

52 Dún na Mara,
Renmore,
Galway, H91 KDA3
Co. Galway

20th December 2018

Strategic Infrastructure Development Section
An Bord Pleanála
64 Marlborough Street
Dublin 1. D01 V902

Our Ref: Application under the Strategic Infrastructure Act for permission for the Galway City Ring Road

Your Ref: N6 Galway City Ring Road Motorway Scheme 2018 and Protected Road Scheme 2018

Case Reference: PL07.302885

A Chara,

Please find enclosed a personal submission in relation to the application for permission for the Galway City Ring Road together with a cheque in the sum of €50.00 being the prescribed fee to accompany a submission.

I request that An Bord Pleanála hold an oral hearing in relation to this development.

Please acknowledge receipt of this submission.

Is mise, le meas,


Brendan Mulligan
Chartered Engineer



Submission to An Bord Pleanála

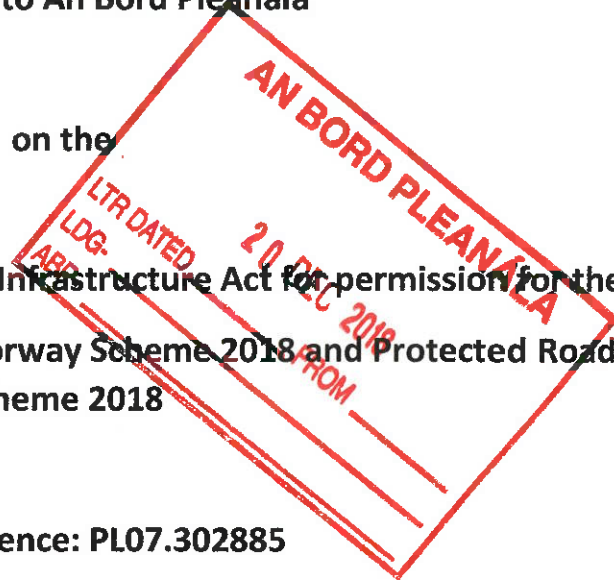
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**Application under the Strategic Infrastructure Act for permission for the
N6 Galway City Ring Road Motorway Scheme 2018 and Protected Road
Scheme 2018**

Case Reference: PL07.302885

by

Brendan Mulligan, Chartered Engineer



Context in 2018

The following are speeches and reports relevant to Climate Change during this year, in chronological order:

An Taoiseach in the European Parliament, 17th January 2018

An Taoiseach acknowledged that Ireland is falling behind the rest of Europe and gave his commitment to taking greater action. "As far as I am concerned, we are a laggard. I am not proud of Ireland's performance on climate change," he said. This was in the context of the Climate Change Performance Index 2018 which singled out Ireland as the worst performing country in Europe for taking concrete action to tackle climate change.

Citizens' Assembly April 2018

The Third Report and Recommendations of the Citizens' Assembly, which addressed "How the State can make Ireland a leader in tackling Climate Change", includes the following two recommendations relating to sustainable transport amongst its recommendations:

- "viii. 93% of the Members recommended that the number of bus lanes, cycling lanes and park and ride facilities should be greatly increased in the next five years, and much greater priority should be given to these modes over private car use."
- "x. 92% of the Members recommended that the State should prioritise the expansion of public transport spending over new road infrastructure spending at a ratio of no less than 2-to-1 to facilitate the broader availability and uptake of public transport options with attention to rural areas."

Climate Change Advisory Council Report, July 2018

I quote the following sections from this report in relation to transport which confirm that emissions from transport are trending upwards and the dominant position of the private car as a mode of transport:

3.2 Future Sectoral Greenhouse Gas Emissions

"Emissions from transport are projected to increase by 17% to 18%, or between 2.1 and 2.5 million tonnes of carbon dioxide equivalent, by 2020, relative to 2016 levels based on the two projected scenarios. Overall growth in transport emissions reflects strong growth in diesel fuel consumption in private cars and freight to 2025."

5.1.3 Transport

"The transport sector is not contributing towards the 2020 targets and there has been little progress towards the long-term low-carbon transition. The relationship between income (as measured by modified gross national income at current prices) and transport emissions has weakened in recent years but remains close. Emissions fell during the recession in line with falling economic activity but, since 2012, the overall picture in transport is that emissions are again increasing significantly with greenhouse gas emissions at their highest level since 2010. According to the EPA, this is the fourth successive year of increases in transport emissions following five consecutive years of decreases since 2007.² If this increasing trend continued, transport emissions would return to their 2007 peak by 2022."

"Passenger Transport

Key sectoral indicators are pointing in the wrong direction at a national level. As well as economic growth and higher levels of activity, urban sprawl and spatial planning decisions have caused high levels of

emissions and congestion on roads that lead to major centres of employment. The National Travel Survey 2016 found that, at a national level, journey distances and durations are increasing. Almost three-quarters or 74.3% of all journeys were made by car, a less than 1% difference between the 2013 and 2014 survey results. Only about 5 to 6% were car passenger journeys, meaning most car journeys were single occupant. Ireland's estimated emissions from cars, at 1.6 tonnes of carbon dioxide per capita, are the fifth highest among EU Member States. The Census 2016 found that nationally 65.6% of those commuting to work travelled by car."

Global Footprint Network, August 2018

Earth Overshoot Day marks the date when we (all of humanity) have used more from nature than our planet can renew in the entire year. In 2018, it fell on August 1. At this rate we need 1.7 planets to support humanity. We have only one planet!

IPCC Special Report on Global Warming of 1.5°C, October 2018

I quote the following from the IPCC Press Release of the 8th October 2018 following publication of the IPCC Special Report on Global Warming of 1.5°C":

"Limiting global warming to 1.5°C would require rapid, far reaching and unprecedented changes in all aspects of society, the IPCC said in a new assessment. With clear benefits to people and natural ecosystems, limiting global warming to 1.5°C compared to 2°C could go hand in hand with ensuring a more sustainable and equitable society, the Intergovernmental Panel on Climate Change (IPCC) said on Monday."

Living Planet Report 2018, October 2018

The Living Planet Report identified climate change as one of the contributors to the loss of nature on the planet.

"This report's Living Planet Index also outlines how much nature we are losing. It shows an overall decline of 60% in species population sizes between 1970 and 2014, while current rates of species extinctions are 100 to 1,000 times higher than the background rate (the extinction before human pressure became a prominent factor). Other indicators measuring different changes in biodiversity all paint the same picture – that of dramatic, continued loss."

"We are the first generation that has a clear picture of the value of nature and the enormous impact that we have on it. We may also be the last that can act to reverse this trend. From now until 2020 will be a decisive moment in history."

Speech by Minister Richard Bruton at the E.U. Climate-KIC Summit, Dublin Castle, 7th November, 2018

In his speech the Minister acknowledged that "Ireland is far off course to achieve the CO₂ targets which we have committed to". He expressed his ambition "to make Ireland a leader in responding to climate change, not a follower" and acknowledged that "that will require a significant step change across government". The Minister went on to say:

"It will require a revolution in how we live. Every person, every community, every business, every home and every school will have to make changes in the way we live and work and learn. Nothing less will do if we are to make the changes that are needed to create a sustainable future for everyone."

