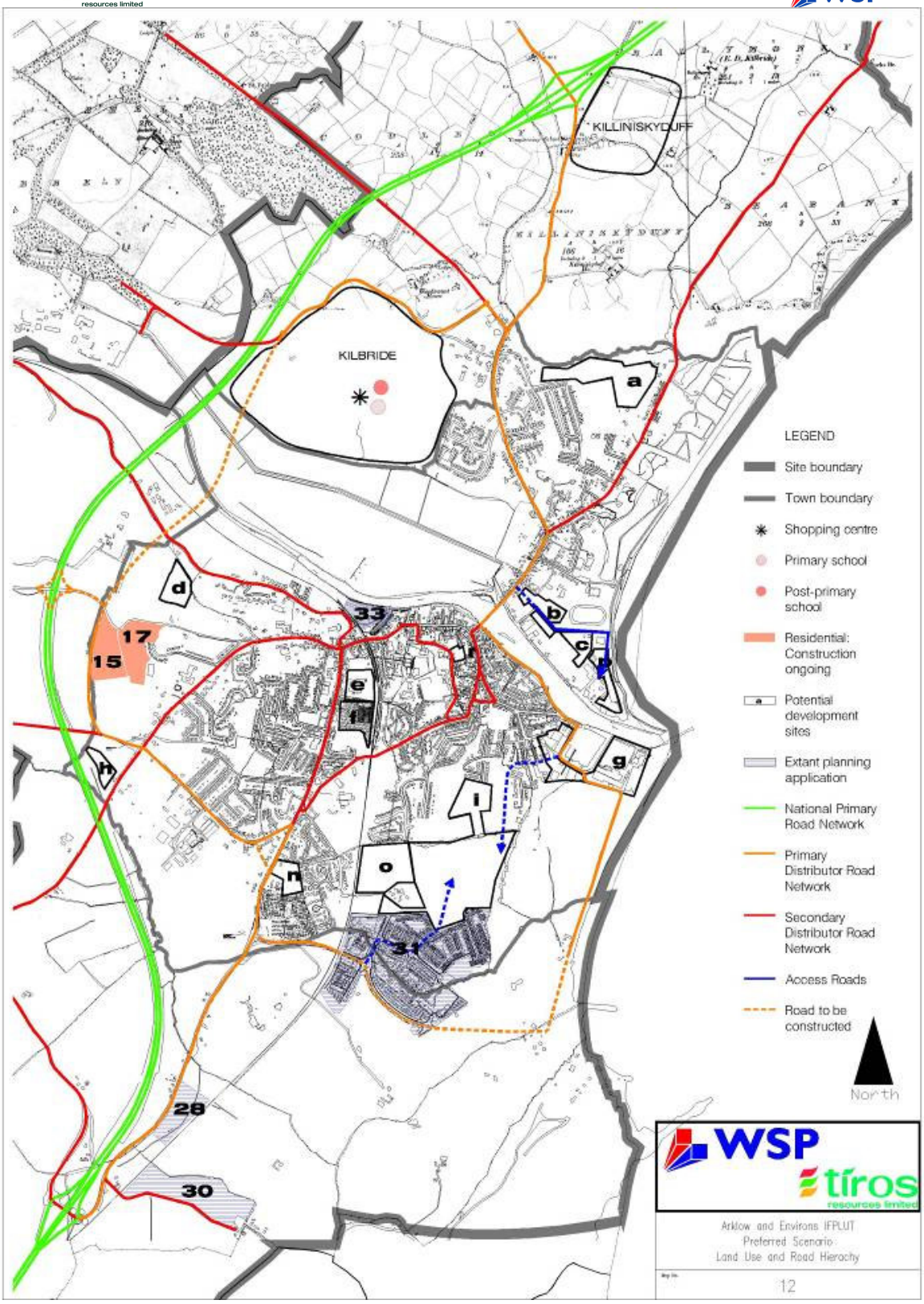

KILLINISKYDUFF
KILBRIDE
a
b
c
d
e
f
g
h
i
n
o
15
17
33
31
28
30
LEGEND
Site boundary
Town boundary
Shopping centre
Primary school
Post-primary school
Residential: Construction ongoing
Potential development sites
Extant planning application
National Primary Road Network
Primary Distributor Road Network
Secondary Distributor Road Network
Access Roads
Road to be constructed
North
WSP
tíros resources limited
Arklow and Environs IFPLUT
Preferred Scenario
Land Use and Road Hierachy
12

Table 5.19: Assessment of Land Use Scenarios in the context of the Specific Policies

