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An Bord Pleanála
64 Marlborough Street
Dublin 1

18th December 2018

Re: Proposed N6 Galway ring road
Your Ref: 07.302848
My Ref: 15-1089

Dear Sir

I act on behalf of the Galway N6 Action Group Company Limited of 7 Ard Na Locha, Upper Dangan, Bushy Park, Galway. The company directors are Stephen Meagher and John Hughes and the company secretary is John Hughes . This company was set up by a group of residents of the Dangan area of Galway City with the objective of representing their interests in the proposed development of a ring road around Galway City – the N6 Galway City Ring Road (N6GCRR). I make this submission on their behalf concerning this application (reference 07.302848) as submitted to the Board. Please direct further correspondence to myself at the above address.

Yours Sincerely,

Stephen Dowds BA MRUP MIPI

Submission on Application to An Bord Pleanála under S. 37 of the Planning and Development Act 2000

Application Ref:	07.302848
Submission from:	Galway N6 Action Group Company Limited
Applicant:	Galway City and County Councils
Development:	N6 Galway City Ring Road (N6 GCRR)
Location:	Galway City and Environs

INTRODUCTION

I act on behalf of the Galway N6 Action Group Company Limited of 7 Ard Na Locha, Upper Dangan, Bushy Park, Galway. The company directors are Stephen Meagher and John Hughes and the company secretary is John Hughes . This company was set up by a group of residents of the Dangan area of Galway City with the objective of representing their interests in the proposed development of a ring road around Galway City - the N6 Galway City Ring Road (N6GCRR). I make this submission on their behalf concerning this application (reference 07.302848) as submitted to the Board.

The residents involved in this submission are:

Michael Murphy	Dangan
Kevin Gill	Cappagh
Henry Bourke S.C.	Dangan
Tom Kilgarriff	Circular Road
Prof. Michael Kerin	Dangan
John Hughes	Dangan
Paddy O'Malley	Dangan
Stephen Meagher	Dangan
Marie O'hEocha	Dangan
Noel Flynn	Dangan
Donal Courtney	Dangan
Gerald & Nessa Lawless	The Heath

The development proposed is described as a ring road. It passes around and through the city of Galway intended to link the existing Dublin Road (N6/M6) to the Tuam Road (N83), Headford Road (N84), Moycullen Road (N59) and the coast road to An Spideál (R336). The proposed road is motorway standard for the most part but the western section, west of the proposed link to the N59, is single carriageway.

We state below our concerns regarding this project and we ask the Board to reject it as we believe that the entire scheme is miss-conceived. The analysis on which the Environmental Impact Assessment Report (EIAR) is based is in our view flawed:

- The analysis of alternative solutions such as public transport is flawed;
- The route selection process is flawed and is excessively concerned with impacts on flora and fauna to the detriment of impacts on humans;
- The purpose of the road is confused - is it a bypass, an urban distributor road, a ring road?
- The proposed alignment is inappropriate and seriously damaging to people, property, housing and residential communities.
- Mitigating measures that could have reduced such impacts - e.g. tunnelling to avoid residential communities - have not been considered;
- The scale of the project (full motorway design for the majority of its length) is excessive and has not been justified.
- The project will have a devastating impact on the residential community at Dangan including the demolition of houses, severance of communities, loss of amenity and associated impacts of noise, dust, vibration and general disturbance.

- The proposal to thread a motorway through an urban area is misguided and will have significant health implications for residents in the vicinity of this road.

The Site

The site of the proposed road is in and around the city of Galway on its northern side. In places it is within the jurisdiction of Galway City Council and in places Galway County Council. The road begins on the eastern side of the city with a tie in to the existing Dublin motorway/dual carriageway (M6/N6). In places it crosses over zoned lands and in places it passes through established residential areas, the most significant being those at Dangan where 7 houses are to be demolished and at Ballindooley where 14 are to be demolished.

The site passes through zoned lands (as designated in the current Galway City Development Plan 2017-23). These are shown in Figures 15.4.01 and 15.4.02 in the EIAR which we reproduce below.

Fig. 01 Extract from EIAR (Fig. 15.4.01)

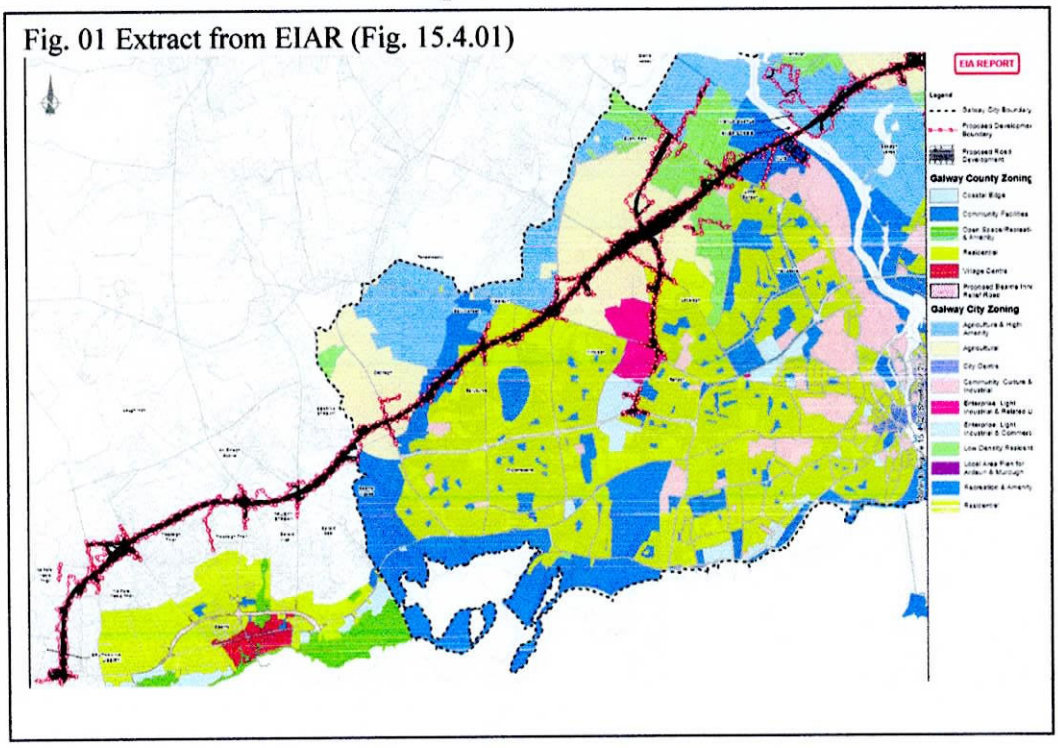
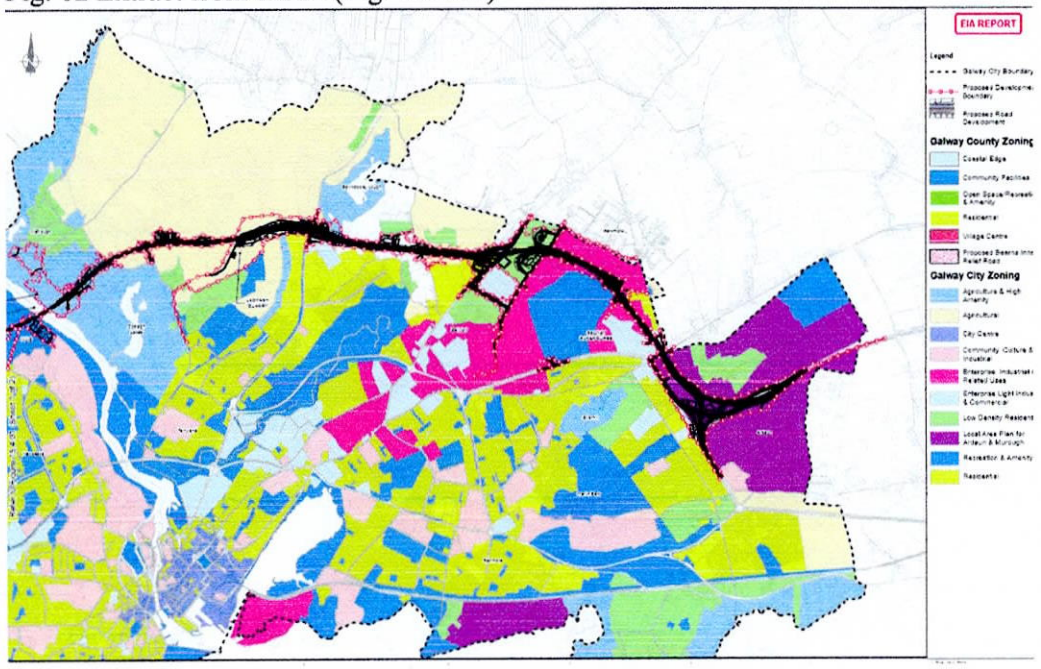


Fig. 02 Extract from EIAR (Fig. 15.4.02)



As can be seen in the two figures above, the road passes through extensive areas of zoned lands including:

- Residentially zoned lands (R) at Knocknacarra,
- Low Density Residential Lands (LDR) at Dangan,
- Recreation and Amenity lands (RA) at Knocknacarra and Dangan (NUIG sports grounds),
- High Amenity lands (G) on the eastern bank of the River Corrib
- Lands zoned for enterprise and industry (I) at Parkmore,
- Lands zoned for enterprise, light industry and commercial use (CI) at Parkmore, and
- The area designated for major urban expansion on the eastern side of the city at Ardaun (the Ardaun and Murrough Local Area Plan.

Much of the route is therefore either urban in character or is zoned as such for future development.

The proposed road links the M6/N6 to the east of the city with the N83 (Tuam Road), the N84 (Headford Road) and the N59 (Moycullen Road) at full grade separated junctions. West of this, it downgrades to a single carriageway road linking to a number of local distributor roads in the Knocknacarra and Bearna areas.

The Galway N6 Action Group Company Limited represents a group of residents at Dangan; one of the urban areas most impacted upon by the proposed roadway. It is located on the N59 (Moycullen Road) on the western side of the river Corrib. There are two housing schemes here which are mainly affected.

- Aughnacurra, a scheme of 13 detached dwellings with a 14th adjoining which opens directly on to the Moycullen Road (N59).
- Ard na Locha, an uncompleted estate of 7 houses and 4 sites.

Aughnacurra is on the eastern side of the existing N59 (Moycullen Road) and Ard na Locha is more or less opposite, on the western side.

There is also a national school (Bushy Park close by and the route passes through the sports grounds of NUIG between the River Corrib and Aughnacurra.

Planning Background

The following is not intended as a comprehensive review of all relevant policy documents but focuses primarily on the documents that are relied upon in this submission. A more comprehensive review is contained in the EIAR.

Smarter Travel: A Sustainable Transport Future (2009-2020).

This policy document was published in 2009. It seeks the development of a sustainable transport system for the country. Objectives include the reduction of travel demand and commuting distances. Dispersed development is to be discouraged. It is hoped that work related travel by car will fall from 65% to 45%.

Regional Planning Guidelines (RPGs)

The development is located within the area covered by the Western Regional Planning Guidelines 2010-2022. It includes objectives to achieve a more sustainable form of transport including land use policies that minimise the need for travel, shifts to sustainable transport modes and the integration of land use and transportation policies (Objectives 101-103). There is an objective to complete the "*Galway City Outer Bypass*" (Objective 105, Item 2). There is also an objective to: "*Support the sustainable development of an integrated transportation system for Galway City and County areas …*" (Objective 109). These guidelines will be replaced by the new Regional Spatial and Economic Strategy (RSES).

City Plan

The current plan for the city of Galway is the Galway City Development Plan 2017-2023.

The Plan seeks to integrate transportation and land use noting problems of traffic congestion and very high car dependency. Policies to achieve this are included such as the co-ordination of zoning and transport, the promotion of public transport, walking and cycling etc. (Policy 3.2).

The plan refers to the Galway Transport Strategy 2016 which provides for improvements to public transport, cycling, walking etc. and also the construction of a new orbital route (Section 3.3).

> "*This route is not considered to be in conflict with an enhanced sustainable transport network as it will focus on supporting trips that cannot be facilitated by such measures such as city bound, cross-city and cross county movements. In this regard the planned N6 GCRR is considered to be part of the transport strategy for the city in order to deliver the necessary capacity and support the delivery of sustainable transport measures.*" (Section 3.3).

"Enhance the delivery of an overall integrated transport solution for the city and environs by supporting the reservation of a corridor route to accommodate an orbital route as provided for in the N6 GCRR project." (Policy 3.4).

Objectives include the following:

Implement the programme of actions and measures as provided for in the Galway Transport Strategy (GTS) in partnership with the National Transport Authority (NTA) and on a phased and co-ordinated basis, based on priority needs.
Reserve the preferred route corridor of the N6 Galway City Ring Road (N6 GCRR) project which has been selected to accommodate the requirements of an emerging strategic road and the associated bridge crossing of the River Corrib.
Give priority to the reservation of the N6 GCRR Preferred Route Corridor and the associated land requirements over other land uses and objectives in the City Development Plan and prohibit developments within the corridor which could potentially prejudice the development of this strategic road and river crossing. (Section 3.10)

County Plan

The statutory development plan for the county area is the Galway County Development Plan 2015-2021. This seeks an integrated approach to transport, access and land-use.

It is the policy of the Council to promote the development of an integrated and sustainable high quality transport system that shall: a) Promote closer co-ordination between land use and sustainable transportation; b) Continue the provision of a range of transport options within the County in collaboration with other statutory agencies and transport providers, including a safe road network, a range of bus and rail services, adequate facilities for walking and cycling and opportunities for air and water-based travel. (Policy TI 2 – Development of an Integrated and Sustainable Transport System)

Ensure that land use planning is integrated with transportation planning and reduces the need to travel, particularly by private transport, by; a) Promoting the consolidation of development through the implementation of the Core Strategy/ Settlement Strategy as outlined within this plan; b) Encouraging intensification and mixed use development at public transport hubs and nodes identified within the County; c) Prioritise walking, cycling and public transport alternatives within, and providing access to, new development proposals, as appropriate. (Policy TI 4)

The plan includes a substantial list of specific road projects including works to national roads (N17, N18, N59, N63, N65, N666, N67, N83 and N84) and to regional roads and also bypasses to Maigh Cuilinn, Baile Chláir and Oughterard. (*Table 5.1, Priority Transportation Infrastructure Projects for County Galway 2015-2021*). It is an objective to progress these projects (Objective TI 5). Separately, it refers to the following:

It is the policy of Galway County Council to work with Galway City Council and all relevant statutory bodies to develop an appropriate infrastructural response to the transportation needs of the Galway Gateway, its environs and the west of the County, with a view to relieving congestion, improving travel times, increased safety of all road users and enhancing connectivity and access within the region and enhanced accessibility of the western region in a national and international context. Any such

solution shall have due regard to the necessity to protect the environment and will comply fully with the requirements of the Habitats Directive. Policy TI 8–

It is an objective of Galway County Council to work with all other relevant bodies to deliver the necessary improvements to transportation infrastructure, including new infrastructure if necessary, to help secure the medium and long term economic and social development of Galway Gateway and the west of the County. Any such investment or project shall be carried out with due regard to the necessity to protect the environment and in full compliance with the provision of relevant legislation, including the Habitats Directive. Objective TI 15 - Transportation Infrastructure Requirements for the Gateway and West of the County

Galway Transport Strategy September 2016

The Galway Transport Strategy was adopted in September 2016 and is presented as an overall strategy for transport in the city in order to provide a sustainable transport system for the future. As well as road proposals, this document presents proposals for public transport, cycling, walking etc. In the current application to the Board, the road project (N6GCRR) is presented as an element of that overall strategy.

The strategy refers to

"An over-reliance on private cars" (section 1.2)

"The pattern of residential development in the area, along with the location of employment destinations, generating a large amount of cross-city as well as city-bound travel demand" (1.2)

"To promote and encourage sustainable transport" (1.3)

It is an objective of the Strategy to reduce reliance on the private car (2.6). It presents a justification of the proposed ring road (section 3.4.1.2). It is an objective to secure a shift to more sustainable transport modes (3.8.1).

Galway City Outer Bypass (GCOB)

The original proposal for a ring road around Galway was referred to as the Galway City Outer Bypass (GCOB). This route was significantly further out and significantly less damaging of residential areas.

The Bord's decision on the project (ref. 07.ER.2056) decided to approve part of the project and reject part. Essentially, it approved the section from the Dublin road (N6) as far as the Clifden Road (N59) and refused the westernmost section from there to Bearna:

APPROVE that part of the development between Junction M (Garraun) and Junction A (Gortatleva), inclusive of both junctions, based on the reasons and considerations marked (1) under and subject to the conditions set out below. REFUSE to approve that part of the development between Junction A (Gortatleva) and Junction W (An Baile Nua), including the western distributor connection, based on the reasons and considerations marked (2) under.

The latter section was refused for a single reason:

It is considered that the need for an outer bypass of Galway City connecting the N6/M6 National Primary Road at Garraun to the R336 regional coast road at An Baile Nua as an essential component of the strategic transport network of the Galway area has been established and that such a bypass would be fully consistent with the

policies and objectives of the Galway County Development Plan, 2003–2009 and of the Galway City Development Plan, 2005–2011. However, given that a section of the proposed road development would cut through Tonabrocky Bog which is:
(a) part of the Moycullen Bogs Natural Heritage Area,
(b) is an active blanket bog listed as a priority habitat in Annex I of the EU Habitats Directive (92/43/EEC as amended by 97/62/EC), and
(c) the site of a population of slender cotton grass eriophorum gracile which is a legally protected and vulnerable species [1999 Protection Order],
the Board is not satisfied, having regard to the report of the person who conducted the oral hearing into the application for approval of the proposed road development, to the Environmental Impact Statement and the submissions received in relation to the application, that the part of the road development being refused approval (between Junction A and Junction W) would not be prejudicial to the preservation of the Tonabrocky habitat or that the significant adverse effects on the environment would not be avoidable or could not be better addressed by an alternative route; it is considered, therefore, that the proposed road development between Junction A and Junction W would be contrary to the proper planning and sustainable development of the area.

The approved eastern section, however, infringed on an extended area of the Lough Corrib SAC. In a judgement of the Court of Justice of the European Union (CJEU) (reference C-258-11), it was noted that the GCOB would result in the loss of 1.47ha of limestone pavement in a distinctive sub-area of 85ha and out of a total 270ha of limestone pavement (Paragraph 12). This led to the decision of An Bord Pleanala being quashed by the Supreme Court.

Proposed Development

The development is presented as part of an overall transport strategy for the city of Galway - the Galway Transport Strategy (GTS). This is summarised in the section on Planning Background. It will be contested whether the GTS did in fact inform this project or whether the project was largely pre-determined prior to the carrying out of the GTS.

It is not proposed here to enter into a detailed description of the proposal but rather to highlight its main features as well as matters that are relevant to this submission. The proposed road is described as a 'ring road' and as a motorway. The application is submitted under Section 49 of the Roads Act 1993. The road, which is referred to as the N6 Galway City Ring Road (N6 GCRR), comprises 5.6 km of single carriageway from the western side of Bearna Village as far as Ballymoneen Road and 11.9 km of dual carriageway from Ballymoneen Road to the existing N6 at Coolagh, Briarhill. Various works to side roads and feeder roads are also proposed.

The following main constructions are included in the project:

- Grade separated junctions with the N59 (Moycullen Road), N84 (Headford Road), the N83 (Tuam Road) and at the tie in with the N6 (Dublin Road).
- A viaduct over the NUIG Sporting Campus immediately west of the River Corrib and a new bridge crossing of the Corrib (total length 620m)
- A viaduct at Menlough (320m), east of the Corrib.
- A tunnel (250m) at Lackagh

- A tunnel (230m) at Galway Racecourse

The single carriageway road at the Bearna end of the proposal has a total width (including verges) of 18.3m. This includes 2 x 3.65m lanes.

The dual carriageway has a total width of 27.6m. This includes 2 lanes of 3.5m in either direction. However, between the N84 (Headford Road) and N83 (Tuam Road) there will be 3 lanes by 3.5m in either direction. Here, the overall width is 34.6m.

There are some variations to the cross section at the Corrib crossing and the tunnels.

The development requires the demolition of a total of 44 houses and the acquisition of a further 10 houses (EIAR, P. 1519). This includes two houses to be acquired in Dangan and another 7 to be demolished. (Table 15.4, see also Figure 15.3.6) - five in Aughnacurra and 2 in Ard na Locha. Other sites are to be partially acquired. Elsewhere, two industrial properties and 2 commercial properties are also to be demolished.

It is stated that the purpose of the project is to reduce existing congestion and future proof the road network (see Section 5.6).

GROUNDS OF OBJECTION

Introduction

The Residents

This submission comes from a group of people who are intimately and severely impacted upon by this road proposal. They are all residents of Dangan where they live and own homes. In some cases they have lived in the area for a considerable time; others have moved there more recently and, indeed, just built homes. Some will lose their homes. All stand to suffer significantly as those who remain will see their community severed, the visual quality and environment of their homes and neighbourhood seriously downgraded. There will be major construction impacts, as well as operational impacts of noise, dust and visual amenity.

In order to give some flavour of how these residents will be affected, we attach some brief statements from some of the members of this group. We trust that this will give some flavour of the impact that this has on people's lives and homes. We appreciate that any road proposal is going to have an impact but this particular project has an exceptionally severe effect on residential communities and seems excessively concerned about the protection of nature at the expense of people.

> **Kevin Gill** was brought up in Cappagh in the 70's and 80's it was always his wish to live in the area. He and his wife moved back to Galway from Maynooth and sought planning permission for a house beside his parents who were getting older. It took 5 and a half years to get that permission and less than three years later they found that their new home could be

demolished as a result of the proposed road. Five of the six proposed roads were over or beside them; with the 6th route only 500 metres away.

Their home was designed by themselves and has been the home for their children who picked out their rooms and helped decorate them, picked plants for the garden and planted them. They enjoy an environment of a quiet bóithrín. The main sounds are of children playing or bird song. They can walk to get the bus into town or down to Cappagh Park, but that will be interrupted as we wait at traffic lights for our chance to cross the road.

Michael and Annette Kerin are both graduates of the NUI Galway medical school and returned to Galway in 2004 on his appointment as Professor of Surgery at NUI Galway and Consultant surgeon at UCH. In setting up home, they chose Dangan as they had lived here as junior doctors and loved the neighbourhood, and as it had all the facilities and amenities for their young family.

They bought their site in 2003 following a verbal assurance by the Council that the area was zoned residential and would not be rezoned for other purpose. They got planning permission in 2005 and built their dream home and watched with delight as neighbours moved in and developed theirs. In the intervening years they invested heavily in the garden and acquired the site opposite in order to provide for independent living for their older son who has Down syndrome.

The development of the proposed motorway will have a huge impact on their lives, spoiling their dreams leading to problems of separation/isolation, health impacts, noise, and psychological impacts. This proposal will separate their house and home from all surrounding properties and leave them isolated in a virtual island with: Motorway Bridge to the front; motorway / acquired home on one side and N59 (with resultant increased traffic and noise) on the other.

Their closest neighbours' homes will be either acquired or demolished. They consider that their personal circumstances will be changed utterly and the amenity of their home destroyed.

Michael & Trisha Murphy purchased their home in Aughnacurra in 2003. The quality of this quiet residential environment was its attraction to them. They had intentionally purchased a home that was significantly separated from the route of the Galway City Outer Bypass (GCOB) and the existing Quincentennial bridge crossing.

The proposed road with its noise, light pollution, and vehicular emissions so near their front windows, and the associated destruction of the mature trees to the front of Aughnacurra will entirely compromise the environment of the beautiful estate into which they moved. A number of their neighbours are threatened with demolition of their homes and others face the prospect of being so near a motorway that they will have no option but pursue their dream of a quiet life elsewhere. The human cost involved for elderly people,

who have had their reasonable expectation of peaceful retirement shattered with uncertainty and worry, is incalculable. The proposal also severely impacts on the local national school (Bushypark) and on the lands of the university and on their sports facilities. All of this further detracts from this area.

Colm and Marie O hEocha have strong ties with this area. Colm was raised in Chestnut Lane, Dangan where his mother and siblings still live. They married in 1993 and lived in Circular Road, Dangan. Their three children attended Bushypark National School. Marie was raised in Chestnut Lane, Dangan where her mother and siblings still live. They married in 1993 and lived in Circular Road, Dangan. Their three children attended Bushypark National School.

They now live at 3 Ard an Locha in 2014/15. They put great care and attention into the design and construction of their home; architecturally designed to the highest specification, with quality insulation, solar gain and renewable heat pump energy. It was a labour of love and their dream home.
They built a separate wheelchair accessible downstairs bedroom & living area for any of our three elderly parents in the future.

The proposed N6GCRR will lead to the eviction of the family and the demolition of their home. The council notified them of the CPO one week after accepting the final payment of the planning contribution on their new home. From their view point, their home is being sacrificed for limestone paving and bog cotton.

Gerald and Neasa Lawless have longstanding roots in this area. The Lawless family (Gerald's great grandfather) lived on Circular Road since the late 1800's. The land that now makes up the NUIG playing fields belonged to the family.
Gerald's sister, Mary with her husband, Kieran Loughman, also live on Circular Road in a house Gerald's father built.
In 2014 Gerald and Neasa bought No. 13 The Heath in order to enjoy their retirement in a location to which they are emotionally attached.
They have concerns about the impact of this proposed development on local traffic, on the nearby church and graveyard, on St James School and on traffic volumes on Circular Road.

John and Margaret Hughes have lived at No. 7 Ard na Locha for the last 15 years. Their children grew up in this house and it had been their intention to stay there. Their hopes in this regard have been shattered by the proposed road. They have already had 6 years of worry and anxiety over the issue. They will lose neighbours whose homes will be demolished and see a major deterioration in the environment of their home in terms of visual intrusion, noise, air quality, loss of light, loss of amenity, disturbance and economic loss. It seems that this imposition is imposed on them out of a greater concern for limestone pavement and bog cotton than for people.

The Impact

It is our contention that this particular road project is misguided and must be reconsidered.

First of all, it is presented as a part of an overall sustainable transport strategy as set out in the Galway Transport Strategy which is to include developments that will benefit and encourage public transport, cycling and walking. It is our contention that a road such as this, and in particular a road of such extravagance (full motorway standard for most of its length) will have exactly the opposite effect and will encourage the use of the private car.

Second, even if a ring road is justified, there seems to be confusion as to the type and purpose of this road; is it a bypass or a distributor road? Is it an urban road intended to accommodate urban traffic?

Third, the alignment selected is deeply flawed. There is limited capacity to accommodate a ring road at Galway because of the proximity of Lough Corrib on one side and the sea on the other but the route selection process seems to make minimal effort to explore the potential to locate the road where it will do the minimum damage to the city. It needs to be further out!

The alignment selection is overly concerned about minimising impacts on nature, particularly SACs and SPAs to the detriment of people, the city, established urban areas and, in particular, residential communities such as that at Dangan.

There is inadequate consideration given to potential mitigating factors such as the use of a tunnel to reduce such impacts. It seems that tunnels may be considered, and are proposed, to protect a small piece of limestone pavement at Lackagh but not to protect peoples' homes at Dangan.

Alternative solutions have not been adequately investigated. There are proposals in the GTS regarding public transport etc. but we see little consideration of the following:

- What is the potential for small scale road improvement works in the city? For example, the recent replacement of roundabouts with signal controlled junctions was intended to improve traffic flow but has not been given the opportunity to show its potential.
- What are the possibilities of genuinely integrating land use planning and transport as is a stated objective of both the Galway Transport Strategy and the Galway City Development Plan? There is little evidence of any significant concrete effort to put such lofty ambitions into practice and see what they can achieve.

The proposed road in the Dangan area will have a series of catastrophic impacts on the local community including:

- Demolition of houses
- Severance of a community
- Loss of amenity including serious impacts on the sports grounds of NUIG.
- Impacts of noise and dust and disruption from the construction and operational phases of the proposed road on residents in the vicinity.

- Significant health impacts.

Public Participation

Clearly my clients are people who are directly and severely impacted upon by this road proposal. They have been actively involved throughout the process and have made submissions on:

- The Road Project itself;
- The Integrated Traffic Management Plan (the forerunner to the GTS);
- The GTS;
- The Draft City Development Plan.

Copies of these submissions are attached and show the concerns long-expressed about impacts of this road proposal on:

- The Dangan Community by way of severance, noise, health, visual impact, loss of amenity etc;
- The absence of genuine alternative routes in the route selection process;
- The inadequate consideration of social impacts and impacts on human beings with a process that seems focused primarily on ecology.
- The severe loss of amenities in the Dangan area.
- Impacts on the River Corrib;
- The need to develop public transport.

The residents are extremely dissatisfied with the public consultation process that has been undertaken as part of this project. It seems that matters were pre-determined in advance of consultation with documentation showing that decisions were being made – e.g. on route selection – in advance of public meetings. This undermines faith in the consultation process which appears more as an insincere sop – 'going through the motions' – rather than a genuine consultation.

It has been a difficulty for the group to make meaningful and informed submissions to a project where deadlines for submissions were very tight and the extent of documentation to be read and considered has been enormous. This difficulty is repeated now. The public notification of this project was published on 25/10/2018 with a deadline for submissions set at 21/12/2018. This is a matter of weeks to read, digest and respond to an application that includes thousands of pages of documentation and that is not including all of the background material that has built up over the last few years whilst this project has been in preparation.

