

Appendix A.5.2.3

Phase 2 - Long List Option Sifting

Leitrim County Council

**N4 Carrick-on-Shannon to
Dromod Project**

Phase 2 - Long List Option Sifting

274219-ARUP-02-RP-CH-000001

P07 | 4 November 2022

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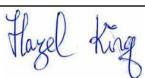
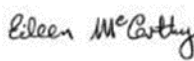
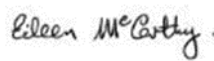
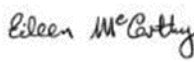
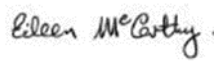
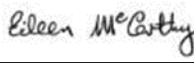
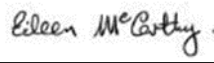
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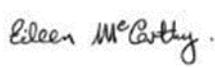
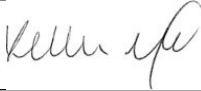
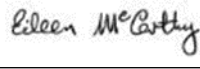
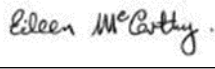
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Document verification

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Job title		N4 Carrick-on-Shannon to Dromod Project		Job number	
				274219	
Document title		Phase 2 - Long List Option Sifting		File reference	
Document ref		274219-ARUP-02-RP-CH-000001			
Revision	Date	Filename			
P01	19 Apr 2021	Description	First Issue (S3 Suitable for Review and Comment)		
			Prepared by	Checked by	Approved by
		Name	Hazel King	Eileen McCarthy	Eileen McCarthy
		Signature			
P02	28 Apr 2021	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Second Issue (S3 Suitable for Review and Comment)		
			Prepared by	Checked by	Approved by
		Name	Hazel King	Eileen McCarthy	Eileen McCarthy
		Signature			
P03	23 June 2021	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Third Issue (S3 Suitable for Review and Comment)		
			Prepared by	Checked by	Approved by
		Name	Hazel King	Eileen McCarthy	Eileen McCarthy
		Signature			
P04	2 Dec 2021	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Fourth Issue (S3 Suitable for Review and Comment)		
			Prepared by	Checked by	Approved by

		Name	Keelan Ward	Hazel King	Eileen McCarthy
		Signature			
P05	22 Feb 2022	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Fifth Issue (Client comments addressed)		
			Prepared by	Checked by	Approved by
		Name	Keelan Ward	Eoin Doyle	Eileen McCarthy
		Signature			
P06	03 Mar 2022	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Final issue		
			Prepared by	Checked by	Approved by
		Name	Keelan Ward	Eoin Doyle	Eileen McCarthy
		Signature			
P07	04 Nov 2022	Filename	274219-ARUP-02-OS-RP-CH-000001.docx		
		Description	Updated for Publication		
			Prepared by	Checked by	Approved by
		Name	Keelan Ward	Eileen McCarthy	Eileen McCarthy
		Signature			
Issue Document verification with document					☒

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Appendices

Appendix A

Multi Criteria Analysis Framework – Pre Stage 1 Preliminary Options
Assessment

Appendix B

Multi Criteria Analysis Framework – Post Public Consultation No.2 Alternatives
and Options

1 Introduction

Multi Criteria Analysis (MCA) is a technique outlined in the Department of Transport, Tourism and Sports Common Appraisal Framework for Transport Projects and Programmes (CAF) as an appraisal tool to evaluate alternatives and options based on identified criteria and ranked on the basis of an aggregation procedure. The basis of the MCA for the N4 Carrick-on-Shannon to Dromod Project are an explicit set of objectives, namely the project objectives. MCA can be expressed in either qualitative or quantitative terms.

Once the problems that the project are seeking to solve have been identified and the project objectives are set, CAF states *“the need for an intervention should then be clearly set out and justified. If an intervention is appropriate, a number of options should be generated with a view to developing a range of alternative measures that look likely to achieve the specific objectives that the project is seeking to address. A Base Case must first be established and then options for investment should be identified and appraised in comparison to this. In line with the Public Spending Code, this requires the analyst to generate a range of realistic options so that benefits and costs can be compared relative to a scenario where very little or no change has taken place. A preliminary assessment of the costs and benefits should be undertaken of the options. The options are then sifted for the better performing options to be taken on to the detailed appraisal stage.”*

“A minimum of four options (i.e. Do-Nothing or Do-Minimum and at least 3 Do-Something options) should be subject to appraisal at preliminary appraisal stage. Where fewer than four options have been considered the project appraisal report and Business Case should include a rationale for the approach taken.”

The purpose of this report is to provide an overview of the methodology for development and assessment of alternatives and options and to provide the detail of the initial sifting of the long list of alternatives and options to derive a range of alternatives and options that are likely to achieve the project objectives.

2 Project Objectives

For the N4 Carrick-on-Shannon to Dromod Project, the project objectives were developed during Phase 1 following identification of the problems and opportunities within the study area and careful consideration of the plans and policies for the region. **Table 2.1** below lists the project objectives and the relevant Key Performance Indicators (KPIs) that will be employed to assess alternatives and options against these KPIs. The project objectives were established based around the Common Appraisal Framework criteria, these being:

- Economy
- Safety
- Environment
- Accessibility & Social Inclusion

- Integration
- Physical Activity

These project objectives were adopted by the project's key stakeholders Leitrim County Council, Roscommon County Council and Transport Infrastructure Ireland and are documented in the Phase 1 Project Brief.

Table 2.1 Project Objectives and Key Performance Indicators (KPIs)

Criteria	Scheme Specific Objective	KPI
Economy	To provide a reliable transport system over the N4 corridor extents under consideration and to contribute to efficient connectivity between the Northern and Western Regions with Dublin and the Eastern and Midland Regions to balance regional development.	Journey Time Reliability for all modes of transport Improvement in journey times of all modes of transport
	To provide a solution that offers good value for money and reduce the cost of travel	Cost Benefit Ratio
	To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal	Reduction in congestion in Carrick-on-Shannon Improved urban realm - better environment for pedestrians, cyclists etc.
Safety	To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extents under consideration supporting the RSA Road Safety Strategy 2021-2030	Quantify number of access points and sub-standard geometry per Km Use collision rates for each type of road within the network Statistical Analysis of the collision data
	To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore	Reduction in PCUs within Carrick-on-Shannon, Cortober Aghamore
Environment	To provide opportunities to enhance the local amenity and heritage value of the area	Reduction of traffic volumes on Carrick-on-Shannon Bridge Improved urban realm - better environment for pedestrians, cyclists etc.
	To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan	Reduction in total Kms travelled Reduction in congestion in Carrick-on-Shannon Evaluate circular economy of the project, earthworks, reuse of asset
	To minimise impacts on designated Natura 2000 sites in the vicinity of the study area	Measure potential for impact on Designated sites

Criteria	Scheme Specific Objective	KPI
	To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon	Measure potential for flood risk and water quality
	The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor	Reduction of traffic volumes in built up areas
Accessibility and Social Inclusion	Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network	Journey Time Reliability for all modes of transport Improvement in journey times of all modes of transport
	To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon	Reduction in congestion in Carrick-on-Shannon Improved urban realm - better environment for pedestrians, cyclists etc.
	Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities	Reduction in traffic volumes to facilitate improved urban realm Provision of enhanced footpaths, cycle paths etc. versus not providing them Improve bus journey times Improved connection to train station and bus station Improve reliability of journey times
	To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland	Reduction in congestion in Carrick-on-Shannon Reduction in traffic volumes Trip Capacity across the River Shannon
Integration	To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips	Reduction of traffic volumes Increase in walking and cycling infrastructure
	To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities.	Journey Time Reliability for all modes of transport Improvement in journey times of all modes of transport Level of compliance with plans and policies
	To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies.	Level of compliance with plans and policies

Criteria	Scheme Specific Objective	KPI
Physical Activity	To enable walking and cycling opportunities in a safer environment for the communities along the corridor	Reduction of traffic volumes Increase in walking and cycling infrastructure Reduction in congestion in Carrick-on-Shannon Improved urban realm - better environment for pedestrians, cyclists etc.
	To create a healthy environment conducive to active travel for the communities along the corridor	Improvement in air quality Reduction in noise pollution

To support the delivery of the National Planning Framework (NPF) including the ten National Strategic Outcomes (NSO), the National Investment Framework for Transport in Ireland (NIFTI) establishes four Investment Priorities: Mobility of People and Goods in Urban Areas, Protection and Renewal, Enhanced Regional and Rural Connectivity and Decarbonisation as seen in Figure 1. Future transport projects must align with these priorities to be considered for funding and to ensure future investment will support the delivery of the National Planning Framework.

Table 2.2 below outlines how the project objectives strategically align with the NIFTI Investment Priorities, and how potential negative impacts against one or more of the NIFTI Investment Priorities will be mitigated.

National Investment Framework for Transport in Ireland Investment Priorities



Figure 1: NIFTI Investment Priorities

Table 2.2 Project Objectives and NIFTI Investment Priorities

Criteria	Scheme Specific Objective	Alignment with NIFTI Investment Priorities	Mitigation where not aligned
Economy	To provide a reliable transport system over the N4 corridor extents under consideration and to contribute to efficient connectivity between the Northern and Western Regions with Dublin and the Eastern and Midland Regions to balance regional development. To provide a solution that offers good value for money and reduce the cost of travel. To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i>. The current N4 is part of the TEN-T comprehensive network, but this section of the corridor is stymying sustainable transport measures in the urban areas of Carrick-on-Shannon and Cortober, which is dependent on the completion of the bypass to release the existing streets for more sustainable modes.	Any amount of new construction would have a negative impact on the Decarbonisation priority. To mitigate this any potential solution must seek to enable active travel and public transport usage, whilst also maximising reuse of the existing infrastructure, to achieve the NIFTI priority of ensuring the resilience of the most strategically important parts of the network.
		Strongly aligns with <i>Protection and Renewal</i>. The existing national road asset will be reutilised to the largest degree possible which will minimise unnecessary journey length and thus offer value for money.	
		Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i> as seeks to provide connectivity to the northwest region and address the bottleneck caused by the River Shannon bridge crossing, thus fostering economic competition and efficiency, as well as ensuring reliable access to amenities and essential services.	
		Moderately aligns with <i>Decarbonisation</i>. A reliable transport system by its nature will provide the most appropriate solution for each trip. As such it will be a holistic transport solution which makes sustainable modes an attractive option.	
Safety	To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extents under consideration supporting the RSA Road Safety Strategy 2021-2030.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i> as seeks to reduce the conflict for vulnerable road users and thus enable sustainable mobility.	Full alignment with all four priorities and no mitigation required.
		Strongly aligns with <i>Protection and Renewal</i>. The existing N4 has almost 200 private direct accesses onto it and is the singular piece of infrastructure for all modes across the River Shannon. The renewal of the existing N4 over the project extents represents a key	

Criteria	Scheme Specific Objective	Alignment with NIFTI Investment Priorities	Mitigation where not aligned
	To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore.	enabler in enhancing active travel provision and the rationalisation and removal of many conflict points. Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i>. Delivery of the N4 will ensure that existing safety deficiencies of the multiple accesses are addressed, thereby facilitating safe, accessible, reliable and efficient travel on the network connecting the regions. Moderately aligns with <i>Decarbonisation</i>. Supportive of the investment priority to decarbonise through the project's commitment to provide safer conditions for active travel, which is necessary to promote modal shift to sustainable transport alternatives.	
Environment	To provide opportunities to enhance the local amenity and heritage value of the area. To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan. To minimise impacts on designated Natura 2000 sites in the vicinity of the study area. To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon. The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i> as seeks to reduce traffic and associated air quality impacts, plus noise levels in urban areas. This will restore the attractiveness of these areas for urban living and sustainable mobility. Moderately aligns with <i>Protection and Renewal</i> as seeks to maximise the reuse of existing N4 and minimise new construction and associated impacts on local watercourses, ecological sites and floodplains. Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i> as a reduction of traffic related impacts on the settlements and single dwellings along the N4 leads to an enhancement of regional and rural connectivity. Moderately aligns with <i>Decarbonisation</i>. Reducing traffic related impacts on existing communities is an integral element in enabling more sustainable development and mobility patterns to thrive in such areas – a key necessary step in decarbonisation which the existing route hinders. Alignment with the Climate Action Plan is wholly supportive of this NIFTI priority.	Mitigation is already included in the environmental objectives as maximising the reuse of the existing N4 will seek to minimise conflict with the <i>Protection and Renewal</i> and <i>Decarbonisation</i> priorities. Any new construction in the vicinity of the settlements to reduce air and noise impacts will be mitigated by enabling active travel and public transport in the settlements.

