Contents

3 Need for the Proposed Road Development

3.1 Introduction

This chapter of the EIAR outlines the need for the proposed N6 Galway City Ring Road, hereafter referred to as the proposed road development.

The need for the proposed road development arises directly from the necessity to address the very serious transport issues facing Galway City and its environs. A transport solution has been developed and the proposed road development forms an essential part of this solution.

The existing transport issues currently facing Galway City and its environs is presented in **Section 3.2** below. The overall objectives of the proposed road development are presented in **Section 3.3**. The development of the transport solution is outlined in **Section 3.4** with the specific project need is defined in terms of its strategic fit and priority within the National Road Programme in **Section 3.5**. Its potential to solve existing transport issues in Galway City and its environs, its function as part of TEN-T network and the specific need in terms of economy, safety, physical activity, environmental, accessibility and social inclusion and integration is detailed in **Section 3.6** and **3.7** with an overall need for the proposed road development and the benefits it offers outlined in **Section 3.8**.

3.2 Galway Transport Issues

The total breakdown of the existing transport network in Galway occurs on a frequent basis as there is no resilience in the network e.g. wet afternoon, road maintenance, vehicle collision and/or signal outage. This random unpredictable shutdown of Galway's transport network costs millions and has the real potential to prohibit Galway functioning as a city or economic engine for the Western Region.

The transport issues facing Galway City and its environs as a result of the inadequacy of the existing road network are wide ranging with associated consequential impacts as noted below:

- Congestion throughout the city road network
- Over capacity of existing junctions
- Journey time unreliability due to uncertain quantum of delay
- Journey time variability throughout the day
- Peak hour traffic delays
- By-passable traffic is in conflict with internal traffic
- Strategic traffic is in conflict with local traffic
- Inadequate transport links to access markets within the city
- Inadequate transport connections from Galway onwards to Connemara

- Lack of accessibility to the Western Region as a whole
- Prolonged journey times and delays on the current bus network, due in part to the limited available road space in the city centre for introducing bus priority which both reduces its attractiveness to passengers and increases costs of operating
- Limited road space on most of the principal roads, which reduces opportunities for safe and comfortable cycling
- Connectivity issues on the National and Regional road network resulting in significant volumes of cross-county and strategic travel demand between east and west Galway being concentrated and funnelled through the city area in order to cross the River Corrib
- The impact of traffic congestion on the city's reputation, particularly with regard to inward development
- Accessibility issues due to traffic congestion for businesses and community facilities in Galway City and its environs and the Business Parks in Parkmore and Ballybrit
- The routing of thousands of vehicles per day through the city centre brings with it associated and unmitigated impacts on businesses, public facilities, homes and non-motorised road users
- The stop/start nature of urban driving and platooning of vehicles behind slow moving vehicles adds to the levels of pollution experienced by locals and visitors
- Severance effects of traffic congestion is experienced in urban areas and traffic speeds are increasing in rural areas as local roads are used to avoid the congested national road network

There is a critical need to address the transport issues in Galway City and its environs. As a Gateway to the Connemara and the Western Region, **connectivity and accessibility to and through Galway City** is essential in aiding the region to revitalise, improve and develop into the future. As Galway City and its environs continues to grow, it is crucial to **safeguard the future development** of the city as the principal economic centre in the west of Ireland and to ensure that its development is sustainable. In addition, providing **well developed transport links** via roads, rail and air to the Western Region enables enterprises and the local economy of the west to grow and develop as a viable alternative to the east coast corridor which is of significant public interest at a national level. The existing road network is analysed to establish the underlying issues so that the appropriate transport solution is implemented.

3.2.1 Overview of Existing Road Network

An understanding of the existing road network is critical in the development of a transport solution.

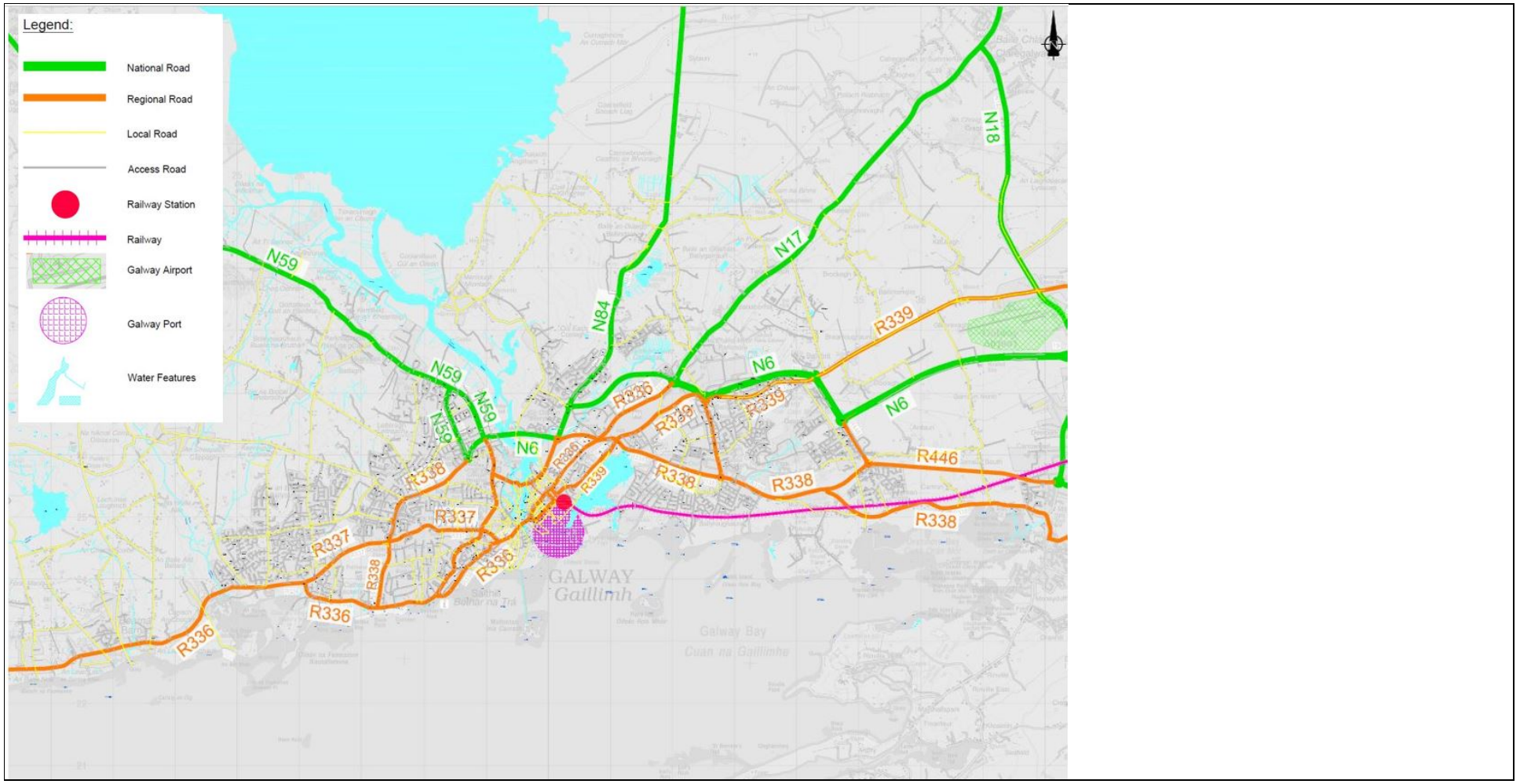
The existing road network which is described in **Chapter 6, Traffic Assessment and Route Cross-Section,** consists of the existing N6, a National Primary route

which connects the N6 on the east side of Galway at Coolagh to the N59 Moycullen Road and the R338 on the north-west side of Galway at Newcastle. The existing N6 passes though the environs of Galway City, namely Briarhill, Ballybrit, Ballybane and Terryland on the east side of River Corrib and Newcastle on the west of the river. The existing N6 terminates at the R338 at the at-grade roundabout junction, Browne Roundabout, with the N59. The R338 continues in a westerly direction to the Coast Road, the R336. Whilst the existing N6 bypasses Galway City Centre, a large portion of the traffic on the N6/R338 is not fully bypassing Galway City environs, rather it is using the existing N6 and the R338 to move in an east/west direction across the city, refer **Plate 3.1** below.

The existing N6 is a four lane carriageway between the M6/N6 and the N59 Moycullen Road, with a varying median width, and a number of at-grade junctions comprising of at-grade roundabouts and signalised junctions. The R338 varies in cross section consisting of four lanes, two of which are bus lanes as far at the Deane Roundabout and two lanes for traffic from there to the R336 Coast Road. There are various forms of at-grade junctions including roundabouts, signals and priority junctions on the R338 from its junction with the N59 Moycullen Road as far as the R336.

