

## 2. Background to the Road Development

### 2.1 Introduction

This Chapter of the EIS outlines the existing setting that forms the context for the proposed road development, providing a background to the road development, an introduction to the study area and an outline of the policy environment. The section begins by introducing the need for the scheme (Section 2.2), it goes on to set a context for the planning and policy issues that are relevant to the development (Section 2.3) and finally discusses the existing conditions that are present at or in the vicinity of the areas crossed by the proposed road (Section 2.4).

### 2.2 The Need for the Scheme

The development of a route between Dublin and Waterford was identified in the NDP part of the Economic and Social Infrastructure Operational Programme. This section outlines the background to the decision for a new road and the standard of that road.

In July 1998 the National Roads Authority (NRA) published the National Road Needs Study (NRNS)<sup>(1)</sup>. This study set out to determine an appropriate and affordable future national road network in order to cater for the projected traffic flows for the period from the year 2000 to 2019.

The study recommended that improvements should be made to both the N9 and N10 between Waterford and Kilcullen, basically to provide a standard two lane single carriageway. By-passes were required for Mullinavat, Knocktopher/Ballyhale, Thomastown, Paulstown, Carlow, Castledermot and Moone/Timolin.

The carriageway types, which make up a road network, are chosen on the basis of capacity and level of service (LOS). The capacity of a road link is the ability of that section of road to carry the maximum number of vehicles in safety at an appropriate LOS. The LOS is a technical concept, which describes the travel experience in terms of operating speed, the ability to overtake in safety, traffic congestion, overall safety and driver and passenger comfort. In Ireland the capacity of a road link is determined in accordance with the principles defined in the US Highway Capacity Manual (HCM)<sup>(2)</sup>. This manual describes six levels of service from A (best) to F (worst). In the Road Needs Study the Authority's objectives was to achieve a minimum

LOS of D, equivalent to an 80kph inter-urban journey speed on the network. This was in keeping generally with the LOS objective defined in the Operational Programme for Transport (OPT) 1994 to 1999. On an international scale this would generally be regarded as a minimum acceptable standard for new road improvements. Using this standard the NRNS determined a schedule of improvement needs for the national road network for the purpose of continuing to meet the LOS D objective and catering for future traffic volumes. The identified improvement needed to achieve this LOS resulted in a mix of carriageway types as identified in the NRNS.

The National Road Needs Study represented only one input into the current National Development Plan 2000 to 2006 (NDP)<sup>(3)</sup>. The NDP also gave due consideration to broader policy issues including regional and industrial development. It was in this context that Government policy for the improvement of national roads as set out in the NDP adopted a higher LOS of C objective on the major inter-urban routes (equivalent to an average inter-urban speed of 94kph on dual carriageways and 105kph on motorways). The LOS is consistent with international practice. In addition, the NDP has the objective of providing a uniform carriageway type either to motorway or high quality dual carriageway standard or a combination of both. Furthermore, the NDP requires that route selection be undertaken for substantial sections of the routes rather than focusing solely on the delivery of bypasses of congested centres of population. The combination of these objectives has resulted in the removal of the single carriageway links specified for sections of the inter-urban routes in the NRNS and their replacement with dual carriageway type links. This provides a greater degree of safety than the single carriageway links and satisfies the higher LOS requirement as specified in the NDP. In addition it facilitates shorter (and safer) journey times, and greater driver comfort.

## 2.3 Planning and Policy

### 2.3.1 Introduction

The proposed road development will form part of the national road network linking Ireland's capital, Dublin, with important south-eastern regional centres of Kilkenny and Waterford. The development of the road is important in a national and regional planning context.

### 2.3.2 National Development Plan

The National Development Plan (NDP) 2000 – 2006<sup>(3)</sup> outlines government policy in relation to the development of the National Primary transport network. The Plan states that the N9 and N10 National Primary Routes, amongst others, are to be developed to motorway/high quality dual carriageway standard by 2006. The NDP was published with a vision to ensure that Ireland will remain competitive in the global international marketplace and that the fruits of our economic success would be shared more equally at regional and local level and throughout society.