Criteria	Scheme Specific Objective	Alignment with NIFTI Investment Priorities	Mitigation where not aligned
Accessibility and Social Inclusion	Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i> as seeks to reduce traffic volumes within communities currently severed by the N4 in particular Carrick-on-Shannon and Cortober, thus ensuring easier, safer access to community facilities and amenities, especially for vulnerable road users.	No further mitigation is required.
	To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon.	Strongly aligns with <i>Protection and Renewal</i> as seeks to enable a renewal of Carrick-on-Shannon and Cortober as places for living and sustainable mobility – becoming vibrant communities.	
	Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities.	Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i> as improvement in access to key facilities removes the current stifling of connectivity in the local area as well as regionally.	
	To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland.	Strongly aligns with <i>Decarbonisation</i> as the improvement of accessibility of active modes and sustainable travel are critical to achieving decarbonisation targets.	
Integration	To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i> as seeks to encourage sustainable trips in Carrick-on-Shannon and Cortober, enabling integration with all transport modes in the urban areas.	To offset the impacts of new road construction on the <i>Decarbonisation</i> priority, the existing N4 will be optimised and reused to the maximum extent to ensure minimal additional kilometres are travelled in the final scheme, thus minimising
	To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the	Strongly aligns with <i>Protection and Renewal</i> as seeks to enable a renewal of Carrick-on-Shannon for sustainable mobility whilst also promoting the improvement and optimisation of the existing N4 to a high-quality link.	
		Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i> as improvement and optimisation of the existing N4 to a high-quality link will support enhanced connectivity as well as provide better regional public transport connectivity for busses.	

Criteria	Scheme Specific Objective	Alignment with NIFTI Investment Priorities	Mitigation where not aligned
	wider region, integrating with regional public transport facilities. To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies.	Moderately aligns with <i>Decarbonisation</i> as the TEN-T policy aims to promote efficient, safe and environmentally friendly mobility via the provision of a high-quality strategic road for the N4. This could lead to additional new road construction, but this should also be viewed in the context of the enabling of more sustainable modes by the segregation of strategic trips from local trips both in the urban settlements and the rural area.	operational carbon emissions increase. New construction will be targeted specifically in areas to promote sustainable mobility for shorter trip lengths.
Physical Activity	To enable walking and cycling opportunities in a safer environment for the communities along the corridor. To create a healthy environment conducive to active travel for the communities along the corridor.	Strongly aligns with <i>Mobility of People and Goods in Urban Areas</i> as the objective of enhancing walking and cycling opportunities aligns with this NIFTI priority. The provision of an integrated transport network along desire lines between population centres, community facilities and employment centres will improve mobility of people in urban areas.	No further mitigation is required.
		Strongly aligns with <i>Protection and Renewal</i> . as currently the N4 does not make safe provision for active travel especially in the rural area. The optimisation and improvement to the N4 will seek to redress this to make provision for active travel journeys to key employment area along the predominant desire line for such trips.	
		Strongly aligns with <i>Enhanced Regional and Rural Connectivity</i> as the provision of an integrated active travel network seeks to ensure a sustainable alternative to private car transport is delivered as an integral component of the scheme.	
		Moderately aligns with <i>Decarbonisation</i> as the improvement of accessibility of active modes are critical to achieving decarbonisation targets.	

3 Alternatives and Option Development Methodology

Phase 2, comprising option development, follows the methodology as set out in TII PMG, document reference *PE-PMG-02042 Project Manager's Manual for Major National Road Projects* and TII PAG Unit 4, as set out in the following steps:

1. Identify a suitable study area for the examination of all alternatives and options derived from Phase 1. The study area will be much wider than the broad suite of potential alternatives and options identified in Phase 1 to take cognisance of the zones of influence associated with these alternatives and options.
2. Identify all key constraints, at an appropriate level of detail, within the study area such that alternatives and options under consideration can be designed taking cognisance of such constraints in the first instance.
3. Undertake Public Consultation No. 1 on 'constraints' to ensure stakeholder engagement as part of the constraints mapping.
4. Once constraints are identified, all reasonable and feasible alternatives and options capable of meeting the project objectives are identified from a long list of potential alternatives and options. This is referred to as the sifting of the long list of alternatives and options and is documented in this report.
5. The desire lines and demand are assessed within the study area so that feasible alternatives are developed in response to the demand using the most appropriate and sustainable mode. Some of these alternatives may be insufficient to meet the project objectives in isolation but can be useful to address different aspects of the project's objectives.
6. The first option to be identified is the Do-Minimum Option (referred to as the Base Case within the CAF) as it provides the baseline for establishing the economic, integration, safety, environmental and accessibility impacts of all other options. The Do-Minimum Option will include those transportation facilities and services that are committed within the appraisal period.
7. An incremental approach should be adopted when considering options.
8. An option which seeks to maximise the use of the existing asset referred to as a Management Option needs to be included as the first Do-Something Option if feasible.
9. Options must be significantly different and take account of potential differences in alignment, design standard and junction strategy. Significant differences in the likely costs and benefits of options would require the alignments to be treated as separate options.

3.1 Sifting Process Methodology

Within the study area, a data collection exercise was undertaken to establish a baseline of the receiving environment from which to identify constraints and opportunities which would influence the identification and subsequent assessment

of potential alternatives and options. The development of alternatives and options took cognisance of the mapped key constraints whilst also seeking to optimise the opportunities identified such as the trip attractors in the study area and the possibility of integrating with or providing for public transport and active modes. The conclusion of the sifting process is to advance a number of alternatives and options to the Option Selection Process. The methodology for determining if an alternative or option is screened in and will form part of the Stage 1 Preliminary Assessment is set out below in Sections 3.1.1 and 3.1.2.

3.1.1 Alternatives Sifting Methodology

Alternatives were identified which could deliver on the smarter travel objectives, namely active travel, improve public transport and demand management measures. The alternatives generally can deliver on many of the objectives in respect of climate resilience and sustainable development but may not be capable, if considered in isolation, of solving the problems identified in Phase 1. Therefore, the alternatives are advanced past this sifting exercise for consideration at Stage 1 Preliminary Assessment so that their merits can be established, and they then can be combined with other options to provide a holistic solution.

3.1.2 Options Sifting Methodology

Options which serve key trip attractors such as Carrick-on-Shannon / Cortober at the local level and the Dublin / Sligo strategic route at the national level were identified. These options may also provide opportunity for interchange with other transport modes or active travel modes as part of developing an integrated transport solution which meets the project objectives.

The steps below were followed for the Options Sifting Process:

1. Identify a long list of geometrically feasible options which connected the N4 at the western end of the study area to the N4 at the eastern end of the study area.
2. Assess these options at a high level to screen them depending on their ability to meet the project objectives and the level of potential impacts associated with them.

The options which were considered as part of the previous studies on this N4 corridor were included in the long list of geometrically feasible options. However, it should be noted that there have been significant changes to policy and legislation both at a national and European level in the interim since the previous studies, such as the 2016 Catchment Flood Risk Assessment and Management (CFRAM) Programme and associated flood risk mapping, the 2017 EIA Directive, the 2019 National Planning Framework, the 2019 Climate Action Plan and the latest publication of the National Investment Framework for Transport in Ireland (NIFTI) (formally called Future Land Transport Investment Framework) to mention but a few. The Climate Action Plan states *‘the accelerating impact of greenhouse gas emissions on climate disruption must be arrested.....Decarbonisation is now a must if the world is to contain the damage and build resilience in the face of such a profound challenge’*. Current policies and legislation were taken into account in the sifting process.

An option was not screened out if it did not deliver on every project objective. However, particular consideration is given to the level of demand on an option as this determines how effective it will be in relieving the congestion in Carrick-on-Shannon / Cortober, whilst also considering constraints of international importance, which include biodiversity and climate change. Options which are not feasible and practical from the perspective of delivering on the over-riding project objectives of solving the problems identified, whilst also adhering to the essential shift towards climate resilient and sustainable development, are removed from further consideration in the sifting process.

The alignment of the project objectives with the four Investment Priorities of NIFTI is set out in **Table 2.2**. Therefore, the sifting of options against these project objectives ensures that the output of the sifting process aligns with the NIFTI Investment Priorities. Thereafter, a check is undertaken on the output of the sifting process, i.e. the potential feasible options, on alignment with the modal and intervention hierarchies within NIFTI in Section 5.3.

3.2 Option Selection Process

During Phase 2 it is necessary to establish whether, at face value, a sufficient case exists for considering a project in more depth, that is, progression to Phase 3 Design and Environmental Evaluation. Once the sifting of the long list of options has been completed, the Option Selection process is a three-stage process as outlined within TII Project Appraisal Guidelines (PAG) Unit: 4.0 namely:

- Stage 1 – Preliminary Options Assessment, develop a number of feasible options and carry out a Multi-Criteria Analysis (MCA) under the assessment criteria of Engineering, Environment and Economy. This will result in a refined number of options (minimum of 4, Do-Nothing or Do-Minimum and a least 3 Do-Something Options).
- Stage 2 – Project Appraisal Matrix, carry out a full Cost Benefit Analysis (CBA) and MCA of the quantifiable and non-quantifiable impacts of these options (under the six CAF Criteria of Economy, Safety, Environment, Accessibility & Social Inclusion, Integration and Physical Activity).
- Stage 3 – Preferred Option after the completion of Stage 2, select a Preferred Option for the Scheme. Following this, prepare a Project Appraisal Balance Sheet (PABS) to summarise the impact of the Preferred Option.

4 Output of Sifting Process

4.1 Do-Nothing and Do-Minimum

The Do-Nothing Option is the scenario whereby there is no intervention on the proposed network. This Option does not exist in the case of the N4 Carrick-on-Shannon to Dromod Project as there are already planned and committed projects in the locality. Hence it is not considered further.