The Minister then went on to refer to the National Planning Framework as follows:

"Project Ireland 2040, and the ten year National Development Plan which underpins it, is the first time an Irish Government has ever attempted to ensure that future growth is compact, connected, regionally balanced and sustainable."

Implementing this vision, and ensuring that the capital investments which are made, deliver that integrated vision will be a crucial challenge which we must crack. How we roll out this €160 billion investment [and in particular the €30 billion on Climate Action and Sustainable Transport] can create a profound shift in behaviour patterns.

Price matters when it comes to choices. We must discourage new private or public investments being made now which lock us in to high carbon patterns of living."

Opening Statement by Secretary General of the Department of Public Expenditure and Reform, Robert Watt, at the Oireachtas Joint Committee on Climate Action, 14 November 2018

Mr Watt in his address recognised that "The climate actions and policies that we have pursued to date have evolved to be compatible with existing policy priorities rather than specifically targeted at delivering the kind of change we need at the scale we need. In other words, we have pushed open doors in respect of policy options which have been easy and uncontentious."

He also explained how it is now intended to price the carbon emissions of any new Government investment at the price it will cost us to eliminate those emissions at a later date:

"In terms of project appraisal, we have published some very significant proposed reforms to the Public Spending Code. In a major departure, we will now require all Government investment projects to price any future greenhouse gas emissions at the estimated cost that Irish society will have to bear in reaching our climate targets. In effective terms, this triples the cost of greenhouse gas emissions that applies today, with the price reaching €32 a tonne by 2020, €100 a tonne by 2030 and €265 a tonne by 2050."

This will reduce the economic viability of projects that produce emissions and critically place a high value on projects that cut emissions.

We are also lowering the discount rate that applies to Government investment appraisal from 5% to 4% and for longer term projects, this discount rate will decline over time. These reforms mean that investment decisions must fully reflect the climate consequences."

In his conclusion Mr Watt admitted that "To achieve the decarbonisation that the International Panel on Climate Change thinks is necessary, will require changes to society on a scale not seen since the industrial revolution."

'A Clean Planet for All', November 2018

I include the following extract from the introduction to the European Commission's communication of the 28th November 2018, 'A Clean Planet for all: A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy'.

"1. INTRODUCTION – THE URGENCY TO PROTECT THE PLANET"

Climate change is a serious concern for Europeans. The current changes in our planet's climate are redrawing the world and magnifying the risks for instability in all forms. The last two decades included 18 of the warmest years on record. The trend is clear. Immediate and decisive climate action is essential.”

COP24, Katowice, Poland, December 2018

I quote the following from the transcript of Sir David Attenborough's speech on the 3rd December 2018 when he represented 'The Voice of the People':

“‘We the peoples of the United Nations’. These are the opening words of the UN Charter. A charter that puts people at the centre. A pledge to give every person in the world a voice on its future. A promise to help protect the weakest and the strongest from war, famine and other man-made disasters.

Right now, we are facing a man-made disaster of global scale. Our greatest threat in thousands of years. Climate Change. If we don't take action the collapse of our civilisations and the extinction of much of the natural world is on the horizon.”

Sir David Attenborough concluded his speech as follows:

“The People have spoken. Leaders of the world, you must lead. The continuation of our civilisations and the natural world upon which we depend, is in your hands.”

Climate Change Performance Index December 2018

The CCPI 2018 published in December 2018 ranked Ireland 48th out of the 56 countries evaluated. The report states that Ireland is “still rated as the worst-performing EU country in the CCPI, Ireland reaches position 48 and remains in the group of *very-low* performing countries. Ireland is the worst performer in the EU. The report concludes that “existing climate mitigation efforts will not enable Ireland to achieve either its EU 2020 or 2030 targets domestically. The long-standing lack of implementation of substantive measures to put the country on a well-below-2°C pathway results in a *very low* rating for Ireland's national policy performance.”

From infrastructure costs to health and environmental impacts - European Commission shares first findings on the true costs of EU transport 17 December 2018

I include the following extracts from this publication which confirms that the users do not pay the full costs of any particular transport mode – the balance unpaid falls on society. “Road leaves the biggest amount of external cost unpaid” which “society largely pays for”, “rather than the user or polluter.”

“The preliminary findings suggest that, for the time being, society largely pays for these costs, rather than the user or polluter. This is generally true for all transport modes.”

“Key preliminary insights:

- The total external costs of transport amount to the equivalent of around € 1 000 billion annually, which corresponds to almost 7% of EU28 GDP.
- The main contributors to this are **environment (carbon, noise and pollution), accidents and congestion.**
- Road is the largest contributor, accounting for $\frac{3}{4}$ of total external costs in absolute terms, and also the mode which leaves the biggest amount of external cost unpaid.
- For all transport modes, the total costs (external and infrastructure) are substantially higher than what the user pays.”

Engineers Ireland

I am a Chartered Engineer, a member of Engineers Ireland and a member of Engineers Ireland's West Region committee. I had the privilege of chairing a sub-committee of Chartered Engineers, the 'Engineering the West Team', which published a major report in 2011 entitled 'Engineering the West to 2020 – Reinventing our Region.' The Engineering the West Team has made many submissions on development plans, local area plans, energy strategies, etc in recent years. While doing so I have learnt much about sustainable development and continue to learn about it.

I am making this submission in a personal capacity.

Engineering the West to 2020 – Reinventing our Region

For a considerable period of time, Engineers Ireland West Region has had a strong focus on its contribution to the development and sustainable growth of the West of Ireland. Motivated by this ambition, a body of work was commissioned in which there was a critical assessment of the Region in terms of its resources and the enormous potential that exists. This work led to the publication of a Report in May, 2011 entitled "Engineering the West to 2020 – Reinventing our Region".

Our vision is to foster the growth of

An agile and sustainable West Region, benefiting from world class industrial clusters, a vibrant economy and our rich natural and cultural heritage.

The Report, through a series of key recommendations, spells out how this vision can be achieved. This enables Engineers Ireland West Region to identify, promote and support all those activities necessary to realise that vision, advise and support local and central government and the development agencies in their work towards achieving the potential of the West Region. Given the current pressure on public finances it is more important than ever that the scarce resources are invested in the right projects at the right time so as to have the maximum positive impact on the sustainable development of the West Region.

The report recommends the adoption of a sustainability framework based on the ten **One Planet Living®** principles. One Planet Living is a sustainability framework that was developed by BioRegional and the World Wide Fund for Nature (WWF) to enable people and organisations to live and work within a fair share of our planet's resources.



The basic concept behind One Planet Living is to encourage people to live within an ecological footprint that can be supported by the planet. At present if everybody in the world had the same ecological footprint as the inhabitants of Europe, three planets would be needed to support the global population.

The core of the framework is the use of ten guiding principles to help individuals and organisations to examine the sustainability challenges that they face, and to develop appropriate solutions. The ten guiding principles which One Planet Living promotes are outlined and briefly explained below:

- **Zero Carbon Energy:** Making buildings and manufacturing energy efficient and supplying all energy with renewables.
- **Zero Waste:** Reducing consumption, reusing and recycling to achieve zero waste and zero pollution.