The central thrust of the Governments Regional Development Policy as set out in the NDP, is to facilitate the further development of the major urban centres that already function as gateways, and to develop a comparable role for other centres that have the potential to achieve strong and sustainable growth, and to promote growth within their regions. The NDP indicates that there is a crucial need for medium sized towns to act as hubs of economic growth supporting, in turn, the development of smaller towns, villages and rural areas.

The proposed road development will have a beneficial effect in terms of satisfying the National Planning Policy outlined in the NDP.

### 2.3.3 The National Spatial Strategy 2002 – 2020<sup>(4)</sup>

The NDP identified more balanced regional development as a priority for Ireland. This commitment led to the National Spatial Strategy (NSS) 2002 – 2020<sup>(4)</sup>. The NSS identifies that to achieve more balanced regional development, a greater proportion of economic development must take place outside of the Greater Dublin Area. The NSS proposes that the national spatial structure be supported by a national transport framework providing an improved network of roads and public transport services.

The National Spatial Strategy<sup>(1)</sup> like the National Development Plan will be grounded in achieving balanced regional development with the following objectives:

- Continuing economic and employment growth;
- Continuing improvement in Ireland's international competitiveness;
- Fostering balanced regional development;

- Improving the quality of life for all sections of society; and
- Maintaining and enhancing the quality and diversity of the natural and cultural heritage.

Section 3.7.1 of the NSS illustrates the following strategic radial corridors:

- *Corridors to the South East (x2) – good quality road and public transport connections between Dublin and the South East, including Waterford City as a gateway for the region.*

The real challenge for both will be in the creation of a counterbalance to Dublin that can both attract and sustain development in its own right and possibly re-direct some of the development pressure from the capital. However, other major cities, because of their relatively small size and the range and extent of functions, may not have the capacity to be significant counterbalances to Dublin, if considered alone.

The NSS states "*implementation of the road investment programme under the NDP is a key element in enhancing regional accessibility and thereby underpinning better regional development.*"

### 2.3.4 Kyoto Protocol, 1997<sup>(5)</sup> and the National Climate Change Strategy, 2000<sup>(6)</sup>

In 1997 the Kyoto Protocol established legally binding constraints on greenhouse gas (GHG) emissions and innovative mechanisms to curb emissions in order to tackle climate change. All parties subject to the Kyoto Protocol were assigned targets. These add up to a total cut of 5% of 1990 levels in the commitment period of 2008 - 2012. Under Article 4 of the Kyoto Protocol (the EU Burden Sharing Agreement), Ireland agreed to limit the net anthropogenic growth of the six GHGs to 13% above the 1990 level. Ireland ratified the Kyoto Protocol in March 2002.

In response to this protocol, Ireland has established a National Climate Change Strategy (NCCS) 2000 which is based on sectoral equity, in relation to meeting the targets set down in the Kyoto Protocol. Full implementation of the NCCS will lead to compliance with the Kyoto Protocol. The NCCS provides a framework for achieving a reduction in GHG emissions in the most efficient and equitable manner while continuing to support economic growth. Without the actions set out in the strategy, it is projected that net annual emissions would increase by 37.3%. Reductions in emissions of 13.1 million

tonnes CO<sub>2</sub> equivalent on this projected figure is required to meet the national target. 2002 emissions from the transport sector account for 14.3% of total emissions (based on 1998 figures), after agriculture (32%) and energy (24.6%).

According to the NCCS, roads are the primary mode of internal transport in Ireland and are vital for future economic and social development at both local and national level. However, compared to EU standards, the quality of road infrastructure in Ireland is poor. The Strategy therefore supports the National Development Plan, which aims to bring the road network up to an acceptable standard and to do so as part of an integrated transport investment programme. The strategy points out that the growth of GHG emissions will be managed through maximising the efficient use of road transport, removing delays in inter-urban journeys which, will have the effect of increasing efficiencies in fuel use due to improved journey times and reduced congestion.

### 2.3.5 Sustainable Development a Strategy for Ireland 1997<sup>(7)</sup>

In order to establish a sound relationship between Ireland's economy and environment, a National Sustainable Development Strategy was prepared that "addresses all areas of Government policy and of economic and societal activity, which impact on the environment". It seeks to re-orientate policies as necessary to ensure that the strong growth Ireland enjoys, and seeks to maintain, will be environmentally sustainable.