Public participation is a requirement of both the EIA directive and of the Aarhus Convention. This project has not lived up to these standards.

Need for the Road

Sustainable Transport Solution

The proposal is presented as the road element of an overall sustainable transport plan for the city of Galway setting out improvements to public transport, cycling and walking with proposals for the encouragement of these sustainable options in preference to use of the car. In this regard, modal split – the division of transport between different modes, ie. car, public transport, bicycle and walking – is critical.

The idea is to discourage the use of the private car, the least sustainable of all traffic modes.

These proposals are contained in the GTS which was published in September 2016 which seeks to encourage the use of public transport. Galway City is over-reliant on the private car; a fact that is acknowledged in the EIAR (Section 6.4.4.2). However, the proposals made have no impact on that.

The development of a public transport system to its maximum capacity is an essential ingredient if a sustainable transport system is to be developed in the city. This application for the N6GCRR does not contribute towards such a strategy and it is doubtful that it was ever derived from such a strategy. In this regard, we make the following points:

1. <u>The Decision to Build a Road Predates the Galway Transport Strategy (GTS)</u>

The GTS was the overall strategy for the city. One would expect, therefore, that the GTS came first and the decision to press ahead with the N6GCRR followed. However, the GTS was published in 2016. The decision to build a road dates back, at least, to 2014.

This is demonstrated in the document: GALWAY COUNTY COUNCIL: Project Brief, N6 Galway City Outer Bypass on 2/5/2014. (It also bore the imprint of Galway City Council and the NRA.) Having reviewed the ultimate rejection of the original GCOB project by the Courts, this document goes on to say:

> *Galway City and County Councils remain committed to developing a solution to the existing congestion on the national road network and on the R338. In 2013 following competitive tender Arup were appointed to examine studies, documents and court rulings relating to the unsuccessful scheme, and undertake feasibility studies, route selection, design and planning for a revised scheme.* (Section 1.2.3)

This document presents a road based scheme that contained no element of public transport or sustainable transport: that all came later. In other words, the entire strategy exercise contained in the GTS was predicated by a decision, already taken, to build a road.

Furthermore, the Route Selection Report published in August 2015 states:

> "*In parallel to the N6 GCTP[1], the National Transport Authority is engaged with Galway City Council in developing the smart mobility and public transport component of the overall transportation solution (known as the Galway City Integrated Transport Management Programme (ITMP)). Whilst the N6 GCTP will integrate with the ITMP, the route selection process is a stand-alone process and is not reliant on the other components of the ITMP as studies to date have indicated that a road component will form part of the overall transportation solution.*" (Section 1.1)

[1] The Galway City Transport Project – the proposal to build a road around the city, now the N6GCRR.

This all pre-dates the publication of the GTS (2016). The decision to build a road predated the overall transport strategy so the road was never an element of an overall sustainable transport scheme. It is contended that the GTS, far from being the guiding strategy that led to the ring road, was retro-fitted into a pre-determined decision that there be a ring road or by-pass of some type.

2. Routes were rejected before the GTS

It is not only the decision to build a road that predates the GTS. Much of the work done in connection with this proposal predates it as well:

> *Given that there were less damaging alternatives available from the perspective of the integrity of the Lough Corrib cSAC, the N6 Galway City Outer Bypass (2006) Route option was discounted from further consideration in October 2014.* (Route Selection Report, Executive Summary, Section 2.2.3).

So the original GCOB proposal was discounted long before there was a transport strategy and long before it could be assessed for compatibility with that strategy. It may well be that this route, in the context of the GTS, is a suitable route but that has never been tested. It was abandoned before there was a GTS. The GCOB route had a lot of merit; we shall return to that below.

3. The proposal does nothing to improve public transport use.

The net result of all the plans for a sustainable transport solution to Galway's traffic problems is an increased dependence on the private car.

It is contended that in all the documentation released, there has never been a convincing case made for such a road. The intention, as set out in the GTS, is that there will be an overall sustainable transport system created to serve the city of Galway and that this will focus firstly on improving public transport, cycling facilities and walking facilities.

In many respects, the construction of a new ring road - clearly by far the largest, most expensive and most high-profile element of the overall strategy - runs contrary to such intentions. It primarily facilitates the private car. Also, a new road does not just serve traffic that is there. It also generates traffic. As acknowledged in the EIAR it releases pent up demand that cannot currently be accommodated in the existing road network, thereby expanding, not reducing the reliance on the private car.

It is accepted in the EIAR that the road will increase traffic volumes:

> *Examination of the Do-Minimum and Do-Something traffic totals on the crossings of the River Corrib indicate that the proposed road development will lead to an increase of circa 19,000 AADT in 2039.* (EIAR Section 6.8.3.2).

This is part of the problem of providing such an over-designed road. It attracts and generates further car based traffic. As such, it runs counter to the efforts of the GTS which seeks a sustainable transport solution. If a new road is provided, it gives an incentive to use the car because places that were not previously accessible, become accessible. At present, in Galway, it is not attractive to live on one side of the city and work on the opposite - the journey is too difficult. With this road in place, that obstacle is removed or, at least, greatly ameliorated. This releases pent up demand and this is acknowledged in the EIAR. Furthermore, anyone making a future

decision about buying a house or taking up a new job will be influenced by the existence of the new road. At present a resident of Bearna might feel that they do not want to relocate to a new job in Briarhill because the journey is just too difficult. Alternatively, they may wish to take the job but perhaps relocate their home to somewhere more convenient. A major motorway ring road leaves open the obvious alternative; take the new job, stay on in the existing house and use the ring road! This is all in conflict with objectives of the GTS, City Plan, County Plan and government guidelines and policies to seek a move to a more sustainable form of development and a reduction in 'greenhouse gas' (GHG) emitting activities. It is not surprising that the overall strategy - road and all other elements re public transport etc - fails entirely in its stated objective to reduce private car dependence (see Table 6.32 of the EIAR). With the full scheme in place, car dependence actually increases from 66.7% to 67.3%. The EIAR states:

> *The mode share analysis shows that there is a low public transport mode share of just 4% in the Base Year. As can be seen below, the impact of the Do-Something options on mode share is minimal, with Car Mode share increasing by circa 1% in both 2024 and 2039 as a result of the opening of the N6 GCRR.* (Section 6.5). (EIAR, Appendix A.6.1, Phase 3 Traffic Modelling Report)

As such, the proposal flies in the face of the entire strategy and approach in the GTS. This refers to *"An over-reliance on private cars"* (section 1.2) and includes an objective to reduce reliance on the private car (2.6). This road achieves the opposite.

The impact of the road in providing a way for people to live on one side of the city and work on the other is, we suggest, a negative. It provides for greater travelling distances, greater use of carbon based fuels, greater dependence on the private car. In this we are supported by government policy in documents such as Smarter Travel which seeks reduced commuting distances. The EIAR however portrays this as a positive:

> *"This restricted movement of people will lead to changes to where people live and work over time, with people choosing to live and work on one side of the city or another as the delay experienced travelling across the city becomes too great. This change in travel behaviour, or suppression of trip making, will constrain the economic development of Galway City and its environs."*

It seems that this is entirely in conflict with the overall objectives of government policy and of the GTS which seek the opposite.

Integration of Land-use and Transport

The integration of land-use and transport has the capacity to reduce traffic volumes and therefore reduce the need for additional road infrastructure. This is a critical part of the GTS which states that the integration of land-use and transport is regarded as essential (Section 8.3). It is stated:

> *"The consolidation of settlement into areas that are close to employment centres, shops, community and educational facilities is a strategic policy of Galway City Council, which is reflected in policies and objectives relating to land-use in the Draft City Development Plan 2017-2023."*

The intentions are:

> *"Reducing the need to travel;*
> *Reducing the distance travelled;*
> *Reducing the time taken to travel;*

Promoting walking and cycling; and
Promoting public transport use." (8.3)

It is suggested that there are two elements of this.

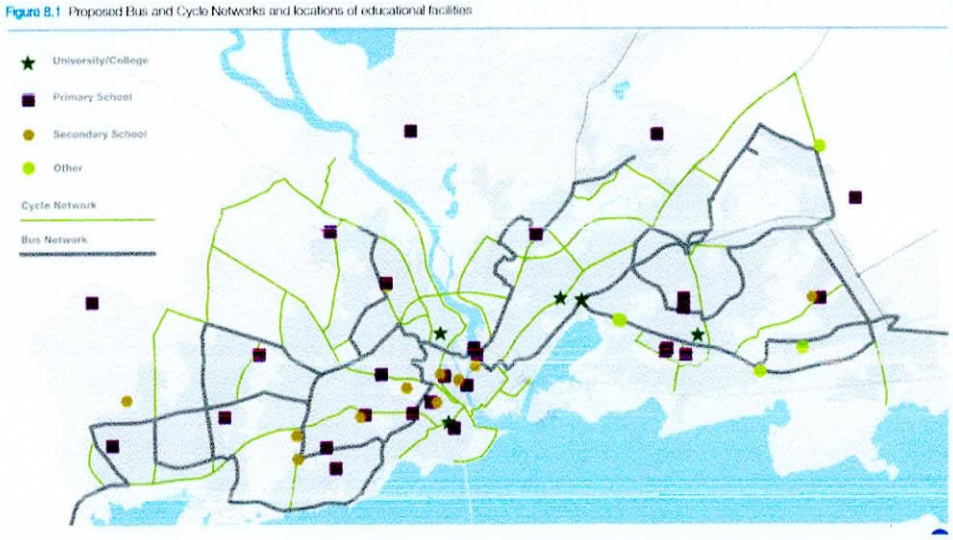
1. The careful consideration of the location of land uses can reduce transport demand by locating land uses conveniently so that, for example, residential areas are a convenient distance from work places and from facilities such as schools and shops.
2. By addressing density; the higher the density the less need to travel.

If this is done, then there should be an associated fall off in the amount of traffic and therefore a reduced need for additional roads.

It is submitted that the new City Development Plan makes minimal effort in this regard and, when it comes to zoning, it makes none. There is a brand new development plan for the city (adopted in 2017) which was prepared after the adoption of the GTS and during the preparation of the current road proposal. Lofty statements are made on the subject of sustainable development and integration of land-use with transport but it is difficult to see any major changes made to the plan to actually achieve this.

Schools are one such issue. Fig. 8.1 (reproduced below) shows the location of schools. What is not clear from this is the location of the secondary schools (the colour used for them and for "Other" is very similar). If separated out, the secondary schools are almost all in the town centre.

Fig. 03 – Fig 8.1 from Galway Transport Strategy



Home to education trips make up 35% of morning peak hour trips (GTS, Section 2.4). "Travel to Places of Education" is addressed in Section 8.2. School travel is acknowledged as a "critical factor". Various improvements are proposed such as encouragement of modes of transport other than the car, use of school travel plans etc.

However, the very recent review of the Galway City Development Plan achieves little or nothing in this regard. There is a generic policy to *"encourage the location of schools adjacent to residential areas, public transport routes and community, cultural and recreation facilities"* and to *"Safeguard lands within residential areas for educational purposes in order to serve existing and future need. "* (Section 7.4.2). The integration of land-use and transport would, for example, surely require a detailed consideration of the location of schools, recognised in the Strategy as a major factor behind Galway's traffic problems - particularly the morning peak. It is suggested that an appropriate response would have been the identification of sites for a new distribution of secondary schools in the city so that school location responds to residential location. The removal of the intense school related traffic from the inner city area would be a major change in traffic in Galway City and would come at a much cheaper price than the cost of a new motorway.

The significance of this point cannot be overemphasised. Anybody living or working in Galway is well aware of the spectacular difference in driving conditions, particularly in the morning peak, when schools are closed.

Another factor is the relative location of residential areas and employment areas. Again, Galway has a serious problem in this regard. With the development of Knocknacarra, a high proportion of new residential development was focused on the western side of the city but without related employment development. This has led to lob-sided traffic congestion with heavy volumes moving eastwards in the morning peak from residential areas on the western side of the city to employment areas on the eastern side and a corresponding east to west flow in the evening peak. Little has been done to address this. There has, in more recent years, been an increase in residential development on the eastern side of the city but the city remains unbalanced in this regard.

The second element of integrating land-use and transport concerns density. Density of development in Irish cities is exceptionally low by European standards. In this respect, our cities are more American in character than European. Low densities mean more travel and also more travel by private car because it is more difficult to provide public transport - particularly rail - when densities are low.

The density standards set out in the Galway City Development Plan are exceptionally low. The standard density for residential areas is a plot ratio of 0.64 (see Section 11.3.1(a)). In city centre areas, the normal density limit is 2:1 but in some areas this is reduced to 1.6:1. (Section 11.4.2).

These are exceptionally low density limits. By comparison, the Dublin City Development Plan allows a plot ratio of 2.5:1 to 3:1 in the city centre with more permitted in certain circumstances (Dublin City Development Plan 2016; Section 16.5). With regard to residential density, the Government's guidelines on the subject (Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas, 2009) advocates no upper limit for residential development in town centre locations (Section 5.6) with <u>minimum</u> densities of 50 dwellings per ha close to public transport corridors (Section 5.8) and 35-50 dwellings per ha on greenfield sites (Section 5.11).

Assuming a modest house size of 100sqm, 50 dwellings per ha is a plot ratio of 0.5. This minimum figure from the above guidelines exceeds the maximum of the Galway City Plan! It is suggested that the plan not only advocates low densities but advocates densities that are so low they are in conflict with government policy.

It also flies in the face of the recently published guidelines on building height which derives from concerns regarding *"an unsustainable pattern of development whereby many of our cities and towns continue to grow outwards rather than consolidating and strengthening the existing built up area"* (Urban Development and Building Heights Guidelines for Planning Authorities December 2018Section 1.4).

Another exceptional feature of the Galway City Plan is the great extent of lands zoned for low density housing (LDR). The undeveloped LDR lands alone cover an estimated 160ha approx[2]. Densities allowed in these areas are generally 5 houses per hectare or a plot ratio of 0.2:1 (See section 11.2.8). This density is entirely exceptional in current development plans and applies to a very extensive area of Galway city. This is not planning for sustainable transport. This is planning for sprawl.

These standards are all unchanged from the previous City Plan. It is quite extraordinary that no review has taken place of these notwithstanding government guidelines on residential density, government policy on sustainable strategy and notwithstanding the recent adoption of the GTS which designs the entire strategy for the city around a sustainable transport system and the integration of land-use planning and transport. It seems that this has simply never been done.

Capacity of Proposed Route

If it is accepted that a ring road of some form is required, the case must still be made concerning the design and, in particular, the motorway design of this road. There is no clear indication in the EIAR of the consideration of lesser alternatives. This is surprising given the fact that:

- Only 3% of the traffic of Galway is by-passable traffic.
- The road, unlike the previous Galway City Outer Bypass is within the city; in fact partially within residential areas such as Dangan.
- The stated intention of the GTS to find a sustainable transport solution that depends primarily on public transport, cycling and walking and the integration of land-use planning with transport in order to minimise traffic volumes.

Need for a Motorway

The fact that only 3% of Galway traffic is by-passable is hardly surprising. Galway is an end point on the N6; not a midway point such as Athlone. In that respect, there is less justification for major road works such as a motorway and it may reasonably be asked where is this motorway going? To the east, it links to all of the major population centres of the country but to the west there is Connemara; a beautiful but thinly populated area with no large towns. Such a destination does not justify a motorway.

[2] Calculated from a density of 5 houses per hectare and a total housing capacity of 815 units (as stated in Table 1.2 of the City Development Plan)

There is much about the traffic modelling that causes concern. In the limited time available to us, and with the limited resources of a small group, it has not been possible to go into this matter in detail but we wish to state our concerns with the traffic volumes measured and predicted and with the traffic distribution predicted. We will be investigating the traffic modelling used in Chapter 6.2 in the EIAR (reference table 6.31 of the EIAR: copied below), and examining the reliability of the model and the predicted capacity at critical public transport link roads joining on to the N6GCRR motorway. We are particularly concerned as to the probable risk that the AADT will increase on the N59 as a consequence of this motorway scheme, as it will become a preferred access road for vehicles travelling to the NUIG campus, UCHG and the many city based schools. Similarly, we will present an objective study as to whether the primary bus & cycle routes within the GTS actually work in accordance with the N6GCRR.

Table 6.31: Proposed Road Development AADT 2039 Design Year – Medium Growth

AADT Point	Location	2039 Do-Minimum Medium Growth		2039 GTS Medium Growth	
		AADT	%HGV	AADT	%HGV
1	N6 South of Galway Airport	23,382	8%	36,008	6%
2	R446 Westof Oranmore Business Park	22,588	10%	26,107	8%
3	R446 South of N6 Roundabout	18,807	7%	29,040	6%
4	N6 South of Briarhill	31,459	7%	18,862	6%
5	N6 Near Ballybrit Business Park	25,974	7%	15,553	5%
6	N6 Between N83 and R865	26,749	6%	18,766	3%
7	N6 Between N84 and N83	20,691	5%	11,307	4%
8	N6 East of Quincentenary Bridge	24,315	6%	23,215	5%
9	N6 On Quincentenary Bridge	34,546	7%	24,442	5%
10	R338 at Westside Playing fields	14,061	5%	7,556	1%
11	Western Distributor Road	11,657	2%	7,964	1%
13	R337 Kingston Road, Kingston	11,955	4%	7,148	0%
15	R336 Barna Road Barna Woods	16,273	2%	4,313	0%
30	Wolfe Tone Bridge	18,074	4%	14,606	4%
31	O'Briens Bridge	9,725	4%	9,037	3%
32	Salmon Weir Bridge	17,910	1%	14,613	2%
36	R336 West of N6	10,875	3%	13,093	3%
41	N59-North of GCRR Link Road	17,749	2%	18,582	2%
42	N84 South of GCRR	14,298	6%	19,788	5%
50	N6 GCRR – Briarhill Junction			36,008	6%
51	N6 GCRR – Parkmore			38,705	5%
52	N6 GCRR – Between N83 and N84			49,876	5%
53	N6 GCRR – New Corrib Crossing			36,353	4%
54	N6 GCRR – N59 Lnk Road			11,530	4%
55	N6 GCRR – Rahoon Link Road			6,172	3%
56	N6 GCRR - Letteragh Link Road			13,709	3%
57	N6 GCRR – Ballymoneen to N59			20,920	3%
58	N6 GCRR – West of Ballymoneen			16,953	3%
60	N6 GCRR – At Truskey West			11,155	3%
61	N6 GCRR – North of Terminus			11,155	3%

Existing Congestion

Chapter 6 of the EIAR addresses the subject of Traffic Assessment and refers to studies done (Traffic Modelling Report, Appendix A.6.1 of the EIAR) of the existing traffic situation in the city, modelling of the impact of different options and test mitigation measures. This included modelling for the future under a 'low growth', medium growth' and high growth' scenario.

It is noted that this section includes analysis of traffic flows on various key sections of the existing road network in the city as well as critical junctions. (Section 6.3.5). Also, three key routes are looked at (Dublin, Tuam and Headford Roads) and "*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." (Section 6.3.4).

As discussed above, much of this congestion arises due to school location which is evident at times when schools are on holidays and traffic volumes are greatly reduced.

Another factor in existing congestion in the city has been the lamentably slow progress made in terms of traffic management on the existing road network. There were recent works carried out with the removal of roundabouts at two critical junctions - the junction of the N6 and Monivea Road (R339) and that of the N6 and the entrance to Ballybritt Business Park. We are not aware of what difference these road changes have made and whether or not the signalised system is being operated to its full capacity as a traffic management tool. Nor are we aware if these improvements and their impact or potential impact has been fed into the assessment of the N6GCRR.

Another instance of poor traffic management that remains unaddressed is access to the extensive commercial and industrial lands at Parkmore. The sole access to this area is from the east, off the Parkmore Road. There is potential for road connections on its western side but nothing has been done. An access from this side is incorporated into the proposed road scheme but there is no reason why such an initiative could not be implemented on its own. The effect of such a project would be to allow traffic approaching Parkmore Industrial Estate from the West to shorten their journey, avoid the junctions on either end of Parkmore Road and reduce congestion at those locations.

Proposed Road Standard

The proposed road consists of the following:

> *"From the R336 Coast Road to Ballymoneen the mainline carriageway of the proposed road development is a Type 1 Single Carriageway"*
>
> *"The design speed of the mainline over this area is 85km/h, and the cross section is as outlined within Chapter 5"*
>
> *"From Ballymoneen Road to the eastern tie in with the existing N6 at Coolagh, Briarhill, the mainline of the proposed road development is a Standard Dual Carriageway Urban Motorway (D2UM)".*
>
> *"The design speed of the mainline over this area is 100km/h and cross section is as outlined within Chapter 5".*
>
> *"The section of the proposed road development between the N83 Tuam Road and N84 Headford Road Junctions is a 3 lane dual carriageway. The total length of this section is approximately 1,850m."* (EIAR Section 6.4.1.1).

Section 6.4.3 of the EIAR sets out the selection of road standard for different sections of the route and why they were selected.

The assessment of the road proposal contained in Section 6.5 of the EIAR assesses two options - 'do-minimum and 'do-something'. The 'do-minimum' consists of the current road network plus various schemes that are built or committed. The 'do-something' option is that plus the proposed road development.

This means that what is set out here and analysed here is a motorway (or at least a motorway for the bulk of the route as far as Ballymoneen Road). There is no analysis here as to whether a more modest road might achieve the objective.

Flaws with Route Selection Process

Route Options

The coloured route options that were considered in the route selection process really left little choice. They were heavily weighted towards urban roads that cut through the established urban fabric of Galway City. Out-of-city options - between the city and Lough Corrib - were pretty much ignored. The GCOB option was dismissed at an early stage and few routes were developed within, the admittedly small, gap between the city and the lake.

The entire process seems to have been heavily guided by a desire to avoid impacts on ecology at all costs and, in particular, to avoid any potential significant impact on European Sites (SACs and SPAs.); anything to avoid the use of an Article 6(4) (IROPI) process. This is done at the expense of the human population who will be impacted upon by the proposal to a far greater extent than the original GCOB proposal.

It should also be noted that the proposed road, for most of its length, is a full motorway; in fact one section of it from the Tuam road to the Headford road is a motorway of 6 lanes. The practice of threading motorways through established urban areas is a planning practice that went out of favour as far back as the 1960s following the disastrous impact such schemes had on urban areas such as Glasgow and Birmingham. A motorway should go around the town; not through it.

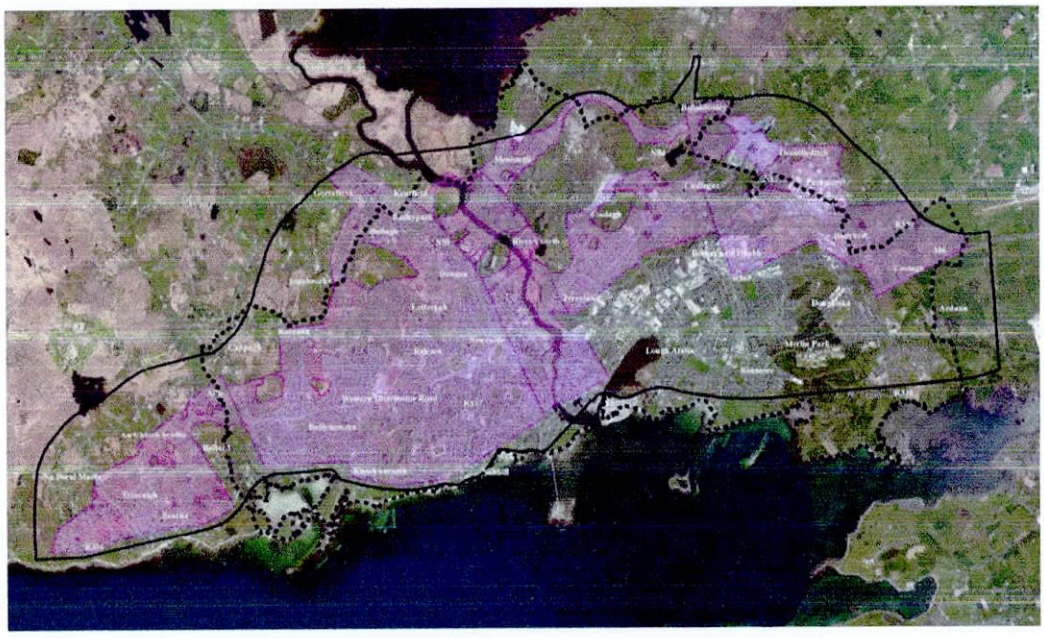
A number of optional routes were discounted at an early stage of the process and were discounted even before the GTS had been prepared. At the very least, these options should have been re-examined following the completion of the GTS. If the GTS is to mean anything as an overall guidance document for traffic in Galway, at the very least all options should have been assessed against its strategy.

We have noted already the early dismissal of the GCOB route prior even to the preparation of the GTS.

Constraints

Route Selection is addressed in Chapter 6 of the EIAR. As part of the route selection process, a constraints exercise was carried out and a constraints map produced which we include below.

Fig 04 - Option Development Zones (From Route Selection Report, Fig. 5.3.2)



What is shown on this map is quite extraordinary. It is understood that the areas highlighted in purple are the areas where it is possible to locate the road and that other areas are to be avoided. As such, a built up urban area such as Lisbaun Industrial Estate or the housing estates in Renmore are to be avoided whereas it is quite possible that the road can be routed through the residential areas of Salthill, the industrial areas at Parkmore or even most of the medieval heart of Galway City. It is very difficult from a casual review of this map to find any logic behind it. One is even left wondering as to which are the preferred areas for the road, the areas shaded purple or the areas not shaded!

The Route Selection Report (Section 5.3.3) describes the process of arriving at the "*Option Development Zones*".

> *"Following the receipt of the results of the species and habitat ecological surveys, the ecological and engineering teams worked together in the project office … to define option development zones."*
>
> *"Option development zones are areas within the scheme study area which from an ecological perspective the least damaging route options could be developed".*

The report goes into some details of the various ecological factors that were taken into account.

- European Sites
- NHAS
- Annex 1 Habitats
- Location of protected plant species
- Sites associated with Annex II/IV of the Habitats directive or Annex 1 of the Birds Directive
- Species of conservation concern.

This was used to develop potential routes for the road.

> *"A number of route options were then developed by the engineering team within the established option development zones." (Section 5.3.3)*

Then, and only then, would other constraints such as human beings come into play.

This is, we suggest, an extraordinary procedure. The EIA process demands that a list of factors be considered in assessing the impact of a development. These are: *the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors*; (Planning and Development Regulations 2001 (as emended), Schedule 2B).

There is nothing to suggest that biodiversity is the prime consideration. Yet it was treated as such in the preparation of this EIAR by focusing entirely on this issue at the preliminary stage.

This is critically important. First of all, it demonstrates the line of thinking that informed the route selection process. The first and most important consideration was biodiversity/ecology. At all costs, the route was to avoid ecologically sensitive sites and, by so doing, avoid what happened to the last proposal.

The problem is, that by elevating this issue to a position of prime importance, other issues, including human beings, were relegated to secondary importance. The impact of this can be seen in the final route selection; great effort made to avoid all areas of ecological sensitivity resulting in a major impact on the city of Galway, loss of development lands and, above all, major impacts on residential areas. For residents, it is hard to accept that their homes and lives and the impacts that this road can have on them, seem to be of lesser importance than ecology and limestone pavement particularly when a route such as a slightly modified GCOB could achieve similar environmentally friendly solutions with less impact on the human habitat.

When the Route Selection Report does address impact on human beings (Section 4.16), it is "*to identify activities and locations of social and economic importance*" (Section 4.16.1). The single map included in this section (Fig. 4.16.1) shows a wide range of community facilities such as schools, hospitals, community centres, parks etc. It does not show residential areas. This critical matter does not appear to have informed the constraints process at all. Industry is a constraint. Even industrially zoned land is a constraint, but residential areas, the most important place of all to human beings, are not.

If the exercise had been done the other way around, if impacts on human beings had been the sole determining factor (or even if they were given appropriate due consideration) of the initial Constraints map and from there the initial route selection process was carried out, it would be impossible for the same optional routes to have been selected.

Options Considered

As mentioned above, the options available to build a by-pass or a ring road to Galway are severely restricted by Lough Corrib to the north and the sea to the south. Most of the gap between these two features is occupied by the city of Galway. One would have expected that the optional routes examined would have included

options that explored every possibility of passing through that gap but this is not done. The final six options in the EIAR are all, to some degree or other, within the city bounds. This is simply not acceptable. We are aware that other options further out got some consideration earlier on but the dismissal of any outer route is not convincing.

Even the boundaries of the study area limit the possibility of avoiding the city as it has been tightly drawn. There is not much space between the city and Lough Corrib but it is not all included; the northern boundary of the study area is somewhat short of the lake. This is notwithstanding the fact that the Route Selection Report says that the lake was considered to be the northern boundary. (Route Selection Report, Section 4.1.1) It is not.

Galway City Outer Bypass (GCOB)

One of those potential routes is the former proposal; the Galway City Outer Bypass (GCOB). The Board approved this proposal (apart from the western leg from the N59 to Bearna). This was of course overturned in the European Court because of impacts on the Lough Corrib cSAC. This is one of the reasons for its rejection at this stage.