Policy	Scenario		
	A	B	C
1. Compact urban form	3	2	1
2. Range of housing and employment types	3	1	1
3. Alternatives to the car	3	2	1
4. High density employment opportunities	3	1	1
5. Vibrant and expanded town centre	3	2	1
6. Minimise car trips within the town centre	3	1	1
7. Key distributor routes	3	2	1
8. School Routes	3	2	1
9. Internal bus services	3	1	1
10. Local Linkages	3	2	1
11. Phasing Development	3	1	1
12. Social inclusion	3	1	1
13. Recreational routes	3	1	1

5.6.4 Option Refinement

In conjunction with the preferred scenario selection, the MEPLAN and SATURN models were used to evaluate a package of complementary transport measures. Through the assessment referred to briefly in section 5.6 and in greater detail in Appendix C, the Package 2 of measures was seen to satisfy the policies and objectives. It was considered that further refinements would offer improvements and so subsequently Scenario C3 was developed integrating the new N11 interchange and full Western Distributor Road.

The following table highlights flows on key routes within the town when comparing scenarios C2 and C3. The selection highlights routes whereby the modifications have increased flows on suitable routes, and decreased volumes on sensitive roads.

Table 5.20: C2 and C3 Comparison of Link Flows (note: figures in bold indicate best 2016 option)

(AM Peak two way traffic flow pcu's)	2002		2016-AM		2016-IP	
	AM	IP	C2	C3	C2	C3
Abbey Road (Back St-Castlepark)	293	377	748	**387**	710	**261**
St Marys Rd	327	293	477	**298**	523	**452**
Upper Main Street	846	937	843	**592**	822	**614**
Port Access Road (Mercury)	Under construction		255	**412**	583	**658**
Western River Crossing	N-A		646	**757**	783	**943**

Note: Figures in bold indicate optimal flow for the AM or IP

As an example St Mary's Road, following the closure of Main Street attracted additional trips, but with the additional changes, flows fall to below present day in the AM peak. At the other extreme, the western crossing is estimated to carry approximately 750 vehicles, which can be equated to an Annual Average Daily Traffic (AADT) in the region of 7,000 vehicles per day. Furthermore from Table 5.3 in Appendix C it can be seen that through trips crossing the town centre cordon are minimised to 1,100 vehicles in the AM peak for scenario C3 compare to 1525 for C2.

The only negative consequence of option C3 is an increase in car modal share through extra capacity on the road network, and in particular motorised traffic to the town centre. This is a direct consequence of releasing potential capacity through the removal of traffic to alternative routes, but could be maintained at the lower level through further demand management measures. The following table highlights the performance of C2 and C3 compared to the objectives, and it is concluded that traffic management under scenario C3 be developed as the preferred option providing the optimal balance between modal split and vehicular traffic assignments.

Table 5.21: C2 and C3 Overall Comparisons

Source	Objective	Best Land Use and Traffic Management Combination
MEPLAN	Modal split assessment	
	Max use of sustainable modes (Policy 3)	C2
	Modal split to town centre (Policy 5)	C2
SATURN	Link Flow assessment	
	Number of trips to town centre (Policy 5)	C3
	Town Centre through trips (Policy 6)	C3
	Traffic flow on key links (Policy 7)	C3
	Impact of pedestrianisation Policy	C3

5.6.5 Summary

This report represents a preferred development framework within which future land use and transport decisions within Arklow can be made. The document represents a thorough study including consultation with relevant stakeholders in the town, the public and other bodies that can make or shape the town's future form. The land use proposals provide the necessary quantum of sites that will meet the predicted demand in future housing units, whilst providing sites that will meet the employment needs of the town, and make Arklow a self supporting settlement. This is proposed within a framework that places a high priority on quality urban design, and within a compact urban form. In tandem the transport proposals outlined are centred on two themes, increasing the opportunities for people to use alternatives to the car, and to establish a network and hierarchy of movement within the town that can integrate new development as it occurs. Together, the land use and transport proposals will create a vibrant, inclusive and sustainable community.

6 THE NEXT STEP

6.1 Delivery of Objectives

6.1.1 Town and Environs Development Plans

This framework plan is a non-statutory and forums for introducing the recommendations contained herein are the future Development Plans for the town and environs. Specifically the location of zonings proposed in this study and the density of development should be adhered to. Policies and objectives should be incorporated that would lead to the implementation of key provisions relating to the pedestrian, cyclist and public transport facilities and roads infrastructure.

The Statutory Review of the Arklow Development Plan 1999 by Arklow Town Council commenced in May 2003. The new plan must be adopted by May 2005. It is expected that Wicklow County Council will prepare and adopt an Environs Plan for the areas adjoining the town during the same time period

6.1.2 Implementation of Traffic Management Measures

As a framework document, the level of detail is of sufficient robustness for inclusion in this report. The transport objectives need further design work and costing as schemes are brought forward for implementation based on the phasing of the objectives contained herein. The responsibility for implementation of these measures lies with the Local Authority and the Dublin Transportation Office.