The Strategy focused on specific strategic sectors including the transport sector. The Strategy sets out an agenda to "green" Irish transportation, centring on:

- Making transport more efficient;
- Reducing the environmental impact and the intensity of transport; and
- Support for moves at EU and international levels towards examination and implementation of the internalisation of external costs of transport.

The Strategy stated that Government policy and investment for road transport will support necessary economic growth. To this end the roads programme will continue to target bottlenecks, which represent inefficiencies in the infrastructural system.

### 2.3.6 Regional Policy

#### Introduction

At regional level, the relevant planning and policy documents are the County Development Plans for the Local Authorities involved. These include the following plans, which are discussed below:

- Kilkenny County Development Plan 2002<sup>(8)</sup>
- Carlow County Development Plan 2003<sup>(9)</sup>

Both of these Development Plans make provision for the development of the National Primary Road Network, and in particular this proposed road development, in accordance with the NDP.

#### The Kilkenny County Development Plan, 2002

The Kilkenny County Development Plan, 2002 contains the following statements:

In Section 6.1 the following is stated:

*"The National Development Plan 2000 - 2006 has identified significant levels of investment to be made in the national road network in the County. This development strategy for national roads will include the development by 2007 of the following routes in their entirety to motorway/high quality dual carriageway standard;*

- Cork to Dublin (N8)
- Waterford to Dublin (N9)

*This includes for a complete new National network for the above within the County. "*

It goes on to reaffirm the primary road objectives of the Governments strategy.

In addition to this, Section 6.1.1 of the County Development Plan outlines the following policies;

*"Having regard to national objectives as set out in the NDP 2000 – 2006, the need to promote the economic development of the county and the need to preserve and enhance the safety, level of service and carrying capacity of the national road network in County Kilkenny, it will be the policy of the Council:*

- a) *To co operate with the National Roads Authority in the development of an integrated road network for the County*
- b) *To safeguard the capacity of the National Road network within the county by the restriction of access points to the network and the significant intensification of existing access points*

- c) *To preserve free from development proposed road realignment/improvement lines and associated corridors where such development would prejudice the implementation of National Roads Authority or County Council Plans.*
- d) *To continue to implement the Governments strategy for road safety.*
- e) *To facilitate the development of alternative transport initiatives particularly in rural areas in order to reduce isolation and promote social inclusion.*
- f) *To maintain, develop and improve existing roads and to construct new roads as needs arise and resources permit.*
- g) *To facilitate the development of the National road network in accordance with "Ireland, National Development Plan 2000 – 2006 and with the policy of the National Roads Authority as it applies to the provision of national routes from Dublin to Cork(N8) and Dublin to Waterford (N9 & N10) and their ancillary roads and services. It is the policy of the Council to assist and facilitate the achievement of this objective."*

#### **The Carlow County Development Plan, 2003**

The Carlow County Development Plan, 2003 addresses the proposed road development in Section 3.1 Roads and Transport, where the following statements are made:

*"Carlow is located midway between the growth centres of Dublin and Waterford. This location provides access to Dublin airport and the ports at Dublin and Belleview – Waterford.*

*It is the Council's policy to develop the roads of the County to the best standards consistent with their classification, traffic flows and development needs and as resources permit. The Council will safeguard the capacity of the National Roads by refusing new access points except in certain exceptional cases.*

*It is proposed by the National Roads Authority that the N9 Kilcullen to Waterford High Quality Dual Carriageway will be constructed on the eastern side of Carlow town providing three interchange connections to the town's development areas. This route is extremely important to the commercial and industrial life of the town.*

*The extent of the proposed N9/N10 Kilcullen to Waterford route is from the proposed N25*

*Waterford City By-pass in the South to the M9 and M7 roads in the North with associated ancillary roads. It is the policy of the Council to assist and facilitate in the achievement of this objective through the restriction of development which might jeopardise this project, along the selected route corridor, as indicated in the N9/N10 Kilcullen to Waterford Route Selection Report published in March 2002 (as amended and updated)."*

#### **Summary**

Kilkenny and Carlow County Councils in conjunction with the NRA have made provision for this proposed road development, and the above shows that the proposed road development accords with the stated planning and policy documents in the respective Counties.