The GCOB was the first route option examined (see Route Selection Report, Executive Summary, Section 2.2.3). Part of the reason for rejecting the GCOB alignment is the fact that it impacted on the Lough Corrib cSAC. In particular, it would result in the loss of an area of limestone pavement.

> *Given that there were less damaging alternatives available from the perspective of the integrity of the Lough Corrib cSAC, the N6 Galway City Outer Bypass (2006) Route option was discounted from further consideration in October 2014.* (Route Selection Report, Executive Summary, Section 2.2.3).

The problem with this is that the designers have opted for a route which passes through the SAC and, ironically, passes through an area containing limestone pavement at Lackagh. This is addressed by tunnelling.

> *The proposed road development will tunnel under the Lough Corrib cSAC immediately west of Lackagh Quarry with is primary function to avoid direct impacts on Annex I habitats at the surface, namely Limestone pavement and Calcareous grasslands. This tunnel will be constructed in such a way to avoid any deformations to the Annex I habitat at the surface. This tunnel is expected to be constructed using mined tunnels methods (drill and blast). See Chapter 7, Construction Activities for further details.* (EIAR, Section 5.5.4.6)

Clearly it is therefore possible to address this issue by tunnelling. If tunnelling can solve the problem at Lackagh, then it can presumably also solve the problem where the GCOB hit limestone pavement in which case the entire basis for the rejection of the GCOB alignment is false.

The current alignment also results in the loss of 0.54ha of limestone pavement. (EIAR, p. 509). It also still impacts on the SAC:

> *"The proposed road development will, however, have a residual biodiversity effect on Lough Corrib cSAC locally, as there will be permanent habitat losses and longterm*

> *effects on local bat populations that use habitats within the European site."* (EIAR, Section 8.0.1.1)

It is acknowledged too that the GCOB route had significant benefits from other points of view. A report assessing the GCOB accompanied the Route Selection Report (Appendix A.5.4) concluded that: *"From a socio-economic and human beings perspective, the route has less impacts on communities and amenities with an overall improvement in the level of severance experienced."* (Section 5).

This is clearly the case; in the case of the GCOB, 45 houses would be impacted upon by land take of which 8[3] would be demolished. The current proposal requires the demolition of 44. That is a massive increase in impact and seems to be proposed largely to avoid impacts on ecology. It does seem that there is a serious lack of balance given to assessing these different factors and it is difficult for any resident affected to accept that there is justification in a route selection process that is conducted in this fashion.

It is noted that, in the consideration of the GCOB proposal, the Board's inspector expressed grave doubts about an alternative route because it was closer to the city and would impact upon urban development:

> *The southern (blue) route submitted in a report by the County Council at the hearing has some attractions and I note that the Lackagh quarry has not, correctly in my opinion, been taken as a constraint on its routing. It would tend however to encroach closely on expanding urban development and this effect would be intensified by the space requirements of the junction with the N84. The northern (cyan) route would also involve a significant number of demolitions, would affect the limestone pavement and cross more minor roads.* (See inspector's report on GCOB, P. 130, Reference PL07.ER2056)

It is noted too that the blue route would require the demolition of 18 houses (P. 18 of the report). Mr. Ray Owen, an Engineer with Ryan Hanley, stated at the hearing in response to issues about trying to avoid the Lough Corrib SAC:

> *In looking at alternatives they had to look at viable alternatives, as there was an infinite number of possible alternatives. If they were to avoid the cSAC, there were two possible alternative routes. The blue route to the north would result in the demolition of 18 residences and the cyan route to the south would result in the demolition of 83 residences. The only viable option was that being proposed.* (Inspector's report on GCOB, P. 18, Reference PL07.ER2056)

It seems that a route was dismissed as unviable because it required the demolition of 18 residences. Yet the current proposal is considered viable and preferable despite requiring the demolition of 44 houses. An increased number of houses - 44 instead of 8, an increase of 36 - are to be sacrificed for a route that does not even succeed in avoiding the SAC and requires a tunnel to mitigate impacts on limestone pavement.

[3] In the EIAR it is stated to be 10 houses demolished under the GCOB scheme (reference PL07.ER2056). I refer to the inspector's report on the GCO~B (P. 8 and 106) which gives the number as 8.

Impact on Humans

By relocating the proposed road from the GCOB alignment to the current proposal and by relocating it inside the city boundaries and through residential areas such as Dangan - all to avoid impacts on ecology - the proposal will now have a significantly increased impact on human beings. The entire approach seems to downgrade the human in favour of limestone pavement etc. The main course of the route was relocated to avoid SAC (although it fails in this objective); the western leg was reconsidered to avoid bog cotton. The result is that instead of the loss of 8 houses (GCOB proposal), there is now a loss of 44 houses. Communities are severed and other houses lose gardens etc. Residential amenity is seriously compromised.

It is noteworthy too that some major ameliorative works are proposed in order to mitigate against impacts on SACs and ecology but these are not available when it comes to humans. In particular, a major tunnel is proposed at Lackagh. The sole reason for this tunnel is to protect an area of limestone pavement. (This issue is addressed in more detail below.) The same is not available for the housing at Dangan. The whole exercise is out of kilter. It is as if the designers, terrified by the failure of the last project at the European Court of Justice, have focused on an attempt to guarantee no impacts on any SAC or SPA (and failing to do so) but at an horrendous cost to residents along the proposed route, in particular, to my clients at Dangan.

Health

We live in an age of increasing concern generally about environmental quality and, in particular about air quality. Urban areas with their associated traffic and other pollution sources are the focus of this concern. An urban motorway such as that now proposed, can have significant impacts on human health. An article from The Guardian Newspaper (see attached) gives an indication of those concerns with air pollution described as a bigger killer than smoking. They quote from Dr Tedros Adhanom Ghebreyesus, director general of the WHO:

> *"Over 90% of the world's population suffers toxic air and research is increasingly revealing the profound impacts on the health of people, especially children."*
> *"Despite this epidemic of needless, preventable deaths and disability, a smog of complacency pervades the planet,"*

The attached article from the WHO *"More than 90% of the world's children breathe toxic air every day"* - http://www.who.int/news-room/detail/29-10-2018-more-than-90-of-the-world%E2%80%99s-children-breathe-toxic-air-every-day - refers to a new study issued by the WHO (Air pollution and child health) and sets out its key findings:

- *Air pollution affects neurodevelopment, leading to lower cognitive test outcomes, negatively affecting mental and motor development.*
- *Air pollution is damaging children's lung function, even at lower levels of exposures*
- *Globally, 93% of the world's children under 15 years of age are exposed to ambient fine particulate matter (PM2.5) levels above WHO air quality guidelines, which include the 630 million of children under 5 years of age, and 1.8 billion of children under 15 years*

- *In low- and middle-income countries around the world, 98% of all children under 5 are exposed to PM2.5 levels above WHO air quality guidelines. In comparison, in high-income countries, 52% of children under 5 are exposed to levels above WHO air quality guidelines.*
- *More than 40% of the world's population – which includes 1 billion children under 15 - is exposed to high levels of household air pollution from mainly cooking with polluting technologies and fuels.*
- *About 600'000 deaths in children under 15 years of age were attributed to the joint effects of ambient and household air pollution in 2016.*
- *Together, household air pollution from cooking and ambient (outside) air pollution cause more than 50% of acute lower respiratory infections in children under 5 years of age in low- and middle-income countries.*
- *Air pollution is one of the leading threats to child health, accounting for almost 1 in 10 deaths in children under five years of age.*

Air pollution causes or exacerbates childhood asthmas and reduces lung function. It causes increased respiratory and cardiovascular problems in adulthood. Increased traffic causes noise related problems, brain development abnormalities and an increased incidence of leukaemia and other childhood cancers (see Pearson et al: (2000), J Air Waste Management Assoc. Feb. 50(2): 175-80).

There is increasing evidence that long term exposure to ambient air pollution is associated with deaths from cardiopulmonary disease. Air pollutants are linked to hypoxia, neurological deficits and increased cardiovascular (heart disease and stoke) disease incidents (Schwela, (2000) Rev Environ Health, Jan-Jun: 15 (1-2): 13-42 and Wilker et al (2013) J Stroke Cerebrovasc Dis 2013 Nov: 22(8): 366-372). For an increase in traffic density of 10,000 vehicles in 24 hours there was a significant increase in natural cause and all-cause mortality - cardiovascular and lung mortality (Brunekreef et al. (1997) Epidemiology May 8(3): 293-303.

Children are particularly vulnerable. They are more susceptible than adults to air pollution as they have a larger lung surface area per kilogram of body weight. Also they have a higher respiratory rate and their lungs are not mature. They tend to be more physically active and total particle deposition from traffic emission increases greatly with exercise. In 2007, a study published in The Lancet found pronounced deficits in lung development of children who lived under 500 metres from a motorway. Neurodevelopment and neurobehaviour in children and adolescents have also been shown to be negatively impacted by a proximity to high traffic volumes and air pollution. (Kicinski et el. (2015) Environ Int. 2015 Feb. 75: 136-143 and Calderón-Garciduenas et al. Front Hum Neurosci 2014 Aug 12:8.613).

A pan European study published in 2014 in The Lancet has reported statistically significant associations between long-term exposure to traffic pollutants (even within concentration ranges below existing European annual mean limit values) and natural cause mortality. (Beelan et al. (2014) The Lancet: 383: 785-95).

We attach a copy of an article from The Lancet journal entitled: "*Living near major roads and the incidence of dementia, Parkinson's disease, and multiple sclerosis: a population-based cohort study*" (see attached). This was published in February 2017. This study

investigated the impact of living in proximity to major roadways in Ontario, Canada. This concluded:

> *The adjusted hazard ratio (HR) of incident dementia was 1.07 for people living less than 50 m from a major traffic road (95% CI 1.06–1.08), 1.04 (1.02–1.05) for 50–100 m, 1.02 (1.01–1.03) for 101–200 m, and 1.00 (0.99–1.01) for 201–300 m versus further than 300 m (p for trend=0·0349). The associations were robust to sensitivity analyses and seemed stronger among urban residents, especially those who lived in major cities (HR 1.12, 95% CI 1.10–1.14 for people living <50 m from a major traffic road), and who never moved (1.12, 1.10–1.14 for people living <50 m from a major traffic road). No association was found with Parkinson's disease or multiple sclerosis.*

It is our understanding of this that risk of dementia is increased for those living within 200m of a major traffic road and that there is a 7% increase for those within 50m. This is a very significant increase. In the case of Dangan, there is also a factor of cumulative impact to be considered as there is of course one main road traversing the community already.

The EIAR has responded to this study stating:

> *However, there were important limitations on the study as the study was based in Ontaria, Canada where major roads would include very busy highways and trunk roads. Perhaps the most significant criticism of the study was that the authors could not account for socio-economic effects. Socioeconomic effects are related to the incidence of dementia. Therefore, if the individuals living within 50 metres of major roads in Ontario were of lower socioeconomic status than those living further away this might explain the relatively small increase in the occurrence of dementia in this study. Overall while further studies are recommended one can draw relatively little from this one study.* (P. 1485)

With respect, this is very dismissive. Ontario does have very busy roads. So too does Galway. What is being proposed here is a full motorway. There is no evidence to demonstrate that there is a socio-economic factor at play here; all that can be said is that it has not been ruled out. Certainly, further studies would be welcome, but this study does create serious concerns and the description in the EIAR of a 7% increase as "*small*" (p. 1484), is rejected.

It is noted that the EIAR quotes from an Irish document: "*Health Impacts of Transport, a Review, March 2005, Institute of Public Health in Ireland*". This stated:

> *"the effect of air quality on human health has been extensively researched and expert opinion is available in this area. Currently, evidence is strongest for air pollution as a cause for short-term health problems in certain groups such as the elderly and those with underlying health problems such as heart or lung disease. Longer term health impacts are suspected to result from certain components of air pollution. However, it has been difficult to ascribe a cause and effect with certainty. Traffic is a leading source of air pollution and any issues which would reduce traffic volume can have potential benefits to health by improving air quality. Vehicle speeds is also a factor warranting consideration. Low average speeds such as those on congested routes are less efficient in the use of fuel and result in greater pollution emissions."*

So problems associated with vulnerable sections of the community and with suspected long-term health impacts are acknowledged.

The EIAR responds to the above with the statement:

It can be concluded that the principal of moving traffic to a road with higher average speeds has actually a potential benefit on health.

It is submitted that this is a fatuous and ridiculous claim. A new road may mean faster traffic but it will also mean more traffic. For residents along the line of the proposed N6GCRR, they will have all of the traffic of a motorway added to what is already there; not existing traffic speeded up! The increased volumes and the addition of a major new road – a full motorway – has to result in increased negative impacts on health and not *"a potential benefit"*.

Dangan is particularly vulnerable in this regard. The proposed motorway will cross the existing national route (N59) so the issue of cumulative impacts arises. In addition, it is noted that the Dangan area has a high level of those on disability (12.2%). (see EIAR, Section 18.3.4). It also includes a school right beside the line of the motorway. This school – St. James's National School – is directly beside the proposed road and both the school and its playgrounds will be severely impacted upon. Furthermore, one of Galway's established secondary schools – the 'Bish' – has plans to relocate from its existing city centre site to a site at Dangan adjoining the proposed road. The impacts on this development have not been considered in the EIAR. It is noted too that the proposed alignment also passes close to Castlegar National School and the new Coláiste na Coiribe secondary school in Ballymoneen.

Impact on Dangan

Demolition

Near Dangan, two properties will be demolished and one acquired at Ard na Locha, an estate of four houses and two sites for dwellings, and five properties will be demolished and one acquired in Aughnacurra Crescent, an estate of 14 residential properties. (refer to Chapter 15, Material Assets Non-Agriculture). (EIAR p. 1520).

The high proportion of premises impacted presents a very significant negative impact on the amenity of the remaining residents. (EIAR p. 1520)

The EIAR does not have a lot to say about the residential areas in Dangan and even the above reference is full of mistakes.

- Ard na Locha is an estate of seven houses and four sites.
- Aughnacurra Crescent is in fact just Aughnacurra
- There are 13 houses in Aghnacurra. There is an adjoining house which faces onto the Moycullen Road.

The impact of demolitions is addressed in Section 18.6.3.4 of the EIAR which simply refers to CPO processes.

It is stated that the project requires the demolition of

- 44 residential properties
- 2 industrial properties (one property includes four buildings)
- 2 commercial properties.

"An additional 10 residential properties, one commercial property and one landholding that has a full residential planning permission require full acquisition." (Section 15.5.2.1). This includes two houses to be acquired in Dangan and another 7 to be demolished.

(Table 15.4, see also Figure 15.3.6) - five in Aughnacurra and 2 in Ard na Locha. Other sites are to be partially acquired.

This is obviously a major impact on a relatively small residential area. The impact on Aughnacurra and Ard na Locha is catastrophic, effectively destroying the planned layout of these two housing schemes. One whole side of Aughnacurra will disappear to be replaced by a motorway; a similar impact arises in Ard na Locha. Much of the mature vegetation in Aughnacurra will also be lost. For some residents it means that loss of their home. For others, it is the loss of part of their property and garden. For all others, it means a community cut in two and a living environment that is profoundly altered with increased noise levels, dust and general disturbance and a profound visual impact.

It is noted too that some houses that are outside the line of the road are being acquired - one in Aughnacurra for example. Why is this? Other houses in such locations are not being acquired. It is suggested that this is a flaw in the CPO process.

Tunnelling

The option of tunnelling needs to be investigated in order to address the impact of the proposed road on the Dangan area. The degree of impact arising at this location, where the road is to pass through a residentially zoned area, sever a community into two, require the demolition of 7 houses and severely impact upon the sports facilities of NUIG and pass close to a national school, necessitates the most careful consideration of all options prior to committing to a design that has such a marked and extreme impact.

It is noted that the proposed design for the N6GCRR provides for tunnelling elsewhere. This includes a tunnel under the Galway Race Course and another at Lackagh under an area of limestone pavement.

> "*There is also c.0.44ha of Limestone pavement and Calcareous grassland within Lough Corrib cSAC which lie above the proposed Lackagh Tunnel.* (EIAR, p. 510.

The proposed Lackagh Tunnel is 270m long. The reason for including a tunnel in this location is stated as follows:

> *The proposed road development will tunnel under the Lough Corrib cSAC immediately west of Lackagh Quarry with is primary function to avoid direct impacts on Annex I habitats at the surface, namely Limestone pavement and Calcareous grasslands. This tunnel will be constructed in such a way to avoid any deformations to the Annex I habitat at the surface.* (EIAR, Table 5.3, p. 187)

How do residents in Dangan come to terms with a road design that includes a tunnel to protect a scrap of limestone pavement but which never included an option to tunnel at Dangan? The planning system has surely lost contact with reality if this is to be the approach. Limestone pavement is more important than people!

Noise

With regard to the noise impact on the Dangan area, the EIAR states:

> *Ch. 7+600 to 9+300 (N59 Letteragh Junction to River Corrib Bridge) The vast majority of receptors are below 55dB LNight[4] in this area. At Bushypark along the N59 Moycullen Road where levels are above 55dB LNight, there is only a predicted increase of 1dB over the 'Do-Nothing' scenario. In addition, some of the receptors around the N59 Moycullen Road are predicted to have LNight above 55dB but there is relatively little change from the 'Do-Nothing' scenario with no increase in excess of 2dB. Therefore, no adverse human health impacts are predicted. St James's School at Bushypark is not identified as having any significant negative impact.* (EIAR p. 1538)

This references a standard of 55db Lnight.

The EIAR refers to a number of noise standards including:

- TII noise standards of 60dB Lden.
- The Galway City and County Council Noise Action Plans 2013 – 2018. These *"Both NAPs have proposed the onset levels for assessment of noise management measures as follows.*
  - *70dB, Lden*
  - *57dB, Lnight"*
- *"The WHO Night Noise Guidelines for Europe (NNG 2009) sets an Interim Target of 55dB Lnight, outside."*
- *The DMRB notes that night-time road traffic noise levels below 55dB are not included in a relative change assessment as they fall below the WHO Night Noise Guidelines for Europe (NNG 2009) Interim Target of 55dB Lnight, outside.*
- *The DMRB recommends that changes in noise levels are assessed for locations with a road traffic noise level in excess of 55dB Lnight. At these locations, the magnitude of noise change is determined using the 'Long term' classification tables.* (P. 1374)

The World Health Organisation (WHO) has recently published new noise standards. These are the ENVIRONMENTAL NOISE GUIDELINES for the European Region 2018. In launching this document, they state:

> *"Noise pollution in our towns and cities is increasing, blighting the lives of many European citizens. More than a nuisance, excessive noise is a health risk - contributing to cardiovascular diseases, for example. We need to act on the many sources of noise pollution – from motorized vehicles to loud nightclubs and concerts – to protect our health,"* (Dr Zsuzsanna Jakab, WHO Regional Director for Europe - see www.euro.who.int/en/media-centre/sections/press-releases/2018/press-information-note-on-the-launch-of-the-who-environmental-noise-guidelines-for-the-european-region.

The document summary includes the following 'strong' recommendations.

> *For average noise exposure, the GDG[5] strongly recommends reducing noise levels produced by road traffic* ***below 53 decibels (dB) Lden****, as road traffic noise above this level is associated with adverse health effects.*

[4] This should be written using a subscript as Lden. As this is unreadable, the subscript is dispensed with in the text.

[5] Guideline Development Group

> *For night noise exposure, the GDG strongly recommends reducing noise levels produced by road traffic during night time* ***below 45 dB Lnight****, as night-time road traffic noise above this level is associated with adverse effects on sleep.*
> *To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from road traffic in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions, the GDG recommends reducing noise both at the source and on the route between the source and the affected population by changes in infrastructure.* (NOISE GUIDELINES for the European Region EXECUTIVE SUMMARY 2018)

These are significantly more demanding standards. The levels of 53dB Lden and 45dB Lnight are significantly exceeded in the Dangan area. The EIAR is referencing standards of 55db Lnight and admitting that these too will be exceeded in Dangan.

This only references the operational phase of the development. The construction phase will have its own impacts. The entire project needs to be reviewed with the 2018 WHO standards as the source of appropriate noise standards.

Other

The project will also have a significant impact on the area by way of

- dust,
- construction traffic,
- vibrations from the use of explosives
- night time construction activity,
- lighting
- removal of hedges and trees
- visual impact.

Impact on N59

The proposed road is going to have a major impact on the N59 (Moycullen Road). A new grade-separated intersection will be constructed at Letteragh to the west of the N59. This full grade separated junction seems difficult to justify; surely a roundabout at this location which would form the terminus of the motorway would be sufficient. In any case, all traffic coming from the N59 to the motorway or leaving the motorway to access the N59, must pass through this massive junction and proceed northwards on a new road to a 'T' junction with the N59. Much of the traffic entering the west part of the city will take this route so all traffic to and from the university and the hospital will pass this way.

The above 'T' junction is on a road that is single carriageway in both directions. Traffic will back up on the N59 creating congestion and hazard. This is already a congested location with traffic backing up in the mornings. It is difficult to see how this proposed junction will operate without significant deterioration in traffic conditions here.

Fig. 05: Letteragh Junction

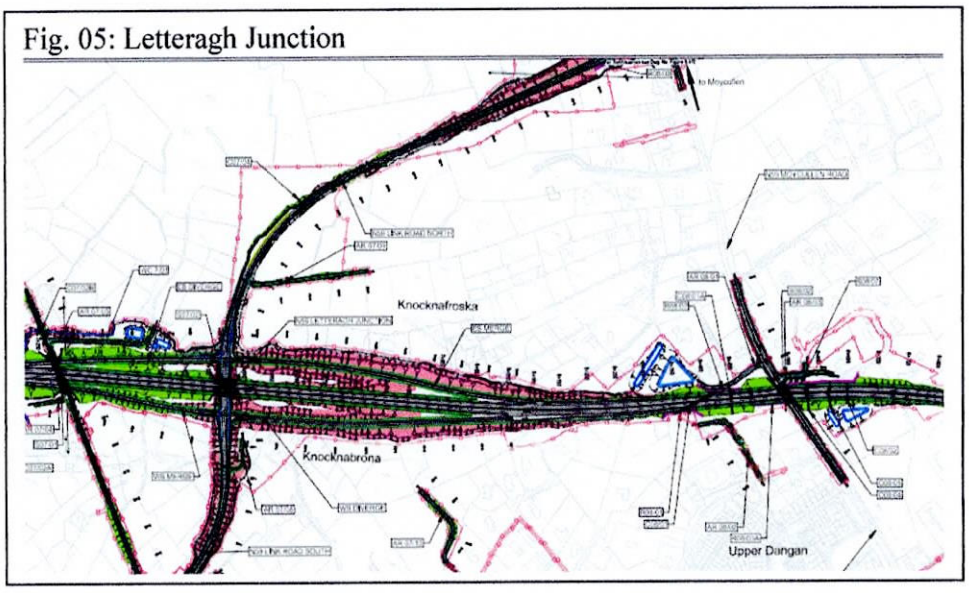
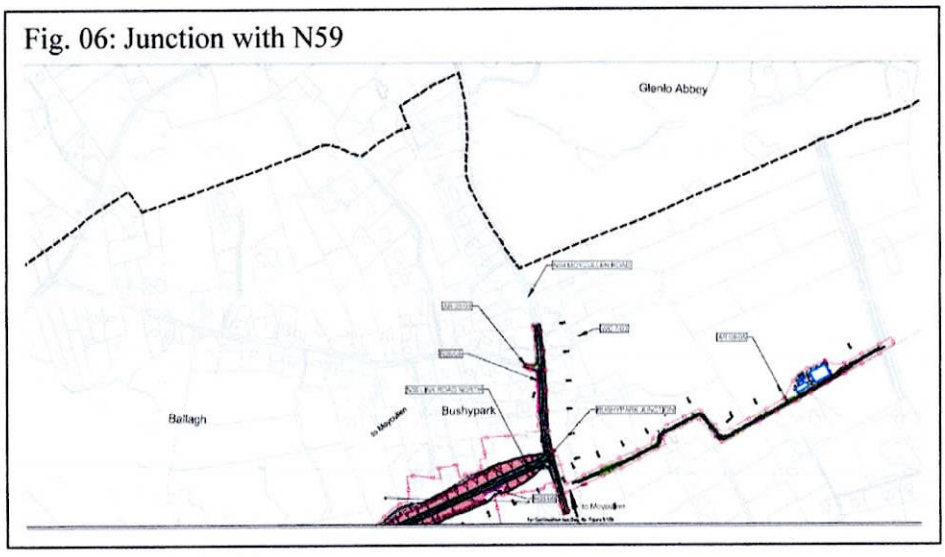


Fig. 06: Junction with N59



Other Issues

It is not possible, in the limited time available to write at length about all of the issues arising in this development. There are thousands of pages of documentation in the application and thousands more in the background documents. For a group that has a few weeks to make a submission, we have only been able to have a cursory look at many of the other issues arising but we do wish to make the following comments.

Protected Structure

The road way and its associated bridge and viaducts at the Corrib will have a profound impact upon the setting of Menlo Castle.

Also proposed is the demolition of a protected structure – item BH12 in the EIAR (see table 13.14 and Section 13.8). (RPS No. 1703).

Contravention of Policy

The Galway City Development Plan 2011-2017 contains extensive discussion, policy and objectives concerning the need to develop a sustainable transport system, a system that is less road dependent and one that encourages a significant modal shift from the use of the car to use of more sustainable forms of transport towards public transport, walking and cycling and a wide range of objectives are included in that regard. It includes proposals to support a co-ordinated approach to transport and land use zoning (Policy 3.2), a modal shift away from use of the private car (Policy 3.3), improved public transport (Policy 3.4), provision of a rapid transit route (Policy 3.4), Mobility Management Plans (Policy 3.4) etc. The County Plan, Regional Planning Guidelines and government policy (Smarter Mobility) include similar objectives and policies. The construction of an inner city ring road built to motorway standard within the city boundaries contravenes such policies:

- Government policy on transport, as stated in the document "Smarter Travel: A Sustainable Transport Future (2009-2020)" seeks:
    - The development of a sustainable transport system for the country.
    - The reduction of travel demand and commuting distances.
    - That work related travel by car will fall from 65% to 45%.

  This proposal will encourage car based travel to work, will facilitate longer commutes and will actually reduce the use of public transport and therefore create a transport system that is less sustainable.
- It is policy of the Regional Planning Guidelines to achieve a more sustainable form of transport including land use policies that minimise the need for travel, shifts to sustainable transport modes and the integration of land use and transportation policies. Again, this proposal is the opposite.
- It is policy of the City and County Development Plans to integrate transport and land use. This proposal runs counter to that.
- The City and County Development Plans also refer to the development of a sustainable transport system. This road proposal runs counter to that.
- It is policy of the GTS to increase the use of public transport and reduce reliance on the private car. This proposal does the opposite.
- It is government policy, as expressed through a wide range of documents, to reduce reliance on fossil fuels, reduce greenhouse gas (GHG) emissions and to lower carbon emissions to the atmosphere. These policies are contained in documents including
    - Climate Action and Low Carbon Development Act 2015,
    - Strategy for Renewable Energy 2012-2020,
    - National Policy Position on Climate Action and Low Carbon Development (2014),
    - White Paper- Ireland's Transition to a Low Carbon Energy Future 2015-2030,
    - National Mitigation Plan July 2017

  The EIAR submitted with this application makes clear that it will actually result in a greater dependence on the private car for travel and that it will

facilitate longer commutes which are currently discouraged. As such, the proposal will increase carbon and GHG emissions and therefore runs counter to government policy on these critically important matters. This is at a time when Ireland is already in serious trouble about meeting its international commitments regarding carbon emissions.

CONCLUSION

This submission comes from a group of residents of the Dangan area of Galway City. They will all be directly and severely affected by this proposed road; in some cases with the loss of their homes or part of their property, in other cases with the enormous and damaging changes made to the community and environment in which they live.

Whilst it is accepted that roads cannot be built without having impacts, some of them negative, it is contended that the proposal made here is fundamentally flawed and will have a terrible impact on people, communities and residential areas; an impact which is not justified. Whilst the proposal appears to contain radical efforts to minimise impacts on nature - going so far as to include a tunnel to protect limestone pavement - there is no corresponding care to minimise the impact on people.

The application is presented as part of an overall sustainable transport strategy for the city of Galway - the Galway Transport Strategy (GTS). In fact, a decision to build a road was made long before the GTS was ever published. Critical route decisions, including the abandonment of the original GCOB route, were also taken in advance of the GTS.

Furthermore, a central aim of the GTS was to facilitate an increase in the use of public transport in the city of Galway. The road has the opposite impact - actually resulting in an increased dependence on the private car. The proposal is therefore in conflict, not only with the GTS but also with local plans, regional plans and national policies regarding the development of more sustainable forms of transport and the reduction in carbon emissions and GHGs. The proposal also facilitates longer commuting which is seen as a benefit in the EIAR. In fact, this is contrary to national and local policy.

