

IN THE MATTER OF AN APPLICATION TO
AN BORD PLEANÁLA

FOR APPROVAL OF (I) THE N6 GALWAY CITY RING ROAD
PURSUANT TO SECTION 51 OF THE ROADS ACT 1993 (AS
AMENDED); (II) THE N6 GALWAY CITY RING ROAD
MOTORWAY SCHEME 2018; and (III) THE N6 GALWAY CITY
RING ROAD PROTECTED ROAD SCHEME 2018

ABP Ref. ABP-302848-18 and ABP-302885-18

ORAL HEARING

Brief Summary of Proposed Development

by

Mike Evans, BEng, CEng, Arup

Eileen McCarthy, BEng, CEng, MICE, PE (USA), Arup

18 February 2020

1 Introduction

- 1.1 My name is Mike Evans. I am a Director of Arup and I lead Arup's Transport and Infrastructure Sectors in Europe. I have acted as project director on the N6 Galway City Ring Road (N6 GCRR) project since project commencement in January 2014. Together with my colleague, Eileen McCarthy, who has been working as project manager since project commencement, we will provide a brief summary of the proposed road development.

2 Summary of the proposed road development

2.1 Overview

- 2.1.1 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.
- 2.1.2 As Galway City and its environs continue 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.
- 2.1.3 Galway City and its environs have critical transport issues that require urgent resolution. There is a significant lack of capacity with pedestrians, cyclists, vulnerable road users, public transport, freight and private cars all competing for space on a congested road network. Peak delays are significant and are extending over a greater portion of the day.

The transport issues facing Galway City and its environs are summarised as follows:

- Congestion throughout the city road network
- Over capacity of existing junctions
- Journey times which are unreliable with unpredictable delays
- Journey time variability throughout the day
- Peak hours 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

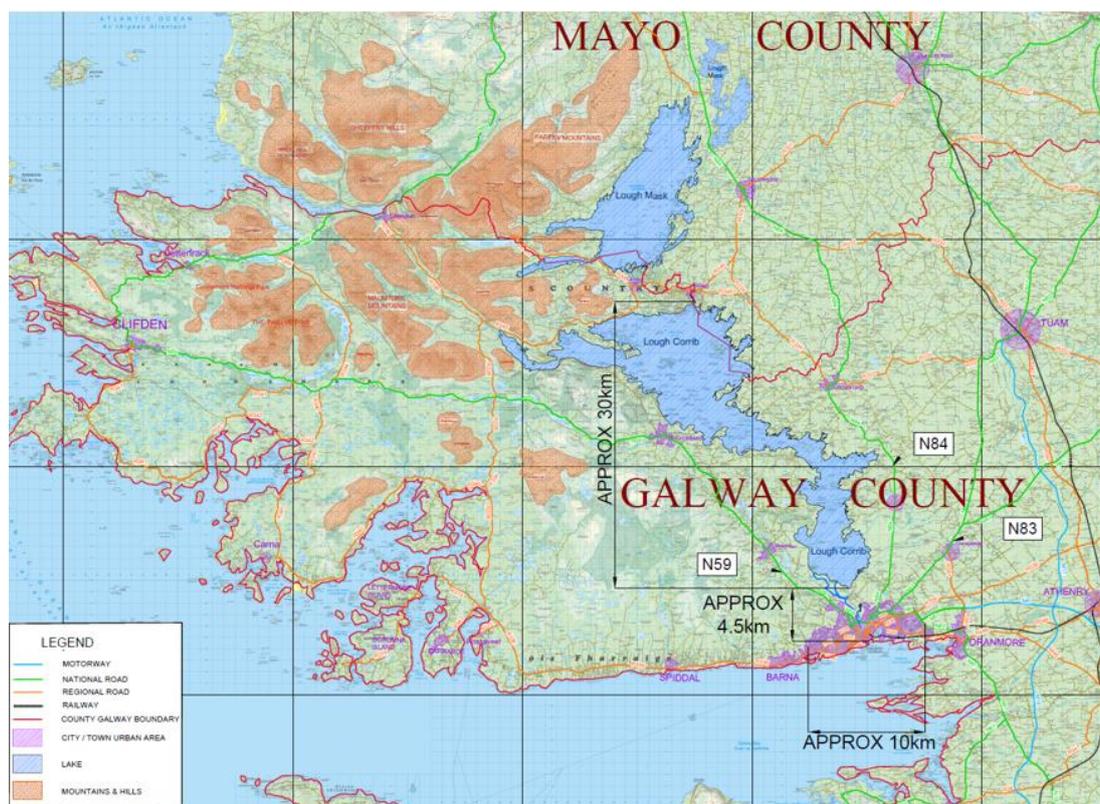
- Lack of available space to facilitate the improvement of non-motorised modes of transport