## **2.4 Existing Conditions**

### **2.4.1 Overview of Area Crossed by Proposed the Road Development**

#### **Introduction**

The proposed road development runs from the tie-in to the Waterford City By-pass at Dunkitt in south County Kilkenny to a junction with the existing N9 road at Powerstown, County Carlow. There are Link Roads proposed into Kilkenny City and at Paulstown, Co. Kilkenny.

The length of the proposed road mainline is 64km, in addition to its associated Link Roads, and it will require the acquisition of approximately 630ha of land for its construction. This section gives an overview of the main existing features encountered along the length of the mainline and link roads, which can be seen on Figures 2.1 to 2.6 of this EIS.

#### **Mainline Route - Waterford to King's River**

The proposed road development begins on the northern side of the river Blackwater in the townland of Dunkitt and has been designed to tie into the proposed Waterford By-pass. Over the initial 5km of the proposed route, the ground is gently undulating between 25m and 35m Above Ordnance Datum (AOD). The existing Dublin to Waterford road (the N9 National Primary Road) runs relatively north-south here, adjacent to the main Dublin to Waterford railway line, both of which are crossed. A number of local roads are crossed by the proposed road development over this section, in the townlands of Dunkitt (LP3405), Ballynamorahan (LS7463 and LS7464), Ballykeoghan/Ballykillaboy (LS7462), Rahard West (LS7460) and Scart (LT74592), as

the ground rises to 100mAOD at Scart (to the west of Tory Hill).

From this high ground, the area crossed by the route continues to undulate around a level of 80mAOD, across a stream valley in the townland of Deerpark, a local road (LS7453) and a significant valley over a river at Glendonnell, to the east of the town of Mullinavat. Another local road (LP3424) is also crossed east of Mullinavat in the townland of Garrandarragh. The next feature encountered is the existing regional road from Mullinavat to New Ross, the R704. This area mainly comprises agricultural farmland with a number of individual residential properties spread along the roadsides.

Following an undulating topography (between 85m and 95mAOD) in a northerly direction, a local road (LS7450), in the townland of Ballylusky, is crossed to the west of Mount St Josephs (a converted convent house). The ground then rises steeply for the next 1.5km to 122mAOD, to the east of Earlsrath. A number of farms are crossed and the ground then begins to fall to the Derrylacky River (at 87mAOD) prior to the crossing of a local road north of Lukeswell village in the townland of Crowbally (LS8270), and the existing N9 national primary route.

Continuing north for a further 3km, through the townland of Knockmoylan, there is a local road (LS8262) crossing prior to another crossing of the main Dublin to Waterford railway line. The area to the east of the Hugginstown Fen is then crossed (ground level of 125mAOD), within the grounds of an established residential dwelling and associated lands. The route next passes to the west of a Coillte forestry plantation and across the access to an area currently used as a breakers yard. The ground level elevation begins to reduce over the next 5.5km to approximately 57mAOD. A small valley containing an outfall stream from Hugginstown Fen is crossed, then the local road (LS8260) in the townland of Kilkeasy, continuing the gradual fall across two local roads at Coolmore/Carrickshock (LS8256 and LS8255) and onto the Ballygeardra townland where two further local roads are crossed (LS8255 and LP4211). The ground begins to level to 60mAOD approaching a tributary crossing of the Little Arrigle River and on to cross the R699 regional road west of Knocktopher.

From here the route proceeds north for 3km and to the west of Knockadrina Hill where the ground rises from 60mAOD to 95mAOD. At Danganbeg, a wetland is crossed and two local roads further north (LS5073 and LS8247). The ground then falls to a level of 50mAOD over the

next 2km, including a local road crossing in the townland of Stonecarthy West (LS8201). The land use of these areas crossed is almost exclusively agriculture. Here, the route passes through the townland of Rathduff, crossing another local road (LP1023) prior to crossing the King's River.

### ***Mainline Route – King's River to Ballyquirke***

The King's River crossing point is particularly sensitive in ecological, landscape and visual terms. There is a local road crossed to the north of the river, in the townland of Kellsgrange (LS5067). The ground gradually rises to a level of 70mAOD in the next 1.5km. The ground level then drops across a stream valley at Ennisnag and across undulating ground at 55mAOD to the next national primary road crossing, the N10 at Danesfort. Over the next 3.5km the ground undulates between 60m and 70mAOD and crosses two further local roads in the townlands of Croan (LT42002) and Rathclogh (LP4200).