Policies to reduce reliance on cars and reduce the need for commuting, give rise to objectives to integrate land-use and transport. If land-uses are efficiently located, there is less need for travel. If densities are higher there is less need to travel. This has not been done at all in Galway and, in fact, the new City Development Plan entirely fails to address such matters advocating low densities, sprawled development and long commutes. This must be addressed prior to any decision to start building urban motorways.

There is little justification for a motorway around Galway. Galway is an 'end point' not a 'mid-point'. Athlone is on the M6/N6 linking Dublin to the west. Galway is at the end of this route. Athlone's location merits a bypass; Galway's does not. It is not surprising that the percentage of bypassable traffic in Galway is a derisory 3%. In such circumstances, it is difficult to justify a road of such a scale, full motorway

design with grade separated junctions for most if its length; even 3 lanes in either direction for part thereof.

Even if there is a case for a ring road, the route selection process followed here is deeply flawed. It is excessively concerned about flora and fauna to the expense of other matters, particularly the impact on humans. It is not normal practice in modern town planning to run a motorway through a city. It seems that in this case little effort was made to find a route that avoided the city. All of the route options considered impact on the city to a greater or lesser extent whereas outer routes, such as the former GCOB were discounted at an early stage. The lack of meaningful consideration of reasonable alternatives is contrary to the 2014 EIA Directive and the correct approach as established by case law

The final route selection is an urban motorway that will cut through residential communities bringing with it serious problems of noise, dust, disruption, visual impact, community severance and emotional distress both to those losing their houses and those left behind in eviscerated housing schemes that have lost their character as well as many of their residents. It also brings serious health impacts. The impacts on Aughnacurra and Ard na Locha are especially egregious. These two schemes will be destroyed as far as their coherence as a housing scheme is concerned. The depiction of a route through the Dangan residential lands in the Draft City Development Plan and in the adopted City Development Plan was pre-emptive in advance of a full route selection process and final design.

Dangan is also severely impacted upon with regard to amenities. The impact on the NUIG lands is extreme. This includes the sports fields but also the integrity of the NUIG site which has an exceptional urban campus following the bank of the Corrib. The integrity of the campus will be compromised as it will effectively be severed at this point.

The use of mitigating measures is heavily skewed towards ecology at the expense of people. A tunnel is proposed to protect the race course. A second is proposed to protect a minor patch of limestone pavement. However, a tunnel is not considered to protect the community at Dangan.

The Traffic Impacts on the N59 Road are not properly assessed and the Traffic modelling for this area needs greater scrutiny.

The public participation process has left much to be desired and frequently seemed to be a process of 'going through the motions'; a pretence of engagement whereas, in fact, the decisions had already been made.

Finally, the proposal, in our view, constitutes a major breach of adopted plans and policy; local, regional and national. The City and County Development Plans, as well as the RPGs, government policy (Smarter Travel) and the Galway Transport Strategy all talk about developing more sustainable forms of transport. This includes:

- A reduction in the use of the private car and increased use of more sustainable modes of travel including public transport, walking and cycling..
- Reduced commuting distances
- The integration of land use planning and transport planning.

The N6 GCRR motorway that runs through the Dangan residential lands does not serve the common good due to its significant adverse impacts on existing and future land use; the local economy; and the local population - all of which are environmental considerations. Neither does it accord with these adopted policies of local, regional and central government.

We urge the Board to reject this misguided scheme.

Stephen Dowds BA MRUP MIPI
17th December 2018

ATTACHMENTS

1. Fee (€50)
2. Guardian Article
3. WHO: More than 90% of the world's children breathe toxic air every day
4. Lancet Article
5. Previous Submissions
6. Personal Statements

Medical Articles:

- **Guardian Article**
- **WHO: More than 90% of the world's children breathe toxic air every day**
- **Lancet Article**

The Guardian

Air pollution is the 'new tobacco', warns WHO head

Exclusive: Simple act of breathing is killing 7 million people a year and harming billions more, but 'a smog of complacency pervades the planet', says Dr Tedros Adhanom

. **Dr Tedros Adhanom Ghebreyesus: Air pollution is the new tobacco. Time to tackle this epidemic**

Dr Tedros Adhanom Ghebreyesus speaks at a press conference in 2017. Photograph: Fabrice Coffrini/AFP/Getty Images

Damian Carrington *and* **Matthew Taylor**

Sat 27 Oct 2018 06.00 BST

Air pollution is the "new tobacco", the head of the World Health Organization has warned, saying the simple act of breathing is killing 7 million people a year and harming billions more.

Over 90% of the world's population suffers toxic air and research is increasingly revealing the profound impacts on the health of people, especially children.

"The world has turned the corner on tobacco. Now it must do the same for the 'new tobacco' - the toxic air that billions breathe every day," said Dr Tedros Adhanom Ghebreyesus, the WHO's director general. "No one, rich or poor, can escape air pollution. It is a silent public health emergency."

"Despite this epidemic of needless, preventable deaths and disability, a smog of complacency pervades the planet," Tedros said, in an article for the Guardian. "This is a defining moment and we must scale up action to urgently respond to this challenge."

The WHO is hosting its first global conference on air pollution and health in Geneva next week, including a high-level action day at which nations and cities are expected to make new commitments to cut air pollution.

Children and babies' developing bodies are most at risk from toxic air, said Dr Maria Neira, WHO director for public health and the environment, with 300 million living in places where toxic fumes are six times above international guidelines.

"Air pollution is affecting all of us but children are the most vulnerable of all," she said, noting the alarm among child health experts about the links between toxic air and respiratory diseases, cancer and damaged intelligence. "We have to ask what are we doing to our children, and the answer I am afraid is shockingly clear: we are polluting their future, and this is very worrying for all us."

Tedros said: "A clean and healthy environment is the single most important precondition for ensuring good health. By cleaning up the air we breathe, we can prevent or at least reduce some of the greatest health risks."

The WHO is working with health professionals not only to help their patients, but also to give them the skills and evidence to advocate for health in policy decisions such as moving away from fossil-fuel-powered energy and transport. "No person, group, city, country or region can solve the problem alone," he said. "We need strong commitments and actions from everyone."

In the UK, most urban areas have illegal levels of air pollution and ministers have lost three times in the high court after challenges over the inadequacy of their action. The latest government action plan, called "pitiful" by environmental lawyers, revealed air pollution was actually much worse than previously feared.

Globally, with smoking on the decline, air pollution now causes more deaths annually than tobacco. However, researchers think the harm known to be caused by air pollution, such as heart attacks and lung disease, is only "the tip of the iceberg".

The figure of 7 million early deaths is certain to be an underestimate, as it only includes particle pollution and the five most firmly linked causes of death. Early estimates using improved models indicate a total figure of 9 million from particle pollution.

Daniel Krewski at the University of Ottawa, one of the team behind the newer estimate, said: "This suggests that outdoor air pollution is an even more important risk factor for health than previously thought."

Each passing month sees new studies showing further harms of toxic air, with recent revelations including a "huge reduction" in intelligence, millions of diabetes cases and the first direct evidence of pollution particles in mothers' placentas.

The cost of the lost lives and ill health caused is also a colossal economic burden: $5tn a year, according to a World Bank report. Tackling air pollution by closing polluting power plants and shifting to cleaner transport, such as cycling or electric cars, has a double benefit as it also tackles climate change.

Neira said that, given the overwhelming evidence of harm from air pollution, any politician who failed to tackle air pollution would be judged harshly by future generations - and the law.

"Politicians cannot say in 10 years from now, when citizens will start to take them to court for the harm they have suffered, that they didn't know," she said. "We all know pollution is causing major damage and we all know it is something we can avoid. Now we need to react collectively and in a very dramatic and urgent way."

Topics

- Air pollution
- World Health Organization
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- Health
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World Health Organization

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Air quality monitoring — Air quality monitoring in low- and middle-income countries needs to be strengthened, especially in areas close to hospitals, schools, and workplaces. Low-cost sensors and other new technologies can expand air quality monitoring and forecasting to areas that are currently underserved. New protocols and standards are needed to guide the effective use and interpretation of data produced by low-cost sensors in citizen science and other applications.

More than 90% of the world's children breathe toxic air every day

29 October 2018 | News Release | Geneva

Every day around 93% of the world's children under the age of 15 years (1.8 billion children) breathe air that is so polluted it puts their health and development at serious risk. Tragically, many of them die:

Media Contacts

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A new WHO report on Air pollution and child health: Prescribing clean air examines the heavy toll of both ambient (outside) and household air pollution on the health of the world's children, particularly in low- and middle-income countries. The report is being launched on the eve of WHO's first ever Global Conference on Air Pollution and Health.

It reveals that when pregnant women are exposed to polluted air, they are more likely to give birth prematurely, and have small, low birth-weight children. Air pollution also impacts neurodevelopment and cognitive ability and can trigger asthma, and childhood cancer. Children who have been exposed to high levels of air pollution may be at greater risk for chronic diseases such as cardiovascular disease later in life.

"Polluted air is poisoning millions of children and ruining their lives," says Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "This is inexcusable. Every child should be able to breathe clean air so they can grow and fulfil their full potential."

One reason why children are particularly vulnerable to the effects of air pollution is that they breathe more rapidly than adults and so absorb more pollutants.

They also live closer to the ground, where some pollutants reach peak concentrations – at a time when their brains and bodies are still developing.

Newborns and young children are also more susceptible to household air pollution in homes that regularly use polluting fuels and technologies for cooking, heating and lighting

"Air Pollution is stunting our children's brains, affecting their health in more ways than we suspected. But there are many straight-forward ways to reduce emissions of dangerous pollutants," says Dr Maria Neira, Director, Department of Public Health, Environmental and Social Determinants of Health at WHO.

"WHO is supporting implementation of health-wise policy measures like accelerating the switch to clean cooking and heating fuels and technologies, promoting the use of cleaner transport, energy-efficient housing and urban planning. We are preparing the ground for low emission power generation, cleaner, safer industrial technologies and better municipal waste management, " she added.

Key findings:

- Air pollution affects neurodevelopment, leading to lower cognitive test outcomes, negatively affecting mental and motor development.
- Air pollution is damaging children's lung function, even at lower levels of exposures
- Globally, 93% of the world's children under 15 years of age are exposed to ambient fine particulate matter (PM2.5) levels above WHO air quality guidelines, which include the 630 million of children under 5 years of age, and 1.8 billion of children under 15 years
- In low- and middle-income countries around the world, 98% of all children under 5 are exposed to PM2.5 levels above WHO air quality guidelines. In comparison, in high-income countries, 52% of children under 5 are exposed to levels above WHO air quality guidelines.
- More than 40% of the world's population – which includes 1 billion children under 15 - is exposed to high levels of household air pollution from mainly cooking with polluting technologies and fuels.
- About 600'000 deaths in children under 15 years of age were attributed to the joint effects of ambient and household air pollution in 2016.
- Together, household air pollution from cooking and ambient (outside) air pollution cause more than 50% of acute lower respiratory infections in children under 5 years of age in low- and middle-income countries.

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Events

WHO's First Global Conference on Air Pollution and Health, which opens in Geneva on Tuesday 30 October will provide the opportunity for world leaders; ministers of health, energy, and environment; mayors; heads of intergovernmental organizations; scientists and others to commit to act against this serious health threat, which shortens the lives of around 7 million people each year. Actions should include:

- Action by the health sector to inform, educate, provide resources to health professionals, and engage in inter-sectoral policy making.
- Implementation of policies to reduce air pollution: All countries should work towards meeting WHO global air quality guidelines to enhance the health and safety of children. To achieve this, governments should adopt such measures as reducing the over-dependence on fossil fuels in the global energy mix, investing in improvements in energy efficiency and facilitating the uptake of renewable energy sources. Better waste management can reduce the amount of waste that is burned within communities and thereby reducing 'community air pollution'. The exclusive use of clean technologies and fuels for household cooking, heating and lighting activities can drastically improve the air quality within homes and in the surrounding community.
- Steps to minimize children's exposure to polluted air: Schools and playgrounds should be located away from major sources of air pollution like busy roads, factories and power plants.

Air pollution and health: How will our children continue to breathe?

Full report

BreatheLife air pollution campaign: BreatheLife is a partnership of WHO, UN Environment and the Climate and Clean Air Coalition to Reduce Short-lived Climate Pollutants that aims to increase awareness and action on air pollution by governments and individuals. www.breathelife2030.org

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Conference on Air Pollution and Health

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Commentaries

Health must be the number one priority for urban planners

21 March 2018

Living near major roads and the incidence of dementia, Parkinson's disease, and multiple sclerosis: a population-based cohort study

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Summary

Background Emerging evidence suggests that living near major roads might adversely affect cognition. However, little is known about its relationship with the incidence of dementia, Parkinson's disease, and multiple sclerosis. We aimed to investigate the association between residential proximity to major roadways and the incidence of these three neurological diseases in Ontario, Canada.

Methods In this population-based cohort study, we assembled two population-based cohorts including all adults aged 20–50 years (about 4·4 million; multiple sclerosis cohort) and all adults aged 55–85 years (about 2·2 million; dementia or Parkinson's disease cohort) who resided in Ontario, Canada on April 1, 2001. Eligible patients were free of these neurological diseases, Ontario residents for 5 years or longer, and Canadian-born. We ascertained the individual's proximity to major roadways based on their residential postal-code address in 1996, 5 years before cohort inception. Incident diagnoses of dementia, Parkinson's disease, and multiple sclerosis were ascertained from provincial health administrative databases with validated algorithms. We assessed the associations between traffic proximity and incident dementia, Parkinson's disease, and multiple sclerosis using Cox proportional hazards models, adjusting for individual and contextual factors such as diabetes, brain injury, and neighbourhood income. We did various sensitivity analyses, such as adjusting for access to neurologists and exposure to selected air pollutants, and restricting to never movers and urban dwellers.

Findings Between 2001, and 2012, we identified 243 611 incident cases of dementia, 31 577 cases of Parkinson's disease, and 9247 cases of multiple sclerosis. The adjusted hazard ratio (HR) of incident dementia was 1·07 for people living less than 50 m from a major traffic road (95% CI 1·06–1·08), 1·04 (1·02–1·05) for 50–100 m, 1·02 (1·01–1·03) for 101–200 m, and 1·00 (0·99–1·01) for 201–300 m versus further than 300 m (p for trend=0·0349). The associations were robust to sensitivity analyses and seemed stronger among urban residents, especially those who lived in major cities (HR 1·12, 95% CI 1·10–1·14 for people living <50 m from a major traffic road), and who never moved (1·12, 1·10–1·14 for people living <50 m from a major traffic road). No association was found with Parkinson's disease or multiple sclerosis.

Interpretation In this large population-based cohort, living close to heavy traffic was associated with a higher incidence of dementia, but not with Parkinson's disease or multiple sclerosis.

Funding Health Canada (MOA-4500314182).

Introduction

Dementia, Parkinson's disease, and multiple sclerosis are among the most common neurodegenerative diseases, with devastating effects on individuals, families, and society. Globally, about 55 million people have these disorders, with rising numbers expected given increasing longevity.[1,2] Without cures, identification of modifiable risk factors is important.

Despite the mounting global effect of these neurodegenerative diseases, their cause remains largely unknown.[3–5] Concern is growing that exposures associated with traffic such as air pollution and noise might contribute to neurodegenerative pathology.[6,7] Results of studies showed that air pollutants and diesel exhaust induce oxidative stress and neuroinflammation,[8] activate microglia,[9] and stimulate neural antibodies.[10] Exposure to more noise also impairs cognitive abilities in rats.[11] Similarly, a few epidemiologic studies[12–14] linked traffic-related noise and air pollution to cognitive decline and increased incidence of Parkinson's disease[15] and Alzheimer's disease.[16] Traffic exposure might affect various neurodegenerative processes.

Studies also showed that living near roads was associated with reduced white matter hyperintensity volume[17] and cognition,[18,19] but its effect on the incidence of dementia, Parkinson's disease, and multiple sclerosis is unknown. Living near traffic is a multifaceted exposure representing heightened exposure to nitrogen oxides, ultrafine particles, fine particulate matter (≤2·5 μm in diameter or $PM_{2.5}$), heavy metals, polycyclic aromatic hydrocarbons, volatile organic compounds, noise, and other factors. Because hundreds of millions of people

Research in context

Evidence before this study

We searched the MEDLINE and Embase databases for epidemiological studies of the associations between exposure to roadway traffic and the risk in adults (older than 18 years of age) of developing dementia, Parkinson's disease, or multiple sclerosis. Studies published in the peer-review literature up to Feb 1, 2016, were included, regardless of the language of publication. We perused the bibliographies of these articles and of previously published reviews. We searched the bibliographic databases using the keywords traffic exposure, mobile source, roadway, proximity or near, air pollution, and with the following health outcomes: dementia; Alzheimer's disease; cognition; Parkinson's disease; multiple sclerosis. A few studies found an association between living close to major roadways and cognitive decline and changes in the brain structure. There is also some evidence linking traffic-related noise and air pollution to cognitive decline and the incidence of dementia, and to a lesser degree, Parkinson's disease. No study has so far investigated the onset of all three major neurodegenerative diseases (dementia, Parkinson's disease, and multiple sclerosis) in association with near-road exposure. Moreover, the few existing studies involved relatively small study populations and nearly half were cross-sectional.

Added value of this study

We report that living close to heavy traffic is associated with increased incidence of dementia. Using the same populations and methods, however, we did not find an association between residential proximity to traffic and Parkinson's disease or multiple sclerosis. The cause of these major neurodegenerative diseases remains largely unclear. This study sheds important insights into a possible role of near-road exposure on the development of dementia. Our study overcomes several limitations of previous studies, since it has large cohorts comprising almost the entire adult population in Ontario, the most populous province in Canada, and lagged exposure up to 10 years to reduce concerns about reverse causality. With demographic characteristics similar to the USA and many European countries, findings from this study will be highly generalisable to populations in many other regions.

Implications of all the available evidence

Increasing population growth and continuing urbanisation globally has placed many people close to heavy traffic. With the widespread exposure to traffic and growing population with dementia, even a modest effect from near-road exposure can pose an enormous public health burden. This study suggests that improvements in environmental health policies and land use planning aimed at reducing traffic exposure can have considerable potential for prevention of dementia, which would lead to a broad public health implication. This study adds weight to previous observations suggesting that roadway traffic is an important source of environmental stressors that could give rise to neurological disorders and that future investigation targeting the effects of different aspects of traffic such as traffic-related air pollutants and noise on neurological health is merited.

worldwide live close to major roads, we sought to investigate the association between exposure to traffic, measured by residential proximity to major roadways, and the incidence of dementia, Parkinson's disease, and multiple sclerosis in a large population-based cohort in Ontario, Canada.

Methods

Study design

We did a population-based cohort study of all Ontario adults to determine the incidence of dementia, Parkinson's disease, and multiple sclerosis. Eligible participants were, as of April 1, 2001, Ontario residents for 5 years or longer, aged 20–85 years, and Canadian-born. We created the study population using Ontario's Registered Persons Database, a registry of all residents who have ever had health insurance. This database covers virtually all Ontario residents.[20]

Because dementia and Parkinson's disease onset occurs predominantly in people aged 55 years or older, whereas multiple sclerosis onset is most common in adults younger than 50 years, we separated the study population into two analytical cohorts: individuals aged 20–50 years (multiple sclerosis cohort); and individuals aged 55–85 years (dementia or Parkinson's disease cohort). We further excluded individuals with any of these three disorders at baseline, yielding a total of 4 372 720 and 2 165 268 participants in each cohort.

The Research Ethics Board of Sunnybrook Health Sciences Centre, Toronto, approved the study.

We ascertained incident diagnoses of dementia, Parkinson's disease, and multiple sclerosis using validated databases (see appendix). Details of these databases are available elsewhere.[20] These databases have been validated previously using chart review, with sensitivity of 78–84% and specificity of 99–100%.[21–23] They were created using hospital discharge abstracts from the Canadian Institute for Health Information, physician service claims from the Ontario Health Insurance Plan database, and prescription medication claims from the Ontario Drug Benefits programme database. Hospital, laboratory, and physician services in Ontario are funded by the provincial government through a single-payer universal medicare system that covers virtually all residents.[20] Drug coverage is provided to those aged 65 years or older, and social assistance recipients. We linked the cohorts to these databases using encrypted unique identifiers to ascertain incident cases.

See Online for appendix

Residential proximity to roads

We calculated residential proximity to major roadways or highways based on 6-character postal-code addresses in 1996, 5 years before cohort inception. Postal codes in urban areas represent the centroid of the blocks or single large buildings in which cohort members lived. Distance (m) was measured using ArcGIS. Major traffic roads include primary urban roads and arterial roads (ie, a major thoroughfare with medium to large traffic capacity with a combination of controlled access and intersections at grade level) whereas highways include expressways and primary and secondary highways, according to Ontario Government Road Network Data Standards. Consistent with previous studies,[17,24] we created five distance categories: less than 50 m from major traffic road, 50–100 m, 101–200 m, 201–300 m, and more than 300 m. We also considered a continuous measure of distance.

	Multiple sclerosis cohort* (n=4372720)		Dementia/Parkinson's disease cohort* (n=2165268)	
	Subject count	%	Subject count	%
Age at entry (years); mean (SD)	35·9 (8·7)	..	66·8 (8·2)	..
20–29	1198499	27·4	..	..
30–39	1475303	33·7	..	..
40–50	1698918	38·9	..	..
55–64	..	..	978235	45·2
65–74	..	..	731685	33·8
75–85	..	..	455348	21·0
Sex				
Male	2178448	49·8	1013010	46·8
Female	2194272	50·2	1152258	53·2
Pre-existing comorbidity†				
Coronary heart disease	21957	0·5	213071	9·8
Stroke	6005	0·2	66241	3·1
Congestive heart failure	4687	0·1	120550	5·6
Diabetes	105088	2·4	323544	15·0
Hypertension	295996	6·8	1038119	48·0
Arrhythmia	11717	0·3	93495	4·3
Traumatic brain injury	302869	6·9	90694	4·2
Area-level risk factors‡				
Low-income cutoff quintile				
Lowest	784958	18·0	400839	18·5
Lower middle	867694	19·8	447184	20·7
Middle	903386	20·7	437336	20·2
Upper middle	915524	20·9	420427	19·4
Upper	901158	20·6	459482	21·2
Percentage of rural residents	724024	16·6	410575	19·0
Percentage of recent immigrants	..	3·6	..	3·3
Percentage ≥15 years of age with less than high school education	..	25·5	..	26·9
Percentage ≥15 years of age without employment	..	6·2	..	6·2

Data are n or %, unless otherwise specified. *Multiple sclerosis cohort comprised all adults aged 20–50 years and dementia/Parkinson's disease cohort comprised all adults aged 55–85 years in Ontario, Canada, in 2001. †In the 10 years before cohort onset. ‡From Canadian Census 2001, at the census dissemination area level.

Table 1: **Baseline characteristics of the study population**

Covariates

We selected accepted or suspected risk factors for neurodegenerative pathology, including age, sex, pre-existing comorbidities, and socioeconomic status.[3–5] The comorbidities included traumatic brain injury, diabetes, hypertension, stroke, coronary heart disease, congestive heart failure, and arrhythmia. We ascertained the presence of comorbidities at baseline using hospital discharge abstracts, physician service claims, and validated chronic disease databases (appendix).

Several individual-level socioeconomic status and behavioural factors, such as education, smoking, and physical activity are also implicated in neurological health,[3–5] but were unavailable. Since neighbourhood-level socioeconomic status is strongly associated with these factors,[25,26] we derived four neighbourhood-level variables: income quintile, a measure of relative household income accounting for household size and community; percentage of population aged 15 years or older with less than high school education; unemployment rate; and percentage of recent immigrants, using 2001 Canadian Census dissemination area data. A dissemination area (with 400–700 people) is the smallest census geographic area for which census data are disseminated. We further derived neighbourhood-level deprivation based on the Ontario Marginalization Index that quantifies the degree of marginalisation in health and social wellbeing (appendix).

To control for regional differences in the incidence of dementia, Parkinson's disease, and multiple sclerosis, we created a variable for urban residence (yes/no), density of neurologists using the ICES Physician Database to represent accessibility to neurological care, and the latitude of residence given the reported latitude gradient with multiple sclerosis.[3] Additionally, we created a dichotomous variable classifying Ontario into the Greater Toronto Area, a densely-populated urban mega-region, and all other areas. Toronto tends to differ from other areas with respect to sociodemographic characteristics, health care access, and population health status.

To explore whether exposure to air pollutants, especially nitrogen dioxide (NO_2) and $PM_{2.5}$ might explain the roadway proximity-outcome association, we obtained long-term measures of $PM_{2.5}$ and NO_2 for all participants (appendix). Briefly, estimates of ground-level concentrations of $PM_{2.5}$ were derived from satellite observations of aerosol optical depth in combination with outputs from a global atmospheric chemistry transport model (GEOS-Chem CTM).[27] The $PM_{2.5}$ estimates were further adjusted using information on urban land cover, elevation, and aerosol composition using a geographically weighted regression. We used estimates between 1998 (the earliest year with available data) and 2001 (the year of cohort inception), thus producing four-year mean concentration of $PM_{2.5}$ at a spatial resolution of 1×1 km and covering all North America

	Incidence of dementia (n=243611)‡			Incidence of Parkinson's disease (n=31577)‡			Incidence of multiple sclerosis (n=9247)‡		
	HR	95% CI	p_{trend}	HR	95% CI	p_{trend}	HR	95% CI	p_{trend}
Distance† by category									
<50 m	1·07	1·06–1·08	0·0349	1·01	0·98–1·04	0·12	1·02	0·95–1·09	0·72
50–100 m	1·04	1·02–1·05	..	1·01	0·97–1·05	..	0·93	0·86–1·01	..
101–200 m	1·02	1·01–1·03	..	0·99	0·96–1·03	..	1·01	0·95–1·08	..
201–300 m	1·00	0·99–1·01	..	0·99	0·96–1·02	..	1·01	0·94–1·08	..
>300 m	Reference	..	..	Reference	..	..	Reference	..	..
Log(distance)§	0·91	0·89–0·92	..	0·99	0·97–1·01	..	1·00	0·98–1·02	..

Cox proportional hazards model with age as the time-scale, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment rate, education, recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. For multiple sclerosis, the model was also adjusted for latitude. †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Incidence of dementia and Parkinson's disease was analysed among all adults aged 55–85 years (dementia/Parkinson's disease cohort) whereas incidence of multiple sclerosis was analysed among all adults aged 20–50 years (multiple sclerosis cohort). §Distance was fitted as a continuous variable, using natural logarithm of distance. Hazard ratios (HRs) expressed per IQR increase in distance (dementia/Parkinson's disease cohort: 310 m and multiple sclerosis cohort: 320 m).

Table 2: **Hazard ratios and 95% CIs for the associations between residential proximity to major roadways in 1996 and the risks of incident dementia, Parkinson's disease, and multiple sclerosis in Ontario, during the follow-up period 2001–12**

below 70°N, which includes all of Ontario. These satellite-based estimates of $PM_{2.5}$ closely agree with ground measurements at fixed-site monitoring stations across North America (R^2 0·82, n=1440).[27] Similarly, we derived long-term exposure to NO_2 from a national land-use regression (LUR) model developed from Environment Canada's National Air Pollution Surveillance Network monitoring data, 2005–11 satellite NO_2 estimates, area of industrial land use, road length, and mean summer rain fall.[28] The estimates were further calibrated by incorporating local-scale variations of NO_2 from vehicle emissions by applying spatially-varying multipliers that represented distance-decay gradient in NO_2. The final LUR model explained 73% of the variation in annual 2006 measurements of NO_2, with a root mean square error of 2·9 parts per billion (ppb).[28] The resulting LUR NO_2 estimates were available for each year between 1998 and 2001, after applying temporal adjustment.

Statistical analysis

We used Cox proportional hazards models with age as the time-scale to assess the relationship between residential proximity to major roadways and the incidence of dementia, Parkinson's disease, and multiple sclerosis. For each outcome, follow up time (in days) was measured from April 1, 2001 until diagnosis date, ineligibility for provincial health insurance, death, or March 31, 2012.

Separate models were developed for each disease. All models were stratified by region (living in Toronto or not), and adjusted for sex, comorbidities, urban residency, and neighbourhood-level income, education, unemployment, and immigration status. To adjust for regional variations in the neighbourhood-level variables across Ontario, we included them as the average for each census division (equivalent to county), and as the difference between the values for each census dissemination area and the census division mean. We further adjusted for latitude for multiple sclerosis cohort. The analyses were repeated using distance as categorical and continuous variables.

We routinely tested for deviation from the proportional hazards assumption by adding the cross-product of each variable with the natural logarithm of the time variable, but we did not find any violation of this assumption ($p>0·05$). We calculated adjusted hazard ratios (HRs) and 95% CIs for each category of roadway proximity compared with the furthest category (>300 m). Linear trend was assessed by assigning the median distance (in natural log) to each category and fitting the term as a continuous variable in a regression model. In analyses with distance as a continuous variable, we considered the natural log of distance because this exposure has been linearly related to mortality and morbidity outcomes in Ontario and elsewhere.[17,24]

Sensitivity analyses

We controlled for access to neurologists, deprivation index, and a North/South indicator (appendix). We also adjusted for a linear term for time to account for potential changes in the risk of the three disorders over time.