The Do-Minimum Option considers all of the projects that are already committed in the vicinity of the study area and this forms the base case against which all options are assessed. The committed schemes under construction and in planning are shown on **Figure 2**. A full list of the planned and committed schemes was obtained from consultation with various stakeholders and are included in **Table 4.3**. A strikethrough is shown on those schemes which are planned but not committed and these are omitted from consideration as part of the Do-Minimum Option.

Table 4.3 Planned and Committed Schemes

Ref. No.	Scheme Title
1	Active Travel - Grey way along L1601 (old N4) from Roosky to Dromod extending to Junction at Fearnaght
2	Carrick-on-Shannon to Battlebridge Blueway
3	Hartley Bridge
4	Carrick-on-Shannon CFRAM Works
5	Public Realm Works in Carrick-on-Shannon town centre
6	N4 Fence Retrofitting Scheme 2020
7	N4 Fearnaght Shared Footpath /Junction Improvement
8	Pavement Overlay from Carrick-on-Shannon Bridge to Attifinlay Roundabout completed in 2019.
9	Pavement overlay from R201 junction with N4 to Jamestown Junction with N4 – in 2020 – approximately 5km
10	Resurfacing works were carried out on the R299 in 2020
11	Destination Towns
12	National Cycle Network 2010*
13	Roosky River Shannon Bridge Upgrade*
14	Footpath Extension along Castlecara Road to Rugby Pitches
15	Project RN/21/0005 Cortober footpath construction
16	Project RN/21/0019 - Jamestown to Drumsna Greenway
17.a	LM/21/0005 - Footpath Package D: Carrick-on-Shannon, Rooskey, Dromod (Provide 170m of footpath along outside of Arus, creation of a loop with the new boardwalk along Emerald Star)
17.b	LM/21/0005 - Footpath Package D: Carrick-on-Shannon, Rooskey, Dromod (Footpath widening works along St. Patricks Park to provide for walking/cycling)
17.c	LM/21/0005 - Footpath Package D: Carrick-on-Shannon, Rooskey, Dromod (Annaduff, provide new footpath to link school with the village along local road L-3470. (No allocated funding this year)
17.d	LM/21/0005 - Footpath Package D: Carrick-on-Shannon, Rooskey, Dromod (Carrick on Shannon to connect Church Lane and St. Marys Close with town centre, continuation of Urban Realm project, €20,000 for this year, only covering undergrounding of services)
17.f	LM/21/0005 - Footpath Package D: Carrick-on-Shannon, Rooskey, Dromod (Footpath linking Dromod Roundabout with Cloonturk church (this maybe outside scope of N4 Carrick Project)
18	LM/21/0011 - Light Segregation Cycle Schemes

*Note: Schemes marked strikethrough and with an asterisk * are removed from consideration in the transport appraisal as not committed schemes.*

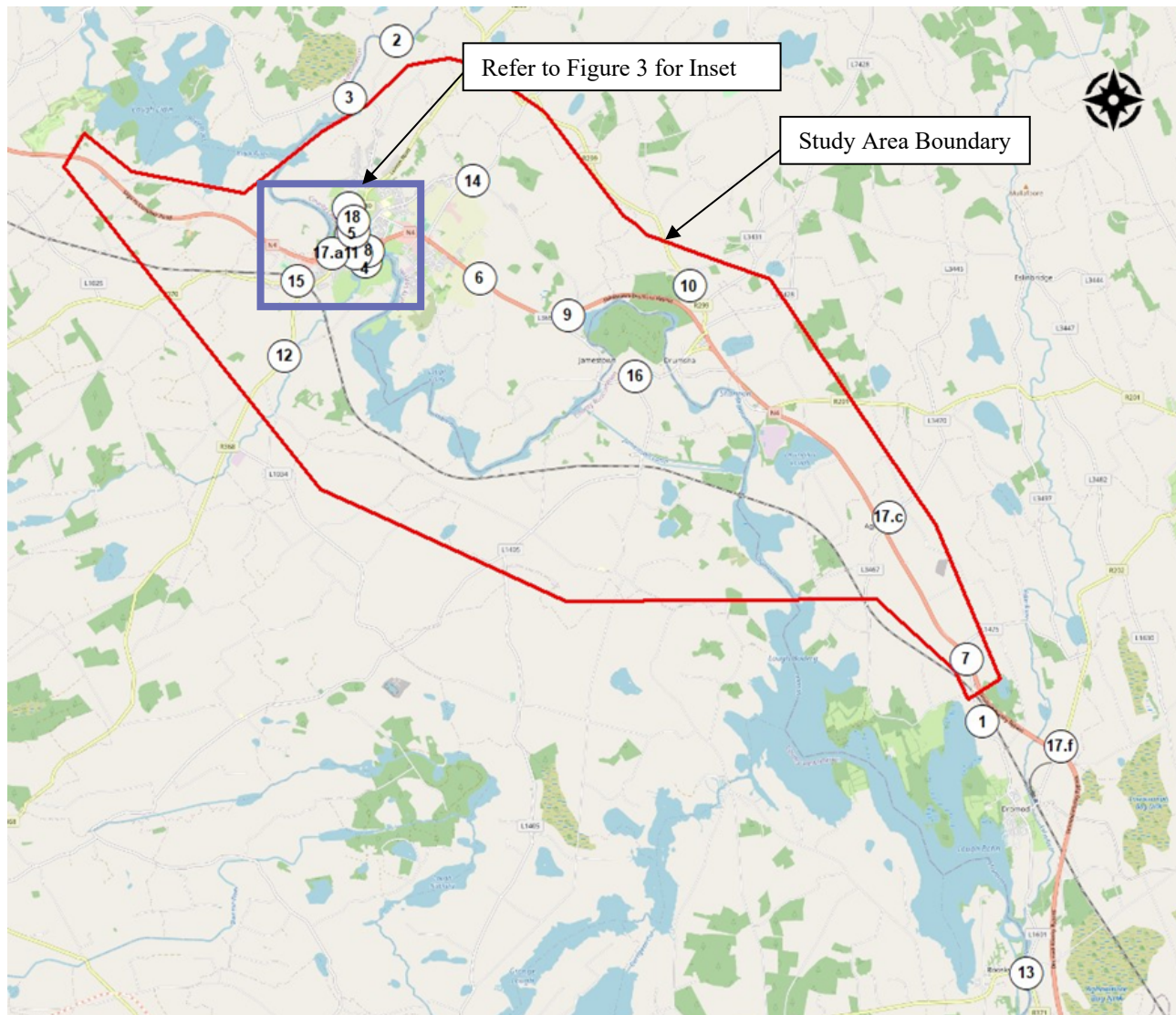


Figure 2 Committed Schemes within the Study Area

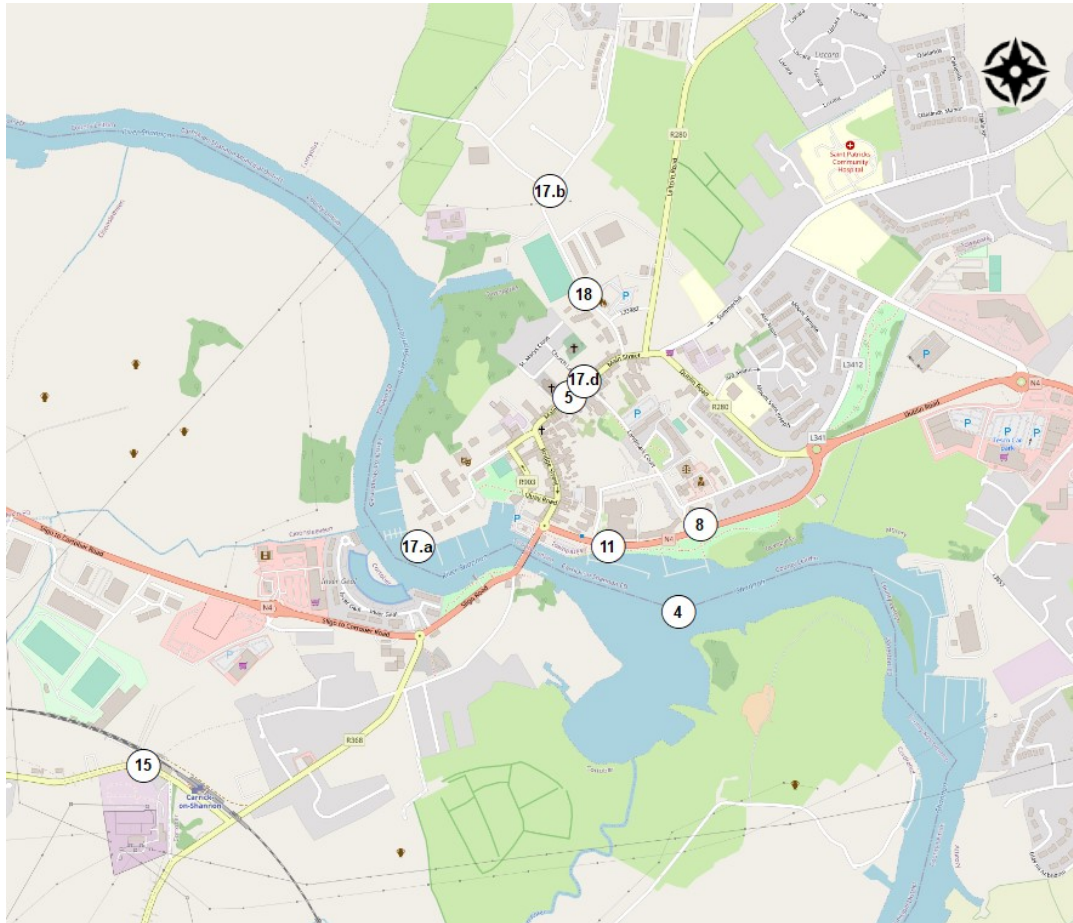


Figure 3 Committed Schemes within Carrick-on-Shannon and Cortober

4.2 Long List of Alternatives and Options

The long list of alternatives and options which are subject to assessment against the project objectives are set out below. Some of these are sifted out and are not progressed to Stage 1 – Preliminary Options Assessment.

Do-Nothing

Do-Something Alternatives

- Active Travel Initiatives
- Public Transport Alternatives including bus and rail
- Demand Management Alternative

Do-Something Options

- Do-Minimum Option
- Management Option
- Do-Something Road Based Options – West of Drumsna
 - Dark Green Option
 - Purple Option
 - Option 3
 - Black Option
 - Orange Option
 - Cyan Option
 - Option 7
 - Option 8
 - Option 9
- Do-Something Road Based Options – East of Drumsna
 - Option 10
 - Purple Option
 - Green Option
 - Yellow Option
 - Option 14

Refer to **Figure 4** for details of the option locations.

