Leitrim County Council

N4 Carrick-on-Shannon to Dromod Road Project

Constraints Study Report

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Leitrim County Council

N4 Carrick-on-Shannon to Dromod Road Project

Constraints Study Report

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1.0  INTRODUCTION

1.1  Need for the Scheme

The National Primary Route N4, Dublin to Sligo is a strategic corridor from Dublin to the northwest and border counties. (See Drawing CS-101 in Volume 2) The National Roads Needs Study (NRA 1998) identified it as part of the East-West corridor from Dublin to the northwest and a bypass of Carrick-on-Shannon was recommended in the Phase 2 needs. The National Spatial Strategy has since recognised the route as a Strategic Radial Corridor and investment in the N4 has been supported by subsequent National Development Plans.

The N4 runs through Carrick-on-Shannon / Cortober and provides access to the Midlands, West and North-west regions from Dublin. It is recognised as being of particular importance in opening up some of the most peripheral areas in Leitrim and west of the Shannon (refer Drawings CS-102 to CS 107 in Volume 2 for more detailed maps of the Study Area).

At present this section of N4 between Faulties and Cloongownagh carries both long distance traffic from the east of the country to the north-west of the country and significant regional and inter-urban traffic flows between Mullingar, Longford, Carrick-on-Shannon, Boyle and Sligo. The section of N4 through Carrick-on-Shannon also provides regional connections to the towns of Elphin, Frenchpark and Manorhamilton and to the west and east N4. The main regional roads connecting to this section of N4 are the R201, R280, R299, R370 and R368. The high traffic flows on the N4 together with sections of poor alignment along the built up areas on the approaches to Carrick-on-Shannon and at Aghamore, the 2 lane cross-section and frequent junctions with local road and frontage access has resulted in a high number of accidents.

Being a national primary route and part of the strategic programme, significant lengths of the N4 have been improved / upgraded to dual carriageway cross-section, over the past several years. With these upgrades, especially the opening of N4 Dromod Roosky bypass, the study section has become a bottleneck for traffic passing through Carrick-on-Shannon.

The fundamental need for the scheme is, therefore, to provide a high quality link along this section of the N4.

1.2  Previous Study

In 2001 Leitrim County Council appointed M.C. O’Sullivan and Company Ltd (MCOS) to provide engineering consultancy services for an N4 Carrick-on-Shannon Bypass Project.

The study area considered for this project extended over an area of approximately 6km in diameter centred on the town of Carrick-on-Shannon and the village of Cortober. The studies culminated in the production of a Constraints Study Report, a Route Selection Report and the identification of a preferred route corridor.

During the Route Selection Study six possible alternative routes were identified. Two routes passed to the south of Carrick-on-Shannon, three to the north and one followed the alignment of the existing N4 National Primary Route.

During the subsequent public consultation events it was made clear that the local population considered relieving the traffic congestion in Carrick-on-Shannon Town
Centre caused by traffic from the R280 Leitrim Road as a priority and as a result the northern route options were preferred. The R280 is the principal north-south route within County Leitrim, linking its largest towns and providing access to key National routes.

Each of the alternative routes was assessed in terms of their potential environmental, social, economic and engineering impacts and the resultant Framework Assessment Matrix identified Route F as the preferred route for the Carrick-on-Shannon Bypass. Route F would provide a 6.3km northern bypass of Carrick-on-Shannon which included an at-grade junction with the R280 Regional Road. (Refer Drawing CS-108 in Volume 2)

Since 2002, the scheme has been considerably extended and now incorporates the existing N4 road section from Carrick-on-Shannon to the northern tie-in of the recently opened N4 Dromod Roosky Bypass. In this context the original route corridor identified may no longer be the optimum solution and is to be reviewed as part of this scheme.

1.3 Strategic and Local Policy Context

The compatibility of the proposed project with existing policies and plans is set out in the following sections:

- The National Spatial Strategy;
- The National Development Plan, 2007-2013;
- Transport 21;
- Regional, County and local development plans, and
- Plans and programmes of the National Roads Authority.

1.3.1 The National Spatial Strategy

The National Spatial Strategy for Ireland (NSS) ‘People, Places and Potential’ is a twenty year planning framework which is designed to achieve a better balance of social, economic, physical development and population growth between the regions through the promotion of polycentric development.

The NSS supports Dublin’s pivotal role in national economic success but promotes the recognition of critical Gateways (urban population over 100 000) and Hubs (urban population 20 000 – 40 000) as being essential for balanced spatial development.

The NSS recognises and advocates that in order to be successful this polycentric development requires networks of physical infrastructure linking Dublin and the Gateways and Hubs.

‘To support balanced regional development, Ireland’s transport networks must build on Ireland’s radial transport system of main roads and rail lines connecting Dublin to other regions by developing an improved mesh or network of roads...’

The NSS vision for Ireland’s transport network is contained at the end of this chapter, refer to Figure 1.1: National Transport Strategy of the NSS. This map views Ireland’s future transport network in terms of Strategic Radial and Strategic Linking Corridors. This concept map clearly shows that the N4 Dublin to Sligo route, which encompasses Carrick-on-Shannon, is recognised as a Strategic Radial Corridor which are key infrastructure priorities requiring completion under the NDP. This is shown more clearly on the NSS Regional concept maps for the Border and the Western Region (see Figures 1.2 and 1.3 at the end of this Chapter).
1.3.2 The National Development Plan, 2007 - 2013

In January 2007, the Government published the National Development Plan 2007 – 2013 Transforming Ireland - A Better Quality of Life for All.