We assessed whether HR might be influenced by any spatial dependence among participants. We fitted models with a frailty term for census division (ie, county) to account for the possibility that participants in the same community could share similar risk factors than those living in different locations. We assumed a gamma distribution for the frailties, with an exchangeable correlation structure within county.

We assessed the potential influence of unmeasured individual-level socioeconomic status and behavioural variables, especially education, smoking, obesity, and

	Main model ‡		Indirectly adjusted for smoking		Further indirectly adjusted for BMI, physical activity		Further indirectly adjusted for education	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Distance† by category								
<50 m	1·07	1·06–1·08	1·06	1·05–1·08	1·06	1·05–1·08	1·06	1·05–1·08
50–100 m	1·04	1·02–1·05	1·03	1·02–1·05	1·03	1·02–1·05	1·04	1·02–1·06
101–200 m	1·02	1·01–1·03	1·01	1·00–1·02	1·01	1·00–1·03	1·02	1·01–1·04
201–300 m	1·00	0·99–1·01	1·00	0·98–1·01	1·00	0·99–1·02	1·01	0·99–1·03
>300 m	Reference	..	Reference	..	Reference	..	Reference	..
Log (distance)§	0·91	0·89–0·92	0·92	0·90–0·93	0·92	0·90–0·93	0·92	0·90–0·93

Indirect adjustment for smoking, body-mass index (BMI), physical activity, and attained education. Data of smoking, BMI, physical activity, and educational attainment were obtained from Ontario respondents to the 1996 cycle of National Population Health Survey and the 2000–01, 2003 cycles of Canadian Community Health Survey, and who were 50 to 85 years old at the time of the surveys (n=16 441). †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Cox proportional hazards model with age as time axis, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment, education, and recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. §Distance was fitted as a continuous variable, using natural logarithm of distance. The hazard ratios were expressed per interquartile-range increase in distance (310 m).

Table 3: **Hazard ratios and 95% CI for associations between residential proximity to major roadways in 1996 and the risk of incident dementia in Ontario during the follow-up period 2001–12**

	Parkinson's disease				Multiple sclerosis			
	Main model‡		Indirectly adjusted for smoking and physical activity‖		Main model‡		Indirectly adjusted for smoking‖	
	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI	Hazard ratio	95% CI
Distance† by category								
<50 m	1·01	0·98–1·04	1·01	0·98–1·05	1·02	0·95–1·09	1·00	0·93–1·07
50–100 m	1·01	0·97–1·05	1·02	0·98–1·06	0·93	0·86–1·01	0·93	0·86–1·01
101–200 m	0·99	0·96–1·03	0·99	0·96–1·03	1·01	0·95–1·08	1·00	0·93–1·06
201–300 m	0·99	0·96–1·02	1·00	0·97–1·03	1·01	0·94–1·08	1·00	0·93–1·07
>300 m	Reference	..	Reference	..	Reference	..	Reference	..
Log (distance)§	0·99	0·97–1·01	1·00	0·98–1·02	1·00	0·98–1·02	0·99	0·97–1·02

Indirect adjustment for smoking and physical activity for Parkinson's disease, and for smoking for multiple sclerosis. Data of smoking and physical activity were obtained from Ontario respondents to the 1996 cycle of National Population Health Survey and the 2000–01 and 2003 cycles of Canadian Community Health Survey. For Parkinson's disease, respondents aged 50–85 years at the time of the surveys were included (n=16 441) and for multiple sclerosis, those who were 20–55 years old were included (n=31 635). †Major traffic roads include primary urban roads and arterial roads whereas highways include expressways and primary and secondary highways, as defined by Ontario Government Road Network Data Standards. ‡Cox proportional hazards model with age as time axis, stratified by an indicator for living in the Greater Toronto Area or not, adjusted for sex, history of diabetes, hypertension, coronary heart disease, stroke, congestive heart failure, arrhythmia, and traumatic brain injury, income quintile, urban/rural indicator, census division-level unemployment, education, and recent immigrants, as well as the subtraction of these variables at the census dissemination level from their census division. For multiple sclerosis, the model was also adjusted for latitude. §Distance was fitted as a continuous variable, using natural logarithm of distance. HRs expressed per interquartile-range increase in distance (dementia/Parkinson's disease cohort: 310 m and multiple sclerosis cohort: 320 m). ‖For Parkinson's disease, p_{mod}=0·38 and for multiple sclerosis, p_{mod}=0·53.

Table 4: **Hazard ratios and 95% CI for associations between residential proximity to major roadways in 1996 and risk of incident Parkinson's disease and multiple sclerosis in Ontario, during the follow-up period 2001–12**

physical activity on our results. To do this, we used a method to mathematically adjust HR for these variables while simultaneously controlling for all variables available in the model (ie, age, sex, comorbidities, and socioeconomic status; appendix). Details of this method are presented elsewhere.[29] Briefly, this method requires spatial associations between the unmeasured and observed variables from an auxiliary dataset. Following previous Canadian studies,[30] we obtained the relationships using data from the 1996–97 cycle of the National Population Health Survey and the 2000–01 and 2003 cycles of the Canadian Community Health Survey, which constituted a representative sample of the study cohorts (appendix). This information along with estimated associations between these unmeasured variables and incident dementia, Parkinson's disease, and multiple sclerosis from the literature, were used to estimate their effect on HR. Based on systematic reviews of dementia, Parkinson's disease, and multiple sclerosis, we considered all four variables in our analysis with dementia, smoking and physical activity with Parkinson's disease, and smoking with multiple sclerosis (appendix).

Furthermore, we additionally adjusted for $PM_{2.5}$ and NO_2, excluded events occurring in the first 2 and 5 years

during follow-up to lag exposure up to 10 years, excluded people residing in long-term care facilities (often located near major roadways) at baseline, and restricted the dementia/Parkinson's disease cohort to those aged 65 years or older because drug information was unavailable for younger adults. Lastly, we further adjusted for rurality index and neighbourhood-level percentage of visible minority, and restricted the analysis to people who never moved since 1996, to urban residents, and to residents of six major urban centres in Ontario (Toronto, Hamilton, Ottawa, London, Windsor, and Sarnia) (appendix).

Role of the funding source

The funder had no role in study design, data collection, data analysis, data interpretation, or writing of the report. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

The multiple sclerosis cohort comprised 46·7 million person-years of observations and the dementia/Parkinson's disease cohort contributed 20·1 million person-years. At baseline, the mean age was 35·9 years (SD 8·7 years) for the multiple sclerosis cohort and 66·8 years (8·2 years) for the dementia/Parkinson's disease cohort (table 1). Of the multiple sclerosis cohort, 50% were male, 17% were rural residents, 2% had diabetes, and 7% had hypertension, whereas 47% of the dementia/Parkinson's disease cohort were male, 19% were rural residents, 15% had diabetes, and 48% had hypertension. Average unemployment among census dissemination areas was 6% and the mean percentage of population with less than high school education was about 26% in both cohorts.

Nearly half of the cohorts lived within 200 m from a major road and 95% were within 1000 m (appendix). Of the cohorts, the average concentration of $PM_{2.5}$ according to participants' residences in 1996, 5 years before cohort inception, was 9·7 μg/m³ (range 1·3–19·8 μg/m³), while the average concentration of NO_2 was 15·4 ppb (2·2–62·0 ppb). Between 2001–12, we identified 243611 incident cases of dementia, 31577 incident cases of Parkinson's disease, and 9247 incident cases of multiple sclerosis.

In both categorical and continuous analyses, living closer to a major road was associated with increased incidence of dementia, with fully adjusted HR of 1·07 (95% CI 1·06–1·08) for people living less than 50 m, 1·04 (1·02–1·05) for people living 50–100 m, 1·02 (1·01–1·03) for people living 101–200 m, and 1·00 (0·99–1·01) for people living 201–300 m away from a major roadway versus more than 300 m from a major roadway (P_{trend}=0·0349; table 2). An interquartile-range increase in residential proximity to a major road was associated with a 9% (95% CI 8–11%) lower incidence of dementia. In contrast, there was no evidence linking traffic proximity to Parkinson's disease or multiple sclerosis (HR 1·00 for both; table 2).

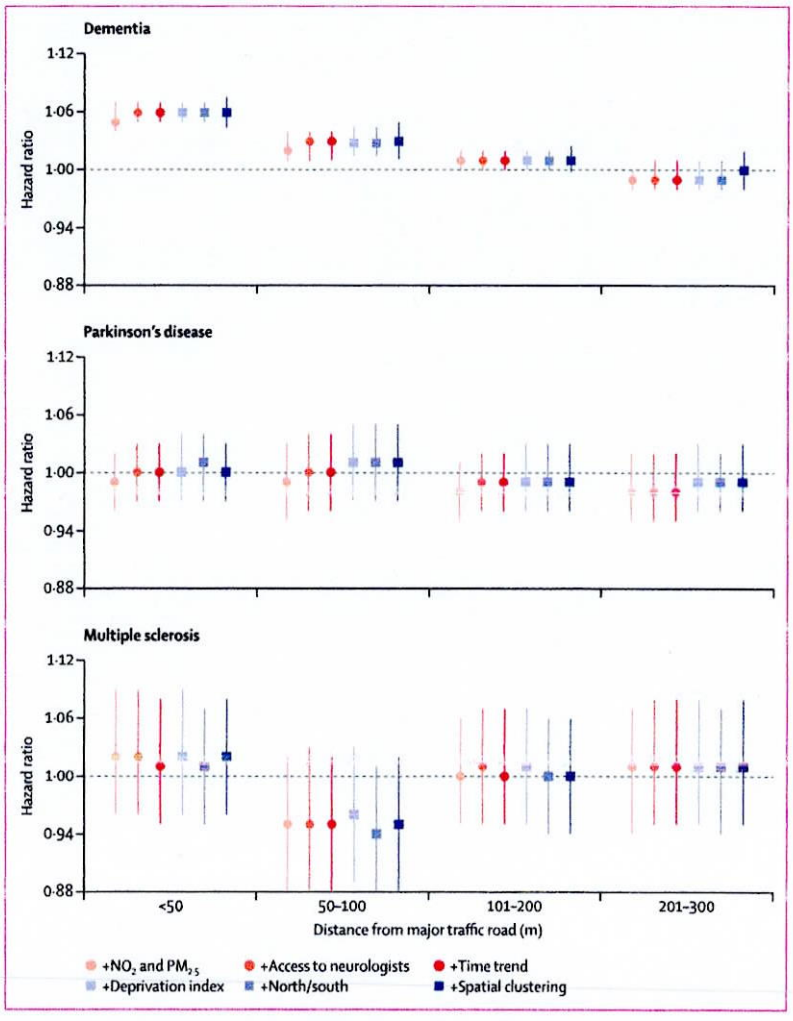

Figure 1: **Estimated associations between residential proximity to major roadways in 1996 and the risk of incident dementia, Parkinson's disease, multiple sclerosis in Ontario, 2001–12**
Measured by six sensitivity analyses to further control for potential confounding factors. Model further adjusted for exposure to NO_2 and $PM_{2.5}$, access to neurologists, time trend, deprivation, an indicator for North/South Ontario, and a frailty term to account for potential spatial clustering.

The association between traffic exposure and dementia was insensitive to additional controls for smoking, obesity, physical activity, and education (HR 1·06 for living <50 m away from a major road, 1·04 for 51–100 m, and 1·02 for 101–200 m; table 3). Similarly, the associations between traffic exposure and Parkinson's disease and multiple sclerosis remained unchanged after adjusting for smoking and physical activity (table 4).

Further adjustment for access to neurologists, deprivation, time trend, and a North/South indicator did not alter the associations, nor did adding a frailty term in the survival model to account for potential spatial clustering (figure 1). Adjustment for NO_2 and $PM_{2.5}$ modestly attenuated the association between traffic

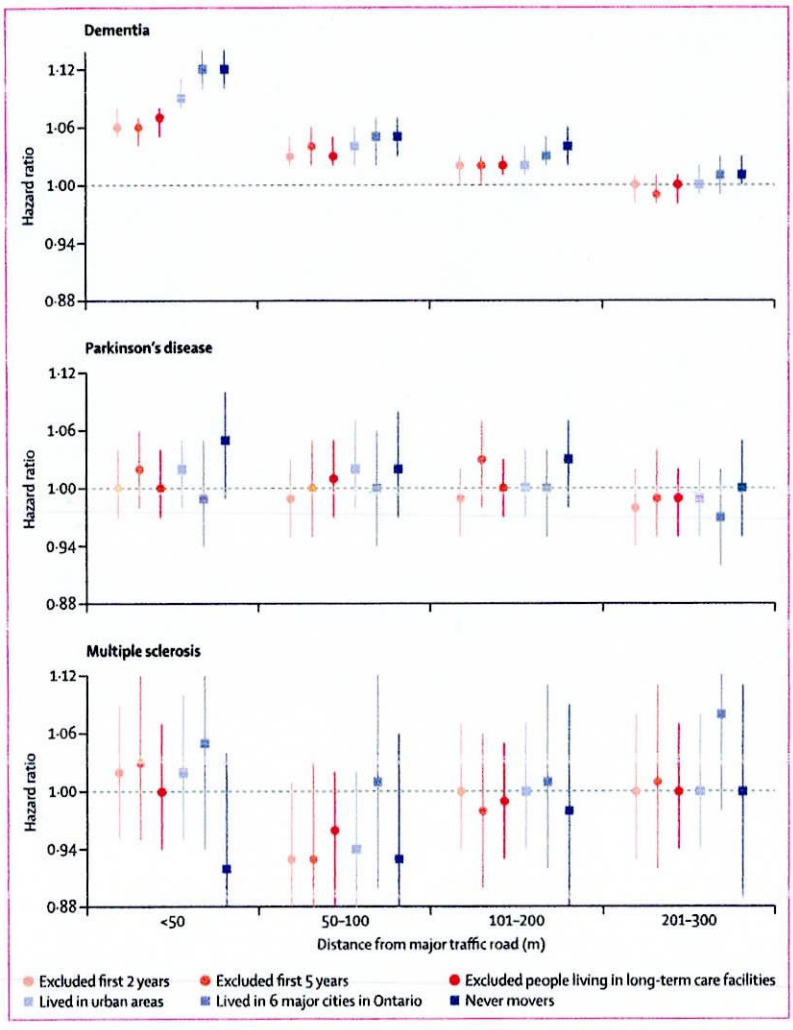

Figure 2: **Association between residential proximity to major roadways in 1996 and the risk of incident dementia, Parkinson's disease, multiple sclerosis in Ontario, 2001–12**
Hazard ratios and 95% CIs from six additional sensitivity analyses (excluding first 2 years of follow-up, excluding first 5 years of follow-up, excluding people living in long-term care facilities, restricting to urban residents, restricting to six major cities in Ontario, and restricting to those who did not move after 1996).

proximity and dementia (HR 1·05 for living <50 m away from a major road and HR 1·02 for 51–100 m away from a major road *vs* 1·07 and 1·04 without adjustment). Importantly, NO_2 was significantly associated with dementia, whereas $PM_{2.5}$ was associated with both dementia and Parkinson's disease (appendix).

In sensitivity analyses, the magnitude of associations were similar after further excluding the first 2 and 5 years of follow-up, restricting to people aged 65 years or older, excluding those living in long-term care facilities, or considering other sensitivity analyses (figure 2 and appendix). However, the association between living less than 50 m from a major roadway and dementia appeared stronger among participants who lived in urban areas, who lived in one of the six major cities, or who never moved (HR 1·09–1·12, depending on the analysis).

Discussion

In this large population-based cohort, living near major roadways was associated with increased dementia incidence. The associations seemed stronger among urban residents, especially those living in major urban centres and those who never moved. Although the increase in risk might appear moderate (eg, HRs varied from 1·07–1·12 for living <50 m away from a major road, depending on the region), this translates to 7–11% of dementia cases in patients who live near major roads attributable to traffic exposure (appendix). The associations were robust to various sensitivity analyses, except for additional adjustment for $PM_{2.5}$ and NO_2 which led to a modest attenuation. It is noteworthy that both NO_2 and $PM_{2.5}$ were positively associated with dementia. Lastly, we found no association between roadway proximity and incidence of Parkinson's disease or multiple sclerosis.

To our knowledge, this is the first study to investigate the onset of three major neurodegenerative diseases in association with near-roadway exposure. Previous studies have linked living near roadways to cognitive decline in cohorts of older adults in Boston MA, USA[18] and in the Ruhr area, Germany,[19] and to smaller white matter hyperintensity volume in the Framingham Offspring cohort.[17] Living near major roads substantially increases an individual's exposure to traffic-related air pollution (eg, ultrafine particles, nitrogen oxides, and particles from wear of tyres and friction materials), and noise.[17] Although the mechanisms through which traffic exposure might affect brain health are unknown, systemic inflammation arising from traffic-related air pollution is probably important. In studies of both experimental animals and in autopsy samples of sudden accidental deaths in human beings, particulates and diesel exhaust provoke oxidative stress and systemic inflammatory responses, disrupt the blood-brain barrier, precipitate Aβ peptides, and activate microglia.[8,9] Ultrafine particles have also been found in the olfactory bulb and the frontal cortical areas in the brain of highly exposed dogs and human beings.[8] Furthermore, emerging epidemiologic evidence relates nitrogen oxides and black carbon, markers for traffic-related pollution, to dementia incidence[12] and cognitive impairment.[14] We observed that exposures to NO_2 and $PM_{2.5}$ were related to dementia and that adjusting for these two pollutants attenuated its association with roadway proximity, suggesting that the effect of traffic exposure might, at least in part, operate through this mechanism. Given the potentially significant implications of exposure to traffic-related pollutants on dementia risk, understanding their effects merit further investigation.

The fact that $PM_{2.5}$ and NO_2 did not fully explain the near-road effect on dementia suggests that additional pollutants or other factors such as noise might play a role. Although we were unable to directly examine these factors, traffic-related noise has been linked to cognitive

impairment in a cohort in Germany.[13] In rat models, noise exposure directly impaired cognition.[11] Additionally, sleep loss from noise contributes to sleep fragmentation, which is associated with reduced cognition.[5] Living near busy roads might also reduce physical activity, which could subsequently affect neurological health. However, we found little change in our results after indirect adjustment for this variable.

Compared with dementia, less is known about the effect of traffic exposure on Parkinson's disease and multiple sclerosis. Only three studies have examined the relationship between traffic exposure and Parkinson's disease: a positive association between NO_2 and incident Parkinson's disease was reported in a case-control study in Denmark,[15] whereas in another case-control study in the USA, no association with NO_2 was found.[31] Additionally, in a cross-sectional study in Ontario, Parkinson's disease prevalence was not associated with roadway proximity nor NO_2.[32] For multiple sclerosis, one time-series study found a relationship between daily hospital admissions and particulate pollution,[33] but no studies have assessed the effect of living close to traffic. In this study, we observed an association only between traffic proximity and dementia, which might be attributable to relatively few cases of Parkinson's disease and multiple sclerosis. Another possibility is that traffic exposure could augment neurodegeneration through pathways that are related to dementia but not Parkinson's disease or multiple sclerosis.[3–5]

Our study has some limitations. First, we could not identify undiagnosed cases of dementia, Parkinson's disease, and multiple sclerosis. However, the estimates were unchanged when we adjusted for access to neurologists, a North/South indicator, deprivation, and time trends. With universal health care in Ontario, incomplete diagnosis might lead to underestimation of the true effect because this measurement error was probably independent of the exposure.

Second, we did not have information on medications that might potentially influence dementia risk (eg, anti-inflammatory medication and NSAIDs), although it is unclear whether these factors would be associated with traffic exposure. Furthermore, we lacked information on individual socioeconomic status and behavioural variables. To control for these unmeasured variables, we adjusted for neighbourhood socioeconomic status and comorbidities. Since neighbourhood socioeconomic status is strongly associated with individual socioeconomic status and behavioural variables,[25,26] and comorbidities and neurodegenerative diseases share some common behavioural factors, adjusting for these variables should reduce the influence of these unmeasured variables on HR (appendix). We further controlled indirectly for these variables, and found similar results. Although we cannot rule out residual confounding, the null findings for Parkinson's disease and multiple sclerosis do not support this possibility.

Third, our exposure assessment was based on postal-code addresses, which do not completely reflect personal exposure. $PM_{2.5}$ is a complex mixture with a secondary aerosol component that might not originate from vehicle emissions. Finally, roadway proximity does not account for traffic density and meteorological conditions that might influence exposure to air pollution and noise. Given the inherent imprecision of this exposure, our assessment of near-road exposure was probably subject to non-differential misclassification that probably attenuated our results.

The strengths of this study include the large cohorts made up of almost the entire adult population in Ontario. The many cases ascertained from validated registries enabled us to investigate fine-scale changes in traffic exposure and to examine the effect from exposures lagged up to 10 years. Our study also benefited from quantifying and comparing the effects on three major neurodegenerative diseases from traffic exposures using the same methods. Furthermore, the availability of detailed information on medical and residential history allowed us to control for important risk factors (eg, head trauma) and assess the influence of residential mobility.

Conclusions

In this large cohort, living near major roadways was associated with higher incidence of dementia, but not Parkinson's disease or multiple sclerosis. Given the potentially significant implications of traffic exposure on dementia risk, understanding the effect of different aspects of traffic merits further investigation.

Contributors

HC, RTB, JCK, PJV, KT, BJM, RC, and BJ contributed to the study design. HC, ASW, and AK prepared and cleaned the data. HC, AvD, PH, and RVM contributed to the exposure assessment. RTB provided substantial scientific input in statistical methods and interpretation of the results. HC, RTB, JCK, PJV, KT, BJM, ASW, and AK contributed to the data analyses. HC took the lead in drafting the manuscript. All authors contributed to interpretation of data, provided critical revisions to the manuscript, and approved the final draft.

Declaration of interests

We declare no competing interests.

Acknowledgements

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Previous Submissions

Bushypark, Dangan, Circular Road Communities

GALWAY N6 - Outer Ring Road

Route Corridors
Public Consultation
February 2015

Initial Comments on the proposed Route Corridors

This submission is made on 6th **March 2015** by

Michael Murphy
Galway N6 Action Group Chairperson

Colman Collins
Galway N6 Action Group PRO

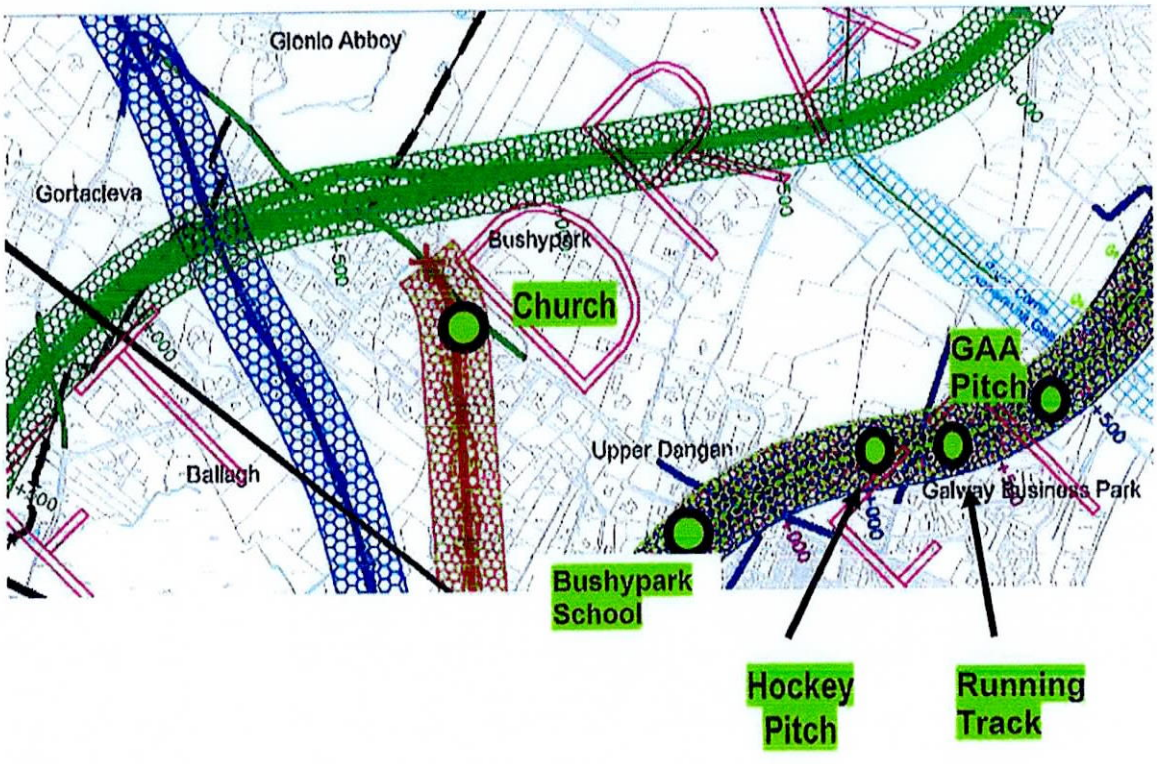
Table of Contents

1. Introduction

The Public Consultation sessions for the N6 Galway City Transport Project started during week beginning 26th January 2015.

This document has been prepared by the Galway N6 Action Group in response to the limited decision criteria shared at these sessions.

The map extract below shows the approximate location of our West Galway communities relative to the proposed new route corridors.



The graphic shows the impacted Bushypark/Circular Road/Dangan and The Heath community areas relative to the proposed route corridors;
St James School Bushypark, built in 1973, has over 400 children – the proposed blue route runs right over the new astro pitch which is right beside the school.
The NUIG Sports grounds are used by several clubs in Galway including several hockey clubs, secondary schools hockey clubs, athletics clubs, and GAA clubs.

2. Summary

The population of Busypark, Dangan, Circular Road & The Heath are hard working, progressive and industrious people; our tradition and hallmark has been our determination to improve our lot while at the same time developing and maintaining a strong and vibrant community. As a people we are not anti-progress but we are united and resolute in our strong opposition to the routing of a new motorway / high-grade dual carriageway **through our communities**.

A route through either of the blue' or 'green' corridors as currently proposed would have a **devastating effect** on our quiet suburban area. Our quality of life and our sense of community would be destroyed by this road project..

We well understand the driving forces behind the need for an improved east to west distributor road network. We are not against the economic development of **Galway and satellite towns** but we vehemently believe this can and must be done without the **irreversible decimation** of the unique communities such as our own. These communities form the backbone of Galway Society, a society with cultural and social values and traditions to which all of Europe aspires.

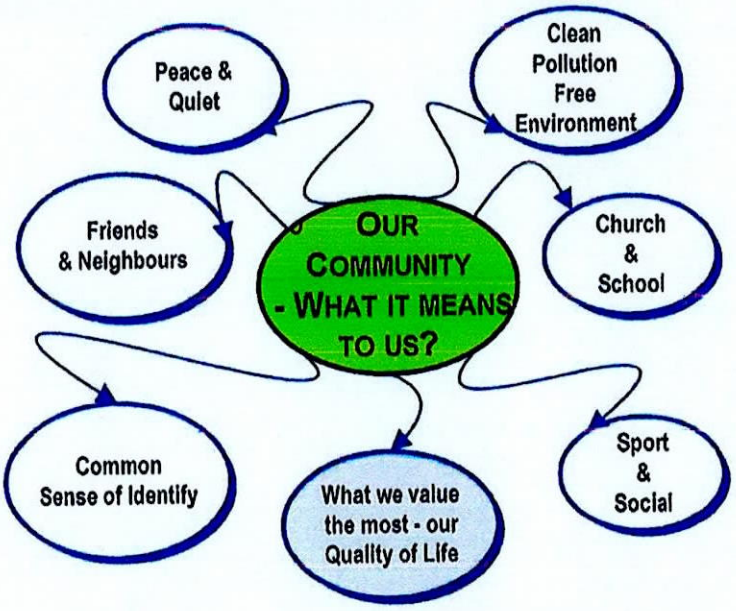
We noted with some disbelief that the 'N6 Outer Ring Road Consultation process' makes no reference to the importance of **'community'** and the need to minimise the impact of the project on communities such as ours. ***We believe that 'protection of the community' must be the primary criterion in the route selection.***

We are well known for our **community spirit** and **resolve**; in our opinion this issue presents the greatest threat we have ever encountered, both to our community and our way of life. ***We are determined to protect both, not alone for our sakes, but for those of the generations yet to come.***

3. Our Comments

- **Who we are – Community Life – What it means**
- **The Need for the Road**
- **The Route Selection Criteria**
- **The Impact of the Road on our Communities**
- **The 'Pain – Gain' Principle**
- **The Next Stage**

3.1 Who we are - Community Life – what it means.



Our Community is very important to us – it's at the core of the life that we lead and is central to the quality of that life.

We live in this quiet suburban area with friends and neighbours sheltered beneath the majestic rolling hillside lands of Circular Road, Barnacranny and Ballagh Bushypark. It is an area rich in heritage with its fair share of historical sites and links to our ancient past. For example, the Bushypark church has a heritage graveyard plot from the Famine period.

Our community gives us a common sense of identity; Church, School, Community Centre, Sport and Social; these are all key and vital aspects of our lives.

What we have is what many individuals and even whole countries aspire to; a close knit hard working community, an excellent quality of life and a safe place for our children to grow up.

For us to **sacrifice** this would be to do our children and future generations **a great injustice**.