In the next 2km, the R700 regional road is crossed in the townland of Kilree. The route then passes into the river Nore valley where ground levels vary from 30m to 40mAOD. The river Nore floodplain and valley is a sensitive ecological, landscape and visual location. To the east of the valley there is a third crossing of the Dublin to Waterford railway prior to a local road crossing in the townland of Dunbell Little/Bennettsbridge (part of) (LP2632). In this area, the proposed route passes close to an existing and future planned quarry and passed a group of individual residential dwellings on the LP2632 local road.

For the next 3km north, the ground is generally flat (at 65mAOD) and a small stream is crossed in the townland of Holdenstown. There is a local road crossed in Dunbell Big (LS6706), and a residential property here that will be acquired as part of the proposals. Undulating gently from 65m to 80mAOD, there is a local road crossing in the townland of Roughfield (LP2631), prior to the fourth crossing of the Dublin to Waterford railway line.

The route then passes to the north of woodland in Blanchville Demesne. At a ground level of between 70 and 75m AOD, the route next crosses a local road in the townland of Rathcash East (LS6707), the R702 at Blanchvillespark and the Cork to Dublin gas transmission pipeline. Within the next 1km is another crossing of a national primary route, the N10 at Blanchvillespark. The ground level rises over the next 1km from 75m to 100mAOD in the townland of Blanchvillespark/ Ballyquirke, where

two further local roads are crossed (LP2621 and LP2619).

### ***Kilkenny Link Road***

The proposed Kilkenny Link Road connects to the proposed Kilkenny Ring Road Extension at Blanchfieldsland at a level of 55mAOD. The Pockocke River is crossed within 200m, immediately followed by a crossing of the local road (LP2627). The route then passes east through the grounds of Hebron House.

The ground gently undulates between 55m and 70mAOD over the length of the proposed Link Road. Lyrath Estate is passed to the north and a local road in Templemartin is crossed (LS6652). Close to the crossing of the N10 national primary road in Balynamona, an 110kV electricity sub<sup>□</sup> station and a mobile telecommunications mast exist in close proximity to the route. The route then approaches the connection point with the mainline, where it passes Clifden Castle and a crossing of the main Cork to Dublin Gas transmission pipeline.

### ***Mainline Route - Ballyquirke to Powerstown***

Between Ballyquirke and Powerstown the route heads in a generally north to north-easterly direction, passing along the relatively flat terrain between the Castlecomer Plateau to the west and the River Barrow to the east. Consequently, the road alignment crosses an area with a well defined drainage pattern.

From Ballyquirke the route heads in a north easterly direction as it descends over a length of 2km from an elevation of 103mAOD to a level of 73mAOD, crossing a local road en route (L6676). The route then crosses the Monefelim River and the adjacent Ballyvalden River either side of the L2623 local road. Here the route also crosses the main Cork to Dublin gas transmission pipeline.

Passing into Jordanstown, the road continues across generally level farmland at a level of 60–65mAOD, along the west side of the Dublin to Waterford railway line. Immediately west of Paulstown, a grade-separated junction will be formed in an area where the ground rises to c. 70mAOD. A 1200 metre long Link Road will be provided to connect to the existing N10 and N9 National Primary Roads, south of Paulstown village.

From Paulstown, the route heads in a more northerly direction, crossing the line of the L2625 Kellymount Road and then enters the townland of Shankill, passing to the west of Shankill Castle. The route crosses the L6673 and L6674

local roads, in an area containing several small streams and a well defined spring, and then crosses the Kilkenny/Carlow County boundary which at this location follows the line of a free flowing stream. The ground level has fallen to 58mAOD (approximately) in the vicinity of the County boundary.

The route continues in a generally northerly direction through flat ground in the townlands of Moanmore and Tinnargney, crossing the L7117, L7118 and the L7119 local roads. Passing into Bannagagole the route crosses the L3036 local road, from where it continues northwards over flat open agricultural land.