The existing road network is at capacity and insufficient to cater for the current travel demand in Galway City, its environs and the Western Region. Therefore, the transport solution must address the existing road network capacity. The key performance indicators used to assess the capacity of the existing road network include an analysis of the existing travel patterns to understand the requirements of the ultimate transport solution, analysis of journey time and assessment of junction capacity.

Plate 3.1: Existing Road Infrastructure



3.2.2 Existing Travel Patterns

An understanding of existing travel patterns is critical in the development of a transport solution. Initial feasibility studies identified the zones of employment, education, retail and residential, i.e. these are known as zones of traffic generators and attractors. These zones are shown on **Plate 3.2**. This graphic shows the residential areas interwoven with the key attractors with the resultant travel desire lines also displayed, and demonstrates how the River Corrib divides this city.

Early studies identified that Galway has a transport problem, and moreover it has is a multifaceted transport problem that needs more extensive analysis to fully understand all the issues. For this reason, the traffic analysis was carried out using the detailed multi-modal traffic model, i.e. the Western Regional Traffic Model, which was developed by the National Transport Authority.

Analysis of the Western Regional Traffic Model provided a very clear and reliable picture of travel patterns in and around Galway City and the wider region, including data on multiple modes of travel, namely (i) public transport, (ii) private vehicles, (iii) cycling and (iv) pedestrians.

Analysis of the travel patterns informed the understanding of travel demand in Galway City and its environs, which in turn has guided the selection of an optimum transport solution which matches demand. Capacity for the current demand and more critically demand into the future was of critical importance in developing this transport solution – there are not multiple opportunities or indeed multiple alternatives, therefore, it is imperative that this solution is the correct solution for the future.

Plate 3.2: Traffic Generators and Attractors

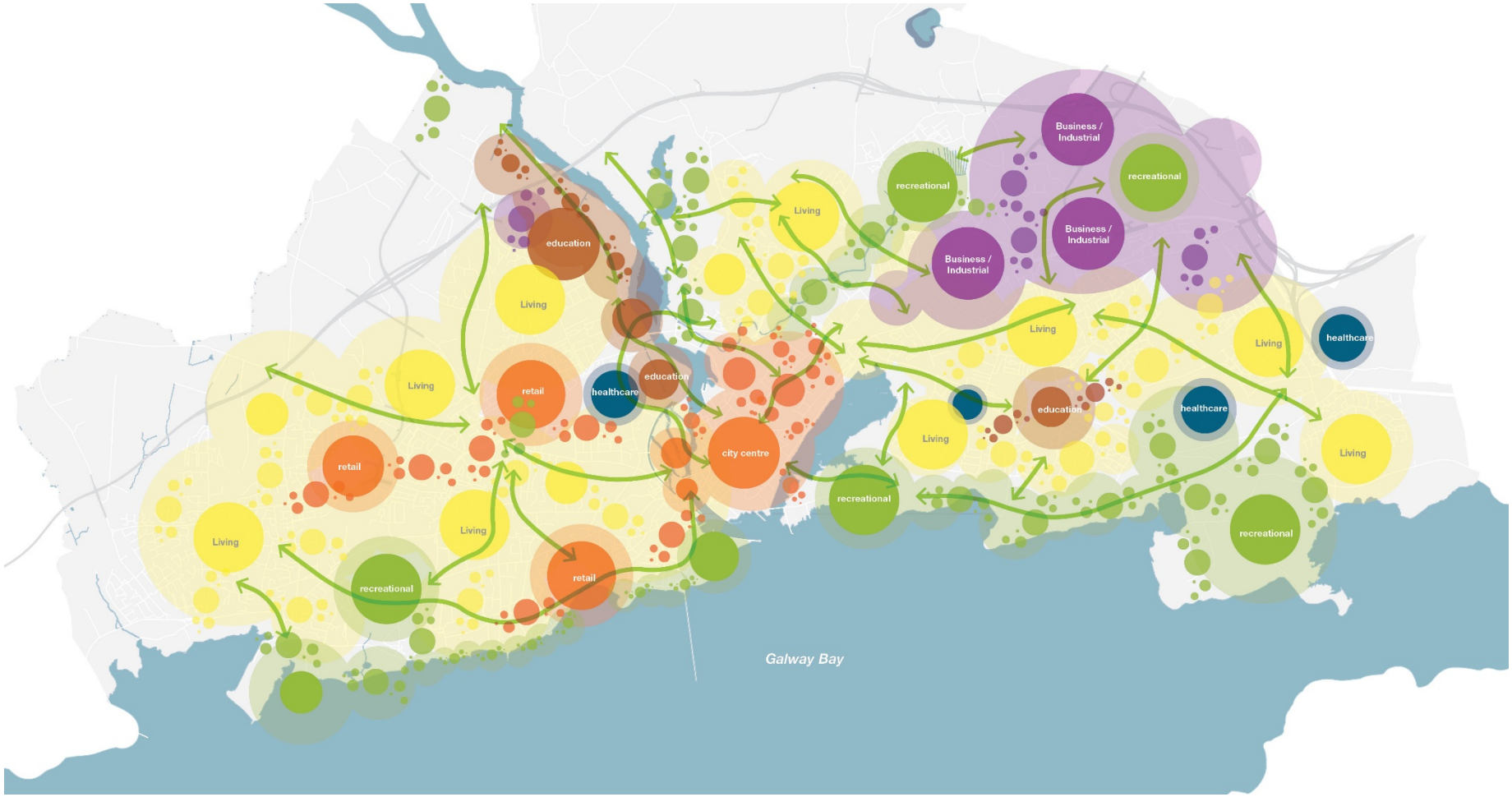
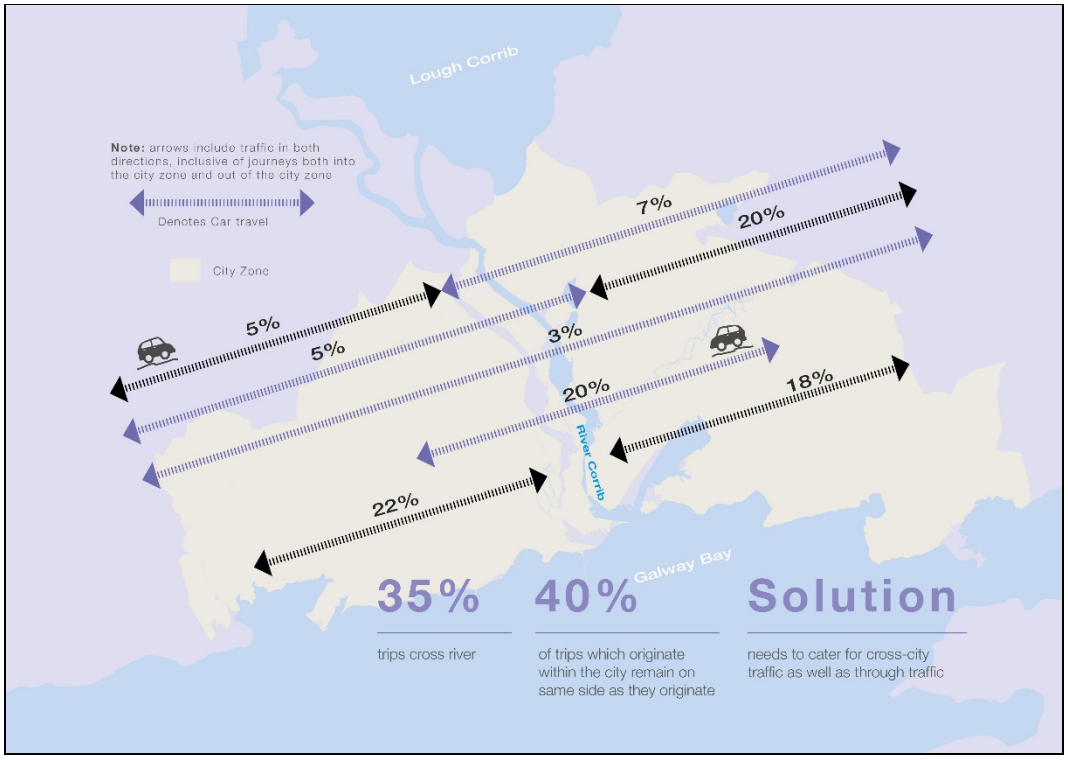


Plate 3.3 below is a schematic diagram to illustrate the travel patterns for private car trips to, from or through Galway City in the 2012 Base Year morning peak hour (extracted from the traffic model, ref **Chapter 6, Traffic Assessment and Route Cross-Section**). Red arrows show movements that cross the River Corrib and green arrows show movements that do not cross the River Corrib.