- **Travel and Transport:** Reducing the need to travel, encouraging walking and cycling and low carbon transport.
- **Materials and products:** Using materials from sustainable sources and promoting products which help reduce consumption.
- **Local and Sustainable Food:** Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein.
- **Sustainable Water:** Using water efficiently, protecting local water resources and reducing flooding and drought.
- **Land and Nature:** Protecting and restoring land for the benefit of people and wildlife.
- **Culture and Community:** Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living.
- **Equity and Local Economy:** Creating safe, equitable places to live and work which support local prosperity and international fair trade.
- **Health and Happiness:** Encouraging active, sociable, meaningful lives to promote good health and well-being.

My comments in the following sections are informed by the “Engineering the West to 2020 – Reinventing our Region” report and the key recommendations therein. The full report is available at the following link;

<http://www.engineersireland.ie/EngineersIreland/media/SiteMedia/groups/regions/west-region/EIWR2020The%20Bookv10.pdf>

My comments are also informed by various other submissions made by Engineers Ireland West Region or its subcommittee, the Engineering the West Team, including three submissions in relation to the Ardaun Local Area Plan lands which will be negatively impacted by the proposed Galway City Ring Road.

The GCRR is an unsustainable development

There are numerous examples around the world of where roads with greater capacity have been constructed to address traffic congestion issues only for them to attract even more traffic and become congested itself. A good example is the M50 in Dublin which was built to address traffic congestion on the existing road system. Within a relatively short time of it being completed the Red Cow roundabout became a severely congested junction. It was replaced with free flow junction. The M50 more generally became congested to the point to that it became unacceptably congested itself. The M50 was widened significantly to at least 3 lanes in each direction with further junction improvements. Within a relatively short period of time the M50 is again suffering from severe congestion.

The GCRR will make it easier for people to use their cars to commute to work rather than use public transport.

The GCRR will contribute to urban sprawl, contrary to the objective of the National Planning Framework which is that Galway should develop as a compact city. People will opt to live in rural areas in the belief that the GCRR will make it feasible for them to commute to work and education in Galway City.

Galway City is not currently attractive for cyclists and public transport users. There are very limited cycle lanes and those cycle lanes are generally not designed to best practice. They are not safe for cyclists. With few exceptions, such as the 409 route, bus services are not frequent or reliable enough to attract people. Accordingly, people opt to use their cars – the GCRR will only promote the use of cars rather than contributing to a modal shift to sustainable transport.

The estimated cost of the Galway City Ring Road is currently €650m. The final cost may very well be significantly higher. Robert Watt, Secretary General of the Department of Public Expenditure and Reform, spoke at the Oireachtas Joint Committee on Climate Action about measures “to avoid investments which may lock us in to high carbon patterns of living.” This huge investment in the GCRR will tend to do just that. As Robert Watt said prophetically “The price that will be paid for the emissions we release into the atmosphere today won’t be paid by those of us in this room but it will be paid for by our children and their children.” It is not only the capital cost of the GCRR that will fall on society but also the cost of eliminating the associated emissions from the traffic using it.

I submit the rather than make this very significant investment in road infrastructure to facilitate private car transport primarily it would be more beneficial to prioritise investment in walking, cycling and public transport infrastructure.

Galway City is a car-dominated city. Galway City Council has engaged consultants to prepare a public realm strategy for the city centre which should improve the environment for pedestrians within the city centre. These measures should be extended to those areas within the city to make it more attractive for people to walk to work, education and to avail of services. Pedestrians should be given priority over motor transport at junctions and crossings

There are limited cycle routes in Galway and those that there are not designed to best international practice so as to make it safe, comfortable and attractive for people of all ages to cycle. A significant investment in greenways linking Oranmore, Claregalway, Moycullen and Barna to Galway City together with an extensive network of safe cycle routes in the city and a distribution of safe and secure cycle parking would achieve a significant modal shift from car-based transport to cycling. Cycle parking could be substituted for cars in the parts of the many city centre car parks.

More bus lanes with bus priority at junctions would facilitate more frequent and reliable bus services which would make bus transport much more attractive to commuters. Together with a necklace of Park & Ride facilities, appropriately located on the outskirts of the city, this would achieve a significant shift to bus transport.

A modest investment in a passing loop at Garraun Railway Station would facilitate more frequent trains that would make rail a more attractive option for commuters.

All of the above measures would make a positive contribution to the reduction of CO₂ emissions and represent positive climate action. These measures would also reduce NO_x and particulate matter emissions with consequent health benefits.

None of these measures would prohibit the construction of a Ring Road at a future date. If these measures were sufficiently successful in achieving a significant modal shift to sustainable transport modes it might mean that a less costly Ring Road would be required or, perhaps, none at all.

On the launch of IPCC Special Report the IPCC stated that ““Limiting global warming to 1.5°C would require rapid, far reaching and unprecedented changes in all aspects of society”. The construction of the GCRR does not represent an unprecedented change – it is rather “business as usual” which will make no contribution to limiting global warming to 1.5°C but is more likely to contribute to an increase in global warming.

Building the GCRR will not achieve Minister Richard Bruton’s stated ambition of Ireland becoming a leader in responding to climate change but will help ensure that Ireland remains a “laggard” as described by An Taoiseach, Leo Varadkar, TD.

Secretary General Robert Watt acknowledged that ““To achieve the decarbonisation that the International Panel on Climate Change thinks is necessary, will require changes to society on a scale not seen since the industrial revolution.” Building the GCRR does not represent the changes that Robert Watt acknowledged will be necessary. It will merely represent “business as usual”.

The European Commission, in their communication ‘A Clean Planet for All’, emphasised that “Immediate and decisive climate action is essential” to address the established global warming trend. The construction of the GCRR would not represent “immediate and decisive climate action” but would be “business as usual”.

Prioritising investment immediately in walking, cycling and public transport infrastructure would represent “immediate and decisive climate action” and would accord with Recommendations (viii) and (x) in the Third Report and Recommendations of the Citizens’ Assembly.

Submission in relation to Ardaun LAP lands

I now address the Ardaun LAP lands specifically and the impacts of the GCRR on them.

Background to the Ardaun LAP lands

The 'Ardaun corridor' was identified in the Galway Transportation and Planning Study (GTPS), more than 20 years ago, as the location to accommodate significant growth in Galway City's population. The 'Ardaun corridor' includes lands which are in Galway City Council's and Galway County Council's functional areas. The Ardaun LAP covers the lands within Galway City Council's functional area.

In 1996 Galway County Council and Galway Corporation commissioned Colin Buchanan and Partners in association with Ryan Hanley and Company to carry out a study aimed at defining the best transport arrangements to cater for their development plans and for the Region's general growth. The study period covered the period up to 2016.

There is an extract in Appendix A of this submission from the Minutes of Special Meeting of Galway City Council on the 08/10/1999 at which representatives of Colin Buchanan & Partners gave a presentation to Councillors and officers of the County Council on the GTPS. It is commendable that the GTPS *"proposed that as much development as possible should be concentrated in a new, self-sufficient, public transport served corridor - the Ardaun corridor. The Ardaun corridor was selected as an excellent site likely to be attractive to residents, close to new jobs and capable of being laid out in a way which would encourage walking, cycling and the use of public transport."*

The M6/N6

It is most regrettable that in December 2009 the M6/N6 motorway was driven through the 'Ardaun corridor' and the Coolagh roundabout constructed. It effectively split the 'Ardaun corridor' in two and separated the two parts from each other ecologically, socially and economically. The alignment of the M6/N6 approximates the alignment of the "public transport corridor" which was provided for in the GTPS to serve the Ardaun corridor.