The route then passes through Moanduff, where it crosses the Madlin River and the L3037 local road in close proximity. The L3037 is more significant than most of the other local roads in the area, and serves the community in the historic village of Old Leighlin to the west of the road.

The route continues across open farmland through Ballynolan, Demesne and Seskin Lower at an elevation of 55–60mAOD. After crossing the L7124 local road, the route bears in a north easterly direction again, passing into Tomard Lower. The road again crosses a pattern of small streams before crossing the L3038 local road. This road is also a significant road, serving the many communities located along the west bank of the River Barrow. Here the ground level is close to 50mAOD and it continues eastwards at this level to the top of the shallow escarpment overlooking the River Barrow.

The route crosses the River Barrow, the second largest river in Ireland, and passes into Cloghrick where it crosses the river flood plain (41mAOD) before climbing to the east to the existing N9 at Powerstown.

The new road will end immediately to the east of the existing N9 at a grade-separated junction, which will also form the connection with the proposed extension of the road development to Kilcullen in County Kildare.

## **2.4.2 Existing Road Network**

### ***General***

Section 2.4.1 has outlined those existing roads that are crossed by the proposed route. These are made up of 8 National Primary road crossings or connections, 4 Regional road crossings and 45 local road crossings. The sections below discuss these roads in more detail. Traffic flows refer to the base year 1998, unless otherwise stated.

### **N9 National Primary Road**

The existing N9 road is the main route for traffic currently travelling between Dublin and Waterford. The road is single carriageway and of variable cross-section. The standard of the road and the levels of traffic currently using the route also vary between Waterford and Powerstown. There has been development on the road frontage throughout the length of the N9 route, and entrances to domestic, commercial and agricultural developments are present at various separations.

The section of N9 near to Waterford City, which is shared with the N24, carries significant traffic flows of 14,000 to 16,000 AADT. However, it should be borne in mind that much of this traffic will transfer to the proposed N25 Waterford City By-pass, when constructed. The N9 road in the vicinity of the proposed Dunkitt crossing point is on a straight section, with no hard shoulders and fast moving traffic. This section carries 6,800 vehicles AADT whilst that between Mullinavat and the N10 junction at Ballyhale carries 5,654 vehicles AADT, the higher flow being due to local Mullinavat/Waterford City traffic movements. The horizontal and vertical alignment of N9 is poor as it heads north to the next crossing point at Knockmoylan/Lukeswell. At this point the N9 road is travelling on a valley side with poor visibility and alignment. The traffic level here is 5,654 vehicles AADT as outlined above.

Passing further north the N9 road intersects the N10 at an at-grade junction, near Ballyhale. The N9 continues in a north-easterly direction through Thomastown, Dungarvan and Gowran, before again meeting the N10 at Paulstown. The N9 in this section is relatively lightly trafficked. This is largely due to the fact that Kilkenny City traffic does not use this length. However, a further reason is the signing of the N10 route for Heavy Commercial Vehicles (HCV) "through" traffic between Dublin and Waterford, so as to avoid Thomastown. The section north of Ballyhale has flows of 4,800 vehicles AADT, while immediately east and west of Thomastown the traffic flows increase to a degree, due to local activity. Between east of Thomastown and Gowran the flow is 3,700 vehicles AADT, whilst between Gowran and Paulstown the resulting flow is 2,900 vehicles AADT.

The N9 and N10 routes join at a major/minor junction in Paulstown. Leaving Paulstown, the N9 continues in a north-easterly direction for 2Km to the Kilkenny/Carlow County Boundary, from where it heads in a northerly direction towards Leighlinbridge, passing to the west of Muine Bheag (Bagenalstown). This section of

road has a wide carriageway with hard shoulders and a reasonable geometric alignment. The existing N9 then bypasses the historic town of Leighlinbridge on the west side. Although this section of the road has a wide cross-section with hard shoulders, overtaking is prohibited over this 1.5km section due to the limited forward sight distance. Immediately north of Leighlinbridge the road crosses the River Barrow, and continues in a northerly direction following the east bank of the river towards Carlow Town. This section of road has narrow shoulders and an undulating alignment with poor forward visibility.

