Comhairle Contae Thiobraid Árann
Tipperary County Council

Nenagh & Environs Local Area Plan

2024 - 2030

Appendix 2 **Local Transport Plan**

March 2024

NENAGH LOCAL TRANSPORT PLAN

IDENTIFICATION TABLE	
Client/Project owner	Tipperary County Council
Project	Nenagh Local Transport Plan
Type of document	Final Report
Date	28/02/2024
File name	2024028_Nenagh Final LTP.DOC
Number of pages	121

APPROVAL

Version	Name		Position	Date	Modifications
1	Authors	Laoise Kinsella / Connor Heyward	Assistant Consultant / Senior Consultant	25/5/2023	Initial Working Draft
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	Checked by	Diarmuid Bailey	Associate Director	21/06/2023	
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1. INTRODUCTION

1.1 Project Overview

SYSTRA Ltd and JB Barry & Partners have been commissioned by Tipperary County Council (TCC) to develop a Local Transport Plan (LTP) for Nenagh town and its environs. The key purpose of the LTP is to guide the future transport and mobility needs of the Nenagh Local Area Plan (LAP) area, taking into account the transport demand arising from existing and projected development both within the LAP boundary and the wider area of influence. It is one of a number of complementary assessment processes which has been used in the development of the Nenagh Local Area Plan 2024-2030 prepared by the council. This will help integrate local land use with transport policy with the goal of enhancing quality of life while improving the urban environment. The aim of the report is to provide a long-term vision for sustainable mobility in Nenagh and to create an integrated transport system across all modes that is accessible to all.

Transport plays a crucial role in the vitality and growth of a town. It serves as the lifeline that connects the town's residents, businesses, and resources to the outside world, opening up opportunities and facilitating economic development. Reliable and efficient transport infrastructure enables people to commute to work, access essential services, and engage in recreational activities beyond the town's borders. It facilitates the movement of goods, allowing local businesses to import supplies and export their products, contributing to trade and the overall prosperity of the community. Additionally, an accessible and well-connected transportation system attracts visitors, boosting tourism and generating revenue for local businesses.

This document has been developed at a strategic level in accordance with national and regional policies. It is important to note that all suggested proposals will undergo further examination to establish the most suitable site-specific interventions. This will involve comprehensive analysis and design processes to ensure that the proposed schemes are meticulously developed.

1.2 Study Purpose

Nenagh is a bustling market town with a population of 9,895 identified in the Built-up Area (BUA[1]) of Nenagh in Census 2022. Though a direct comparison with the settlement area in Census 2016 and the BUA area in Census 2022 cannot be drawn, the geographical areas of the Electoral Districts (EDs) of the town, Nenagh West Urban and Nenagh East Urban have not changed in the inter-census period. The combined population of these EDs has increased from 8,656 in 2016 to 9,507 in 2022, a 9.8% increase in population. This increase in population exceeds both the state (8.1%) and county (5.2%) over the same period. Population growth in the town is driven by an increase in the density of the urban population, increasing from 1,018 persons per square km in 2016 to 1,118 in 2022, a 9.8% increase in density.

The town is strategically connected to two national roads which bypass the town on two sides. The M7 links Nenagh to Limerick and Dublin, while the N52 links to the Midlands and onwards to Galway via the N65. Nenagh also has a railway station which is on the Limerick-Ballybrophy line. Passengers can

[1] In Census 2022, the CSO introduced a new geographic area to replace the 'Settlements' geographic area in previous Censuses. Detail on the methodology of the BUA can be seen on the CSO website at https://www.cso.ie/en/census/census2022/census2022urbanboundariesandbuiltupareas/

interchange at Ballybrophy for onward trains to Dublin. Ridership is low with two trains running in each direction Monday to Saturday and one service in each direction on a Sunday.

Nenagh town serves a wide rural hinterland and it is a nodal point within North Tipperary. Its easy accessibility means that it has a wider range of retail, employment and service offerings when compared with typical, similarly sized towns. The attractive form and impressive architecture within the town also add to the town's appeal. Nenagh is also the closest major town to Lough Derg, Ireland's third largest lake. The lough has 179km of indented shoreline and is an area that generates tourism due to its outstanding natural beauty and heritage.

The LTP is being undertaken to determine the key infrastructure measures and key transport policies required in Nenagh, and its wider hinterland, to tackle existing constraints in transport capacity, to plan for appropriate levels of development to facilitate projected growth in population and employment, and to encourage sustainable mobility – while supporting climate change reduction targets and a shift to sustainable modes based on the road user hierarchy.

1.3 ABTA approach

The methodology for developing the Nenagh LTP is illustrated in Figure 1.1 and follows guidelines set out in National Transport Authority (NTA) and Transport Infrastructure Ireland's (TII) 'Area Based Transport Assessment (ABTA) Guidance Notes – April 2018'[2] , and the NTA's 'ABTA How To Guide Guidance Document – Pilot Methodology[3]'.

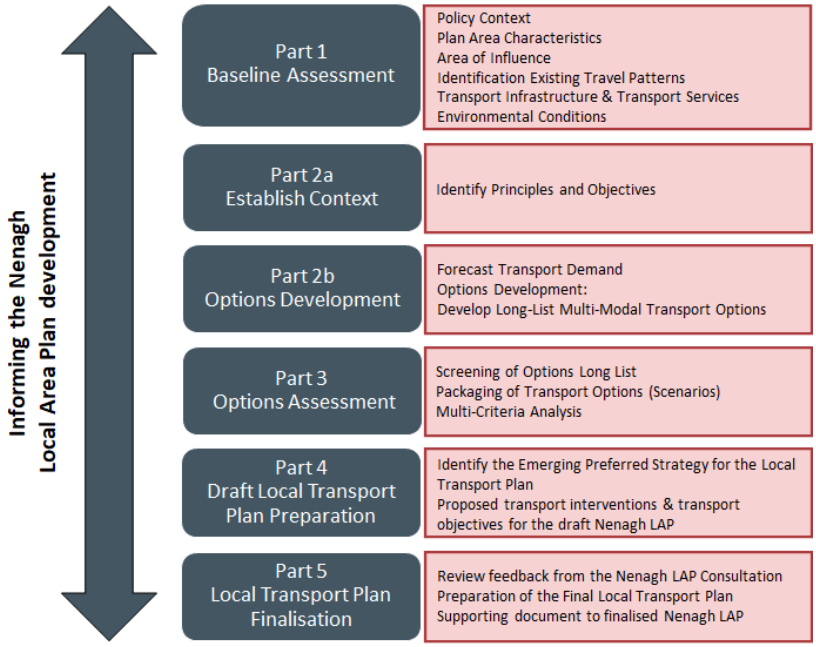


Figure 1.1 Nenagh LTP Study Process

[2] Source: https://www.tiipublications.ie/library/PE-PDV-02046-01.pdf
[3]Source:https://www.nationaltransport.ie/wp-content/uploads/2021/09/20210909-ABTA-How-To-Guidance-Doc-v6.0-Website-Version.pdf

Using an evidence-based approach, the LTP, based on the ABTA methodology, is used to guide and inform suitable infrastructure and policy measures to ensure the projected growth in population and employment is achieved in a sustainable manner.