It is too high a price to demand from any community.

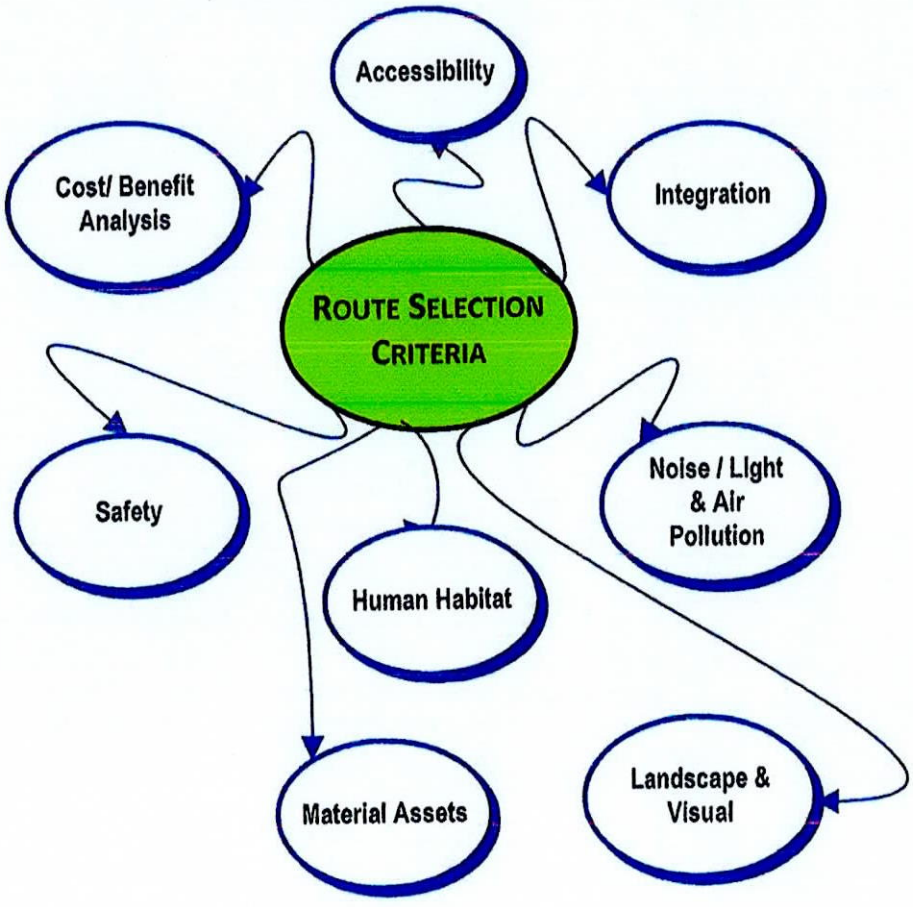
3.2 The Need for the Road

To allow Galway to develop, we agree that there is a need for an improved road network through the Galway city environs. We appreciate that improvements in the quality of existing roads also need to be implemented. Nobody can deny that an upgrade of the Galway road network is necessary.

It is understood by all that such upgrades are key to bringing inward investment to the Western capital. An effective road network access is required for Industrial companies that require raw materials and goods to be quickly and efficiently transported.

We understand and appreciate that Galway and surrounding western townland areas 'need' an effective road network in order to grow. We don't understand why our suburban communities 'need' be sacrificed in a rush for this growth.

3.3 The Route Selection Criteria



Reading the Public Consultation brochure, the words **'community'** and **'social impact'** were very noticeable by their absence. While the consultation process in the Westwood House Hotel and the Menlo Hotel addresses some environmental and natural concerns it **blatantly ignores** the issue of social impact upon community or parish.

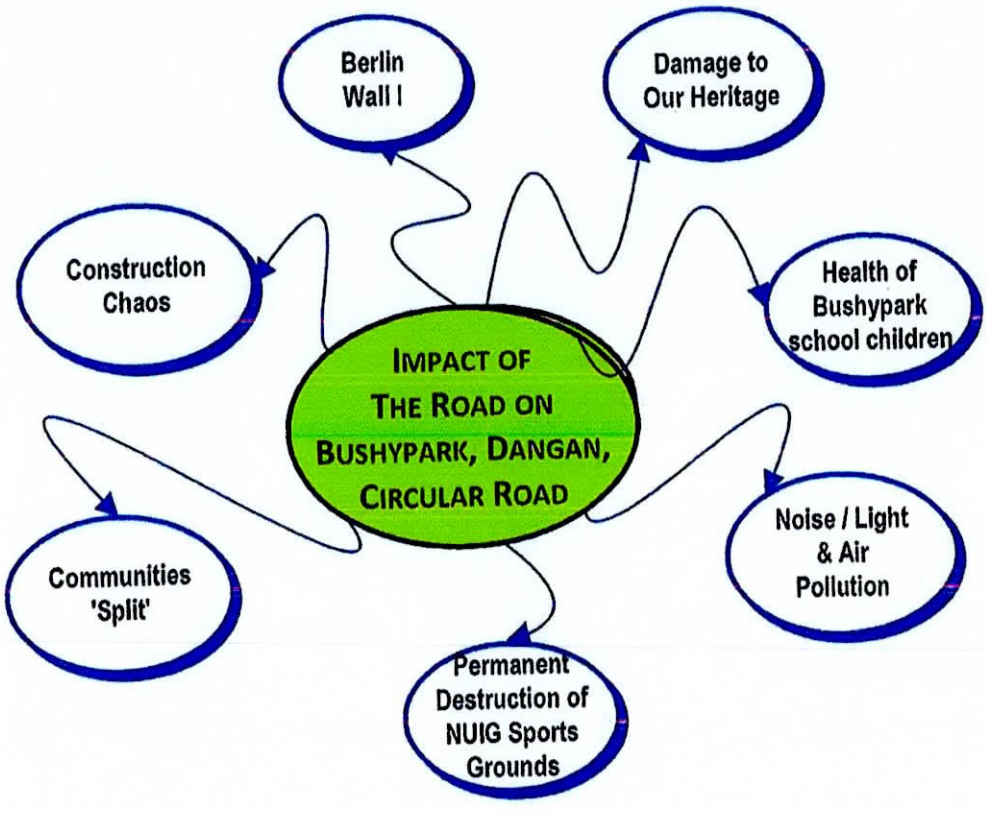
To us this is key – the **impact on communities** in Bushypark/Dangan/Circular Road should sit highest in the ranking of selection criteria.

We understand that no matter where the road is routed there will be an impact on some individuals, their land and possibly even their homes. However, the routing selection team must have as one of it's **guiding**

principles that communities, such as ours, must not be carved up and destroyed.

Route selection criteria such as Schedule and Capital Cost, while important, should 'weigh' very low in comparison to **social / community impact**.

3.4 The Impact of the Road on Bushypark, Circular Road & Dangan



The impact of the project on the Bushypark/Dangan/Circular Road communities would be felt in two phases – firstly the **Construction chaos for several years,** and secondly the reality of a **'Berlin wall'** the effect of which would be to **carve up** our communities forever. Routing the road through our communities would overpower and destroy what has grown and developed over **countless generations**.

The *construction* phase alone would drive **children** to other **schools**. Longer term the **future of our school** would be seriously threatened. **Noise, Light and Air Pollution** would also be sad legacies for the community to contend with.

The permanent destruction of the GAA pitches, running track and Hockey pitch in the **NUIG sports grounds** would create a devastating loss of amenities to residents in the Galway west city communities.

We attach medical assessment reports which outline comprehensive health implications of the proposed routes.

- Professor Michael J Kerin MCh FRCSI FRCSEd FRCSGen
- Dr Mary Regan M.B. B.Ch. B.A.O.

In our opinion, and based on similar experiences around the country, our Community would be Irreversibly split with our Way of Life, our Sense of Identity and our Quality of Life wrecked forever!

3.5 The Pain – Gain Principle

We have little to gain from the proposed 6 road routes but much to lose!

Satellite towns on the N6 route would benefit from innovative Galway Transportation solutions, that would develop a sustainable and long term solution to congestion issues around Galway City. However, one of the most important design principles of the N6 Galway City Transport project should be to eliminate or minimize motor traffic in and around the city areas. Addressing traffic volumes within the city area would go a long way to eliminating the need for a ring road system so close to the city. The outer bypass should be built far out from the city to allow traffic from major townlands outside Galway to navigate around the city border.

We suggest that those who stand to 'gain' should be those who have to put up with the 'pain'.

We recommend that communities & expert urban developers engage in a 21st century solution to a 20th century problem.

3.6 The Next Stage

We hope that in this document we convey the strength of feeling in the community regarding the routing of this project.

We are not opposed to economic progress but we do believe that Galway Traffic problems cannot be resolved by a poorly designed outer ring road that destroys Galway communities. The traffic congestion can only be addressed by re-examining the Galway City Plan and looking for smart solutions to removing the need for attracting large volumes of motor vehicles into the urban center.

We believe that there are other options open to the project team, to allow Galway communities and residents to continue to thrive and help Galway to sustain it's unique heritage in Ireland as a great place to live, work & visit.

The challenge is not to allow short term 'tactical' issues such as time & money overrule long term 'strategic' issues such as protecting communities, environment & heritage like our own.

4. APPENDICES

- **Health Implications of Proposed Routes**
  - **Professor Michael Kerin**
  - **Dr Mary Regan**

NUI Galway
OÉ Gaillimh

Máinliacht
Scoil an Leighis

Surgery
School of Medicine

The Impact of the N6 development on human health

The planning and construction of a new road network is always a contentious decision and has major implications for human health. There is a well-established body of evidence that air contaminants and noise pollution as a result of residential proximity to increased traffic is associated with adverse health effects.

Illnesses include:

- Increased prevalence and severity of asthma and other respiratory diseases
- Cardiovascular disease
- Cancer
- Mental and behavioural health

The proximity to a motorway can have several deleterious consequences for human health. Air pollution causes or exacerbates childhood asthmas and reduces lung function. It causes increased respiratory and cardiovascular problems in adulthood. Increased traffic causes noise related problems, brain developmental abnormalities and an increased incidence of leukemia and other childhood cancers. [1]

There is increasing evidence that long term exposure to ambient air pollution is associated with deaths from cardiopulmonary disease. Air pollutants are linked to hypoxia, neurological deficits and increased cardiovascular (heart disease and stroke) disease incidents. [2,3] For an increase in traffic density of 10,000 motors in 24 hours there was a significant increase in natural cause and all-cause mortality – cardiovascular and lung mortality. [4]

Children are a particularly vulnerable group. They are more susceptible than adults to air pollution as they have a larger lung surface area per kilogram of body weight. Also they have a higher respiratory rate and their lungs are not mature. They tend to be more physically active and total particle deposition from traffic emission increases greatly with exercise. In 2007 a study published in The Lancet found pronounced deficits in lung development of children who lived under 500 metres from a motorway. [5] Neurodevelopment and neurobehavior in children and adolescents have also been shown to be negatively impacted by proximity to high traffic area and air pollutants. [6, 7]

A pan European study published in 2014 in The Lancet has reported statistically significant associations between long-term exposure to traffic pollutants (even within concentration ranges below existing European annual mean limit values) and natural cause mortality. [8]

In summary increased traffic density has major deleterious consequences for adults and children and it is logical to locate motorways and highways such as this out of town and away from high density population areas.

1. Pearson *et al.* (2000) J Air Waste Manag Assoc. Feb;50(2):175-80.
2. Schwela (2000) Rev Environ Health. Jan-Jun; 15 (1-2): 13-42
3. Wilker et al (2013) J Stroke Cerebrovasc Dis. 2013 Nov;22(8):e366-72
4. Brunekreef et al. (1997) Epidemiology May;8(3): 293-303
5. Gauderman *et al.* (2007) Lancet. Feb 17;369(9561):571-7.
6. Kicinski et al (2015) Environ Int. 2015 Feb;75:136-43.
7. Calderón-Garcidueñas *et al.* Front Hum Neurosci. 2014 Aug 12;8:613.
8. Beelan *et al.* (2014) Lancet; 383: 785–95

Michael J Kerin

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- **Health implications of proposed routes.**

There is a well established body of evidence that air pollution has an adverse effect on health. There is a strong body of evidence that residential proximity to traffic is associated with adverse health effects.

Epidmiological studies have shown significant associations with residential proximity to traffic and illnesses including:

- Increased prevalence and severity of symptoms of asthma and other respiratory diseases.
- Diminished lung function.
- Cardiovascular diseases

There is now increased concern about the links of air pollution to cardiovascular disease such as heart attacks. Indeed in lights of this evidence The British Heart Foundation have issued the following advice:

'People with heart disease should avoid spending long periods outside in areas where traffic pollution is likely to be high such as on or near busy roads'

Children are a particularly vulnerable group. They are more susceptible than adults to air pollution as they have a larger lung surface area per kilogram of body weight. Also, they have a higher respiratory rate and their lungs are not mature. They tend to be more physically active, total particle deposition from traffic emissions increases greatly with exercise.
In 2007 a study published in The Lancet found pronounced deficits in lung development of children who lived closest to motorways - under 500 Meters. Previous studies had shown that children in proximity to motorways were more

likely to develop asthma and asthma exacerbations. However this study links permanent lung damage, which can shorten life expectancy to traffic pollution. Even children who did not have asthma were found to be at risk.
In California new schools have had separation distances for location of new schools enshrined in planning law since 2003.
In Canada, U.S., New Zealand, Holland and many other countries there are health issues as schools have in the past been sited too near motorways. Because planning did not allow for adequate distances from schools they are now having to look at secondary preventative measures such as filtration systems for schools and limiting time exercising. No secondary solution is as effective as preventing in first instance and we are in a position to learn from experiences in other countries.

Studies in Prague in the Czech Republic found that even indoor levels of pollution measured in school gyms did not differ much from outdoor level in areas of high traffic.

In St James's School Bushypark there are over 400 pupils. The school gym and state of the art newly completed Astroturf pitch are just next to proposed motorway. These are the very areas where children are encouraged to take aerobic exercise and hence would be most at risk.

- **Adverse Health Effects of noise**

Noise is an unwanted or objectionable sound. Traffic is a common source of both indoor and outdoor noise. There is much evidence that noise is injurious to health. Indeed, so many studies have produced evidence in this respect that the European Commission recognizes that noise is a serious health risk. To this effect in January 2015 the E.C published a Thematic Issue on Noise impacts on health in it's 'Science for Environment Policy'. This acknowledges that in addition to annoyance and a perception of a lower quality of life long term exposure to Environmental noise can affect people's health in many ways. It states that population studies have in general revealed a link between noise exposure, raised blood pressure and stroke.

The results of over 20 studies have shown that environmental noise can affect childrens learning and cognitive development. Exposure to road, rail and air craft noise over long periods can reduce memory, reading and cognitive development. The World Health Organization has a presentation document outlining the adverse effects of noise on children. It essentially reiterates that environmental noise has indirect adverse effects on cognition, such as reading, concentration, memory and attention and that it also has psychological ill effects such as annoyance or isolation. There is frequently high ambient noise in class rooms anyway. It is found that when children are in a class room that is exposed to noise children speak more loudly than they would normally in order to be heard.

However, quieter children may be become more quiet under these conditions and this can impact negatively on self confidence and cause isolation.

Essentially The World Health Organization have stressed the importance of recognizing noise as a cause of health problems in children and that noise exposure should be considered when planning setting's for children.
St. Jame's National School would be in close proximity to the proposed blue route and hence the children attending there would be subjected to adverse affects of traffic noise.

- **Dangan pitches and amenity area.**

The river walk area and pitches at Dangan are the main recreational areas for residents of this side of the city. Athletes train on the running track and sports pitches are in constant use. It is a tranquil haven for walkers of all ages and abilities .Again, the proposed sitting of this route would mean that there are adverse respiratory effects to all these groups.
Many studies have linked mental health and wellbeing to availability and access to clean, green amenity areas. We are living in very stressful times at present due to ongoing recession and austerity measures. There is a very high incidence of depression and anxiety, suicide rates are sadly very high. Walking in a tranquil area is a very therapeutic pastime and is prescribed as both a preventative measure and as part of therapy for mental health. This facility would be removed if proposed route proceeds and would adversely affect health and wellbeing of residents.

Mary Regan 02/03/2015

Dr Mary Regan

5. APPENDICES

- **Signed Petitions (533)**

GALWAY N6 ACTION GROUP SUBMISSION/COMMENTS ON EMERGING PREFERRED ROUTES PUBLIC CONSULTATION PROCESS GALWAY CITY N6 TRANSPORTATION PROJECT.

Whereas, the Galway N6 Action Group was formed for the purposes of ensuring that the solutions adopted by the competent authority are legal, equitable, correct, responsible & in keeping with correct principles, & whereas the said 'Action Group' is representative of the wider community in the Newcastle, Dangan & Bushypark areas of both Galway city & adjoining Galway County areas; the Galway N6 Action Group, makes the following submission under the consultative process:

PRELIMINARY ISSUES.

1. The return date of March 6th 2015, being too short in time does not represent true consultation & is unreasonable and unjust in preventing complete considered professional advice being procured by the community & individuals;
2. Notwithstanding the foregoing, it is evident that the process is rushed & the procedure wherein the 'Selection of the Preferred Option' is to be made in April 2015, represents a choice made in the absence of complete facts.

LEGAL ISSUES

A. While the original GCOB proposal was promoted using Article 6(3) of the Habitats Directive [92/43/EEC) (meaning that process involves no risk of a significant effect), The ECJ ruled (Case C-258/11) that this proposal was incompatible with Article 6(3). In the judgement the court stated; "In these circumstances, the project cannot be authorised on the basis of Article 6(3)of the Habitats Directive. Nevertheless, in such a situation the competent authority could where appropriate grant authorisation under Article 6(4) of the directive, provided that the conditions therein are satisfied (para 60 Waddenvereniging & Vogelbescharmingsvereniging). That is to say that GCOB original route is an alternative under A6(4) procedure;

B. The procedure being used in the current process is the Article 6(4) process, which means that there is a derogation which allows plans or projects to be approved having a risk of significant effect where all alternative solutions are considered under IROPI [Imperative Reasons of Overriding Public Interest]. The absence of the GCOB, as an alternative, establishes that the current process is an abuse of process in that all alternatives have not been considered & flies in the face of the direction given by ECJ in C-258/11;

C. A6(4) allows a derogation if & only if 3 tests are met (a) no feasible less damaging alternatives; (b) IROPI exists for plan to proceed; (c)[Environmental]Compensatory measures are secured ensuring maintenance on Network of European Sites. –The absence of GCOB route + other alternatives represent a complete & absolute breach of the law;

D. The IROPI procedure being undertaken in the subject case, is being improperly used to subvert the legal rights of the community & this taken with the absence of a full hierarchy of alternatives is an abuse of process;

E. The Jurisprudence in the Dibden Bay, Southampton; River Elbe, Hamburg; German Motorway Bridge, shows that 'Alternatives' have to be strictly interpreted & the use of 'Decoy/Phantom' alternatives & the ignoring of actual 'alternatives' is legally unacceptable. In the subject case it is circumstantially apparent that decoy alternatives arise & actual alternatives are ignored.

ROAD ISSUES

(i) The options provided are akin to the Galway Eastern Approach Road completed in 1996. This route from N6/N18 junction to Corrib Park/Thomas Hynes road UHG/Snipe Avenue Roundabout became over capacitised many years ago & the current alternatives will suffer that fate;

(ii) At the presentation to Galway City Council on 9/2/'15 The Project Director's analysis, through deductive reasoning adduced, that the two real alternatives were green & blue, but green, given the impact upon Menlo appeared to be environmentally more significant. Therefore, while adducing that no option had been chosen, cognitive dissidence is ruling that only one exists with minor interplay with others;

(iii) 7m high embankments & heavy bridge structures having deck plan widths of 25m are seriously imposing. Given the City Council Policy in relation to densities & ridge height levels it flies in the face of fundamental reason & common sense that heavy engineering structures are tolerable when houses have to be counter sunk into the terrain in the interests of the proper planning 7 development of the area;

(iv) OPW gauge 30098 installed at Dangan 1996 shows the engineered channel bed at 3.3m OD, Max recorded level 9.469m OD (23/11/09), average max yearly level 9.1m OD. Thus a bridge soffit level of 15.46 m would be called for which would seriously damage the visual & environmental amenity;

(v) The solutions proposed are limited in nature & extent & reflect short term solutions to long term problems;

(vi) At public sessions & Galway City council meeting, tunnelling to avoid disruption to the human habitat & SAC/NHA/SPA areas was ruled out by ARUP on economic grounds. This unjustified approach must be viewed in the context of the 4.5 km Dublin Port Tunnel carrying 15,000AADT (40% HGVs-even though designed to carry 80% HGVs) with a €10 toll at peak for non HGVs/Busses & €3 off peak. Non consideration of this alternative represents both failure to fulfil IROPI /A6(4) stipulations, but also represents discrimination on grounds of geographic location.

ENVIRONMENT & HABITAT

(a) The blue route transgresses an area of 'Extreme Aquifer Vulnerability' between Cuirt Ciarán & the Heath & this is of serious significance;

(b) The approach roads to the Corrib Crossing Blue Route geologically represents an area underlain by Visean (Carboniferous) limestone subject to Karstification. The upper comprise highly weathered limestone overburden & LIMESTONE PAVEMENT. In fact the nature 7 extent & dimensionally, this pavement is greater in significance than that condemned by ECJ in the GCOB A6(3) procedure.

(c) Karstified Limestone is impossible to seal & therefore construction of the bridge crossing will result in loss of drilling mud, grouting, gunnites & concrete & result in significant risk to the general & environment & in particular to the fishery;

(d) The Galway City Biodiversity Plan 2013 – 2013 specifies no loss of habitats. The Annex 1 birds of Kingfisher, Great Northern Diver Common Tern, sandwich Tern, together with other species will be displaced contrary to the plan terms;

(e) Archaeologically a 30m cordon around monuments is scheduled. However an initial project stipulation of 500m was reduced to 300m. This use of subjective criteria has resulted in the blue crossing being directed towards wholesale destruction of the human habitat (dwellings) and has reduced the possibility of other A6(4) alternatives, & so is contrary to the legal principles of A6(4);

(f) Bord Pleanala PLO7ER2056/CH2305 in the GCOB ruling (which is authoritative having been upheld by Courts/Tribunals of ultimate jurisdiction) held that with 8 properties only being demised & given the community benefits of GCOB the scheme was positive. Ipso facto, the destruction of 50 -110 houses & the injurious affection to 200-1000 more in the Blue /Green options is on that rationale intolerable & unacceptable.

OTHER

1. The proposal in terms of Blue Green represent the destruction of a community, the eviction of people, the loss of amenity, the significant damage to the human habitat, which in all of the circumstances would be avoided if proper alternatives in terms of A6(4) procedure were investigated;
2. The Blue proposal in terms of Health & safety to the students & teachers at Bushypark/St James' National School is most serious. Noise, Air pollution & flying debris from HGVs are significant risks;
3. Given the topography of the blue Route reverberation will occur in the Western post Corrib side, which will be impossible to engineer out of the design. This is exacerbated by the NRA acceptance of a very poor $60L_{eq}$ standard, which is deemed unacceptable to our partners in Europe in their project assessment;
4. The lack of objectivity is reflective of outsider imposed solutions to indigenous issues, analogous to the rejected Mater/Children's hospital.

CONCLUSION

A. The process is legally flawed;
B. The scheduled alternatives are limited & exclude real alternatives;
C. A6(4) is being misapplied;
D. The Human Environment is totally ignored;
E. Amenity & Habitat are sacrificial lambs at the table of rule misapplication;
F. The Community School is offered no protection;
G. The process in its implantation is subjective & arbitrary;
H. The proposal in the opinion of many represents, a censure on the general community of Galway, reflective of the rejection of a quasi benign positive scheme requires the visitation upon the community of a 'shock & awe' series of proposals that would be lesson teaching in their conceptuality.

NOTE

THE N6 COMMUNITY GROUP WILL RELY ON THE FOREGOING IN ALL FUTURE ACTIONS & THE NATURE OF THE PROCESS & WILL ON THE BASIS OF RECOMMENDATIONS FROM THEIR LEGAL ADVISORS INSTITUTE LEGAL PROCEEDING ON THE BASIS OF INADEQUACY OF CONSULTATION IN TEMPORAL TERMA AND THE FLAWED APPLICATION OF A6(4).

We, the undersigned, are authorized to sign this document on behalf of the Galway N6 Action Group,

TOM KILGARRIFF

GALWAY N6 ACTION GROUP

FRANK HAREWOOD

GALWAY N6 ACTION GROUP

MICHAEL MURPHY

GALWAY N6 ACTION GROUP CHAIRPERSON

29th of July, 2015

Integrated Traffic Management Programme
Galway Transportation Unit
Galway City Council
City Hall
College Road
Galway

Dear Concerned Parties:

This submission is being made in response to a public notification by Comhairle Cathrach na Gaillimhe, Údarás Náisiúnta Iompair and Aonad Iompair na Gaillimhe requesting a public consultation in the development of an **Integrated Transport Management Programme (ITMP)** for Galway City and environs.

The **Galway City Development Plan 2011-2017** was implemented to embrace the findings of the **Habitats Inventory (2005)**, the **Heritage Plan (2006)** and the **Draft Biodiversity Plan 2008-2013**. The purpose of this plan is to prevent habitat fragmentation and increase biodiversity, along with supporting linkage and connection of natural heritage areas and creating wildlife corridors. In addition to this, at a national level, the Wildlife Act was amended in 2000 to strengthen existing protection to wildlife through statutory protection. The **European Union Habitats (1992)** and **Birds (1979) Directives** form the heart of European nature conservation policy. The directive protects over 1,000 animal and plant species and over 200 'habitat types' of international importance.

The Review of **Galway City Development Plan 2011-2017 and Preparation of Draft Development Plan 2017-2023** states that: 'Despite the common perception of the City being completely built up, over 55% of the landmass is zoned for either RA – recreational amenity or A/G – agricultural purposes. Combined, this constitutes the largest area of zoned amenity lands located within an Irish city'.

As such, the city faces enormous problems when considering how best to serve its people while at the same time abiding to National and International law in the protection of species and habitats. The construction of additional roads is laboured by the need to avoid destruction of the rich habitats in Galway city. The need to best utilise existing available infrastructure and to ensure the most efficient and sustainable use of limited road space is paramount.

There is another major issue of concern in that according to the **Report on Traffic and Travel Trends in Galway City (2015)**, the majority of people who work in the city drive to work with less than 5% using public transport. Yet, despite the belief that constructing more roads is a solution to traffic congestion, the Braess Paradox proves that this is counter-intuitive and leads to longer travel times. The Braess Paradox formulated by Dietrich Braess in 1968 has shown that in urban areas adding a new road in a transportation network causes increases in travel times of all individual travellers. New roads have the effect of leading car drivers to the weakest links in the network. The paradox occurs, because each driver chooses the route that is quickest without considering the implications his or her choice has on other drivers. Car drivers only care about the number of vehicles in the queue in front of them and do not care about the vehicles in the queue behind them. This, the classic problem in game theory, is very similar to the type for which the American mathematician, John Nash, won the Nobel Memorial Prize for Economic Sciences in 1994. Anna Nagurney, the John F. Smith Memorial Professor at the Universitay of Massachussetts Amherst, has proven Braess Paradox, and has stated that "it is important to analyse not only the old and the proposed network topologies, but also the demands, the underlying congestion-dependent costs, and the behaviours of the users of the networks so that these investments are made wisely" (Nagurney, 2010).

A new route added to a transportation network increases the travel times of all individual travellers. In 1969, a new road built in Stuttgart, Germany, did not improve congestion in the city. After closing this road again, congestion decreased. There are several other examples of this happening such as 42nd street in New York, USA; Sydney Habour and many more. Time and again the Braess Paradox has been proven to occur as expanding road capacity resulted in worse traffic conditions in cities across the world. Matthew Beck, a senior lecturer in Infrastructure Management, and Michiel Bliemer, Professor in Transport and Logistics Network Modelling at the University of Sydney state that 'roads alone do not solve congestion in the long term; they are only one (problematic) tool in a transport management toolkit'.

As such, scientific research dictates that the **N6 Galway City Transport Project** is an ineffective strategy in reducing traffic congestion in the city of Galway, and that other more sustainable options must be considered in a city that has 55% of its land zoned recreational or agricultural (the largest area of zoned amenity lands located in an Irish city) and has a strategic City Development Plan to protect habitat fragmentation and increase biodiversity.

WHITE PAPER – Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (European Commission, Brussels, 28.03.2011) outlines key goals to be reached by

2050. These include no more conventionally fuelled cars in cities, and a 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport. The result of this action is to contribute to a 60% reduction in transport emissions by the middle of the century.

The **White Paper 2011** insists that transport infrastructure is planned in a way that maximises positive impact on economic growth and minimises negative impact on the environment. This leaves Galway City with the dilemma of how to get the cars off the roads. It is no longer acceptable for the city to construct new roads, as these will add to the congestion and this action will not be in sync with European Policy or Directives. Instead, the European Union has almost doubled funding to support local authorities to drive a sustainable transport solution in their transport planning. EU Investment in Urban Transport and Promotion of Cleaner Urban Transport from 2007 to 2013 was €7.82 billion (10% of ERDF and CF transport budget). From 2014 to 2020 this stands at €11-12 billion (>40% increase).