The mode split targets to be achieved are those detailed in Appendix C for scenario C3.

6.1.3 Blueprint for Investment

The following provide a non-exhaustive list of existing means of providing the measures detailed in the framework.

- Action Area Plans- The use of Action Area Plans should be considered to provide more detailed guidance in particular areas that may be subject to large-scale development, for example Kilbride and the port area.
- Development Contributions- The Planning Authority can, when granting planning permission for development, include conditions requiring the payment of financial contributions with respect to public infrastructure and facilities. A special contribution scheme could also be considered. By the judicious use of development contributions, significant payments can be required in relation to the provision of public transportation infrastructure, car parks, new roads open space and recreational amenities.
- Development Design- One of the most valuable contributions to achieving the aspirations of the framework is to design the pedestrian, cyclist and public transport priority into the fabric of the urban expansion. The hierarchy of routes, and key connections must be incorporated, and meet the principles extolled in this study. The Planning Authority should use pre-planning application discussions to advise potential developers and their agents of how to incorporate the framework into their designs.
- Planning Conditions- Conditions can be attached to planning applications to ensure compliance with the framework. In particular, conditions relating to the phasing of proposed development can be used to ensure that the necessary physical and social infrastructure is available to service the proposed development, or that the necessary employment related developments are available. Furthermore the Planning Authority can attach conditions requiring the provision of infrastructure and other public facilities in excess of the immediate needs of the proposed development, subject to an agreement regarding the costs of the additional works.
- Development Incentives- The use of relaxed development control standards may be considered in relation to some sites, which the Planning Authority would desire to have developed in the short-term. Increased heights and densities, reduced car parking and public open space requirements, may ensure that certain sites would become more attractive to developers, thereby resulting in their immediate development.
- Financial Incentives- The use of financial incentives can also be considered in relation to sites that are desirable to be developed in the short-term. Whilst the implementation of financial incentives are largely the function of the Central Government and therefore, outside the control of the Planning Authority, the use of reduced development contributions on certain sites could be considered.
- Central and Local Government funding- Wicklow County Council and Arklow Town Council have open to them a number of funding avenues. For transport improvements, apart from major schemes such as road building, general maintenance works can also incorporate measures outlined above into their programme. In addition, alternative funding streams such as car parking charges can be channelled into providing some of

the works, indicative of the ones included in this framework. The possibility of ring fencing specific revenue for specific works should be considered. For example, should car-parking charges be retained solely for expenditure in relation to road works. Other funding would be available from a variety of bodies for improvements to the urban fabric and for the creation of new civic areas.

- European funding- All possible revenues of EU funding should be explored in some detail.
- Early application for funding- In order to reduce the time line between the identification of a need for specific services (for example education, health, infrastructural facilities) and their implementation, the framework could be used to seek funding now so that the services are in place when the population exists, as opposed to a number of years afterwards.
- Transport operators- Bus Éireann and Iarnród Éireann will be the two primary transport providers in the near future. Moves are underway to increase the role of private bus operators in providing and operating routes, and this could occur in Arklow.

6.2 Phasing

Independent of the preferred scenario development, the town at present is awaiting the completion of the town's sewage scheme, and has severe limitations on the existing water supply. Any phasing programme must take into account these limitations. On the basis that water and drainage services are available, and irrespective of the proposed land use scenario, it is considered that any phasing of future development should concentrate on developing the high-density central sites first and the suburban sites second. Such an approach would comply with the principles of sustainable development with regard to a compact urban form and a mix of uses in close proximity.

Within Scenario C the large scale development planned for Kilbride is best enabled through the adoption of an Action Area Plan. This will address infrastructure and service provision such as the proposed bridge, sewerage treatment, water supply and retail, educational and social facilities. One of the key aims of the Area Action Plan will be to ensure that such infrastructure and services are delivered ahead of, or in tandem with, residential developments in this area.

Clearly, however, there will be some requirements and demand in the short term for low-density employment and non-central residential development. Phasing priority should go to those sites that are zoned, that are capable of being serviced, in terms of water supply and drainage requirements, and that would conform with the principles of this study regarding the provision of pedestrian, cyclist and public transport facilities.

By and large the transport objectives can be developed independently of the land uses except in the case of local bus services, in particular route C which is dependent on development in zone O and I. The transport objectives are defined in terms of short (up to three years), medium (between 3-7 years) and long term (beyond 7 years) and adherence to this phasing will ensure that infrastructure and service improvements are developed had in hand with demand management measures. In addition this implementation timeframe will, by and large, deliver these improvements and measures ahead of the land use development. This is critical in order to ensure that as the town grows it does not develop short term congestion problems.