The N9 between Paulstown and Carlow Town caters both for traffic destined to Kilkenny City on the N10 and to Waterford/Thomastown on the N9. Traffic flows in the vicinity of Paulstown reflect this dual role with traffic on the N10 east of the R702 junction to Gowran and traffic on the N9 north of Gowran combining to produce 7,808 AADT on the N9 north of Paulstown. North of the R724 junction to Muine Bheag (Bagenalstown) traffic flows decrease as a result of Kilkenny to Muine Bheag traffic, while traffic flows increase to 10,808 vehicles AADT north of the R705 junction to Leighlinbridge/Muine Bheag as a result of Carlow to Muine Bheag traffic.

There are numerous frontages and private accesses fronting onto the rural sections of the existing N9. These accesses comprise of private dwellings, business premises and recreational activities as well as farm/field entrances. More frequent accesses are to be found on the approaches to and within the various communities along the route.

A speed limit (100 kph) applies along the majority of the existing N9. However, restricted speed limits of 80 kph and 60 kph apply on the approaches to and within the built up areas.

### **N10 National Primary Road**

The N10 road begins in a northerly direction from Ballyhale, and serves traffic heading for Kilkenny City from the Waterford direction. The road is single carriageway and of variable cross-section and geometry. There has been development on the road frontage throughout the length of the N10 route, and therefore there are entrances to domestic, commercial and agricultural developments at various separations.

The proposed mainline route first crosses the N10 road at Danesfort. This point is south of an upgraded section of the N10 and at the northern end of a section with poor horizontal and vertical alignment. South of Kilkenny, the N10 traffic

flows are quite low and at the crossing point, where there is no hard shoulder, the road experiences traffic flows of 4,500 vehicles AADT travelling at high speed. Further south, traffic for the section between Stoneyford and the N9 junction at Ballyhale is slightly lower. There is a relatively high level of HCV activity on this route at certain times, due to the difficulty of crossing the Nore Bridge in Thomastown, and signage directing HCV traffic to use the N10.

The N10 continues north to form part of the Kilkenny Ring Road before heading east to rejoin the N9 road at Paulstown, some 16km away. The second proposed mainline crossing point on the N10 road is at Blanchvillespark. This section of the N10 has been improved historically, and has reasonably good vertical and horizontal geometry. Traffic heading to Kilkenny City from Carlow Town and Dublin would use this road and it is currently experiencing traffic levels of 10,209 vehicles AADT. However, east of the N10/R704 junction, traffic flows have decreased significantly to 5,808 vehicles AADT. This increase is the result of two effects; the first is a net decrease from the R702 which caters for east to west bound movements such as Kilkenny City to Gowran, Goresbridge, Borris and beyond to counties Wexford and Arklow; the second is due to traffic to/from the Kilkenny Industrial and Business Park at Purcellsinch.

The third crossing point on the N10 is at Ballynamona, 4km east of the Kilkenny Ring Road Extension, and is on the route of the proposed Kilkenny Link Road. Here, the N10 is on a good horizontal alignment, with variable vertical alignment. As outlined above, the traffic experienced here is in the order of 10,209 vehicles AADT.

North from Ballynamona, the existing N10 comprises a single carriageway road with hard shoulders to the railway bridge south of Paulstown. Here the road width reduces and the hard shoulders are dropped as it passes through the bridge on a tight 'S' Bend. Shortly thereafter the N10 approaches Paulstown. Here the road width reduces again, with no hard shoulders. Between the junction with the R702 and Paulstown the traffic volumes were 5,808 vehicles AADT.

Within Paulstown, the N10 passes through the centre of the small community on narrow streets where on-street parking is permitted. Traffic calming and speed restrictions have been applied on the approaches to and within the village. North of the village centre, the N9 joins the N10 from the southeast, and the route

continues north as the N9 to the Kilkenny/Carlow County boundary and onwards to Carlow Town.

The busiest sections of the N10 are where it comprises part of the Kilkenny Ring Road, with 12,750 vehicles AADT between N77 Dublin Road and the R700 junction at Gallowshill, and 11,400 vehicles AADT between there and Smithsland (N10).