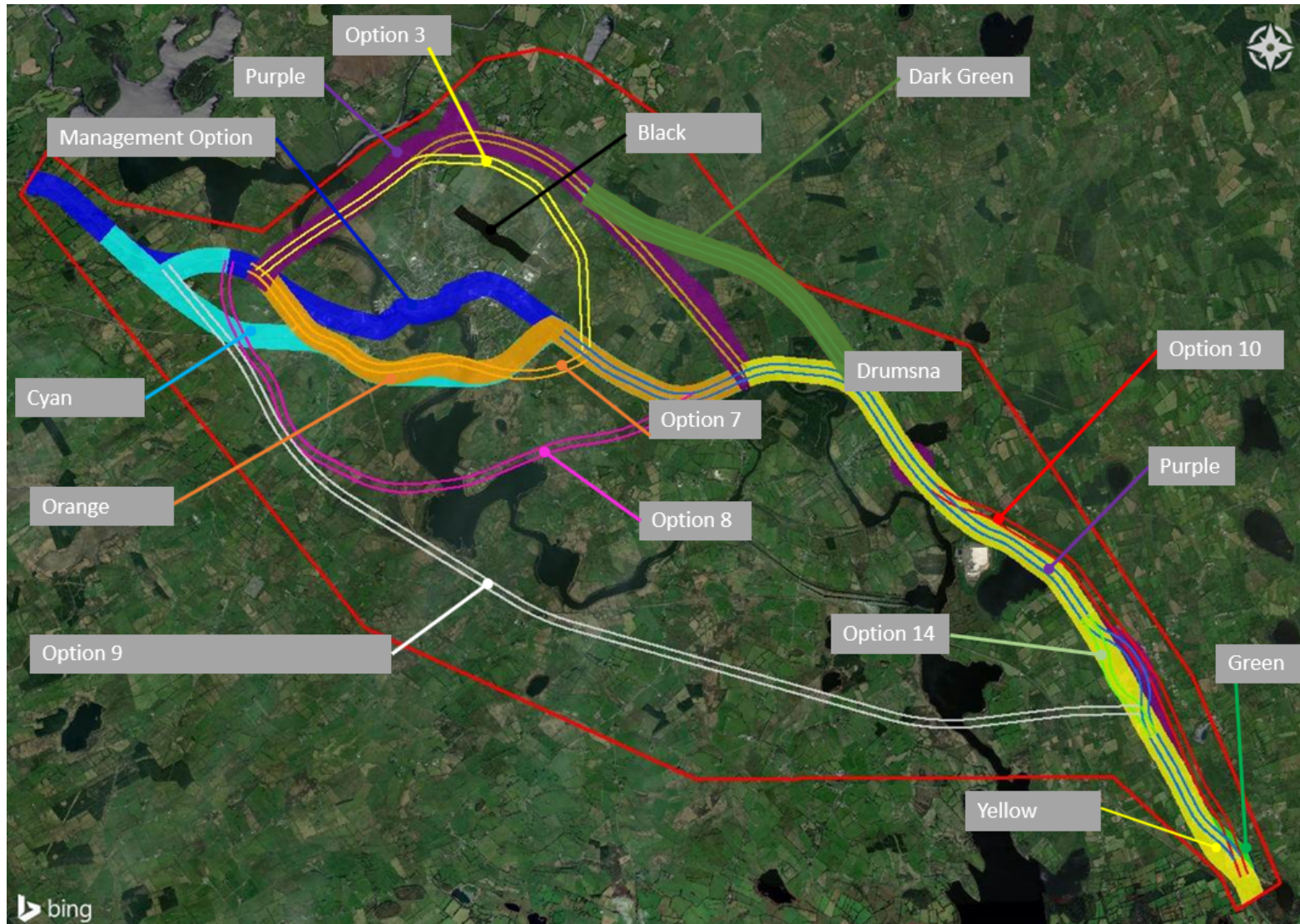


Figure 4 Long List of Road Based Options

5 Multi Criteria Analysis (MCA) Framework

A multi criteria analysis (MCA) of the alternatives and options has been undertaken. A spreadsheet, contained in **Appendix A**, assesses each alternative/option against the specific project objectives outlined in **Table 2.1**. The results are summarised and the specific objectives that are not met are highlighted in red.

Based on this MCA a number of options have been discounted and do not form part of the Stage 1 Preliminary Options Assessment due to their inability to meet the defined project objectives, noting that the project objectives have been aligned to NIFTI which in turn ensures delivery of the NSOs defined in the National Planning Framework .

5.1 Discounted Alternatives and Options

The following options have been discounted and are eliminated from further consideration:

Do-Nothing

Do-Something Road Based Options

- Option 3
- Option 7
- Option 8
- Option 9
- Option 10
- Option 14

5.2 Stage 1 Alternatives and Options

The following alternatives and options have been brought through to Phase 2 – Stage 1 Options to undergo the Preliminary Assessment:

Do-Something Alternatives

- Active Travel Initiatives
- Public Transport Alternatives including bus and rail
- Demand Management Alternative

Do-Something Options

- Do-Minimum - This is the Base Case and will be kept for comparison purposes only
- Do-Something Road Based Options - West of Drumsna
 - Blue West Option

- Dark Green Option
- Purple West Option
- Black Option
- Orange Option
- Cyan Option
- Do-Something Road Based Options - East of Drumsna
 - Blue East
 - Purple East Option
 - Green Option
 - Yellow Option

5.3 Alignment of the Alternatives and Options with NIFTI Modal and Intervention Hierarchies

The NIFTI investment priorities are “*supplemented by two principles-based Hierarchies which will ensure that the most sustainable means of delivering a given transport project is selected*”; Modal Hierarchy and Intervention Hierarchy.

The Modal Hierarchy ranks Active Travel and Public Transport above Private Vehicles. A road based option can also align with tiers 1 and 2 of the Modal Hierarchy if it serves to reduce the traffic in the urban area to enable Active Travel, and/or facilitates inter-city public transport to use the road.

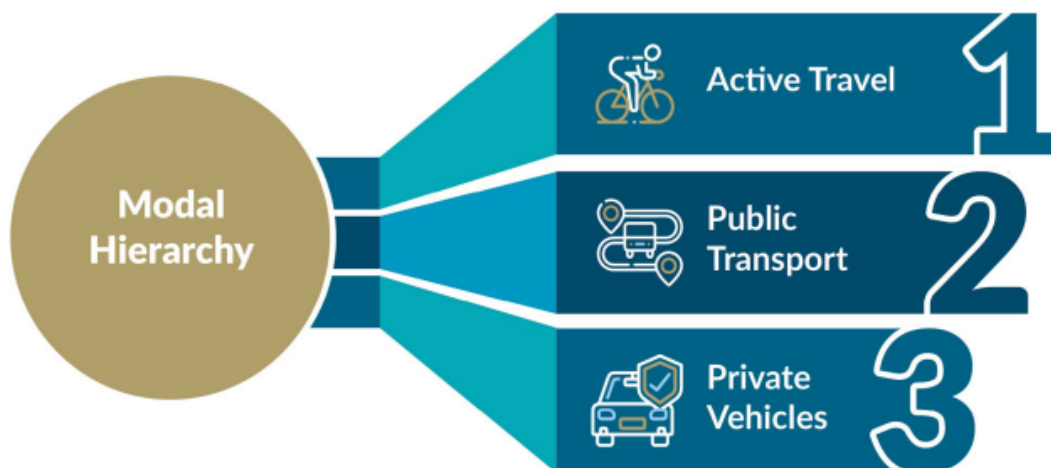


Figure 5: NIFTI Modal Hierarchy

The Intervention Hierarchy starts with maintenance of existing assets. Following this, the hierarchy ranks to Optimise and to Improve the existing above building new infrastructure. Each of the options align with different hierarchies and different tiers of the hierarchies, with some options aligning with more than one tier, as set out below.



Figure 6: NIFTI Intervention Hierarchy

5.3.1 Active Travel Initiatives

Active Travel Initiatives align with the first tier of the Modal Hierarchy, by providing a comprehensive cycling network and improving facilities for pedestrians. Permeability within the town would also be increased and some streets would be pedestrianised.

5.3.2 Public Transport Alternatives

This alternative aligns with the Public Transport tier of the Modal Hierarchy. This alternative would see an enhanced Public Transport Network linking nearby urban settlements with Carrick-on-Shannon and key trip attractors in the town by increasing the frequency of both bus and rail services.

5.3.3 Demand Management Alternative

The demand management alternative aligns with both the Active Travel and Public Transport tiers of the Modal Hierarchy as this alternative would discourage the use of private vehicles within the town allowing more space for pedestrians, cyclists, and public transport.

5.3.4 Do-Minimum

This is the Base Case and will be kept for comparison purposes only. However, this option would seek to simply upkeep maintenance on the existing road infrastructure, which would align with the first tier of the Intervention Hierarchy. This would not align well with tiers 1 and 2 of the Modal Hierarchy as it will not enable better provision of Active Travel or public transport facilities as the N4 is already a very constricted space in the urban area, and there are minimal facilities in the rural area.

5.3.5 Blue West Option

This option forms the Management Option and considers interventions on the existing infrastructure to address the identified transport problems and so aligns primarily with the second tier of the Intervention Hierarchy. Some new infrastructure would also be required however, which would fall under tier 4, New. There is minimal alignment of this option with tiers 1 and 2 of the Modal Hierarchy as it will not enable better provision of Active Travel or public transport facilities.

5.3.6 Cyan Option

The Cyan Option includes both a local bypass of Carrick-on-Shannon and an on-line upgrade of the existing N4 from Attirory to Drumsna, aligning with tiers 2,3 and 4 of the Intervention Hierarchy. It also aligns with tiers 1 and 2 of the Modal Hierarchy as the reduction of traffic in the urban area enables Active Travel and makes provision for the inter-city public transport.

5.3.7 Orange Option

The Orange Option also includes both a local bypass of Carrick-on-Shannon and an on-line upgrade of the existing N4 from Attirory to Drumsna, aligning with tiers 2,3 and 4 of the Intervention Hierarchy. It also aligns with tiers 1 and 2 of the Modal Hierarchy as the reduction of traffic in the urban area enables Active Travel and makes provision for the inter-city public transport.

5.3.8 Purple West Option

This option consists of an off-line bypass of Carrick-on-Shannon and a short on-line upgrade of the existing N4 from Tully to Drumsna, which aligns with tiers 2,3 and 4 of the Intervention Hierarchy. It also aligns with tiers 1 and 2 of the Modal Hierarchy as the reduction of traffic in the urban area enables Active Travel and makes provision for the inter-city public transport.

5.3.9 Dark Green Option

This option comprises a wholly off-line bypass of Carrick-on-Shannon which falls under tier 4 of the Intervention Hierarchy. It also aligns with tiers 1 and 2 of the Modal Hierarchy as the reduction of traffic in the urban area enables Active Travel and makes provision for the inter-city public transport.

5.3.10 Black Option

This option comprises a new urban street and would be designed for all modes to accommodate walkers, cyclists, and motorised users. Therefore, this option aligns with Modal Hierarchy tier 1 and tier 4 of the Intervention Hierarchy.

5.3.11 Blue East Option

This option forms the Management Option and considers interventions on the existing infrastructure to address the identified transport problems and so aligns primarily with the second tier of the Intervention Hierarchy. However, some new infrastructure would also be required.