One of the Landmark Challenges identified in the NDP is to:

‘remove the remaining infrastructure bottlenecks that constrain our economic development and inhibit balanced regional development and environmental sustainability.’

To meet the challenges a number of General Goals (Objectives) have been identified which expand upon the need to continue to upgrade the transport network. These include:

- Decisively tackle structural infrastructure deficits that continue to impact on competitiveness, regional development and general quality of life and to meet the demands of the increasing population;

- Integrate regional development within the National Spatial Strategy framework of Gateway cities and Hub towns to achieve the goals of economic growth in the regions and provide for major investment in the rural economy;

While Carrick-on-Shannon / Cortober is not defined as a Gateway or Hub it does form a bottleneck on the Strategic Radial Corridor connecting the Gateways – Dublin and Sligo. It can clearly be determined therefore that this project addresses the two Objectives highlighted above.

This assertion is supported by an examination of the Strategic Investment Priorities. The Roads Sub-Programme, of the Economic Infrastructure Priorities, clearly identifies that a particular focus and priority will be investment on road routes which link Gateways, including the N4 Dublin to Sligo route.

1.3.3 Transport 21

Transport 21 is a capital investment framework under the National Development Plan through which the transport system in Ireland will be developed, over the period 2006 to 2015. This framework will address the twin challenges of past investment backlogs and continuing growth in transport demand. The projects and programmes that make up Transport 21 will aim to:

- Increase accessibility – making it easier for everybody to get to and from work, school, college, shopping and business;
- Ensure sustainability – recognising that a modern transport system must be sustainable from an economic and environmental perspective;
- Expand capacity – addressing existing deficiencies and providing for future growth;
- Increase use - managing the transport network and seeking to increase the use of public transport; and
- Enhance quality – improving safety, accessibility, integration, reliability, speed and comfort.

Transport 21 is made up of two investment programmes – a national programme and a programme for the Greater Dublin area. The main objectives of the national programme are:
to create a high quality, efficient national road and rail network consistent with
the objectives of the National Spatial Strategy;

to provide for a significant increase in public transport use in provincial cities;

to strengthen national, regional and local public transport services; and

to enhance safety and security facilities at the regional airports.

The total estimated cost of implementing Transport 21 is €34 billion in current cost
terms. The €34 billion investment package is comprised of:

- €26 billion to be provided from the Exchequer and €8 billion from Public
  Private Partnership funded projects;
- €18 billion will be invested in the national roads programme, while €16 billion
  will be provided for public transport projects and for regional airports;
- the National Programme will receive about €20 billion and the Greater Dublin
  Area Programme about €14 billion.

The following paragraphs are taken from the “N4 Dublin to Sligo” section of the
Transport 21 website:

“This road is intended to provide a high quality link between Sligo and Dublin.

Already major sections of this route have been upgraded to motorway or high quality
dual carriageway standard.

In addition major funding has been allocated to the route to improve junctions, relay
road surfaces and improve overall standards and safety.

A bypass of Edgeworthstown and the Sligo Inner Relief Road have already been
delivered.

Further improvements currently in planning stage include a bypass of Carrick-on-
Shannon, Cloonmahon/Castlebaldwin and a three part programme to upgrade the
road between Longford and Drumsna."

1.3.4 Regional, County and Local Development Plans

Regional Planning Guidelines for the Border Region

The primary aim of the Regional Planning Guidelines is to achieve the balanced
regional development outlined in the National Spatial Strategy. To this end the key
Strategic Goals for the Border Region promotes the development of the Gateways
Dundalk, Sligo and Letterkenny and supports the development of the Hubs Cavan
and Monaghan and the Regionally Strategic town of Carrick-on-Shannon. The
guidelines prioritise the delivery of the necessary networks of physical infrastructure
required to support this development. This includes the N4 Dublin – Sligo route.

Similarly the Regional Planning Guidelines for the West (includes Roscommon)
provide Strategic Goals which seek to secure for the Western Region an integrated
transport and access infrastructure.

County Development Plans

Leitrim County Development Plan 2009 – 2015 sets out Leitrim County Council’s
policies and objectives for the proper planning and sustainable development of the
County. The Plan seeks to develop and improve the social, economic, cultural and environmental assets of the county.

To this end the plan recognises that a modern, efficient and safe road network is vital for the future development of Leitrim and the Council supports the construction of the Carrick-on-Shannon Bypass under policy 5.6a:

“It is the policy of the Council to upgrade the National Primary Routes serving the County. This shall be served by carrying out and completing the following road schemes within the lifetime of the Plan –

N4 Carrick-on-Shannon to Dromod
N4 Carrick-on-Shannon Bypass

The Roscommon County Development Plan 2008 - 2014 aims to build on the vision of the County Development Board that Roscommon be a “vibrant county with an increased population, an enhanced quality of life, employment growth, high quality infrastructure and a strong entrepreneurial spirit”.

The Strategic Aim for Infrastructure within the Plan is to ‘provide the necessary infrastructure to deliver a better quality of life for all...’ The supporting Roads policies include the completion of the N4 Carrick-on-Shannon Bypass and a further upgrade of the N4 from Cortober to Castlebaldwin.