The LTP takes a considered approach that takes account of the needs of residents, students, businesses, commuters and visitors as well as the future development aspirations. A key component will be identifying opportunities for smarter travel choices which will enable more people to travel by sustainable modes. The LTP has considered all modes and aligned to the road user hierarchy outlined in the National Investment Framework for Transport in Ireland (NIFTI), has prioritised walking and cycling, then public transport and then vehicular traffic including private car.

The overall outcome is a Local Transport Plan setting out a series of transport policy recommendations over the short, medium, and long term that will support the sustainable growth of the town.

1.4 Report Structure

The Local Transport Plan (LTP) Report is structured as follows:

- **Chapter 1** outlines the context of the LTP and an overview of the report structure and layout. It also details the overall ABTA approach.
- **Chapter 2** gives an overview of the Baseline Assessment phase of the LTP, including the policy and plan context, and a summary of the area characteristics, existing travel patterns and transport conditions along with feedback from the public and Schools surveys and a SWOT analysis.
- **Chapter 3** examines the objectives for the LTP which have been determined from consideration of policy, transport baseline and demand information.
- **Chapter 4** outlines the process for developing the long-list of transport options to overcome existing constraints within the study area.
- **Chapter 5** gives an overview of the options assessment process used to identify the package of measures that assist in achieving the overall study objectives.
- **Chapter 6** details the Emerging Preferred Strategy which sets out recommendations with regard to the combination of transport measures which the LTP will seek to promote and implement (with engagement and assistance from other parties such as the National Transport Authority (NTA) where appropriate);
- **Chapter 7** outlines the monitoring strategy for this LTP; and
- **Chapter 8** provides a summary and conclusion to the report.

2. BASELINE ASSESSMENT

2.1 Introduction

The following chapter provides an overview of the Baseline Assessment undertaken for the Nenagh LTP. The aim of the Baseline Assessment was to gain a clear understanding of the existing spatial characteristics, land uses, transport conditions and constraints relating to the Study area, focusing on:

- **Policy Context**: outlining the key policies and plans that inform the LTP.
- **Nenagh Area Characteristics**: reviewing the study area including demographics, land-use, physical constraints and environmental conditions.
- **Existing Travel Patterns**: outlining the distribution of trips to/from/within the study area, journey lengths by mode, and overall mode share.
- **Existing Transport Infrastructure:** reviewing existing walking and cycling facilities along with public transport services operating in Nenagh.
- **Consultation Feedback**: insight gained from the Baseline Consultation with key stakeholders and local residents during the initial public consultation process in June 2022.
- **Nenagh Schools Consultation**

The following sections provide a summary of the key elements outlined above. Further detail is provided in the full Baseline Assessment Report in Appendix A.

At the time of writing this LTP report, headline Census 2022 population figures were available and have been presented in Section 1.2. However, the full Census dataset including Small Area Population Statistics and Place of Work, School or College - Census of Anonymised Records (POWSCAR) are yet to be released.

The Baseline Assessment for Nenagh was undertaken in 2022, as such, the analysis of travel characteristics and travel patterns which are presented in this chapter, are derived from the 2016 Census data.

2.2 Policy Context

The Table below outlines the key existing National, Regional and local polices, plans, and guidelines, relevant to the development area that were used to inform the Nenagh Local Transport Plan (LTP) during the Baseline Assessment phase of the Study (which was undertaken in 2022). Further detail is provided in the Baseline Assessment Report in Appendix A.

Table 2.1 Existing Relevant Policies, Plans and Guidance Documents

International Level
European Union Green Deal 2020 Fit for 55 Package 2021 UN Convention for the Rights of People with Disabilities 2019 UN Sustainable Development Goals (SDGs) - 17 Goals to transform our World (2015)
National Level
Project Ireland 2040: National Planning Framework 2040 Project Ireland 2040: National Development Plan 2021 – 2030 National Sustainable Mobility Policy and Action Plan 2022-2025 National Climate Action Plan 2021 National Investment Framework for Transport in Ireland 2021 (NIFTI) Our Journey Towards Vision Zero: Road Safety Strategy 2021-2030 The National Cycle Network (2022) CycleConnects: Ireland's Cycle Network Programme (2022) Town Centre First, A Policy Approach for Irish Towns (2022) Connecting Ireland Rural Mobility Plan (2022)
Regional Level
Southern Regional Assembly Regional Spatial & Economic Strategy (RSES) 2040 Tipperary County Development Plan 2022-2028 Tipperary County Council Corporate Plan 2020 - 2024 Southern Regional Assembly Limerick-Shannon Metropolitan Area Strategic Plan
Local Level
Nenagh Town & Environs Development Plan (February 2013) Nenagh Walking & Cycling Strategy (August 2021) Nenagh Traffic and Transportation Plan (February 2019) Tipperary County Council Martyr's Road Masterplan (December 2014)
Guidance Documents
TII/NTA Area Based Transport Assessment (ABTA) Guidance Notes (2018) TII/NTA ABTA 'How To' Guide – Pilot Methodology (2021) Common Appraisal Framework for Transport Projects and Programmes National Cycle Manual Design Manual for Urban Roads and Streets (DMURS) Permeability: A Best Practice Guide Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities

- TII Publication – The Treatment of Transition Zones to Towns and Villages on National Roads
- TII Publication – Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes
- Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012)

Since the Baseline Assessment report was produced, TII have published the National Roads investment strategy (NR2040) and an overview of the report is provided below. The Department of Transport have also published a new Climate Action Plan (CAP) document. These documents were subsequently taken into account in the LTP Options Development Process. Also prior to the public consultation process for the Local Transport Plan, the Department of Transport have also published a new Transport Appraisal Framework (TAF) which provides appraisal guidance which aims to promote investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money. While it is acknowledged that the Common Appraisal Framework has been replaced by the new Transport Appraisal Framework document, the options assessment process which is detailed in the following sections, has been undertaken in line with the Common Appraisal Framework.