5.3.12 Yellow Option

The Yellow Option seeks to optimise and improve as much of the existing N4 from Drumsna to Faulties as possible, however, some new infrastructure will be required to achieve this and so this option aligns with tiers 2, 3, and 4 of the Intervention Hierarchy.

5.3.13 Green Option

The Green Option seeks to optimise and improve as much of the existing N4 from Drumsna to Faulties as possible, however, some new infrastructure will be required to achieve this and so this option aligns with tiers 2, 3, and 4 of the Intervention Hierarchy.

5.3.14 Purple East Option

The Purple East Option seeks to optimise and improve as much of the existing N4 from Drumsna to Faulties as possible. Additionally, this option includes a local bypass of Aghamore. Therefore, this option aligns with tiers 2, 3, and 4 of the Intervention Hierarchy.

Table 5.4 below summaries where each option aligns with the Modal and Intervention Hierarchies as outlined in IFTI. It should be noted that selection of a preferred transport solution could comprise a combination of the alternatives and options.

Table 5.4: Summary of Alignment with NIFTI Hierarchies

Do-Something Alternatives	Hierarchy	Tier
Active Travel Initiatives	Modal	1
Public Transport Alternatives including bus and rail	Modal	2
Demand Management Alternative	Modal	1, 2
Do-Something Options		
Do-Minimum	Intervention	1
Do-Something Options – West of Drumsna		
Blue West Option	Intervention	2, 4
Cyan Option	Modal / Intervention	2,3,4
Orange Option	Modal / Intervention	2,3,4

Do-Something Alternatives	Hierarchy	Tier
Purple West Option	Modal / Intervention	2,3,4
Dark Green Option	Modal / Intervention	4
Black Option	Modal / Intervention	1 / 4
Do-Something Options – East of Drumsna		
Blue East Option	Intervention	2, 4
Green Option	Intervention	2, 3,4
Yellow Option	Intervention	2, 3,4
Purple East Option	Intervention	3, 4

6 Public Consultation No. 2 Submissions

Public consultation on the Stage 1 Alternatives and Options was undertaken from 19 May to 25 June 2021. During the course of the consultation, additional alternatives and options were identified by members of the public for consideration. These additional alternatives and options were assessed using the methodology as set out in Section 3 above to determine if such alternatives or options merit inclusion as a Stage 2 Alternative or Option.

6.1 Additional Alternatives Post Consultation No. 2

Although no new Alternatives arose from Public Consultation No. 2, a number of suggestions were made relating to the Stage 1 Alternatives: Active Travel Initiatives, Public Transport Alternatives and Demand Management Alternative. These suggestions are listed below.

- Upgrade the existing junction between the N4 and L7426 (Tully) to current safety standards
- Remove footpaths from the existing River Shannon Bridge
- Widen River Shannon Bridge
- Provide under/overpass for Anthony Trollope Trail to cross N4 near Drumsna
- Remove parking, pedestrianise some streets, and implement one-way streets to improve permeability within the town
- Traffic onto N4 inner relief road should not be allowed turn right i.e. all accesses should be left-in/left-out and use the roundabouts for turning
- Provide traffic lights throughout the town
- Leitrim village traffic (especially trucks) should be signposted to turn off at Drumsna coming from Dublin and Kiltoghert coming from Leitrim village, if they have no business in the town i.e. use the R299 to bypass Carrick-on-Shannon
- Replace the pedestrian crossing at the River Shannon Bridge with a bridge over the road
- Pedestrianise the town from Coffee's Shop at the River Shannon Bridge north along the R903 to Paddy's Bar, thus eliminating merging traffic onto the N4 at Coffee's Shop
- Only allow one-way traffic westbound up Cotober hill from Gings Pub
- Remove direct access onto N4 for service stations by amalgamating entrances along the N4

Many of these suggestions are relevant to more than one of the alternatives, for example, introducing traffic lights throughout Carrick-on-Shannon offers benefits for both the Active Travel Initiatives and Demand Management Alternative, and so these suggestions were not specifically grouped into one alternative or the other. However, it was deemed that none of these in isolation would meet the project

objectives. Therefore, the suggestions were retained for further consideration with the intention of supplementing another alternative or option during detailed design phase if appropriate.

6.2 Additional Options Post Consultation No. 2

The additional options identified in submissions made to the Public Consultation No. 2 process are presented on Figure 7 below and are described as follows:

- Do-Something Road Based Option – North of study area crossing of Lough Eidin and River Shannon crossing via new bridge at Hartley Bridge – Option 15
- Do-Something Road Based Option – Extend Black Option Corridor via Keenaghan Industrial Estate and tie back into existing N4 at Lisseeeghan – Option 16
- Do-Something Road Based Option via R368 –R368 via Elphin from Killukin to Strokestown – Option 17
- Do-Something Road Based Option via N5 Longford and N61 to Boyle – Upgrade the existing N5 and tie into and upgrade N61 – Option 18
- Do-Something Road Based Option - Double Railway Crossing south of Cortober– Option 19
- Do-Something Road Based Option - Upgrade to existing L7414 – Option 20
- Do-Something Road Based Option - Southern off-line bypass continuously adjacent to railway line – Option 21
- Do-Something Road Based Option - Northern off-line bypass along the boundary of study area (or beyond) – Option 22
- Do-Something Road Based Option - Introduce a roundabout at Faulties/Fearnaught and run a parallel road up to Aghamore – Option 23
- Do-Something Road Based Option - Upgrade to existing R299 – Option 24
- Do-Something Road Based Option – Add a connection from the R368, Elphin Road, to the southern Options – Option 25

These options were also subject to MCA to assess their ability to achieve the project objectives in **Appendix B**. The outcome of this MCA is presented in Section 7.

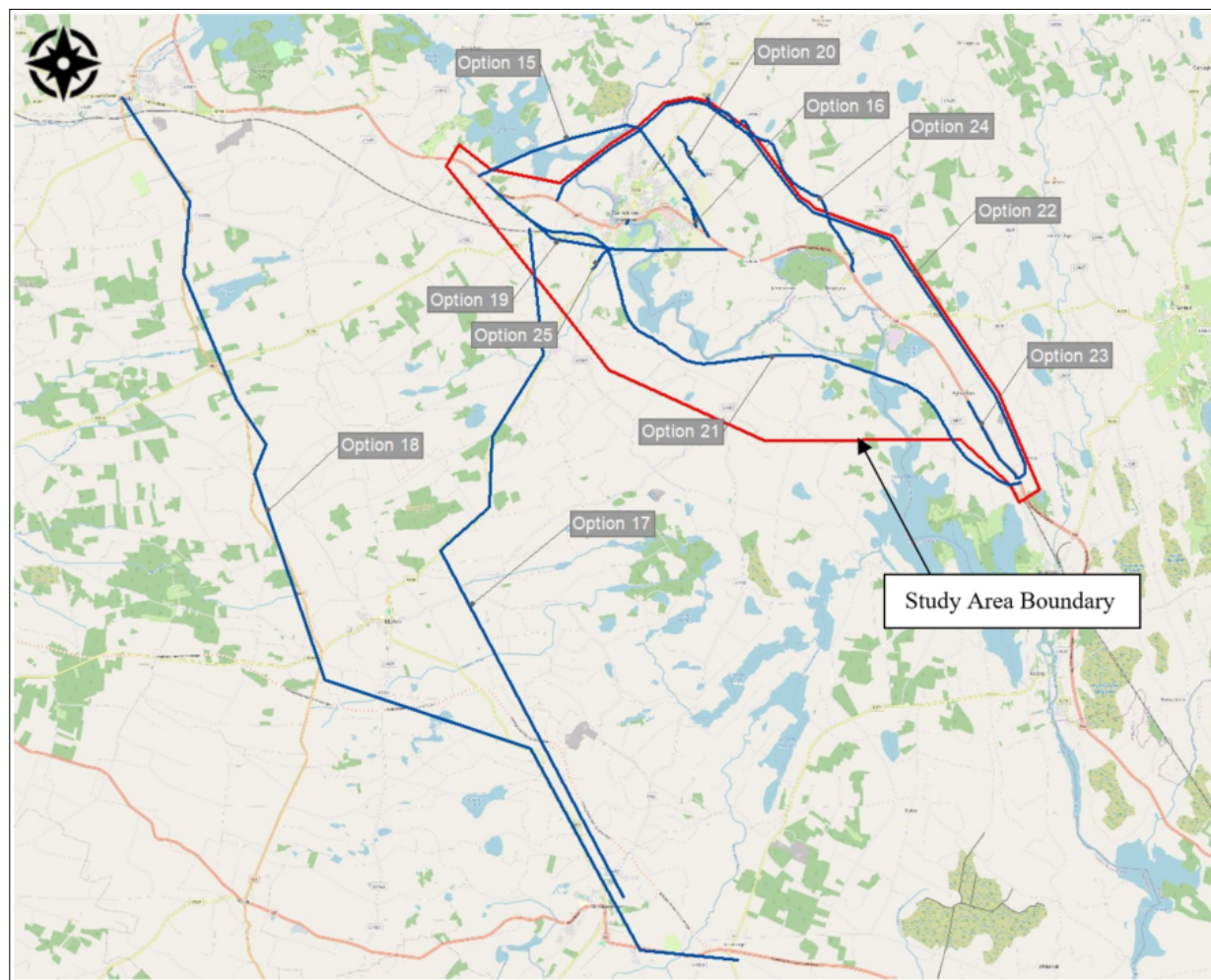


Figure 7 Additional Options Post Public Consultation No. 2

6.2.1 Multi Criteria Analysis (MCA) Framework of Additional Options Suggested in Public Consultation No. 2

A multi criteria analysis (MCA) of the additional options suggested in Public Consultation No. 2 has been undertaken. A spreadsheet, contained in **Appendix B**, assesses each option against the specific project objectives outlined in **Table 2.1**. The results are summarised and the specific objectives that are not met are highlighted in red.

Based on this MCA a number of options have been discounted and will not form part of the Stage 2 Options Assessment due to their inability to meet the defined project objectives. These are outlined in Section 6.3. Similarly, if the options do meet the project objectives and are deemed appropriate for further consideration and inclusion in the Stage 2 Options, these are outlined in Section 6.4.

6.3 Discounted Alternatives and Options from PC No. 2

The following options have been discounted and are eliminated from further consideration:

- Option 15
- Option 16
- Option 17
- Option 18
- Option 19
- Option 20
- Option 21
- Option 22
- Option 24

Refer to Appendix B for the assessment of each of these options against the specific project objectives.

6.4 Additional Options Post PC No. 2

The following options has been brought through to Phase 2 – Stage 2 Options for further assessment and consideration due to their merits in enhancing other options.

- Option 23
- Option 25

Refer to **Appendix B** for the assessment of these options against the specific project objectives.

7 Conclusion

Following the completion of the public consultation on the Stage 1 Alternatives and Options, the additional options identified by the public for consideration have been assessed. The two options which are brought through do not merit inclusion as new stand-alone Options in the Phase 2 – Stage 2 Project Appraisal Matrix assessment but are retained for their ability to further enhance an existing option.