Local Development Plans

Carrick-on-Shannon Local Area Plan 2004 - 2010
This local area plan is the statutory development plan regulating and controlling development within the Carrick-on-Shannon area boundary. The plan recognises the major potential for development that occurs as a result of the town lying on the N4 National Transport Corridor between Dublin and Sligo. Under Section 1.5.2 the plan emphasises the need to relief the congestion caused by the limited capacity of the Shannon Bridge and the Leitrim Road (R280) junction, both of which act as existing bottlenecks. In answer to this it is a specific policy, under Movement and Transportation Policies, of the plan to construct a bypass around the town as part of the N4 National Primary Route.

Cortober Area Plan 2008 - 2014
The Cortober area is located to the south-west of Carrick-on-Shannon in County Roscommon and is bound to the east by the River Shannon. The Strategic Goal for Infrastructure refers to a more efficient transport system that will improve the road network to serve the population of Cortober. Reference and support is made to the upgrading of the N4 and the need for a Carrick-on-Shannon Bypass to provide a second River Shannon crossing to alleviate problems of congestion and pedestrian safety.

1.3.5 Plans and programmes of the National Roads Authority
In July 1998 the NRA published the National Road Needs Study. In Annex 4: Schedule of Improvement Needs, it identifies two sections of the N4 which fit with this proposed scheme. These are ‘Carrick-on-Shannon Bypass’ and ‘Carrick-on-Shannon / Dromod’. Both have a recommended road type of Standard 2 Lane with the Bypass being identified as Phase 2, requiring implementation within the period 2005 – 2009, and the Dromod scheme being Phase 1, requiring implementation within the period 2000 – 2004.
1.4 Scheme Development
Roughan & O’Donovan Consulting Engineers (ROD) were appointed in February 2009 to develop the planning, design and environmental assessment of improvement of 18.5km of the N4 National Primary Route and associated infrastructure from west of Carrick-on-Shannon / Cortober in the townland of Cloongownagh, County Roscommon to the northern tie-in of the recently completed N4 Dromod Roosky Bypass in the townland of Faulties, County Leitrim. The scheme will include a bypass of Carrick-on-Shannon / Cortober and will include a new River Shannon crossing.

The scheme is being commissioned by Leitrim County Council in conjunction with Roscommon County Council and Steering Committee has been set up which comprises technical officers from Leitrim County Council, Roscommon National Roads Design Office, the National Roads Authority (NRA) and Roughan & O’Donovan Consulting Engineers.

The proposed scheme is being managed by the Roscommmon National Roads Design Office.

1.5 Objective of the Constraints Study
The Constraints Study has been carried out at an early stage of the project with the objective of gathering as much background information relating to the project as possible. This data collection is focused on determining the constraints including physical, environmental and engineering constraints, which exist and which could affect the location, design and progress of the scheme.

This report records the collection of data to the end of June 2009. In particular research on the engineering and environmental constraints have been carried out and recorded.

1.6 Format of the Report
The Constraints Study Report consists of two volumes. Volume 1 is the main text of the Report with accompanying A4 figures. Volume 2 contains all of the scheme drawings (A3 size). Volume 1, the main text contains an introduction, background to the scheme, an initial review of the study area and conclusion. The report is laid out as follows:

Chapter 1 Introduction
Chapter 2 Development of the Constraints Study Area
Chapter 3 First Public Consultation
Chapter 4 Engineering and Topography
Chapter 5 Traffic and Road Accidents
Chapter 6 Geology, Hydrology and Hydrogeology
Chapter 7 Socio-Economic Assessment
Chapter 8 Planning, Development & Land-use
Chapter 9 Ecology
Chapter 10 Archaeology, Architecture and Cultural Heritage
Chapter 11 Landscape and Visual Analysis
Chapter 12 Noise and Vibration
1.7 Difficulties Encountered

At the time of writing the design team are awaiting a response from Shannon Regional Fisheries Board regarding information on fishery interest rivers; designated salmonid rivers under EU Freshwater Fish Directive, etc. The information received will be considered in the route selection process and contained within the Route Selection report.
DATA SHOWN IS TAKEN FROM THE NATIONAL SPATIAL STRATEGY 2002 – 2020
AS PUBLISHED BY THE DEPARTMENT OF THE ENVIRONMENT

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

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NATIONAL TRANSPORTATION FRAMEWORK
OF THE NATIONAL SPATIAL STRATEGY

Project Title
N4 CARRICK-ON-SHANNON TO DROMOD ROAD SCHEME

Drawing Title
NATIONAL TRANSPORTATION FRAMEWORK
OF THE NATIONAL SPATIAL STRATEGY

Date DEC 09 Scale NOT TO SCALE CAD File FIGURE 1.1 Project No. 09.103

Drawn JG Checked AW Approved RTP Drawing No. FIGURE 1.1 Rev. 01

Dec 10, 2009 - 11:27am Drawing Location: L:\acad\2009\09103\Drawings\02-CS\FIG 1.1.dwg
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Project Title  N4 CARRICK-ON-SHANNON TO DROMOD ROAD SCHEME
Drawing Title  BORDER REGION

Date  DEC 09
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CAD File  FIGURE 1.2
Project No.  09.103

Drawn  JG  Checked  AW  Approved  RTP  Drawing No.  FIGURE 1.2  Rev.  01
2.0 DEVELOPMENT OF THE CONSTRAINTS STUDY AREA

2.1 Introduction
The development of the Constraints Study Area precedes the development of the Constraints Study Report and is essential as it concentrates the area within which the potential constraints must be identified.

The general principle used to define a study area is that it must be large enough to include all reasonable route options while not being so large as to require the collection of excessive amounts of information in order to determine the preferred route. In addition, areas which are non-viable, for issues such as topography, urban development and impact on protected sites, are removed from the study area.