National Roads 2040 – TII – April 2023

During 2022, Transport Infrastructure Ireland (TII) sought views on its long term proposed strategy for planning, operating, and maintaining the National Roads network. The Final Report was published in April 2023. National Roads 2040 (NR2040)[4] is TII's long-term strategy for planning, operating, and maintaining the National Roads network. NR2040 has been developed to support the delivery of Project Ireland 2040 objectives and to align with commitments in wider policy including the Climate Action Plan and the DoT's National Sustainable Mobility policy. NR2040 also aligns with the Department of Transport's (DoT) National Investment Framework for Transport in Ireland (NIFTI, December 2021) with the Strategy's investment priorities developed to align closely to the four NIFTI investment priorities:

- Decarbonisation
- Enhanced regional and rural connectivity
- Protection and renewal
- Mobility of people & goods in urban areas

The strategy has been developed to ensure the future needs of the national road network are met and the following issues have been identified amongst others, by TII in developing the strategy –

- Future Demographic Growth
- Road Transport Decarbonisation
- Climate Adaption and Resilience
- Sustainability
- Road Safety
- Movement of people and goods

[4] https://www.tii.ie/tii-library/strategic-planning/national-roads-2040/TII-NR2040-Final-Report-EN-April-2023.pdf

- Urban Congestion
- Integrated Mobility

The Strategy states that:

> ***"In relation to active travel, where national roads are too dangerous for active travel, meaningful interventions should be considered in cooperation with relevant stakeholders and partner agencies. …. TII is committed to delivering improved active travel provision in all its projects, such as improving the safety of the National Roads network for active travel users and reducing the severance caused by some National Roads in urban areas."***
>
> **And where there is urban congestion, "the management of national roads must balance increasing mobility demands for all users and finite road space. …. Where the national roads network cannot safely accommodate all users, including active travel modes, adjacent solutions should be explored"**

The strategy also defines TII investment portfolios for coming years and provides guidance to Sponsoring Agencies and Local Authorities. TII, through NR2040, will align with the NIFTI Intervention hierarchy and seek to address transport challenges through the use of existing infrastructure before considering the provision of new infrastructure.

Climate Action Plan 2023 – Department of Transport – December 2022

Climate Action Plan 2023 is the second annual update to Ireland's Climate Action Plan 2019. This plan is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. The plan implements the carbon budgets and sectoral emissions ceilings and sets a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050, as committed to in the Programme for Government.

The Climate Action Plan 2023 endorses the recommendations of the report from the Climate Change Advisory Council and OECD (Organisation for Economic Cooperation and Development) on Redesigning Ireland's Transport for Net Zero[5]. This report recommended widespread, large-scale road space reallocation needs to be a priority in Ireland to reduce over reliance on the private car and transform our transport system.

Transport Appraisal Framework – Department of Transport – June 2023

The new Transport Appraisal Framework (TAF) document replaces the Common Appraisal Framework (CAF) for Transport Projects and Programmes (published in 2016 and updated subsequently). The TAF provides appraisal and implementation guidance that aims to promote investment in the transport

[5] available at: Redesigning Ireland's Transport for Net Zero: Towards Systems that Work for People and the Planet | en | OECD

system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money. The changes will lead to an appraisal framework that facilitates the delivery of transport investment proposals through rigorous and proportionate appraisal, in compliance with Public Spending Code requirements, and by making the appraisal framework more accessible and user-friendly.

Active Travel Advice Note: Rapid Build Active Travel Facilities – NTA – February 2023

In response to the tension between increasing construction costs and the CAP requirement for 1,000km of new active travel infrastructure to be built by 2025, the NTA issued an advice note in February. This note outlines that cost effective rapid build construction approaches, including road space reallocation, are now required to be the initial options to be considered in new active travel infrastructure.

Rapid Build active travel facilities are schemes that utilise cost-effective measures to deliver walking and cycling infrastructure quicker than traditional (full build) construction methods. They do not typically involve major construction works such as full road reconstruction or significant changes to drainage systems or relocation of utilities etc., however they may involve changes to kerb lines and minor drainage works. The works will also be typically within the boundaries of the existing roadway which can simplify the planning process, which positively effects project programme and delivery.

Rapid Build Schemes do not have to mean bollards, although using bollards to reserve road space for walking and cycling can be a useful interim measure. There are design options available for rapid build projects which use robust materials, with a quality finish, that produces schemes that can remain in place for many years.

2.3 Description of Study Area

Located in North Tipperary, the Town of Nenagh is among the fastest growing towns in the southern region. Nenagh is strategically located within the wider catchment area of the Limerick/Shannon Metropolitan Area Strategic Plan, and benefits from well-established road and rail routes to important economic centres such as Dublin, Limerick and Galway. The strategic importance of Nenagh as a driver of economic growth and development in the sub-regional context has long been recognised with the town being designated as a key 'primary service centre' in North Tipperary County Development Plan 2010. More recently, Nenagh has been designated as a 'key town' for its identified potential to contribute to and consolidate economic growth beyond cities, along with two other Tipperary towns (Clonmel & Thurles), in the Southern Regional Assembly's Regional Spatial and Economic Strategy (RSES). In particular, the town has been acknowledged in the RSES for its diverse enterprise culture, including research and development functions, tourism, water and outdoor based recreation, renewable energy and also emerging economic sectors related to Agri-tech, life sciences, financial services and engineering.

Agreed Study Area

Through consultation with TCC and the NTA, the study area boundary for the Nenagh LTP was identified. The LAP boundary was extended to take in all the area within the N52 bypass along with a small extension to include the ABP Food Group plant on the north-eastern side of the town (an area

of potential growth) to form the core Area of Interest. A secondary outer study area boundary was also established to align with Census Small Areas as this provided a direct link to:

- **Census data** on population, employment and travel patterns to/from the study area; *and*
- **Mid Wester Regional Model (MWRM) zones** which will facilitate easier analysis of model data when undertaking options assessment.

The two boundaries for the Nenagh LTP are illustrated in Figure 2.1. ***It should be noted that all data presented in the following sections of this chapter is related to the Nenagh LTP Study Area i.e. the blue boundary area in Figure 2.1.***