Appendix A

Multi Criteria Analysis
Framework – Pre Stage 1
Preliminary Options Assessment

A1

Option Name
Cross-Section (Potential)
Description
Project Objectives
Economy:
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development
To provide a solution that offers good value for money and reduce the cost of travel
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal
Safety:
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore
Environment:
To provide opportunities to enhance the local amenity and heritage value of the area
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor
Accessibility and Social Inclusion:
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland
Integration:
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies
Physical Activity:
To enable walking and cycling opportunities in a safer environment for the communities along the corridor
To create a healthy environment conducive to active travel for the communities along the corridor

Bring Forward to Stage 2 Option Assessment

Do-Something Alternatives		
Active Travel Initiatives	Public Transport Alternative	Demand Management
Cycle & Footways	N/A	N/A
Yes By removing local trips in Carrick-on-Shannon from the strategic network, this will contribute to efficient connectivity and improve access to the Northern and Western Region	Yes By removing local car trips in Carrick-on-Shannon and the settlements in its hinterland from the strategic network, this will contribute to efficient connectivity and improve access to the Northern and Western Region	Yes By removing local trips in Carrick-on-Shannon from the strategic network, this will contribute to efficient connectivity and improve access to the Northern and Western Region
Yes	Yes	Yes
Yes, By facilitating placemaking and allowing the local area to create high quality public spaces tourism, the economic prospects will improve.	Yes, By improving public transport and reducing congestion and traffic	Yes, By removing local car trips and reducing congestion and traffic
Yes, option caters for needs of all road users, especially non motorised users and encourages more sustainable and safe trips, using appropriate infrastructure	Yes, option caters for needs of all road users, especially non motorised users and encourages more sustainable and safer trips	Yes, By removing local car trips and reducing congestion and traffic
Yes, option caters for needs of all road users, especially non motorised users and encourages more sustainable and safe trips, using appropriate infrastructure	Yes, By removing local car trips and reducing congestion and traffic	Yes, By removing local car trips and reducing congestion and traffic
Yes, By facilitating placemaking and allowing the local area to create high quality public spaces tourism and economic prospects will improve.	Yes, By removing local car trips and reducing congestion and traffic	Yes, By removing local car trips and reducing congestion and traffic
Yes, By removing local car trips and reducing congestion and traffic	Yes, By removing local car trips and reducing congestion and traffic	Yes, By removing local car trips and reducing congestion and traffic
Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution
Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution
Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution	Yes, By removing local car trips and reducing congestion and traffic and potential pollution
Yes	Yes	Yes
Yes	Yes	Yes
Yes	Yes	Yes
Not in isolation	Not in isolation	Not in isolation
Yes	Yes	Yes
Not in isolation	Not in isolation	Not in isolation
Yes	Yes, especially by serving the local communities with local bus services	Yes
Yes, very positive	Yes, very positive	Yes, very positive
Yes, very positive	Yes, very positive	Yes, very positive
Yes	Yes	Yes

Option Name
Cross-Section (Potential)
Description
Project Objectives
Economy:
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development
To provide a solution that offers good value for money and reduce the cost of travel
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal
Safety:
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore
Environment:
To provide opportunities to enhance the local amenity and heritage value of the area
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor
Accessibility and Social Inclusion:
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland
Integration:
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies
Physical Activity:
To enable walking and cycling opportunities in a safer environment for the communities along the corridor
To create a healthy environment conducive to active travel for the communities along the corridor

Bring Forward to Stage 2 Option Assessment

Do-Something Options	
Do-Minimum Option	Management Option
Committed Projects/Schemes	Online Improvements
Refer to Figure 1 in Document 274219-ARUP-02-OS-RP-CH-000001	Refer to Management Option Report 274219-ARUP-02-OS-RP-CH-000002
No This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4	Unlikely that this option alone can do enough to reduce the numbers of trips crossing the River Shannon on the N4 to allow efficient connectivity. It will create longer journey times as travel time through the urban centre will reduce.
No, this option cannot reduce the cost of travel as it does not improve the reliability of the N4 corridor. It is value for money in so far as it is low cost works designed to extend the life of the existing asset.	Yes, This option has the potential if demand management is successful in shifting the short vehicular journeys in the town of Carrick-on-Shannon to more sustainable modes.
No, this option does not provide opportunities to enhance tourism as it provides very little additional transport infrastructure. It is more maintenance and upgrades of existing asset.	Yes, By removing local car trips in the town, and thus reducing congestion.
No, this option does not address the safety issues over the N4 corridor under consideration. It has merits in its own right in the street network of Carrick-on-Shannon.	No, this option does not address all the safety issues over the N4 corridor under consideration but it does address the street network of Carrick-on-Shannon and does seek to reduce the accesses and junctions on the N4 which are contributory factor to collisions. It does not address sub-standard geometry and required overtaking sections.
No, this option does not address the issue of conflict between vulnerable road users in the town and the strategic traffic	Yes, this option addresses conflict between vulnerable road users in the town by providing safer crossing facilities. It will not reduce the strategic traffic through the town.
No	Yes
Yes - Compact growth supporting sustainable trips to/from school, around the local neighbourhoods, etc.	Yes - Compact growth supporting sustainable trips to/from school, around the local neighbourhoods, etc.
Yes	Yes
Yes	Yes
No	Yes, By reducing local car trips and reducing congestion and potential pollution in the town of Carrick-on-Shannon. It will do very little for the settlements along the corridor.
No	Yes, but to a lesser degree than other options.
No	Yes, but to a lesser degree than other options. As strategic traffic is still within the town
No	Yes, but to a lesser degree than other options. As strategic traffic is still within the town
No	No, this option will do little to support development of Carrick-on-Shannon as there is no new proposed crossing of the River Shannon
No	Yes
No	Yes
No	Yes
Yes, but to a much lesser extent than other options. Schemes 1, 5,7, 11 and 14 enable active travel opportunities	Yes
Yes, but to a much lesser extent than other options. Schemes 1, 5,7, 11 and 14 enable active travel opportunities	Yes
Yes, this is base for comparison of all options	Yes

Option Name
Cross-Section (Potential)
Description
Project Objectives
Economy:
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development
To provide a solution that offers good value for money and reduce the cost of travel
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal
Safety:
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore
Environment:
To provide opportunities to enhance the local amenity and heritage value of the area
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor
Accessibility and Social Inclusion:
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland
Integration:
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies
Physical Activity:
To enable walking and cycling opportunities in a safer environment for the communities along the corridor
To create a healthy environment conducive to active travel for the communities along the corridor

Bring Forward to Stage 2 Option Assessment

Do-Something Road Based Options - West of Drumsna			
Dark Green Option	Purple Option	Option 3	Black Option
	Corridor	Corridor	Street Links
Northern Offline Bypass of Carrick-on-Shannon	Northern Offline Bypass of Carrick-on-Shannon	Northern Offline Bypass of Carrick-on-Shannon	New Street Links to the north of Carrick-on-Shannon
Yes	Yes	Yes	Not in isolation This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4
Yes, but the 2021 Purple Option offers a shorter route which is more cost effective.	Yes	No, this option is through a historic landfill with potential for 131,700 tonnes of contaminated material, note potential for contamination/ remediation works to stabilise landfill thereafter and costly disposal of material.	Yes, in certain trips around Carrick-on-Shannon north-east quadrant.
Yes	Yes	Yes	Yes
Yes	Yes	Yes	No, this option does not address the safety issues over the N4 corridor under consideration. It has merits in its own right in the street network of Carrick-on-Shannon.
Yes	Yes	Yes	Yes
Yes, However, there are impacts on Demesne Landscape (splitting) and L&V character of Drumlins at Mount Campbell	Yes	Yes	Yes
Yes. It is less so than others in this area as this option is 1.5km longer of new construction than the Purple Option in this location thereby less sustainable. It has a significant impact on the landscape as passes directly through two substantial drumlins thus having a potential area of cut, which is significantly higher than for any other option, but also requires large fills for embankments, so it is balanced. However, significant earthworks is less aligned with the objective of sustainable development and CO2 emissions. 5.7km to R280 vs Purple 4.3km to R280.	Yes	Yes, this is a shorter route than the Purple Option, however, a street link (Black Option) which serves the traffic movement better for the R280 and Castlecarra and Dublin Roads, which is even shorter is preferable to this Yellow Option 6.3km overall - 3km to R280.	Yes - Compact growth supporting sustainable trips to/from school, around the local neighbourhoods, etc.
Yes	Yes	No, Potential for contamination from existing landfill.	Yes
Yes, but length of corridor to cross 2016 CFRAM mapped floodplains - 0.79km	Yes, but length of corridor to cross 2016 CFRAM mapped floodplains 0.79km	No, Disturbance of the landfill runs the risk of contamination of water quality from landfill to river (including drinking water abstraction) via groundwater pathways. Length of corridor to cross floodplains - 0.9km	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic alongside Shannon Walkways on Leitrim side of River Shannon.
Yes	Yes	Yes	Not in isolation
Yes	Yes	Yes	Yes
Yes	Yes, Distance from new Junction to train station approx. 2.4km	Yes	Not in isolation
Yes	Yes	Yes	Yes
Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.
Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes
Yes	Yes	No	Yes

