[redacted]

From: [redacted]
Sent: 13 March 2019 10:22
To: [redacted]
Subject: FW: DfI Rivers - Guidance on the preparation of LDP policies for flood risk management

[redacted]

Please see below for information, the Council is contacted twice in the thread, the first in July and the second in September 2018.

[redacted]

From: Moore, John S. (DfI Rivers)
Sent: 27 September 2018 13:34
To: Sharon Mulhern (CC&G) <sharon.mulhern@causewaycoastandglens.gov.uk>; O'KaneD@BelfastCity.gov.uk; 'Lois.Jackson@lisburncastlereagh.gov.uk'; 'Michael.Francey@midandeastantrim.gov.uk'; 'sharon.mossman@antrimandnewtownabbey.gov.uk'; 'hilda.clements@fermanaghomagh.com'; 'Helen.Stoops@armaghbanbridgecraigavon.gov.uk'; 'leona.maginn@ardsandnorthdown.gov.uk'; 'andrew.Hay@nmandd.org'; 'Sinead.McEvoy@midulstercouncil.org'; 'Proinsias.McCaughey@derrystrabane.com'
Cc: Morhall, Walter <Walter.Morhall@infrastructure-ni.gov.uk>; McKee, Jonathan <Jonathan.McKee@infrastructure-ni.gov.uk>; Rush, Danielle <Danielle.Rush@infrastructure-ni.gov.uk>; Bagnall, Suzanne <suzanne.bagnall@infrastructure-ni.gov.uk>
Subject: FW: DfI Rivers - Guidance on the preparation of LDP policies for flood risk management

Dear All

Further to Walter's e-mail of 10 July 2018 (below), please note that DfI Rivers would like to work in partnership with you on the development of your forthcoming LDPs. We are happy to provide expert advice on you emerging flood risk management policies.

Should you wish to discuss any aspects of your LDP, please contact Walter or I at your convenience.

Regards

John

John Moore

Planning Advisory and Modelling Unit
DfI Rivers
44 Seagoe Industrial Estate
Craigavon
Co Armagh
BT63 5QE

[redacted]

From: Morhall, Walter
Sent: 10 July 2018 13:47
To: 'O'KaneD@BelfastCity.gov.uk' <O'KaneD@BelfastCity.gov.uk>; 'Lois.Jackson@lisburncastlereagh.gov.uk' <Lois.Jackson@lisburncastlereagh.gov.uk>; 'Michael.Francey@midandeastantrim.gov.uk' <Michael.Francey@midandeastantrim.gov.uk>; 'sharon.mossman@antrimandnewtownabbey.gov.uk' <sharon.mossman@antrimandnewtownabbey.gov.uk>; Sharon Mulhern (CC&G)

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Cc: Moore, John S. (DfI Rivers) <John.Moore@infrastructure-ni.gov.uk>; McKee, Jonathan <Jonathan.McKee@infrastructure-ni.gov.uk>
Subject: DfI Rivers - Guidance on the preparation of LDP policies for flood risk management

Dear all

Further to email from John Moore, dated 28th June 2018 in relation to the above, should any of your staff wish to discuss further, could they contact me at walter.morhall@infrastructure-ni.gov.uk or by phone at 028 3839 9110 to arrange a convenient time and location to meet.

Regards

Walter Morhall

Department for Infrastructure, Rivers
Planning Advisory Unit
44 Seagoe Industrial Estate
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[redacted]

Department for
Infrastructure
An Roinn
Bonneagair
www.infrastructure-ni.gov.uk

DfI Rivers

Guidance on the preparation of LDP policies for flood risk management

JUNE 2018

IN1/18/382650

DfI Rivers Guidance on the preparation of local operational planning policies for flood risk management.

Introduction

Under the reformed two-tier planning system introduced in April 2015, Councils have considerably enhanced planning powers, including responsibility for the preparation of new Local Development Plans (LDPs). These reforms significantly enhance local democratic accountability and provide a new planning system that- is more responsive to the priorities and needs of local people.

Whilst Councils have flexibility to bring forward operational policies tailored to local circumstances obviously these will have to be drawn up bearing in mind regional planning policy. In preparing LDPs Councils must take account of the RDS 2035, the Sustainable Development Strategy for Northern Ireland, the SPPS and any other policies or advice in guidance issued by the Department.

It is recognised that LDPs prepared by Councils are a fundamental tool in the implementation of central government policies and strategic objectives on flood risk, climate change etc. It is therefore of critical importance that LDPs provide robust local operational policies and guidance that align with the policies and advice of DfI in relation to flood risk (and climate change).

Furthermore, the Department's 'North West Flooding Review Report' on the unprecedented flooding event which occurred in August 2017, highlights the importance of having and applying robust planning policies that take appropriate consideration of flood risk both in terms of preparing new local policy through LDPs and when taking decisions.

https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/north-west-flooding-review-2018.pdf

Councils are encouraged to engage with the Department to assist them in bringing forward future development and flood risk policies that are robust and integral elements of their new LDPs.

Purpose of this guidance

The purpose of this guidance is to assist Councils with the drafting of sound operational planning policies to be included within the Local Development Plan. While it is material to the preparation of Local Development Plans, it is not intended to inform the consideration of planning applications and will therefore have little operational weight. As such, this guidance will not be subject to public consultation or published but will be provided to Councils by DfI in its capacity as a statutory consultation body in the preparation of the Council's Local Development Plan. This document provides essential background information and definitions. It also highlights the key considerations that should be taken into account to ensure that robust local operational planning policies are formulated and the reasons why these policy considerations are important. The application of this guidance will be monitored and content will be kept under review.

The guidance recognises that Councils have the flexibility to formulate robust local flood risk management policies that meet their local needs and align with the policy provisions of the SPPS. However, Planning Policy Statement 15 (Revised) 'Planning and Flood Risk' (PPS 15) contains robust flood risk management policies that have been proven to work well since its introduction in 2006. DfI Rivers considers that these policies are seen as exemplar across the United Kingdom and Ireland. These policies are closely replicated (in a strategic way) in the Strategic Planning Policy Statement for Northern Ireland. The provisions of the SPPS apply to the whole of Northern Ireland. They must be taken into account in the preparation of LDPs and are material to all decisions on individual planning applications and appeals.

The following table sets out the recommended approach to flood risk policy formulation.

Recommended Approach to Local Flood Risk Policy Formulation

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
Avoiding development in Fluvial (River) and Coastal Flood Plains	Development not permitted in flood plains	Development will not be permitted within the 1 in 100 year fluvial flood plain (AEP of 1%) or the 1 in 200 year coastal flood plain (AEP of 0.5%) unless the applicant can demonstrate that the proposal constitutes an exception to the policy (see Table 1).	Avoiding development in flood plains is the most cost-effective and sustainable method of managing flood risk. Flood plains store and convey water during times of flood. These functions are important in the wider flood management system. New development within a river flood plain will not only be at risk of flooding itself, but it will add to the risk of flooding elsewhere. The cumulative effect of piecemeal development within a river flood plain can also redirect flows and will also undermine its natural function in accommodating and attenuating flood water. Accordingly, to minimise flood risk and help maintain their natural function it is necessary to avoid development within flood plains. The situation with coastal flood plains differs from the above, in that in certain limited circumstances (SPPS paragraph 6.109 refers) infilling in the coastal flood plain is permitted as it will have a negligible effect on its extent and therefore much less likely to cause flooding elsewhere. **Refer to:** **Key Consideration 1 - The Precautionary Approach** **Key Consideration 6 - Flood storage and flood plain infilling.**	6.107 6.109

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
Avoiding development in Fluvial (River) and Coastal Flood Plains	Development permitted within flood plains only by exception	Where the principle of development is accepted by the planning authority through being an exception to policy as detailed in Table 1, the applicant is required to submit a Flood Risk Assessment for all proposals. Planning permission will only be granted if the Flood Risk Assessment demonstrates that a) All sources of flood risk to and from the proposed development have been identified; and b) There are adequate measures to manage and mitigate any increase in flood risk arising from the development.	It is recognised that in certain exceptional circumstances development in a flood plain may be justified. The exceptional circumstances deemed to be acceptable by DfI Rivers are detailed in **Table 1** **Granting an exception is the sole responsibility of the Council.** **DfI Rivers reserves the right to advise against granting an exception if it considers that flood risk to the proposed development and elsewhere cannot be adequately managed and mitigated.** **Refer to:** **Key Consideration 6 - Flood Plain Storage and Infilling**	6.107 & 6.111
Avoiding development in Fluvial (River) and Coastal Flood Plains	Development Proposals of Overriding Regional or Sub-Regional Economic Importance	A development proposal within the floodplain that does not constitute an exception to the policy may be permitted where it is deemed to be of overriding regional or sub regional economic importance and meets both of the following criteria. • Demonstration of exceptional benefit to the regional or sub-regional economy; • Demonstration that the proposal requires a location within the flood plain and justification of why possible alternative sites outside the flood plain are unsuitable. Where the principle of development is established through meeting the above criteria, the Council will steer the development to those sites at lowest flood risk. The applicant is required to submit a Flood Risk Assessment for all proposals.	It is recognised that in certain exceptional circumstances development in a flood plain may be justified. It is the responsibility of the Council to ensure that both criteria are met and then to steer the development to those sites at lowest flood risk. **Refer to:** **Key Consideration 6 - Flood Plain Storage and Infilling**	**6.107 & 6.111**
Avoiding development in Fluvial (River) and Coastal Flood Plains	Minor Development	Minor development will be acceptable within defended and undefended flood plains subject to a satisfactory flood risk assessment.	**Minor development is defined in Footnote 32 of SPPS.** Minor development such as non residential extensions with a footprint less than 150 sq. metres, alterations to buildings and householder development will generally negligible effect on flood risk.	6.107 & 6.111

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
			The detail and complexity of the FRA should be commensurate with the size and complexity of the development.	
Avoiding development in Fluvial (River) and Coastal Flood Plains	Unacceptable Flood Protection / Management Measures	The following flood protection and management measures proposed as part of the planning application, in order to facilitate development within flood plains, **will not be acceptable**: 1 - new hard engineered or earthen bank flood defences; 2 - flood compensation storage works (Note - such works may be acceptable in limited circumstances); 3 - land raising (infilling) to elevate a site above the flood level within the undefended fluvial flood plain.	1 – New flood defences cause loss of flood plain storage, increase in flood risk elsewhere, potentially putting more people at risk of flooding (where there was no such risk previously) and residual risk. **Refer to:** **Key Consideration 3 - Residual Risk.** **Key Consideration 4 - Significant Intensification.** **Key Consideration 6 - Flood storage and flood plain infilling.** **Key Consideration 8 – Design Flood Standard.** 2 - **Key Consideration 7 - Compensatory Flood Storage** provides an explanation as to why flood plain compensation works may be acceptable in limited circumstances. 3 – Land raising causes loss of flood plain storage which will increase flood risk elsewhere. **Refer to:** **Key Consideration 6 - Flood storage and flood plain infilling.**	Bullet point 3 - 6.109. Bullet points 1 & 2 - 6.110.
Acceptable development in defended areas.	Development in brown field defended areas.	Subject to an Exception being granted by the Council (see **Table 1, Exception D1**), previously developed land protected by existing flood defences, either cored earthen flood banks or hard engineered walls, constructed to the appropriate standard and height, will generally be considered acceptable for development. DII Climate Change guidance provides details of the freeboard allowances required for flood defences.	Such development should not expose significantly more people to flood risk. Table 1 lists 5 Exclusions to Exception D1. **Exclusions 1 to 5** detail the types of development that **should not be permitted** in defended areas and in each instance gives the reason(s) why this should be the case. **Refer to:** **Key Consideration 3 - Residual Risk.** **Key Concept 4 - Significant Intensification.** **Key Consideration 8 – Design Flood Standard.**	

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
Acceptable development in defended areas.	Presumption against development in green field defended areas.	Proposed policies should contain a presumption against development of green field sites in defended areas.	As well as exposing more people and property to the residual flood risk, this form of development could remove valuable flood storage should the defences overtop or breach. **Refer to:** **Key Consideration 3 - Residual Risk.** **Key Consideration 4 - Significant Intensification.** **Key Concept 6 - Flood storage and flood plain infilling.** **Key Consideration 8 – Design Flood Standard.**	-
Acceptable development in defended areas.	Council to direct development to minimise flood risk.	Subject to an Exception being granted by the Council for development in brown field defended areas (see **Table 1, Exception D1**), it is the role of the Planning Authority to direct developers to use the areas of least risk.	Development close to flood defences will be resisted as such land will often be low lying and therefore the most susceptible to flooding. Also, it may need to be available for temporary flood storage in a flood event. The Council has a responsibility to direct developers to use the areas of least risk. DfI Rivers will provide advice on this if consulted by the Council. Before progressing proposals in proximity to flood defences, developers are advised to seek guidance from DfI Rivers on acceptable separation distances.	-
Acceptable development in flood plains.	Development in coastal flood plain.	Proposed policies could permit new development in the undefended coastal flood plain in specific, limited circumstances. Such development should not result in additional flood risk elsewhere in the coastal flood plain. In order to minimise the potential incidence of coastal erosion to the development (or elsewhere as a result of it), particularly in areas of 'soft' coastline, development should only be permitted within settlements where a built footprint will have already been established. Such proposals will need to satisfy normal planning criteria such as access, service provision and acceptable visual and amenity impacts. Importantly, such development should not generate a present or future need for flood defences nor should it exacerbate problems of coastal erosion in	Infilling and land raising to an appropriate level above the flood plain will have a negligible effect on the extent of the coastal flood plain, now or in the future, taking account of anticipated climate change.	6.109

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
		susceptible areas.		
Acceptable development in flood plains.	Replacement buildings in flood plains or defended areas.	Refer to **Table 1, Exception U1.** Replacement of an existing building may be considered on the basis that this should not normally result in any material increase in the flood risk to the development or elsewhere. Suitable flood proofing measures through resistance and resilience construction should be used. There should be a presumption against development where proposals include essential infrastructure, storage of hazardous substances, bespoke accommodation for vulnerable groups or development located close to flood defences. Proposals involving significant intensification of use should be considered on their individual merits and will be informed by the Flood Risk Assessment.	The replacement of a building to provide bespoke accommodation allowing for the introduction of vulnerable groups to the flood risk area is unacceptable. Similarly, replacement of a building to accommodate essential infrastructure will be unacceptable as continual access and egress for operational activities will no longer be possible when the area has been cut off during a flood event. A replacement proposal which involves significant intensification of use, for example through increasing the existing footprint or change of use, will be resisted if this would have the effect of introducing more people to a high flood risk area.	Partially covered by 6.108 & Figure 1.
Acceptable development in flood plains.	Amenity and recreation – General Policy	Refer to **Table 1, Exception U4.** Proposed policies should permit provision of areas for amenity open space, sports, outdoor recreation and nature conservation purposes in flood plains where justified by an acceptable flood risk assessment. **Children's playgrounds should not be permitted in flood plains as such proposals would have the effect of exposing a vulnerable group to flood risk.** Ancillary development such as changing facilities and job-related accommodation for caretakers and staff ***(but excluding clubhouses and social facilities)*** may be acceptable where justified by the flood risk assessment. The use of synthetic sports surfaces should be resisted. Where this would increase the flood risk to the site or elsewhere, it should	Proposed policies should allow for the provision of areas for amenity open space, sports, outdoor recreation and nature conservation purposes on the basis that such areas are not generally occupied and are unlikely to incur major damage as a result of flood inundation. In some circumstances, it may be possible to incorporate flood alleviation measures to the benefit of the wider community e.g. Connswater Community Greenway in Belfast. Changing rooms are intermittently occupied and can be made resilient against flooding i.e. if they flood, they can be brought back into service quickly and with minimum cost. Clubhouses and social facilities may be occupied for extended periods by many people. Flooding can put these people at risk. Post-flooding repairs can be protracted and expensive. Synthetic sports surfaces may increase the flood	Partially covered by 6.108 & Figure 1.

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
		also be noted that such materials are prone to damage through flooding.	risk to the site or elsewhere. It should also be noted that such synthetic surfaces are prone to damage by flooding and repair can be very expensive or impossible.	
Acceptable development in flood plains.	Amenity and recreation FRA and mitigation	Even though these amenity and recreation areas are intermittently occupied, proposals will be required to demonstrate by means of a Flood Risk Assessment: 1 - Adequate mitigation measures to ensure there is no increase in flood risk elsewhere. 2 – Provision of adequate flood warning procedures and 3 - safe means of evacuation from the site. Open space areas in the undefended flood plain should be suitably contoured to avoid ponding and to allow for the quick recession of flood water.	It is important to consider the safety of the users of such facilities and that the proposed development does not increase flood risk elsewhere.	
Acceptable development in flood plains.	Use of public open space for flood storage.	Where a proposal for residential development includes land adjacent to or partially within a flood plain, it will normally be acceptable to utilise the flood plain land for public open space associated with the housing. This will only be acceptable where no there is no infilling of the flood plain and suitable mitigation measures such as signage are in place to facilitate safe access and egress.	It is important to consider the safety of using the open space and that the proposed development does not increase flood risk elsewhere.	
Acceptable development in flood plains.	Publically funded and constructed flood defences	New hard engineered or cored earthen bank flood defences, publically funded and constructed, are seen as a necessary and acceptable flood mitigation method to protect existing property that is already in the flood plain and is liable to repeated flooding and resulting damage.	Publically funded and constructed flood defences are provided for the wider benefit of society to alleviate flooding problems only in circumstances where there is a positive benefit to cost ratio. Such works are not used to facilitate commercial or private development. New hard engineered or earthen bank flood defences, proposed by the applicant, will not be seen as justification to allow development in the flood plain to proceed. This is because the defences will remove valuable flood storage from the flood plain, which may put other locations at increased flood risk, and also introduce people to an area where the threat of residual flooding by overtopping or collapse will always remain.	

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
			Refer to: **Key Consideration 6 – Flood storage and Flood Plain Infilling.**	
Flood Management and Mitigation Measures for all development in flood plains	Flood Risk Assessment	Where, by exception or overriding need, built development is acceptable in principle in the flood plain, then a Flood Risk Assessment (FRA) is required.	DfI Rivers will publish a FRA specification. A FRA must demonstrate the measures that shall be taken to manage and mitigate the identified risks. These measures will be proportionate to the flood risk and generally will be more rigorous in undefended areas than in defended areas where the flood risk is lesser.	6.111
Protection of Flood Defence and Drainage Infrastructure	Development should not impede effectiveness of flood defence and drainage infrastructure.	Proposed policies should not permit development that would impede the operational effectiveness of flood defence and drainage infrastructure or hinder access to enable their maintenance.	Where a new development proposal is located near a flood defence, control structure or watercourse it is essential that it should not compromise the function of that structure or the ability to maintain it. **Key Consideration 11 - Maintenance Requirements for Flood Defence and Drainage Infrastructure details the necessary requirements in this area.**	6.123
Protection of Flood Defence and Drainage Infrastructure	Presumption against building over the line of a culvert	Proposed policies should contain a general presumption against the erection of buildings or other structures over the line of a culverted watercourse in order to facilitate replacement, maintenance or other necessary operations.	Constructing buildings over culverts could cause structural problems in both the building and the culvert. Structural damage to the culvert could increase flood risk to the building and elsewhere. Constructing buildings over culverts could cause problems when carrying out maintenance or effecting repairs. **Refer to:** **Key Consideration 11 - Maintenance Requirements for Flood Defence and Drainage Infrastructure**	6.123
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Thresholds for provision of a Drainage Assessment.	A Drainage Assessment will be required for all development proposals that exceed any of the following thresholds: • A residential development comprising of 10 or more dwelling units; • A development site in excess of 1 hectare; • A change of use involving new buildings and / or hard surfacing exceeding 1000 square metres in area.	DfI Rivers will publish a Drainage Assessment Specification. Development with the associated increase in impermeable surfaces increases the amount of surface water runoff which can lead to surface water flooding to both the proposed development and elsewhere if not properly addressed at design stage.	6.114

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
			The purpose of a Drainage Assessment is to consider these risks and provide appropriate mitigation. **Refer to:** **Key Consideration 9 - Surface Water Flooding**	
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Additional criteria for a Drainage Assessment.	A Drainage Assessment will also be required for any development proposal, except for minor development, where: • The proposed development is located in an area where there is evidence of a history of surface water flooding. • Surface water run-off from the development may adversely impact upon other development or features of importance to nature conservation, archaeology or the built heritage.	It is important not to exacerbate existing surface water flooding problems or increase flood risk elsewhere. Unrestricted additional run-off due to development of a site discharging to a watercourse will increase flows and may increase flood risk downstream. A Drainage Assessment will be required when evidence of drainage problems is presented to the Planning Authority, even if the development does not meet the above criteria for a Drainage Assessment. **Refer to:** **Key Consideration 1 – The Precautionary Approach** **Key Consideration 9 - Surface Water Flooding**	6.114
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Drainage Assessment must demonstrate adequate mitigation.	Development should only be permitted where it is demonstrated through the Drainage Assessment that adequate measures will be put in place so as to effectively mitigate the flood risk to the proposed development and from the development elsewhere.	Adequate mitigation measures are required not to exacerbate existing surface water flooding problems or increase flood risk elsewhere.	6.114
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Developer's responsibility to assess and mitigate flood risk.	Where a Drainage Assessment is not required by policy but there is potential for surface water flooding as indicated by the surface water layer of the Flood Maps (NI), it is the developer's responsibility to assess the flood risk and drainage impact and to mitigate the risk to the development and any impacts beyond the site.	Even if a proposed development does not meet the above criteria for a Drainage Assessment, it is the Developer's responsibility to take into account flooding from all sources including surface water.	

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Fluvial and/or coastal flood risk takes precedence.	Where the proposed development is also located within a fluvial or coastal flood plain, then the fluvial and/or coastal policies will take precedence.	Fluvial and Coastal flooding pose a higher risk and thus should take precedence over surface water flooding.	6.115
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Council to consult with DII Rivers	In assessing the need for a drainage assessment the Council may consult with DII Rivers. This may be necessary in order to establish whether there is evidence of a history of surface water flooding at a particular location. Consultation will also be carried out as necessary in appraising the drainage assessment. This is necessary not only to assess the adequacy of the proposed control and mitigation measures in the context of the policy, but also to afford the opportunity for such bodies to assess the impact of the measures upon their infrastructure.	Only DII Rivers has the necessary knowledge and skills to advise on, and assess Drainage Assessments.	
Development and Surface Water (Pluvial) Flood Risk Outside Flood Plains	Long term maintenance of mitigation measures.	Where a Drainage Assessment for a proposal is acceptable, the Planning Authority will need to be satisfied that suitable arrangements are in place in regard to the long term management and maintenance of the infrastructure on which mitigation depends.	Many mitigation measures require regular maintenance and if that is not provided they will quickly become ineffective thus increasing flood risk to the development and elsewhere.	6.113 (partially)
Artificial Modification of Watercourses	Only in exceptional circumstances.	The Council will only permit the artificial modification of a watercourse, including culverting or canalisation operations, in either of the following exceptional circumstances:	Artificial modification of a watercourse, including culverting or canalisation operations should be resisted as such works can have a significant adverse impact on the environment and can increase flood risk. **Refer to:** **Key Consideration 10 - Problems associated with culverting and artificial modification of watercourses**	6.125
Artificial Modification of Watercourses	Culverting for access	• Where the culverting of short length (maximum 10 m) of a watercourse is necessary to provide access to a development site or part thereof;	... The length and number of access culverts should be kept to a minimum.	6.125

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
Artificial Modification of Watercourses	Culverting for engineering reasons	• Where it can be **demonstrated to the satisfaction of DfI Rivers** that a specific length of watercourse needs to be culverted for engineering reasons and that there are no reasonable or practicable alternative courses of action.	Based on past experience, DfI Rivers has found many instances where the reasons offered for culverting watercourses could not be considered to be "valid engineering reasons". Accordingly DfI Rivers requests that the specific wording "to the satisfaction of DfI Rivers" is included in any proposed policy	6.125
Development in Proximity to Reservoirs	New Development	Paragraphs 6.119 to 6.122 of the Strategic Planning Policy Statement for Northern Ireland (SPPS) set out the planning policy for development in proximity to controlled reservoirs (refer to "**Definitions**"). To achieve robust policies, DfI Rivers recommends the following minor additions to the SPPS.	Reservoirs constitute a potential source of flood risk that can have serious consequences. Flooding of downstream areas within what is known as the area of inundation may ensue if the structure fails or is overtopped. Downstream flooding may also arise from the controlled release of water from the reservoir, for example via spillways during periods of high flows due to weather conditions. This is normal practice to avoid capacity exceedance and overtopping. In any of these circumstances there is potential for rapid inundation of downstream areas and response times to flooding are likely to be short. This is especially the case where reservoir failure triggers land slips resulting in a sudden uncontrolled release of water. There are two main considerations when determining planning applications for development within the inundation area of a controlled reservoir: 1. Condition assurance – With regard to proposed new development the Planning Authority must be assured that the condition, management and maintenance regime of the reservoir are appropriate regarding reservoir safety. 2. A Flood Risk Assessment - This, among other things, considers the depth and velocity of flood water at the proposed development site in the event of a dam failure and the measures proposed by the applicant to mitigate the depth and velocity of the flood water.	6.119 to 6.122 provides full coverage

Key Policy Objective	Key Policy Issue	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
			Refer to: **Key Consideration12 – Implications of development within the flood inundation area of Controlled Reservoirs.**	
Development in Proximity to Reservoirs	Replacement Buildings	A proposal for the replacement of an existing building within the potential flood inundation area downstream of a controlled reservoir must be accompanied by a Flood Risk Assessment. Planning permission should be granted provided it is demonstrated that there is no material increase in the flood risk to the development or elsewhere.	This is a simple addition to the SPPS.	

Technical definitions and why they are important.

To create robust flood risk management policies it is important that there are clear and unambiguous definitions of technical terms. Where definitions are inadequate or absent this creates the opportunity for alternative interpretations which may lead to weakened policies that could potentially result in increased flood risk to people and property. Technical terms are defined in Table 2 of the Annex.

Key Considerations

Introduction to Key Considerations

In preparing your Local Development Plan (LDP), the Council may wish to consider the following:

1 - The Precautionary Approach
2 – The DfI Rivers flood maps, Flood Maps (NI) change and evolve over time
3 - Residual Risk
4 - Significant Intensification
5 - Flooding and Climate Change
6 - Flood storage and flood plain infilling
7 – Compensatory Flood Storage
8- Design Flood Standard.
9 - Surface water flooding
10 - Problems associated with culverting and artificial modification of watercourses.
11 – Maintenance Requirements for Flood Defence and Drainage Infrastructure
12 - Implications of development within the flood inundation area of controlled reservoirs
13 - Consideration of hydro-electric power generation schemes

The detailed policies within PPS 15 (and the strategic provisions of the SPPS) are proven to work and DfI Rivers considers that these policies are seen as exemplar

across the United Kingdom and Ireland. The above key considerations are at the heart of policies in PPS 15 and the SPPS. It is vitally important that future Local Plan Policies take full account of these key considerations. Not to do so would be a significant backward step that will put more people and property at risk of flooding and could potentially result in a LDP being unsound.

The Key Considerations are presented in this guidance in order to promote understanding of flood risk management and to support the preparation of comprehensive and robust flood risk management policies in LDPs.

Key Considerations

1 - The Precautionary Approach

Paragraph 6.102 of SPPS states "The Regional Development Strategy 2035 (RDS) ... urges the planning system to adopt a precautionary approach to development in areas of flood risk and the use of the latest flood risk information that is available in order to properly manage development"

2 – The DfI Rivers flood maps, Flood Maps (NI) change and evolve over time

From a policy perspective, the extent of flood plains is as defined on Flood Maps (NI) (reference: SPPS Paragraph 6.106 Footnote 31 on page 63).

SPPS Paragraph 6.104 states "The regional strategic objectives for the management of flood risk are to .... ensure that the most up to date information on flood risk is taken into account when determining planning applications and zoning / designating land for development in Local Development Plans".

Flood Maps (NI) is an interactive map-viewer that enables the public to access the latest flood hazard information available from government.

Flood Maps (NI) can be viewed at: https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni

Flood Maps (NI) highlights the areas throughout Northern Ireland that are prone to flooding and its potential adverse impacts.

The map is designed to:

- Help us and others to plan and manage our work to reduce flood risk.
- Encourage people living and working in areas prone to flooding to find out more and take appropriate action.
- Inform anyone applying for planning permission if flooding is likely to be an important consideration.

Flood Maps (NI) contains indicative flood maps for rivers, coastal and surface water flooding, with both present day and future climate change mapping for each. Flood Maps (NI) also contains details of previously recorded flood events.

The flood maps on Flood Maps (NI) are regularly reviewed and updated for a variety of reasons such as improved understanding of flooding mechanisms after a flood event, improved data sets, improved software and other technical reasons. In addition to this, Flood Maps (NI) is reviewed and updated on a six-yearly cycle to meet the requirements of the Floods Directive.

This results in a series of small incremental changes that are not regionally significant, but may have the potential to affect determination of individual planning applications.

It is important that Councils are aware that the predicted flood extents depicted on Flood Maps (NI) may change, possibly several times, over the duration of a LDP.