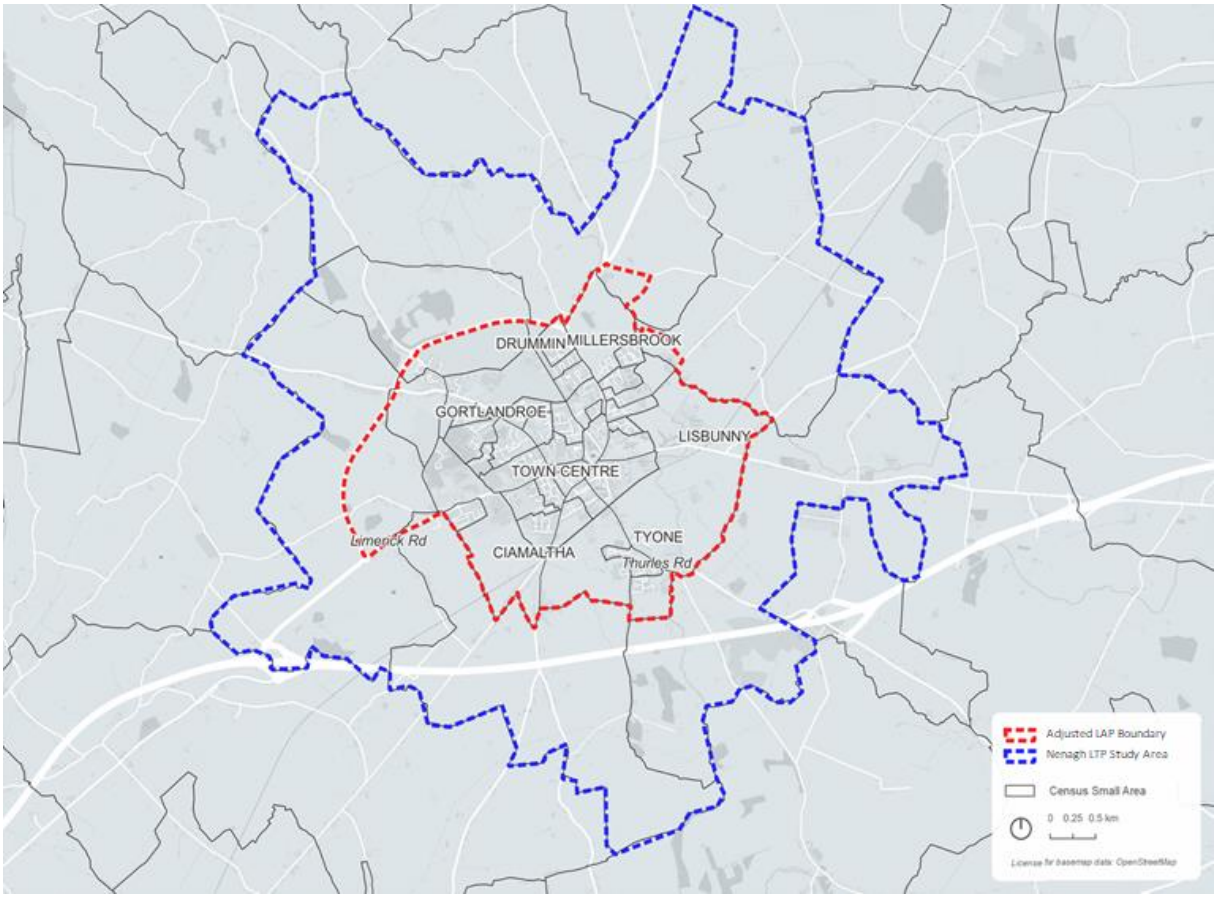


Figure 2.1 Nenagh LTP Study Area

2.4 Demographic Profile

Total Population

To better understand the profile of residents in the study area, and their travel patterns, this section presents data extracted from the 2016 Census Small Area Population Statistics (SAPS) dataset[6]. The 2016 dataset was used as it was the latest available at the time of undertaking this analysis and thus the demographic information presented in this section and the rest of the chapter, is from the 2016 Census SAPS dataset. It summarises information on the proportion of residents travelling to work and school, what type of jobs people do, as well as high level information on age, gender, and car ownership.

As shown in Table 2.2 below, the LTP Study Area has an estimated population of 8,968 according to the 2016 Census. This represents a population growth of 12.1% against the previous 2011 Census which is a much higher growth rate than that seen nationally (3.8%). Furthermore, Nenagh is bucking the trend recorded by many other towns in Tipperary where the population has typically remained static or even declined over the same period. Nenagh previously recorded growth of 7.8% in the period between the 2006 and 2011 censuses, demonstrating how the town has been consistently growing.

Table 2.2 Nenagh Study Area Population

AREA	2011 POPULATION	2016 POPULATION	2011-2016 GROWTH
Nenagh LTP Study Area	7,995	8,968	12.1%

2.5 Environmental Conditional & Physical Constraints

Baseline Environmental Conditions Summary

The Nenagh area has been assessed in terms of the environmental facets including designated sites, ecological receptors, hydrology, cultural heritage and archaeology and sensitive receptors have been identified where present. In summary:

- A number of protected species have been identified, as well as invasive species listed on the Third Schedule of the Birds and Natural Habitats Regulations (S.I. No. 477).
- There are a number of historic flooding events in the Nenagh Area, predominantly along the River Nenagh, including the town park which is designed in part to take flood water. Areas to the north of the town (south of the N52) are also located in flood risk areas.
- There are some features of archaeological, architectural and cultural heritage interest in the Nenagh Area which needs to be considered when developing options as part of the LTP.

[6] 2016 Census Small Area Population Statistics available on the Central Statistics Office website at: https://www.cso.ie/en/census/census2016reports/census2016smallareapopulationstatistics/

- It is considered that the identified sensitive receptors herein do not pose a significant constraint at this time. However, further assessments, site inspections, and targeted surveys may be required in the future to determine the potential impacts of development in the Nenagh Area.

Physical Constraints

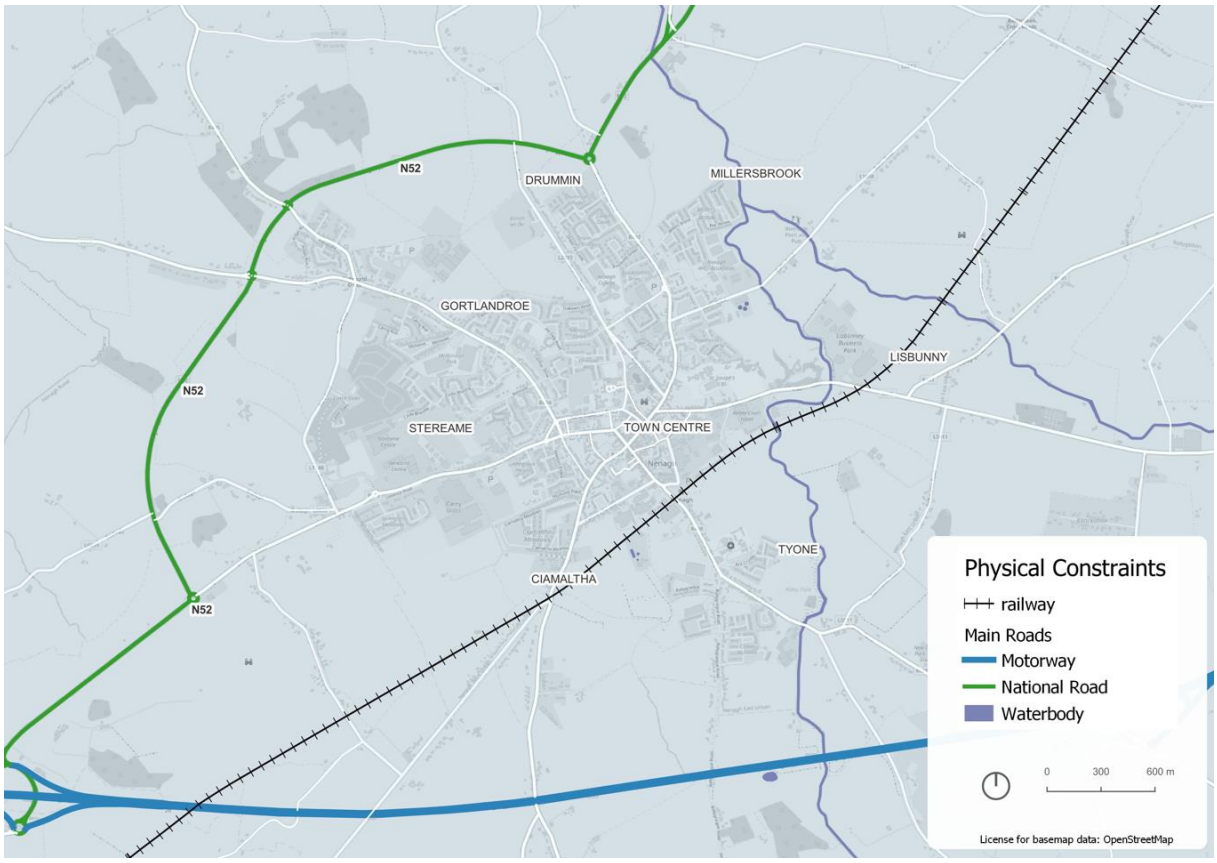


Figure 2.2 Nenagh Physical Constraints

The main physical constraints in Nenagh are the railway line and the Nenagh River. As can be seen from Figure 2.2, while both of these barriers have somewhat limited the development of the town south and westwards, the town centre is largely unaffected.