In order to develop an effective and comprehensive study area three separate elements of research were undertaken and the area was divided into two sections – a northern section and a southern section.

2.2 Defining the Constraints Study Area (Northern section)
The first element of research examined the area either side of Carrick-on-Shannon from the north-western tie in at Cloongownagh to the existing Drumsna-Jamestown Bypass at Tully. In order to develop the limits of the study area the innermost and outermost boundaries are defined for the area to the north of the existing N4 and the area to the south of the existing N4.

2.2.1 Area to the north of the Existing N4

Innermost Boundary
In an attempt to determine the innermost boundary of the Constraints Area north of the town, a possible route option N-1 was developed as close as feasible to the town (refer to Drawing CS-201 in Volume 2). This route is limited by the existing urban development of Carrick-on-Shannon as it was decided that any route through the built up area should be avoided. As such it is considered that there is no other potential route closer to the town on the north side.

Outermost Boundary
To the northwest of the town, the River Shannon and Lough Eidin represent a major constraint which limits realistic route options for a bypass. To the west of the River Shannon at Corryolus is the large body of water called Lough Eidin which extends over 3km to the west. A route which would cross the Shannon and would also cross the lough is considered to be unviable on cost and environmental grounds and is not feasible for detailed consideration. Accordingly, the most westerly realistic tie-in point along the N4 West for a northern bypass is at Guiltyconeen and the most outermost feasible boundary is considered as the route N-2 (refer Drawing CS-201 in Volume 2).

Reduced Outermost Boundary
Because route option N-2 is very remote from the town, particularly to the north and east of the town, a less remote option was further developed to see if the outermost boundary of the Constraints Study Area could be reduced. This altered route, N-3, is basically the outermost northern route identified in 2002 (Route Option E) but altered at the southern end to tie into the Drumsna / Jamestown Bypass at Mountcampbell.
Extent of the Constraints Study Area to the North
The innermost route N-1 defines the innermost realistic option. Accordingly, the innermost boundary for the study area was confirmed as 300m inside the line represented by the N-1 line.

In terms of the outermost line, route N-3 has a shorter off-line construction length and a shorter travel distance between A to B than route option N-2. Therefore there is no reason to go as far out as the line represented by route option N-2 as there is no benefit to be accrued by the longer route. Accordingly, the outermost boundary was confirmed as 300m beyond the line represented by the N-3 line. The resulting Constraints Study area to the north of the town is shown in Drawing CS-202 in Volume 2.

2.2.1 Area to the south of the Existing N4
Innermost Boundary
In order to determine the innermost boundary of the Constraints Study Area south of the town, a possible route option S-1 (refer Drawing CS-201 in Volume 2) was developed as close as feasible to the town. At the western tie-in with the existing N4, the route commences at Cloonmaan and passes to the south of industrial / warehouse buildings as far as the railway line. The route runs parallel to the railway line but does not cross the line. From the railway line the route goes nearly due east, on higher ground as much as possible, as far as the proposed river crossing at Cordrehid / Attiory. At Attiory the route skirts housing developments to tie into the existing N4 East at Lisseeghan.

Outermost Boundary
Lough Corry is a major constraint on the location of any road crossing of the river to the south of the town. The lough is about 2.2km in length and varies in width from 200m to over 800m. The 200m width is located between the northern and southern portions of the lough. However, the flood plain width in this area and in other areas is in excess of 800m.

Route option S-2 crosses the river to the south of Lough Corry at Runnafarna / Cornacorroo. The river crossing is about 100m wide and the banks of the river rise quickly to higher ground on both sides. The route crosses about 1.5km of peat bog on the western side of the river in Curries.

The layout of route S-2 starts on the N4 West close to Hughestown. It crosses the railway line twice and both the regional roads (R370 and R368). After crossing the river, it continues north-eastwards through Pollnagappul and Sallaghan to join the N4 East at Tully.

Extent of the Constraints Study Area to the South
The innermost boundary is determined by the most inner portions of routes S-1. The Constraints Study area boundary was confirmed as 300m on the town side of this line.

Although route S-2 would result in a considerable off-line length which would add to construction cost and potential impacts on flora and fauna, the outermost boundary was confirmed as 300m beyond the line of route S-2.

The resulting Constraints Study area is shown on Drawing CS-202 in Volume 2.
2.3 Defining the Constraints Study Area (Southern section)

Within the Southern Section of the proposed scheme it was apparent that it may be feasible to upgrade the existing N4 to Type 2 Dual Carriageway. As such, a Feasibility Study on retrofitting the existing N4 was undertaken. This study examined the physical constraints and utilities, the existing junctions and access issues and subsequently confirmed that upgrading the existing N4 was viable (with an off line section around the village of Aghamore) and should be subject to further studies. Confirmation of the potential of this route allowed a zone along the N4 to form the initial element of the Constraints Study area in the Southern Section.

However, in order to examine a comprehensive study area and to assess the implications of providing Type 2 Dual Carriageway off-line as much as possible, route options to the west and east of the existing N4 north of Faulties were developed.

2.3.1 Area to the West of the Existing N4

The south-eastern tie-in point of the proposed scheme is in the townland of Faulties where the proposed route is to connect to the recently opened Dromod Roosky Bypass Scheme (a Type 2 Dual Carriageway scheme). Routes to the west of the N4 would also need to connect with southern bypass options around Carrick-on-Shannon.