3 - Residual Risk

When developing flood risk policy, it is important to recognise that whilst a flood defence system is designed to reduce the risk of flooding, it does not prevent it completely and therefore a residual risk remains. Flood defences are designed to protect land from a specific height of flood water such as a 100 year fluvial or 200 year coastal flood event. The possibility of a flood greater than this occurring and

overtopping the defences (the residual flood risk) will always remain. Residual risk is that which remains after all risk avoidance, substitution and mitigation measures have been implemented, on the basis that such measures can only reduce risk, not eliminate it.

In addition, the potential for structural collapse and breaching of the defences remains and could result in sudden and rapid inundation of flood water. There is also potential for back drainage systems to become overwhelmed as they are unable to discharge effectively when water levels remain high during flood conditions. In all such circumstances flood water within defended areas is likely to become trapped by the defences, resulting in longer term impacts and may require evacuation and pumping or other engineering solutions to remove.

Because of this residual flood risk, any proposed policy contained within your LDP should place restrictions on the location and/or type of development relative to flood defences:

- **Vulnerable groups**

Development proposals involving bespoke accommodation for vulnerable groups should be resisted. Flood warning and evacuation procedures may be difficult to implement for people with disabilities or those whose mobility is otherwise impaired, therefore their risks of injury or fatality are somewhat greater than for the general population. Accordingly, because of the residual flood risk, any proposed policy should operate a presumption against permission being granted for development associated with vulnerable groups. This includes facilities such as children's nurseries, schools, residential care / nursing homes, sheltered housing and hospitals. This list is not exhaustive.

- **Essential Infrastructure**

Development proposals for essential infrastructure, such as for emergency services / emergency depots, power supply and telecommunications should be resisted because access and uninterrupted operation cannot be guaranteed in locations where there is a residual flood risk.

- **Hazardous materials and potential pollutants**

Development proposals involving the storage and processing of hazardous materials and potential pollutants which may be likely to give rise to significant levels of environmental pollution in the event of damage caused by flooding should be discouraged because of the residual flood risk in defended areas. Therefore when preparing policy, Councils may wish to reinforce that proposals for development associated with the storage of hazardous substances, fuel storage depots, sewage treatment works or other development likely to give rise to environmental pollution in the event of flooding should only be granted planning permission where it is demonstrated that an alternative lower risk location is not available and that adequate provision is made for pollution containment so as to prevent a pollution incident in the event of flooding.

- **Significant Intensification**

Because of residual risk, development involving a significant intensification of use should be resisted.

4 - Significant Intensification

A typical example of significant intensification is the conversion of a single dwelling unit or commercial/industrial premises to a number of dwellings. Such intensification of use exposes more people to the residual flood risk in defended areas.

However, whilst such development is not desirable in the context of flood risk, this factor must be balanced against other material considerations, including the provisions of other subject policies within the SPPS that may support higher density development in urban areas. Accordingly, as there is no precise definition or quantification of significant intensification, the Council may wish to stress that each application will be determined on its individual merits taking account of the scope for mitigation of the residual flood risk.

DfI Rivers will generally advise against significant intensification as it will expose more people to flood risk.

5 - Flooding and Climate Change

There is an almost universal acceptance amongst leading scientists and governments that climate change caused by human activity is taking place. World-wide, there is much research taking place to try and establish the impact of climate change and how it will affect our world.

Flooding is part of the natural cycle of rivers and the sea. The primary causes of flooding are many and varied and sometimes involve a complex interaction of several contributory factors. Flooding is mainly weather-driven, but can be exacerbated by infrastructure deficiencies and inappropriate development. At present, climate change is not the primary cause of flooding. Councils may however wish to highlight that climate change is a factor that will exacerbate flooding. As climate change has an increasing impact on weather systems over time, it will have more impact on flooding in the future.

6 - Flood storage and flood plain infilling

Paragraph 6.109 of SPPS states "Land raising (also known as infilling), which involves permanently elevating a site to an acceptable level above the fluvial flood plain in order to facilitate development will not be acceptable within the fluvial flood plain, where displacement of flood water would be likely to cause flooding elsewhere".

A flood plain is part of the natural topography of a river system. Its purpose is to occasionally store and convey flood water. River flood plains have a finite capacity to store flood water and this is known as "flood storage".

Councils should be aware that if any built development was to occur in a flood plain, this will cause piecemeal reduction of the volume of flood storage available. This has the effect of displacing flood water which will cause or exacerbate flooding elsewhere. Development in river flood plains can also cause damage to river channels and structures due to increased flow velocities and it also has the potential to impair the conveyance function of the flood plain and its ecological integrity.

For these reasons, and also the need to limit exposure of people and property to flood risk, draft policies should resist built development and infrastructure works, particularly on green field flood plain sites.

The situation for development in the coastal flood plain differs, permitting infilling in certain circumstances. Paragraph 6.109 of SPPS continues: "Such operations within the coastal flood plain will have a negligible effect on its extent and therefore much less likely to cause flooding elsewhere. Land raising to facilitate development at an appropriate level above the coastal flood plain may therefore be possible. However, this should normally be restricted to settlements and proposals will need to satisfy normal planning criteria such as access, service provision and acceptable visual and amenity impacts. Importantly, such development should not generate a present or future need for flood defences nor should it exacerbate problems of coastal erosion in susceptible areas".

7 – Compensatory Flood Storage

Compensatory flood storage is a means of mitigating the loss of flood plain storage caused by development i.e. flood plain in-filling.

However, compensatory flood storage must become effective at the same point in a flood event as the lost storage would have done. It should also provide the same volume, and be at the same level relative to flood level, as the lost storage. This requirement is often referred to as "level for level" or "direct" compensation.

If the compensatory storage is provided at another level it will already be full (if lower) or still be empty (if higher), when the storage is required, and the characteristics of flood storage at this location will, therefore, be altered. For this reason, the compensatory flood storage must be created adjacent to and be hydraulically connected with the area of development.

Compensatory flood storage should only be acceptable as a mitigation measure after the proposed development has been deemed an Exception to the Policy and the principle of development has been established. When developing policy, it is

important to emphasise that compensatory flood storage should not be used to justify or facilitate development in the flood plain.

A typical example of where compensatory storage may be acceptable is on strategic road improvement schemes such as the A5, A6, A8 and A26.

8- Design Flood Standard

The SPPS defines a river flood plain as the extent of the areas flooded in a 1 in 100 year return period flood (1 in 200 year return period flood for coastal).

It is not uncommon for floods to exceed these return periods. In recent years there have been a number of river floods in Northern Ireland that have been greater than 1:100 years, sometimes by a considerable margin (as was the case in the August 2017 flooding in the North West).

A 1 in 200 year or 1 in 250 year return period flood is a more severe event than a 1 in 100 year flood and it will result in a larger volume of flood water across a wider area which generates higher flood levels. Councils should recognise that there is no linear relationship between a flood's return period and flood levels. Every river's characteristics are different and topography, development and blockages can have a significant impact on flood levels.

In adopting the definition of a flood plain, as detailed in the SPPS, society and government are identifying what could be considered to be an acceptable balance between development need and managing flood risk economically. It is important that policy makers realise that this threshold can be and has been exceeded. Therefore when drafting policy, Councils may wish to make clear that appropriate exceedance measures should be considered by a competent designer. A typical example of exceedance measures is the use of open space for flood storage.

Refer also to the definition of freeboard, climate change and Key Consideration 3 - Residual Risk and Key Consideration 5 – Flooding.

9 - Surface water flooding

Pluvial or surface water flooding occurs as a result of high intensity rainfall which overwhelms natural or man-made drainage systems resulting in water flowing overland and ponding in depressions in the ground. It is a particular problem in urban areas which are often dominated by non-permeable surfaces (e.g. roofs, roads and car parks). Such development inhibits the natural run-off process, often by removing opportunities for surface water storage and restricting infiltration of water into the ground. Surface water runoff and flooding has increased steadily with the expansion of urban areas, the infilling of green spaces and the cumulative effects of minor development such as house extensions and the paving of gardens to provide for patios and car parking.

All of these factors have combined to intensify surface water runoff and place additional pressures on the drainage network, particularly during prolonged periods of high intensity rainfall. It is not uncommon for drainage systems to be overwhelmed during such rainfall events, particularly where blockages occur. The problem is exacerbated in many areas by an outdated drainage infrastructure that has not been upgraded to cope with the rate of development. However, even modern urban drainage systems are designed only to cope with a 1 in 30 year rainfall event while older parts of the network will invariably be operating to a much lower standard.

Damage from pluvial flooding has been a major factor in recent significant flood events in Northern Ireland. In recent flood events it is estimated that up to 80% of the respective total economic damages were attributable to surface water flooding. Although generally localised, this type of flooding may be extended in duration through water being trapped in low lying areas, thus causing more damage to property and greater hardship to the people affected. A flood event caused by an artificial drainage system surcharge can also pose public health risks through foul water contamination.

Areas of predicted surface water flooding and where there is a history of surface water flooding are detailed on the Planning Portal and Flood Maps (NI). Flood Maps (NI) can also assist developers in identifying broad locations where surface water flooding could be a potential problem.

Flood Maps (NI) indicates that approximately 20,000 or 2.5% of the properties in Northern Ireland are sited in an area that is shown to be at risk of flooding from a 1 in 200 year (0.5% AEP) pluvial event greater than 300 mm deep, albeit that many of these properties would already be at risk from fluvial and / or coastal flooding. As a consequence of the predicted increase in the frequency and intensity of extreme rainfall events due to climate change, urban areas are susceptible to an increasing risk of this type of flooding.

10 - Problems associated with culverting and artificial modification of watercourses

A culvert is defined as an enclosed structure that channels water with integral sides, soffit and invert, including a pipe that contains a watercourse as it passes through or beneath a road, railway, building, embankment etc., or below ground.

The artificial modification of watercourses is likely to have impacts which run contrary to the objectives of sustainable development as embodied in the Water Framework Directive, the Floods Directive and the Northern Ireland Sustainable Development Strategy.

Culverting and canalisation are generally considered to be environmentally unsustainable as such operations can adversely impact upon visual amenity in the built environment and can damage or impair the landscape quality, ecological integrity and biodiversity of watercourses. Culverting creates barriers to the passage of fish, while the higher flow velocities generated cause the unnatural movement of sediment, increased erosion downstream and hinder the future recovery of the watercourse.

Whilst culverting may in some instances alleviate local flood risk, it can increase flood risk downstream by the accumulation of higher flows. The installation of protective grilles at culvert inlets may reduce the incidence of blockages within the culvert, but can often become blocked themselves and cause flooding as a result of a high intensity rainfall event or lack of maintenance. Culverting therefore does not completely remove the potential for local flooding.

All new development should aim to be in harmony with the water environment. Good layout and design should promote the retention of open watercourses as a central amenity feature, although re-alignment or diversion to enhance the quality of the site layout will normally be acceptable where there are no overriding environmental concerns. Incorporating watercourses into the open space requirements for new residential development will be preferred to locating them to the rear of properties where they are difficult to maintain or can become dumping grounds contributing to flood risk. Councils may wish to reinforce that where possible the removal of culverts and the re-introduction of the natural watercourse should be encouraged.

Councils should be aware that the adoption of sustainable drainage solutions (SuDS) for the disposal of storm water may be a much more sustainable alternative than culverting or other options involving the artificial modification of watercourses. The use of SuDS source control solutions such as ponds and swales and their integration into new development schemes as amenity features should therefore be encouraged. Such solutions, by negating increased site discharges may reduce the need for flood alleviation/culverting works downstream and any associated maintenance.

It is acknowledged that in exceptional circumstances, culverting of a section of a watercourse may be unavoidable. This may apply where there are insurmountable inherent structural problems such as slope stability and land slippage. However, even in such circumstances, other solutions such as bank reinforcement, gabion wall construction and underpinning should be considered first, as they will usually have lesser long term environmental / ecological impacts. Similarly, where there are health and safety concerns arising from open access to watercourses or hazardous riverbanks, the construction of solid barriers such as fencing, or planting of 'soft' landscape barriers, should be considered as alternatives to culverting.

Policy makers should note that the culverting of short lengths of the watercourse (usually less than 10m) is acceptable to enable access to and from the development as required. The site design however should aim to keep the number of crossings to a minimum.

11 – Maintenance Requirements for Flood Defence and Drainage Infrastructure

Flood defence and drainage infrastructure are critical in providing a level of flood protection to people and property and adequate land drainage. Where a new development proposal is located beside a flood defence, control structure or watercourse, it is essential that an adjacent working strip is retained to facilitate future maintenance by DfI Rivers, other statutory undertakers or the riparian landowners. It is important to consider the following when formulating policy:

Flood Defences & Control Structures: The working strip should have a minimum width of 5 metres, but up to 10 metres where considered necessary, and be provided with clear access and egress at all times. Any variation from the 5 metre wide working strip must be agreed in advance with the relevant local DfI Rivers Area Office.

Open channel watercourses: In the majority of cases, the working strip should extend 5 metres from top of bank on an open watercourse. The working strip should be wide enough to give adequate space from the top of the bank for suitable sized plant to carry out maintenance. Occasionally, there may be reasons for increasing the width of a working strip up to 10 metres, e.g. to facilitate a long reach excavator or where excavator mats are required. On occasion, there may be instances with small urban watercourses where less than 5 metres may suffice. Any variation from the 5 metre wide working strip must be agreed in advance with the relevant DfI Rivers Area Office.

Culverted watercourses: A working strip of minimum 5 metres width is required over the line of the pipe but frequently, more is required, (up to the 10 metres) depending on pipe size and depth of the culvert, in order to give sufficient scope to allow maintenance including replacement or upgrading to a larger culvert.

In addition to the above, the retention of a working strip along watercourses will have further benefits, including general amenity, enhanced biodiversity and increased control over water pollution, the latter assisting in the implementation of the Water Framework Directive.

Councils are reminded that there is a general presumption against the erection of buildings or other structures over the line of a culverted watercourse in order to facilitate replacement, maintenance or other necessary operations.

12 - Implications of development within the flood inundation area of Controlled Reservoirs

The Reservoirs Act (Northern Ireland) 2015 (the Act) provides a proportionate regulatory framework for the maintenance and management of controlled reservoirs in order to protect people, economic activity, the environment and cultural heritage from flooding caused by an uncontrolled release of water due to reservoir failure. The introduction of this regulatory framework is dependent upon the commencement of relevant sections of the Act and the making of subordinate legislation.

A controlled reservoir is defined by the Act as any structure or area that is capable of holding 10,000 cubic metres or more of water above the natural level of any part of the surrounding land.

Councils should make clear aware that any new reservoirs that are constructed or existing reservoirs altered, for whatever purpose, and are capable of holding 10,000 cubic metres or more of water above natural ground level, for example hydroelectric power generation or amenity purposes such as boating or fishing, will be subject to the provisions of the Act.

Paragraphs 6.119 to 6.122 of the SPPS outline the strategic planning policy for development anywhere in the inundation area of a controlled reservoir. When formulating policy, Councils may wish to highlight that there are two main considerations when determining planning applications for such development. These are:

1. Condition Assurance - With regard to proposed new development the Council must be assured that the condition, management and maintenance regime of the reservoir are appropriate regarding reservoir safety.
2. A Flood Risk Assessment - This, among other things, considers the depth and velocity of flood water at the proposed development site in the event of a dam

failure and the measures proposed by the applicant to mitigate the depth and velocity of the flood water.

This may result in restrictions on future development within the inundation zone of the controlled reservoir.

When obtaining assurance regarding the management and maintenance regime of a controlled reservoir with regard to reservoir safety, the developer should engage with the reservoir manager (if it is a different party). This will also provide an opportunity for the manager and developer to jointly consider any structural improvement works required to make the reservoir safe or other implications the development may have for the reservoir manager. The funding of such works is a private matter between the developer and the reservoir manager.

Even in circumstances where a reservoir does not fall within the policy, because it is not capable of holding 10,000 cubic metres or more of water above any part of the surrounding land, it remains the responsibility of the applicant (or suitably qualified person with demonstrable experience in flood risk management) to consider and assess the flood risk and drainage impact of the proposed development and to mitigate the risk to the development and that beyond the site.

DfI is currently drafting, with the help of Councils, guidance on the Practical Application of Strategic Planning Policy for Development in Proximity to Reservoirs. The purpose of the guidance is to provide further information on the requirements of this Policy and clarification on its application.

Reservoir flood extent maps may be viewed at:

https://dfi-i.maps.arcgis.com/apps/webappviewer/index.html?id=006872dcdd7b43b89d352e0b93190e67

13 - Consideration of hydro-electric power generation schemes

DfI Rivers recognises and supports the need to generate electricity in a sustainable and environmentally friendly way. However, in some instances, proposals for hydro-electric power generation schemes can pose significant problems for DfI Rivers. These are set out below:

Key issues with respect to Hydro Power Schemes:

1. **Flood risk** - Generally hydro schemes require construction in the river channel such as a weir to facilitate abstraction of water. Such constructions can cause river levels and flood levels to increase for a considerable distance upstream. Increased water levels can be evident for up to 1.5 km upstream, depending on channel morphology. On occasion, such construction can also increase flood risk downstream for a considerable distance, typically up to 1.5 km.
2. **Erosion of river banks and river bed** - Impoundment structures and discharge structures may cause damage to river channels and river banks due to fast-flowing turbulent water. The length of the downstream turbulent zone is dependent on the size and nature of the scheme and gradient of the channel but typically the downstream effect is around 1.5 km.
3. **Proximity to river flow gauging stations** - DfI Rivers maintains a network of 150 river monitoring stations to collect river flow data which is used locally and nationally for a variety of uses including the assessment and management of water resources, to inform on the design of structures in and around the floodplain and also crucially in flood estimation. Hydro Power Schemes may adversely impact upon a river flow gauging station by removing and returning water at a different rate and direction than under natural conditions thus rendering potentially decades of data collection useless and compromising flood estimation capabilities both locally and nationally. The loss of this information will reduce the pool of information used for flood estimation in the United Kingdom. This has the potential to lead to less accurate flood estimations and subsequently an increase in flood risk.

Creation of new reservoirs - Creation of new reservoirs for hydroelectric power generation which are capable of holding 10,000 cubic metres or more of water above

the natural level of any part of the surrounding land will be controlled reservoirs and subject to the provisions of the Reservoirs Act (Northern Ireland) 2015. It should be noted that in addition to planning permission, many elements in the construction of Hydro Power Schemes will require approval from DfI Rivers under Schedule 6 of the Drainage (NI) Order 1973.

DfI Guidance on Climate change.

DfI Water and Drainage Policy Division will shortly release new technical guidance in relation to allowances for Climate Change in Northern Ireland. This will include guidance for DfI Rivers, DfI Roads and Northern Ireland Water.

Climate change flood maps will move from 2030 Epoch to 2080 Epoch. DfI Rivers will use the 2080 climate change maps in order to provide the most up to date information on flood risk. The 2080 maps should be used in Local Development Plan preparation and for development management purposes.

Sustainable Drainage Systems (SuDS).

DfI Rivers endorses the use of Sustainable Drainage Systems (SuDS).

SuDS provide benefits such as reducing flood risk, and they can improve water quality, amenity and biodiversity.

Policy makers should be aware that when assessing a Drainage Assessment which proposes the use of SuDS elements, the main areas of concern for DfI Rivers are:

1. **Attenuation volume** – The Drainage Assessment should demonstrate that there will be sufficient attenuation volume.
2. **Discharge rate** – The Drainage Assessment should demonstrate that there is a suitable mechanism in place to restrict discharge to the stated rate.
3. **Safe disposal of surface water** - The Drainage Assessment should provide documentary evidence that surface water can safely be discharged to a watercourse (Schedule 6 Consent to Discharge) or NIW storm sewer (Article 161 Consent).

4. **Long-term maintenance** - The Drainage Assessment should provide evidence that a suitable long term maintenance arrangement is in place.

Guidance developed by DfI Water and Drainage Policy Division should be read in conjunction with this document.

APPENDIX

Table 1

Recommended exceptions to Policy on avoiding development in Fluvial (River) and Coastal Flood Plains

Exception to Policy	Explanation and Justification
D1 - Defended Areas Previously developed land protected by flood defences, provided that the proposed development does not fall into any of the following categories:	Flood defences should be confirmed by DfI Rivers, as the competent authority, as structurally adequate and provide a minimum standard of 1 in 100 year fluvial or 1 in 200 year coastal flood protection.
Exclusion 1 - essential infrastructure such as power supply and emergency services;	**Reasons**: residual risk, need to maintain access and continuity of service in the event of a flood.
Exclusion 2 - development for the storage of hazardous substances;	**Reasons**: residual risk and flooding could lead to pollution and environmental damage.
Exclusion 3 - bespoke accommodation for vulnerable groups, such as schools, residential / nursing homes, sheltered housing;	**Reasons:** residual risk and putting vulnerable groups at risk. Vulnerable groups may not be able to evacuate themselves and it may be difficult for emergency evacuate them. This may put emergency services themselves at greater risk.
Exclusion 4 - any development located close to flood defences.	**Reasons:** residual risk and the need to have adequate space to maintain flood defences. Development located close to flood defences could adversely affect their stability.
Exclusion 5 - Proposals involving significant intensification of use will be considered on their individual merits and will be informed by the Flood Risk Assessment.	**Reasons:** residual risk and putting more people at risk than would have previously been the case.
Undefended Areas The types of development listed at Exception U1 to U5 below are acceptable in undefended flood plains.	It is important to consider the safety of the users of such developments and that the proposed development is not at an unacceptable risk of flooding and does not increase flood risk elsewhere. Such development may also require to be constructed with resistance measures to stop the ingress of flood water or resilience measures to ensure that in the event of a flood, the development can be quickly and cheaply become operational again.

Exception to Policy	Explanation and Justification
U1 - Replacement of an existing building. Proposals that include essential infrastructure, storage of hazardous materials or bespoke accommodation for vulnerable groups or that involve significant intensification of use should be avoided.	**Essential Infrastructure - Reasons**: residual risk, need to maintain access and continuity of service in the event of a flood. **Hazardous materials - Reasons**: residual risk and flooding could lead to pollution and environmental damage. **Bespoke accommodation for vulnerable groups - Reasons:** residual risk and putting vulnerable groups at risk. Vulnerable groups may not be able to evacuate themselves and it may be difficult for emergency evacuate them. This may put emergency services themselves at greater risk.
U2 - Development for agricultural use, transport and utilities infrastructure, which for operational reasons has to be located within the flood plain.	It is important to consider the safety of the users of such facilities and that the proposed development does not increase flood risk elsewhere.
U3 - Water compatible development such as for boat mooring, navigation and water based recreational use, which for operational reasons has to be located within the flood plain.	It is important to consider the safety of the users of such facilities and that the proposed development does not increase flood risk elsewhere.
U4 - The use of land for sport and outdoor recreation, amenity open space or for nature conservation purposes, including ancillary buildings. **This exception does not include playgrounds for children.**	It is important to consider the safety of the users of such facilities and that the proposed development does not increase flood risk elsewhere. **Children's playgrounds should not be located in flood plains as this puts vulnerable groups at risk.**
U5 - The extraction of mineral deposits and necessary ancillary development.	It is important to consider the safety of the users and operators of such facilities and that the proposed development does not increase flood risk elsewhere.

Table 2

Technical Definitions

Term	Definition
Annual Exceedance Probability (AEP)	Annual Exceedance Probability – The annual probability of a flood exceeding the peak floodwater level.
Catchment	The area drained, either naturally or with artificial assistance, by a watercourse, including all drainage channels, tributaries, floodplains, estuaries and areas of water storage
Climate change	Climate change in Inter-governmental Panel on Climate Change (IPCC) usage refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity.
Coastal Flooding	Flooding from sea water, often arising through storm surge
Controlled Reservoir	A Controlled Reservoir as defined by the Reservoirs Act (Northern Ireland) 2015 is any structure or area that is capable of holding 10,000 cubic metres or more of water above the natural level of any part of the surrounding land.
Culvert	An enclosed structure that channels water with integral sides, soffit and invert, including a pipe that contains a watercourse as it passes through or beneath a road, railway, building, embankment etc., or below ground.
Defended area	A 'Defended Area' is that part of the flood plain where flooding would normally occur except for the presence of flood defences. The location of the flood defences and the areas benefiting from their protection are shown on Flood Maps (NI). Flood Maps (NI) can be viewed at: https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni
Drainage Assessment	A statement of the drainage issues relevant to a development proposal and the measures to provide the appropriate standard of drainage. The detail of the assessment will be proportionate to the nature of the proposal. (It may also be called a Drainage Impact Assessment).
Drainage Infrastructure	Equipment such as culverts, weirs and sluices provided to facilitate drainage.
Estuarine flooding	Estuarine flooding can originate from a combination of both river and coastal sources. In such areas the greatest flood risk, normally the higher flood level and greater area of flood inundation will be considered.

Term	Definition
Flood defence	A structure or works designed to prevent the inundation of land and property from watercourses and/or the sea. Such defences may take the form of floodwalls or embankments or the management of water levels through drainage works. Such flood defences must be publically funded, constructed and maintained by a statutory body such as DfI Rivers.
Flood defence - definition of good condition	A flood defence structure assessed as Structural Grade 1, 2 or 3 by a suitably accredited person using the (UK) Environment Agency T98 methodology. A suitably accredited person is one who is certified as competent in the use of the Environment Agency T98 methodology.
Flood Hazard	The features of flooding which have harmful impacts on people, property or the environment (such as the depth of water, speed of flow, rate of onset, duration, water quality etc.).
Flood Maps (NI)	Flood Maps (NI) is an interactive map-viewer that enables users to access the latest flood hazard information available from government. https://www.infrastructure-ni.gov.uk/node/459#toc-0
Flood plain	The generally flat areas adjacent to a watercourse or the sea where water flows in a flood, or would flow, but for the presence of flood defences. The limits of the flood plain are defined by the peak water level of an appropriate return period event (currently defined as 1 in 100 year or AEP of 1% for the river or fluvial flood plain and 1in 200 year or AEP 0f 0.5% for the coastal flood plain). **Flood plains as so defined are depicted on Flood Maps (NI).** Flood Maps (NI) can be viewed at: https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni
Flood Risk	The statistical probability of an event occurring combined with the scale of the potential consequences of that event.
Flood Risk Assessment	A flood risk assessment (FRA) is an assessment of the risk of flooding from all flooding mechanisms, the identification of flood mitigation measures and should provide advice on actions to be taken before and during a flood.
Flood Storage	An area, usually within floodplain where water is stored in time of flood.
Fluvial Flooding	Flooding from a river or other watercourse.
Freeboard	Freeboard is an uncertainty allowance. It is a height (recommended minimum 600mm) added to the predicted level of flood to take account of uncertainty in flood estimation. Flood estimation uses many datasets and complex software all of which have varying degrees of inherent uncertainty. Freeboard may also allow for limited exceedance and also the uncertainty caused by some external factors which may increase flood levels e.g. blocked drainage infrastructure, inappropriate development etc. In coastal situations freeboard allows for wave action, local bathymetric conditions and changes caused by erosion and settlement.

Term	Definition
Groundwater	Water below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Inundation Areas	Areas susceptible to flooding from the 4 main sources, ie rivers, the sea, surface water and reservoirs
Minor development	Non-residential extensions (Industrial/Commercial/Leisure etc.) with a footprint less than 150 sq. metres. Alterations: development that does not increase the size of buildings, e.g. alterations to external finishes. 'Householder' development: e.g. sheds, garages, games rooms etc. within the curtilage of the existing dwelling in addition to extensions to the existing dwelling. This excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling e.g. subdivision of a dwelling house into flats.
Pluvial Flooding	Usually associated with convective summer thunderstorms or high intensity rainfall cells within longer duration events, pluvial flooding is a result of rainfall-generated overland flows which arise before run-off enters any watercourse or sewer. The intensity of rainfall can be such that the run-off totally overwhelms surface water and underground drainage systems.
Precautionary Approach	The approach to be used in the assessment of flood risk which requires that lack of full scientific certainty, shall not be used to assume flood hazard or risk does not exist, or as a reason for postponing cost-effective measures to avoid or manage flood risk.
Reservoir	Any structure or area that is capable of holding water above the natural level of any part of the surrounding land. See also "Controlled Reservoir".
Resilience	Sometimes known as 'wet-proofing', resilience relates to how a building is constructed in such a way that, although flood water may enter the building, its impact is minimised, structural integrity is maintained, and repair, drying & cleaning and subsequent re-occupation are facilitated.
Resistance	Sometimes known as 'dry-proofing', this relates to how a building is constructed to prevent flood water entering the building or damaging its fabric.
River Basin	See catchment.
Run-off	That proportion of rainfall which is not absorbed into the ground and finds its way, by surface water drainage systems or overland flow, into watercourses and eventually discharges into the sea.