Despite this, accessibility from housing estates to the south of the town along with Nenagh Hospital could certainly be improved with better linkages to other parts of the town across the railway line. In general, the topography in the study area is relatively flat with few physical limitations impacting on the uptake for active modes. To a lesser extent, the N52 and the M7 roads are also a constraint, but their position on the far periphery means that this is unlikely to limit the development of the town.

2.6 Existing Travel Patterns

Trip Distribution Profile

The 2016 Census Place of Work, School or College Anonymised Records (POWSCAR) database was analysed to identify the distribution of employment trips travelling to/from the Nenagh LTP study area. For ease of presentation of results, areas have been grouped into sectors for the analysis.

Two sets of sectors have been produced, one showing the movements within the town, and the other showing the regional movements to and from the town. The sectors within the town align with the census Small Areas, while the regional sectors were divided up based on accessibility to the study area The identified sector systems for the trip distribution analysis are illustrated in Figure 2.3 and Figure 2.4.

The distribution of work trips in the AM peak originating in Nenagh is illustrated in Figure 2.5 . The results indicate that over 50% of the work trips originating within the study area are internal trips travelling to other parts of Nenagh. Due to the local nature of these trips, there is a good opportunity to support this demand via walking and cycling infrastructure. Within Nenagh, most people are either going to/from the centre or the west of the town, so these links should be strengthened.

Outside of the study area, by far the largest attractor is the area to the west which accounts for 21.4% of trips. The largest destination is the Limerick-Shannon metropolitan area which accounts for 16.8% of trips from Nenagh. Limerick is well connected from Nenagh via the M7 motorway which connects to the N18 towards Shannon via the Limerick Tunnel.

The other significant attractors of trips of note are:

- Thurles (2.4%);
- Tipperary Town (2.2%); *and*
- Greater Dublin (2.3%);

Outside of these main attractors, the commuting trips are quite dispersed. Approximately 7% go the south of the study area, just under 6% go east, just over 5% go north, and 4% are very long distance trips. The dispersed nature of these trips can make them difficult to serve via public transport leading to increased usage of the private car.

Further details on the distribution of trips to, and within Nenagh, is provided in the Baseline Assessment Report in Appendix A.