In order to identify a feasible study area to the west of the N4 in the first instance the significant physical constraints are identified, as outlined below:

- As the Dublin-Sligo Railway Line crosses the River Shannon in this area, a route option parallel and adjacent to the railway line was examined. However, because of potential settlement impacts on the railway line, such a route was not considered to be feasible.

- Any route options north of the railway line between the townlands of Curries and Derrybrack would involve two new road crossings of the River Shannon. Two road crossings of the Shannon is not considered to be viable.

- Off-line route options west of the N4 but east of the River Shannon between Faulties and Mountcampbell are constrained by Gortinty Lough and are therefore not considered to be feasible.

As a consequence of the above noted constraints and the further constraints of Lough Tap and Lough Boderg, the only feasible road crossing of the Shannon is between Derrybrack and Mullagh.

Route Option W-1 is located at the most southern boundary of this gap (refer Drawing CS-203 in Volume 2 and has been progressed to avoid the residential development in Kilmore and passes to the north of Ballagh Lough. It ties in with Route Option S-2 (refer CS-202). 300m to the west/south of this line was confirmed as the boundary of the Constraints Study area.

2.3.2 Area to the East of the Existing N4

Even with the retrofit option, the N4 through the village of Aghamore was identified as being unsuitable and would need a bypass around the village. To tie in with the recently opened Dromod-Roosky Bypass and to remain off-line of the original N4 / existing N4 north of Faulties, the eastern route option needs to cross the local road LP-1475 at the gap between the residential houses and the industrial complex.
To keep the travel distances as short as practicable, the route east of the existing N4 should not be too far east. Accordingly, the route option should be west of the hill top at Fearnaght; while at Aghamore, the route would need to cross the local road LP-3467 between the school and the village of Antfield.

Continuing north, at Drumsna, the Gortconnellan Lough provides a significant constraint to the east of the existing N4. However, this is the area of the Drumsna-Jamestown Bypass. With the existing grade separated junction and the limited road frontage, it is considered desirable to connect the off-line option to the existing N4 in this location. This enables a portion of the bypass to be utilised as part of the upgraded scheme.

The resultant road option layout (Option E-1) to the east of the existing N4 is shown on **Drawing CS-203 in Volume 2** and 300m east of this route has been confirmed as the eastern limit of the Constraints Study area.

### 2.4 Conclusions

Using the above method of identifying innermost and outermost feasible boundaries and significant and obvious physical constraints the Constraints Study area was developed. The complete Constraints Study Area is mapped on **Drawing CS-204 in Volume 2**.
3.0 FIRST PUBLIC CONSULTATION

3.1 Details of Public Consultation No. 1

The current NRA Project Management Guidelines recommend two stages of public consultation prior to adopting a preferred route for a road scheme. These are:

- Constraints Study (First Public Consultation); and
- Route Corridors (Second Public Consultation);

The first public consultation was undertaken during May and June 2009 and presented the Constraints Study Area for the proposed road scheme.

The consultation involved the presentation of information on the scheme through an advertisement in the following local newspapers:

- The Roscommon Herald on 12th May 2009; and
- The Leitrim Observer on 15th May 2009.

The Constraints Study brochure was circulated to the local representatives by staff of the Roscommon NRDO and copies of the brochure were placed at the following public buildings:

- Leitrim County Council Offices, Áras an Chontae, Carrick-on-Shannon, Co. Leitrim; and

Comments were invited from the public by 4th June 2009, with responses to be submitted, by email or in writing, to the NRA Liaison Engineer, N4 Carrick-on-Shannon to Dromod Road Project, Leitrim County Council, Park Lane House, Carrick-on-Shannon.

The Constraints Study Brochure and the newspaper advertisement are attached in Appendix 3.1 at the end of this chapter.

3.2 Responses from Public Consultation No. 1

At time of writing only one response to the public consultation had been received.

The respondent highlighted concerns about the previous preferred route to the north of Carrick-on-Shannon and outlined potential severance, pollution and health issues with this route.
Appendix 3.1:

Constraints Study Brochure and Newspaper Advertisement
What is a Constraints Study?
A Constraints Study is a gathering of information on the study area before the Route Selection Process begins. The information sought is focused on determining the potential environmental, social, economic and engineering constraints which may influence the selection of the preferred route corridor within the study area.

Public Consultation
The purpose of this information leaflet is to inform the public of the Scheme and to invite written submissions on any aspects of the study area, i.e. matters of local concern, subjects requiring special attention. All comments will be recorded and considered during the Constraints Study.

What Happens Next:
On completion of the Constraints Study, which will include a review of the information gathered during this Public Consultation, a number of Route Options will be developed. A second Public Consultation (PC2) will be held later in the year when the Route Options will be displayed for your comment. Following PC2 a review of the comments received on these route options will be considered. This will lead to the selection of a Preferred Route Corridor which will be brought to a further Public Consultation (PC3).

Programme of Public Consultations

<table>
<thead>
<tr>
<th>Public Consultations</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constraints Stage (PC1)</td>
<td>Q2 2009</td>
</tr>
<tr>
<td>Route Selection Stage (PC2)</td>
<td>Q3 2009</td>
</tr>
<tr>
<td>Emerging Preferred Route (PC3)</td>
<td>Q4 2009</td>
</tr>
</tbody>
</table>

Contact Information
If you have any observations or submissions to make relating to the Constraints Study Area as shown overleaf please forward them in writing to the undersigned on or before Thursday 4th June 2009:

NRA Liaison Engineer,
N4 Carrick–on–Shannon to Dromod Road Scheme,
Leitrim County Council,
Park Lane House,
Carrick-on-Shannon,
Co. Leitrim.
Phone: 071 9620005 Email: sby@leitrimcoco.ie

Leitrim County Council in conjunction with Roscommon County Council has commenced the planning process to advance the development of the N4 National Primary Route and associated infrastructure from west of Carrick–on–Shannon/Cortober in the townland of Cloongownagh, Co. Roscommon to the northern tie-in of the recently completed N4 Dromod Roosky Bypass in the townland of Faulties Co. Leitrim.