Term	Definition
Sea level rise	A *sea level rise* is an increase in the volume of water in the world's oceans, resulting in an increase in global mean *sea level. Sea level rise* is usually attributed to global climate *change* by thermal expansion of the water in the oceans and by melting of ice sheets and glaciers on land.
Significant intensification	A proposal that exposes significantly more people to flood risk than the present use of the site. As a general rule, proposals should be equal or less vulnerable than the existing land use. Typical examples of significant intensification are replacing a single dwelling with ten apartments or conversion of commercial/industrial premises to housing. As there is no precise definition or quantification of significant intensification, the Council should determine each application on its individual merits taking account of the scope for mitigation of the residual flood risk.
Storm surge	The increase in sea level caused by the combined effects of low atmospheric pressure and wind.
Storm water	Surface water in abnormal quantities resulting from heavy falls of rain or snow. Storm water that does not infiltrate into the ground becomes surface runoff.
Surface water flooding	Surface water flooding is caused when the volume of rainwater falling does not drain away through the existing drainage systems or soak into the ground, but lies on or flows over the ground instead. This type of flooding is usually short lived and associated with heavy downpours of rain, thunder storms etc.
Sustainable Drainage Systems (SuDS)	A form of drainage that aims to control run-off as close to its source as possible using a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques such as storm water networks.
Undefended Area	An 'Undefended Area' is an area within the flood plain that is not protected by flood defences. This applies to the vast majority of fluvial and coastal flood plains. Undefended areas are at much higher flood risk than defended areas, although the flooded areas are usually more predictable and flood water usually recedes more quickly.
Vulnerable groups	Vulnerable groups include children under the age of 18 years old, the elderly and those with limited mobility and/or special needs. Flood warning and evacuation procedures may be difficult to implement for people with disabilities or those whose mobility is otherwise impaired, therefore their risks of injury or fatality are somewhat greater than for the general population. Accordingly, because of the residual flood risk, there should be a presumption against permission being granted for development associated with vulnerable groups. This includes facilities such as children's nurseries, schools, residential care / nursing homes, sheltered housing and hospitals. This list is not exhaustive.

Term	Definition
Watercourse	A river, stream, canal, ditch, culvert and surface water drainage systems. Water mains and sewers are not included in this definition.

DfI Rivers

Guidance on the preparation of LDP policies for flood risk management

JUNE 2018

[redacted]

From: [redacted]
Sent: 14 May 2018 17:12
To: 'john.corry@fermanaghomagh com', 'Ian Bailey@fermanaghomagh.com'
Cc: Campbell, Orla; Rush, Danielle
Subject: Transport Evidence Base Fermanagh & Omagh

Dear John and Ian

Please find below the link to access the Transport Evidence Base data for your council area collected on behalf of the Department for Infrastructure by Atkins

https://nics.box.com/s/zjf03iwb44o4tv6xujfdgmhxxluwkrd8

Each town zip package contains the following data (where present):

- Town Bus Services
- Crossing Points
- Cycle Network
- Cycle Parking
- Footway Breaks
- Footway Widths
- Off Street Car Parking
- On Street Car Parking
- Radial Routes
- Settlement Development Limit
- Town Centre Area

This data is provided as:

I. CSV Files
II. DXF Files
III. GIS Layers
IV. Summary PDF Report

We trust that this data can be integrated into the local development plan process as anticipated.

Many regards

[redacted]

Transport Planning & Modelling Unit
Transport Strategy Division
Department for Infrastructure
Rm 3-09 Clarence Court

[redacted]

ANNEX 1 – Transport Evidence Base

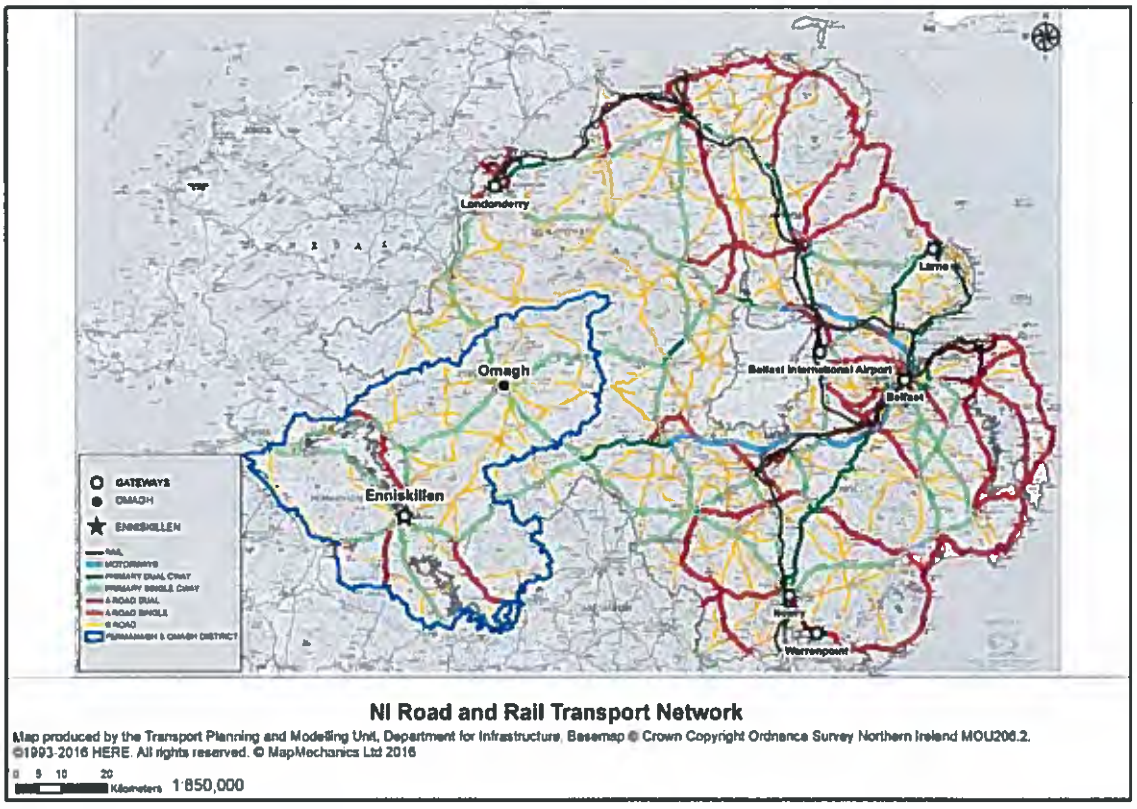
Contents:

Road collision history in Omagh and Enniskillen

Parking provision in Omagh and Enniskillen

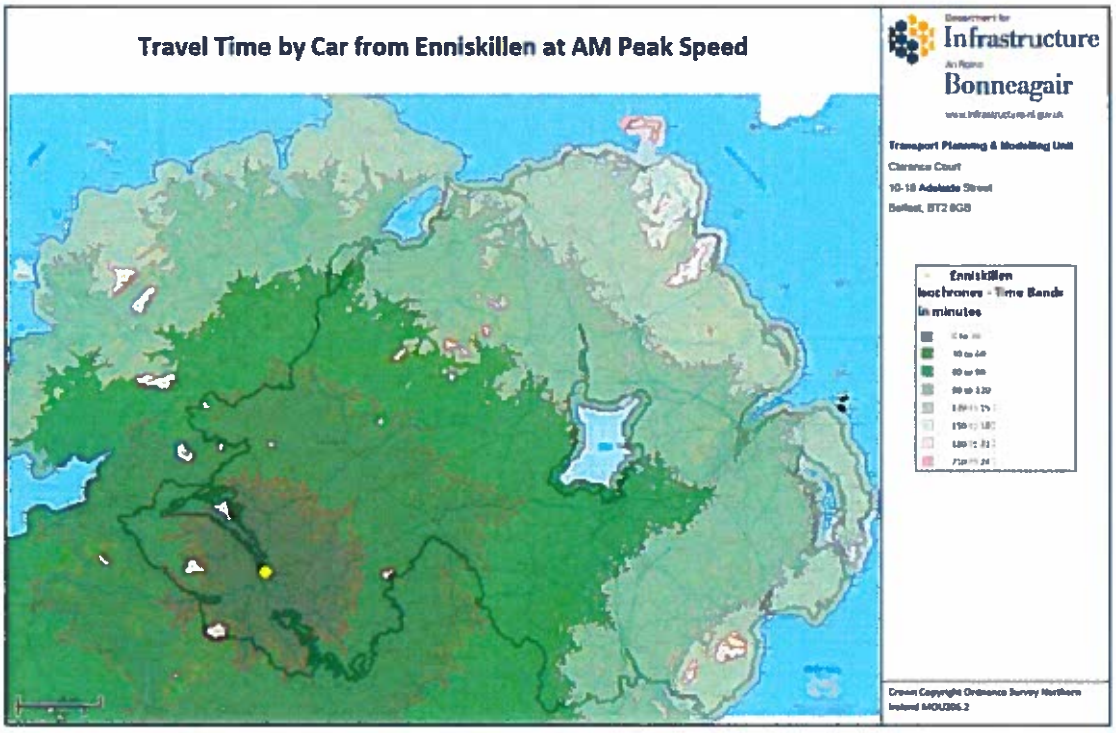
Introduction

Figure 1 - OSNI Map of NI Road and Rail Transport Network



Regional connectivity from Omagh and Enniskillen by road and public transport

Figure 2 - Travel Time by Car from Enniskillen at AM Peak Speed



Regional connectivity from Omagh and Enniskillen by road and public transport

NOTES

Figure 2 shows the travel times from Enniskillen to locations every 200m throughout Northern Ireland and bordering regions.

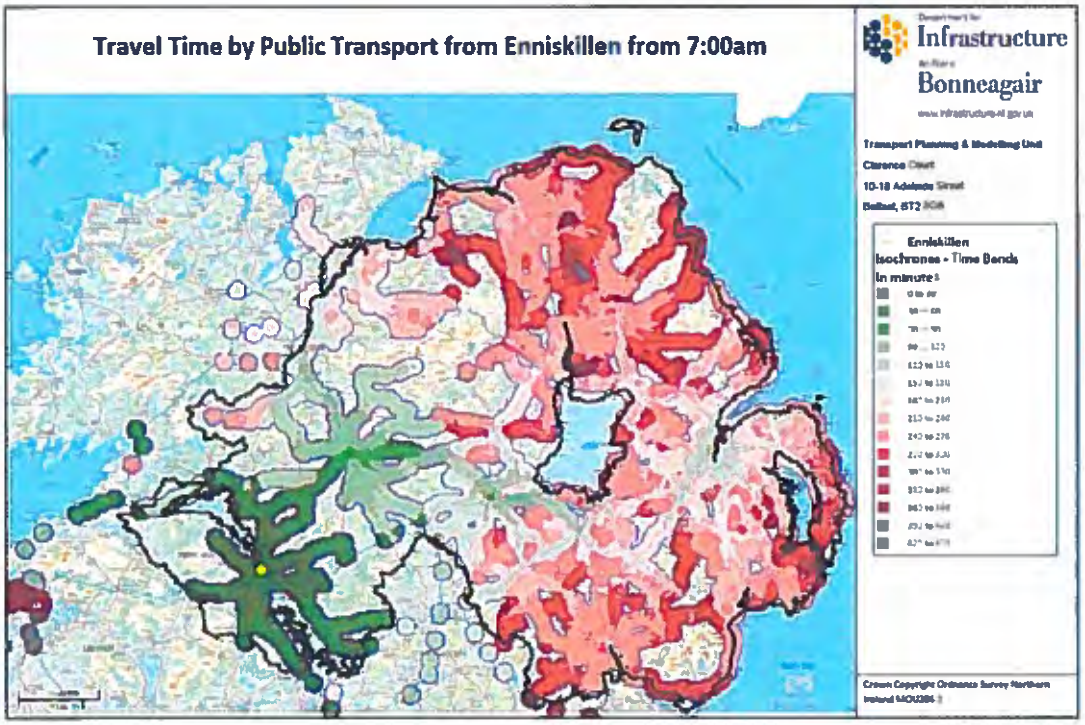
The travel times are shown in 30 minute time bands in different shades of green and red running from dark green through light green to light red. The darkest shade of green represents a time of less than 30 minutes while the lightest shade of green represents a time range between 150 -180 minutes (2.5 - 3 hours). Although they only make up small proportion of the map, the red areas show travel times from 180 -240 minutes (3 - 4 hours). The same time bands have been used for both the car and public transport accessibility maps to allow for direct comparison, however the drive time map requires fewer bands as the maximum journey time to locations accessible by car is lower than the maximum journey time to locations accessible by public transport.

The analysis uses average recorded AM peak road speed data sourced from INRIX to determine the journey time along each road link meaning that traffic and congestion has been factored in.

As not all locations fall on a road, the analysis allows for a walking interchange from the nearest point on the road network (hence the overlap past the NI boundary). The maximum interchange is 800 metres at a walking pace of 4.8km/hr which equates to a 10 minute walk. Any areas not covered by a time band are not within 800m of the road network.

Regional connectivity from Omagh and Enniskillen by road and public transport

Figure 3 - Travel Time by Public Transport from Enniskillen from 7:00am



Regional connectivity from Omagh and Enniskillen by road and public transport

NOTES

Figure 3 shows the travel times from Enniskillen to locations every 200m throughout Northern Ireland and bordering regions. The earliest permitted start time is 7:00am but actual journey start times depend of the availability of public transport services in the vicinity of Enniskillen town centre.

The travel times are shown in 30 minute time bands in different shades of green, red and grey. They run from dark green through light green, light red, dark red to dark grey. The darkest shade of green represents a travel time of less than 30 minutes while the lightest shade of green represents a time ranging between 150 -180 minutes (2.5 - 3 hours). The lightest shade of red shows travel times from 180 - 210 minutes (3 – 3.5 hours) while the darkest shade of red indicated a travel time of 360 – 390 minutes (6 – 6.5 hours). Although they only make up small proportion of the map, the grey areas show travel times from 390 – 450 minutes (6.5 – 7.5 hours). The same time bands have been used for both the car and public transport accessibility maps to allow for direct comparison, however the drive time map requires fewer bands as the maximum journey time to locations accessible by car is lower than the maximum journey time to locations accessible by public transport.

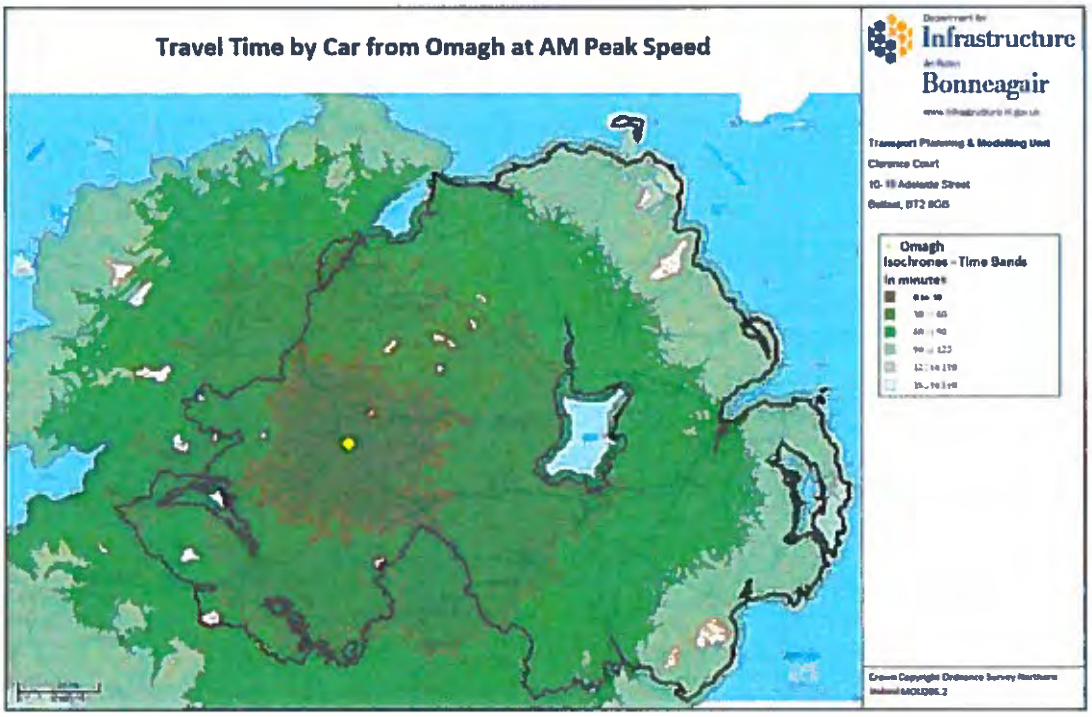
The analysis uses public transport timetable information relating to buses, railways and ferries to determine the journey times. The bus service data relates to Translink, Bus Eireann and Private Operators.

As not all locations fall on the public transport network the analysis allows for a walking interchange from the nearest point on the network (hence the overlap past the NI boundary). The maximum interchange is 800 metres at a walking pace of 4.8km/hr which equates to a 10 minute walk. The analysis also allows for interchanges between services. For instance travel times could include the time taken to walk to a bus stop and take a service to a bus or train station, the time taken to transfer to another service and finish with up to a 800 walk to the destination. Multiple interchanges are permitted. The maximum allowable distance for interchange is 400 metres at a walking pace of 4.8km/hr which equates to a 5 minute walk. In addition a 5 minute interchange penalty is added to this meaning that the individual must complete the interchange 5 minutes prior to the departure time of the next service to allow for ticketing and boarding.

This is a much more complex analysis compared to that used to produce the drive time map as can be seen by the nature of the time bands produced.

Regional connectivity from Omagh and Enniskillen by road and public transport

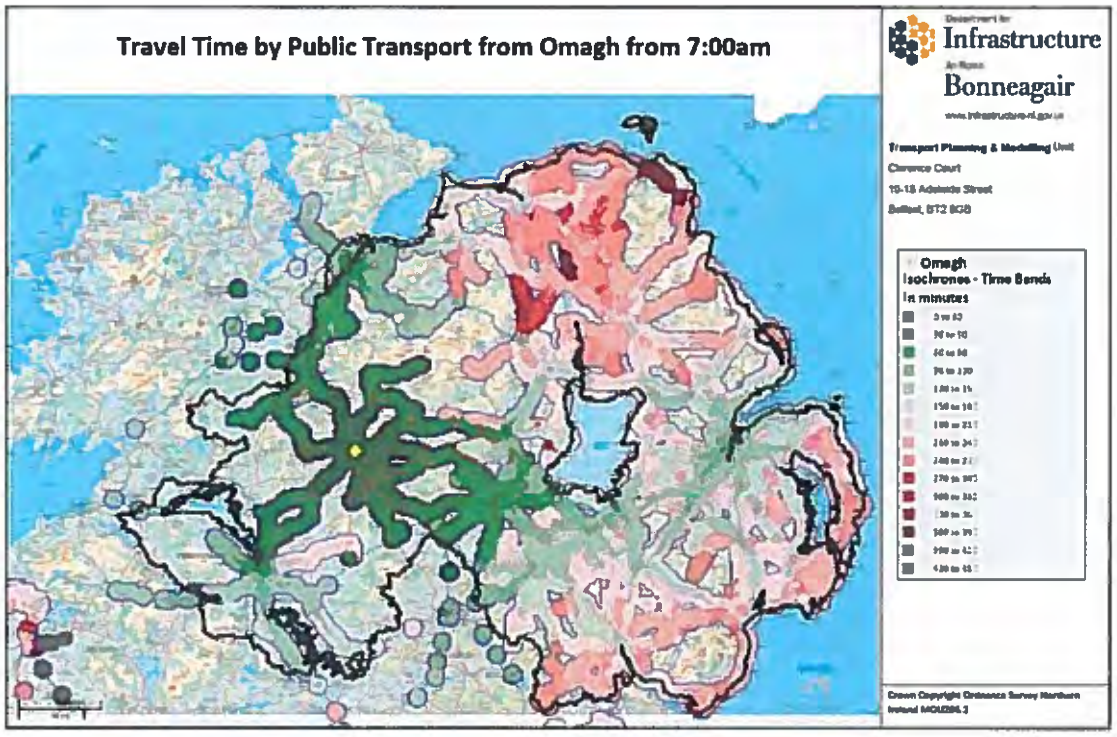
Figure 4 - Travel Time by Car from Omagh at AM Peak Speed



NOTES: As for Figure 2

Regional connectivity from Omagh and Enniskillen by road and public transport

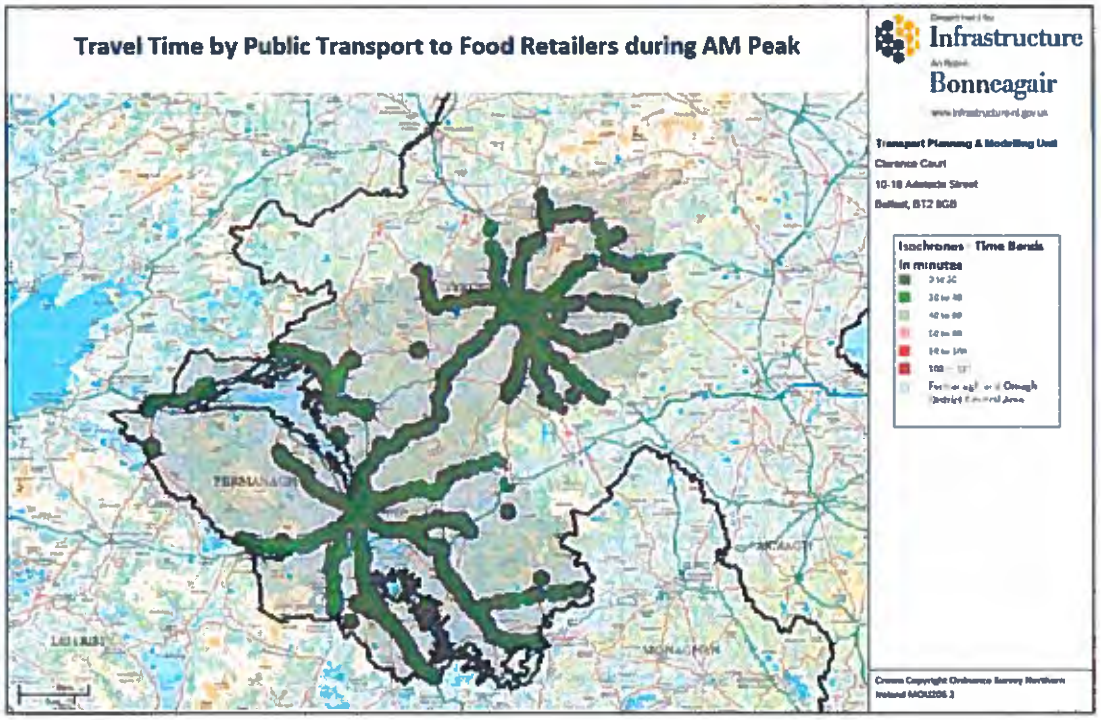
Figure 5 - Travel Time by Public Transport from Omagh from 7:00am



NOTES: As for Figure 3

Accessibility to essential local services by public transport from across the Council area

Figure 6 - Travel Time by Public Transport to Food Retailers during AM Peak



Accessibility to essential local services by public transport from across the Council area

NOTES:

Figure 6 shows the travel times from locations every 200m throughout the Fermanagh and Omagh District Council Areas to the nearest food retail outlet. The earliest permitted start time is 7:00am but actual journey start times depend of the availability of public transport services in the vicinity of the starting location. The latest permitted arrival time is 10:00am.

The travel times are shown in 20 minute time bands in different shades of green and red. They range from under 20 minutes represented by the darkest green to 100 – 120 minutes (1 hour 40 minutes – 2 hours) represented by the darkest red.

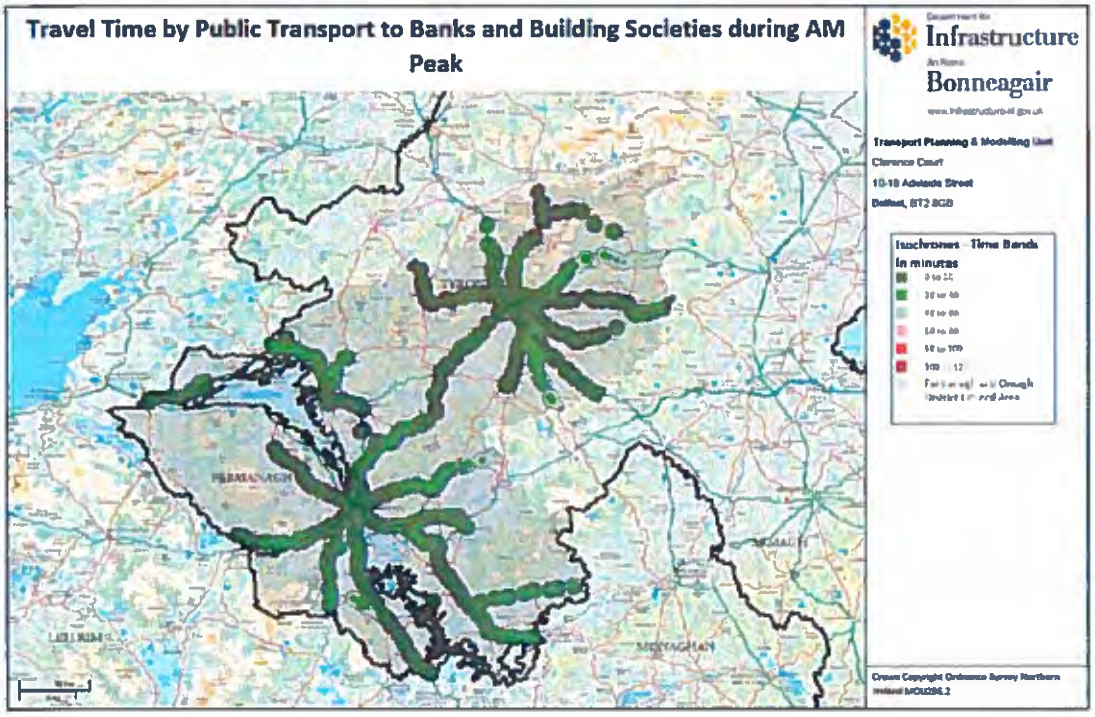
The analysis uses public transport timetable information relating to Translink, Bus Eireann and Private Operators bus services.

The retail locations were sourced from the Census of Employment 2015.

As not all locations fall on the public transport network the analysis allows for a walking interchange to the nearest point on the network. The maximum interchange is 800 metres at a walking pace of 4.8km/hr which equates to a 10 minute walk. The analysis also allows for interchanges between services. For instance travel times could include the time taken to walk to a bus stop, take a service to a bus station, transfer to another service and walk up to 800 metres to the destination. Multiple interchanges are permitted. The maximum allowable distance for interchange is 400 metres at a walking pace of 4.8km/hr which equates to a 5 minute walk. In addition a 5 minute interchange penalty is added to this meaning that the individual must complete the interchange 5 minutes prior to the departure time of the next service to allow for ticketing and boarding.