2.1.4 Essentially, the traffic congestion in Galway City and its environs is crippling and stifling city living as well as cutting off access from the wider region to employment and services in the city. The total breakdown of the transport network in Galway occurs on a frequent basis as there is no resilience in the network for example on a wet afternoon, during road maintenance, in the event of a vehicle collision and during 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.

2.2 Significant Constraints in Seeking a Solution

2.2.1 In considering any solution to the transport problem that is crippling Galway, the physical characteristics of the City and its environs present significant constraints to the development of new transport infrastructure for the city arising from: (i) the physical form of the city (ii) the limited space available (iii) the built environment and residential areas on both sides of the River Corrib, and (iv) the presence of designated sites of international significance. In that regard:

- 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 within which lies Galway City.
- Galway City is a linear city spanning approximately 10km in an east-west direction and 3km in a north-south direction which is bisected in a north-south direction 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.
- Galway 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 the city being designated of international importance.
- The low density of the suburbs of Galway has led to reliance on private car usage as the predominant means of travel and makes it difficult to develop an economically efficient public transport solution.

Figure 1: Natural Constraints of Galway City and its environs

2.2.2 The physical form of the city in terms of the built and natural environment and residential areas on both sides of the River Corrib, together with the limited available space between the lake and the bay, plus the presence of the designated sites all present significant constraints for developing new infrastructure for the city and of which we had to be fully cognisant of in developing a solution to the pressing transport need.

2.3 Development of the Transport Solution

2.3.1 At the outset of our work to re-examine a transport solution for Galway, it was recognised that an assessment of overall transport demand was required so as to understand comprehensively the transport problem we were seeking to solve. This assessment needed to consider whether alternatives to major new road construction existed in the context of sustainable transport policy. A key conclusion of this initial assessment of the transport problem was that through traffic or by-passable traffic is not the major component of the problem and that any improvement to the national road network, if required, needed to be developed within the context of an overall transport strategy for Galway that comprehensively considered all modes.

2.3.2 It was also clear from the assessment that an overall vision as to how all modes would work together in Galway in the future was required so that the optimum solution is advanced. Our demographics are changing in Ireland with an increase in population in our cities, which is in line with national policy. This densification of our cities is only possible with a sustainable transport network.

- 2.3.3 Consequently, a separate team was commissioned to develop an overall transportation strategy for Galway. This work was led by Galway City Council, in conjunction with Galway County Council and the NTA, and culminated in the publication of the Galway Transport Strategy (GTS).
- 2.3.4 In order to achieve a connected city and environs, the GTS seeks to deliver an integrated network of ‘links’ (routes) and ‘nodes’ (stops and interchange locations) along which people can travel seamlessly, changing corridors and modes as necessary to make their journey. The strategy provides for routing of traffic which currently passes through the centre (to reach edge-of-centre locations) to more suitable orbital routes around the core city centre area. This facilitates prioritisation of active modes (walking and cycling) and public transport in the city centre and across the city centre which is essential to achieve mode shift in favour of more sustainable transport.
- 2.3.5 The GTS recognised that some journeys across the city are not always convenient by non-car modes and considered it necessary to provide a resilient/reliable cross-city route via an orbital route for travel by road. The GTS recognised the need for additional orbital traffic capacity so as to facilitate the re-allocation of existing road space for use by pedestrians, buses and cyclists, and in particular identified the need for additional crossing of the River Corrib to effectively implement the orbital route. In parallel with the development of GTS, work was carried out on possible options for a new crossing of the River Corrib and how this could be connected to the existing road network.
- 2.3.6 If we describe Galway as a rectangular shaped linear city, then its road and street network could be described as having a central spine running east to west along N6 Bóthar na dTreabh across the River Corrib at Quincentenary Bridge, linking to the Seamus Quirke Road (R338) to link to the R337. Into this central spine feed several radial routes. There is also a second east-west link on the southern edge along the Old Dublin Road leading to Wolf Tone Bridge and then converging with the central spine at Kingston Road. Contained between these two principal east-west links on either side of the River Corrib is the city centre area. Refer to Figure 2 below.