As shown in **Plate 3.3**:

- 35% of all journeys into and out of the city zone and around Galway City (city zone) cross the River Corrib, of which approximately 9% are bypass traffic (i.e. 3% of 35%)
- 40% of all journeys originate and terminate within the city zone on the same side of the city as where they started i.e. do not cross the river
- Approximately 20% of all journeys are within the city zone and cross the river

Plate 3.3: Travel Patterns 2012 Base Year Morning Peak Hour



This analysis shows that the transport solution must be multi-modal catering for the following various demands:

- High proportion of short journeys within the city zone can be accomplished via public transport, cycling or walking i.e. approximately 40% of journeys commencing in the city which remain on the same side of the city as they started are short trips, both in time and distance
- A further 20% of journeys are from one side of the city to the other are also short journeys, making them clear targets for a shift to public transport

- Improved connectivity to the national road network for those on the western side of the River Corrib which is only possible at present by using one of the city centre bridge crossings

Whilst the overall transport solution clearly must serve a multi-modal demand, this analysis of demand also shows that the transport solution must separate the conflicting demands and serve them via differing appropriate transport modes so that this significant infrastructural investment is protected and secured for the future.

The lack of such a multi-modal transport network has wider impacts on all transport modes including the following:

- Impacts on the public transport network which results in prolonged journey times and delays on the current bus network
- Reduces opportunities for safe and comfortable cycling
- Peak hour traffic delays
- Thousands of vehicles per day travel unnecessarily through the city centre which brings with it associated and unmitigated impacts on businesses, public facilities, homes and non-motorised road users

3.2.3 Journey Time Reliability

Analysis of travel surveys, journey times and delays on the existing network was carried out to establish a set of measurable key performance indicators (KPI) to define the existing problems and with which to compare future potential solutions.

An analysis of observed journey times on three key routes around Galway and its environs as shown on **Plate 3.4** below was carried out to show the variance in journey times between the peak and off-peak periods in the Base Year. The difference between the peak and off-peak journey times is a measure of the level of congestion during the peak, and increasing congestion results in worsening journey time reliability.

Observed travel times in 2012 Base Year on each of the existing N6, the N84 Headford Road and N83[1] Tuam Road, in the inbound direction in the morning peak period versus the off-peak period are tabulated in **Table 3.1** below.

This assessment of journey time shows that the travel times on these three key routes in the morning peak hour are on average more than double the off-peak travel times.

[1] Formally known as the N17 Tuam Road.

Plate 3.4: Journey Time Reliability Routes

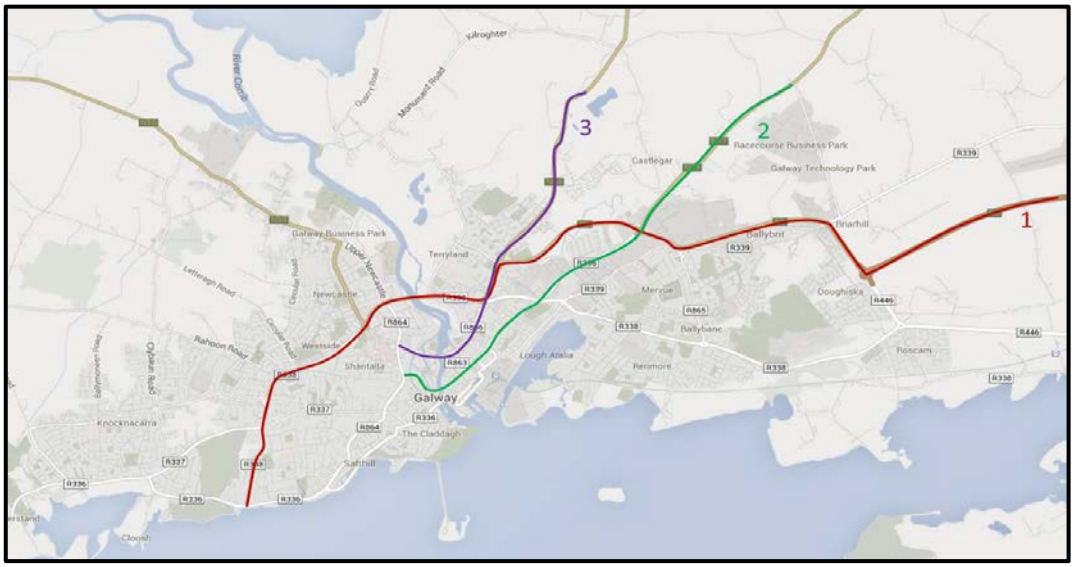


Table 3.1: Journey Time Reliability

		2012 Observed Journey Times (minutes)			
		Off-peak average hour	**Morning peak hour**	**Difference**	**% Difference**
Inbound	Route 1 IN	14	28	14	100%
	Route 2 IN	14	25	11	79%
	Route 3 IN	8	19	11	138%
	Average	12	24	12	105%

Journey time unreliability is a significant detractor to incoming businesses seeking to locate in the area, to tourism due to difficulties of scheduling timetables and also to indigenous industries attempting to get goods out to national markets.

Bus connections in City Centre rely on 15/20/30 minute schedules. These schedules are not achievable due to congestion within the city centre. Connections are then missed with the resultant being that cross city bus trips take over an hour.

Therefore, the transport solution must address journey time unreliability as again this has wider impacts including the following:

- Unreliable transport links to access markets within the city
- Unreliable transport connections from Galway onwards to Connemara
- Lack of accessibility to the Western Region as a whole
- Peak hour traffic delays
- Prolonged journey times and delays on the current bus network
- Difficulty of attracting businesses to Galway City and its environs

3.2.4 Junction Capacity Assessment

Congestion arises due to capacity failures of the existing junctions. This congestion is crippling and stifling city living as well as cutting off access from the wider region to employment and services in the city. These existing junctions are expected to perform the dual role of accommodating traffic wishing to circulate around the city as well as traffic on the radial routes trying to access the city.

An assessment of the volume/capacity (V/C) ratio was undertaken at signalised junctions and roundabouts, plus other key junctions where main roads intersect as shown on **Plate 3.5**. Max turn V/Cs show the maximum volume-to-capacity ratio for the turns at each junction. This indicator is useful for highlighting the problem junctions, compared to the average V/C or average delay, which can be dominated by the high-volume low-delay movements. The volume to capacity ratios are then related to level of delay and congestion at the junctions.

Plate 3.5: Volume/Capacity Ratios at Junctions (2012)

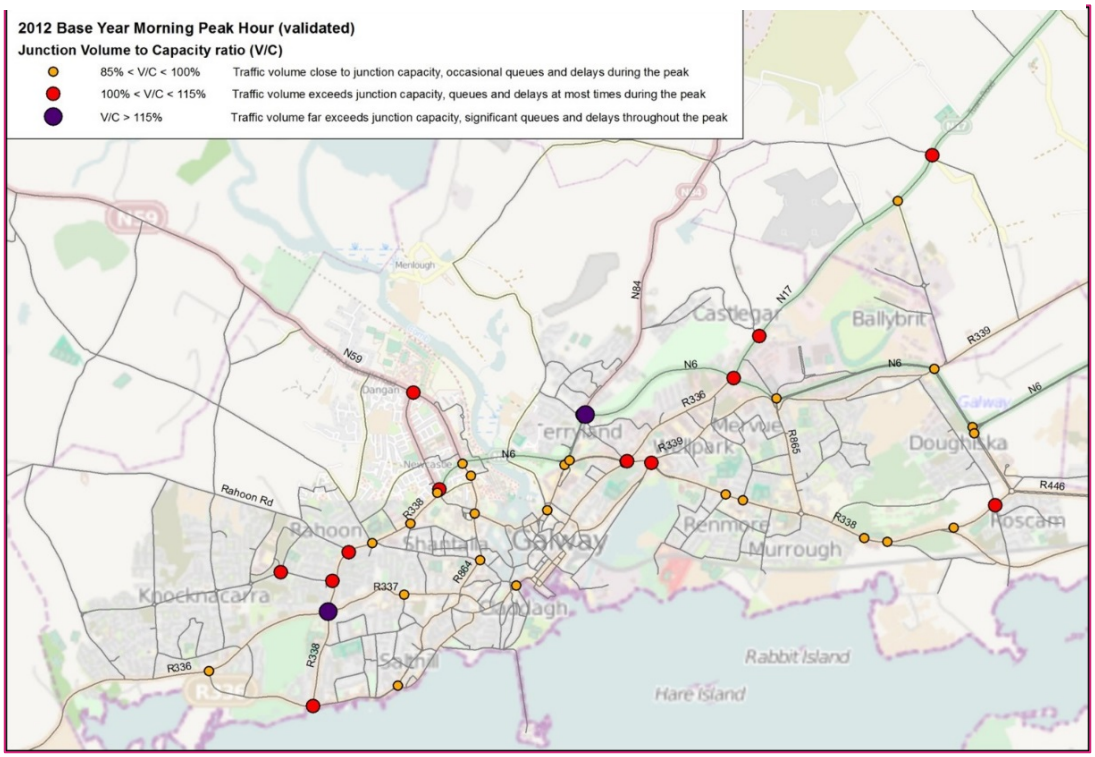


Plate 3.5 shows the number of junctions with a max turn V/C within standard ranges of 0.85-1.00, 1.00-1.15 and >1.15. Junctions with a V/C ratio greater than 1 have exceeded their capacity. Ideally junctions should operate at a V/C ratio of < 0.85, which would allow 15% spare capacity in the junction to cope with an unexpected event or natural growth.