Accessibility to essential local services by public transport from across the Council area

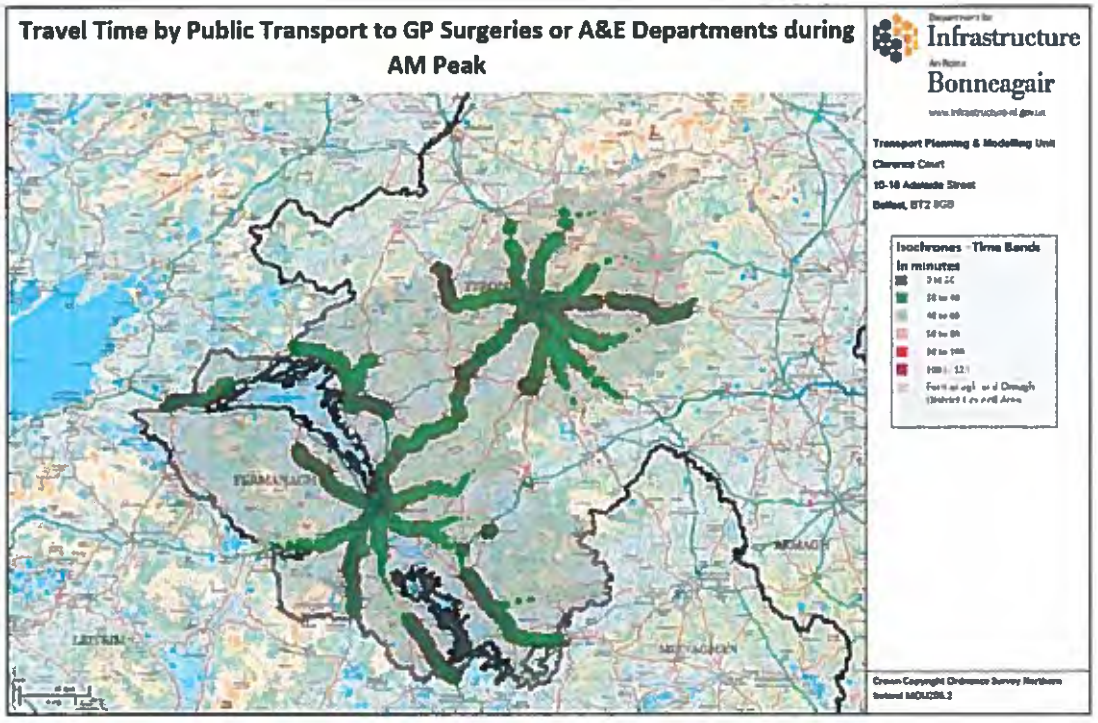
Figure 7 - Public Transport Travel Times (AM Peak) to Bank Facility



NOTES: As for Figure 6

Accessibility to essential local services by public transport from across the Council area

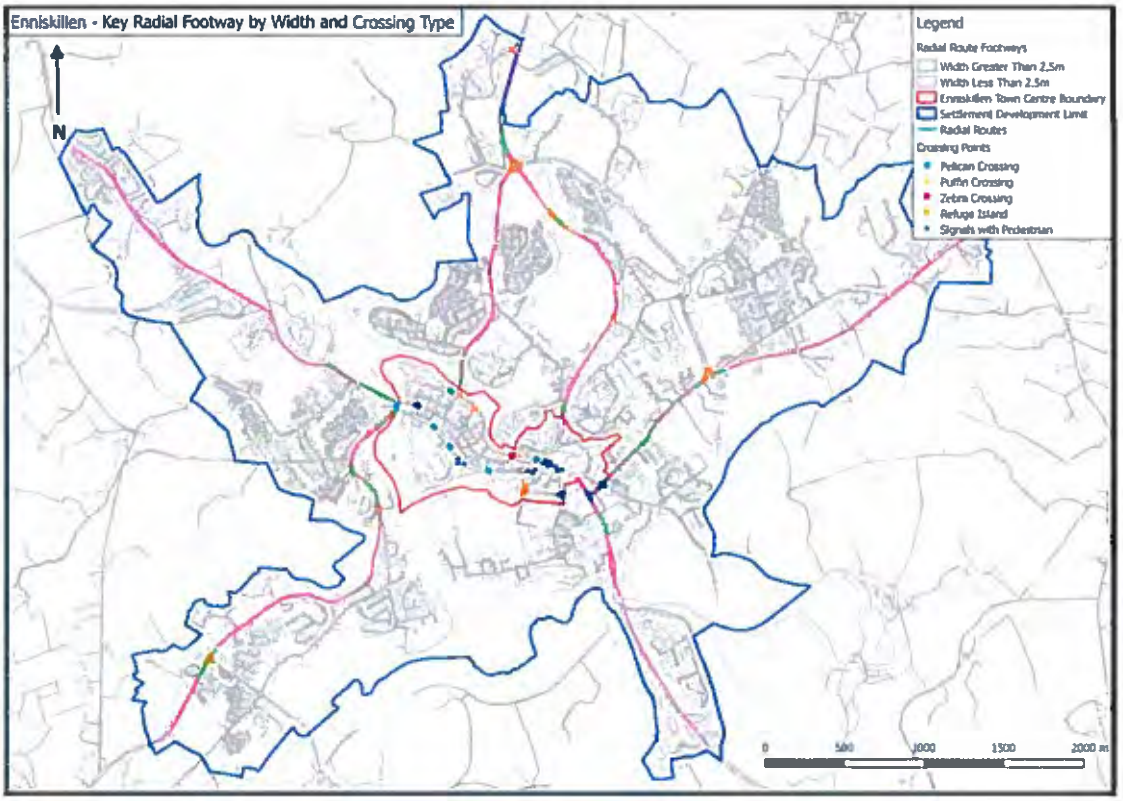
Figure 8 - Public Transport Travel Times (AM Peak) to Health Facility



NOTES As for Figure 6

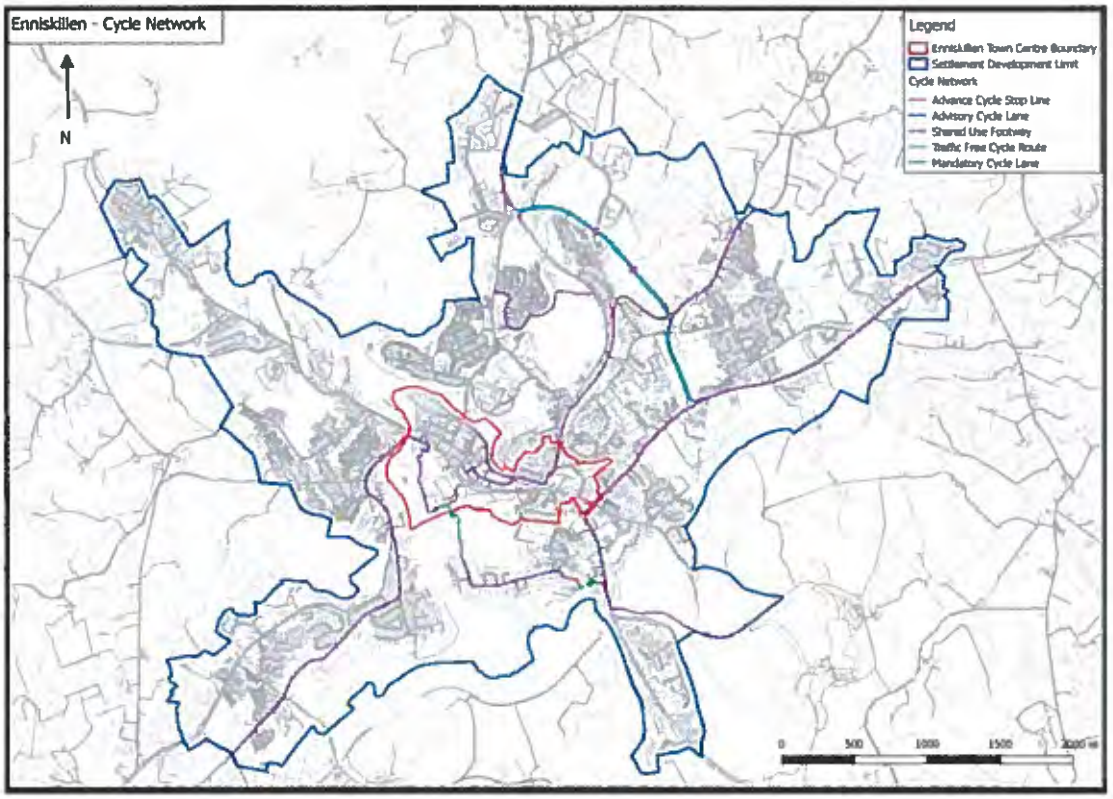
Urban walking and cycling infrastructure and bus services in Omagh and Enniskillen

Figure 9 - Pedestrian Infrastructure in Enniskillen – Key Radial Footways by Width and Crossing Type



Urban walking and cycling infrastructure and bus services in Omagh and Enniskillen

Figure 10 - Cycling infrastructure in Enniskillen



Urban walking and cycling infrastructure and bus services in Omagh and Enniskillen

Figure 11 - Bus Service Routes in Enniskillen

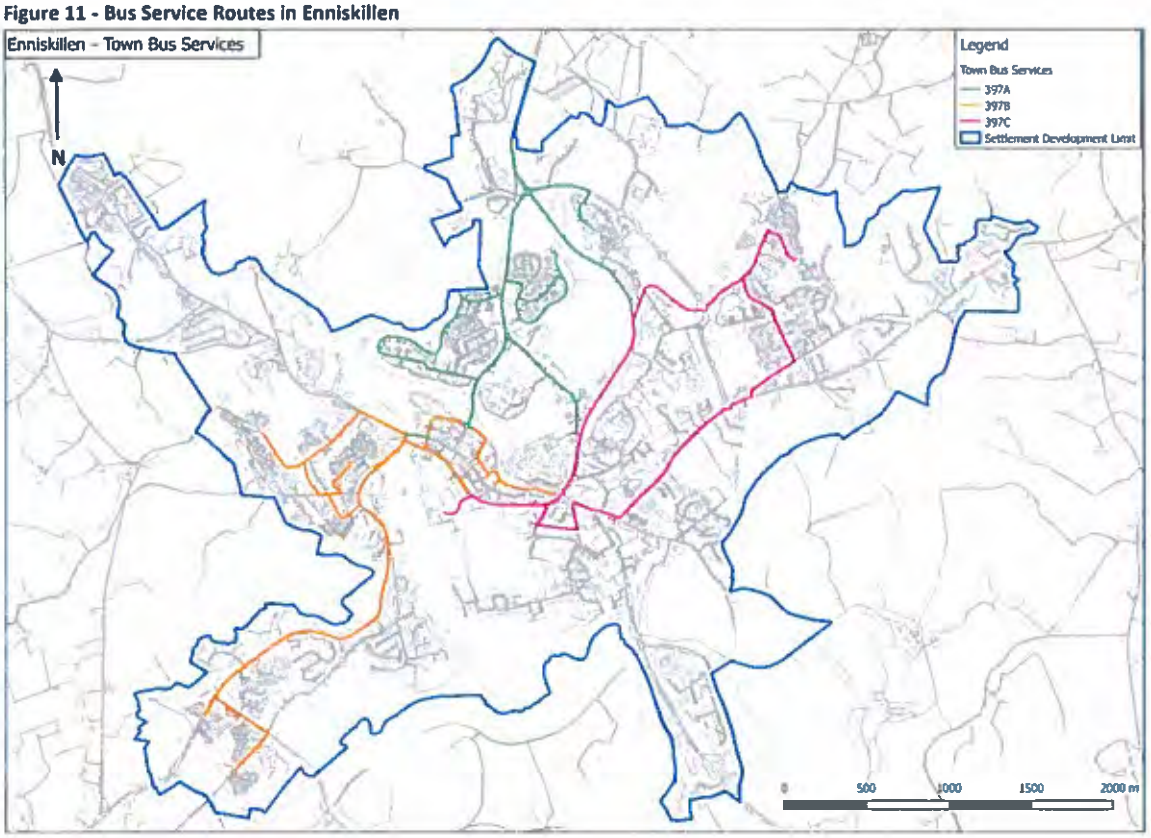
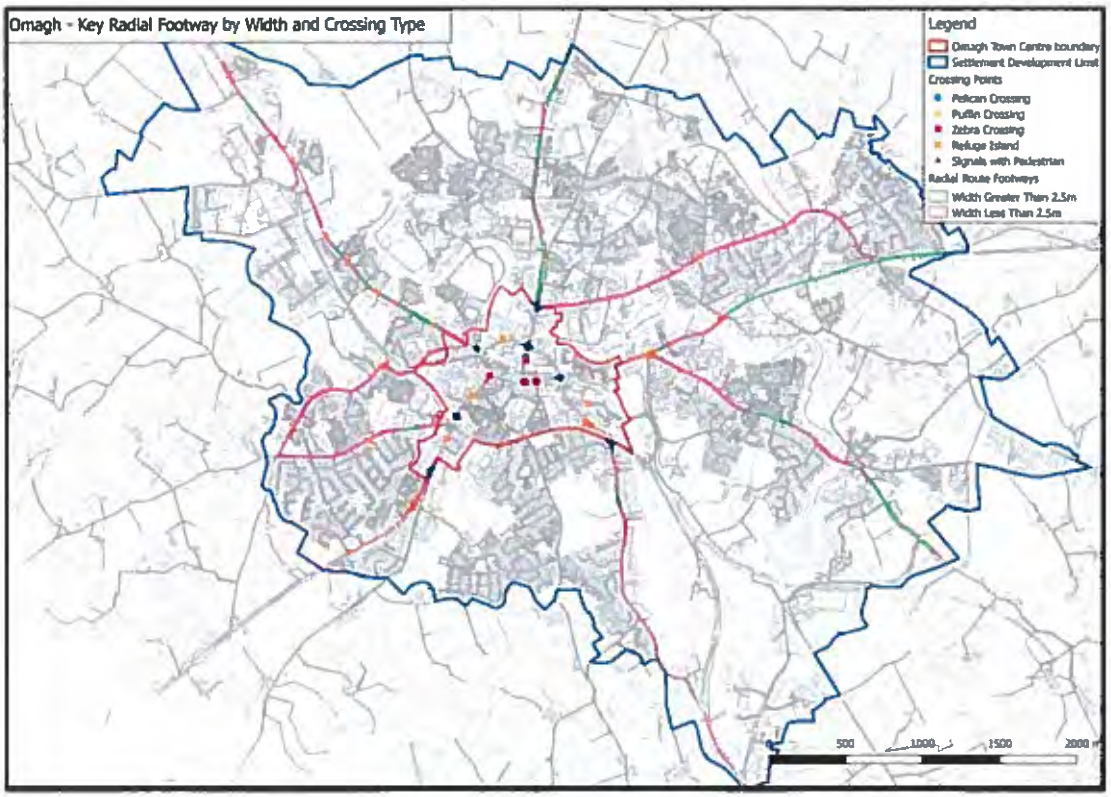


Figure 12 - Pedestrian Infrastructure in Omagh – Key Radial Footways by Width and Crossing Type



Urban walking and cycling infrastructure and bus services in Omagh and Enniskillen

Figure 13 - Cycling infrastructure in Omagh

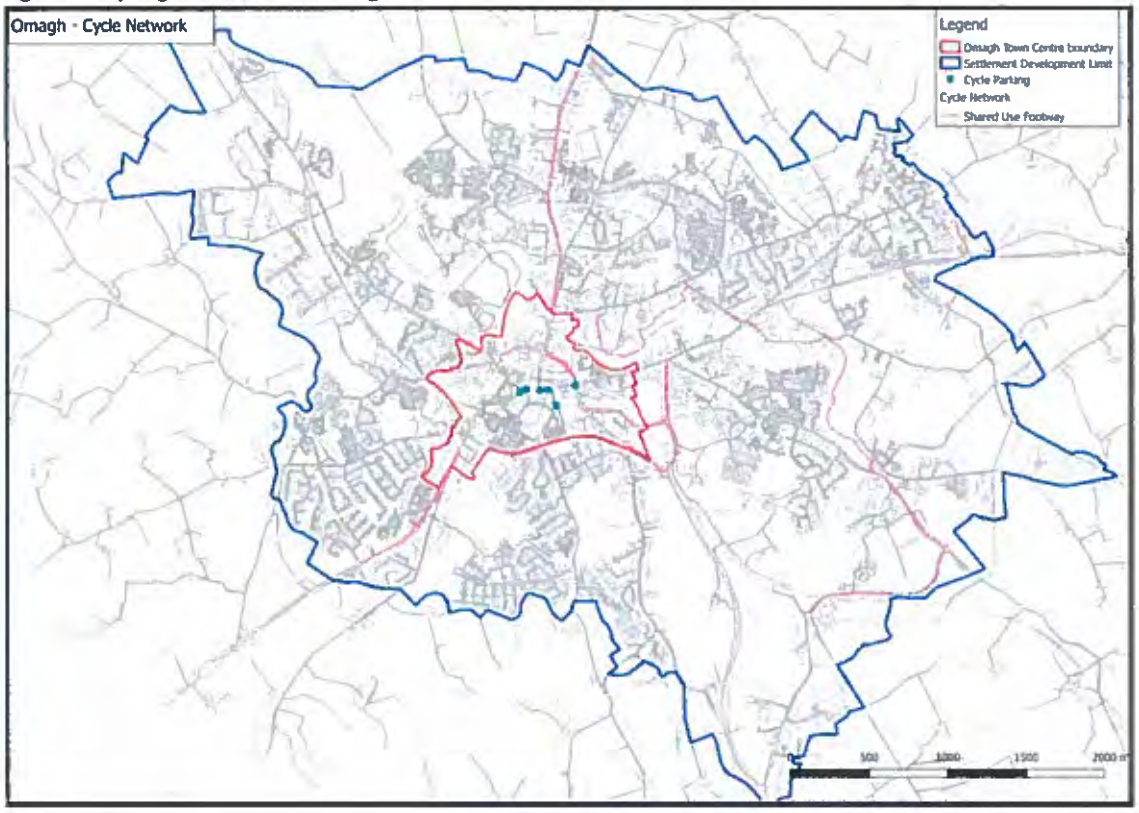
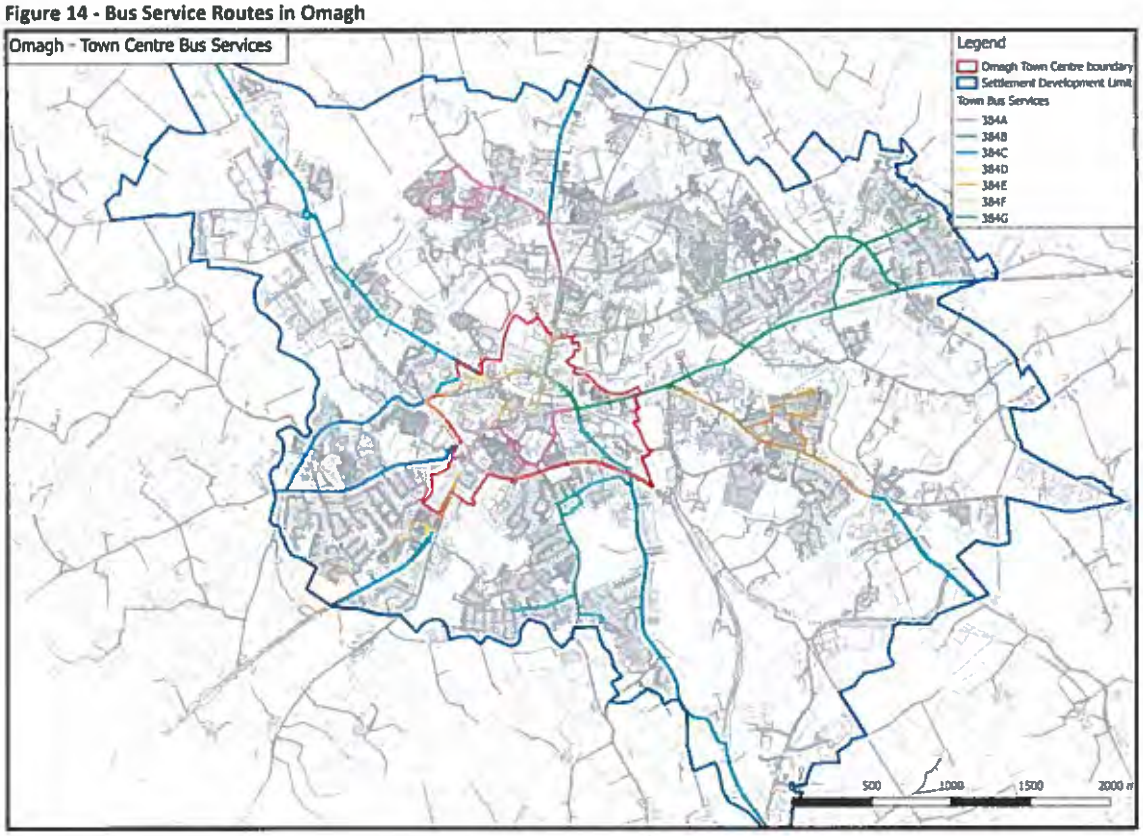
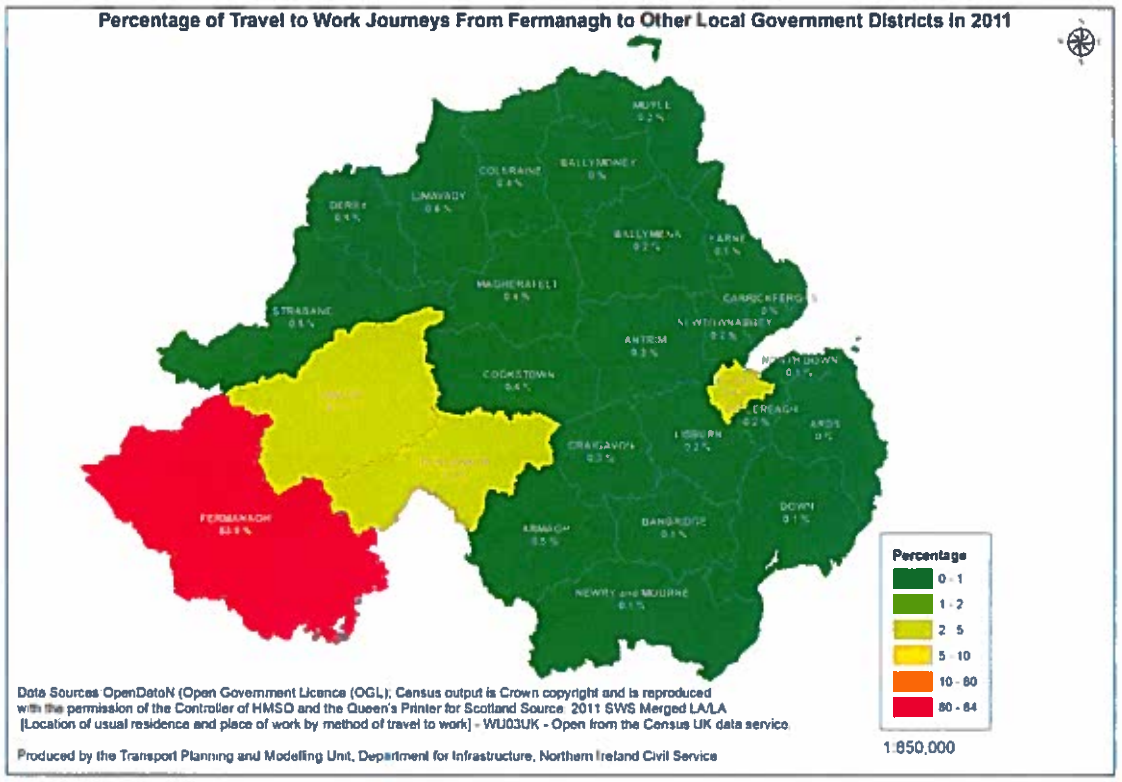


Figure 14 - Bus Service Routes in Omagh



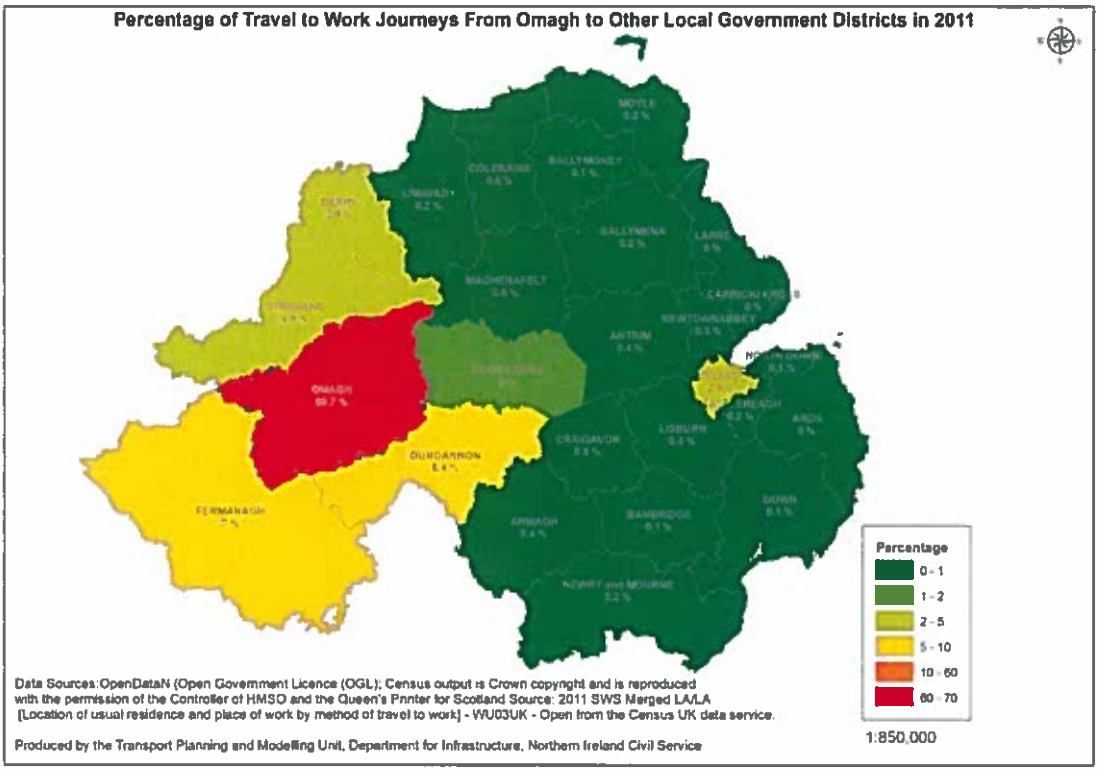
Travel to work destinations

Figure 15 - Percentage of Travel to Work Journeys from Fermanagh to other Local Government Districts in 2011



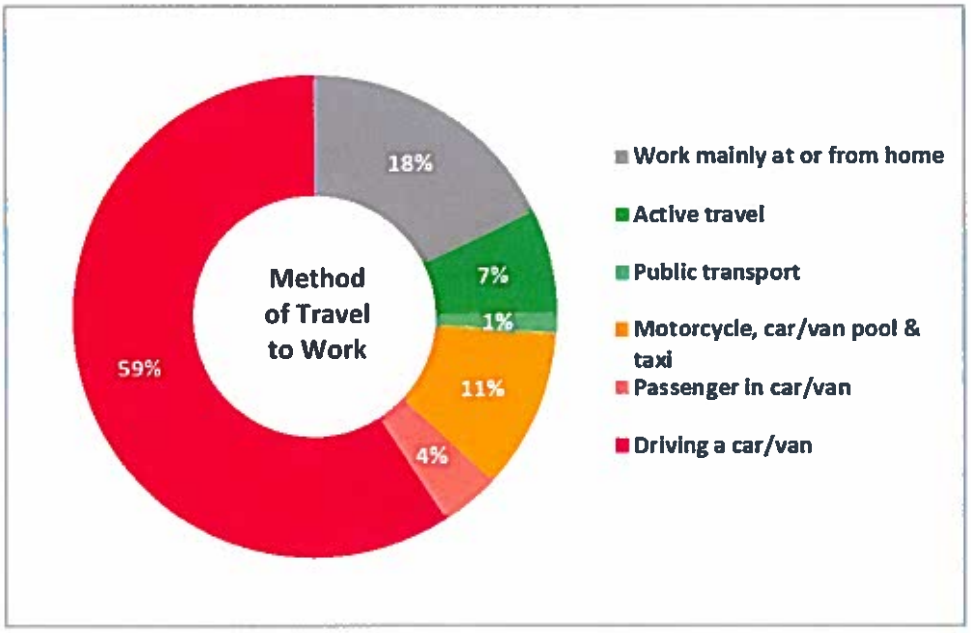
Travel to work destinations

Figure 16 - Percentage of Travel to Work Journeys from Omagh to other Local Government Districts in 2011



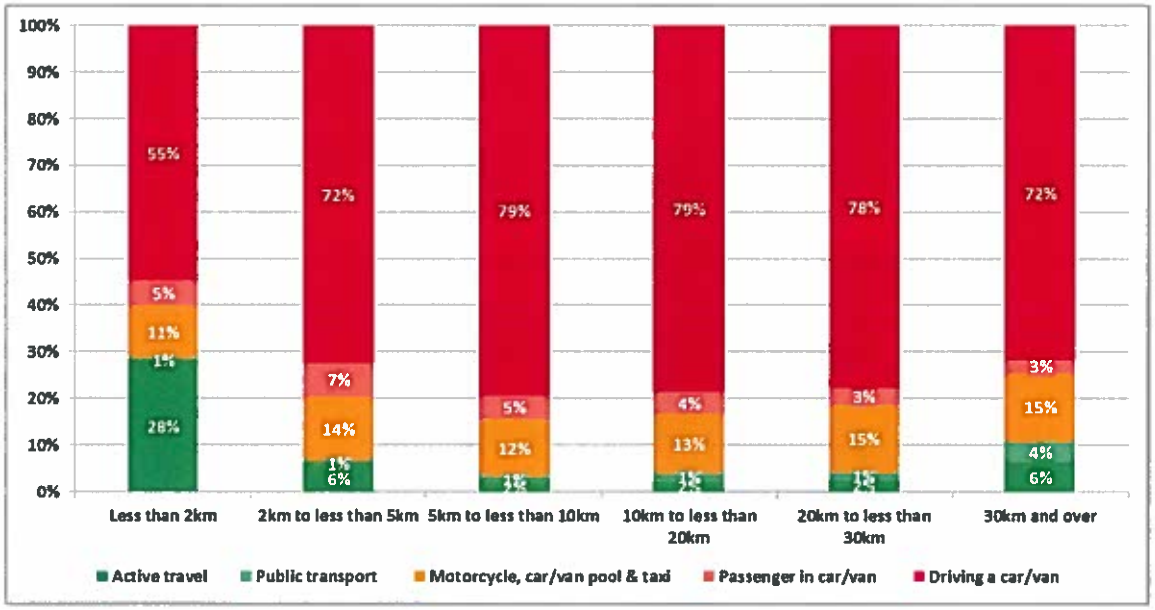
Modal choice for journeys to work and education across the Council area

Figure 17 - Modal Choice for Journey to Work in Fermanagh and Omagh



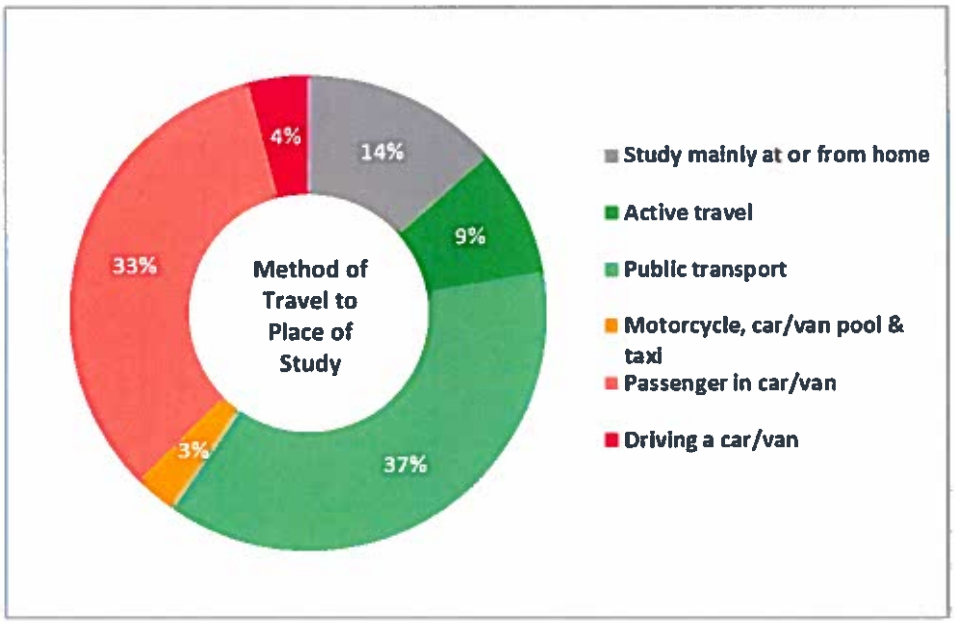
Modal choice for journeys to work and education across the Council area