The scheme will comprise the improvement of approximately 18.5km of existing N4 National Primary Route and will include a bypass of Carrick–on–Shannon/Cortober and a new river Shannon crossing.

The planning stages of the development will involve:
- The identification of a number of route options from which a preferred route will be selected;
- Environmental studies leading to the publication of an Environmental Impact Statement; and
- Completion of the statutory planning process including the publication of a Compulsory Purchase Order.

The first stage in this process is the identification of a study area and the compilation of a Constraints Study Report which identifies potential environmental, social, economic and engineering constraints which may influence the selection of the preferred route corridor within the study area.

The Constraints Study Area highlighted on the map above was developed as a viable study area within which feasible route options can be developed.
The scheme will comprise the improvement of approximately 18.5km of existing N4 National Primary Route and will include a bypass of Carrick-on-Shannon/Cortober and a new river Shannon crossing.

The planning stages of the development will involve:

- The identification of a number of route options from which a preferred route corridor will be selected;
- Environmental studies leading to the publication of an Environmental Impact Statement; and
- Completion of the statutory planning process including the publication of a Compulsory Purchase Order.

The first stage in this process is the identification of a study area and the compilation of a Constraints Study Report which identifies all potential environmental, social, economic and engineering constraints which may influence the selection of the preferred route corridor within the study area.

A Constraints Study Public Information Leaflet, which highlights the proposed study area, is available from the following locations:

- Leitrim County Council Offices, Áras an Chontae, Carrick-on-Shannon, Co. Leitrim; and

Submissions and observations, in writing, are invited from interested groups or individuals regarding the study. All submissions should be clearly endorsed with the project’s name, N4 Carrick-on-Shannon to Dromod Road Scheme, and sent to the undersigned on or before Thursday 4th June 2009.

NRA Liaison Engineer,
N4 Carrick-on-Shannon to Dromod Road Scheme,
Leitrim County Council,
Park Lane House,
Carrick-on-Shannon,
Co. Leitrim.
Phone: 071 9620005 Email: srynn@leitrimcoco.ie
4.0 ENGINEERING AND TOPOGRAPHY

4.1 Geographical Description

The study area runs between the counties of Leitrim and Roscommon. The River Shannon defines the boundary of the two counties; with Roscommon to the west of the River Shannon and Leitrim to the east of the Shannon.

The area has a predominantly undulating topography due to the drumlins which dominate the landscape. The area is characterised by low hills which have the ability to limit the visual impact of development on the surrounding countryside. Native shelter vegetation also has the ability to decrease the visual impact of any development.

The significant constraints within the study are the River Shannon, numerous lakes, the railway line, Lough Drumharlow pNHA, areas of woodland, existing and proposed services and the extensive development particularly in the Cortober area.

The River Shannon flows in a south easterly direction through the centre of the study area. The existing N4 crosses the River Shannon in the town of Carrick-on-Shannon from which point the river runs to the west of the N4 for the remainder of the study area. The River Shannon meanders through the study area whilst also having a considerable flood plain along most of its length. The river also features a few large lakes including Lough Drumharlow, Lough Corry, Lough Tap and Lough Boderg. Other individual lakes within the study area include Gortinty Lough, Cartron Lough, Lowfield Lough, Spa Lough, Ballagh Lough.

The Dublin – Sligo railway line runs along the western periphery of the study area.

4.2 Flooding and Drainage

Although the topography of the area is primarily comprised of gently undulating drumlins and hills, the constraints study area is dominated by the River Shannon and its shallow valley, linked lakes and waterways and expansive floodplain.

The Shannon drains a total area of 10400 square kilometres and only drops about 13m between Lough Allen and its outlet at Lough Derg. The river is consequently quite slow moving and floodwaters remain on the floodplains for long periods.

The river takes a sinuous route through the study area along a South East to North West axis from Dromod to Carrick-on-Shannon. Along this route the river links numerous lakes such as Lough Boderg, Lough Tap, Lough Corry and Lough Eidin and in winter the whole valley floor and the low lying ground between the drumlins and low hills becomes flooded (refer to flood levels shown on Drawing CS-401 to CS 406 in Volume 2).

The nature of this routine flooding and the occurrence of extensive floodplain can be regarded as a constraint as it may give rise to difficult and unsuitable ground conditions and may require significant bridging and culverts.

Furthermore, roads constructed across flood plains may affect the nature and extent of flooding in the area. Bridges and road embankments can obstruct the path of floodwaters, causing re-direction and re-distribution of the flow over the floodplains and within the channel.
It should be noted at this point that the selected route will have to comply with Section 50 of the Arterial Drainage Act 1945, the purpose of which is to ensure that the existing conveyance and storage capacities of channels and floodplains are maintained.

The proposed scheme will have to cross the River Shannon and its associated floodplain. Therefore, based on this information and from the perspective of constructional difficulty, throughout the route selection process the extent of floodplain to be crossed should be considered as a key constraint in the selection of the preferred river crossing.