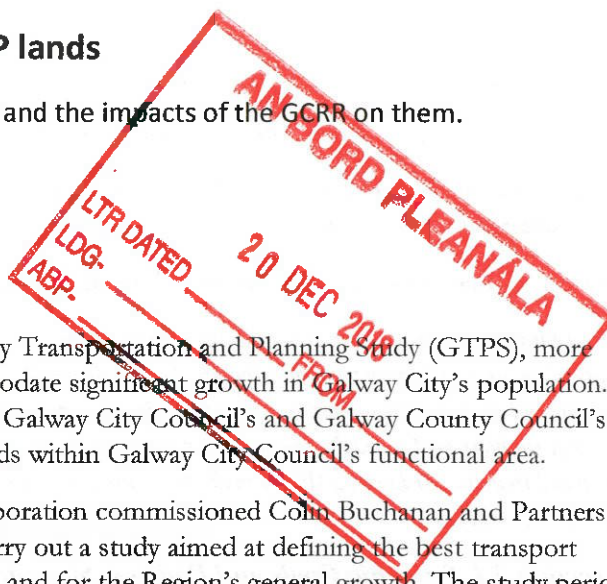
The Ardaun Local Area Plan 2018-2024

Engineers Ireland West Region was invited by Galway City Council to make a submission on the Pre-Draft Public Consultation on the Ardaun LAP for the lands in the 'Ardaun corridor' that are within the City Council's functional area and it did so in October 2014. Serious concerns were expressed in the submission about both internal and external connectivity.

The Engineering the West Team, a sub-committee of Engineers Ireland West Region, made a submission on the Draft Ardaun LAP in October 2017. The submission advocated for the development of a truly sustainable urban village. The Team expressed serious concerns about internal connectivity within Ardaun itself and external connectivity to the major employment clusters and other services and amenities nearby. A copy of the Executive Summary is included in Appendix B to this submission.

The Engineering the West Team made another submission on the Proposed Material Alterations to the Draft Ardaun LAP in February 2018 in which the Team again expressed concerns about connectivity and sustainable transport. A copy is enclosed with this submission.

The Ardaun LAP 2018-2024 was adopted by Galway City Council in April 2018. It recognised the presence of the M6/N6 motorway corridor and the reserved lands for the GCRR route corridor.



The following are extracts from the adopted Ardaun LAP which relate to sustainable transport.

Section 1.1 Overview contains the following statement:

“A central focus of the LAP is to create a new community and business district within the city, incorporating sustainable densities underpinned by the accommodation of sustainable transport modes, supporting facilities and services.”

Section 1.3 Policy Context contains the following statement:

“This aspiration is paralleled by a need to deliver safe, vibrant places for people to live in, places that foster an improved quality of life and well-being for people through place-making and design. The Ardaun LAP is an opportunity to respond to this ideal and to encourage a more sustainable model of plan-led urban development and growth management. Ardaun is one of the key enablers for Galway’s regional and national role identified in the NPF. In line with the policies in the NPF, it is anticipated that the Ardaun LAP can make provision for the needs of a community and create an environment where car dependency is reduced.”

In section 3.1, Strategic Goals and Policies, Strategic Goal 4 states as follows:

“Facilitate the development of an urban village that is well connected, walkable and accessible and that is so designed to encourage the use of sustainable transport modes.

This strategic goal supports the development of a connected, walkable, pedestrian and cycle friendly urban village with good connectivity to the existing transport network. Public and sustainable transport connections to the city centre in particular, are key to supporting the community.

These are proposed in both the City Development Plan and the Galway Transport Strategy (GTS). In addition, sustainable transport connections to nearby adjoining hubs of activity and amenities such as Parkmore, Ballybrit, Doughiska and Merlin Park are envisaged.

Within Ardaun a network of streets and spaces providing safe and convenient access to home, work, school and essential services will foster sustainable patterns of movement, thereby reducing the reliance on the private car.”

Section 5.2 Key Site Objectives and Associated Guiding Principles

Ardaun South including Village Centre

Land Parcels 1 - 9

General Guiding Principles

“Create a strategic, safe and attractive pedestrian and cycle network with high levels of legibility and permeability, affording direct links to the village centre, nodes, public transport routes and the wider area in particular, the City Centre, Parkmore, Merlin Woods City Park and Garraun Train Station.”

Transport

“Incorporate car parking standards and management that reflect the land use strategy and GTS to reduce the need, distance and time taken to travel in conjunction with the promotion of cycling, walking and use of public transport. This will allow for flexibility to reduce the number of car parking spaces provided in association with uses where it can be shown that sufficient opportunities exist for choices in transport modes relative to primary destinations.

In order to provide for a coherent sustainable movement strategy and to maximise development capacity on the LAP lands the following enabling infrastructure is important. It is anticipated that these measures will be delivered on a phased basis in conjunction with relevant stakeholders and developers.”

Three of those measures referred to above include:

- *“Facilitate a pedestrian-cycle bridge over the existing M6/N6 to accommodate linking Ardaun north and south by such modes.”*

- “Develop a primary cycle and pedestrian network with supporting infrastructure robust enough to allow for ease of access to amenities, facilities, services and employment opportunities and flexible enough to adapt and extend access to likely future destinations.”
- “Investigate in the context of the GTS and an Area Based Transport Assessment (ABTA), opportunities for a public transport crossing of the N6/M6.”



Implications of the proposed GCRR for the Ardaun LAP lands

Sustainable Transport

It is submitted that the GCRR as proposed has negative implications for the Ardaun LAP lands as follows;

The development as proposed will effectively cut off Ardaun South from Ardaun North. It will also increase the severance between Ardaun South and Doughiska.

- There is no provision made for a public transport, cycling and pedestrian crossing of the M6/N6 in a North-South direction aligned with the Primary Cycle/Pedestrian Network identified in the Ardaun LAP. The Ardaun LAP envisaged a pedestrian-cycle bridge over the existing M6/N6 and provided for investigating, in the context of the GTS and an Area Based Transport Assessment, opportunities for a public transport crossing of the M6/N6. See Figure 20 & Figure 23
- There is no provision made for a pedestrian and cycling crossing of the R446 in an East-West direction aligned with the Primary Cycle/Pedestrianised Network identified in the Ardaun LAP. The Ardaun LAP envisaged such a crossing. See Figure 20 & Figure 23

Unless these crossings are available to the residents of Ardaun South on first occupation it is likely to become a car dependent development, contrary to the aims and objective of the Ardaun LAP.

- It will add to traffic congestion on the surrounding roads,
- It will contribute to increased CO₂ emissions and
- It will discourage the adoption of active travel modes, walking and cycling with consequent negative impacts for health and wellbeing.
-

The **National Planning Framework** includes the following national strategic outcomes:

“National Strategic Outcome 5

Develop a comprehensive network of safe cycling routes in metropolitan areas to address travel needs and to provide similar facilities in towns and villages where appropriate.”