COMMISSION DELEGATED REGULATION (EU) No 275/2014 of 7 January 2014 amending Annex I to Regulation (EU) No 1316/2013 of the European Parliament and of the Council establishing the Connecting Europe Facility states that funding priorities are for the objective of ensuring sustainable and efficient transport systems in the long run with a view to preparing for expected future transport flows, as well as enabling all modes of transport to be decarbonised through transition to innovative low-carbon and energy-efficient transport technologies, while optimising safety.

DIRECTIVE 2001/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. Article 1 of the Directive states that its objective is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development".

The **National Climate Change Strategy 2007 – 2012** commits Ireland to achieving a 2% reduction on 1990 levels of Green House Gas (GHG) emission by 2020. This strategy acknowledges that transport is a major contributor to emissions, and as such, has highlighted the need for a mode shift to public transport along with the introduction of a *sustainable transport action plan.* It is now more vital than ever that the **Galway City Development Plan 2017 – 2023** align with the **National Transport Authority** of transport user hierarchy identifying user needs in the order:

1. Pedestrians (including those accessing public transport)
2. Cyclists
3. Public Transport Users
4. Freight, Delivery and Waste Vehicles
5. Private Vehicle Users

The cornerstone of the **National Transport Strategy** is the requirement that 'land use planning and transport planning need to be considered together in the overall development of the region'. Inappropriate land use planning would lead to a failure to be able to provide effective and efficient transport solutions. A failure to provide appropriate transport solutions 'results in the growth of development reliant on unsustainable car based travel with ensuing congestion and environmental degradation' (National Transport Authority Greater Dublin Area Draft Transport Strategy 2011-2030).

Galway city is growing, and the west side of the city is currently almost saturated in terms of residential planning. The east side of the city has seen enormous growth in residential housing in recent years. There is a great need to implement a sustainable transport solution to provide easy access for citizens between the west and east of the city. The vast majority of schools are situated in the heart of the city, yet there is no school public transport system in Galway. The implementation of a schools public transport system will facilitate removing cars from the centre of the city during peak school opening and closing times. In addition to this, it is imperative that we provide sustainable transport solution that is light rail.

This light rail system will facilitate transport of workers between the west and east sides of the city, to and from work, and in addition to this it will act to remove cars from the roads. The vast majority of such cars are single occupant vehicles. By providing the citizens of Galway with a clean and efficient light rail service, there is the potential to drastically reduce traffic congestion. In contrast, by implementing the N6 Galway City Transport Project, the city authorities will choose to add to the congestion. This road through the city will have a devastating effect on people, habitats, and the landscape of the city. Statistics reveal that when a road is built, it adds more car users to the road and leads to increased congestion. Alternately, sustainable public transport, such as light rail and increased bus routes that link west and east of the city will take cars off the roads, and reduce GHG emissions and traffic congestion.

The **Permeability Best Practice Guide** released by the National Transport Authority on 28th of July, 2015, noted that 'residents of a neighbourhood may not be aware that if a very simple intervention was made, such as

a gate being inserted in a wall, their door-to-door journey to their workplace by walking and public transport could be cut to less than their current journey by car. This time saving would likely be accompanied by an associated financial saving. This would help meet the objective of increased use of public transport, thereby maintaining further current levels of service and even rendering further improvements viable'.

In short:

- *"When history records the actions we take or fail to take at this our moment of truth, we will not have the excuse that we did not understand, that we did not know. We have been gifted, in a global communications order, with the knowledge and the opportunity to act,"* Michael D. Higgins, Uachtarán na hÉireann (speaking at the Climate Change Summit, Paris - Irish Examiner, Tuesday, July 21st, 2015).
- The practice of constructing roads, and in particular the N6 Galway City Transport Project to deal with traffic congestion must be stopped in line with scientific research analysis and EU and National Transport Policy.
- An **interconnected pedestrian and cycle street network** must be considered in Galway City. Cycling is a highly convenient and efficient form of door-to-door travel, requires far less space and fewer resources than motorised transport.
- There is a need for an absence of high walls and fences segregating housing areas and local/district centres
- There must be an absence of cul-de-sacs for pedestrians and cyclists in line with the National Transport Authority Permeability Best Practice Guide 2015.
- Secure, well-lit, overlooked pedestrian and cycle links between housing areas and between housing and local/district centres must be considered.
- **Schools bus routes** must be considered as a priority in reducing traffic congestion.
- **New bus routes** must be introduced, and the practise whereby all bus routes must pass through Eyre Square must be relaxed, to give rise to new and efficient routes linking east and west of the city. In addition to this, seasonal services must be considered to best support the influx of tourists during specific weeks in the year.
- Introduce policy to move the bus fleet currently servicing Galway City from diesel based to electric.
- Ensure that bus shelters and live route data feeds are in place at all bus and light rail stops.
- It is now necessary to study, plan and implement a **Light Rail Network** that will serve the people of Galway now and into the future (Please refer to figures 1 and 2 provided).
- Imp/Mini Buses must be considered to act as feeders into the **Light Rail Network.**
- Implement park and ride facilities at the feeder points into the **Light Rail Network.**

- Investigate leveraging the waterways of Galway to supply this renewable energy for the city, in a sympathetic way to protect the habitats and biodiversity.

All of the above proposals facilitate Galway City to grow physically and economically whilst creating potential for improvement of the urban environment. The Galway City Habitat Inventory (Natura 2005) identified fifty-eight different wildlife habitats within the city boundaries, which is a phenomenally high rate rate in comparison to other urban areas of a comparable size. Twenty-two of the habitats identified are considered to be nationally or internationally rare and are of high ecological or biodiversity value. Galway city stands out as unique in that it has the largest area of zoned amenity lands located within an Irish city. The city recognises this and wishes to not only preserve, but also increase the biodiversity of the habitats residing on these lands. The transport solutions for Galway must, without hesitation, move towards sustainable transport to protect and preserve the culture and the habitats of Galway city into the future.

Sincerely,

Marguerite Tonery
Chairperson Castlegar Community Group
Acting Chairperson of N6 Action Group

Kevin Gill
N6 Action Group Steering Committee Member

Joseph Kelly
SUIG

Simon Comer
An Cosáin

Michael Murphy
Chairperson of N6 Action Group

Colman Collins
PRO N6 Action Group

Adrian Boyle
Secretary Castlegar Community Group

Niamh Grogan
PRO Castlegar Community Group

Frank Flynn
Chairperson of Barna Community Group

Tina Concannon
PRO Barna Community Group

CITY	COUNTRY	POPULATION	LINES
Gmunden	Austria	13200	1
Soller	Spain	13600	1
Badan Bei Vien	Austria	25200	1
Naumberg	Germany	32800	1
Neuchatel	Switzerland	33500	1
Halberstadt	Germany	40500	2
Valenciennes	France	41300	1
Nordhausen	Germany	44200	3
Jablonec	Czech Republic	44800	1
Gotha	Germany	46000	5
Frankfurt Oder	Germany	58500	5
Plauen	Germany	66300	5
Most	Czech Republic	67100	4
Brandenburg	Germany	71800	4
Norrkoping	Sweden	83500	2
Resista	Romania	84000	2
Liepaja	Latvia	87000	1
Avignon	France	89300	2
Dessau	Germany	89900	3
Zwickau	Germany	92200	4
Gera	Germany	95400	3
Grudziadz	Poland	99000	2
Cottbus	Germany	99900	4
Delft	Netherlands	100000	2

Figure 1: List of Comparable Cities in Europe served by Light Rail Networks.

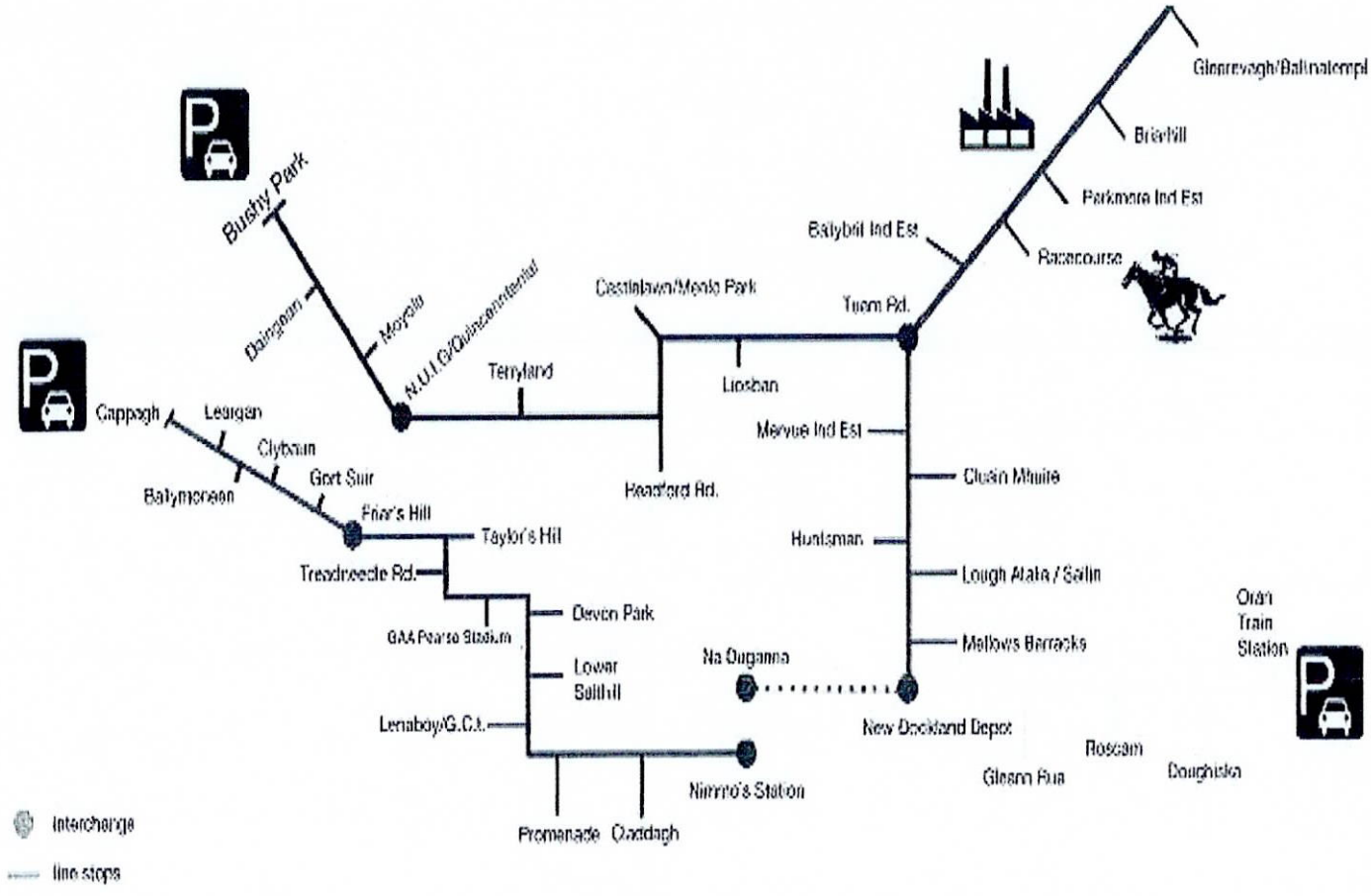


Figure 2. Example of Possible Light Rail Network in Galway City (Solas Uirbeach Iarnrod na Gaillimhe)

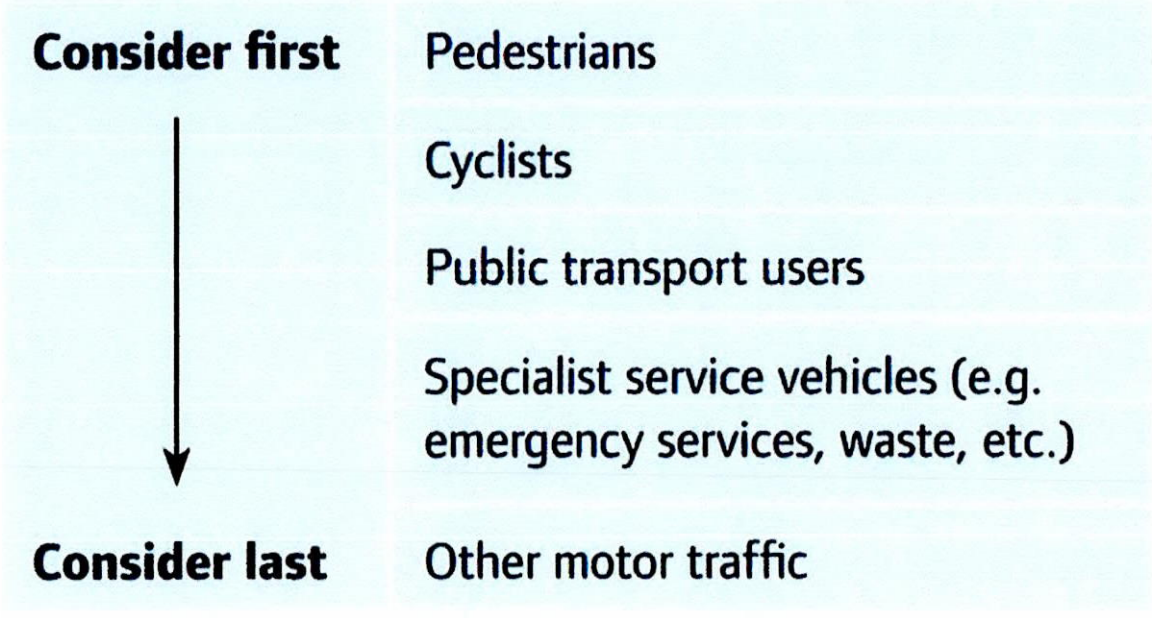
14th of July, 2016

Galway Transport Strategy
Galway Transportation Unit
Galway City Council
City Hall
College Road
Galway

Dear Concerned Parties:

This submission is being made in response to a public notification by Galway Transportation Unit requesting submissions in response to the Galway Transport Strategy 2016-2036.

While commendable in many ways this plan is flawed as it fails to implement a new transportation hierarchy and still places the private vehicle as the preferred means of transportation in Galway City. The transportation hierarchy for Galway needs to be reworked in line with the priority outlined below.



More effort has to be made to replace manual pedestrian crossings with pedestrian first options like pelican or zebra crossings in all areas of the core city centre and where safe to do so further out from the city centre.

No effort has been made to reduce vehicle emissions in the city either for public or private vehicles and considering Galway City has one of the worse air quality levels in the country, this is not acceptable. The Galway Transport Strategy 2016-2036 should be looking to move the entire public transport fleet to renewable energy so that we are not importing this energy from abroad. While there is reference to the Climate Action and Low Carbon Development Bill 2015, no mention of the

climatic effects of the changes of the Galway Transport Strategy have been outlined. More vehicles whether private or public will reduce our air quality even more.

While the new Bus Network is admirable in design, this needs to be implemented immediately, to encourage a modal shift in the city. I was informed at the public consultation that these new routes better serve the schools within the city and will encourage children to travel to school by bus instead of car, but without more detail on capacity and regularity of the services on these routes this is a dubious assertation. More work is needed to make it both possible and safe for children to make their way to school by cycling or walking. Without reworking the transportation hierarchy this will not be possible in the current plan.

Regarding the quality bus corridors and bus network as a whole, this plan really does open up the city and make alternative destinations to Eyre Sq possible. However not implementing a new road bridge beside the Salmon Weir is a missed opportunity and appears to be more related to funding reasons rather than good design.

The lack of a light rail solution in the strategy is a gross oversight as this is one of the most acceptable alternate forms of travel for car users and would encourage more dense land usage within the city. Implementing the N6 Ring Road would have the opposite effect, creating more urban sprawl and pressure on essential services and would also discourage people from making the modal switch from private car usage. This light rail network would future proof the city and again has the potential to have its energy supplied from local sources and boosting the local economy.

While mentioning that use will be made of Park and Ride facilities, this plan has been part of the City Development plan for many, many years and has not been implemented and needs to be actioned immediately, for events such as matches in Pearce Stadium, and on an ongoing basis.

The cycle network is mapped out through areas where there is insufficient space for it to be implemented and large parts seem to be more aspirational that realistic. Due to the fact that the transport hierarchy has not been reworked and large scale development of segregated cycle ways is not part of the plan, there are still safety concerns not being addressed. Cyclist safety is a huge blocker for people making the modal switch to cycling and much more needs to be done to make this a viable and easy option for people to use.

Having been to the public consultation, as pretty much the only member of the public there at the time, and for the entire hour or more I spent there, it seems to me that public involvement was not a major concern of the Galway Transport Strategy. The public consultation was not adequately advertised nor were people given enough time to be made aware that it was occurring. It should have been reorganised.

What I did find interesting at the public consultation is that with the exclusion of the N6 Ring Road, it was confirmed by the representative that I was talking to; all other aspects of the Galway Transport Strategy could be implemented in less than five years. It seems to me that the Galway Transport Strategy would be a 5 year plan, if it were serious about helping the people of Galway make the modal switch from private cars to other options. Not only that, by encouraging the implementation

of the N6 Ring Road in the Galway Transport Strategy, it will negate all other work on alternative modes, all other changes across the transportation networks and will remove passengers from the new Bus Network, Cycle Lanes and Pedestrian areas. It is self-defeating for the Galway Transport Strategy to promote the N6 Ring Road as a solution for anything other than getting more vehicles on the road.

Now when it comes time for requesting submission for the Galway Transport Strategy, members of the public have to request when exactly the deadline is as so many different details have been publically published; is it the 4th July, 11th July, 14th July or 16th July?

FÓGRA POIBLI **PUBLIC NOTICE**

De réir I.R. Uimh 435/2004 – Rialacháin na gComhphobal Eorpach (Measúnacht Timpeallachta ar Phleananna agus ar Chláir Áirithe) 2004 (agus leasuithe), cuireann Comhairle Cathrach na Gaillimhe fáilte roimh iarratais ón bpobal ar Dhréacht-Straitéis Iompair na Gaillimhe (GTS).

Tá an GTS ar fáil ar mhaithe le hiniúchadh in Oifigí Iompair Chomhairle Cathrach na Gaillimhe i gcaitheamh uaireanta oifige agus ar: http://www.galwaycity.ie/galway-transport-strategy/.

Glacfar le hiarratais go dtí an 4pm, Déardaoin an 16 Iúil, tríd an bpost chuig GTU, Comhairle Cathrach na Gaillimhe, Bóthar an Choláiste, Gaillimh, nó ar an ríomhphost chuig gtu@galwaycity.ie.

As per S.I. No. 435/2004 - European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (and amendments), Galway City Council invites submissions from the public on the Draft Galway Transport Strategy (GTS).

The GTS is available for inspection in the Transportation Offices of Galway City Council during office hours and at http://www.galwaycity.ie/galway-transport-strategy/

Submissions shall be accepted until 4pm Thursday July 16th, by post to GTU, Galway City Council, College Road, Galway or via email togtu@galwaycity.ie.

Lessons have obviously not been learnt from the issues regarding advertisement and requesting submissions for the ITMP project, which was done numerous times in 2015.

Yours Sincerely,

Kevin Gill
Galway N6 Action Group

ITMP Submission N6 Action Groups.zip

3 Aughnacurra
Dangan,
Galway

Senior Planner
Planning Department
Galway City Council
City Hall
College Road
Galway
(email [redacted]

30th September 2016

Dear Sir

PROPOSED MATERIAL ALTERATIONSTO THE DRAFT GALWAY CITY DEVELOPMENT PLAN

OBSERVATIONS/SUBMISSIONS OF GALWAY N6 ACTION GROUP [GN6AG]

The GN6AG hereby makes the following observations/submissions in the context of the proposed Material Alterations to the Draft Galway City Development Plan 2017-2013 [PMADGCDP]. In making these observations and submissions GN6AG is exercising its right under the Doctrine of Exhaustion of Rights to take further action where and if required at Administrative, Legal, Quasi Legal Forums arising from this process.
Specifically the GN6AG observations/submissions, which are in the context of the nature, extent, implications, circumstances, routing, proposals, processes, procedures and all other matters relating to the 'N6 Galway City Ring Road' [N6GCRR], comprise inter alia the following;

1. As a preliminary issue the sheer volume of material produced by/for the planning authority in support of the proposed material alteration is so extensive as to make the time available for making a response to be absolutely unreasonable, because the extent is such that the time taken to read and make responses is impossible within the allotted time;
2. Furthermore the document compilers took a lot longer to prepare the documents than that given to interested parties to make responses and submissions;
3. Because the process is an ongoing work in process, the PMADGCDP will if adopted, partially or in total, by City Council, will result in the making of decision/decisions based upon incomplete information or partial information. The making of policy on a partial basis is flawed.
4. Arising from 1 above the process is unfair, unjust and unreasonable and contrary to Supreme Court judgement that the Development Plan is a contract between the Planning Authority and the Community. The point being that a contract where the actual subject of a contract is only partially known is void ab initio;
5. Specific observations/submissions regarding Section 3.10 'SPECIFIC OBJECTIVES'- 'TRAFFIC AND ROAD NETWORK' include inter alia;

(a) *Implement the programme of actions and measures as provided for in the Galway Transport Strategy (GTS) in partnership with the National Transport authority and on a phased basis and co-ordinated basis based on priority needs.* – This objective is indefinite and vague and only commits itself to unknown phasing based upon unknown priority needs. Furthermore the N6GCRR process espoused in the ARUP Report takes the GTS and its unknown outcomes as read & proceeds as if they were known. As all N6GCRR outcomes are predicated on the

taking as read unknown outcomes this particular objective is flawed, unjust and unreasonable;

(b) *Reserve the preferred route corridor of the N6GCRR project which has been selected to accommodate the requirements of an emerging strategic road and the associated bridge crossing of the River Corrib*- This objective is predicated upon an incomplete process, wherein EIA outcome is unknown, statutory processes and procedures are incomplete & therefore is premature. Furthermore this corridor enables the destruction of some 43 homes or thereabouts & is unprecedented in terms of the amount of homes to be destroyed by a public infrastructure in Ireland. This corridor will see, if implemented, the destruction of communities, will impact upon people, will result in the displacement of residents, displacement of business and community services, impact on business and community services, will have bio-physical impacts, will have socio economic impacts. Furthermore the design is to motorway standard until the Western fringes, which is a free flow concept with grade separated junctions. The previous similar scheme known as the Galway Eastern Approach Road [GEAR] implemented 1988-1996 used dual carriageway/undivided 4 lane strategy and roundabout junctions to avoid house/home and business destruction. There is no reason why if the N6GCRR strategy repeated the GEAR design rationale that a corridor not involving home/business destruction could come into being. The process and adoption of this objective is done in the absence of a 'Social Impact Assessment and is by definition unjust and flawed;

(c) *The removal of in or around 43 houses is contrary to the national housing strategy promoting the making available of privately occupied housing and therefore is contrary to the proper planning and development of the area;*

(d) *The said removal of 43 houses or thereabouts begs the question where do the dispossessed owners go & is the forced homelessness the probable outcome;*

(e) *The said house destruction has implications for education, employment, activities and health of the dispossessed;*

(f) *Give Priority to the reservation of the N6GCRR & the associated land requirements over other land uses and objectives in the City Development Plan & prohibit* developments *within the corridor which could potentially prejudice the development of this strategic road and river crossing.*- This objective is a sequitor to the previous one & penalises homeowners who have got current permissions. Also all of the previous observations apply to this objective;

(g) *Investigate & development Road Improvements, Junction Improvements, traffic management solutions .....be subject to the requirements and consent procedures of the Planning and Development Acts and the Roads Acts* – This approach is legally questionable. It proposes to adopt unknown solutions and developments in post hoc scenarios through legal processes and by implication takes such approvals as given and proposes to advance in that context. It is by analogy akin to National government making legal decisions on the basis that it will be successful in its challenge to the EU Commission's judgement in the Apple case. Furthermore in a scenario where the current city traffic management was advanced upon real time active management which has not always existed, the credibility to factually implement the objective is questionable;

(h) *The Traffic and Road Network Specific Objectives* – ignore previous City Development Plan objectives. The Western Distributor Road was the subject of previous plans and the land corridor is held for the purposes of a 4 lane roadway to accommodate the distribution of traffic and a Barna By Pass. Indeed its objects were to provide the capacity and functionality that the Western elements of the N6GCRR now envisage.

6. The Public Transport specific Objectives fail to deal with public transport as an integrated exercise or a connected exercise with the N6GCRR. During the statutory process involving development plan consultation the focus presented in regard to public transport have now evaporated and are nonexistent. The process informed that N6GCRR and the public

transport are part on an integrated solution, but the abandonment of that is contrary to the process advised by the implementing authority at the onset.

7. The Natura Impacts Report, as prepared by the Record of Protected Structures (RPS) in support of the amendments at Section 4.4, asserts that projects that are subject to Appropriate Assessment (AA) screening, will meet the requirements of Articles 6(3) & 6(4) of the Habitats directive. That cannot be guaranteed is so far as they relate to N6GCRR since compensatory habitats adjacent to compromised habitats have neither been agreed/designated/ or approved by Parks and Wildlife Section of Dept Arts, Culture & Gaeltacht;
8. In Section 4.8 & its accompanying tables dealing with mitigation measures to ameliorate potential impacts, little or no account has been taken of air pollution arising from traffic on the N6GCRR. The emissions from traffic that are important hazards to health are , carbon monoxide, nitric oxide, aldehydes, aliphatic hydrocarbons, aromatic hydrocarbons including benzpyrene 3,4; solid particles [soot], organic acids, lead. Average emissions from petro [P] & Diesel [D] engines in Kg/1000 litres of fuel burned are : Carbon Monoxide 274P/7.1D:Hydrocarbons 24P/16.4D: NitrogenOxide13.5P/26.4D :SulphurDioxide1.1P/4.8D:Organic Acids 0.5P/3.7D: Aldehydes 0.5P/1.2D: Solid Particles 1.4P/13.2D: 3,4 benzpyrene [mg m-3] 72P/105D. In not dealing with foregoing, in bringing a new heavily trafficked roadway adjacent to populations the nature and extent of the effects is not meaningfully dealt with & that is a serious flaw in the attempted justification. Traffic is responsible for 63% of carbon monoxide in cities & its persistence has been estimated up to 5 years.The mortality & morbidity rates in relation to traffic on different population groups have addressed by inter alia; Martin & Bradley, Winkelstein, Zeidberg, Petrilli, Dohan, Burn, Pemberton, Douglas, Waller, & the finding in relation to respiratory ailments [chronic bronvhitis], emphysema, infectious diseases, lung cancer] and circulation ailments [general arteriosclerosis, heart infarction, high blood pressure, and various forms of myocardial degeneration] & yet these remain unaddressed in the mitigation measures. Furthermore the reduction in sunlight & poor visibility remain unaddressed also;
9. The foregoing is the reason that Distributor roads/bypasses/Approach roads are brought out from areas of population & therefore proof that the subject proposal is contrary to all accepted rationales;

10. In Section 1.3 PROPOSED AMENDMENTS TO SEA ENVIRONMENTAL REPORT [DECEMBER 2015] by BSM & in particular Table 3.1 [KEY PLAN ASSOCIATED WITH THE DEVELOPMENT PLAN & SEA PROCESS] relating to GALWAY CITY NOISE ACTION PLAN 2013-2018 the disturbance upon the protected species and human populations remain inadequately addressed in terms of the [1] intensity of the sound/noise levels; [2] duration of the separate sound impulses; [3] the frequency of the sound impulses; [4] the subjective reaction to noise and individual sensitivity. The mitigation & amelioration remains not fully addressed;
11. Policy 3.5 regarding Public Transport is a clear proof that the ethos and policies promoted in justification of the N6GCRR as being an integrated Road solution with Public Transport, is not so. The policies lack innovation and content and are basically continuances of previous Development Plan Policies.
12. The BSM 'SEA ENVIRONMENTAL REPORT ADDENDUM' at Section 2 referring to Section 4.28 of AA NATURA IMPACT REPORT 2016 FINDINGS & Section 2.2 is incorrect in fact. In declaring positive impacts under 'Strategic Environmental Objects' in respect of 'POPULATION & HUMAN HEALTH' regarding GTS in Alterations A42, A49, A71, A77 it flies in the face of fundamental reason and common sense & is at variance with fundamental reason and common sense, because, <u>It ignores that some 43 properties or thereabouts are to be destroyed resulting in unprecedented harm to homes families and people and their health;</u>

13. The mitigation measures promoted in the BSM report does not allude to the said home, house, family, people loss, damage, inconvenience and damage to health;
14. The procedure followed in the adoption of the City Development Plan, where the CEO historically prepares a report for the members as direction in adopting the plan has legal implication. This methodology means either; [a] Members are unduly influenced; or [b] interference with the democratic mandate; or [c] implication that members do not understand the plan and ipso facto do not know what they are doing; [d] That members are considering extraneous matters.
15. The proposed adoption of the amendments to the draft & the draft plan itself flies in the face of the designation of European City of Culture, since destruction of 43 homes in or abouts and the social consequences thereof are by definition anti cultural;
16. The Fifth EC Environmental Action Programme – Towards Sustainability, which is incorporated into the Maastricht Treaty defines "SUSTAINABLE DEVELOPMENT" as development meeting the needs of the present, without compromising the ability of future generations to meet their needs. The land corridor with its destruction of 43 houses and adverse impingement on many others is at variance with this principle & therefore contrary to the proper planning and development of the area;
17. The International Institute of Sustainable Development defines Sustainable Development as "For the business enterprise, sustainable development means adopting business strategies and activities to meet the needs of enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future". The destruction of the human and business habitats in the context of the Road corridor is contrary to the definition of sustainable development and thus contrary to the proper planning and development of the area;
18. The jurisprudence in Ferris v Dublin County Council Supreme Court 1990 states that a local authority development may be prevented even if it does not materially breach the development plan if it is very unreasonable. As the indicia are that the proposed N6 proposals are unreasonable reliance on the said jurisprudence is appropriate;
19. Article 40.3 of Bunracht na hEireann [Constitution] pledges the state as best it can to protect private property rights from unjust attack and to vindicate those rights. Given the unprecedented nature of the house destruction appropriate reliance on this is appropriate;
20. Section 22(2) of the Roads Act 1993 compels TII/NRA requires that effects of road construction development on the environment be considered;
21. In GREAT PORTLAND ESTATES [1984] 3 AER 744 the personal circumstances of a person or group of people may be taken into account in exceptional circumstances. By definition the destruction of a large number of houses consequent of this adoption is exceptional and unprecedented;
22. The effects of the N6 corridor on Environmentally Sensitive Areas & SPA are subjectively addressed in some areas of the supporting documents;
23. In presenting observations/submissions to the adopting members of the planning authority the Chief Executive Officer has a report prepared for him & therefore the members are subject to an interpretation and recommendation and therefore whether matters are properly considered is open to the courts to decide;
24. The strategy promoted in the current proposed material alterations to the Development Plan Draft must be questionable in that houses granted planning permission under the existing plan are to be demolished under this draft plan aided and abetted by the proposed material alterations, because of their location within the proposed N6 corridor, so the existing plan and the proposed draft are in conflict and contrary to the legitimate expectation that the occupants of such houses have to long term peaceable occupation;

25. In EU Commission v Spain 335/90 ECI held that Economic interests are not superior to ecological interests protected under the directives & the proposed draft in the context of the amendments is contrary to that jurisprudence;
26. If A 6(4) is accommodated by this amendment then factors such as human health, public safety re relevant and the proposed N6 corridor and its destruction of the human habitat are contrary to those principles;
27. The RPS report assures that EU Directives are correctly interpreted & in the context it is appropriate to query if the tests outlined in Coppinger v Waterford County Council [unreported 22/3/1996] & ECJ in the Foster Case are actually met;
28. The query as to whether The European Environmental Agency & EIONET have been consulted in respect of the amendment has relevance.