4.3 Existing Road Network
The study area has a road system ranging from National Primary to a network of regional and local roads; however there are no National Secondary roads within the study area.

The existing National Primary route, the N4 Dublin to Sligo route runs from Faulties in the south eastern corner of the study area to Cloongownagh/Hughestown in the northwest passing through Carrick-on-Shannon, the county town of Leitrim. The regional roads serving the study area are the R 201, R280, R299, R368 and R370. The regional road R201 originates at Drumsna & runs eastwards to Mohill and beyond. The R280 originates from Carrick-on-Shannon and runs northwards up to Leitrim village, Manorhamilton and Bundoran in County Donegal. This is one of the more significantly trafficked roads within the study area. The R299 originates from Drumsna and runs northwards and joins R280 at Grange. The R368 originates from Carrick-on-Shannon and runs southwards to Elphin. This road terminates near Carrownalassan where it joins with N61.

The regional road R370 is another important road, which originates from Carrick-on-Shannon and runs southwest to Frenchpark, where it joins with the R361 leading to the N5 Dublin to Westport road.

4.4 Railways
The Dublin to Sligo railway line servicing Carrick-on-Shannon and Sligo bisects the study area in western and eastern sections. After crossing the existing N4 south of Faulties the railway line enters the study area at Gortinee. It crosses the river at Derrylaun. The railway line exits the study area at Ardchamoyle, north-west of Carrick-on-Shannon. The railway station servicing the town of Carrick-on-Shannon is situated to the south of the town on the R370 Frenchpark Road.

4.5 River Shannon Crossing
A 5-span masonry arch bridge carries the existing N4 across the River Shannon near the centre of Carrick-on-Shannon (See Plate 4.1). The carriageway cross-section consists of a single carriageway with narrow footpaths on either side at the crossing location. The current road layout is unsafe for pedestrians and is difficult for heavy goods vehicles (HGV’s) to negotiate. (See Plate 4.2)
The River Shannon does flood upstream of the existing bridge, however, it is unclear at present whether this flooding is caused by the bridge or other factors. The maximum flood level 42.365mOD (Malin) was recorded near the bridge. This flood level has set a planning restriction on floor levels in the area of 43.365mOD (Malin).

The River Shannon is relatively narrow as it meanders through the constraints study area between a diverse assortment of lakes. Typically, the shortest most direct crossing is preferable and there is potential for short river crossings throughout the area of interest.
The wide flood plains associated with the River Shannon throughout the constraints study area add further complexity to identifying possible crossing locations as ideally the crossing of flood plains should be minimised.

The geotechnical constraints have identified faults in the extreme east and west of the study area. Fortunately, these faults would not impact on any crossing locations within the area of interest. In addition, numerous soft soil areas including alluvium and peat bog have been identified. Although the extent of soft soils in the vicinity of a crossing location should be minimised, it is possible to develop engineering solutions to overcome these constraints and therefore, should not preclude any crossing location from being considered.

It is noted that the Dublin to Sligo railway line is situated along the western periphery of the study area. While this obstacle can be easily overcome through providing additional bridges over the railway line, it may be more beneficial to have a route which avoids the requirement to cross the railway line by going to the north of it either through Cortober or to the north of Carrick-on-Shannon. In this scenario, no railway bridges would need to be constructed as part of the scheme.

The Shannon Crossing could be accommodated using a variety of bridge designs. The bridge selection is dependent on the alignment and general span arrangement of the structure. However other aspects including hydraulics, environmental, geotechnical and visual constraints will ultimately influence the final selection.

A simple beam or box girder bridge would generally be provided where the span lengths are relatively short. As the span lengths increase other solutions including suspended options may be more appropriate, particularly in light of environmental constraints, as is the case with the Boyne Bridge on the M1 Dublin to Belfast Motorway at Drogheda. Ideally, the bridge supports, would where feasible be situated remote from the main river channel as this is likely to reduce the potential environmental impacts during construction stage.

Alternatively, the River Shannon could be crossed using a tunnel in a similar manner to the fourth crossing of the River Shannon in Limerick. Typically, immersed tube tunnels are provided for short shallow crossings. However, it should be noted that an immersed tube tunnel would more likely to have a greater impact on the channel than a bridge with respect to environmental impacts during the construction stage. Furthermore, in addition to all the design considerations associated with bridges the impact of fire and flooding must be taken into account when designing a tunnel.

4.6 Existing Services

The design team wrote to all of the major service providers in order to establish the utility constraints within the study area. Information available on the previous study undertaken in this area was referred to. The major services identified within the constraints study area to date are ESB Network, Board Gáis Network, Water Main, Eircom and Broadband (refer to Drawing CS-407 to 416 in Volume 2).

ESB Network

There are two ESB substations, one within the study area and the second just outside. There are overhead power lines of up to 110kv originating from these substations and running in every direction throughout the study area. These are marked on the utilities Drawing CS-412 to 416 in Volume 2.
One substation is located at the south of Carrick-on-Shannon within the study area. This is the main focal point from which three 110kv power lines radiate in different directions. One line runs northwards and exits study area at Corhawnagh. Another runs eastwards crossing the existing N4 at Lisseeghan and continuing eastwards where it exits the study area at Foxborough. The third line runs southwards exiting the study area at Deerpark.

The second substation is located outside of the study area however a number of 110kv power lines are originating from this substation traverse the study area in a west to east direction. One of these power lines terminates at Derryoughter within the study area. Another runs along the south boundary of the study area and exits the study area at Finnalaghta.