This analysis demonstrates that the existing network is restricted by junction capacity. The junctions on the critical corridors accessing the city, namely the junctions of the N84, N83 and N59 Junctions with the existing N6, have all currently exceeded their capacity at peak hour as shown on **Plate 3.5** above. These junctions are operating at greater than 100% of their capacity, which in turn leads

to the significant delays at these junctions. As these junctions are the main arteries into the city and the main junctions on the circumferential route around the city, this is a significant issue for the Gateway of Galway.

In addition, approximately 40% of all junctions on the key access routes across Galway City and its environs are operating above 85% capacity. This demonstrates that the network is finely balanced with minimal spare capacity to allow for any unforeseen event or natural growth. This is significant as grid-lock on a city wide scale is evident in the event of an unforeseen occurrence such as an accident, significant weather event, temporary traffic management associated with regular maintenance works on the existing road network, seasonal events and particular match day events.

Therefore, the transport solution must address junction capacity as again this has wider impacts including the following:

- Congestion throughout the city road network
- Journey time unreliability and journey time variability throughout the day
- Peak hour traffic delays
- Limits access to markets within the city and onwards to Connemara
- Delays to the National and Regional road network
- Accessibility issues for the entire Western Region

3.2.5 Long Term Impacts

The potential long term impacts on the social and economic fabric of Galway will be significant if transport issues are not addressed. Macro-economic impacts which may arise could include any or all of the following:

- Disincentive for Foreign Direct Investment (FDI) to invest in Galway City due to congestion costs in terms of both goods and labour
- Decline in the quality of the urban environment due to increased congestion and pollution may lead to reduced attractiveness of Galway City for labour force location
- Decline in the quality of the urban environment could exacerbate the already existing trend to live outside the city limits and commute to Galway for work, increasing congestion and reducing the potential for any investment in public transport or alternative means of travel, to make an impact
- May lead to further relocating of other activities away from the city core e.g. retail, business, employment, leisure, reducing the strength of Galway as a Gateway City
- Impact on the economic development of the wider western region as access is compromised (labour, goods, tourism)
- Suppressed travel movements either side of the River Corrib, resulting in isolation of areas of the city and county
- Overall, can lead to the decline of Galway City to act as a Gateway on the western corridor, and act as a regional counter balance to the east

- Create two separate city areas either side of River Corrib, with the city and county to the west declining

Social impacts resulting from the above could include:

- Create a challenging environment in accessibility terms for some sectors of society, particularly those most dependent on non-private car travel, as investment in public transport will be harder to justify over a more dispersed city fabric
- Potential reduction in range of employment options available which could impact the profile of residents in the city and corresponding impacts on communities
- Reduction in quality of life indicators

Given the potential long term impacts above, there is a strong need to address the transportation issues facing the city and surrounding areas at present, and to underpin future growth by establishing a long-term strategy for transport to, within and around the city.

3.2.6 Significant constraints for developing new transport infrastructure

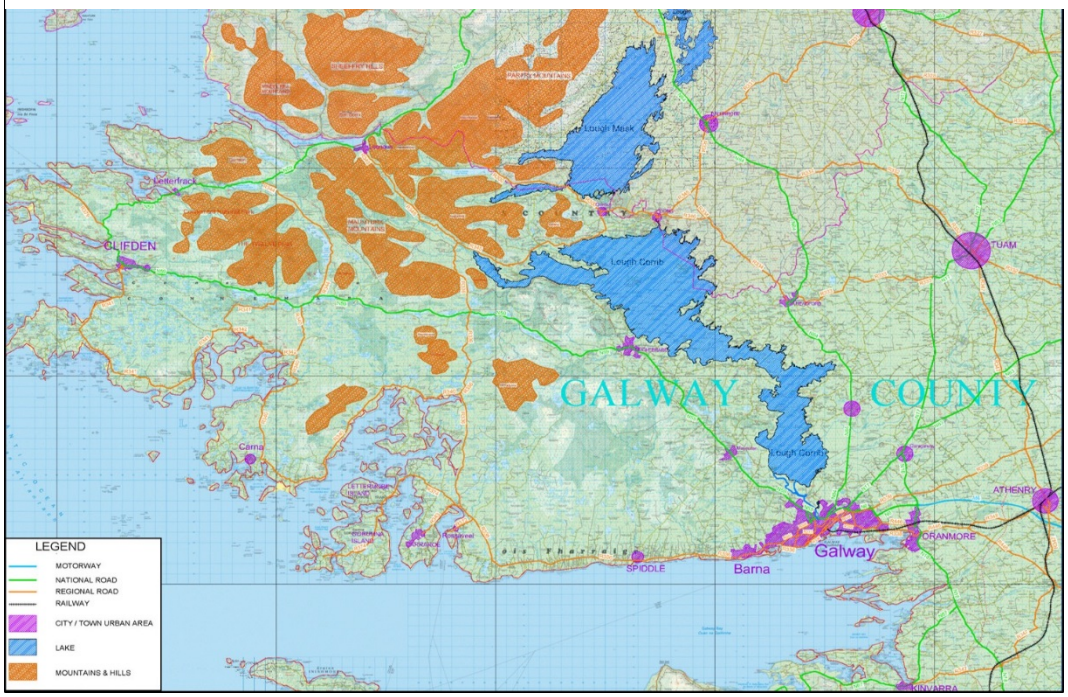
Galway is a city of contrasts in terms of its physical development and transport requirements. While Galway has a compact walkable core, outside of the city centre, the suburbs have developed as a succession of low density residential areas interspersed with employment areas, leading to a predominance of private car usage as a means of travel. There are significant constraints for developing new transport infrastructure in Galway which arise principally due to:

1. the physical form of the city
2. the limited space available
3. the built environment and residential areas on both sides of the River Corrib
4. the presence of designated sites of international significance

Galway City is physically constrained as it is divided in an east west direction by the River Corrib and a sea inlet known as Lough Atalia, bounded along the entire southern boundary by Galway Bay and the northern boundary by Lough Corrib, all of which are natural barriers to free movement and development. There are currently four bridges crossing the river, which cumulatively carry approximately 80,000 vehicles per day. Three of the four bridges are within the city centre, thus drawing traffic into the city for the sole purpose of crossing the river.

Galway County and Connemara as far west as Clifden and onto Letterfrack are equally dependent on this narrow funnel for access, as access to this area is restricted by the extents of Lough Corrib heading north, the Twelve Bens mountains, the Maamturk mountains and the many smaller lakes. **Plate 3.6** below highlights that access to this area is via the bridges across the River Corrib in Galway City due to the physical natural constraints.

Plate 3.6: Existing Natural Constraints



In summary:

- The low density of the suburbs of Galway has led to reliance on private car usage as a means of travel and makes it difficult to develop an economically efficient public transport solution
- Galway City is divided by the River Corrib as it flows between Lough Corrib and Galway Bay with significant trip attractors, employment centres, education centres and residential areas located on both sides of the river
- Lough Corrib forms a natural division between the east and west of County Galway and the distance between Lough Corrib and Galway Bay is only 4.5km[2] within which lies Galway City, very much at the heart of County Galway
- The city is located in the middle of areas which are rich in natural heritage with a wealth of natural habitats. This has resulted in significant areas around Galway City being designated of international importance

3.3 Project Objectives

The overall ambition of the proposed road development is to achieve a number of specific objectives under a number of multi criteria categories. These multi criteria are outlined by the Department of Transport in *Guidelines on a Common Appraisal Framework for Transport Projects and Programme March 2016*. By considering the objectives under these headings, it is the intention to provide a project which is attractive to all, delivers the road component of the overall transport solution for

[2] Distance measured from south shore of Lough Corrib to Spanish Arch at Galway Docks

Galway and its environs, provides benefit to the local and the larger regional population of Galway and the western region and is cognisant of the sensitive environment into which it is interwoven. The multi criteria headings are as follows:

- Economy
- Safety
- Environment
- Physical Activity
- Accessibility & Social Inclusion
- Integration

Each of these objectives are linked to the European, national, regional and local polices set out in **Chapter 2, Planning and Policy Context**. Every endeavour has been made to ensure these objectives were met as much as possible in the development of the proposed road development. The specific objectives under each of the headings are detailed below.