Figure 18 - Modal Choice for Journey to Work by distance in Fermanagh and Omagh



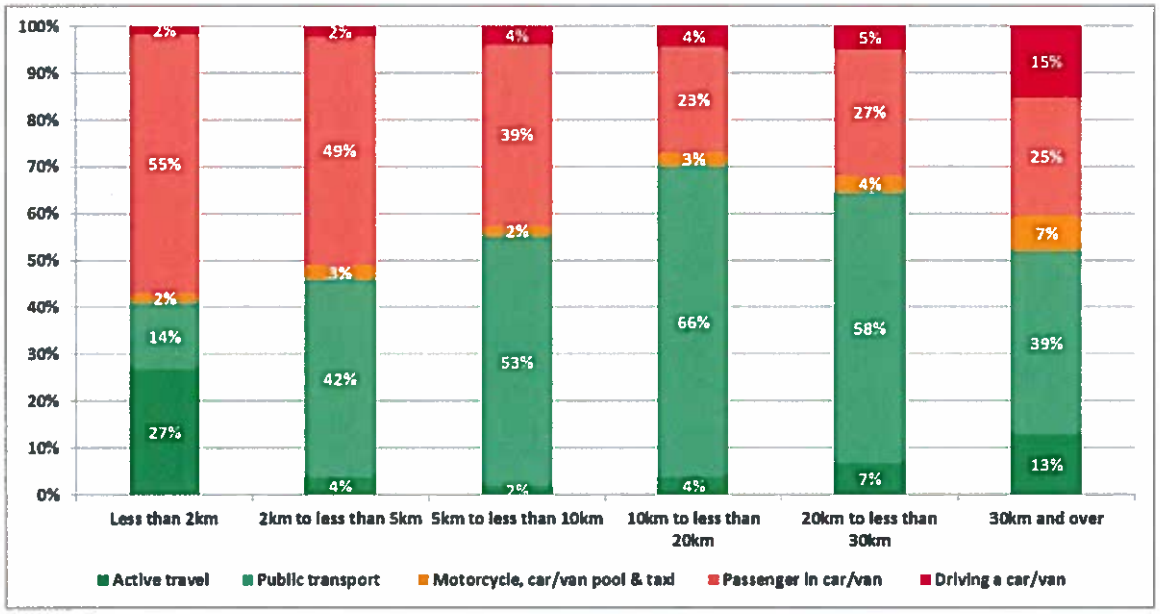
Modal choice for journeys to work and education across the Council area

Figure 19 - Modal Choice for Journey to Education in Fermanagh and Omagh



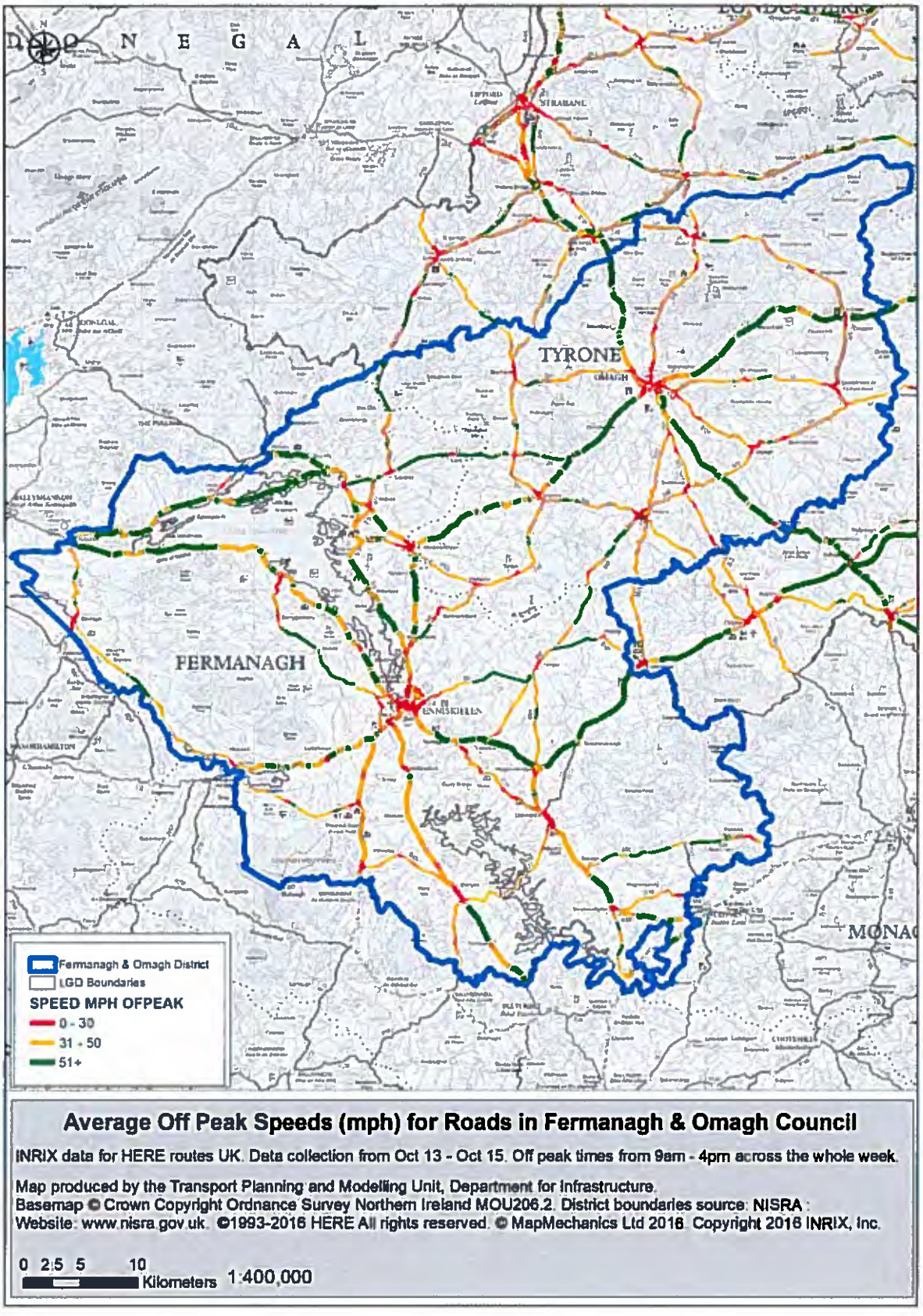
Modal choice for journeys to work and education across the Council area

Figure 20 - Modal Choice for Journey to Education by distance in Fermanagh and Omagh



Road network speeds at peak and off-peak time periods

Figure 21 - Average Off Peak Speeds (mph) for Roads in Fermanagh and Omagh Council



Road network speeds at peak and off-peak time periods

Figure 22 - Average Peak Speeds (mph) for Roads in Enniskillen

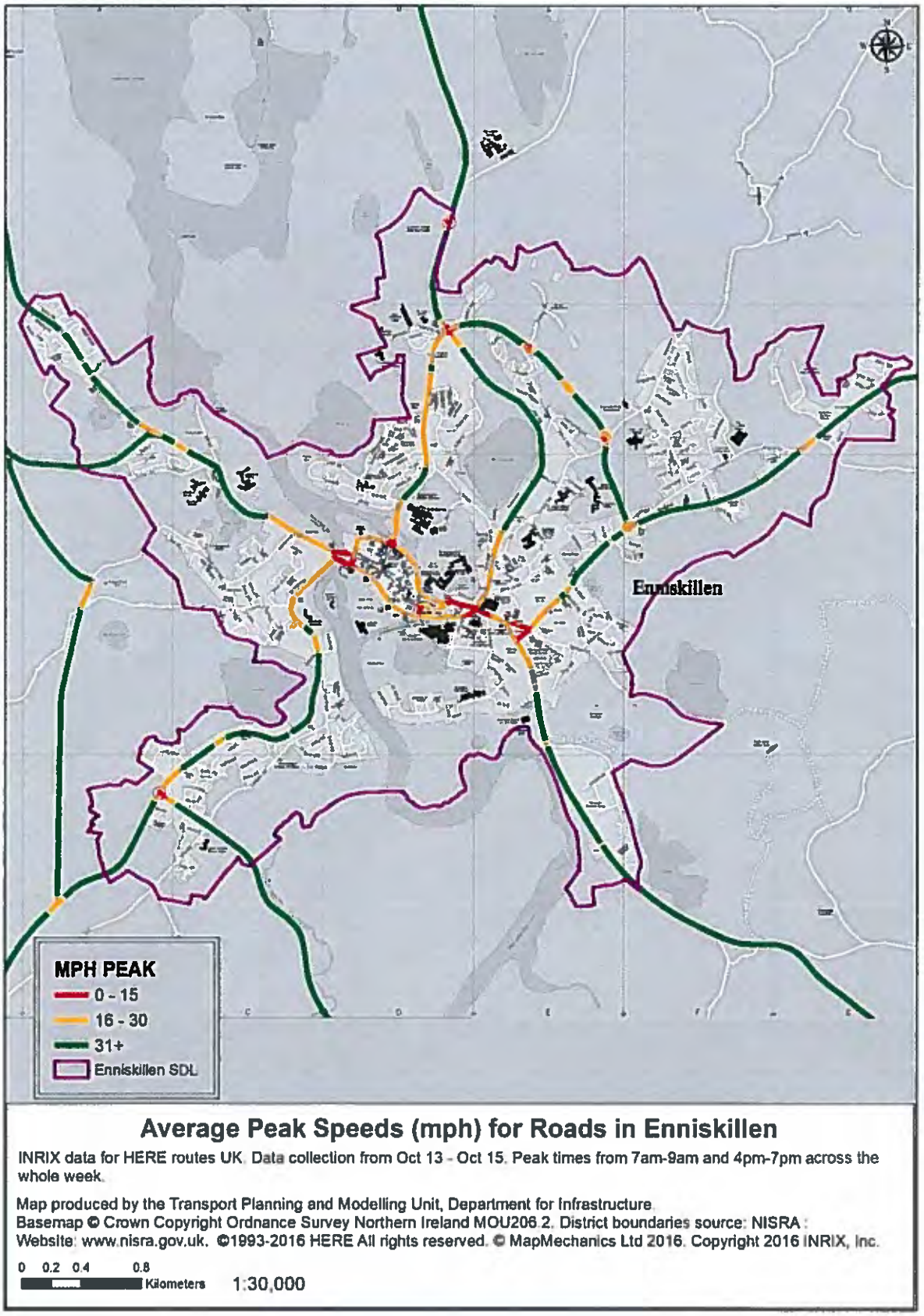
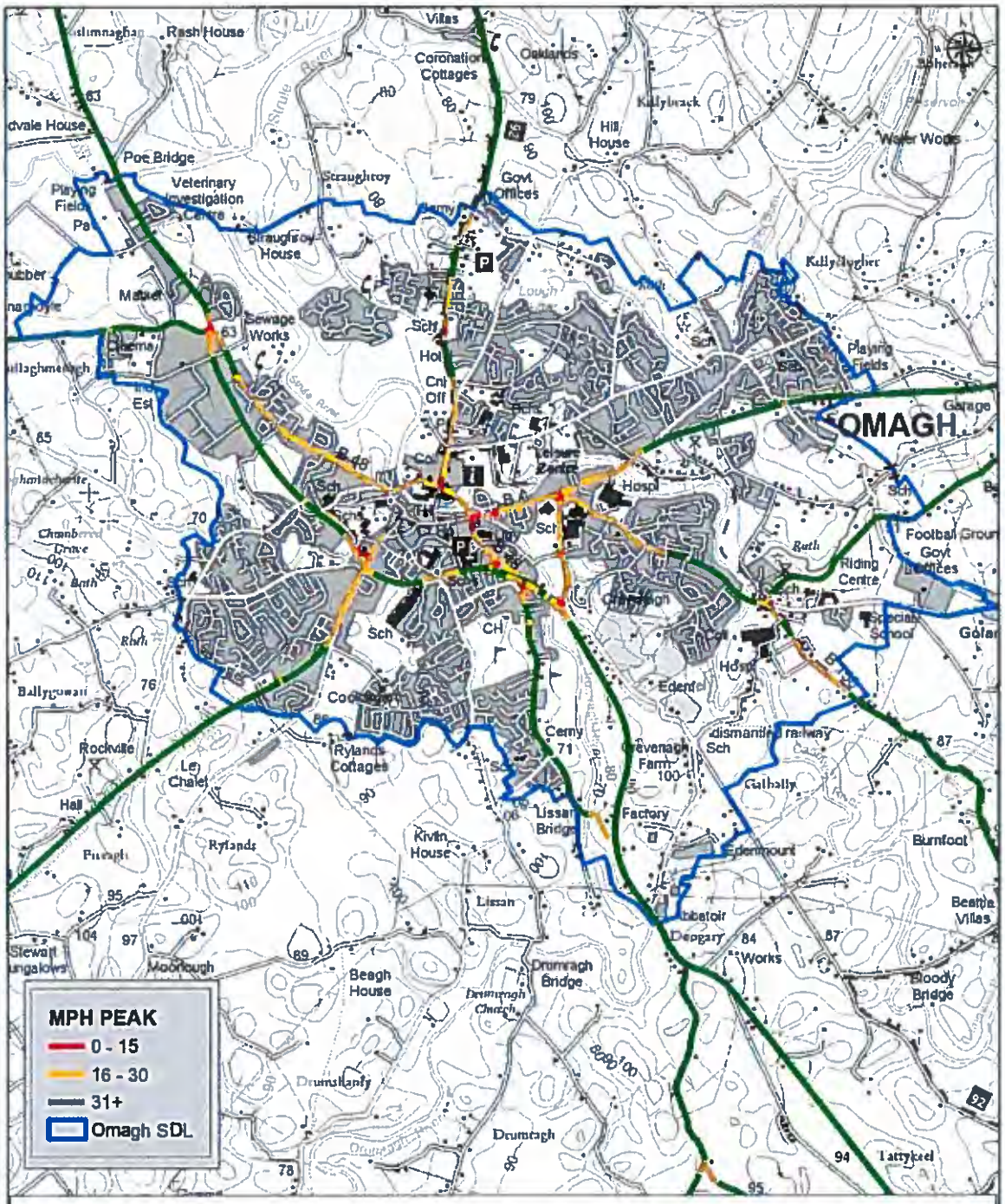


Figure 23 - Average Peak Speeds (mph) for Roads in Omagh



Road network speeds at peak and off-peak time periods

Urban road collision history

Figure 24 - Number of Road Traffic Casualties by Severity and Road User Type in Enniskillen, 2006-2015

Road User Type	2006-2010				2011-2015				2006-2015 (combined)			
	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	339	7	43	289	286	3	22	261	625	10	65	550
Pedestrians	56	1	15	40	29	1	5	23	85	2	20	63
Car Users (inc passengers)	261	6	25	230	239	1	12	226	500	7	37	456
Motorcyclists (inc pillion passengers)	13	0	2	11	4	0	3	1	17	0	5	12
Pedal Cyclists	8	0	1	7	11	1	1	9	19	1	2	16
Other Road Users	1	0	0	1	3	0	1	2	4	0	1	3

Casualties in Enniskillen 2011-2015 –Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	286	3	22	261
Pedestrians (%)	10.1	33.3	22.7	8.8
Car Users (inc passengers %)	83.6	33.3	54.6	86.6
Motorcyclists (inc pillion passengers) (%)	1.4	0	13.6	0.4
Pedal Cyclists (%)	3.8	33.3	4.5	3.4
Other Road Users (%)	1.1	0	4.5	0.8

Casualties in Enniskillen 2011-2015 Severity Split (%)				
Road User Type	All casualties	Fatalities (%)	Serious injuries (%)	Slight injuries (%)
All Road Users	286	1	7.7	91.3
Pedestrians	29	3.4	17.2	79.3
Car Users (inc passengers)	239	0.4	5	94.6
Motorcyclists (inc pillion passengers)	4	0	75	25
Pedal Cyclists	11	9.1	9.1	81.8
Other Road Users	3	0	33.3	66.6

Road network speeds at peak and off-peak time periods

Figure 25 - Number of Road Traffic Casualties by Severity and Road User Type in Omagh, 2006-2015

	2006-2010				2011-2015				2006-2015 (combined)			
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	400	1	35	364	432	4	24	404	832	5	59	768
Pedestrians	68	0	12	56	54	3	10	41	122	3	22	97
Car Users (inc passengers)	306	1	17	288	357	1	11	345	663	2	28	633
Motorcyclists (inc pillion passengers)	11	0	4	7	8	0	1	7	19	0	5	14
Pedal Cyclists	15	0	2	13	12	0	2	10	27	0	4	23
Other Road Users	0	0	0	0	1	0	0	1	1	0	0	1

Casualties in Omagh 2011-2015 –Modal Split (%)				
Road User Type	All casualties	Fatalities	Serious injuries	Slight injuries
All Road Users	**432**	**4**	**24**	**404**
Pedestrians (%)	12.5	75	41.7	10.2
Car Users (inc passengers) (%)	82.6	25	45.8	85.4
Motorcyclists (inc pillion passengers) (%)	1.9	0	4.2	1.7
Pedal Cyclists (%)	2.8	0	8.3	2.5
Other Road Users (%)	0.2	0	0	0.2

Casualties in Omagh 2011-2015 Severity Split (%)				
Road User Type	All casualties	Fatalities (%)	Serious injuries (%)	Slight injuries (%)
All Road Users	432	0.9	5.6	93.5
Pedestrians	54	5.6	18.5	75.9
Car Users (inc passengers)	357	0.3	3.1	96.6
Motorcyclists (inc pillion passengers)	8	0	12.5	87.5
Pedal Cyclists	12	0	16.7	83.3
Other Road Users	1	0	0	100

Road network speeds at peak and off-peak time periods

Parking provision in Omagh and Enniskillen

Figure 26 - Parking Provision Locations in Enniskillen

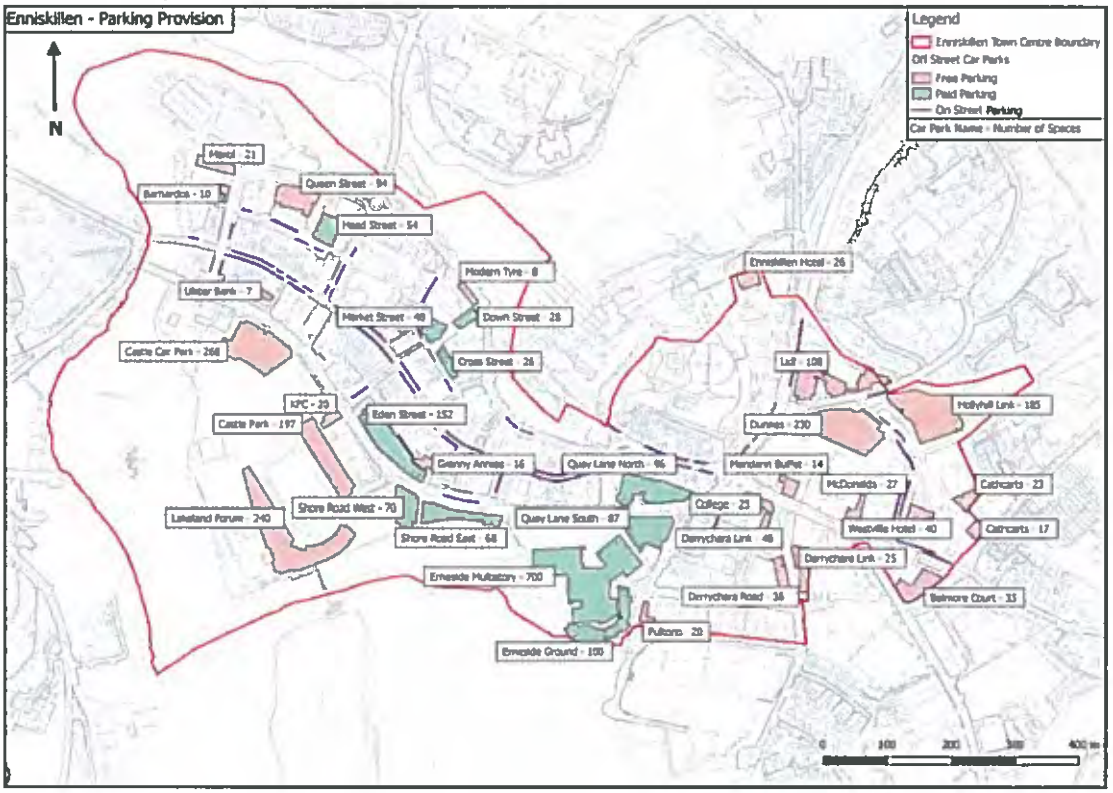


Figure 27 - Off-street Parking Provision by Spaces and Type in Enniskillen

Off-street car parking - Enniskillen						
Ref	**Site Name**	**Free/Paid**	**Tariff Reference**	**Ownership**	**Total Number of Spaces**	**Includes Number of Disabled Spaces**
C2_CP_01	Granny Annies	Free	N/A	Private	16	1
C2_CP_02	Ulster Bank	Free	N/A	Private	7	0
C2_CP_03	Barnardos	Free	N/A	Private	10	1
C2_CP_04	Maxol	Free	N/A	Private	21	2
C2_CP_05	Castle Car Park	Free	N/A	Council	268	2
C2_CP_06	Castle Pk	Free	N/A	Council	197	2
C2_CP_06	Lakeland Forum	Free	N/A	Private	240	14
C2_CP_07	Shore Road West	Paid	14	Council	70	3
C2_CP_08	Shore Road East	Paid	2	Council	68	4
C2_CP_09	KFC	Free	N/A	Private	20	1
C2_CP_10	Eden Street	Paid	2	Council	152	5
C2_CP_11	Cross Street	Paid	2	Council	26	1
C2_CP_12	Market Street	Paid	2	Council	48	2
C2_CP_13	Down Street	Paid	2	Council	28	0
C2_CP_14	Queen St	Free	N/A	Council	94	0
C2_CP_15	Head Street	Paid	2	Council	54	2
C2_CP_15	Modern Tyre	Free	N/A	Private	8	0
C2_CP_16	Quay Lane North	Paid	2	Council	96	3
C2_CP_17	Quay Lane South	Paid	14	Council	87	1
C2_CP_18	Erneside - Ground	Paid	2	Private	100	14
C2_CP_19	Erneside - Multistory	Paid	2	Private	700	18
C2_CP_20	Derrychara Rd	Free	N/A	Council	36	0
C2_CP_21	Derrychara Link	Free	N/A	Private	48	2
C2_CP_22	Derrychara Link	Free	N/A	Private	25	0
C2_CP_23	South West College	Free	N/A	Private	25	2
C2_CP_24	Mandarin Buffet	Free	N/A	Private	14	2
C2_CP_25	McDonalds	Free	N/A	Private	27	2
C2_CP_26	Enniskillen Hotel	Free	N/A	Private	26	0
C2_CP_27	Hollyhill Link	Free	N/A	Council	185	1
C2_CP_28	Dunnes	Free	N/A	Private	230	13
C2_CP_29	Lidl	Free	N/A	Private	108	7
C2_CP_30	Cathcarts	Free	N/A	Private	17	1
C2_CP_31	Cathcarts	Free	N/A	Private	23	1
C2_CP_32	Fultons	Free	N/A	Private	20	0
C2_CP_33	Belmore Court	Free	N/A	Private	33	2
C2_CP_34	Westville Hotel	Free	N/A	Private	40	1
				TOTAL	**3167**	**110**

Figure 28 - On-street Parking Provision in Enniskillen

On-street car parking - Enniskillen		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Limited Waiting 8am-7pm Monday-Saturday 1 hour no return within 2 hours	293	66.5%
Disabled Persons Parking - Limited Waiting 8am-7pm Monday-Saturday 1 hour no return within 2 hours	12	2.7%
Loading Bay Mon- Fri 8:30am-5:30pm. Limited Waiting Saturday 8am -7pm 1hr, no return within 2hrs	24	5.4%
Loading Bay Mon-Fri 8:30am-5:30pm	2	0.5%
Unrestricted Kerb	110	24.9%
Total	**441**	**100%**

Figure 29 - Parking Provision Locations in Omagh

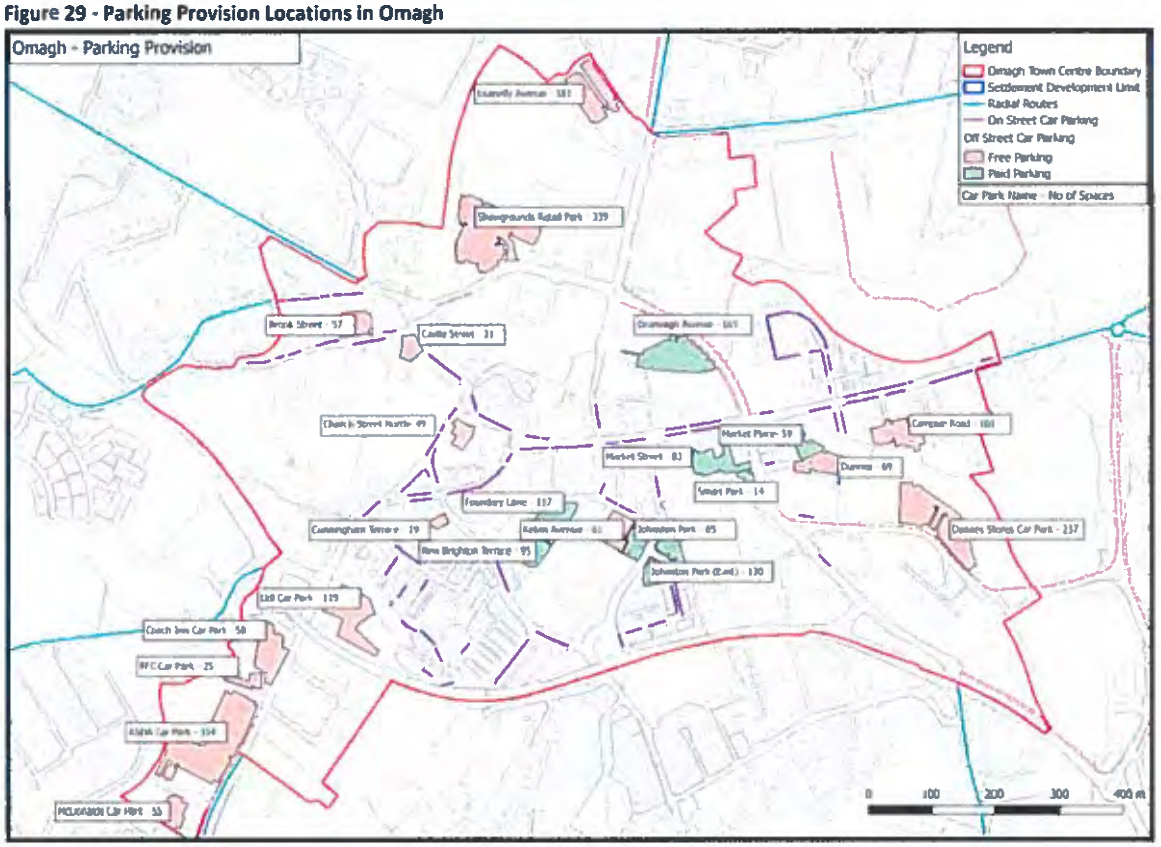


Figure 30 - Off-street Parking Provision by Spaces and Type in Omagh

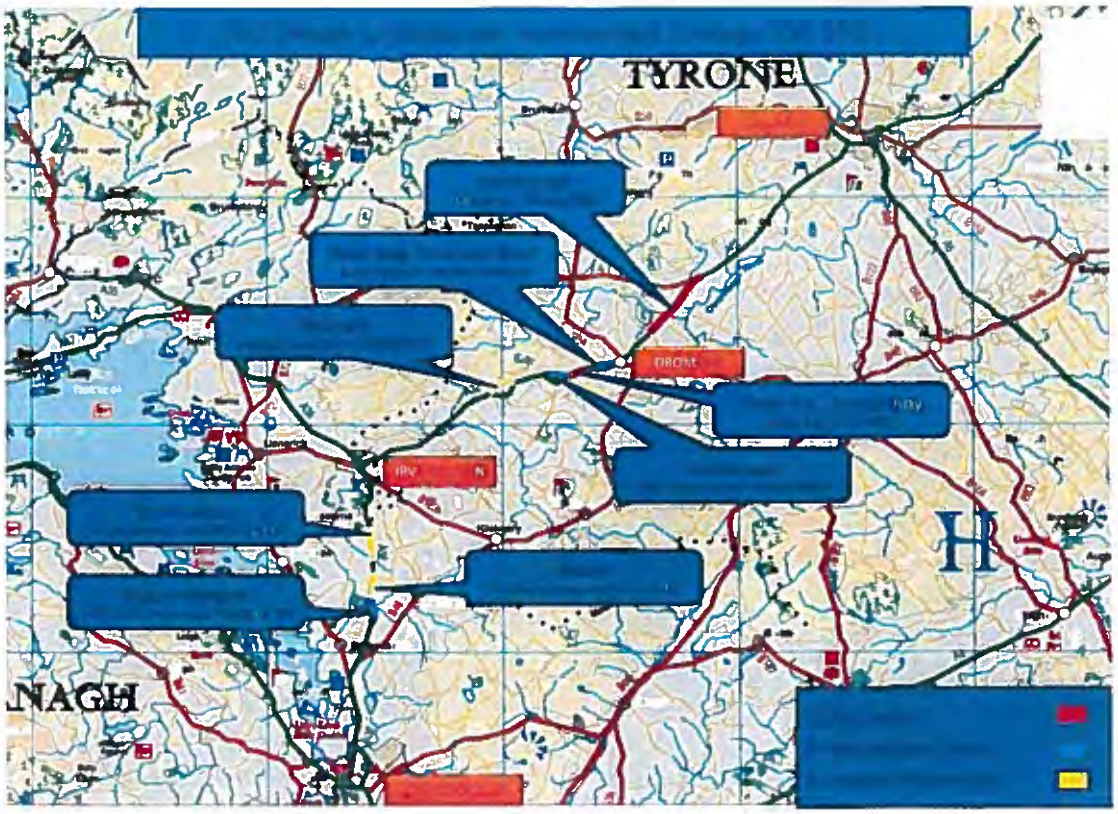
Off Street Parking – Omagh Town						
Ref	**Site Name**	**Free/ Paid**	**Tariff Reference**	**Ownership**	**Total Number of Spaces**	**Includes Number of Disabled Spaces**
C1_CP_01	Foundry Lane (30 Kevlin Avenue)	Paid	14	Council	117	2
C1_CP_02	Dunnes	Free	N/A	Private	69	4
C1_CP_03	Market Street (11 Dublin Rd)	Paid	2	Council	83	8
C1_CP_04	Cunningham Terrace	Free	N/A	Unknown	19	0
C1_CP_05	Castle St	Free	N/A	Council	31	0
C1_CP_06	Church St North	Free	N/A	Council	49	2
C1_CP_07	Brook St	Free	N/A	Council	57	3
C1_CP_08	Campsie Rd	Free	N/A	Council	101	4
C1_CP_09	Drumragh Avenue (3 Mountjoy Road)	Paid	8	Council	165	6
C1_CP_10	Showgrounds	Free	N/A	Private	339	27
C1_CP_11	Dunnes Stores Car Park	Free	N/A	Private	237	12
C1_CP_12	ASDA Car Park	Free	N/A	Private	334	17
C1_CP_13	McDonalds Car Park	Free	N/A	Private	55	3
C1_CP_14	Lidl Car Park	Free	N/A	Private	119	4
C1_CP_15	Lisanelly Avenue	Free	N/A	Unknown	181	4
C1_CP_16	KFC Car Park	Free	N/A	Private	25	2
C1_CP_17	Coach Inn Car Park	Free	N/A	Private	58	2
C1_CP_18	Kelvin Avenue	Free	N/A	Private	61	2
C1_CP_19	New Brighton Terrace	Paid	14	Council	95	0
C1_CP_20	Johnston Park (East)	Paid	15	Council	130	1
C1_CP_21	Johnston Park	Paid	15	Council	65	2
C1_CP_22	Market Place	Paid	2	Council	59	2
C1_CP_23	Smart Park	Paid	15	Private	14	1
				TOTAL	**2463**	**108**