	Do-Something Road Based Options - West of Drumsna				
Option Name	2021 Orange Option	2021 Cyan Option	Option 7	Option 8	
Cross-Section (Potential)	Orange Option	Cyan Option	Option 7	Option 9	
Description	Corridor	Corridor	Corridor	Corridor	
Southern Offline Bypass of Carrick-on-Shannon	Southern Offline Bypass of Carrick-on-Shannon	Southern Offline Bypass of Carrick-on-Shannon	Southern Offline Bypass of Carrick-on-Shannon	Southern Offline Bypass of Carrick-on-Shannon	Option to south of railway with 2 no. railway crossings
Project Objectives					
Economy:					
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development	Yes	Yes	Yes	Yes	Yes
To provide a solution that offers good value for money and reduce the cost of travel	Yes	Yes	Yes	No, there is a large proportion of the route through the floodplain requiring significant cost in relation to structures and earthworks (embankments) to ensure the road is outwith the floodplain. This option requires two crossings of the railway, and does not offer good value for money as the cost vs benefit will not stack up. There is a large proportion of the route 1.4km that will be required on concrete viaduct or embankment with culverts at close centres for conveyance of floodplain	No, The option does not offer good value for money as there is no reutilisation of the existing assets, as would be an entirely new route. The cost of travel could be reduced if a shorter journey overall, but this only applies for strategic traffic and not local needs. AADTs 1200 in Base Year so the costs vs benefit will not stack up for this option.
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal	Yes	Yes	Yes	Yes, will reduce traffic from key streets in Carrick-on-Shannon but not as effective as Orange Option, better than 2021 South of Railway Option - White Option	Yes
Safety:					
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020	Yes	Yes	Yes	Yes, To a lesser extent than the other options for ALL modes, as there will be less of a reduction in traffic through the town of Carrick-on-Shannon. So the vulnerable road users in the town will still be more at risk.	No, To a lesser extent than the other options for ALL modes, as there will be less of a reduction in traffic through the town of Carrick-on-Shannon. So the vulnerable road users in the town will still be more at risk.
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore	Yes	Yes	Yes	Yes, To a lesser extent than the other options for ALL modes, as there will be less of a reduction in traffic through the town of Carrick-on-Shannon. So the vulnerable road users in the town will still be more at risk.	Yes, To a lesser extent than the other options as there will be less of a reduction in traffic through the town of Carrick-on-Shannon.
Environment:					
To provide opportunities to enhance the local amenity and heritage value of the area	Yes	Yes	Yes	Yes, but there is unduly long engineering intervention to provide embankment/viaduct through low lying floodplains which could be unattractive in this landscape.	Yes
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan	Yes	Yes	Yes	No, There is a large proportion of the route (1.4km) through the floodplain requiring significant embodied carbon footprint in relation to structures and earthworks (embankments) to ensure the road is outwith the floodplain - Route length approx. 7.8km	No, there is minimal reuse of the existing asset that is the existing N4. This does not align with the core principles of sustainability to reduce waste, keep asset performing for as long as possible and regenerative use. None of the three principles of sustainability are applied on this option.
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area	Yes	Yes	No, this option has an impact on newly mapped Annex I habitat (Alluvial Woodland) at in the townland of Attirory. Alignment refined to create the Orange Option to minimise this impact	No, Higher potential for downstream contamination from silts during construction due to the extent of works required in or close to the river Shannon and its floodplains (Source, pathway, receptor: Risk is higher). The length of the structure is disproportionately higher on this than the other options, higher collision risk for wintering birds also.	No, Higher potential for downstream contamination from silts during construction due to the extent of works required in or close to the river Shannon and its floodplains (Source, pathway, receptor: Risk is higher). The length of the structure is disproportionately higher on this than the other options, higher collision risk for wintering birds also.
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon	Yes, but length of corridor to cross 2016 CFRAM mapped floodplains - 0.7km	Yes	No, but length of corridor to 2016 CFRAM mapped cross floodplains - 0.97km. Refined and minimised impact on floodplain by creating the Orange Option.	No. There is a large proportion of the route (1.4km) through the 2016 CFRAM mapped floodplain of the River Shannon, significant embankments and associated loss of floodplain storage downstream of Carrick-on-Shannon makes this option the least viable in terms of flood risk (potential to increase flood risk in the town)	No, but length of corridor to cross the CFRAM 2016 mapped floodplains - 1.1km of the River Shannon, significant embankments and associated loss of floodplain storage makes it unfavourable (potential to increase flood risk in the town)
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor	Yes	Yes	Yes	Yes, but to a lesser extent as there is less reduction of traffic through Carrick-on-Shannon and Cortober.	Yes, but to a lesser extent as there is less reduction of traffic through Carrick-on-Shannon and Cortober.
Accessibility and Social Inclusion:					
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network	Yes	Yes	Yes	Yes	No. It doesn't provide resilience to the trip attractors and generators in Carrick-on-Shannon. It does not improve their attraction to employment and education. It does not connect to public transport options either
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon	Yes	Yes	Yes	Yes	Yes, however this option will do less to support the place making in Carrick-on-Shannon as the level of traffic removed will be lower than other options. Therefore, the existing N4 through Carrick-on-Shannon needs to retain capacity for the necessary trips across the bridge. This leaves less opportunity for place making.
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	No this is too rural and too remote and disconnected from the population centre to meet this project objective
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland	Yes	Yes	Yes	Yes	No, this option will do little to support development of Carrick-on-Shannon as the new bridge will be too far away from it. The only improvement will be less traffic through it, but the new route will not do a lot for the town itself.
Integration:					
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips	Yes	Yes	Yes	Yes	No, Some sustainable trips likely in town due to reduced traffic levels, but the reduction is less than the other options. However, unlikely for this infrastructure to provide any usefulness itself for sustainable trips
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities	Yes, Distance from new Junction to train station approx. 2.4km	Yes, Distance from new Junction to train station approx. 3.5km	Yes, Distance from new Junction to train station approx. 3.5km	Yes	Yes
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies	Yes	Yes	Yes	Yes	Yes, This does not offer a societal gain specifically over this length of the N4. These communities in this area are not likely to be more integrated with this option, as they are not served by it. It is more the long distance traffic that is catered on this route.
Physical Activity:					
To enable walking and cycling opportunities in a safer environment for the communities along the corridor	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of creating a safer environment for walking and cycling.
To create a healthy environment conducive to active travel for the communities along the corridor	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes	Yes	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of improving noise and air impacts from traffic.
Bring Forward to Stage 2 Option Assessment	Yes	Yes	No	No	No

Option Name	Do-Something Road Based Options - East of Drumsna				
	Option 10	2021 Purple Option	Green Option	Yellow Option	Option 14
	Corridor	Purple Option Corridor	Corridor	Corridor	Corridor
Cross-Section (Potential)	Eastern Offline Bypass of full length of N4 from Faulties to Annaduff and Online Upgrade to Tully	Online upgrade with Eastern Bypass of Aghamore	Online Upgrade	Online upgrade and offline at Fernaught	Online upgrade with Western Bypass of Aghamore
Description					
Project Objectives					
Economy:					
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development					
To provide a solution that offers good value for money and reduce the cost of travel					
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal					
Safety:					
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020					
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore					
Environment:					
To provide opportunities to enhance the local amenity and heritage value of the area					
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan					
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area					
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon					
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor					
Accessibility and Social Inclusion:					
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network					
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon					
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities					
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland					
Integration:					
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips					
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities					
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies					
Physical Activity:					
To enable walking and cycling opportunities in a safer environment for the communities along the corridor					
To create a healthy environment conducive to active travel for the communities along the corridor					
Bring Forward to Stage 2 Option Assessment	No	Yes	Yes	Yes	No

Appendix B

Multi Criteria Analysis Framework – Post Public Consultation No.2 Alternatives and Options

B1

Do-Something Road Based Options - Feedback from Public Consultation No.2						
Option Name	Option 15	Option 16	Option 17	Option 18	Option 19	Option 20
Cross-Section (Potential)	Corridor	Corridor	Corridor	Corridor	Corridor	Corridor
Description	North of study area crossing of Lough Eidin and River Shannon crossing via new bridge at Hartley Bridge	Black Option should be extended east and link R280 into existing N4	Use R368 and upgrade (Killuken to Strokestown)	Use N5/N61 Boyle to Strokestown instead	Double Railway Crossing south of Cortober	Upgrade to existing link road between the Castlecarra and Leitrim Road at Cornamuckla (L7414)
Project Objectives						
Economy:						
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development.	Yes	Not in isolation This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4	No, completely remote from the study area	No, completely remote from the study area	Yes - This would deliver new road infrastructure However, introducing two new overhead crossings of the railway would negatively impact the railway line in terms of speed and safety. Railway underpasses are not an option in this area due to flooding.	Not in isolation This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4
To provide a solution that offers good value for money and reduce the cost of travel	No, the quantity of ground works and structures required to develop the proposed alignment will be extremely costly. The diverted length would be 8.1 km long as opposed to 4km along the existing N4, doubling all of the journey lengths.	No, it will disrupt the operations of the industrial estate, costing the business money, with no benefit to developing the N4. The existing Castlecarra Road already exists which can facilitate this movement and connection to the N4.	No, this would require a much longer construction length and does not solve the issues of congestion, delay and travel costs within the study area	No, this would require a much longer construction length and does not solve the issues of congestion, delay and travel costs within the study area	No, this option would require two crossings of the railway line. The costs associated with the earthworks required to allow for clearance over the railway line would not offer good value for money	No, the demand for the missing link at this location is far less than further south, on the Black Option, where sustainable trips can be made. This is too rural and too remote and disconnected from the population centre to meet this project objective
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal	Yes	No, it will disrupt the operations of the industrial estate, costing the business money, with no benefit to developing the N4	No, completely remote from the study area and doesn't provide any benefit to Carrick-on-Shannon with negligible reduction in traffic over the River Shannon Bridge	No, completely remote from the study area and doesn't provide any benefit to Carrick-on-Shannon with negligible reduction in traffic over the River Shannon Bridge	Yes	No, as impact will only be localised
Safety:						
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020	No, the extreme bend in the vicinity of the Hartley Bridge Crossing of the proposed route would have significantly reduced visibility, which could potentially increase the number of collisions as well as increase journey distance.	No, this option does not address the safety issues over the N4 corridor under consideration. It has merits in its own right in the street network of Carrick-on-Shannon.	No, this option does not address the safety issues over the N4 corridor under consideration. It may improve the safety of the R368, but this is not an objective for this scheme	No, this option does not address the safety issues over the N4 corridor under consideration. It only benefits the route from Boyle to Strokestown	Yes	No, this option does not address the safety issues over the N4 corridor under consideration. It has merits in its own right in the street network of Carrick-on-Shannon.
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore	Yes	Yes	No, The existing levels of traffic will remain as this option does not provide any meaningful reduction in traffic within these areas	No, The existing levels of traffic will remain as this option does not provide any meaningful reduction in traffic within these areas	Yes	No, this is too rural to attract sustainable trips
Environment:						
To provide opportunities to enhance the local amenity and heritage value of the area	No, this option crosses Lough Eidin and has high potential to impact local amenity on the lake	No, there are many small plots of land that will be affected as well as disruption to the industrial estate.	No, the proposed route suggests upgrading infrastructure completely outside the study area.	No, the proposed route suggests upgrading infrastructure completely outside the study area.	Yes	Yes
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan	No, the quantity of ground works and structures required to develop the proposed alignment will be extremely costly. The diverted length would be 8.1 km long as opposed to 4km along the existing N4, doubling all of the journey lengths as well as associated Carbon for construction.	Yes - Compact growth supporting sustainable trips to/from school, around the local neighbourhoods, etc.	Yes, improving existing infrastructure will reduce the impact a new project would have, however does not serve the purpose of improving the N4.	Yes, improving existing infrastructure will reduce the impact a new project would have, however does not serve the purpose of improving the N4.	Yes	Yes, reuse of existing assets, however does not encourage sustainable trip making
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area	No, high potential for downstream impacts due to quantity of works in the Lough and surrounding floodplains. All of this option to the west of Hartley Bridge is located within the 100 year flood plain (CFRAMS).	Yes	Close proximity to Annaghmore Lough (Roscommon) SAC, just north of Strokestown	Close proximity to Annaghmore Lough (Roscommon) SAC, just north of Strokestown	Yes	Yes
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon	No. All of this option to the west of Hartley Bridge is located within the 100 year flood plain (CFRAMS) or the Lough. This is not a feasible Option.	Yes	Yes	Yes for watercourses local to the option, however the option is completely remote from the study area .	Yes	Yes
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor	Yes, note noise sensitivity of Lough Eidin Lake which this option dissects	Yes	Yes	No, the option is remote from the existing corridor and less likely to attract enough traffic to reduce impacts on the existing N4.	Yes	Yes
Accessibility and Social Inclusion:						
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network	Yes	Yes	Yes	Yes, however this option is remote from the existing corridor and will not improve accessibility to such facilities within the study area	Yes	Yes
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon	Yes	Yes	No has no benefit to Carrick-on-Shannon	No has no benefit to Carrick-on-Shannon	Yes	No has no benefit to Carrick-on-Shannon
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic alongside Shannon Walkways on Leitrim side of River Shannon.	Yes, old N4 could be used to encourage sustainable trips, but will require investment to realise enhancement to facility	No, this option is remote from the existing corridor and less likely to attract enough traffic off of the existing N4 to encourage sustainable trips.	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.	No this is too rural and too remote and disconnected from the population centre to meet this project objective
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland	Yes	Not in isolation	No, this option will do little to support development of Carrick-on-Shannon as there is no new proposed crossing of the River Shannon	No, this option will do little to support development of Carrick-on-Shannon as there is no new proposed crossing of the River Shannon	Yes	No, this option will do little to support development of Carrick-on-Shannon as there is no new proposed crossing of the River Shannon
Integration:						
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips	No, this option will do little to support development of Carrick-on-Shannon as the new bridge will be too remote from the town and may encourage urban sprawl and encourage more private car use	Yes	No, this option will do little to support development of Carrick-on-Shannon as there is no new crossing of the river Shannon. The only improvement will be slightly less traffic through it, but the new route will not do a lot for the town itself	No, this option will do little to support development of Carrick-on-Shannon as there is no new crossing of the river Shannon. The only improvement will be slightly less traffic through it, but the new route will not do a lot for the town itself	Yes	No, this option will do little to support development of Carrick-on-Shannon as there is no new crossing of the river Shannon.
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities	Yes, difficult to see integration with public transport in isolation on this Option as Railway and buses are in the town.	Not in isolation	No, this does not support the goals of the TEN-T Comprehensive Network, nor support integration with other transport modes	No, this does not support the goals of the TEN-T Comprehensive Network, nor support integration with other transport modes	Yes	Not in isolation
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies	Yes	Yes	Yes	No, this option does not serve Carrick-on-Shannon, a key town in the North West region.	Yes	No, this option has merits in its own right from a local perspective but is too remote and disconnected from the national road network to meet this project objective
Physical Activity:						
To enable walking and cycling opportunities in a safer environment for the communities along the corridor	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes	No, there is still heavy traffic on the old N4, it misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities all along from Dromod to Carrick-on-Shannon in terms of improving safety.	No, there is still heavy traffic on the old N4, it misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities all along from Dromod to Carrick-on-Shannon in terms of improving safety.	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.	Yes
To create a healthy environment conducive to active travel for the communities along the corridor	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes	No, there is still heavy traffic on the old N4 and associated noise and air pollution, it misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities all along from Dromod to Carrick-on-Shannon in terms of improving the noise and air quality.	No, there is still heavy traffic on the old N4 and associated noise and air pollution, it misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities all along from Dromod to Carrick-on-Shannon in terms of improving the noise and air quality.	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.	Yes
Bring Forward to Stage 2 Option Assessment	No	No	No	No	No	No