The ***'Economic'*** objectives of the proposed road development include:

- Encourage local, regional, national and international development
- Reduce journey times
- Increase journey time certainty
- Support the economic performance of the Gateway of Galway as the only large employer in the region
- Provide benefits to the transport infrastructure
- Improve connectivity to the Gateway of Galway
- Improve linkages between the west and east sides of the city and county
- Deliver a cost effective project

The ***'Safety'*** Objectives of the proposed road development include:

- Segregation of the interface of strategic traffic from local traffic
- Reduction in road traffic collisions
- Provision of safer urban streets

The ***'Environmental'*** Objectives of the proposed road development include:

- Minimise impacts on designated Natura 2000 sites
- Avoid impacts to National Monuments
- Minimise impacts to the architectural, cultural or linguistic heritage of the area
- Take due cognisance of the importance of the existing landscape
- Seek to preserve existing well established communities
- Reduce noise and air impacts on sensitive receptors
- Deliver a sustainable transport solution

The ***'Physical Activity'*** Objectives of the proposed road development include:

- Improve accessibility to Galway City
- Improve opportunities for walking in the core city centre area by creating more walkable environments
- Reallocation of road space for the provision of additional cycling facilities on less congested urban streets

The ***'Accessibility and Social Inclusion'*** Objectives of the proposed road development include:

- Improve accessibility to Galway City
- Interconnection of the Galway City and its environs road network to the national motorway network
- Improve accessibility of Galway urban area to its main markets
- Improve accessibility of the Gaeltacht areas to the remainder of the county and country
- Reduce disadvantage of the Gaeltacht areas
- Implement sustainable transport policies for shorter commutes
- Improve urban environment of Galway City centre
- Support the improvement of the public transport hub linking Galway to other Gateways
- Support the current development strategy and settlement strategy

The ***'Integration'*** Objectives of the proposed road development include:

- Support the development of critical-mass of regional population centres
- Integration of Galway City and its environs (including western parts of Galway County) into the national economic development agenda
- Support balanced social and economic development at a national level
- Support balanced social and economic development at a city-region level
- Understanding of the development, land-use and transportation pressures in the Galway urban area and their impact on the delivery of a successful city region at Galway
- To deliver on Galway's potential as Ireland's fourth largest city and an important residential, educational, employment and service centre for a wide regional hinterland, contributing to the national urban hierarchy
- Recognition of the role of Galway City as a gateway to the west and Connemara, and the consequent socio-economic benefits of enhanced connectivity of Galway City to national markets, enhanced tourism accessibility, and the national transport system
- Improvement of the TEN-T network to ensure connectivity of the west of Ireland to the single European market.

These project objectives were used to guide the development of a transport solution for Galway City and its environs. A subsequent appraisal of these objectives against

the need for the proposed road development and how these objectives were met is presented in **Section 3.7** below.

3.4 Development of a Transport Solution for Galway

3.4.1 Overview

As outlined previously in **Chapter 1, Introduction**, the initial studies for a transport solution were undertaken as part of the N6 Galway City Transport Project (GCTP). In parallel to the GCTP, Galway City Council and Galway County Council, in partnership with the NTA developed an overall transport strategy for Galway City and its environs, and is referred to as the Galway Transport Strategy (GTS). The GTS is the transport solution for Galway.

The GTS took into account the existing transport issues as described in **Section 3.2** above. The traffic issues in Galway City and its environs were carefully considered and analysed with the aim of finding a transport solution to create a safer, smarter and sustainable transport system for Galway City and its environs taking into account travel demands, existing infrastructure and environmental constraints.

The GTS included an evaluation of transport options for all modes, and affirmed the strategic need for an orbital route around the city and a new crossing of the River Corrib, in order to implement the level of service required for each mode of transport, including walking, cycling, public transport and private vehicle. The provision of an additional crossing of the River Corrib would facilitate the reduction of congestion on city centre roads, and allow the reallocation of road space in the city network to non-motorised modes of transport, thereby facilitating the effective implementation of all the elements contained in the GTS, namely the improvement of public transport, cycling and walking measures. A new road link to the north of the city is proposed as part of the GTS to deliver the necessary capacity and support the delivery of sustainable transport measures, particularly within the city centre.

The initial studies carried out as part of the N6 GCTP confirmed that a new River Corrib bridge crossing is possible and identified a preferred location for this crossing.

The N6 Galway City Ring Road (GCRR) will deliver the additional crossing of the River Corrib and the new link road as proposed by the GTS. Therefore, the proposed road development forms an essential part of the GTS, it delivers the road component of the overall transport solution for Galway City and its environs, provides benefit to the local and the larger regional population of Galway and the western region and is cognisant of the sensitive environment into which it is interwoven.

The need for the proposed road development, the N6 Galway City Ring Road, is justified as it will deliver the following:

- By tackling the city's congestion issues, it will provide a better quality of life for the city's inhabitants and provide a much safer environment in which to live
- By reducing the number of cars on the roads within the city centre and improving streetscapes, workers and students are facilitated to commute using

multi-modal transport means. This includes travelling on foot, by bicycle and on the public transport system

- Provides connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure, thus releasing and freeing the existing city centre zone from congestion caused by traffic trying to access a city centre bridge to cross the River Corrib
- Attracts traffic from the city centre zone thus facilitating reallocation of road space to public transport leading to improved journey time reliability for public transport
- Caters for the strong demand between zones on either side of the city
- Provides additional river crossing with connectivity back to the city either side of the bridge crossing
- Facilitates improved city centre environment for all due to reduced congestion, thus encouraging walking and cycling as safe transport modes

The need for the proposed road development in terms of delivering the road component of the transport solution for Galway, in the context of how such a development can address the transport issues raised in **Section 3.2** above is discussed below.

3.4.2 Existing Road Network Issues

The existing road network is at capacity and insufficient to cater with the current travel demand in Galway City, its environs and the Western Region. The proposed road development will replace the role of the existing N6/R338 road network. By serving strategic traffic currently trying to cross the city via the existing N6 as well as the strategic traffic that is currently trying to rat-run through the city using the existing city street network due to the congestion levels on the national road network, the proposed road development will free up road space in the city centre that can be used by other modes of transport. The city at its heart serves a strategic function as the economic engine for the Western region and must be free of congestion to enable it to do so. This is supported in terms of policy from national to local level which is outlined in **Chapter 2, Planning and Policy Context**.

3.4.3 Existing Travel Patterns

The need for the proposed road development, the N6 Galway City Ring Road, is justified as it serves the existing travel demands as follows:

- Caters for the strong demand between zones on either side of the city
- Facilitates crossing the River Corrib without negotiating the city centre
- Provides this additional river crossing with connectivity back to the city either side of the bridge crossing
- Attracts traffic out from the city centre zone thus facilitating reallocation of road space to public transport leading to improve journey time reliability for public transport

- Facilitates improved city centre environment for all due to reduced congestion, thus encouraging walking and cycling as safe transport modes
- Improves connectivity to the Western Region i.e. the county areas and hinterland beyond the city zone
- Provides essential city street links to better distribute traffic
- Provides connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure, thus releasing and freeing the existing city centre zone from congestion caused by traffic trying to access a city centre bridge to cross the River Corrib
- Provides a high quality road with limited access

3.4.4 Journey Time Reliability

The proposed road development seeks to address this issue through relief of the traffic congestion by removal of traffic both through modal shift, provision of additional road space and separation of bypass traffic.

The traffic modelling of the proposed road development, which is discussed in **Chapter 6**, **Traffic Assessment and Route Cross-Section**, demonstrates how the proposed road development achieves these goals which form the basis of the need for the proposed road development. The proposed road development provides connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure, thus releasing and freeing the existing city centre zone from congestion caused by traffic trying to access a city centre bridge to cross the River Corrib. This reduction in congestion will lead to lower collision rates and improve conditions for vulnerable road users.

3.4.5 Junction Capacity Assessment

The proposed road development is required to resolve this constant lingering problem of junctions with no spare capacity on the existing N6 route and existing network which frequently results in grid-lock in the city. This links to the congestion relief discussed in **Section 3.2.1.3**, all of which promotes the need for the proposed road development.