National Strategic Outcome 7

Enhanced Amenities and Heritage

“Attractive places include a combination of factors, including vitality and diversity of uses, ease of access to amenities and services supported by integrated transport systems and green modes of movement such as pedestrian and cycling facilities.”

“Implementation of planning and transport strategies for the five cities and other urban areas will be progressed with a major focus on improving walking and cycling routes, including continuous greenway networks and targeted measures to enhance permeability and connectivity.”

Area Based Transport Assessment

It is understood that Galway City Council has engaged consultants to prepare an Area Based Transport Assessment (ABTA) for the Ardaun LAP lands. The ABTA has not been published yet. The findings of the ABTA need to be taken into account by An Bord Pleanála in its consideration of this application.

Climate Change

In January 2018 An Taoiseach admitted, after a speech to the European Parliament, that “As far as I am concerned, we are a laggard. I am not proud of Ireland’s performance on climate change,” he said. This was in the context of the Climate Change Performance Index 2018 which singled out Ireland as the worst performing country in Europe for taking concrete action to tackle climate change.

More recently the Climate Change Performance Index (CCPI) 2019 concludes existing climate mitigation efforts in reducing carbon emissions “will not enable Ireland to achieve either its EU 2020 or 2030 targets”.

The CCPI 2019 states that Ireland is “still rated as the worst-performing EU country in the CCPI.”

SEAI’s Energy in Ireland 2018 Report states that “transport accounted for the largest share of energy-related CO2 emissions, with a share of 39% in 2017, up from 33% in 2005.” The Report found that “Private car energy consumption fell by 1.7% in 2017 to 2,087 ktoe and accounted for 41% of transport energy use.”

The SEAI Report also noted that “Private car use accounted for almost two-thirds (63%) of road transport, with goods vehicles accounting for almost another one-third (33%), and public passenger services the rest (4%).”

If Ireland is to achieve its 2030 targets the dominance of private car use and its huge contribution to Ireland’s CO2 emissions must be addressed. Achieving a modal shift to walking, cycling and public transport must be achieved. It is stated in the **National Cycle Policy Framework** that “Transportation infrastructural designs need to be cycling friendly. Cycling-friendly means that routes taken by cyclists are safe, direct, coherent, attractive and comfortable.”

It needs to be made safe, convenient, attractive and comfortable for people in Ardaun to choose walking, cycling and public transport to go to work, education, shopping and leisure pursuits. There needs to be direct routes to the major employment centres in Parkmore and Ballybrit to encourage people in Ardaun to walk or cycle to work in those areas. This will require a cycle/pedestrian crossing of the N6/M6/GCRR.

There needs to be a direct route to the services available at Doughiska and Briarhill, to the schools in Doughiska until the schools are built in Ardaun, to the employment centres in Merlin Park Hospital, GMIT and to third level education in GMIT. This will require a cycle/pedestrian crossing of the R446.

It should be made easier for people to choose to walk or cycle than to use their cars for short journeys or to avail of public transport for longer journeys. Ardaun should be a place where it is a realistic option for people to live without being dependent on cars.

Health and Wellbeing

Active Travel

It is recognised that ‘active travel’, walking and cycling, can contribute to people living active lives with associated health benefits. The Institute of Public Health in Ireland publication, ‘Active travel – healthy lives’, January 2011, sets out comprehensively the health and economic benefits of ‘active travel’. Ireland is suffering a child and adult obesity epidemic and ‘active travel’ can make an important contribution to addressing that.

The National Planning Framework also addresses health and wellbeing as follows:

Healthy Communities

“Our health and our environment are inextricably linked. Specific health risks that can be influenced by spatial planning include heart disease, respiratory disease, mental health, obesity and injuries. By taking a whole system approach to addressing the many factors that impact on health and wellbeing and which contribute to health inequalities, and by empowering and enabling individuals and communities to make healthier choices, it will be possible to improve health outcomes, particularly for the next generation of citizens.”

“National Policy Objective 26

Support the objectives of public health policy including Healthy Ireland and the National Physical Activity Plan, through integrating such policies, where appropriate and at the applicable scale, with planning policy.”

“National Policy Objective 27

Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages.”

“Ireland’s future homes will:

- be located in places that can support sustainable development - places which support growth, innovation and the efficient provision of infrastructure, are accessible to a range of local services, can encourage the use of public transport, walking and cycling, and help tackle climate change;”*

Noise

It is not apparent that the impact of traffic noise from the GCRR development on homes within the areas zoned residential within the Ardaun LAP lands has been assessed.

Air Quality

It is now accepted that many of the major car manufacturers have been engaged in cheating emission tests. It is not apparent whether it is the car manufacturer’s grossly understated emissions that have been taken into account in the assessment of the impact on air quality or the real world emissions.

It is not apparent that the impact of the traffic on the GCRR development on air quality within the Ardaun LAP lands has been assessed. “The transport sector, which mainly consists of road transport, is the principal source of NO_x emissions, contributing approximately 41% of the total in 2016.”

Section 9.4 Creating a Clean Environment for a Healthy Society of the National Planning Framework includes the following:

“Air Quality

Air pollution can have negative implications for the health of our citizens and the attractiveness of cities and towns. Measures which seek a reduction in fossil fuel based energy sources will further reduce air pollution. Implementation of this Framework will assist in reducing emissions and help prevent people being exposed to unacceptable levels of pollution by supporting public transport, walking and cycling as more favourable modes of transport to the private car.....”

“National Policy Objective 64

Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.”

APPENDIX A

Extract from Minutes of Galway County Council Special Meeting 08/10/1999

[http://gccapps.galwaycoco.ie/ArchivedDocuments/Galway%20County%20Council,%20Minutes,%20GC-1/GC-1-41,%2025%20Jun%201999%20-%20201%20Sept%202000/GC-1-41%20\(c\)%2008%20Oct%20-%202010%20Sept%201999.pdf](http://gccapps.galwaycoco.ie/ArchivedDocuments/Galway%20County%20Council,%20Minutes,%20GC-1/GC-1-41,%2025%20Jun%201999%20-%20201%20Sept%202000/GC-1-41%20(c)%2008%20Oct%20-%202010%20Sept%201999.pdf)

“Malcolm Buchanan and Peter Lutman from Colin Buchanan and Partners gave a presentation on the Galway Transportation & Planning Study. Malcolm Buchanan was the first speaker. He told the Council that due to the unprecedented growth in the Galway Region over the past ten years it is necessary to Plan in order that the region can cope with the increasing economic prosperity. The growth has put a strain on amongst other things the public transport services. Acting together in 1996 Galway County Council and Galway Corporation commissioned Buchanan and Partners in association with Ryan Hanley and Company to carry out a study aimed at defining the best transport arrangements to cater for this development plan and for the regions general growth. The study area covers Galway City and its hinterland, an area of about 30 kilometers radius including Rossaveel, Oughterard, Headford, Tuam, Athenry, Loughrea and Gort. The study period covers the period up to 2016 and includes an investment strategy up to 2006.