Figure 2: Existing Road Network of Galway City and its environs



Figure 3: Existing Road Network and Population Centres

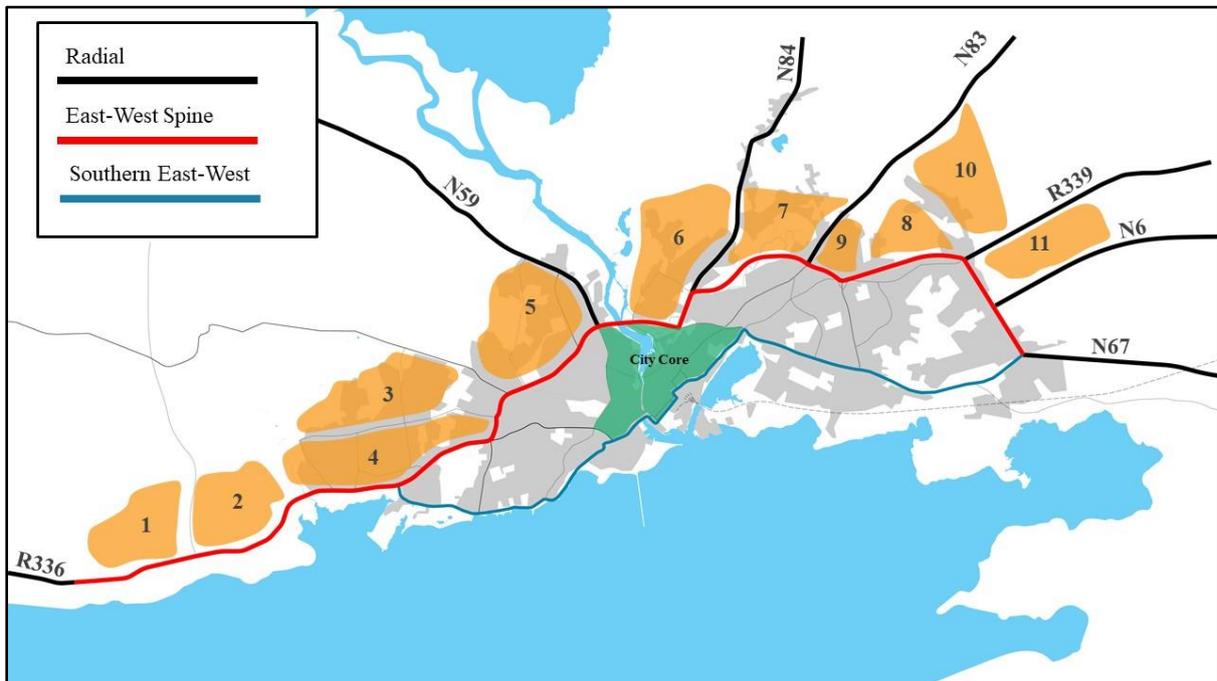
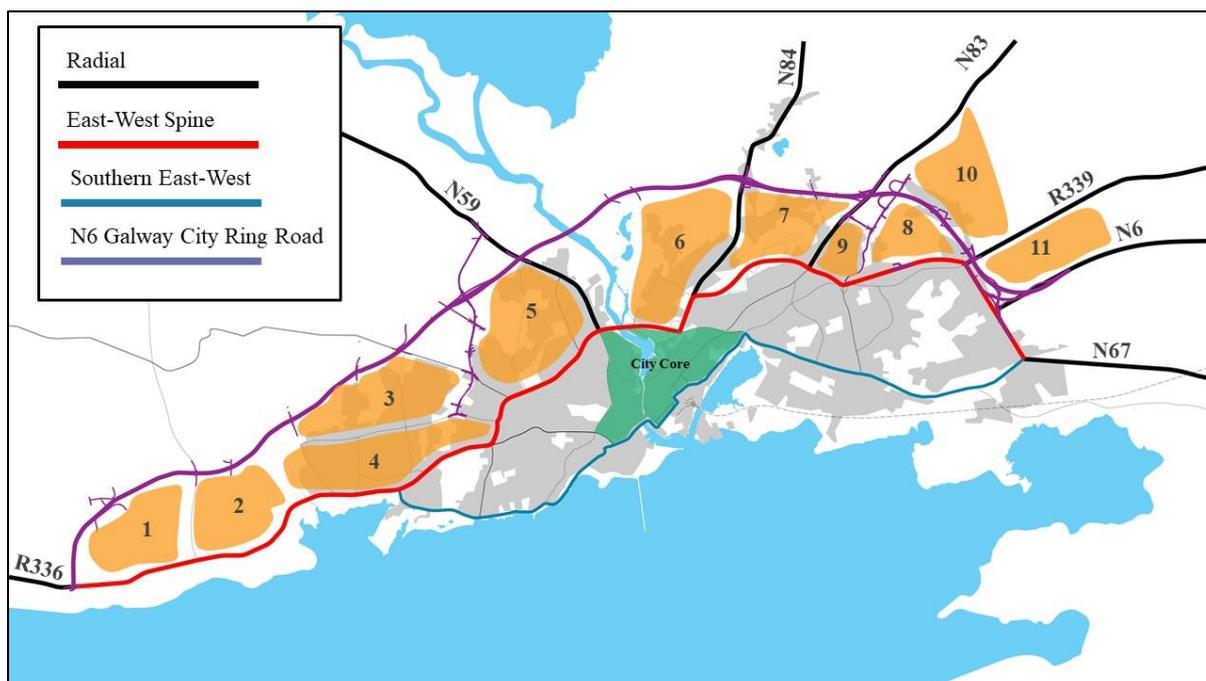