**Bord Gáis Network**
There are no Bord Gáis transmission line exists within the study area.

**Water Main**
There are a number of water mains that exist within the study area. These generally run adjacent to local, regional and national roads along R280, R368, R370 and N4. These service the localities near the routes. These are presented on Drawings CS-407 to 411 in Volume 2.

**Telecoms**
Telecom lines run along the majority of roads in the constraints study area where housing is situated.

**Broadband**
Broadband services are mainly located along the existing N4.
5.0 TRAFFIC AND ROAD ACCIDENTS

5.1 Introduction
This section describes the existing available traffic data and traffic modelling undertaken to date as part of previous road scheme studies and outlines additional traffic survey data and traffic modelling required as part of a traffic study to assess the proposed N4 Carrick-on-Shannon to Dromod Road Project.

The purpose of this traffic study is to facilitate the engineering and environmental (incl. air and noise) appraisal of the scheme. The findings of this study will be used for engineering design parameters such as cross sections, junction configurations and pavement design.

5.2 Existing Traffic Data and Reports
The following reports and documents have been reviewed:

- N4 Carrick-on-Shannon to Dromod, Feasibility Study, Roscommon NRDO, 2007;
- N4 Carrick-on-Shannon Traffic Model Validation Report, RPS, 2007;
- N4 Carrick-on-Shannon Traffic Forecasting Report, RPS, 2007;
- Traffic survey data including automatic traffic counts, junction turning movement counts and road side interview surveys, undertaken by Count On Us Transportation Surveys in and around Carrick-on-Shannon in January 2007;
- N4 Carrick-on-Shannon Bypass Route Selection Report, MCOS, 2002;

A summary of the 2007 traffic survey results contained in the N4 Carrick-on-Shannon Traffic Forecasting Report 2007 are shown in Table 5.1 below.

Table 5.1 - Summary of 2007 Traffic Survey Results

<table>
<thead>
<tr>
<th>Location of ATC Counter</th>
<th>24 Hour Flow - two-way vehicles (7 Day Average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N4 East of Carrick-on-Shannon</td>
<td>9391</td>
</tr>
<tr>
<td>N4 West of Cortober</td>
<td>7991</td>
</tr>
<tr>
<td>R280 North of Carrick-on-Shannon</td>
<td>5898</td>
</tr>
<tr>
<td>R368 South of Carrick-on-Shannon</td>
<td>2826</td>
</tr>
<tr>
<td>R370 Southwest of Carrick-on-Shannon</td>
<td>1632</td>
</tr>
<tr>
<td>Castlecarra Road (North of Industrial Estate)</td>
<td>1278</td>
</tr>
<tr>
<td>R299 Northeast of Carrick-on-Shannon</td>
<td>1170</td>
</tr>
</tbody>
</table>

As part of the N4 Carrick-on-Shannon Traffic Forecasting Report, 2007, a Saturn model of the traffic flows through and around Carrick-on-Shannon with a number of bypass route options, based on traffic survey data from 2002.

An updated traffic model was developed to assess two routes for the Carrick-on-Shannon Bypass, a northern and southern bypass option, based on traffic survey data from 2007 and detailed in the N4 Carrick-on-Shannon Traffic Model Validation Report, RPS, 2007.

The 2007 study modelled two bypass route options (one north and one south of the town) and indicated future traffic volumes on the N4 in the assessment year of 2029, as follows:
- N4 east of Carrick-on-Shannon (just east of the potential bypass connection) in the order of 19,000 – 20,000 AADT (average annual daily traffic):
- N4 west of Carrick-on-Shannon (just west of the potential bypass connection) in the order of 16,000 – 17,000 AADT;
- N4 Shannon Bridge Crossing in Carrick-on-Shannon (existing bridge) is predicted to carry 33,000 AADT for the do-minimum scenario whereas with a bypass traffic would reduce to 22,000 – 24,000 AADT.

5.3 Traffic Accidents

Accident data has been compiled for the study area. Drawing CS-501 in Volume 2 illustrates the distribution of traffic accidents within the study area. Note, at the time of writing this report the accident data obtained for County Roscommon covers the period 1990 – 2005 while the data for County Leitrim covers the period 2002 – 2005.

The road network through Carrick-on-Shannon shows the largest cluster of accidents within the study area, which is where the potential for conflict between road traffic, pedestrians and cyclist is highest, however outside the Town there a number of cluster accident locations at the following locations:

- N4 west of Carrick-on-Shannon at Cloongownagh;
- R368 at Killukin;
- N4 at Tully;
- N4 at the R299 interchange / Crikeen;
- N4 at the R201 junction / Annaduff, and
- N4 at Aghamore.

Accident clusters such as these could be reduced around Carrick-on-Shannon and at the junctions with the N4 in particular through the provision of traffic calming and/or localised road upgrades at specific accident black spots.
given throughout the Route Selection and design process to minimising the length of the scheme needed to cross the floodplain and the River Shannon.

In conclusion, the information collected for the proposed N4 Carrick-on-Shannon to Dromod Road Project provides a sound basis on which to base the route selection analysis. In light of some of the considerable environmental constraints which exist within the study area, surveys and data collection will be on-going throughout the route selection stage and beyond and will concentrate on the route corridors and on the preferred route corridor when it is identified. Similarly, further consultations with the public and the statutory consultees are imperative if an agreed route corridor and bridge design is to be attained.