Mr. Buchanan said that due to increased incomes there is an increase in car ownership which leads to the traffic congestion in Galway City. The study showed that people use cars primarily because they are more convenient than public transport.

Available Transport Systems

Mr Buchanan listed walking, cycling, buses, rail, taxis and roads as the available transport systems. He explained that the bus network is over complicated and offers a poor service. The disused rail network would be expensive to bring back into service. The roads system is of variable quality. Most congestion occurs during the peak periods and within the Corporation area. Outside this area the worst congestion tends to occur on the radials during peak periods e.g. at Loughrea, Claregalway and on the R336.

The Scale of New Development 1996-2016

Mr Buchanan explained that the population of the region is forecast to grow by 31,000 between 1996 and 2016 which will result in an increase of land take for housing, industry and recreation up to 75 hectares per annum

Location and form of New Development

Over 950 hectares of land have already been allocated for development in the current statutory Development Plans. If all this land is used for housing it will be difficult to serve by bus and therefore result in more car dependency.

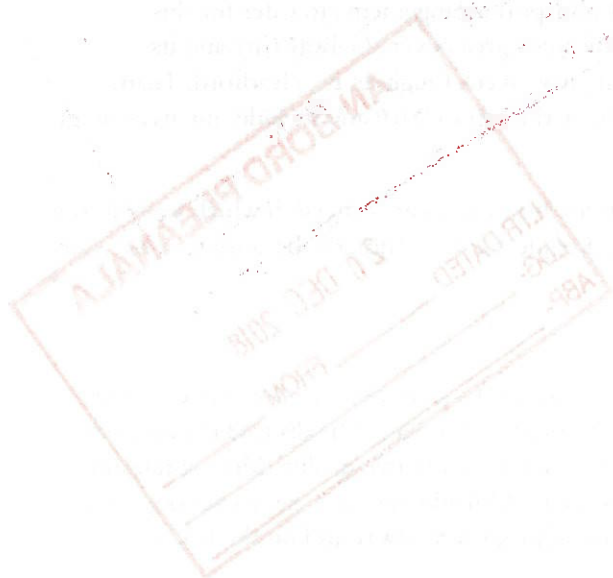
The Ardaun Corridor

Six alternative ways of locating the new development land within the region were considered and compared. As a result it is proposed that as much development as possible should be concentrated in a new, self-sufficient, public transport served corridor - the Ardaun corridor. The Ardaun corridor was selected as an excellent site likely to be attractive to residents, close to new jobs and capable of being laid out in a way which would encourage walking, cycling and the use of public transport. Adjacent to the site are development areas likely to be attractive to inward investors. It is anticipated that the Ardaun corridor could accommodate about 40% of the growth or 6,700 new homes between 1996 and 2016. The Ardaun corridor will be laid out around a public transport spine so that there is a good alternative to the car for local trips to work, school and shops and for travel to the city centre. It will be designed as a self-contained community which will at the same time complement and reduce the pressure on Galway city centre. It is also proposed that the largest concentration of new jobs should be in a 25 hectare business

part at the western end of the Ardaun corridor, a new rail freight terminal and the existing or relocated airport. Within the Ardaun Corridor every house will be within 300 metres of a bus stop and connected to it by a network of footpaths. A network of cycleways will link housing to jobs, shops and schools. Schools will be located to serve neighbourhoods thus minimising the distances to be travelled and encouraging walking and cycling.

Galway City

In addition to the Ardaun corridor, the expansion of the rest of Galway City is expected to amount to 2,800 homes."



APPENDIX B

Engineering the West Team's submission to Galway City Council on the Draft Ardaun LAP, October 2017

Executive Summary

The Engineering the West Team strongly recommends that Galway City Council formally consider whether it should aspire to transforming Galway City into a truly sustainable city. The future prosperity of the people of Galway depends on that.

If it so decides, we recommend the adoption of a sustainability framework for all future development of Galway City based on Bioregional's ten One Planet Living principles which is already in use in many parts of the world to achieve sustainable urban development. A step change in the way the city operates will be required. See the attached link to the ten One Planet principles:
<http://www.bioregional.com/wp-content/uploads/2017/10/One-Planet-Principles-guide-Jan-2017.pdf>

Our strong preference is for developing infill sites, centre city regeneration and developing other brownfield sites in the city, in accordance with Bioregional's One Planet Living framework, prior to undertaking new development on the periphery, further reinforcing the core and bringing new life to it, taking advantage of its walkability and cyclability and its established public transport hubs.

We recommend that Galway City Council pro-actively engage with the people of Galway in developing an ambitious, inspiring vision for Na hArdáin (not the anglicised Ardaun). Foróige, in particular, representing our young citizens today and future residents of Na hArdáin, should be actively encouraged to become involved in developing that vision for a truly sustainable urban village.

Taking account of the One Planet Living Principles, we put forward below our vision for Na hArdáin. We consider the vision expressed in the draft LAP to be uninspiring.

A 21st century, compact, connected, smart, resource efficient, liveable and living urban village in which people, of all ages and economic circumstances, can aspire to work and live life-long, active, healthy, happy lives as part of a vibrant, resilient, safe, socially connected community where they are inspired to live their lives sustainably using no more than their fair share of the earth's resources.

We have a number of very serious concerns about the proposed development of Na hArdáin and these need to be addressed at the outset before any decision is made to proceed with the development:

- We have serious concerns about internal connectivity within the part of Na hArdáin that is located in Galway City Council's functional area because it is severed in two by the N6 dual carriageway. The intrusion into "Ardaun North" by the tongue that is the Cúil Each/Coolagh protected village settlement is a further significant constraint to an integrated sustainable development within this part. It virtually divides "Ardaun North" in two.
- We have real concerns about external connectivity between Na hArdáin and major employment clusters nearby at An Pháirc Mhór/Parkmore and Baile an Bhriotaigh/Ballybrit, and other services such as Briarhill Shopping centre and Retail Park, the various retail services in Dabhach Uisce and the Clayton Hotel, and amenities such as Merlin Park Woods, given that it is bounded to the west by R446/N6 dual carriageways, to the south by the R446 dual carriageway, to the north by the heavily trafficked Monivea Road (R339) and, as is anticipated, may be bounded on the north-west side by the future Galway City Ring Road. "Ardaun North" in particular is bounded already on two sides by dual carriageways, on the third side by a heavily trafficked Monivea Road and in future

may even be further isolated by the proposed Galway City Ring Road. This will rule out connectivity for pedestrians and cyclists and make access and egress difficult by car and public transport.

- The LAP must contain a commitment that the National Transport Authority will ensure that appropriate public transport services are available as soon as the first homes are occupied.
- The LAP must contain a commitment that Transport Infrastructure Ireland will ensure an overpass of the N6 to connect “Ardaun North” and “Ardaun South” and an overpass of the R446 to enable the first residents to cycle and walk to their destinations.
- Infrastructure must first be put in by Galway City Council/Irish Water/Transport Infrastructure Ireland, not individual developers, of whom there may be many. That infrastructure must include cycle paths and foot paths, pedestrian/cyclist bridges, bus routes and bus shelters designed to encourage residents to choose to use these modes of transport in preference to cars, high speed ‘fibre to the home’, a dedicated electricity micro-grid and district heating as well as the usual infrastructure.
- Lessons must be learnt from the unsustainable developments carried out under previous Galway City Development Plans. We are very concerned about how developments off Bóthar Dhabhach Uisce have been carried out in recent years which are totally at variance to what represents sustainable development.