Figure 4: Overlay of N6 Galway City Ring Road

2.3.7 It is apparent the road network is undeveloped along its northern half. This results in Galway lacking the connected road network which would facilitate more direct travel. For example, journeys from the residential areas to the west of the city generally enter the central spine of the city centre road network in the morning peak to travel to education and employment centres to the east of the city and vice versa. Traffic entering the city on the radial routes can only be dispersed across the city by using the same central spine. There are also key north-south links missing from the network such as the link from the N59 Clifden Road to the Letteragh Road to the Ragoon Road, and the missing links between the two major employment centres on the east side of the city, Parkmore and Ballybrit, and their connection to the road network. With these links missing, all traffic has to come in to the city to access the spine road before it then can move around the city or bypass the city. Thus, the existing road network results in too many vehicular journeys entering the city centre area. This crowds out the space for active modes and public transport.

2.3.8 The proposed N6 GCRR provides the required outer edge route developing the road network of the northern half of the city which will facilitate more direct journeys, divert through traffic away from the central spine and facilitate the reallocation of road space in the city centre to active modes and public transport.

2.3.9 As there are less trips in the city, there is less congestion which in turn makes public transport more attractive and mode share on public transport and walking increases.

Once the GTS is fully implemented, which includes significant interventions to reallocate freed road space in the city centre to public transport, there will be a more significant shift to public transport and sustainable transport modes.

Given the built environment and the unavoidable proximity of the proposed N6 GCRR to residential areas, the proposed road development will unfortunately and

unavoidably result in a number of property demolitions and business acquisitions. However, this must be viewed and balanced in the context of the overall benefits that the proposed N6 GCRR will deliver which include the provision of a strategic route across the River Corrib without the need to go through the city thus releasing and freeing the existing city centre zone from congestion. This in turn will provide a better quality of life for the city's inhabitants, improve journey time reliability for public transport encouraging walking and cycling as safe transport modes and ultimately provide a much safer environment in which to live. The N6 GCRR is the optimum solution for a new road and is consistent with proper planning and sustainable development.

2.4 What is the N6 GCRR?

2.4.1 The proposed N6 GCRR comprises of approximately 5.6km of a single carriageway from 2km west of Bearna Village as far as the Ballymoneen Road and approximately 11.9km of dual carriageway from Ballymoneen Road to the eastern tie in with the existing N6 at Coolagh, Briarhill. The section of the proposed N6 GCRR from the tie-in with the R336 Coast Road to the N59 Letteragh Junction is a protected road and the section from this junction to the tie-in with the existing N6 at Coolagh, Briarhill is a motorway as shown in Figure 2.4.1.