Figure 31 - On-street Parking Provision in Omagh

On-Street Parking – Omagh Town		
Parking Length Description	**Number of Parking Spaces**	**Percentage of Total Spaces**
Disabled Badge Holders Only	30	6.2%
Limited Waiting Mon - Sat 8.30am - 6.00pm 60 mins No Return within 2 hours	4	0.8%
Limited Waiting Mon - Sat 8.30am - 6.30pm 60 mins No Return within 2 hours	217	44.9%
Limited Waiting Mon-Fri 8.30am - 6.30pm 60mins No Return 1 hour	7	1.4%
Loading Bay Only	1	0.2%
Loading Bay Only Mon-Fri 8.30am - 5.30pm Limited Waiting 8.30am - 6.00pm 60mins No Return within 2 hours	4	0.8%
Loading Bay Only Mon-Fri 8.30am - 5.30pm Limited Waiting Sat 8.30am - 6.00pm 60mins No Return within 2 hours	6	1.2%
Loading Bay Only Mon-Fri 8.30am - 6.00pm Limited Waiting Sat 8.30am - 6.00pm 60mins No Return within 2 hours	1	0.2%
Unrestricted Kerb	213	44.1%
Total	**483**	**100%**

ANNEX 2

Figure 32 - A32 Omagh to Enniskillen Improvement Strategy



Annex 3 – Fermanagh and Omagh Draft Plan Strategy- Strategic Objectives

Social

i. Develop the roles of Enniskillen and Omagh as economic, transportation and cultural hubs providing the main focus for new housing, employment, shops, leisure activities, public administrative and community services including health and education.
ii. Protect and sustain the role of local towns and villages so that they act as local centres for shops and community services meeting the daily needs of their rural hinterlands
iii. Provide for vibrant rural communities whilst protecting the countryside in which they live by accommodating sustainable development
iv. Provide for 6,230[1] new homes by 2030 across a range of housing types and tenures capable of meeting the needs of all sections of the community at locations accessible to existing and new community (including education) services, employment, leisure and recreational facilities.
v. Facilitate the development of new social, community and recreational services at locations accessible to existing communities and new housing developments, through a variety of modes of transportation e.g. public, active[2] and community.
vi. Provide for environments that are safe, healthy and connected and which enhance opportunities for shared space for all.

Economic

i. Promote sustainable economic development and growth by facilitating the creation of 4,875 new jobs by 2030 and providing a sufficient supply of economic development land through a range and choice of sites, taking into account accessibility by public transport and active travel modes.
ii. Promote inward investment, diversify the local economy, assist with economic regeneration and physical renewal, and help generate skilled, well paid employment opportunities and improve employability in the most deprived areas.
iii. Recognise and accommodate the micro-micro business base including rural entrepreneurship, self-employment and home working.
iv. Support the provision of an accessible, integrated, safe and sustainable transport network and locate development to improve accessibility by public transport, cycling and walking, help reduce car dependency and the impact of traffic on local communities and the environment.
v. Improve digital connectivity which both meets the needs of business and private households whilst reducing the need to travel.
vi. Develop FODC as a destination for quality leisure visits and sustainable tourism by enabling the provision of new, as well as enhancement of existing tourism infrastructure in appropriate locations.

Environmental

i. Conserve, sustain and enhance the area's environmental qualities, local distinctiveness including special landscapes, and sites of environmental importance in terms of biodiversity,

[1] The Revised Housing Growth Indicator for FODC for the period 2012-2025 is 4,500. This translates to 6,230 dwellings up to 2030.
[2] Active Travel is defined as personal travel involving some element of physical activity, mainly walking and cycling.

wildlife and habitats, local landscape character, townscape, traditional settlement patterns, and historic environment.

ii. Follow the principles of sustainability and high quality design standards in all developments to assist with meeting Climate Change targets and place-making.

iii. Sustainably manage and safeguard where appropriate our natural resources including minerals and water, protecting the environment and providing sustainable services including effective and sustainable waste management to meet population needs.

iv. Support renewables infrastructure whilst affording protection to the environment including landscape impacts of wind energy.

v. Prevent inappropriate new development in areas known to be at risk of flooding or that may increase the flood risk elsewhere and put in place measures to assist in flood risk management.

vi. Protect and enhance the local green infrastructure network such as open space and green wildlife corridors whilst contributing to the enhancement of community health and well-being.

Campbell, Orla

From:	Campbell, Orla
Sent:	07 February 2019 12:57
To:	'Dermot O'Kane'; 'Lois Jackson'; 'Michael Francey'; 'Sharon Mossman'; 'Hilda Clements'
Subject:	FW: Guidance on the preparation of LDP policies for transport
Attachments:	Dfl Guidance on the preparation of LDP policies for transport - February....pdf

From: Goodall, Elizabeth **On Behalf Of** Reid, Tom
Sent: 07 February 2019 12:56
To: 'anthony.tohill@midulstercouncil.org'; 'brendan.hegarty@fermanaghomagh.com'; 'david.jackson@causewaycoastandglens.gov.uk'; 'jacqui.dixon@antrimandnewtownabbey.gov.uk'; 'john.kelpie@derrystrabane.com'; 'liam.hannaway@nmandd.org'; 'roger.wilson@armaghbanbridgecraigavon.gov.uk'; 'stephen.reid@ardsandnorthdown.gov.uk'; 'wylies@belfastcity.gov.uk'; 'theresa.donaldson@lisburncastlereagh.gov.uk'; 'ann.mccullough@ardsandnorthdown.gov.uk'; 'anthony.mckay@nmandd.org'; 'chris.boomer@midulstercouncil.org'; 'Conor.Hughes@lisburncastlereagh.gov.uk'; 'Damien.Mulligan@armaghbanbridgecraigavon.gov.uk'; 'deirdre.mcsorley@fermanaghomagh.com'; Denise Dickson (CC&G) <denise.dickson@causewaycoastandglens.gov.uk>; 'thatchera@BelfastCity.gov.uk'; 'John.Linden@antrimandnewtownabbey.gov.uk'; 'maura.fox@derrycityandstrabanedistrict.com'; 'Paul.Duffy@midandeastantrim.gov.uk'; Sharon Mulhern (CC&G) <sharon.mulhern@causewaycoastandglens.gov.uk>; 'leona.maginn@ardsandnorthdown.gov.uk'; 'andrew.Hay@nmandd.org'; 'Sinead.McEvoy@midulstercouncil.org'; 'Proinsias McCaughey' <anne.donaghy@midandeastantrim.gov.uk>
Cc: Campbell, Orla <Orla.Campbell@infrastructure-ni.gov.uk>; Reid, Tom <Tom.Reid@infrastructure-ni.gov.uk>
Subject: Guidance on the preparation of LDP policies for transport

Dear Sir/Madam

Please find attached a document entitled "Guidance on the preparation of LDP policies for transport".

The purpose of this document is to assist Councils to formulate operational transport policies for inclusion in their forthcoming draft Plan Strategies.

This guidance document has been compiled by Dfl Roads and Transport Planning & Modelling Unit (TPMU) with the assistance and input of Dfl Strategic Planning Division and Dfl Planning Policy Division.

Please do not hesitate to contact me, or Orla Campbell (from TPMU) if you have any queries.

Regards

Tom Reid

Tom Reid
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DfI

Guidance on the preparation of LDP policies for transport

February 2019

DfI Guidance on the preparation of local operational planning policies for Transport

Introduction

Under the reformed two-tier planning system introduced in April 2015, Councils have considerably enhanced planning powers, including responsibility for the preparation of new Local Development Plans (LDPs). These reforms significantly enhance local democratic accountability and provide a new planning system that is more responsive to the priorities and needs of local people.

Whilst Councils have flexibility to bring forward operational policies tailored to local circumstances obviously these will have to be drawn up bearing in mind regional planning policy. In preparing LDPs Councils must take account of the RDS 2035, the Sustainable Development Strategy for Northern Ireland, the SPPS and any other policies, strategies, plans or advice in guidance issued by the Department.

It is recognised that LDPs prepared by Councils are a fundamental tool in the implementation of central government policies and strategic objectives on transport. It is therefore of critical importance that LDPs provide robust local operational policies and guidance that align with the policies, strategies, plans and advice of DfI in relation to transport.

DfI is currently developing a suite of local Transport Strategies and Plans which will set out intentions for investment in transport networks over the next 15 years. With this in mind, Councils are encouraged to engage with the Department when bringing forward future development and transport policies that are robust and integral elements of the new LDPs. The Department would wish the Councils' policies take account of the relevant Transport Strategies and Plans.

Our Transport Responsibilities

Following the reform to the Northern Ireland planning system in 2015, Department for Infrastructure (DfI) continues to be the competent authority for transport.

The DfI transport vision, as set out in 'Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation is:

"to have a modern, sustainable, safe transportation system which benefits society, the economy, the environment and which actively contributes to social inclusion and everyone's quality of life"

Local Development Plans and Transport Plans together have a key role to play in facilitating the integration of transportation and land use planning. Their preparation provides the joint opportunity to assess the transport needs, problems and opportunities within the Plan area and to ensure that full consideration is given to sustainable transportation matters in the allocation of land for future development. In addition the process represents a unique opportunity to combine the shared regional and local ambitions which are set out in the Programme for Government and also in each Councils' Community and Local Development Plans.

The integration of land use and transport planning has the potential to:

- Reduce the need for motorised travel
- Provide infrastructure that will enable an increase in the use of sustainable travel modes – walking, cycling and public transport
- Make better use of existing transport infrastructure and minimise the need for new transport infrastructure.

The Transport Plans will set out the Department's intentions in terms of new transport infrastructure and services. In preparing the Local Development Plan the Department would wish the Councils to take account of the relevant Transport Plans as and when they are complete.

Purpose of this guidance

The purpose of this guidance is to assist Councils with the drafting of sound operational planning policies to be included within the Local Development Plan. While it is material to the preparation of Local Development Plans, it is not intended to inform the consideration of planning applications and will therefore have little operational weight. As such, this guidance will not be subject to public consultation or published but will be provided to Councils by DfI in its capacity as a statutory consultation body in the preparation of the Council's Local Development Plan. This document provides essential background information. It also highlights the key considerations that should be taken into account to ensure that robust local

operational planning policies are formulated and the reasons why these policy considerations are important. The application of this guidance will be monitored and content will be kept under review.

The guidance recognises that Councils have the flexibility to formulate robust local transport policies that meet their local needs and align with the policy provisions of the SPPS and the draft Programme for Government. However, Planning Policy Statement 3 (Revised) Access, Movement and Parking' and Planning Policy Statement 13 'Transportation and Land Use' contain a number of Key Considerations supported by robust transport management policies that have been proven to work well since their introduction in 2005 and 2010 respectively. These policies are closely replicated (in a strategic way) in the Strategic Planning Policy Statement for Northern Ireland. The provisions of the SPPS apply to the whole of Northern Ireland. They must be taken into account in the preparation of LDPs and are material to all decisions on individual planning applications and appeals.

In preparing your Local Development Plan (LDP), the Council may wish to take account of the following Key Considerations:

1. Integration of land use and transportation
2. Active Travel Networks
3. Park & Share and Park & Ride
4. Creating an Accessible Environment
5. Access to Public Roads
6. Protected Routes
7. Safeguarding new transport schemes
8. Disused Transport Routes
9. Transport Assessments & Travel Plans
10. Walking & Cycle provision
11. Provision of public and private car parks
12. Car Parking & Servicing
13. Design of Car Parking
14. Temporary Car Parks

The detailed policies within PPS 3 and PPS 13 (and the strategic provisions of the SPPS) are proven to work and DfI Roads considers that these policies are seen as exemplar across the United Kingdom and Ireland. The above key considerations are at the heart of policies in PPS 3 and PPS13 and the SPPS. It is vitally important that future Local Plan Policies take full account of these key considerations. Not to do so would be a significant backward step and could potentially result in a LDP being found to be unsound.

The Key Considerations are presented in this guidance in order to promote a comprehensive understanding of transport issues and to support the preparation of robust operational transport policies in LDPs.

The following table sets out the recommended approach to the formulation of local operational planning policies for transport.

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Approach	Explanation and Justification	Link to SPPS
Promotion of sustainable patterns of development and accessibility for all	Integration of land use and transportation	Accessibility Analyses should be employed to assist in the identification of appropriate development sites where integration with public transport, cycling, walking and the responsible use of the private car can best be achieved Guidance in the use of accessibility analysis has been provided to the Councils and is included in Annex 1 of this document.	The SPPS acknowledges that "the successful integration of transport and land use is fundamental to the objective of furthering sustainable development" (6.293) – this approach highlights the role of planning for improving connectivity and promoting more sustainable patterns of transport and travel. Furthermore the SPPS states "the aim of the SPPS with regard to transportation is to secure improved integration with land-use planning" which is consistent with the RDS and the New Approach "and to facilitate safe and efficient access, movement and parking" (6.296).To achieve the SPPS regional strategic objective' to 'promote sustainable patterns of development which reduce the need for motorised transport, encourages active travel , and facilitate travel by public transport in preference to the private car' (6.297). The location and design of development has a fundamental influence on travel patterns. In the allocation of land in a development plan and making decisions on development proposals, a key aim will be to integrate transportation and land use in ways which enable people to carry out their everyday activities with less need to travel and with the maximum modal choice. This will require the consideration of ways to reduce the physical separation between housing and services (such as shopping, jobs, health and education facilities) "through allocating sites for housing development in proximity to existing or planned provision of services" (SPPS 6.301) in line with bullet point one of SPPS paragraph 6.297.	6.297 and 6.301

Promotion of sustainable patterns of development and accessibility for all	Active Travel Networks	In accordance with the SPPS "LDPs should identify active travel networks and provide a range of infrastructure improvements to increase use of more sustainable modes. In particular, within urban areas, providing enhanced priority to pedestrians, cyclists and public transport and an appropriate level of parking provision which is property managed."	Walking and cycling constitute core components of an integrated transport approach and have the potential to reduce reliance on other forms of transport, particularly within urban areas. The draft Programme for Government commitment to increase the percentage of journeys made by walking, cycling and public transport depends on reducing the percentage of journeys made by other means. In order to achieve this, it is important that good quality infrastructure – convenient continuous, coherent and comfortable – in the form of comprehensive walking and cycling networks are an integral part of LDPs.	6.300
Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion	Park & Share and Park & Ride	Park & Share and Park & Ride sites should be developed in appropriate locations to reduce the need to travel by private car and encourage the use of public transport.	The Regional Strategic Objectives within the SPPS acknowledge the importance of encouraging active travel and facilitating travel by public transport in preference to the private car and explicitly includes an objective "to promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion" (6.297). This is one way in which planning can support the creation of an environment where there are more opportunities for active and sustainable travel through Park & Share and Park & Ride – thereby reducing traffic congestion on the transport network	6.297 & 6.301

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Wording	Explanation and Justification	Link to SPPS

Ensuring accessibility for all, with the needs of people with disabilities and others whose mobility is impaired given particular consideration	Creating an Accessible Environment	Developers will be required (where appropriate) to take account of the following (building on SPPS 6.302). a) facilities to aid accessibility e.g. provision of dropped kerbs, tactile paving etc, together with the removal of any unnecessary obstructions; b) Convenient movement along pathways and an unhindered approach to buildings; c) pedestrian/ cycling priority to facilitate pedestrian/ cycle movement within and between land uses; and d) Ease of access to reserved car parking, public transport facilities and taxi ranks. The development of a new building open to the public, or to be used for employment or education purposes, will only be permitted where it is designed to provide suitable access for all, whether as customers, visitors or employees. In such cases the Council will operate a presumption in favour of a level approach from the boundary of the site to the building entrance and the use of steps, ramps or mechanical aids will only be permitted where it is demonstrated that these are unavoidable and can be facilitated from the public footway without overly impairing available width. Development should be designed to facilitate ease of access for all pedestrians including wheelchair users, not only to the building entrance but also to and from the pedestrian environment around the building. Access to existing buildings and their surroundings is improved as opportunities arise through alterations, extensions and change of use. Where appropriate, an Access Statement should be required to accompany development proposals.	The SPPS identifies the need to "ensure accessibility for all, with the needs of people with disabilities and others whose mobility is impaired given particular consideration" (6.297). The current guidance documents adopted by the Department is "Creating Places – Achieving Quality in Residential Developments." This guidance demonstrates how quality places, whether created in rural surroundings or an urban setting, will respect their context and make the most of the existing site characteristics. A well designed layout protects and respects natural habitat and heritage, encourages walking and cycling and provides convenient access to public transport.	6.297
Promote road safety in particular for pedestrians, cyclists and other vulnerable road users.	Access to Public Roads	Planning permission will only be granted for a development proposal involving direct access, or intensification of the use of an existing access, onto a public road where: a) Such access will not prejudice road safety or significantly inconvenience the flow of people or goods; and b) The proposal does not conflict with Policy Area Protected Routes. The acceptability of access arrangements, including the number of access points onto the public road, will be assessed against the Departments current published guidance set out in Annex 2 in addition to:	The land-use planning system has an important role to play in promoting road safety, as identified in the SPPS. It is important to fully consider the effect proposed new development will potentially have on the public road network and Planning Authorities should ensure appropriate policy is included in the LDP. A well designed access is important for the safety and convenience of all road users. The standards used to determine the suitability of a new or intensification of use of an existing access are set out in the Departments guideline's "Development Control Advice Note 15 (2nd Edition)."	6.297

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
		• The nature and scale of the development; • The character of existing development; • The contribution of the proposal to the creation of a quality environment – including the potential for urban/ village regeneration and environmental improvement; • The location and number of existing accesses; and • The standard of the existing road network together with the speed and volume of traffic using the adjacent public road and any expected increase. The standards used to determine the suitability of a new or intensification of use of an existing access are set out in the Departments guidance 'Development Control Advice Note 15 (2nd Edition)' together with 'Creating Places'.		

Restrict the number of new accesses and control the level of use of existing accesses onto Protected Routes	Protected Routes	LDP policy relating to protected routes must provide clear policy coverage on the various classes of protected route: a) Motorways and high standard dual carriageways – All locations: Planning permission will not be granted for development proposals involving direct access – with the potential exception for motorway service areas where there is demonstrable need. b) Other dual carriageways, Ring Roads, Through-Passes and By-Passes – All locations: Planning permission will only be granted for a development proposal involving direct access or the intensification of the use of an existing access in exceptional circumstances or where the proposal is of regional significance. c) Other protected routes – outside settlements and within settlements: the provisions as set down by the SPPS should be applied. d) Petrol filling stations – in addition to the above mentioned criteria, local operational planning policy should require that proposals for new petrol filling stations in the countryside, within 12 miles of existing services, will not be acceptable. It is considered reasonable to expect car users to travel at least 12 miles along the protected route network before reaching a petrol filling station or service area (on either side of single carriageway roads). Where	The SPPS provides a clear direction as to the importance of regionally designated protected routes located within the Plan area. This policy is intended to protect roads which contribute significantly to economic prosperity by providing efficient links between all the main towns, airports and seaport, and with the Republic of Ireland.	6.297 & 6.301

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Wording	Explanation and Justification	Link to SPPS
		a protected route is already adequately served by existing services the creation of new petrol filling stations will not be acceptable. All such development proposals for petrol filling stations should meet normal planning, environmental and road safety considerations.		

Protect routes required for new transport schemes including disused transport routes with potential for reuse	Safeguarding new transport schemes	Planning Permission must not be granted for development that would prejudice the implementation of a transport scheme identified in a LDP or Transport Plan. In addition, the following matters must be taken into account in assessing whether the implementation of a particular scheme would be prejudiced by a development proposal: • The nature of the proposal; • The programming of the transport scheme; and • The extent to which implementation of the scheme would be compromised by the carrying out of the proposed development.	SPPS sets out the requirement for new transport schemes or planned improvements to the transport network to be identified in the LDP and "to be afforded adequate protection from development likely to jeopardise its implementation" (6.301). The Department continues to be committed to making every effort to minimise the effects of blight – and where this is unavoidable provision exists to compensate landowners whose land is required for such schemes.	6.297
Protect routes required for new transport schemes including disused transport routes with potential for future reuse	Disused Transport Routes	Planning Permission will not be granted for development that would prejudice the re-use of a disused transport route identified in a LDP or Transport Plan for transport or recreational purposes.	The SPPS sets out the requirement for LDPs to 'identify and safeguard disused transport routes such as former railway lines and canals where there is a reasonable prospect of re-use for future transport purposes' (6.301). It is anticipated that the forthcoming Local Transport Strategies will assess the need for continued protection of such routes and will make a recommendation to the planning authority as to the need for continued protection for transport route protection.	6.301
Promote sustainable patterns of development and road safety	Transport Assessments & Travel Plans	LDP policy should make reference to the Departments current published TA guidance, and include reference to the requirement for developer contributions - where a development necessitates the provision of additional transport infrastructure improvements these costs shall be borne by the developer.	Transport Assessment (TA) represents a significant tool that assists with the integration of transport policy and land-use planning. The SPPS identifies the requirement for planning authorities to "apply the Department's published guidance"[1]. It is suggested that Travel Plans, through the setting out of complementary measures can help to mitigate	6.303

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Wording	Explanation and Justification	Link to SPPS

[1] Transport Assessment Guidelines for Development Proposals in Northern Ireland – October 2006

		The coverage and detail of a TA should reflect the scale of development and the extent of the transport implications of the proposal. In applications for significant travel generating uses, a TA may need to be accompanied by a Travel Plan	adverse impacts highlighted by TA's. It is vital that planning authorities make appropriate provision for the monitoring and enforcement of Travel Plans, particularly where agreed objectives are not met – this may be done through attaching a condition to the planning consent or any legal agreement.	
Encourage active travel and promote the provision of adequate facilities for cyclists	Walking & Cycle provision	Planning permission should only be granted for development where the needs of pedestrians and cyclists are taken into account. Where appropriate the following may be required: a) safe and convenient pedestrian and cycle access; b) safe, convenient and secure cycle parking having regard to the Department's[2] published standards; c) Safe and convenient pedestrian and cycle links to existing or programmed cycle networks; Major employment generating development will be required to make appropriate provision for shower and changing facilities	Programme for Government Outcomes 2 and 11 commit the Department to securing increased levels of journeys made by walking, cycling and public transport. In order to achieve this, walking and cycling as everyday modes of transport, within urban areas, must be made easier. A major concern which discourages people from walking and cycling is the lack of good quality infrastructure. To address this, new development should incorporate safe walking and cycling routes within the site and provide links to existing or programmed cycle networks. Planning authorities have a key role to play in this through the LDP and development management process in addition to the requirements of the SPPS.	6.301
Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion	Provision of public and private car parks	Applicants should be required to demonstrate that the proposal: a) does not significantly contribute to an increase in congestion; b) does not have a detrimental impact on local environmental quality c) within defined areas of parking restraint will only be used for short-stay parking and is appropriately managed to deter long stay commuter parking; and d) is compatible with adjoining land uses.	Car parking is considered to be a key transport policy lever and can, when appropriately managed act as a stimulant to economic development whilst having environmental and safety benefits in locations such as town and city centres. In line with the SPPS the planning authority "should be satisfied that there is a need for the development by reference to the councils overall parking strategy following a robust analysis by the applicant" (6.305).	6.301

SPPS Regional Strategic Objective	Key Policy Consideration	Best Practice Policy Wording	Explanation and Justification	Link to SPPS

[2] DFp parking Standards, Page 2, Annex A

Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion	Car Parking & Servicing	All car parking and servicing proposals should not prejudice road safety or significantly inconvenience the flow of people or goods.	The SPPS states "in assessing the appropriate amount of car parking, account should be taken of the specific characteristics of the development and its location, having regard to the Department's published standards[3] and any reduction in standards provided for through the LDP or Transport Assessment" (6.304).	6.301
Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion	Design of Car Parking	Development must include a high standard of design, layout and landscaping for parking and permission will only be granted where all the following criteria is met: a) It respects the character of the local townscape/ landscape; b) It will not adversely affect visual amenity; and c) Provision has been made for security, and the direct and safe access and movement of pedestrians and cyclists within the site.	The quantum and arrangement of car parking can have a significant impact on the quality of the built and natural environment. Therefore all proposals for parking and associated facilities should be well designed, respect local character and their wider setting.	6.301
Promote parking policies that will assist in reducing reliance on the private car and help tackle growing congestion	Temporary Car Parks	Planning permission should not be granted for the development of a temporary car park unless it is demonstrated that: a) It complies with Policy Area Provision of public and private car parks and the developer can show that a need exists which cannot be met in the short term by the Council or the private sector; and b) It is submitted in conjunction with programmed proposals to develop/redevelop the site in question. Planning permission if granted, will be subject to a time-limited condition for a period of 1 year.	As identified above in the provision of public and private car parks, car parking is inextricably linked to both transportation and broader environmental objectives.	6.301

[3] Parking Standards (published by DOE, 2005)

ANNEX 1 Accessibility Analyses Guidance

Concept

The concept of accessibility focuses on the relationship between four key parameters;

- a location and its land-use;
- an essential service relevant to the land-use;
  - a specified mode of transport;
  - and, the time of travel.

The consideration of the assessment of level of accessibility must therefore be considered separately by:

- Land-Use at the location, for example, o Housing or o Employment
- The services important to the land-use, for example;
  - o Employment
  - o Shopping
  - o Health
- The mode of travel, for example; o Public Transport o Walk o Cycle
  - o Car
- Time of day or day of week, for example; o Weekday 7am – 9am – employment o Weekday evening 8pm – 10pm – shopping o Saturday 10am – 2pm – shopping

Isochrone Maps

The use of isochrone maps is a central component of accessibility analyses. Isochrones are lines which join locations of equal travel time **from** a chosen origin or **to** a chosen destination or vice versa. Using geographic information systems (GIS) techniques, isochrones can be produced on map bases and can be colour banded in, say, 10 minute intervals. The isochrone map therefore allows the reader to distinguish readily between areas with short travel times and hence good accessibility and areas with long travel times and poor accessibility. Depending on the analysis required, GIS techniques can combine the isochrone catchment areas with census (or similar) geo-coded population data, to allow estimates to be made of the number of people who fall into different accessibility classifications (e.g. less than 20 minutes, 20 to 30 minutes, or greater than 30 minutes).