3.5 Strategic Fit and Priority within the National Road Programme

Transport Infrastructure Irelands (TII) primary function under the Roads Act 1993, is to secure the provision of a safe and efficient network of national roads. For this purpose, it has overall responsibility for the planning and delivery of new national roads, road network management and maintenance on national roads.

The objective of the TII capital expenditure programme is to improve the safety and efficiency of the national road network to make it fit for freight, business and social travel. Developing, maintaining and operating the national road network in a safe, cost effective and sustainable manner generates an improved quality of life and national economic competitiveness.

The three strategic priorities for TII are summarised as follows:

"Priority 1 – Asset Management, Network Rehabilitation and Network Operations;

Priority 2 – National Secondary Roads Improvements, Bottleneck Improvement Projects, Safety Projects and Traffic Management Projects; and

Priority 3 – Network Improvement Projects."

The proposed road development links four national routes around Galway City, namely N59, N84, N83 and N6. It also links a number of regional routes including the R336, which accesses south Connemara, refer **Plate 3.1**. The proposed road development is the mechanism to convey traffic east to west from the north and south and effectively encompasses all three of TII priorities whereby the existing primary road network is rehabilitated and improved, providing safety benefits and congestion/bottleneck improvements.

Investment in the proposed road development adds value to the overall strategic national roads network for the country, see also **Chapter 2, Planning and Policy Context**.

3.6 TEN-T Comprehensive Road Network

As discussed in **Chapter 2, Planning and Policy Context**, the proposed road development forms part of the TEN-T comprehensive road network and as such has a strategic function. This is discussed under various headings which are fundamental to understanding the purpose of TEN-T and to understanding why the proposed road development is of strategic importance.

TEN-T Classification

- The proposed road development was developed to be part of Ireland's comprehensive network in accordance with the European Union's (EU) TEN-T[3] Transport Policy
- The EU's TEN-T Transport Policy aims to create connectivity between regions, remove bottlenecks that hamper the smooth functioning of the EU's internal market and to promote a sustainable, multi-modal network for passengers
- The proposed road development has been developed as a high-quality road as part of the TEN-T comprehensive network to deliver the objectives of TEN-T both on a strategic national and European level, as well as on a regional level to the Western Region. The proposed road development is intended to support the economic and social development of the Western Region, by ensuring the connectivity and accessibility of this region to the single European market

Connectivity, Accessibility and Social Inclusion

- One of the principal aims of TEN-T is to improve cohesion throughout the EU by ensuring the connectivity and accessibility of all regions, including the EU's outermost and remote regions. The proposed road development will improve

[3] http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html

linkages between the west and east sides of the country, as well as improving the connections between the Western Region and the wider internal market within the EU

- It will improve the accessibility of Galway City to its main markets, by facilitating the crossing of the River Corrib without the need to go through the city centre. The proposed road development will protect the interconnection of Galway City and its environs road system to the national motorway network. This will increase the connectivity of key strategic services within Galway, such as NUIG and Galway University Hospitals, to the national motorway network
- The proposed road development will also improve the accessibility of Gaeltacht areas to the remainder of the county and country, thereby reducing the economic and social disadvantages of the Gaeltacht areas, as it will provide the capacity required for national and international traffic serving the Western region whilst also connecting the county to the national network
- Access to this strategic route is limited to the junctions provided along the route, which will protect the asset in the future and the proposed road development has been designed to ensure that it is not misused as a 'hop on hop off' network for local traffic. Junctions have been restricted to the western tie-in with the R336 Coast Road, Bearna Moycullen Road, Cappagh Road, Ballymoneen Road and the national roads, N59, N84, N83 and the existing N6. This level of provision is deemed necessary to serve the strategic travel demand, as the traffic accessing Galway City is of a strategic nature, whilst also providing connections for users from the Western Region to the national road network

Removing Infrastructural Bottlenecks

- The TEN-T aims to increase efficiency throughout the transport network by removing bottlenecks and congestion. Currently, Galway City experiences transport problems across the city, particularly during peak hours, which is impacting on the economic capability of the city. The road and street network of Galway City is ill-suited to the high traffic flows currently prevalent and contributing to increased congestion and delay, affecting quality of life and impacting on the functionality of the city
- The effects of this congestion and bottlenecks extend to the wider county and region, due to the large number of people commuting daily for work or education to the city from the surrounding towns, villages and rural areas. The congestion and infrastructural bottlenecks impact the connectivity of the Western Region to the rest of the country and the internal markets of the EU
- The proposed road development is a key element of the GTS as it aims to resolve the congestion which is restricting the Western Region currently and is experienced by all travellers using various transport modes

Sustainable Transport Choices for Passengers

- TEN-T aims to promote sustainable travel by creating a multi`-modal transport network, which meets the mobility and transport needs of its users. The N6 GCRR will reduce congestion and car dependency by attracting traffic from the city centre zone, which will facilitate a reallocation of road space. This will

improve capacity and reliability of public transport and will facilitate greater opportunities for cycling and walking within the city centre core area

- By providing opportunities for a multi-modal transport system, the N6 GCRR promotes the reduction of greenhouse gas emissions as it facilitates the advancement of a low-carbon and more energy efficient transport system, whilst also providing accessibility and connections to the city. This also reduces the level of air pollution within the city centre. The GTS aims to relieve traffic congestion in the urban centre of Galway which in turn will facilitate a modal shift to public transport, cycling and walking, all of which promotes the reduction of greenhouse gas emissions as it facilitates the advancement of a low-carbon and more energy efficient transport system

Therefore, it can be concluded that the proposed road development serves a dual purpose for the following reasons:

- it provides for the strategic need of the TEN-T comprehensive road network and connects Galway City and the Western Region to the national road network
- it provides an additional crossing of the River Corrib, thus facilitating the reduction of congestion on city centre roads, and allowing the reallocation of road space in the city network to non-motorised modes of transport, thereby facilitating the effective implementation of all the elements contained in the GTS, namely the improvement of public transport, cycling and walking measures

There is no tension between these two functions, in so far as the whole transport strategy has been developed so that traffic is segregated and directed to the most appropriate mode, which allows the road component to serve the function for which it is designed. By serving strategic traffic currently trying to cross the city via the existing N6 as well as the strategic traffic that is currently trying to rat-run through the city using the existing city street network due to the congestion levels on the national road network, the proposed road development will free up road space in the city centre that can be used by other modes of transport. The city at its heart serves a strategic function as the economic engine for the Western Region and must be free of congestion to enable it to do so. It is critical to understand the strategic function of the proposed road development and to understand why it is classified as part of the TEN-T comprehensive road network as discussed above.

3.7 Appraisal Framework for Transport Projects

In accordance with the Department of Transport's "Guidelines on a Common Appraisal Framework for Transport Projects and Programmes" (updated March 2016), the need for the proposed road development is described below against the six criteria of Economy, Safety, Physical Activity, Environment, Accessibility and Social Inclusion and Integration. The importance of providing a sustainable development is also considered.

3.7.1 Economy

Recent national developments mean that, more than ever, each region of the country has a crucial role to play in returning Ireland's economy to enterprise driven growth. The delivery of dynamic, competitive regions that provide quality and sustainable employment opportunities will involve not only the enterprise development agencies, but also a wide range of stakeholders including local authorities, higher education institutes and the business community at local, regional and national levels.

The proposed road development will provide an economic benefit to Galway City and environs. Whilst there is a profitable business opportunity during the construction phase for contractors and suppliers, the true economic benefit will be realised once the proposed road development is completed. Accessibility to businesses and community facilities in Galway City and its environs and the Business Parks in Parkmore and Ballybrit will be better facilitated by the proposed road development and the resulting reduction in congestion. It will also bring with it benefits to business and public facilities in Galway City centre by reducing noise and air pollution. This all translates into economic prosperity for the Western Region, with Galway City as a thriving city at the core, which in turn will play a part in reviving the Irish economy.

The proposed road development will provide a high quality roadway asset designed in accordance with current TII Design Standards and Guidance.

An efficient integrated transport infrastructure is necessary to reduce levels of congestion and allow economic growth. The proposed road development facilitates this improvement by providing relief to the national, regional and local road network, whilst also improving accessibility of the public transport network and allowing advancement of sustainable transport planning at a local level.

3.7.2 Safety

The existing traffic volumes and HGVs on the existing road network leads to traffic congestion on a consistent basis. As outlined in **Chapter 6, Traffic Assessment and Route Cross-Section**, the proposed road development provides connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure, thus releasing and freeing the existing city centre zone from congestion caused by traffic trying to access a city centre bridge to cross the River Corrib. This reduction in congestion will lead to lower collision rates and improve conditions for vulnerable road users.