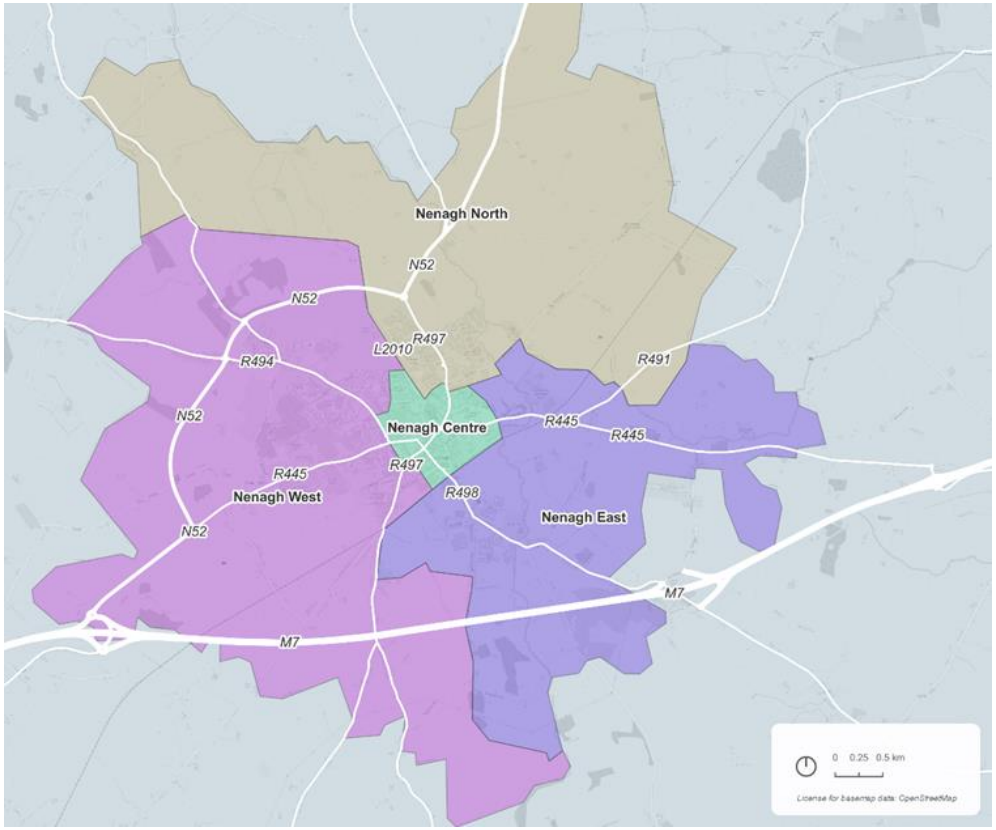


Figure 2.3 Internal Study Area Sectors

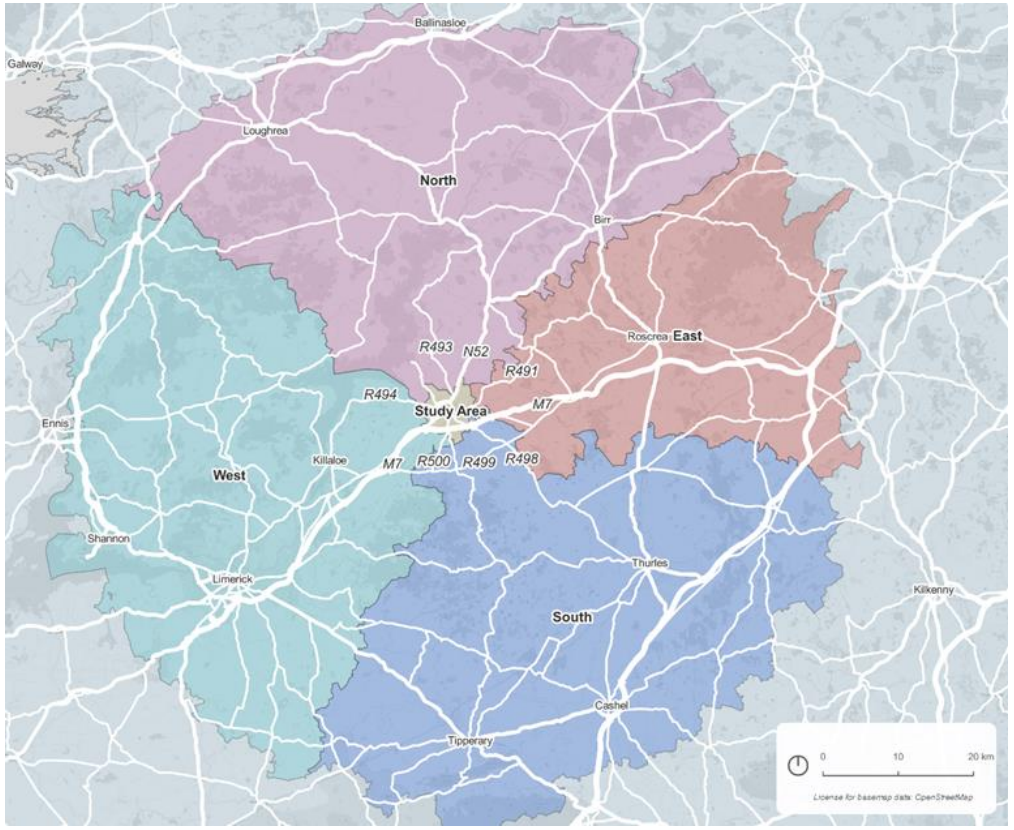


Figure 2.4 Regional Sectors

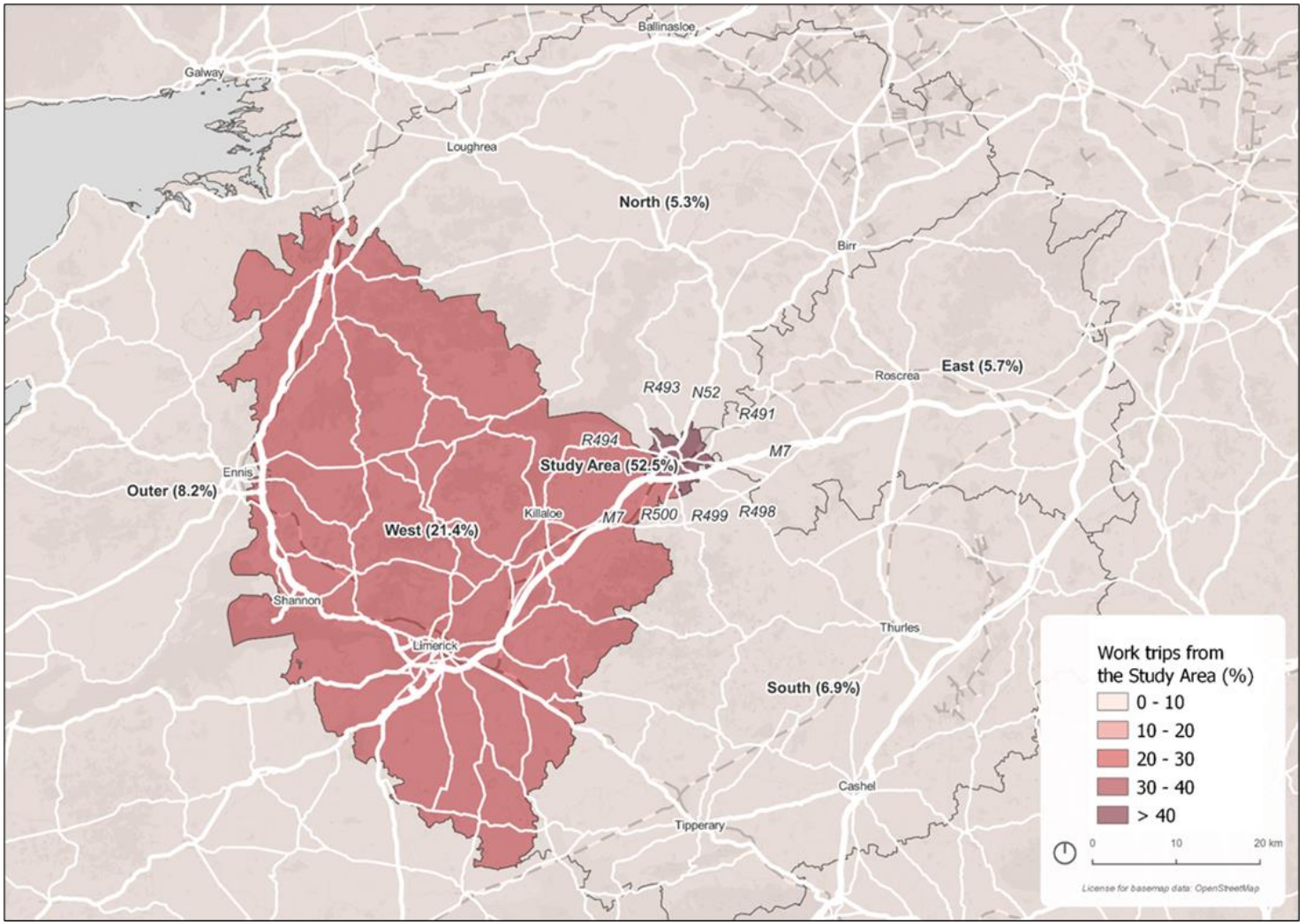


Figure 2.5 Census (Place of Work, School or College Anonymised Records) Trips to Work (%) – Originating within Study Area

2.7 Mode Share

Census Small Area Population Statistics (SAPS) data provides information from the census on the typical mode of transport used for travelling to work and education.

Employment Trips

Figure 2.6 illustrates the mode share for trips to work originating within the study area by walk, cycle, public transport (PT) and car (including drivers, passengers, motorcycle/scooters, vans and lorries) calculated from the SAPS data. It also outlines how the study area compares against the equivalent county and national values.