Context

Three principal types of accessibility will be considered in this guidance:

- **Regional Accessibility** – providing an overview often relevant to a town or Council area
- **Strategic Accessibility** – a coarse assessment of accessibility appropriate for strategic or preliminary decision making
- **Local Accessibility** – a geographically detailed assessment of accessibility appropriate for consideration of a site for zoning purposes.

Regional Accessibility

Regional accessibility is concerned with the accessibility of a location in terms of access to regionally important destinations. It is most useful for categorising a broad area such as a Council Area or a main town. It is proposed that the provision of separate travel times by public transport and car only are sufficient as accessing destination considered to be of importance to the region using walking and cycling modes is unlikely to become the norm.

Isochrones maps should be generated from a single key location. It is recommended that this is from the most relevant town centre or local public transport hub in order to present the best possible public transport times. The maps could indicate destinations considered to be important to the region such as the main ports, airports, cities, and border crossings to enable the reader to undertake their own visual assessment of accessibility to these destinations.

Figure 1 and Figure 2 show how regional accessibility maps can look using Enniskillen as an example and how the results can vary between public transport and car modes. The maps show clearly: □ The generally concentric nature of the car isochrones colour bands arising from the density of road network;

- The elongation of the car isochrones coinciding with the M1 motorway on which speeds are high;
- The very irregular pattern of public transport isochrones arising from the comparatively limited coverage of connecting services from Enniskillen;
- The radial pattern of public transport isochrones in the vicinity of Enniskillen provided by local bus services;
- The 'spotted' and discontinuous isochrones arising from Goldline limited-stop services to Belfast; and,
- The long journey times by public transport to locations beyond the Enniskillen and Omagh area due to limited connecting services or interchange in Belfast.

The Regional Accessibility maps are proposed as a useful tool in highlighting variations in the standard of the transport network arising from travel speed and directness of route. In general for car these will relate to road standards – i.e. Motorway, dual carriageway or single carriageway. In general for public transport they will relate to mode (i.e. train, limited-stop bus or local bus) and the availability and interconnectivity of services.

Annex 1A provides additional detail relating to the creation of the regional accessibility maps using TRACC Accessibility Analysis software.

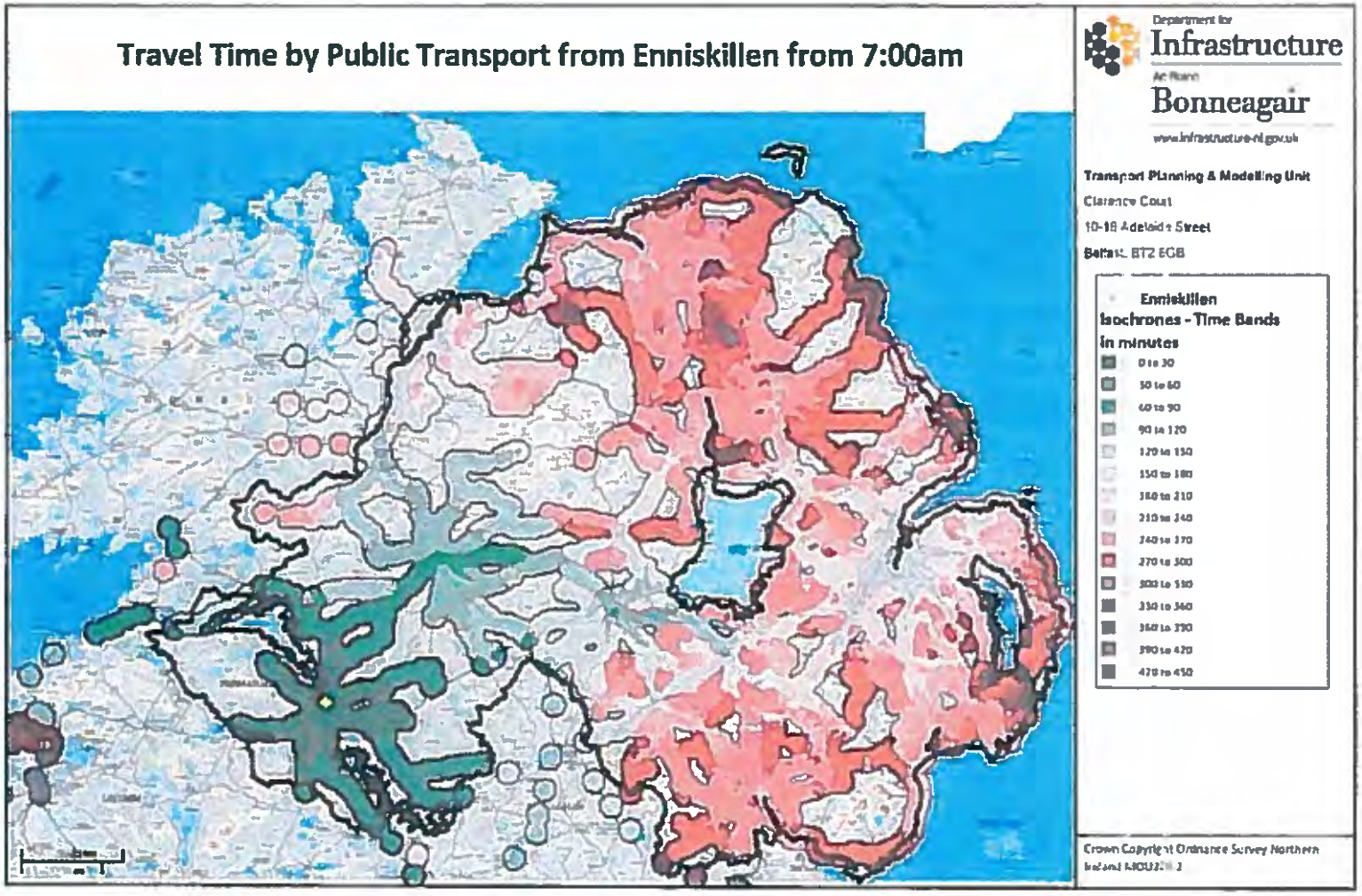

Figure 1 - Travel Time by Public Transport from Enniskillen from 7:00am

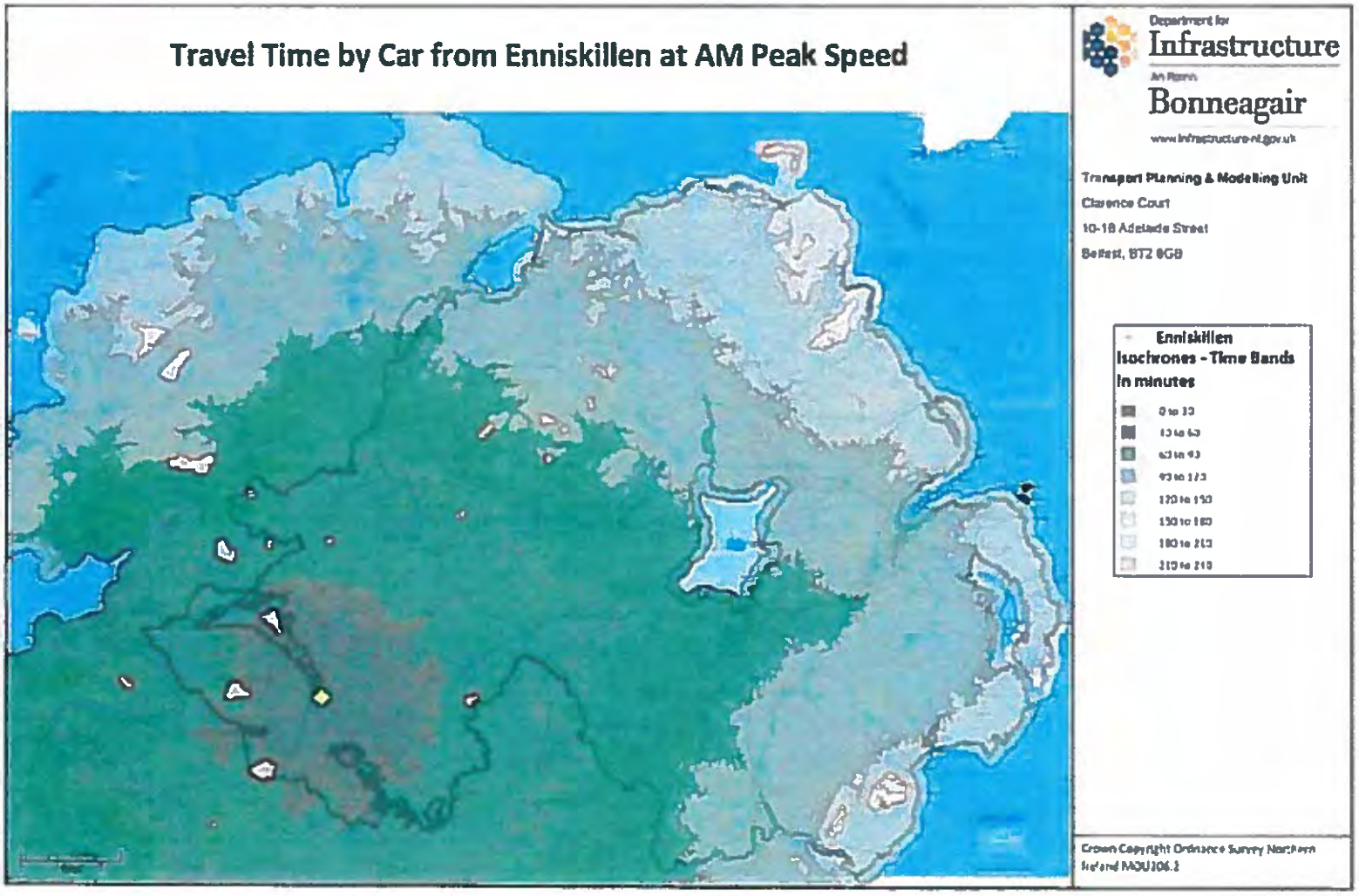

Figure 2 - Travel Time by Car from Enniskillen at AM Peak Speed

Strategic Accessibility

Strategic accessibility is concerned with a broad assessment of accessibility in order to guide strategic decisions such as those being made at Plan Strategy stage. It is proposed that, in general, isochrones drawn from the town centre will be adequate for this assessment as the town centre can be used as a proxy location for key services. However, separate isochrones maps will be needed for walking, cycling, public transport and car modes.

Public transport (PT) isochrones will also be needed for a range of time periods to enable accessibility to different key services to be compared. Table 1 summarises the time periods and key services that should be used when assessing strategic accessibility.

Table 1 – Strategic Accessibility Maps by Mode and PT Time Period

Strategic Use	Modes				PT Time periods
Residential	Walk	Cycle	PT	Car	AM Peak Inter-peak Saturday
Employment	Walk	Cycle	PT	Car	AM Peak

Figures 3 – 7 show how strategic accessibility maps can look using Enniskillen as an example, and how the results can vary between modes:

- **Figure 3 walking** - the limited area included in the isochrones reflects the low speed, whilst the irregular shapes reflect the limited number of bridge crossings and a number of cul-de-sac layouts
- **Figure 4 cycling** – the increased area over walking reflects the increased speed, whilst the 'finger-like' shapes reaching outward reflect the road network coverage
- **Figure 5 PT Weekday AM peak** – is similar to Figure 1 but provides additional detail and stops at 60 minutes
- **Figure 6 PT Saturday** compares closely to Figure 6 but there are fewer local routes to west and east
- **Figure 7 car** – is similar to Figure 2 but provides additional detail and stops at 60 minutes

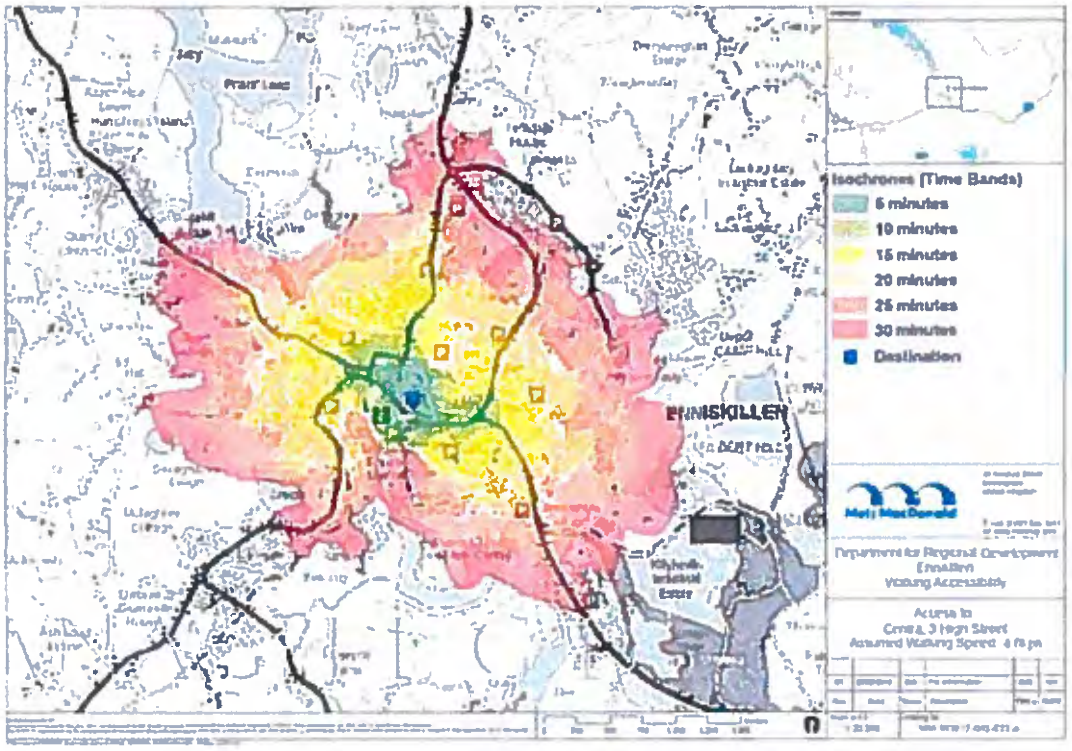

Figure 3 Walk Access to Enniskillen Town Centre

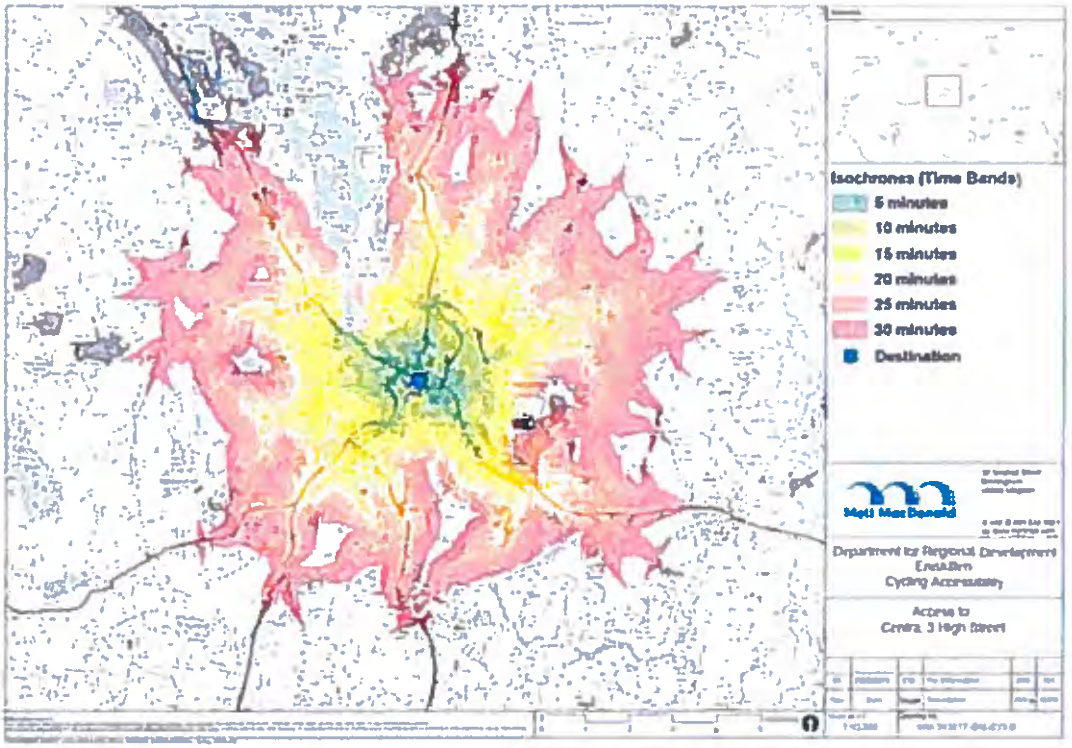

Figure 4 Cycle Access to Enniskillen Town Centre

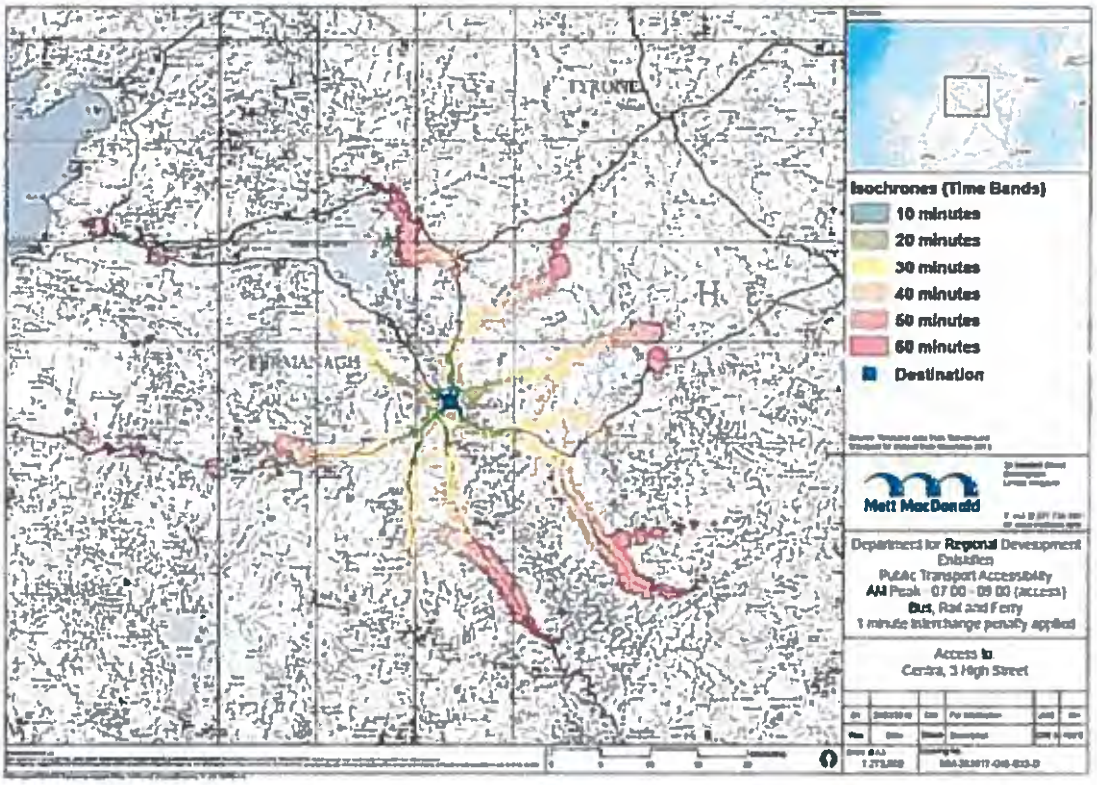

Figure 5 Public Transport Access to Enniskillen Town Centre – Weekday AM Peak

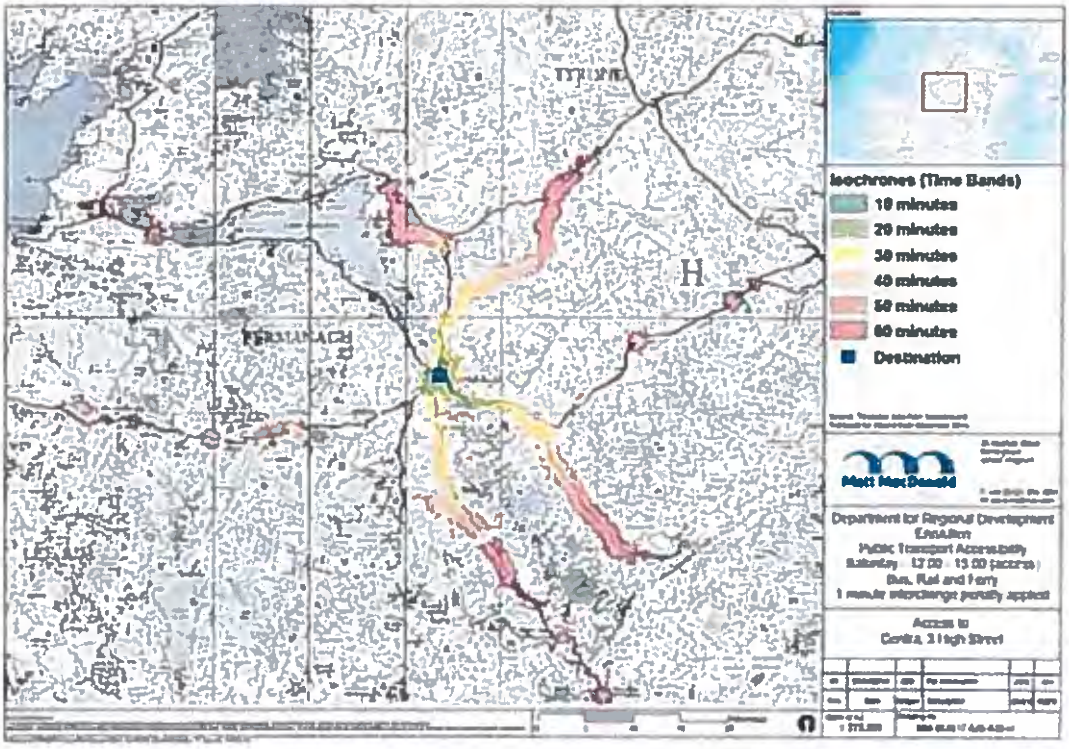

Figure 6 Public Transport Access to Enniskillen Town Centre – Saturday Lunchtime

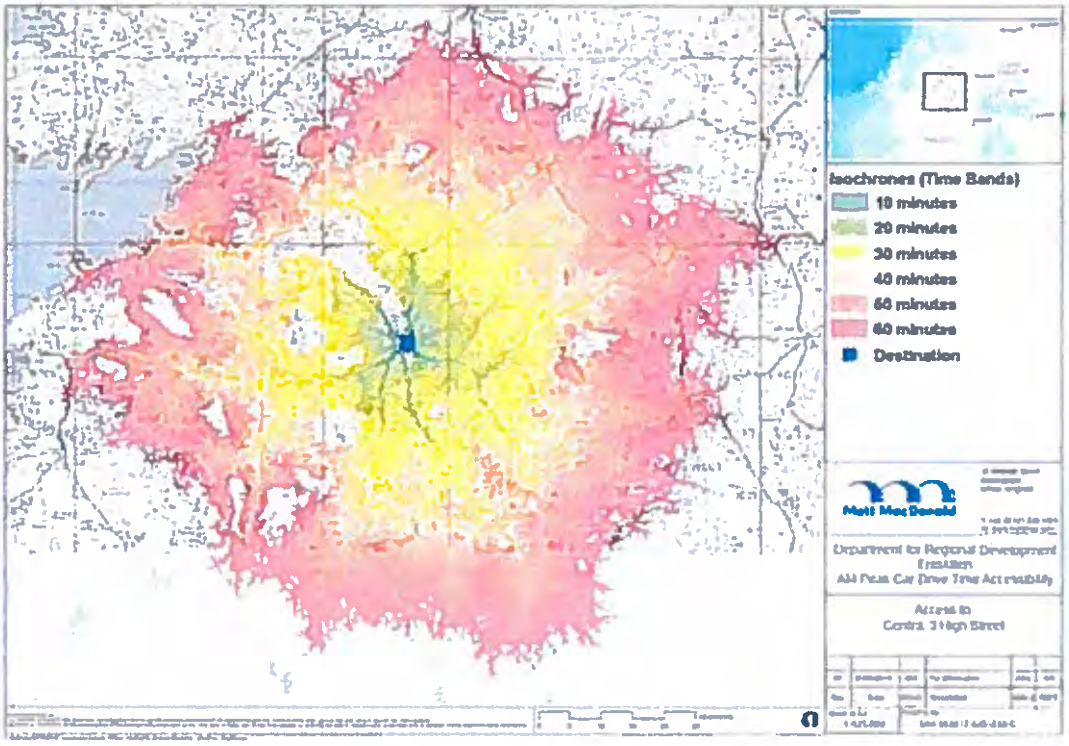

Figure 7 Car Access to Enniskillen Town Centre – Weekday AM Peak

The Strategic Accessibility maps are proposed as a useful tool in identifying strategic differences in accessibility between locations. Whilst many of these differences may be known to experienced local planners, some may not. The maps may therefore be useful in identifying particularly strong or weak alternative locations for new development at the Plan Strategy stage.

For example Figure 3 shows that the Rossorry area to the south west of Enniskillen is more than 30 minutes by walk from the town centre – this would be especially important in considering a residential use. In addition Figures 6 and 7 illustrate which road corridors are served by bus and in particular that there only 3 adequately served corridors on Saturday. Figure 6 – Public Transport Access to Enniskillen Town Centre – Weekday AM Peak, in particular would be especially important for an employment use as it shows the corridors served by public transport during the weekday commute.

Annex 1B provides additional detail as to how the 2016 strategic accessibility maps were created using TRACC accessibility analysis while Annex 1C outlines the parameters required to produce similar strategic accessibility maps using TRACC Accessibility Analysis software.

Local Accessibility

Local accessibility is concerned with the accessibility of individual locations or sites in order to guide zoning decisions at Local Policies Plan stage or potentially individual planning applications.

Whilst isochrones drawn from the town centre were used for strategic decisions, it is clear that greater geographic detail is needed for local decisions. Therefore it is proposed that specific isochrones maps are produced for each individual location or site. As with strategic accessibility, separate isochrones maps will be needed for public transport, walking, cycling and car modes.

Public transport isochrones will also be needed for a range of time periods to enable accessibility to different key services to be compared. Table 2 summarises the time period and key services that should be used when assessing local accessibility and the direction of travel to be considered.

Table 2 – Local Accessibility Maps by Mode and PT Time Period

Land-Use	Direction of Travel	Modes				PT Time periods	PT Purpose
Residential	From	Walk	Cycle	PT	Car	AM Peak Inter-peak Saturday	Employment Shopping and Health Shopping
Employment	To	Walk	Cycle	PT	Car	AM Peak	Not Applicable

Residential Land-uses

For residential land-use locations, the isochrones should be created with the location in the centre of the map and the location of key services may be mapped as reference points. It is proposed that the town centre is used as a proxy for employment. The following types of local services should be considered:

- Retail food stores for Shopping purpose
- General Practice doctors' surgeries for Health purpose

Figure 8 presents a Residential Land-use Local Accessibility Map for walk using an example in Dungannon. The map is centred on the location of interest and walk isochrones up to 30 minutes have been generated.

For ease of reference, the similar maps for other modes are presented in Annex 1E. Figures A1 and A2 present the maps for cycling and car isochrones respectively. Figures A3 and A4 present the public transport isochrones for AM peak and Inter-peak respectively.

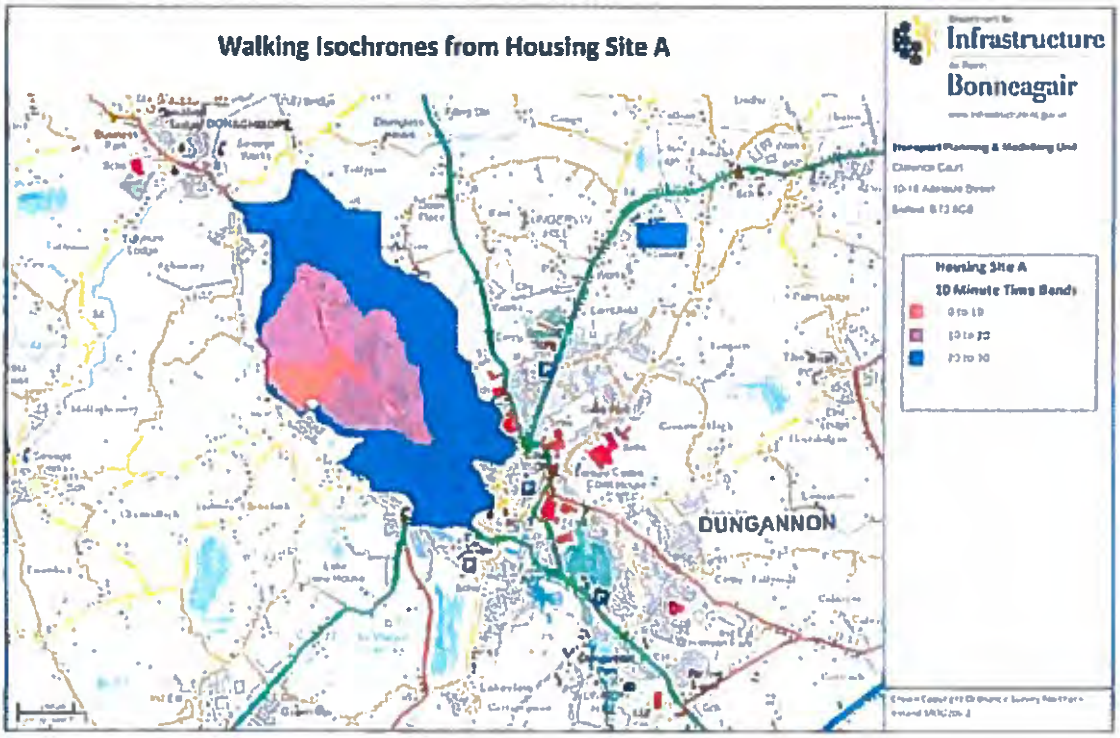

Figure 8 Walking Isochrones from Potential Housing Site in Dungannon

By manual assessment of the isochrones maps the minimum access time to each of local services such as supermarkets, large centres of employment and doctors' surgeries can be identified and recorded by mode. Table 3 presents, as an example, a theoretical set of results produced from Figure 8 and Figures A1 – A4.