Providing improved road infrastructure generates significant safety benefits to the network at two levels, firstly via the transfer of high volumes of traffic to the safer roads and secondly via a reduction in distances travelled on less safe existing roads. Modern technology and information systems which form part of new road infrastructure also gives greater security to road users. Opportunities for further safety benefits present through the provision for vulnerable road users through reallocation of road space on the existing network. Safety and security on our road network is of national interest and a key part of government policy over the past decades.

3.7.3 Physical Activity

The latest Common Appraisal Framework (CAF) update has included an additional criterion for appraisal namely Physical Activity. The existing N6/R336 is a deterrent to physical activity due to lack of attractive provision for vulnerable road users – cycling and walking adjacent to heavily congested commuting routes and requirement to negotiated complex multi-phase traffic signals at crossings. Whilst the N6 GCRR does not necessarily provide for increased levels of activity in itself, the objective set at the outset is to create opportunities for walking in the core city centre area and to reallocate road space for the provision of additional cycling facilities. The N6 GCRR meets this project objective as it is part of an overall strategy whereby road space is reallocated to cyclists and pedestrians once traffic is removed from the city centre to the proposed ring road.

3.7.4 Environment

The proposed road development is going to have negative impacts on the receiving environment including, unfortunately, a significant level of property demolitions that are unavoidable. From the outset of the design of the proposed road development every effort was made to avoid property demolitions where possible. However, there are still property impacts and it is proposed that 69 non-agricultural properties will be acquired or demolished (refer to **Chapter 5, Description of the Proposed Road Development** and **Chapter 15, Material Assets Non-Agriculture** for further details).

Whilst this is a significant number of property impacts with the associated impacts on families in these properties, the overall context of the impacts is assessed against the potential benefits that can be accrued from the proposed road development. The proposed road development provides the very significant and very much needed benefits to the EU transport network, the Western Region and County Galway as well as the built-up environment of Galway City and environs and the location required for the road infrastructure.

The routing of thousands of vehicles per day through the city centre brings with it associated and unmitigated impacts on businesses, public facilities, homes and non-motorised road users. These impacts include noise and air pollution. The stop/start nature of urban driving and platooning of vehicles behind slow moving vehicles adds to the levels of pollution experienced by locals and visitors. The proposed road development provides an additional crossing of the River Corrib, thus facilitating the reduction of congestion on city centre roads, and allows the reallocation of road space in the city network to non-motorised modes of transport, thereby reducing the level of pollution within the city centre.

Additional impacts on the receiving environment at present include severance effects of traffic congestion in urban areas and traffic speeds in rural areas as local roads are used to avoid the congested national road network. This severance will be reduced by the transfer of traffic to the proposed road development.

As outlined in **Chapter 2, Planning and Policy**, the Climate Action and Low Carbon Development Act 2015 provides for the establishment of a national framework with the aim of achieving a low-carbon, climate-resilient, and

environmentally sustainable economy by 2050. There is a national need to lower Ireland's level of greenhouse gas emissions and the government have made a commitment to reduce Ireland's carbon footprint.

The proposed road development will facilitate the advancement of a low-carbon and more energy efficient transport system, as well as developing more efficient urban and intermodal transport solutions by removing traffic from the city centre and freeing up space for cycling and walking facilities as well as improved bus transport. This will also bring an additional positive impact on air quality where traffic is diverted away from the receptors along the existing road network within the city centre as a result of the proposed road development.

From an environmental perspective, European, National and Local legislation requires that the environmental impacts associated with major roads projects are identified and measures taken to avoid, minimise or mitigate these impacts. The proposed road development will be constructed to the increasingly high standard of environmental mitigation practice. Refer to individual sections of this EIAR for an in-depth discussion of potential environmental impacts and details of how these will be avoided, minimised and mitigated.

The need for the proposed road development from an environmental sustainability perspective is to deliver an integrated, sustainable transport solution that aligns transport investment with settlement patterns, travel movements and also supports a sustainable use of land. The proposed road development as part of the GTS, satisfies this need as it offers opportunities that will reduce congestion and car dependency through facilitating a reallocation of road space to improve capacity and reliability of public transport and to facilitate cycling and walking within the city centre core area, with a resultant 16% increase in public transport trips in 2039 when compared to the scenario of not progressing the scheme, all of which promotes the reduction of greenhouse gas emissions, whilst also providing accessibility and connections to the city.

3.7.5 Accessibility and Social Inclusion

As a Gateway to the Connemara and the Western Region, connectivity and accessibility to and through Galway City is essential in aiding the region to revitalise, improve and develop into the future. Accessibility and connectivity for areas within the county is of significant public interest and a key driver for this proposed road development; however, given that any proposed infrastructure seeking to link either side of the county will traverse areas of the city, then accessibility to and from and within the city is inextricably linked to this proposed road development.

Providing well developed transport links via roads, rail and air to the Western Region, enables enterprises and the local economy of the west to grow and develop as a viable alternative to the east coast corridor which is of significant public interest at a national level.

The Galway Transport Strategy (GTS), which is an overall transport strategy for Galway City and its environs for the next twenty years, consists of a number of proposed measures combined under an overall vision "*to create a connected city*

region driven by smarter mobility". The proposed road development is among the major components proposed under the GTS. Other components include provision of a new cross-city link; an enhanced local public transport network and regional public transport service; provision of greenways as well as a range of other additional non-greenway cycling, pedestrian and public realm improvements; and complementary measures. The proposed road development is needed for the effective implementation of all the elements contained in the GTS as it will free up existing roads within the city centre to facilitate the improvement of public transport, cycling and walking measures.

Provision of reliable transport infrastructure facilitates improved access to employment, education, vital services such as hospitals and amenities for all users. Reallocation of existing road space within the urban network will facilitate better provision of public transport which improves accessibility to all of the above services, in particular for lower income groups, vulnerable road users and the elderly. This in turn generates a healthier environment within the urban network where the population density is higher.

More sustainable and reliable infrastructure links to and from the Gaeltacht areas of the Western Region, enables Irish language speakers to remain in their native areas out of choice, and develop its economy in a way that is both language and culture friendly, halting the recent decline in population. This is of public interest as it is of national interest to preserve our heritage including our native language.

In tackling the city's congestion issues, the proposed road development will provide a better quality of life for the city's inhabitants and provide a much safer environment in which to live. By reducing the number of cars on the roads within the city centre, improving streetscapes, workers and school children are facilitated to commute using multi modal transport means. This includes travelling on foot, by bicycle and on the public transport system. As a result, more sustainable travel is supported and encouraged. This is of overriding public interest at a local level in Galway itself, but more importantly for the entire Western Region as Galway is at the core of the region and needs to be able to function efficiently to serve the region.

A detailed analysis of the impact of the proposed road development on society is presented in **Chapter 18, Human Beings, Population and Human Health**.

The need for the proposed road development from an Accessibility and Social Inclusion perspective is driven by a need to provide connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure. This will release the existing city centre zone from congestion caused by traffic trying to access a city centre bridge to cross the River Corrib, which allows reallocation of existing road space within the urban network, all of which will facilitates better provision of public transport with improved accessibility to all other transport modes for many more sectors of society.

3.7.6 Integration

Chapter 2, Planning and Policy Context sets out how the proposed road development is integrated into European, national, regional and local plans and policies.

The EU states that it is essential to take account of all aspects of sustainability (such as emissions, noise, land occupancy and biodiversity) and to base any action on a long-term vision for the sustainable mobility of people and goods i.e. sustainability of the entire transport system (ref EU Sustainable Development Strategy (EU SDS, 2001), reviewed 2009). The proposed road development facilitates the effective implementation of the GTS and the development of a sustainable transport solution for Galway City and its environs. The proposed road development also forms part of the TEN-T comprehensive road network in Ireland and is of strategic importance as it has a key role in delivering congestion relief and strengthening economic cohesion, as set out in **Section 2.2** and **3.6** of this EIAR.

At national level, the proposed road development fits into the Capital Plan as it serves to relieve urban congestion and provide connectivity to Galway so that Galway can contribute to the overall national development, refer to **Section 2.3.1** of this EIAR. "*Smarter Travel – A Sustainable Transport Future*" is a national policy framework which also drives the need for the proposed road development in order to secure a reallocation of road space for other modes such as public transport, cycling and walking, refer to **Section 2.3.2** of this EIAR. The proposed road development is identified as a project at a national level which is necessary to support economic recovery and sustainable growth because of its ability to improve mobility of people and goods into and out of Galway, and is vital to the economic recovery of the Western Region as a whole, which again is outlined in **Section 2.3.3** and **Section 2.3.4** of this EIAR. The proposed road development is also needed to deliver on national policy in respect of modal shift as it fits within an overall transport strategy which encourages a modal shift to a form of public transport that is associated with less emissions per capita than private car use, thus releasing and freeing the existing city centre zone for the reallocation to walking and cycling facilities and public transport, refer to **Section 2.3.5** of this EIAR.