We recommend that Galway City Council take note of the findings and conclusions in the report published in 2008 by PRP Architects Ltd entitled ‘Beyond Eco-towns – Applying the Lessons from Europe – Report and conclusions’ (<http://www.prparchitects.co.uk/our-work/research/research-publications/2008/beyond-eco-towns.html>).

North West Bicester in Oxfordshire is being planned to accommodate 6,000 homes. This is less than twice the “3,385 units” envisaged for Na hArdáin. The first phase of 393 highly energy efficient homes in Elmsbrook, known as the Exemplar, commenced in April 2014. The first residents moved in in 2016. It has been awarded Bioregional’s One Planet Living status. The development includes a school, a pub and a community centre. In August 2017 Cherwell District Council commenced the construction of a new zero carbon business centre to accommodate up to 125 office workers supported by European Regional Development Funding. We strongly recommend that Galway City Council look to this as an exemplar for the development of Na hArdáin – see the following link:

<http://nwbicester.co.uk/the-first-phase/introducing-exemplar/>

Engineering the West Team's

Submission to

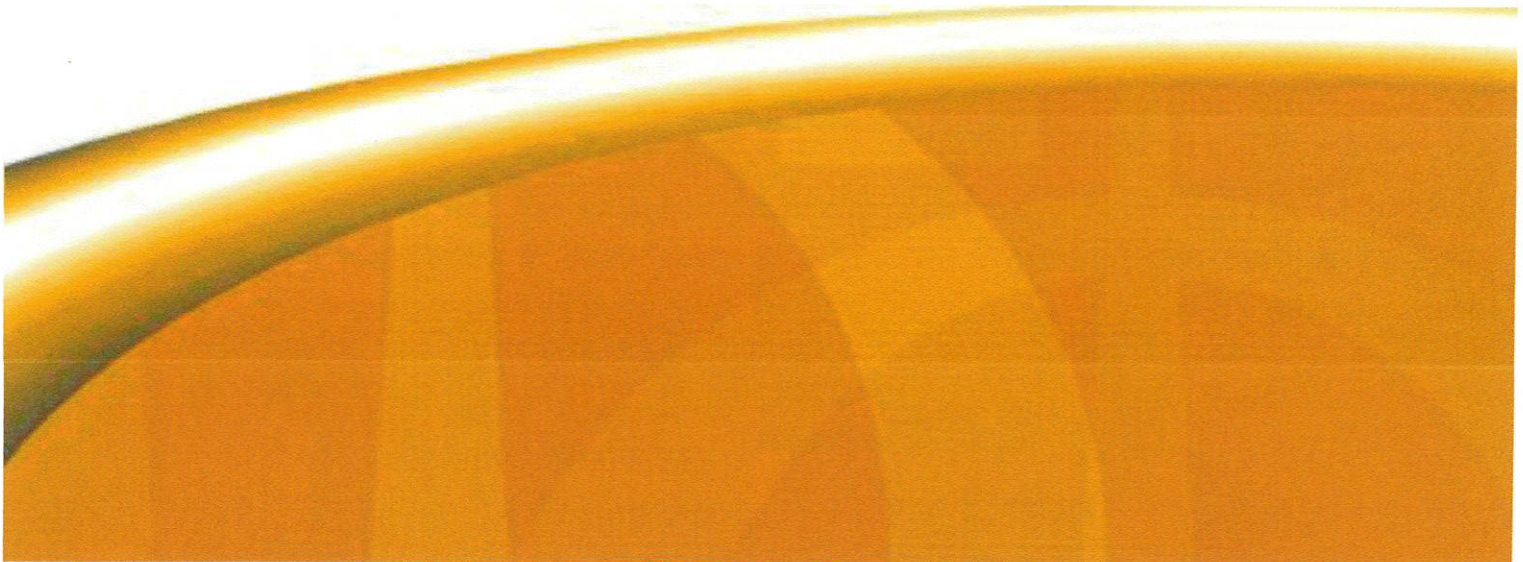
Galway City Council

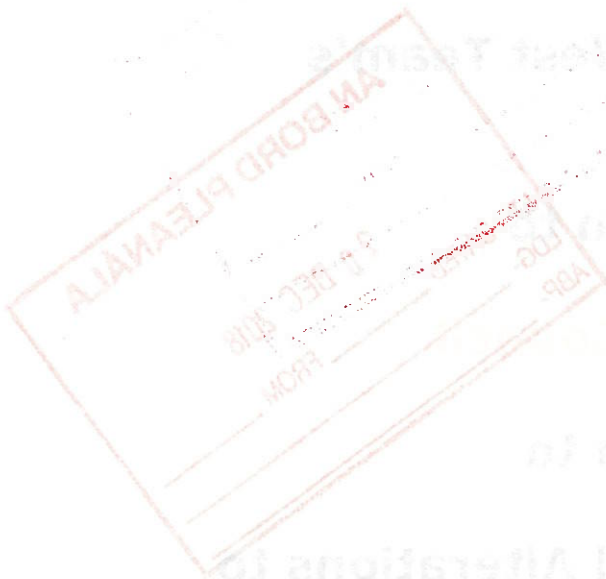
in relation to

**the Proposed Material Alterations to
the Draft Ardaun Local Area Plan 2018-2024**



February 2018





February 2018



Material alteration No. A1.1

We welcome this proposed material alteration.

Material Alteration No. A1.2

The purpose of this proposed material alteration is to take account of the Draft National Planning Framework (NPF), Ireland Our Plan 2040, which was published after the preparation of the Draft Ardaun LAP.

We submit that, given that the Project Ireland 2040, National Planning Framework was published on the 16th February 2018, this proposed material alteration is no longer relevant. It is our opinion that the Draft Ardaun LAP needs to be reviewed in full now to ensure that it is consistent with the recently published Project Ireland 2040, NPF.

Material Alteration No. A4.1

Noted – no comment?

Material Alteration No. A4.2

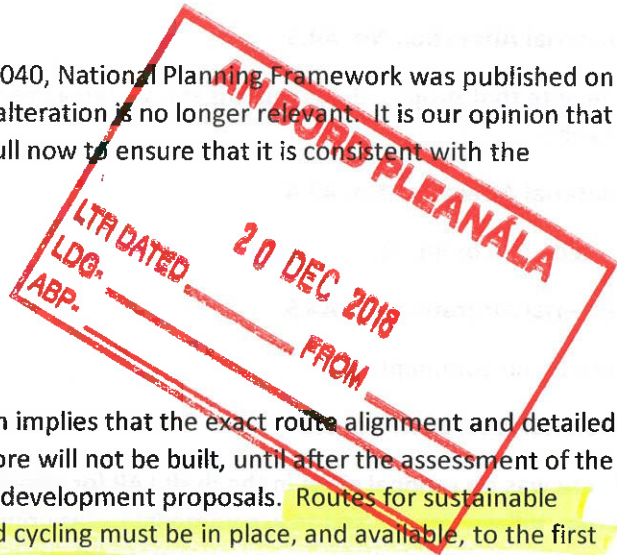
The wording of this proposed material alteration implies that the exact route alignment and detailed route design will not be established, and therefore will not be built, until after the assessment of the merits of an unspecified number of, or even all, development proposals. Routes for sustainable transport and particularly routes for walking and cycling must be in place, and available, to the first residents of Ardaun prior to first occupation of their new homes.