Table 3 Local Accessibility Results – Residential

Service	Walk	Cycle	PT	Car	PT Time Period
Employment	>30 Minutes	10 – 20 Minutes	<10 Minutes	<10 Minutes	AM Peak
Shopping	20-30 Minutes	<10 Minutes	10 – 20 Minutes	<10 Minutes	Inter-peak
Health	20-30 Minutes	<10 Minutes	<10 Minutes	<10 Minutes	Inter-peak

A key purpose of accessibility analysis is to compare the performance of alternative locations or sites. Therefore it is envisaged that for each alternative location, a table similar to Table 3 would be prepared. Whilst the tabular format facilitates comparison, it is proposed that it may also be convenient to consider 'generic' levels of accessibility – i.e. excellent, good, fair or poor. Table 4 presents a potential scoring matrix for residential locations by mode. Car travel times are omitted at this stage as they vary little and are of limited relevance to sustainable practices. The table has been

devised on the basis of time bands, ranging from greater than 30 minutes denoting 'poor' or effectively inaccessible, to less than 20 minutes denoting 'good'. A walking travel time of less than 10 minutes is denoted as 'excellent'.

Table 4 – Local Accessibility Scoring Matrix - Residential

Walking Time	Cycling Time	Public Transport Time	Assessment
> 30 Minutes	> 30 Minutes	>30 Minutes	Poor
20 - 30 Minutes	20 - 30 Minutes	20 - 30 Minutes	Fair
10 -20 Minutes	< 20 Minutes	< 20 Minutes	Good
< 10 Minutes			Excellent

These generic levels of accessibility can be applied upon the results from Table 3 to provide a more striking graphical representation as presented in Table 5. It is proposed that the best generic score across all modes should be used for each service. Therefore for the residential location in Table 5, access to each of the services would be considered as:

- Employment – Good
- Shopping – Good
- Health – Good

Service	Walk	Cycle	PT	PT Time Period
Employment	30 Minutes	< 20 Minutes	< 20 Minutes	AM Peak
Shopping	20-30 Minutes	< 20 Minutes	< 20 Minutes	Inter-peak

Health	20-30 Minutes	< 20 Minutes	< 20 Minutes	Inter-peak

Employment Locations

For employment locations, the isochrones should be created with the location in the centre of the map. In this case, the number of residents who can access the location within a particular travel time, by particular mode, is the best measure of accessibility. It may be useful to denote generic levels of accessibility, using the same travel time values as for residential accessibility.

Figure 9 presents an Employment Location Local Accessibility Map for walk using a location close to Dungannon as an example. As before the map is centred on the location of interest and walk isochrones up to 30 minutes have been generated.

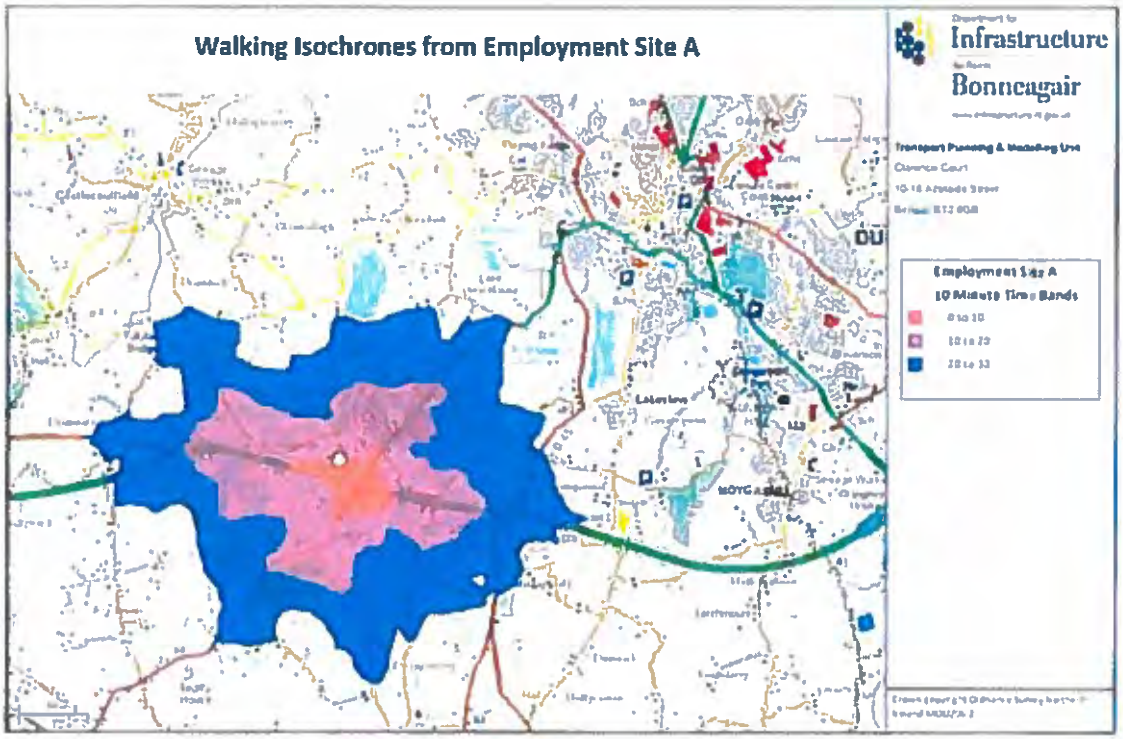

Figure 9 Walking Isochrones from Potential Employment Site A near Dungannon

In order to produce a quantified measure of accessibility it is necessary to combine the isochrones with the 2011 census population at Small Area level using TRACC or a similar GIS function. Table 6 presents an example set of results based on the numbers of residents in the vicinity of Employment Site A near Dungannon allocated to the generic levels by mode. Note that no calculation is made for the assessment of 'poor' as this would be infinite.

It can be seen that as expected the number of residents who are within walking distance is relatively low compared to the number who can access the site either on bike or by public transport. However,

these numbers are much more meaningful once accessibility analysis has been completed on multiple sites and data is available for comparison. Therefore it is envisaged that for each alternative employment location, a table similar to Table 6 would be prepared.

Table 6 Local Accessibility Assessment – Employment Site A near Dungannon

Residents Walking	Residents Cycling	Residents Public Transport AM Peak	Assessment
577	12,568	9,187	Fair
241	6,932	6,883	Good
27			

Annex 1D outlines the parameters required to produce local accessibility maps using TRACC Accessibility Analysis software.

ANNEX 1A – Key TRACC Parameters for Regional Accessibility Maps

Walking Speed	4.8km/hr
Walking variation multiplicative factor (while off Network)	1.2
Maximum Walking Distance to the Network (all modes)	800m
Maximum Public Transport Interchange distance	400m
Public Transport Interchange Penalty	5 Minutes
Maximum Car Walking Distance to the Network	800m
Maximum Public Transport Journey Time	7.5 hours
Public Transport Timeframe	Tues 07:00-17:30
Maximum Car Journey Time	4 hours
Car Timeframe	07:00-12:00
Regional Origin Grid Spacing	200m
Recommended Time Bands	30 minutes

ANNEX 1B –

Information on the Creation of the 2016 Strategic Accessibility Maps using TRACC

Accessibility Analyses Mapping

Accessibility Analyses maps were previously produced for central locations for urban areas across Northern Ireland that had a population of over 5,000 at the time of the 2011 census.
It is proposed that any future Strategic Accessibility Maps should use similar parameters. For each destination, the following maps were produced:

- Walk Access
- Cycling Access
- Car Drive Time
- PT AM Peak
- PT PM Peak
- PT Saturday
- PT Sunday

The model parameters and specifications for the above maps are outlined below.

Walk Access – Walk mapping represented access for pedestrians to the destination along the road network. Walking was represented at the standard walk speed of 4.8 kmph.

Cycling Access – Cycle mapping represented access for cyclists to the destination along the road network. Cycling was represented at the standard cycle speed of 16 kmph.

Car Drive Time – Car journey time was modelled for the AM peak period. The road network was derived from a commercially-sourced digital HereMap product that includes road speeds estimated from anonymised mobile phone data. Similar data is required if Car Drive Time accessibility maps our required.

PT AM Peak – Modelled public transport accessibility to the destination location during the morning peak period (07:00 – 09:00hrs). Bus, Rail, and Ferry services were included in the public transport model, with data sourced from Translink timetables. The model allowed for a maximum 800m walk to a public transport stop at the start and end of a journey, and a 400 metre walk between service changes within the journey. Such service changes included a one-minute interchange penalty to prevent over optimistic changes

PT PM Peak – Modelled public transport egress from the destination location during the evening peak period (16:00 – 18:00hrs). All modelling parameters were the same as the AM peak run.

ANNEX 1C –

PT Saturday – Modelled public transport accessibility to the destination location for a Saturday afternoon (12:00 – 15:00hrs). All modelling parameters were the same as the AM peak run.
PT Sunday – Modelled public transport accessibility to the destination location for a Sunday afternoon (12:00 – 15:00hrs). All modelling parameters were the same as the AM peak run.

Key TRACC Parameters for Strategic Accessibility Maps

Walking Speed	4.8km/hr
Walking variation multiplicative factor (while off Network)	1.2
Maximum Walking Distance to the Network (all modes)	800m
Cycle Speed	16 km/hr
Maximum Public Transport Interchange distance	400m
Public Transport Interchange Penalty	5 Minutes
Maximum Car Walking Distance to the Network	800m
Maximum Walking Journey Time	30 minutes
Maximum Cycling Journey Time	30 minutes
Maximum Public Transport Journey Time	30 minutes
Maximum Car Journey Time	30 minutes
Car Speeds	AM Peak Speeds
Public Transport Timeframe	Tues 07:00-09:00
Strategic Origin Grid Spacing	100m
Recommended Time Bands	10 minutes

ANNEX 1D –

Key TRACC Parameters for Local Accessibility Maps

Walking Speed	4.8km/hr
Walking variation (while off Network)	1.2
Maximum Walking Distance to the Network (all modes)	800m
Cycle Speed	16 km/hr
Maximum Public Transport Interchange distance	400m
Public Transport Interchange Penalty	5 Minutes
Maximum Car Walking Distance to the Network	800m
Maximum Walking Journey Time	30 minutes
Maximum Cycling Journey Time	30 minutes
Maximum Public Transport Journey Time	30 minutes
Maximum Car Journey Time	30 minutes
Car Speeds	AM Peak Speeds
Public Transport Timeframe	Tues 07:00-09:00
Local Origin Grid Spacing	100m
Recommended Time Bands	10 minutes
Census Geography for Population Reporting	Small Areas

ANNEX

1E - Residential Land-use Local Accessibility Maps

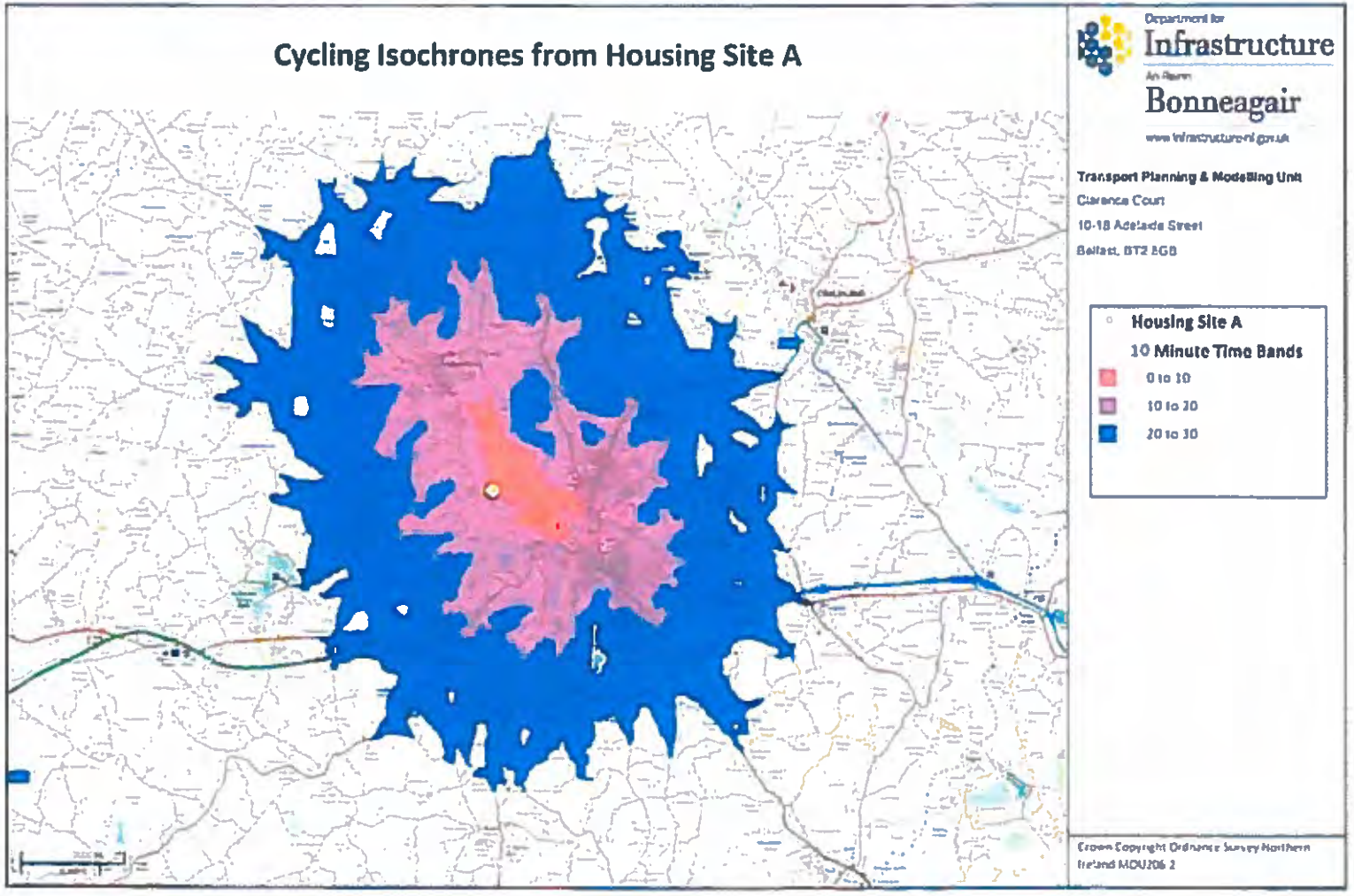

Figure A1 Cycling Isochrones from Potential Housing Site in Dungannon

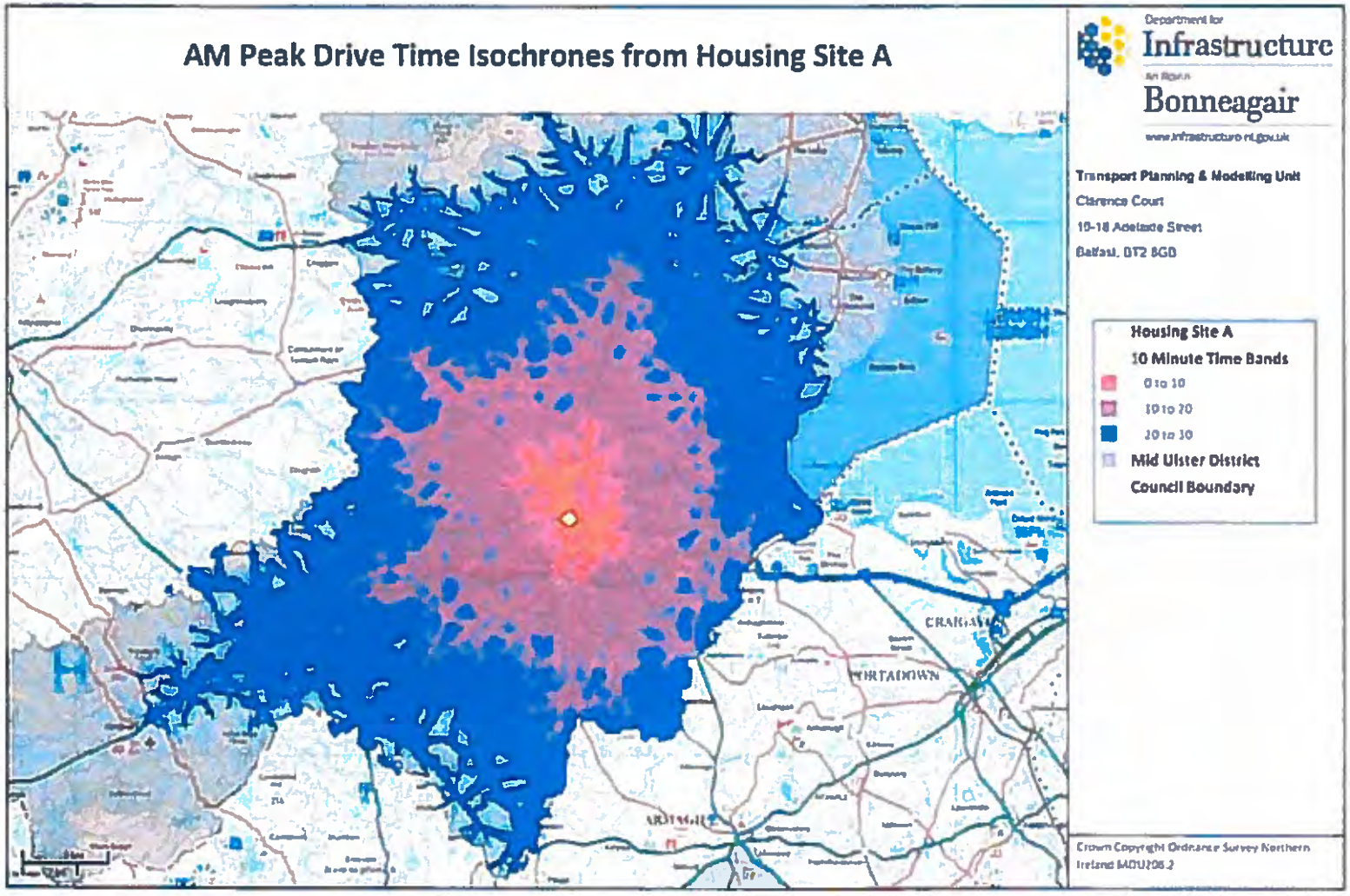

Figure A2 Car AM Peak Drive Time Isochrones from Potential Housing Site in Dungannon

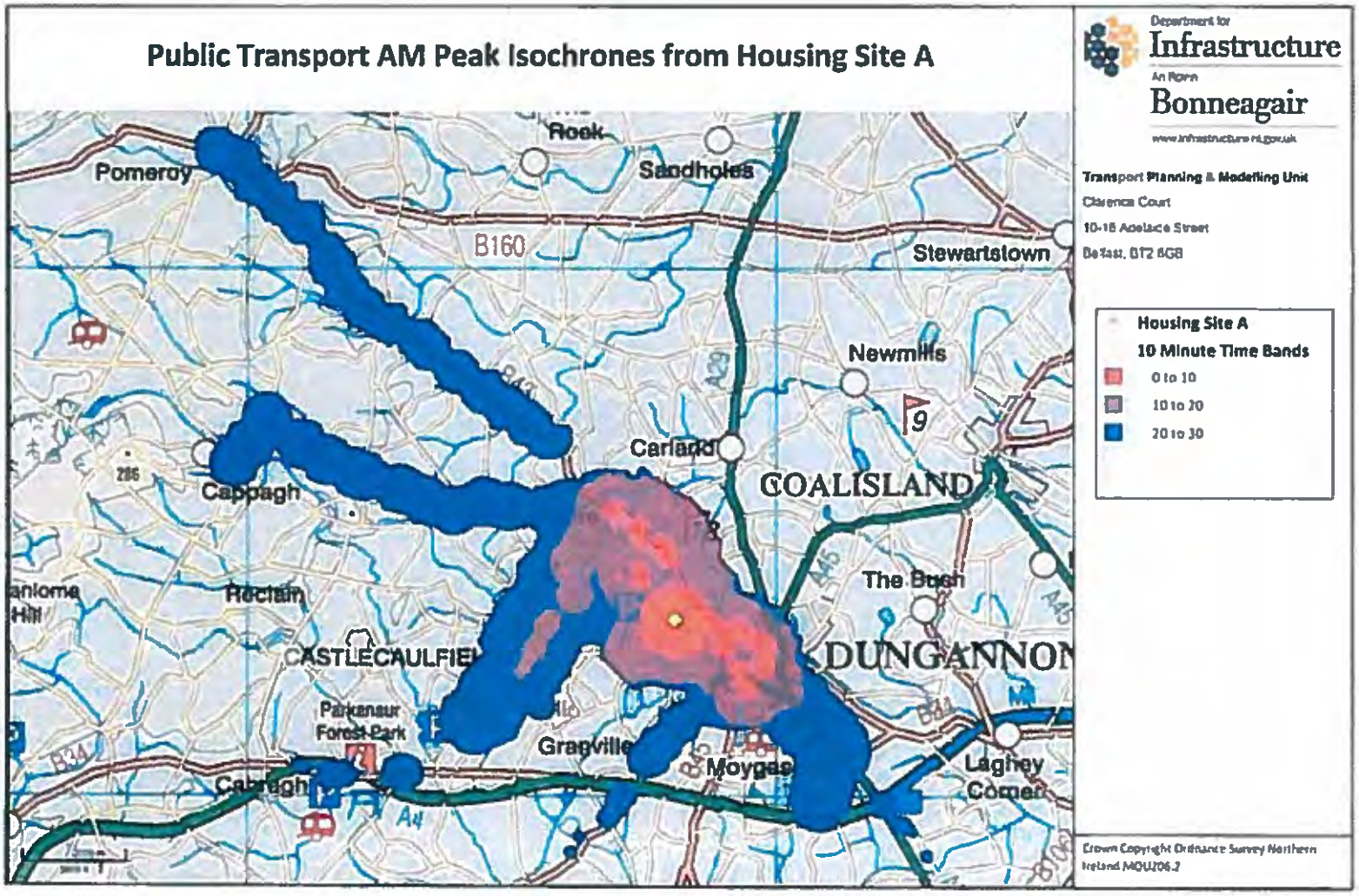

Figure A3 Public Transport – AM Peak Isochrones from Potential Housing Site in Dungannon

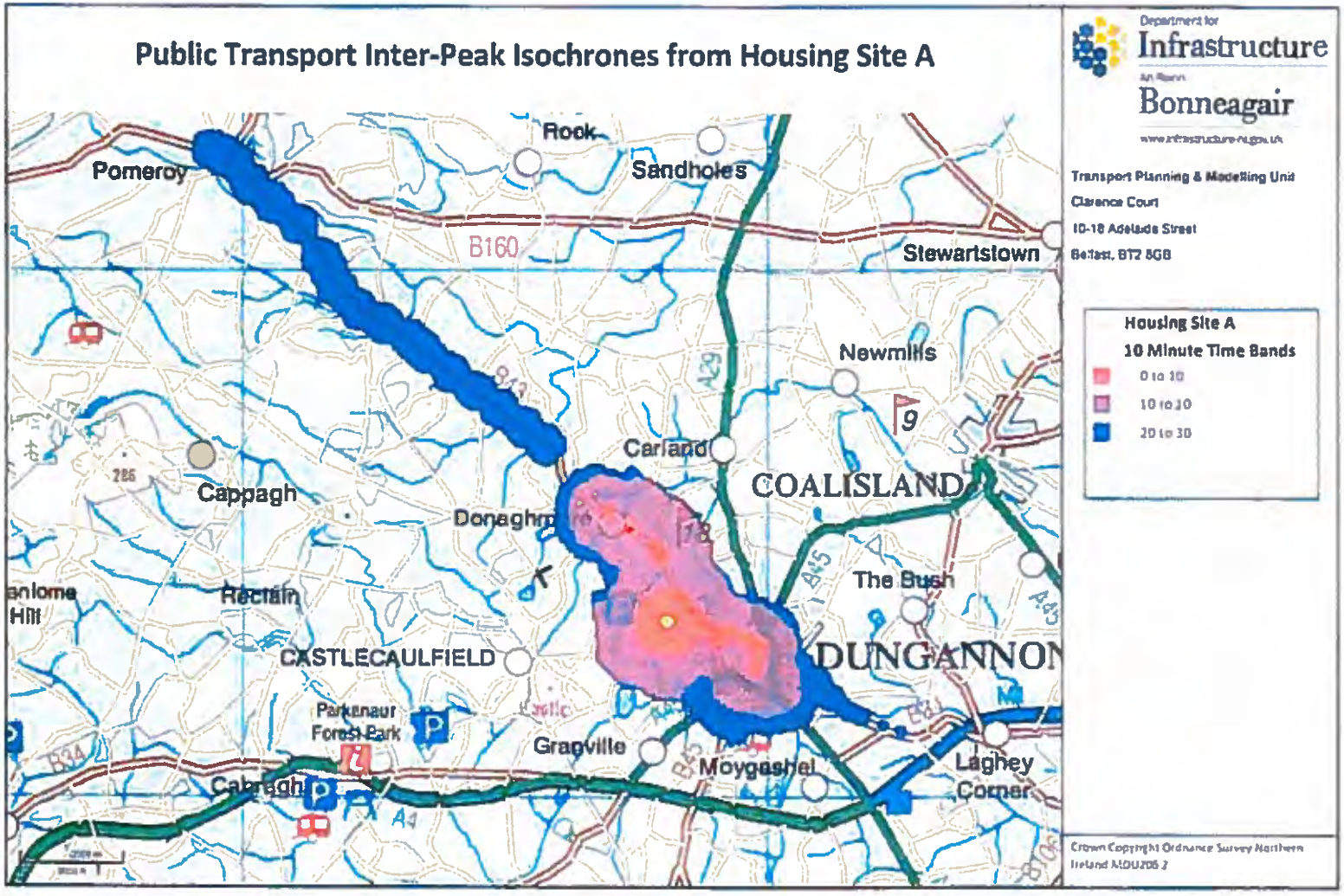

Figure A4 Public Transport – Inter Peak Isochrones from Potential Housing Site in Dunganno

ANNEX 2

Current DfI published guidance

Creating Places - Achieving Quality in Residential Development

Development Control Advice Note 15 (2nd Edition)

Transport Assessment Guidelines for Development Proposals in Northern Ireland – October 2006

Parking Standards (Published by D.O.E.)

DfI

Guidance on the preparation of
LDP policies for transport

February 2019

[redacted]

From: Patricia McGough <patricia.mcgough@fermanaghomagh.com>
Sent: 17 April 2018 12:09
To: [redacted]
Cc:
Subject: [redacted]
Attachments: [redacted]

[redacted]

Further to my email below. Attached please find a copy of the FODC Car Park Strategy and Action Plan that was set before our Members for noting, at the Environmental Services Committee Meeting, on 5 April 2018.

We would welcome your review and comment.

Kind Regards

[redacted]

Off Street Car Parking Officer
Fermanagh & Omagh District Council

Telephone [redacted]
Ext [redacted]
Mobile [redacted]

From: Patricia McGough
Sent: Wednesday, March 7, 2018 3:14 PM
To: [redacted]
Cc:
Subject: RE: F&O LDP Draft Strategy Transport Policies & LTP Draft Strategy

[redacted]

I understand that Peter Morrow of AECOM met with yourself and Stephen recently in relation to the car park strategy and the stage that it is at.

Attached please find my comments in relation to the parking section for your consideration.

Kind Regards

[redacted]

Off Street Car Parking Officer
Fermanagh & Omagh District Council

this electronic message in error, please notify us by telephone or email (to the number or email address above) immediately.

Extract from meeting note

Meeting with Fermanagh and Omagh District Council Planners re LDP/ LTS development		
Date: 27/06/18	Time: 14:00-16:00	Location: G29 – Clarence Court
Attendees: Hilda Clements (HC) – F&ODC Sinead Curry (SC) – F&ODC Ian Bailey (IB) – F&ODC Stephen Wood (SW) – TPMU, DfI Suzanne Bagnall (SB) – Strategic Planning, DfI Darren Campbell (DC) – Roads, DfI Orla Campbell (OC) – TPMU, DfI		
Agenda Item	Issue	Action
3	**Update on LDP** HC informed the group that the Council are continuing to work towards a challenging target date of November 2017 for the publication of the draft Plan Strategy. The council have yet to submit a revised plan timetable to the Department and will hold off on doing so until timescales become clearer.	