In order to ensure that the transport solution was properly addressed and taking into account the natural and physical constraints described above, significant engineering interventions are required including:

- River Corrib bridge structure over River Corrib
- Lackagh Tunnel structure beneath Lough Corrib cSAC
- A viaduct structure over non-designated habitat in Menlough

In addition, the desire to reduce the impact of the N6 GCRR on lands which serve a wide community has driven some significant engineering interventions namely:

- A viaduct structure extending from the River Corrib Bridge to traverse NUIG Sporting Campus
- Galway Racecourse Tunnel structure under the racecourse

2.4.2 There is one modification proposed to the alignment of a link road forming part of the proposed road development at Ballybrit Business Park and some amendments to the mitigation strategy at NUIG which shall be addressed in the engineering statement of evidence.

Figure 5: Route of the N6 GCRR**Key Elements**

1. 6km single carriageway & 12km dual carriageway/motorway
2. 8km Protected Road Scheme & 10km Motorway Scheme
3. Total landtake 280 hectares
4. River Corrib Bridge (length 620m)
5. Menlough Viaduct (length 320m)
6. Lackagh Tunnel (length 250m)
7. Galway Racecourse Tunnel (length 230m)
8. 4 at grade & 4 grade separated junctions



2.5 Why the N6 GCRR?

2.5.1 The proposed N6 GCRR sits within the overall transport system. It adds a key new east-west spine to the road network and important north-south links to provide the interconnection to the new spine. It addresses the transport problem in Galway City by achieving two key objectives in developing the city's transport system which will enable sustainable and consolidated development.

1. It adds trip capacity to the existing transport network thereby reducing trips through the city centre and, in particular, within and on the City Centre Access network as identified by the GTS. As mentioned above, as there are less trips in the city, there is less congestion which in turn makes public transport and active travel modes more attractive.
2. The new links incorporated as part of the N6 GCRR provide for the strategic need of the national road network and connectivity of Galway City and the West Region to the national road and Ten - T network. Arriving and departing trips to the city can enter and leave the city on routes which do not require them to enter the city centre unless that is their destination. By-passable trips are kept away from the city centre.

2.5.2 The N6 GCRR will also facilitate the population growth and compact and sustainable development of Galway City envisaged the NPF by providing the space on the transport network for allocation of space to public transport and active modes.

2.5.3 Furthermore, once the GTS is fully implemented, which includes interventions to re-allocate the freed road space in the city centre to public transport, there will be an even greater significant shift to public transport and sustainable transport modes.

2.6 N6 GCRR compared with N6 Galway City Outer Bypass

2.6.1 Alternatives were examined during the route selection phase one of which included the N6 Galway City Outer Bypass Scheme of 2006 (N6 GCOB). This alternative is discussed and appraised in detail at Section 4.7.2 Chapter 4 of the EIAR. Further detail on the how the routes were developed is given in Section 5.3 of Chapter 5 of the Route Selection Report which is contained in Volume 3 of the Request for Further Information (RFI) Response.

2.6.2 The N6 GCOB was a road improvement scheme which sought to alleviate congestion and traffic delay by segregating by passable or strategic traffic from the road network of Galway. As is typical of such an approach the solution developed was relatively remote from the road network of the city and relied on the existing road network of the city to collect and disperse traffic with origins and / or destinations in the City.

2.6.3 The N6 GCRR was developed in a different context where it was clear the proposed solution needed to sit in a sustainable transport plan for the city. As such it's provision of additions to the road network is more holistic in its approach. Not only does it provide for by passable traffic but better provision is made for collection and dispersion of traffic to and from the national road network and trips within Galway including active and public transport modes.

2.6.4 Figure 1.9.1 of Appendix A.1.12 of the RFI Response is presented in Figure 6 below.

Figure 6: 2006 GCOB and N6 GCRR



2.6.5 Comparing that part of the 2006 GCOB Scheme which was approved to the east of the N59, including the N59 junction, to the current proposal, the N6 GCRR provides a much better transport solution than the 2006 GCOB Scheme on the eastern side of Galway City for the following reasons:

- Supports land use planning that delivers compact and sustainable growth
- It then aligns better with sustainable transport and climate change mitigation strategies
- It functions better as required to do by the GTS in providing an alternative orbital route
- It is much better connected to the city road network
- It has a lesser impact on the natural environment

I will now demonstrate how the N6 GCRR delivers on each of the above very significant advantages over the 2006 GCOB Scheme.