We submit that this approach is not environmentally, socially or economically sustainable, is not in accordance with the NPF and, consequently, is not acceptable!

We quote from Transport Infrastructure Ireland's (TII) submission on the draft LAP in which it sets out its serious concern which is also a serious concern for the Engineering the West Team:

"TII notes that the Draft Plan appears to defer delivery of objectives and phasing of development and infrastructure provision to the development management process. Deferring significant decisions such as delivery of required physical infrastructure to the assessment of individual planning applications has the potential to result in the piecemeal and uncoordinated development of this highly important strategic development opportunity for the City."

It must be possible for the first residents of Ardaun to access the main employment centres such as Parkmore and Ballybrit by walking or cycling or public transport. As it is proposed to develop Ardaun South first the pedestrian/cycle link bridge and footpaths and cycle paths through both Ardaun South and Ardaun North lands will have to be in place to enable the first residents of Ardaun to walk or cycle to Parkmore for instance. As regards availability of bus services, there will be access to the 404 Bus route at the Galway Clinic. This route goes to the city centre. The service is only every 60 minutes currently. To access the 409 Route, running from the city centre to Parkmore, would require residents of Ardaun to cross the dual carriageway. Alternatively, residents of Ardaun would have to take the 404 bus, get off at the first stop on the old Dublin Road, cross the road and wait for a 409 bus. While this first stop on the old Dublin Road might be within walking distance of the first residents in Ardaun South they would have to negotiate the Martin Roundabout which is not safe for pedestrians or cyclists. If a significant wait is involved the journey time will not be attractive. This will encourage unsustainable car ownership and use which could be avoided if appropriate facilities



to walk and cycle are in place before first occupation. It is clear from Transport Infrastructure Ireland's submission on the draft LAP that it shares our concern:

"Development proposals proceeding in advance of required associated transport interventions, such as public transport, cycling and walking facilities, et., can result in an additional car based trip demand on the road network."

Material Alteration No. A4.3

We note that proposed bus route is still shown along Merlin Lane. We don't consider this to be feasible.

Material Alteration No. A4.4

Noted - no comment.

Material Alteration No. A4.5

Noted - no comment.

Material Alteration No. 5.1

There was no rationale given in the draft LAP for selecting the proportion of approximately 70% of the Urban Village Centre land to accommodate uses primarily of a residential nature and again there is no rationale included in this proposed material alteration for increasing that proportion to 80%. We submit that the rationale should be clearly stated.

Material Alteration No. A5.2

We welcome this proposed material alteration subject to high quality architectural design of the residential units and a high quality public realm.

Material Alteration No. A 5.3

We are concerned that the decision not to specify a breakdown of unit types and tenures may be taken advantage of by developers with undesirable consequences. We submit that an indicative breakdown should be provided with ranges that would still provide some flexibility over the period of the Local Area Plan. It is critical that provision is made for an appropriate number of social and affordable homes throughout Ardaun.

Rather than stating "It is anticipated that Ardaun will accommodate all tenure types" we submit that this should be written more positively as follows:

"Ardaun will be required to accommodate all tenure types to support a balanced community."

We welcome the inclusion of the Projected Household Composition for the city for the years 2023 and 2026 as a guide.

We also welcome the revised Indicative ranges for Residential Unit delivery?

We welcome the inclusion of the Minimum Space Standards for houses taken from Quality Housing for Sustainable Communities – Design Guidelines (DEHLG 2007).

There have been too frequent changes to the minimum standards for apartments already and there are further changes proposed currently.

Material Alteration No. A5.4

We welcome this proposed material alteration.

Material Alteration No. A5.5

Noted - no comment.

Material Alteration No. A5.6

This proposed material alteration implies that exact route alignment and detailed route design will not be established, and therefore not built, until after the assessment of the merits of an unspecified number, or even all, of development proposals. Routes for sustainable transport and particularly routes for walking and cycling must be in place, and available, to the first residents of Ardaun prior to first occupation of their new homes.

This is not environmentally, socially or economically sustainable, is not in accordance with the NPF and, consequently, is not acceptable!

Material Alteration No. A5.7

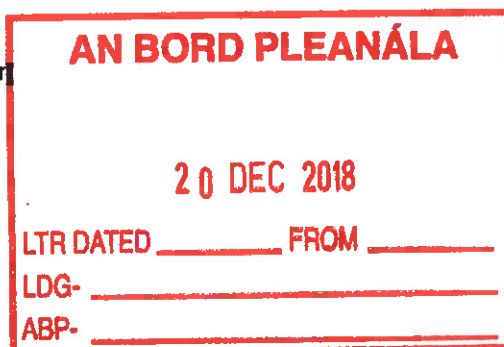
We welcome this proposed material alteration

Material Alteration No. A5.8

Noted - no comment.

Material Alteration No. A5.9

Noted - no comment.



Material Alteration No. A6.1

It appears to us that an Area Based Transport Assessment should have informed the preparation of the draft LAP.

There is no reference as to what guidelines or standards will guide the proposed Area Base Transport Assessment. We submit that any Area Based Traffic Assessment should conform with the NRA's Traffic and Transport Assessment Guidelines, May 2014 which supplement the DoECLG's Spatial Planning and National Roads – Guidelines for Planning Authorities, January 2012 and that this be clearly stated in the proposed material alteration. These guidelines purport to represent current best practice.

The assessment should look to the future when there may be a population in excess of 12,621 (from one of the Tables included in proposed Material Alteration No. A5.3) in Ardaun North and South alone, not to mention a significantly larger population when that part of Ardaun within Galway County Council's functional area is developed.

We submit that a Transit Oriented Development (TOD) approach should be considered, focusing the residential developments within walking distance of the stops/stations on a BRT or LRT system as part of the Area Based Transport Assessment.

The following is a link to a "TOD Guide for Urban Communities" for your information

http://www.wriroscities.org/sites/default/files/TOD_Guide_Urban_Communities_English_EMBARQ.pdf

Material Alteration No. A6.2

We are at a loss to understand why it is proposed to replace "Responsibility" with "Stakeholder(s)". The agencies responsible for the provision of "Enabling Infrastructure" should be identified in the LAP. We submit that we are all "stakeholders". Galway City Council and Galway County Council are certainly "stakeholders" when it comes to enabling Infrastructure for all the lands in Ardaun. If the enabling infrastructure is not in place before the first residents of Ardaun occupy the residential units the opportunity to create a community based on sustainable transport will be lost. We submit that it is critical that the agency/agencies responsible for the timely delivery of enabling infrastructure are identified.

We submit that the heading of the third column of the table should remain as "Responsibility"

Material Alteration No. SEA.1

Noted - no comment

AN BORD PLEANÁLA

5 DECEMBER 2018

LTR DATED _____ FROM _____

LDO _____

ABP _____