### ***N78 National Secondary Road***

The N78 is the only National Secondary route in the vicinity of the N9/N10 corridor. It has an alignment west of the N9/N10 corridor, separating from the M9 at Kilcullen, passing through Athy, and joining the N77 just north of Kilkenny City. This road provides an alternative to the N9 for traffic heading towards Dublin from north of Kilkenny City. The N78 is not crossed by the road development.

### ***R704 Regional Road***

The R704 regional road is the main road linking Mullinavat town with New Ross, Co Wexford. The main route crossing point on this road is circa 300m east of Mullinavat, on a section of the R704 road that has poor horizontal and vertical geometry. The road is of a reasonable standard for a regional road, with no hard shoulder but has dashed yellow road markings at the verge. The R704 road experiences relatively light traffic levels at 470 AADT (1999 Flows).

### ***R699 Regional Road***

The R699 regional road runs from the N9 road at Derrynahinch through the town of Knocktopher, across the N10 road and further west to Sheepstown. At Knocktopher the R699 passes through on a straight east-west alignment whilst the N10 joins and then leaves this line resulting in a double bend on the major route. At Sheepstown the R699 intersects with the R701 regional road heading south-west. The main route crosses the R699 at Sheepstown, where the geometry is poor. The current traffic levels experienced on the road in this section are 996 AADT heading east and 555 AADT heading west, through the town of Knocktopher (1999 Flows).

### ***R700 Regional Road***

The R700 regional road runs from New Ross, through the towns of Inistioge, Thomastown and Bennettsbridge, before arriving at the Kilkenny Ring Road. This road is particularly well used between Thomastown and Kilkenny City where traffic flows are of a similar order to those on adjacent lengths of N9 and N10 (at 5,200 vehicles AADT). Much of this traffic is of a local

nature linking the communities of Kilkenny, Bennettsbridge and Thomastown. The section of R700 between Thomastown and New Ross is more lightly trafficked (at 2,500 vehicles AADT), again largely by local traffic movements. It is probable that some heavy vehicles also use this route, travelling between Rosslare and the Kilkenny area. The main route crosses the R700 at a point north of Bennettsbridge where the geometry is poor, particularly the horizontal alignment. Kilkenny County Council is currently planning the local straightening of the R700 at the crossing point.

#### **R702 Regional Road**

The R702 regional road runs from east of Gowran town, through the town and joins with the N10 at Blanchvillespark, having an influence on the traffic flow levels on the N10 west of this junction. The main route crosses the R702 close to its termination point with the N10 road. At the crossing point, the R702 is reasonably straight, it has, however, poor horizontal and vertical geometry in each direction away from the crossing. The road is of a reasonable standard with no hard shoulder. The traffic levels currently using this stretch of the road are estimated at 2,650 vehicles AADT, with the traffic travelling at reasonably high speeds.

#### **R724 Regional Road**

The R724 links the N9 on the west bank of the River Barrow, through Muine Bheag (Bagenalstown), to the N80 at Kildavin. It comprises a single carriageway rural road, generally less than 6.0 metres wide with no hard shoulders. This Regional Road is not crossed by the road development.

#### **R705 Regional Road**

The R705 follows the east bank of the River Barrow, linking the N9 north of Leighlinbridge with Muinebheag and Borris. Just north of Borris the R705 crosses the R702 and then crosses the River Barrow, from where it heads south via Graiguenamangh to join the R700 at Ballilogue, and thereafter the N30 at New Ross. It comprises a single carriageway rural road, generally less than 6.0 metres wide with no hard shoulders over most of its length. This Regional Road is not crossed by the road development.

#### **Local Roads Crossed**

There are 45 local roads crossed by the mainline and its associated Link Roads. The majority of the local roads are of poor geometric standard and typical of rural Irish local roads. In some locations, the crossing points are close together.

The traffic levels on these local roads are quite low, in comparison with those outlined above.

## **2.5 References**

- (1) National Roads Authority (1998) National Road Needs Study (NRNS). National Roads Authority. Dublin
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- (7) Department of the Environment. (1997). Sustainable Development: A Strategy for Ireland. The Stationary Office. Dublin
- (8) Kilkenny County Council, 2002, Kilkenny County Development Plan, Kilkenny County Council, Kilkenny.
- (9) Carlow County Council, 2003, Carlow County Development Plan, Carlow County Council, Carlow.