Supports land use planning that delivers compact and sustainable growth

2.6.6 A key change since 2006 in terms of transport planning is that more emphasis is placed on supporting land use planning that delivers compact and sustainable growth. The N6 GCRR was conceived as part of the GTS and as a consequence is better at providing the following transportation outcomes in a better way than the 2006 GCOB Scheme:

- The N6 GCRR diverts more trips from the city centre than the 2006 GCOB Scheme. This will create better opportunity to dedicate more road space to active modes and public transport
- The N6 GCRR provides a new direct route from Parkmore to the city centre. This new route will allow better connection of Parkmore and Ballybrit to the city centre by active modes and public transport
- The N6 GCRR creates a new road network on the north east side of Galway City which will allow for much more direct journeys
- The N6 GCRR provides better connection to the key employment centres on the eastern side of the city. This is in terms of their connection to the city centre, residential areas of the city and the national road network. By not directly connecting them, the 2006 GCOB Scheme provided much less relief to congestion at Briar Hill, Parkmore, Ballybrit and along N6 Bóthar na dTreabh

Aligns better with sustainable transport and climate change mitigation strategies

2.6.7 By delivering a transport solution that supports compact and sustainable growth the N6 GCRR will enable employment and residential growth in the city on brownfield and infill locations. Thus, population growth can be compact requiring less travel in absolute terms. In this way the N6 GCRR better aligns with sustainable transport and climate change mitigation strategies than the 2006 GCOB Scheme.

Provides a better alternative orbital route

2.6.8 The N6 GCOB is located further north from the city than the N6 GCRR. This makes it less effective in diverting trips. The further north any route is, the less effective it will be in performing the function it is required to do by the GTS, which is to provide an alternative orbital route.

Provides better connection with the city road network

2.6.9 The N6 GCRR is located closer to the city than the 2006 GCOB and as a consequence it is much better connected to the road network of the city.

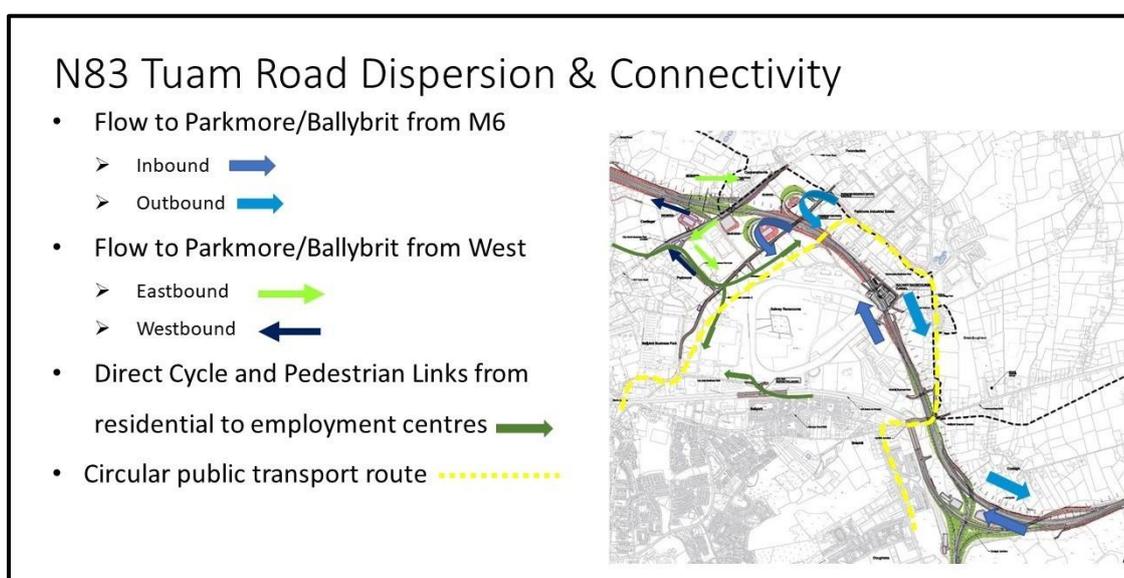
2.6.10 This is particularly the case at the following locations:

- The N6 GCRR provides a new link connecting the N59 Clifden Road to the Letteragh Road and on to the Ragoon Road. Trips from the south west of the city have much better access to the N6 GCRR than would have been the case with the N6 GCOB. Furthermore, better connections over shorter more direct

routes are provided between areas within the city and for trips to and from the N59.