SIGNED Michael Murphy

MICHAEL MURPHY
CHAIRPERSON

DATE:- 30 Sept 2016

STEPHEN DOWDS ASSOCIATES

TOWN PLANNING CONSULTANTS,
5 MARY STREET,
GALWAY.
TEL:
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Senior Planner
Planning Department
Galway City Council
City Hall
College Road
Galway
(email

29th September 2016

Re: Proposed Material Alterations to the Draft Galway City Development Plan 2017-2023
My Ref: 15-1089

Dear Sir

I act for Galway N6 Action Group. This is a group set up by residents of the city to represent their interests in current road proposals for the city of Galway and to protect their homes. On their behalf I make this submission on the proposed material alterations to the above draft development plan.

Chapter 3 of the Draft Plan deals with Transportation. It has been entirely rewritten in the Material Alterations (Alteration A49). We quote below entirely from the Material Alterations.

Need for a Ring Road

It is the aim of the draft plan *"to integrate sustainable land use and transportation"* (Section 3.1). It refers to the preparation of the Galway Transport Strategy 2016 (Policy 3.2 and Section 3.3) and seeks the integration of transportation and land use (Policy 3.2). This document also contains wide ranging proposals with regard to transport including the provision of public transport and efforts to support movement by foot and bicycle. It also supports the N6GCRR project (Galway City Ring Road). The draft plan states:

> *Notwithstanding the extent of the strategy measures, the GTS has established that the reduction in traffic congestion requires both improvements to public transport, cycling and walking networks and the provision of a new orbital route. This route is not considered to be in conflict with an enhanced sustainable transport network as it will focus on supporting trips that cannot be facilitated by such measures such as city bound, cross-city, cross county movements. In this regard the planned N6 GCRR is considered to be part of the Transport Strategy for the city in order to deliver the necessary capacity and support the delivery of sustainable transport measures.*
>
> and
>
> *While there will be a shift to sustainable modes on implementation of the GTS through a number of measures, the efficiencies of these modes is jeopardised by the significant level of*

congestion that will still remain on the network and on the main river crossings. The strategy therefore indicates that it will only be successful where improvements to public transport, walking and cycling networks are delivered in conjunction with a new orbital route. (Section 3.3).

Galway N6 Action Group is very concerned about the destruction of their members' homes across many communities in Galway.

There appears to be an element of post-decision justification involved in this project. We note that the currently available version of the Galway Transport Strategy is still a 'Draft'. As it is the purpose of this Strategy to set out an overall, coherent transport strategy that covers not only roads and cars, but also pedestrian movements, public transport etc, it appears necessary that such a strategy be complete and adopted prior to proceeding with the decision and assessment of a road option. The Draft Development Plan states, for example:

> *The evaluation of the transport options affirmed the need for a strategic ring road incorporating a new river crossing.* (Section 3.7)

How can this statement be upheld when it relies on a Strategy that is still in Draft form only?

Objective to Provide a Ring Road

Item A50 of the Material Alterations to the Draft Plan provides for the insertion of a specific objective concerning the N6 Galway City Ring Road (N6GCRR). This is included on the accompanying map. The problem again here is that there is a significant element of 'jumping the gun'. The route marked on the map is a route derived from a draft proposal on which work continues and from a project that itself is reliant on an overall strategy that itself is still in draft form.

The Material Alterations do not reflect these facts. The wording associated with the proposed GCRR is all presented in emphatic form alleging that it has been established that there is a need for such a road and that there is a route identified for such a road whereas this case has not as yet been made.

The Draft Transport Strategy and the Material Alterations to the Draft Development Plan both state, in numerous places that existing road junctions in the city operate at or over capacity (See for example Section 3.6 of the Summary of the Draft Transport Strategy). How is this conclusion reached? Several of the principal junctions in Galway City have recently been redesigned with roundabouts replaced with traffic lights. These new arrangements have hardly had time to prove their worth. We understand too that there is an issue concerning the monitoring of these junctions: in short, such monitoring is not being done. If that is the case, then it is hardly surprising that such junctions are at capacity.

This seems to be part of an overall reluctance to properly and efficiently manage the existing road network of the city in order to achieve maximum efficiency of vehicle movement. It seems logical that, prior to making decisions on major multi-million euro road schemes, the potential of the existing network should be fully investigated and the improvements made be given an opportunity to demonstrate their worth.

Furthermore, the analysis seems to miss the fairly obvious point that it is the junctions and not the legs of the road network that are the problem and therefore that the potential for further improvements to the junctions needs to be considered as a cheaper and less intrusive measure that might well solve the congestion problem. For example, the capacity of the Quincentennial Bridge is determined by the junctions at either end not by the bridge.

Integration of Land Use and Transport

Section 8.3 of the Draft Galway Transport Strategy addresses the issue of the integration of land use with transport - Land Use Integration. This feeds into the Draft Development Plan whose opening 'Aim' at the beginning of the chapter on Transport is: *"To integrate sustainable land use and transportation"*.

It seems that there is little actual effort being made in this direction albeit that the importance of the matter is recognised. How is it to be done? How is the Aim going to be achieved? There are various objectives set out in the Strategy but some of these could hardly be described as more than lip service. For example, the proposal to consider right of way extinguishment only when it does not create circuitous walking/cycling routes is hardly likely to have any significant impact on transport in Galway city. Other objectives seem to be largely ignored in the Draft City Development Plan. For example, where in the Draft Plan is it proposed to prioritise development of residential lands that are proximate to high capacity public transport (see section 8.3.1 of the Strategy).

The integration of land use and transport is nothing new to either land use planning or transportation and has, in many urban areas led to the preparation of Land Use and Transportation (LUTS) plans. These seek to integrate zoning with transport. There is no such plan in Galway. There is much in the existing and proposed Galway City Plans that flies in the face of such principles. For example, the Galway City Plan is highly unusual in the extent of low density residential zonings ('LDR' in the Draft Plan); substantial areas reserved for low density housing, much of it restricted to 5 houses/ha. These are exceptionally low urban development densities. The guidelines on "Sustainable Residential Development in Urban Areas" encourage densities of 50 houses/ha and more depending on the location). Such an approach to zoning flies in the face of claims to integrate zoning and transport.

Furthermore, there has been no significant change or revision to the land use zonings contained in the Draft Development Plan by comparison with the existing development plan (2011-2017). Are we being asked to accept that the existing land use zonings were examined and, by extraordinary chance, they were found to accurately reflect what was needed to achieve this objective? We have a draft plan and a draft Transport Strategy that recognise the importance of integrating land use and transport but, when it comes to it, all that can be pointed to are some individual sites such as the Ceannt Station site where high density inner city development is being encourage and marginal matters such as limitations on the closure of rights of way. The fact is that there is no overall attempt to relate zoning to transport and only individual projects such as Ceannt Station can be quoted. There does not seem to be any attempt to guide development to locations that are likely to reduce traffic demand. For example, the schools in Galway, particularly the secondary schools, are largely concentrated in the city centre and are far away from the extensive modern residential suburbs. The large residential areas of Knocknacarra are pitifully short of places of employment, local convenience shopping, educational facilities etc.

As noted, secondary schools are greatly concentrated in the city centre. This is a major generator of traffic in Galway leading to significant differences in traffic congestion in the city during term time as compared to school holiday time because these sites are inconveniently located with regard to the main residential areas. There is a need to consider relocating some such facilities. Although this is stated in the plan (Section 2.5) there is nothing in the way of identified school sites.

Strategic Environmental Assessment (SEA).

We note that the Material Alterations are accompanied by a revised Strategic Environmental Assessment (SEA) – the 'SEA Environmental Report Addendum'. With regard to the potential impacts of the new road, it states:

> *By its nature, and when assessed in isolation, projects such as the proposed N6 GCRR increases potential negative impacts on greenhouse gas emissions. However, when the N6 GCRR is considered in conjunction with the full suite of GTS measures, it will also provide for potential direct and indirect positive impacts on Air Quality and Climate by facilitating the implementation of other traffic reducing measures within the city which cannot otherwise occur without the construction of a ring road to alleviate existing city centre traffic congestion.* (P. 12).

It seems that the proposed new road is assessed entirely on the basis that it is going to facilitate other beneficial traffic reducing measures. This seems entirely counter-intuitive. New roads not only facilitate existing traffic. They also encourage it – the more open and free flowing the roads, the greater the attraction of bringing the family car. It is illogical to suggest that a new road will bring an environmental benefit by reducing traffic volumes. Obviously it may have benefits such as reduction in congestion but those benefits will come at the cost of an increased use of the private car and of vehicular traffic in general.

There is not a mention in the SEA of the shocking impact of the proposed ring road in the form of demolition of people's homes and the severance of communities.

Yours Sincerely

Stephen Dowds BA MRUP MIPI

National Roads Project Office
Galway County Council
Ballybrit
Galway
(email: [redacted])

1st December 2016

Dear Sir/Madam

N6 Galway City Ring Road – Public Display – 14/11/2016

OBSERVATIONS/SUBMISSIONS OF GALWAY N6 ACTION GROUP COMPANY LIMITED BY GUARANTEE [GN6AG]

The GN6AG hereby makes the following observations/submissions in the context of the latest N6 Galway City ring road design (N6GCRR) . In making these observations and submissions GN6AG is exercising its right under the Doctrine of Exhaustion of Rights to take further action where and if required at Administrative, Legal, Quasi Legal Forums arising from this process.

Specifically the GN6AG observations/submissions, which are in the context of the nature, extent, implications, circumstances, routing, proposals, processes, procedures and all other matters relating to the 'N6 Galway City Ring Road' comprise inter alia the following;

1. N6GCRR is unfair, unjust, arbitrary, unreasonable;
2. N6GCRR will result in the destruction of some 41 houses and interference with 100+ others;
3. Imposing a motorway solution to a non motorway project exacerbates the matter;
4. N6GCRR is anti-people, anti-families;
5. N6GCRR is contrary to Article 41.1 of the Constitution wherein the Irish State promises to protect the family;
6. N6GCRR represents a manipulation to the Development Plan unforeseen by the enactors of same.

We also attach our submission to the Senior Planner in Galway City Council on 30th September 2016, outlining our observations/submissions to the proposed material alterations to the Draft Galway City Development Plan.

SIGNED Michael Murphy

MICHAEL MURPHY
CHAIRPERSON

DATE:- 1 Dec 2016

Personal Statements

"Being brought up in Cappagh in the 70's and 80's it was always my wish that if I lived in Galway, when I grew up, it would be here. After moving away for college in Maynooth, meeting Eavan and starting a family together, we decided to move back to Galway and started saving up for a home. With my parents getting older, and being the only sibling left living in the country, an agreement was reached to purchase my fathers old builders yard, if Eavan and I could get planning permission to build our home next door to theirs. It took 5 and a half years to get that permission and less than three years after building we found out that our new home could be demolished. We found 5 of the six proposed roads were over our home and neighbours or beside us, with the 6th route only 500 metres away.

Cappagh is our home, it is where our first home that we designed, managed and built as a family rests. The children picked out their rooms and helped decorate them, picked plants for the garden and planted them, and have grown up healthily here. Eavan though not from Galway, spent holidays with her family in Silver Seas B&B at the end of Cappagh Road as a child and we may have even met as her family walked the road. What should have been our happiest time has been cast under a shadow for the last few years and will remain so until the road is resolved one way or the other. We pick blackberries and sloes every year where the road will destroy our bóithrín, that will stop. We can walk down the road to get the bus into town or down to Cappagh Park, but that will be interrupted as we wait at traffic lights for our chance to cross the road. The most noise we have now is the children playing happily in the creche next door or the birds, that will be replaced by engines stopping and starting constantly, poor air quality and light pollution.

Something else will be missing from Cappagh if this road is built, the Flanagan-Gills. We will leave our dreams of living here behind and have to move somewhere else where it is so dark at night you can still see the stars, where it is so quiet and peaceful you can hear the birds, where it is safe to walk down the road with our children."

Kevin Gill

Michael and Annette Kerin

11 Ard an Locha

Bushy Park

Galway

My wife and I returned to Galway in 2004 on my appointment as Professor of Surgery at NUI Galway and Consultant surgeon at UCH . We are both graduates of the NUI Galway medical school and were active participants in the University community during student years and developed a lifelong love of Galway from that time. Among other things played I played Fitzgibbon (intervarsity) hurling for the University in the playing fields of Dangan,

We chose Dangan as our future neighbourhood and community as we had lived here as junior doctors and loved the neighbourhood, and felt it ticked all the boxes prioritised by us as a family (at the time of our return our 2 young sons were about to start primary school) . The priorities for us included:

Short travel time to work (proximity for emergency surgery/ work requirement/ contractural obligation)

Local Amenities- schools, playing fields, river, church etc

Proximity to University

Progressive and supportive environment

Sylvan beauty/ private site/ ability to build own home and cater for family specifics and privacy.

We bought our site in 2003 following a verbal assurance by the Council that the area was zoned residential and would not be rezoned for other purpose. We eventually got planning permission in 2005 having complied with various regulations including lowering the house into the site to negate visual impact and built our dream home and watched with delight as neighbours moved in and developed theirs. In the intervening years we have invested heavily in our garden to compliment the natural beauty of the area and acquired the site opposite in order to provide for independent living for our progressive older son who has Down syndrome.

The development of the proposed motorway will result in the shattering of our lives, implosion of our dreams and result in personal and family ruin.

Separation/ Isolation

This proposal will separate our house and home from all surrounding properties and leave us isolated in a virtual island with Motorway Bridge to our front; motorway / acquired home on one side and N59 (with resultant increased traffic and noise) on the other. Our closest neighbours' homes will be either acquired or demolished. Our personal circumstances will be changed utterly and our home will be unfit for human habitation.

Health/ noise

There are appropriate and inappropriate levels of noise for human habitats and the proposed development will mean that the levels of noise that we will encounter during and indeed after construction will be detrimental to our health. In addition additional air pollution (post) and dust will make our home uninhabitable. The works will make life untenable, remove access to the N59, make urgent commute to the hospital more difficult and render our neighbourhood unsafe particularly for our son Mikey who has worked hard at developing his independence.

Psychological

The impact of this proposal on us as individuals has been devastating- we have strived to contribute to the development of our City and community but we have failed to be seen as citizens with equal rights in this development. This proposal fails us and our neighbours under multiple headings.

We, as citizens, have been failed by a process which was seriously flawed and gravely misguided; the refusal of the easily available nearby solution which would preserve our community has inevitably led to a profound sense of worthlessness. We feel that we have been victims of several miscarriages -including the relegation of the human habitat to a position of unimportance: the rush to implement a road solution which is contrary to all modern planning and carbon emission data; a misguided attempt to create an inner city rather than out of town by-pass and needless motorway solution which does not need to be bulldozed through a community which we chose as the location for our home.

This proposal is not in accordance with the proper development of our area and contravenes many of the established environmental, habitat, national and European directives for proper planning.

We fundamentally believe that there should be another river crossing, that travel in our city should be easier and that our environment should be protected. The current scheme may only achieve one of these aims at enormous cost to the taxpayer, the environment and especially our neighbourhood which is entitled to appropriate normal considerations from our society.

Michael & Trisha Murphy. The proposed N6 Galway City Ring Road motorway (GCRR) will seriously impact on our neighborhood of Aughnacurra and on our neighbours on the other side of the N59 in Ard an Locha. We purchased our home in 2003 from the O'Gormans who had raised their family over the previous 25 years in the Community, We had intentionally purchased a home that was significantly separated from the previous route of the Galway City Outer Bypass (GCOB) and the current Quincentennial bridge crossing.

The quality of our quiet, rural environment will be greatly diminished by unhealthy noise and light pollution, and the chemical emissions from thousands of vehicles passing by day and by night so near my front windows. It will involve the unwelcome destruction of the mature trees to the front of Aughnacurra. It will also discourage wildlife such as pheasants and foxes that frequent my garden throughout the year,

Much more serious is the destruction of our small, quiet, self-contained community of Aughnacurra where a number of our neighbours houses are threatened with demolition of their homes and others face the prospect of being so near a motorway that they will have no option but pursue their dream of a quiet life elsewhere. The human cost involved for elderly people, who have had their reasonable expectation of peaceful retirement shattered with uncertainty and worry, is incalculable. Across the N59 our neighbours in Ard an Locha face a similar fate if the proposals are implemented. Surely, An Bord Pleanala can persuade reasonable officials that such human distress comes within the "health and safety" consideration of the EU Directive.

The proposal to have the GCRR pass just behind our local primary school, **Bushypark National School** is very distressing. It will inevitably involve the children and staff being exposed to unhealthy levels of noise and chemical emissions emerging from thousands of vehicles passing very near their classrooms and play areas.

The authorities of **NUI Galway** deserve great credit for their foresight in anticipating the growth of the university and of its student body and acquiring land to extend the university's campus along the Corrib as far as Dangan. The university has invested heavily in developing and maintaining the land as sports fields catering for a variety of games and recreational activities and have provided on a single campus facilities for its students that have few equals. They deserve our particular gratitude for their enlightened and generous approach in sharing the facilities with the wider community. As a result, the people of Galway and visitors to the city can now enjoy an extensive open riverside, natural environmental space of which most cities would be proud. It deserves to be cherished. We greatly value our own freedom to walk or cycle along the Corrib almost daily. From our personal observations, we know that the university grounds are widely used by people from

neighbouring communities and from elsewhere in Galway. Many clubs from the wider community use the playing fields. It would be extremely regrettable if that unique resource was damaged by truncating it with a motorway. The location of the bridge proposed would truncate the unique stretch of the Corrib that has been used for regattas and boating competitions for many years. In short, it would destroy widely used sporting facilities and diminish the quality of this unique natural space now enjoyed by the university and general communities. This is not a reasonable alternative and we sincerely hope that it will not be pursued.

O'hEocha Household, 3 Ard an Locha, Upper Dangan, Galway

I was raised in Chestnut Lane, Dangan since 1975, where my mother and siblings still live. I married in 1993 and lived in Circular Road, Dangan. Our three children attended St. James Bushypark National School in Dangan.

We built our current home at 3 Ard an Locha in 2014/15. Architecturally designed to the highest specification, its levels of insulation, solar gain and renewal heat pump energy meant it qualified for the highest possible 'BER' rating. We spent a huge amount of money and time in achieving this future proofed, energy efficient home where we planned to live out our days, and provide a home place for our children.

The proposed GCRR will lead to the eviction of our family and the demolition of our home. It will destroy the Dangan area, with a noisy, pollution spewing motorway elevated up to 7 meters (higher than a 2 story building) over the homes of those left

behind.

Our home is being sacrificed for a small patch of limestone paving and bog cotton. The proposed route of this motorway through the established homes and lives of so many is an affront to our fundamental rights as residents, particularly when there are other options available which could minimise the human impact while providing a longer term solution to transport in Galway.

Sincerely, Colm O'hEocha

Dear sir/madam,

After being granted planning permission we built our dream home in Dangan in 2014/15 while Galway City and County Councils were planning the Galway bypass route selection. Our kitchen, the heart of our home, is in the centre of three of the proposed five routes! We built a separate wheelchair accessible downstairs bedroom & living area for any of our three elderly parents in the future.

Galway City Council were aware of the route selection process when considering the planning application for our home. They should have never have allowed our 11 month build. The Council were planning this bypass well in advance to commencement of our build. They notified us of a CPO one week after accepting the final payment of the compulsory planning contribution on our new home.

Demolishing 44 homes, and severely impacting so many in Galway is proportional to confiscating 1000 houses in Dublin City ! Where in the world would that happen? All to save a small bit of limestone pavement and bog cotton. Are human lives really to be treated with such disregard? Given the latest warnings we've been given about global warming ,it seems bizarre that Galway City Council is still investing in the solutions of yesteryear (more private cars) rather than looking to a sustainable future. Build houses - Demolish them. Build motorways through local communites . Develop wooded riverside amenities - destroy them with a motorway. Our poor environment!

At present, there are no suitable homes for sale or even for rent for my family. Imagine looking for a new home alongside 44 (plus) other families if this motorway were granted planning permission....

The impact of this route is far too severe on far too many families ....it will be in the hands of An Bord Pleanala to right this wrongfully selected route . Our citizens & our planet deserves so much better.

Yours sincerely, Marie O'hEocha

TO; An Bord Pleanala

ReferenceGalway: N6 Bypass Proposal

OBJECTION

Dear Sir/Madam,

I write this letter as the owner resident of 13 The Heath, Circular Road, Galway to formally object to the proposal for the above route as recently presented to you by the Galway County Council and Galway City Council.

My objections are based on the following comments which relate to the overall plans for the bypass and to the specific section effecting the residential development of the Heath.

My comments are as follows:

1. Whilst we have been informed that the Bypass is part of an integrated transport plan for the city of Galway I cannot accept that this this road will resolve the traffic problems of Galway. There are limited access points on and off the Bypass so commuter traffic in and out of the city will still experience the same logjams at peak times.
2. An efficient bus route network is still urgently required. This should include an adequate number of buses of varying sizes to suit the routes.
3. A light railway such as Luas should be considered.
4. Enclosed bus shelters should be provided which could be funded with advertising and would encourage commuters during the winter months.
5. The original plan for the outer bypass was rejected due to a number of issues which included the possibility of damage to an area of limestone paving. I am surprised to hear that there are areas of similar limestone paving on the current proposed route and that the plan calls for a tunnel under this area. I believe that this will still present a threat to this area of limestone paving..
6. A bridge over the River Corrib is planned in an area of outstanding scenic beauty close to Menlo Castle. As an oarsman, both in my days as a schoolboy at Colaiste Iognaid and now as a guest member of the Tribesmen Rowing Club, I strongly object to the spoiling of this beautiful stretch of river.
7. The route will then continue through the NUIG playing fields some of which will have to be removed for the roadway.
8. I have been told by Arup that the motorway status has been reduced that of dual carriageway. Therefore I would propose that should the road still proceed, that a traffic light junction should be created where the route meets the N 59 .
9. This would then remove the need for the major junction with ramps off of Circular Road and for the spur road back down to the N59 near Bushypark Church.
10. I further propose that the route does not need to go through the scenic hill at the west end of The Heath. As it is now a dual carriageway surely it can go around the back of the hill where there is no residential development.
11. Points 8, 9 and 10 would offer significant cost savings should legitimate objections be overruled.
12. A spur connection back to the N59 will create major traffic on Circular Road. This road is not equipped to handle such traffic.

Finally, I further object to the proposed CPO relating to the acquisition of the roadways through The Heath in order to provide a right of way for a land owner whose property has been divided by the proposed N6. The Heath is a residential development established in 1992 and the layout of the roads are in no way suitable for agricultural traffic. It would be unsafe and present a real threat to the safety of the residents of the Heath.

I trust that the above comments and objections will be seriously considered by An Bord Pleanala and that you will reject the Proposal for the N6 Bypass in its entirety.

Yours sincerely,

Gerald Lawless

13 The Heath

Circular Road

Galway

No.7 Ard An Locha,
Bushypark,
Galway.

17th December 2018

An BORD PLEANALA
Strategic Infrastructure Division
64 Marlborough Street,
Dublin 1.

Re : Submission on application ref 07.302848 - N6 Galway City Ring Road Motorway Scheme

Dear Sir /Madam

I write on behalf of my wife Margaret, myself and our family to convey our deepest concerns on the impact of the above project on our lives and on our property.

We have lived here at No. 7 Ard an Locha in an idyllic situation for the past FIFTEEN YEARS. During that time our children have grown up and completed their education while living in the peaceful surroundings of our home, and we had hoped that this would continue perhaps for the next generation. Having moved throughout the country over the years because of the demands of my work, it was and is our fervent hope that we would remain settled here to live out the remainder of our days in peace and comfort.

It is no exaggeration to say that this hope has been absolutely shattered by the plans of Galway County Council and its partner agencies to drive this irresponsible road project through our tranquil neighbourhood.

At the highest and most general level it is impossible to understand how the original scheme proposed back in 1999 could have been abandoned because of its impact on inanimate and arguably unimportant items such as bog cotton and limestone pavement in favour of the current scheme which see no difficulty in removing 42 family homes and irreparably damaging countless others. How many individual lives are seriously disrupted and permanently damaged by this cavalier project? What of the mental health of the individuals and families so gravely affected?
Can anyone say that some of these will not be damaged beyond repair or healing?

It is our view that those responsible for conceiving and implementing schemes such as this are enabled (perhaps encouraged) by a raft of European law and regulation to savage the human environment in favour of the "natural" one. Surely this cannot be right particularly in view of current national concern with the disimproving physical and mental health of the population. It is extraordinary that none of the cost benefit or environmental impact assessment studies carried out at great expense for this scheme address this most important, serious and long term impact.

In our own case, the entire family has been upset and worried since the scheme was first proposed some SIX years ago. Our concerns are not just at the impact on our own property but also at the devastating impact on our friends and neighbours. EIGHT of our neighbouring families are set to be removed (effectively evicted) from their homes and in most cases their houses are set to be demolished, while several hundred other families will be severely impacted by the scheme. This will destroy our local community and will sever it psychologically in so many ways.

While no part of our family home is being acquired for the scheme, we will nevertheless suffer severe impacts in terms of visual intrusion, noise, air quality, probable loss of light, loss of amenity, disturbance and economic loss.

At present we are set back among our neighbours from the existing N59 in a maturing landscape, and are hardly aware of passing traffic. The proposed scheme will drive a massive dual carriage way right by our house. The prevailing winds will carry exhaust fumes, engine and road noise directly to our house. The screening measures proposed to abate noise impact are derisory and will in themselves create a serious adverse visual impact.

The peaceful setting of our home will be forever changed very much for the worse. The disruption caused by the construction phase of the project is unquantifiable, but will be severe and will last for years. The approach to the city will change from its present pleasant aspect to an unpleasant urban landscape with a large and noisy carriage way looming over the present N59.

In our view, it will be impossible to compensate us for the damaging effect of all of these impacts. Who can be made happy to accept such uninvited devastation foisted upon them? Money cannot deal with such deeply felt physical and emotional impacts.

If our family were to consider selling our property in order to leave this desolation, who will buy our property? We are reliably informed that, leaving aside the effect of the property crash and inflation, the impact of the proposed scheme is likely to reduce the market value of our house by 50%
We know that we can employ experts to validate all of the impacts listed above, and we are reserving our right to take whatever action deemed necessary to protect our rights and the rights of our neighbours in the future.

In conclusion, please accept our deep seated and vehement objection to this project in terms of its impact on our property and family and also on the wider impacts, practicality and sustainability of the entire project.

Signed: _____ Signed: _____

John Hughes **Margaret Hughes**