Do-Something Road Based Options - Feedback from Public Consultation No.2					
Option Name	Option 21	Option 22	Option 23	Option 24	Option 25
Cross-Section (Potential)	Corridor	Corridor	Corridor	Corridor	Corridor
Description	Southern Off-line Bypass of Carrick-on-Shannon adjacent to the railway line	Northern Off-line Bypass of Carrick-on-Shannon completely off-line along the edge of the study area	Provide roundabout at Faulties/Fearnaught and parallel road from here to Aghamore to the west of existing N4. Use for access and Active Travel	Upgrade to existing Kiltoghert Road (R299)	Add a connection from the R368, Elphin Road, to the southern Options
Project Objectives					
Economy:					
To provide a reliable transport system over the N4 corridor extends under consideration and to contribute to efficient connectivity between the Northern and Western Region with Dublin and the Eastern and Midland Regions to balance regional development.	Yes	Yes	Not in isolation This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4	Not in isolation This option alone will not do anything for the numbers of trips crossing the River Shannon on the N4	Yes This Option cannot exist in isolation. And so, as an addition to a southern option it will further reduce trips over the existing River Shannon bridge.
To provide a solution that offers good value for money and reduce the cost of travel	No, this option would require long sections of complex and expensive construction - within the floodplain, and continuous interaction with the railway line - both of these would incur significant construction costs as well as causing delays to the rail service would also likely result in large compensatory costs.	No, This option is much longer than the other options. It would require wholly new construction for its entire length. It is new construction length is approximately 18km long	Yes	Yes	Not when considered in isolation This option would require a new crossings of the railway line. The costs associated with the earthworks required to allow for clearance over the railway line would not offer good value for money.
To provide opportunities to enhance the future tourism and economic prospects of Carrick-on-Shannon and the wider north west regions of Roscommon, Leitrim, Sligo and Donegal	Yes	Yes	Not in isolation , as impact will only be localised	No, as impact will only be localised	Yes
Safety:					
To reduce the potential for collisions and severity of collisions by providing a safer travelling environment for all road users over the N4 corridor extends under consideration supporting the RSA Road Safety Strategy 2013-2020	Yes, but to a lesser extent than the other options. There will be less of a reduction in traffic through the town of Carrick-on-Shannon as the bypass would be further away. So the vulnerable road users in the town will still be at risk.	No, to a lesser extent than the other options for ALL modes, as there will be less of a reduction in traffic through the town of Carrick-on-Shannon. So the vulnerable road users in the town will still be more at risk.	Yes, by removing direct accesses, and improving existing junctions safety is improved for all road users	No, the Kiltoghert Road is not conducive to a National Road standard. There are homes either side and an upgrade to this route would only serve the R299 movements which is not the objective of the scheme. Its upgrade does very little for the N4 corridor in terms of safety	Yes
To reduce the potential for conflict with vulnerable road users within built-up areas of Carrick-on-Shannon, Cortober and Aghamore	Yes, but to a lesser extent than the other options. There will be less of a reduction in traffic through the town of Carrick-on-Shannon as the bypass would be further away. So the vulnerable road users in the town will still be at risk.	Yes, but to a lesser extent than the other options. There will be less of a reduction in traffic through the town of Carrick-on-Shannon as the bypass would be further away. So the vulnerable road users in the town will still be at risk.	Not in isolation as impact will only be localised	No, this option does not address the safety issues over the N4 corridor under consideration.	Yes
Environment:					
To provide opportunities to enhance the local amenity and heritage value of the area	Yes, strategic route mostly kept along existing infrastructure, minimising further severance, so there will be little impact to local amenity and heritage value as the railway is already a constraint to these.	Yes	Yes	No - the proposed route suggests upgrading infrastructure predominantly outside of the study area, although its online nature is unlikely to have a negative impact on the local amenity and heritage value of the area	Yes
To ensure consideration of sustainable development principles and measures to minimise the effects on the environment to support the government's Climate Action Plan	No. This option does not reutilise the existing N4 single carriageway and does not meet the sustainable principle of reusing the existing assets. It proposes completely new offline construction comprising complex construction.	No. This option does not reutilise the existing N4 single carriageway and does not meet the sustainable principle of reusing the existing assets. It proposes 18km of completely new offline construction comprising complex construction.	Yes, reuse of existing assets	Yes, improving existing infrastructure will reduce the impact a new project would have. However, does not sere the purpose of improving the N4.	Yes
To minimise impacts on designated Natura 2000 sites in the vicinity of the study area	Yes	Yes	Yes	Yes	Yes
To minimise the impact to local watercourses and associated floodplains, in particular the River Shannon	No, this option will interact for extensive distances with the existing River Shannon floodplain along its length.	Yes	Yes	Yes	Yes
The proposed scheme will seek to reduce noise and air impacts in the various settlements along the corridor	Yes	Yes	Yes	Yes	Yes
Accessibility and Social Inclusion:					
Improve accessibility to key facilities, such as employment, education, transport and healthcare to satisfy transport demand for all trip types for all modes of transport on the national road transport network	Yes	Yes	No, not in isolation it can only provide for local trips.	Yes	Yes
To provide opportunities to enable the successful creation of place making and generation of a vibrant community in Carrick-on-Shannon	No has no benefit to Carrick-on-Shannon	No has no benefit to Carrick-on-Shannon	Not in isolation, but in combination with another option, yes	No has no benefit to Carrick-on-Shannon	Yes
Facilitate the enhancement of sustainable travel and improved connectivity to public transport opportunities	Yes, could have direct connection to the railway station, and the old N4 could be used to encourage sustainable trips, but will require investment to realise enhancement to facility	No this is too rural and too remote and disconnected from the population centre to meet this project objective	Yes, parallel road provided to encourage sustainable trips away from mainline high speed traffic	No this is too rural and too remote and disconnected from the population centre to meet this project objective	Yes - Would encourage more walking and cycling in the town, due to reduced traffic.
To improve connectivity across the River Shannon and in turn support social and economic development within this regional strategic town and its hinterland	No, this option will do little to support development of Carrick-on-Shannon as the new bridge will be too far away from it. The only improvement will be less traffic through it, but the new route will not do a lot for the town itself	Yes	Not in isolation, but in combination with an option from the Western Section, yes	No, this option will do little to support development of Carrick-on-Shannon as there is no new proposed crossing of the River Shannon	Yes
Integration:					
To support sustainable growth in Carrick-on-Shannon through the creation of an attractive environment to encourage sustainable trips	No, this option will do little to support development of Carrick-on-Shannon as the new bridge will be too far away from it. The only improvement will be less traffic through it, but the new route will not do a lot for the town itself	Yes	Not in isolation, but in combination with an option from the Western Section, yes	No, this option will do little to support development of Carrick-on-Shannon as there is no new crossing of the river Shannon. The only improvement will be slightly less traffic through it, but the new route will not do a lot for the town itself	Yes
To achieve the goals of the TEN-T Comprehensive network by providing high quality links which will contribute to enhancing social cohesion within Ireland and across the EU, further supporting the integration of all transport modes within the wider region, integrating with regional public transport facilities	Yes, could have direct connection to the railway station	Yes	Not in isolation	No, this does not support the goals of the TEN-T Comprehensive Network, nor support integration with other transport modes	Yes
To support the integration objectives to balance the social and economic development in the North West Region as set out in national and regional policies	Yes	Yes	Yes	Yes	Yes
Physical Activity:					
To enable walking and cycling opportunities in a safer environment for the communities along the corridor	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of creating a safer environment for walking and cycling.	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober totally. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of creating a safer environment for walking and cycling.	Yes, but only along the section from Aghamore to Fearnauight alone - no impact on Carrick-on-Shannon town or the rest of the study area	Yes	Yes - Would encourage more walking and cycling in the town. Need to consider cycling and walking facilities need.
To create a healthy environment conducive to active travel for the communities along the corridor	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of improving noise and air impacts from traffic.	No, there is likely to still be heavy traffic on the old N4 as this option misses the population centres of Carrick-on-Shannon and Cortober. It will do nothing for the communities along the corridor from Dromod to Carrick-on-Shannon in terms of improving noise and air impacts from traffic.	Yes, but only along the section from Aghamore to Fearnauight alone - no impact on Carrick-on-Shannon town or the rest of the study area	Yes	Yes - Would encourage more walking and cycling in the town and reduce noise and air impacts from congestion.
Bring Forward to Stage 2 Option Assessment	No	No	Yes	No	Yes