- The N6 GCRR passes through a key employment centre of Galway City and indeed the west of Ireland enclosed roughly by the N83, N6 and Parkmore Road whereas the 2006 GCOB passes to the north of it. Within this area is located Ballybrit Business Park, Briarhill Business Park, Galway Racecourse, Galway Technology Park and Parkmore West and East Business Parks. The N6 GCRR includes a new road network that provides for much more direct journeys to be made. This is best explained on this figure below.

Figure 7: N83 Tuam Road



- A new connection is provided from the N83 Tuam Road into both Ballybrit Business Park and Parkmore and a new connection is made from Parkmore to Ballybrit Business Park and onto N6 Bóthar na dTreabh. This new road network distributes traffic from the proposed N6 GCRR to destinations in this area in a very direct fashion. It also facilitates much more direct journeys for other trips on the road network by all other modes; for example, from the N83 Tuam Road to Ballybrit Business Park and Parkmore West and East Business Parks via the City North Business Park Link – a 400m link which avoids a circuitous unnecessary trip on the national road network. Finally, this new road network provides a direct link from N6 Bóthar na dTreabh through Ballybrit Business Park north into Parkmore Business Park creating the opportunity for, much more direct, active and public transport mode journeys to and from the city centre.
- The N6GCRR provides a significant improvement of the road network at the location of the existing N6 / N67 junction. Trips from the N67 can access the N6 GCRR in a convenient manner at the N6 Coolagh Junction. Such trips would have continued to be directed to the existing road network in the case of the 2006 GCOB.

- 2.6.11 These connections explain how the N6 GCRR is better connected to the city road network and in being connected, it is able to provide a solution that provides a more sustainable transport outcome than the 2006 GCOB.
- 2.6.12 The better developed road network of the N6 GCRR when compared with the 2006 GCOB is more efficient in dealing with trips arriving and departing on the radial routes. The N6 GCRR is more efficient in dispersing trips from the N59, N84, N83 and N67 around the city. In particular the N6 GCRR caters for the N83 by providing a junction for it which the 2006 GCOB did not.
- 2.6.13 The better developed road network of the N6 GCRR when compared with the 2006 GCOB is more efficient in dealing with trips within the city. The N6 GCRR enables diversion of trips from the city centre and the City Centre Access Network which is being developed by the GTS to a much greater extent than the 2006 GCOB.
- 2.6.14 As it is further away from the northern edge of the city most trips on the 2006 GCOB diverted from the existing network would be longer. Reducing the length of trips is key to reducing emissions.

Has a lesser impact on the environment

- 2.6.15 The N6 GCRR provides a solution which is much less impactful on the environment than 2006 GCOB for the following reasons:
- It does not have an adverse impact on the site integrity of the Lough Corrib cSAC which the 2006 GCOB did per the European Court decision
 - It does not split the curtilage of Menlo Castle whereas the 2006 GCOB passed through it splitting the gate lodge from the castle itself which was deemed a profound impact from a cultural heritage perspective and on the amenity value from Human Beings perspective
 - It provides direct pedestrian and cycle access between two significant employment centres on the east in Parkmore and Ballybrit, where currently companies operate out of both parks, which improves the journey amenity
 - It provides improved options for public transport routes in line with the requirements of GTS, again which improves the amenity of the journey to work on a daily basis

3 The Solution and its Benefits

3.1 The N6 GCRR represents the best solution to the transport difficulties in Galway City and supports more sustainable travel for the following reasons:

- It will provide a strategic route across the River Corrib without the need to go through the city
- It 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
- It will improve connectivity to the Western Region i.e. the county areas and hinterland beyond the city zone
- Access to this strategic route will be limited to the junctions provided which will protect the road asset in the future and means that its capacity is secure
- It 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 the TEN-T Regulation
- It will provide connections to essential city links to better distribute traffic
- By tackling the city's congestion issues, this route 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
- It will provide 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
- It will attract traffic from the city centre zone thus facilitating reallocation of road space to public transport leading to improved journey time reliability for public transport
- It will cater for the strong demand between zones on either side of the city
- It will provide an additional river crossing with connectivity back to the city either side of the bridge crossing
- It will facilitate an improved city centre environment for all due to reduced congestion, thus encouraging walking and cycling as safe transport modes

- 3.2 The proposed road development will also facilitate the implementation of the GTS and an integrated transport solution incorporating a modal shift within Galway City.
- 3.3 The considerable benefits of the proposed road development far outweigh the potential negative impacts on the receiving environment.