These national policies are translated into regional and local policies as set out in the various development plans and local area plans, refer to **Section 2.4** and **Section 2.5** of this EIAR. The Galway Transport Strategy, which is the overall strategy for the next twenty years, requires delivery of an orbital route in order to deliver on all components proposed in the strategy and therefore, underpins the need for the proposed road development.

3.8 Overall need for the Proposed Road Development

The overriding need for the N6 Galway City Ring Road (GCRR) is underpinned by the fact that a modern economy requires world-class road transport infrastructure that is sustainable from an economic, social and environmental perspective. An efficient transport network which works for Galway City and environs will improve access to the Western Region, enhancing its attractiveness for inward investment

and new employment opportunities and will contribute to enhanced competiveness by reducing transport costs.

The need to deliver the N6 Galway City Ring Road is supported in terms of policy from European to local level. The N6 GCRR is congruent with current transport policy and planning policy as set out in the various policy documents over the past number of years. Specific details for each of the policies and how the N6 GCRR complies with these and more local and regional policies are outlined in **Chapter 2, Planning and Policy Context**.

The specific project need is defined in terms of its potential to solve existing transport issues in Galway City and environs which include but are not limited to the following:

- Congestion throughout the city road network due to capacity failures at existing junctions
- Journey time unreliability and variability throughout the day
- Peak hour traffic delays
- By-passable traffic is in conflict with internal traffic
- Safety concerns as a result of traffic congestion
- Strategic traffic is in conflict with local traffic
- Inadequate transport links to access markets within the city
- Accessibility issues for Galway City and the Western Region as a whole
- Prolonged journey times and delays on the current bus network
- Reduced opportunities for safe and comfortable cycling
- Connectivity issues on the National and Regional road network
- Impact of traffic congestion on the city's reputation, particularly with regard to inward investment

As a Gateway to the Connemara and the Western Region, connectivity and accessibility to and through Galway City is essential in aiding the region to revitalise, improve and develop into the future. Providing well developed transport links via roads, rail and air to the Western Region enables enterprises and the local economy of the west, to grow and develop as a viable alternative to the east coast corridor which is of significant public interest at a national level.

More sustainable and reliable infrastructure links to and from the Gaeltacht areas of the Western Region enables Irish language speakers to choose to remain in their native areas, and develop its economy in a way that is both language and culture friendly, halting the recent decline in population. It is of public interest at national level to preserve our heritage including our native language.

Galway City itself is a destination for strategic traffic to locations east and west of the River Corrib. The proposed road development addresses the need to connect these strategic destinations.

In tackling the city's congestion issues, the proposed road development will provide a better quality of life for the city's inhabitants and provide a much safer environment in which to live. By reducing the number of cars on the roads within the city centre and improving streetscapes, workers and students are facilitated to commute using multi modal transport means. This includes travelling on foot, by bicycle and on the public transport system. As a result, more sustainable travel is supported and encouraged and smarter travel policies both at a national level and local level are achieved. This is of overriding public interest at a local level in Galway itself, but more importantly for the entire Western Region as Galway is at the core of the region and needs to be able to function efficiently to serve the region.

The proposed road development will assist with the removal of traffic congestion from within Galway City and its environs by transferring existing and future traffic from the existing road network to the new road infrastructure. Relief of congestion in the city is essential to facilitate the improvement of the existing public transport network through measures such as the reallocation of road space, provision of a cross-city high frequency bus network, park and ride facilities, and or complementary traffic measures such as bus priority at junctions. Therefore, journey times will reduce and journey time certainty will increase for both public transport and private vehicle users. The reduction in traffic congestion will also help to realise other proposed actions in the Galway Transport Strategy because the existing road space can also be reallocated for cyclists and pedestrians. This will result in reducing the number of short commuter journeys by car by facilitating journeys by bicycle which are faster, cheaper, and more sustainable and generate health benefits.

Achieving the targets as set out in Smarter Travel policies will deliver a more attractive, vibrant and economic Galway City with associated health and environmental benefits, all of which are necessary for sustainable travel into the future. The proposed road development aligns with these policies and this project is necessary to firstly resolve the congestion issues which are currently restricting maximum implementation of the Smarter Travel policies by supporting sustainable transport policies for shorter commutes.

The need for an integrated transport solution which will relieve the congestion which is restricting Galway currently guided the development of the Galway Transport Strategy, of which the N6 GCRR is a key element, as this congestion is experienced by all travellers using various transport modes.

Therefore the functionality of the N6 GCRR is twofold. It provides for the strategic need of the TEN-T comprehensive road network and connectivity of Galway City and the West Region to the national road network, as well as providing a solution to relieve the city centre roads of unnecessary strategic traffic and providing the necessary road space for other modes of transport, namely walking, cycling and public transport. These two functions are complementary and the need for the N6 GCRR is supported by the policies below:

- Policies at European Union level, as expressed in the EU Sustainable Development Strategy, at national level in the Climate Action and Low Carbon Development Act 2015 and subsequent policies at regional and local levels, have identified the need for a sustainable transport solution to the type of traffic

issues currently experienced in Galway City and its environs which can be alleviated through the delivery of the Galway Transport Strategy of which the N6 Galway City Ring Road is a key element. It is also consistent with Smarter Travel, A Sustainable Transport Future, 2009 and Irelands National Cycle Policy Framework, 2009 to 2020

- Policies at European Union level, as expressed in the TEN-T Regulations, supplemented by policies at national, regional and local levels, have identified an objective for a high quality road to connect Galway to the core Trans-European road network
- Connectivity and accessibility to markets, employment and tourism offerings in Galway City and its environs, underpins the economic development of the Western Region as a whole, with Galway City as the hub
- The proposed road development is consistent with the recommendations, priorities and objectives as set out in the DTTaS 2015 investment framework and the Capital Plan, as it seeks to deliver the N6 Galway City Ring Road, address urban congestion in Galway City, and enhance national development through improved connectivity to Galway
- The proposed road development is a component of an overall transport strategy driven by a need to relieve traffic congestion in the urban centre of Galway which in turn facilitates a modal shift to public transport, cycling and walking

The N6 GCRR represents the best solution to the transport issues described above and supports more sustainable travel for the following reasons:

- It will provide a **strategic route,** forming part of the TEN-T comprehensive network, across the River Corrib without the need to go through the city
- This strategic route will be of a **high standard** cross-section and will provide the **capacity required for the strategic traffic** serving the city and connecting the county to the national network
- Improves **connectivity to the Western Region** i.e. the county areas and hinterland beyond the city zone and provides the necessary connectivity to all the national roads and the Western Region and for those living within Galway and the rest of the country
- Moreover, access to this strategic route is limited to the junctions which will **protect the road asset in the future** and means that its **capacity is secure**
- This route is of European importance given that the **TEN-T comprehensive network designation** extends west of the city to the terminus of N6 GCRR and will provide a link to the Western Region of the standard of a comprehensive route in accordance with TEN-T
- Provides for **strategic traffic accessing Galway City** and connectivity with zones of traffic generators and attractors
- This route provides connections to **essential city links** to better distribute traffic
- It meets the functionality of the **road component of the overall intermodal transport solution** and enables the reallocation of existing road space within the city to public transport and smart mobility measures and is part of a

sustainable holistic transport solution. Thus, facilitating a **more efficient public transport system** and the provision of a **multi-modal choice of travel**

- **Improves safety** levels for all public road users
- By **tackling the city's congestion issues**, it will provide a **better quality of life** for the city's inhabitants and provide a much **safer environment** in which to live
- By **reducing the number of cars** on the roads within the city centre and improving streetscapes, workers and students are facilitated to commute using **multi-modal transport means**. This includes travelling on foot, by bicycle and on the public transport system
- Provides connectivity to the national roads via junctions to maximise the transfer of cross-city movements to the new road infrastructure, thus **releasing and freeing the existing city centre zone from congestion** caused by traffic trying to access a city centre bridge to cross the River Corrib
- Attracts traffic from the city centre zone thus facilitating reallocation of road space to public transport leading to **improved journey time reliability for public transport**
- **Caters for the strong demand** between zones on either side of the city
- Provides additional river crossing with **connectivity back to the city** either side of the bridge crossing
- Facilitates **improved city centre environment** for all due to reduced congestion, thus **encouraging walking and cycling** as safe transport modes