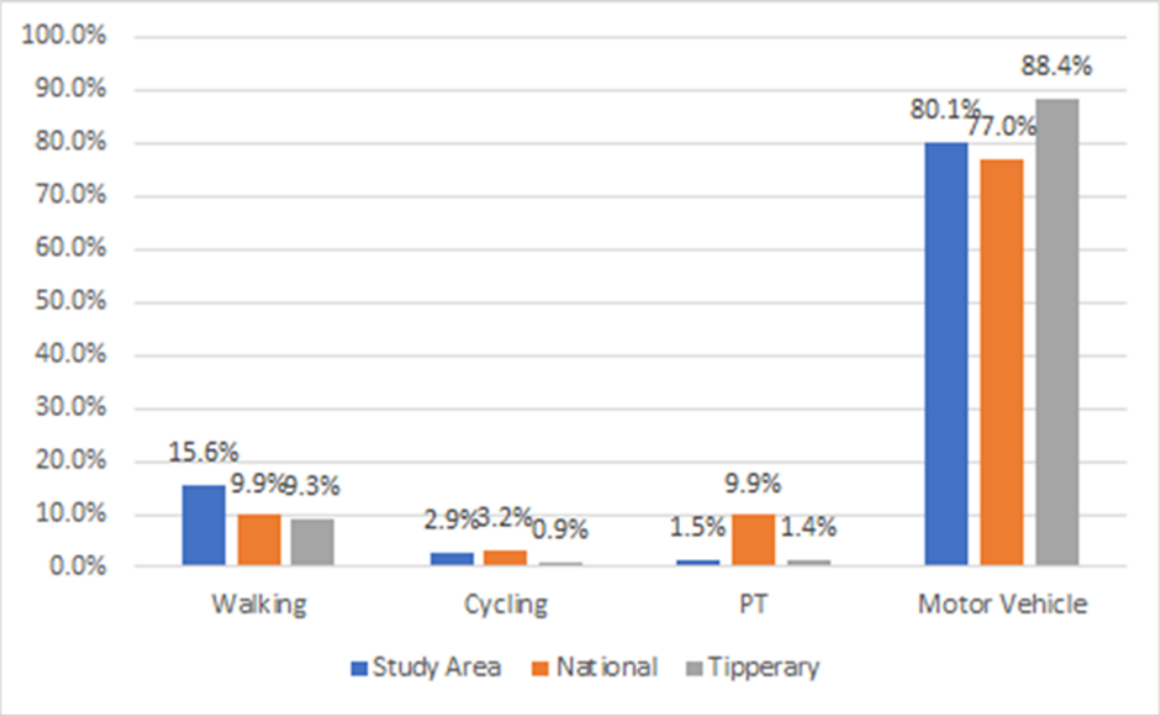


Figure 2.6 Employment Trip Mode Share

Key findings observed from the mode share data for employment trips in the study area include:

- Approximately 19% of commute trips originating in Nenagh are undertaken by active modes, most by walking (15.6%) with a much smaller number cycling (2.9%).
- Walking is well above the national average, but cycling is slightly below.
- Commuting by public transport from Nenagh is much lower than the national average with a mode share of just 1.5% versus the national average of 10%.
- Unsurprisingly, the private car is the most dominant mode of transport for work trips from the study area, but at 80%, it is only just above the national average of 77% and well below the county average of 88%

Education Trips

Figure 2.7 illustrates the mode share for trips to education originating within the study area. It also outlines how the study area compares against the equivalent county and national values.

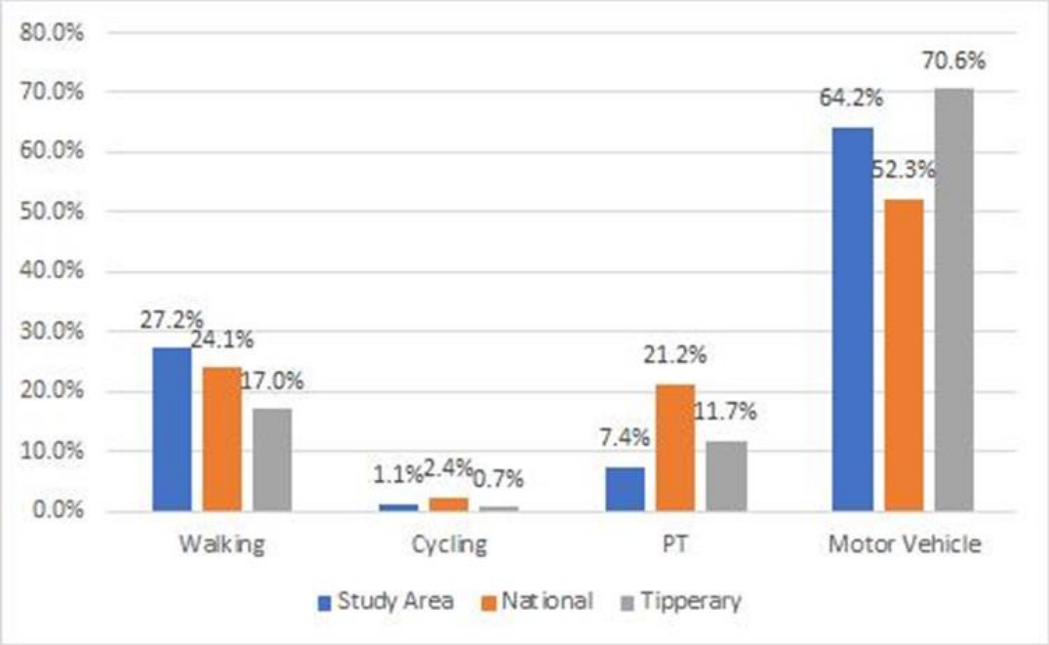


Figure 2.7 Education Trips Mode Share

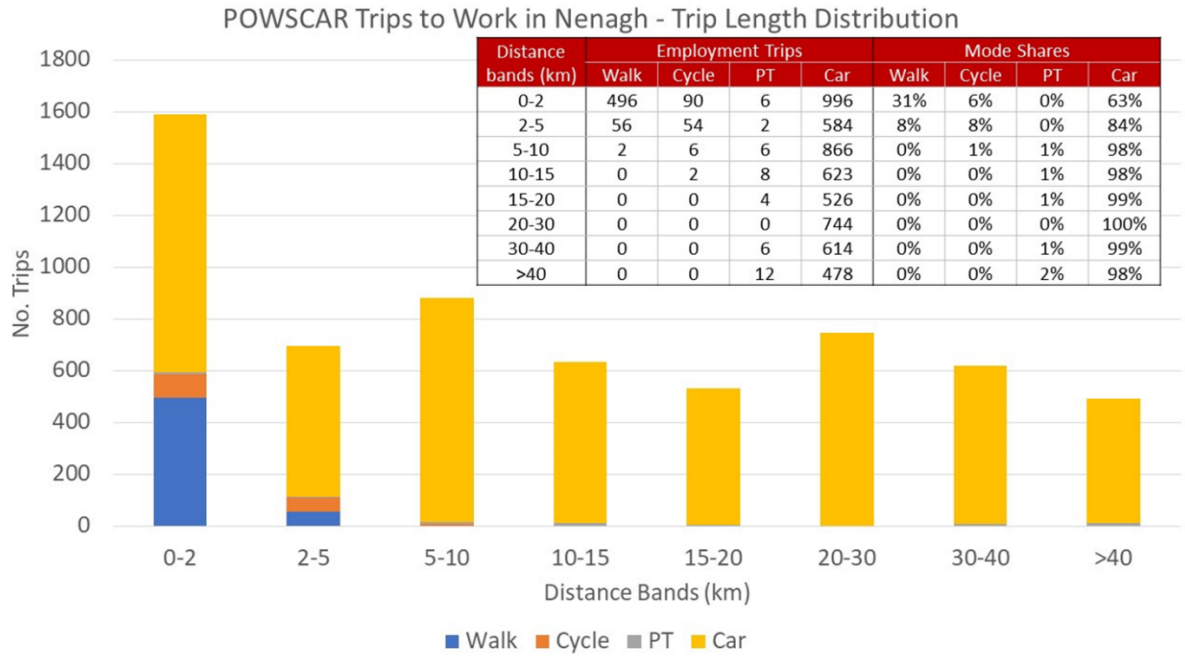
The key findings for education trips include:

- The overall mode share for active travel (walking and cycling) to education is about 28%, slightly higher than the national average of 26.5%.
- Walking is again above the national average for education trips, but cycling is below average.
- Public transport for education trips mode share is about 7% which is well below the national average of 21%, and even below the county average of 12%.
- Overall, car is still the dominant mode of transport for education-related trips, accounting for more than two thirds of all journeys and above the national average of 52%. It is however below the county average of over 70%

2.8 Trip Length Distribution

Analysis was undertaken to determine the trip length distribution by mode for employment purposes from 2016 POWSCAR data. This was used to establish the typical trip lengths, and modes used, for journeys by residents of the study area and help identify where opportunities might exist to further support a shift away from the private car and onto sustainable modes.

Figure 2.8 below outlines trip length distribution by mode for all employment trips travelling within the study area.



Distance bands (km)	Employment Trips				Mode Shares			
	Walk	Cycle	PT	Car	Walk	Cycle	PT	Car
0-2	496	90	6	996	31%	6%	0%	63%
2-5	56	54	2	584	8%	8%	0%	84%
5-10	2	6	6	866	0%	1%	1%	98%
10-15	0	2	8	623	0%	0%	1%	98%
15-20	0	0	4	526	0%	0%	1%	99%
20-30	0	0	0	744	0%	0%	0%	100%
30-40	0	0	6	614	0%	0%	1%	99%
>40	0	0	12	478	0%	0%	2%	98%

Figure 2.8 Employment Trip Length Distribution by Mode

Table 2.3 Employment Trip Length Distribution by Mode [POWSCAR, 2016]

DISTANCE BANDS (KM)	EMPLOYMEMENT TRIPS				MODE SHARES			
	Walk	Cycle	PT	Car	Walk	Cycle	PT	Car
0-2	496	90	6	996	31%	6%	0%	63%
2-5	56	54	2	584	8%	8%	0%	84%
5-10	2	6	6	866	0%	1%	1%	98%
10-15	0	2	8	623	0%	0%	1%	98%
15-20	0	0	4	526	0%	0%	1%	99%
20-30	0	0	0	744	0%	0%	0%	100%

DISTANCE BANDS (KM)	EMPLOYMEMENT TRIPS				MODE SHARES			
	Walk	Cycle	PT	Car	Walk	Cycle	PT	Car
30-40	0	0	6	614	0%	0%	1%	99%
>40	0	0	12	478	0%	0%	2%	98%

Key Findings:

- Just under half of trips (49%) are more than 10km in length.
- Highest level of demand (26%) travel between 0-2 km.
- The private car is the dominant mode of choice for these journeys (63%).
- At 84% mode share, the private car is also the dominant mode of transport for short to medium distance trips of between 2km and 5km.
- Almost all trips of greater than 5km are undertaken by car (99% mode share).

As outlined in the trip distribution analysis, apart from trips from Limerick and Shannon, employment trips to Nenagh are dispersed quite widely and likely originate from predominantly rural areas. This would explain the dominance of the private car for these journeys, along with the lack of a high quality public transport alternative.

2.9 Access to Education (ATOS Tool)

Introduction to ATOS

Access to Opportunities and Services (ATOS) is a measure of how easy it is to access key services and employment by walking and cycling. In developing the ATOS tool, the NTA have followed a methodology established by Transport for London and adapted it to make it more suitable for use outside of large metropolitan areas.

The ATOS tool has been run for access to primary and post-primary schools within the study area by walking and cycling. For this analysis, the defined criteria were the ability to access any primary school (at least one) and any post-primary school within a 15 minute walk and 10 minute cycle. The scoring for each grid is then determined by how the travel time compares to the average travel time for all squares that have access to a primary/post-primary school within the specified timeframes.

It should be noted again that the score is calculated based on how travel times to the nearest relevant destinations (for the specific type of service) compared to the average travel time across all locations in the study area. The score is comparative, measuring where accessibility is higher and lower than the mean in the study area, rather than an objective score of the levels of accessibility. The figures below present the ATOS results for accessibility to schools in Nenagh by walking and cycling.

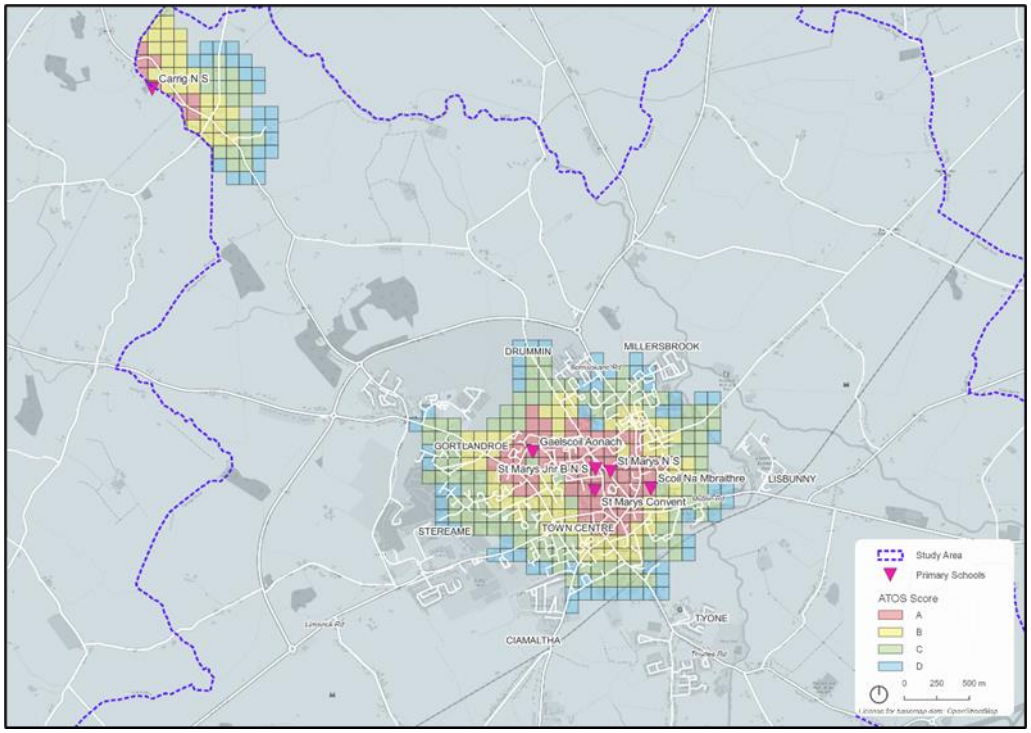


Figure 2.9 ATOS Primary Schools Results - Walking

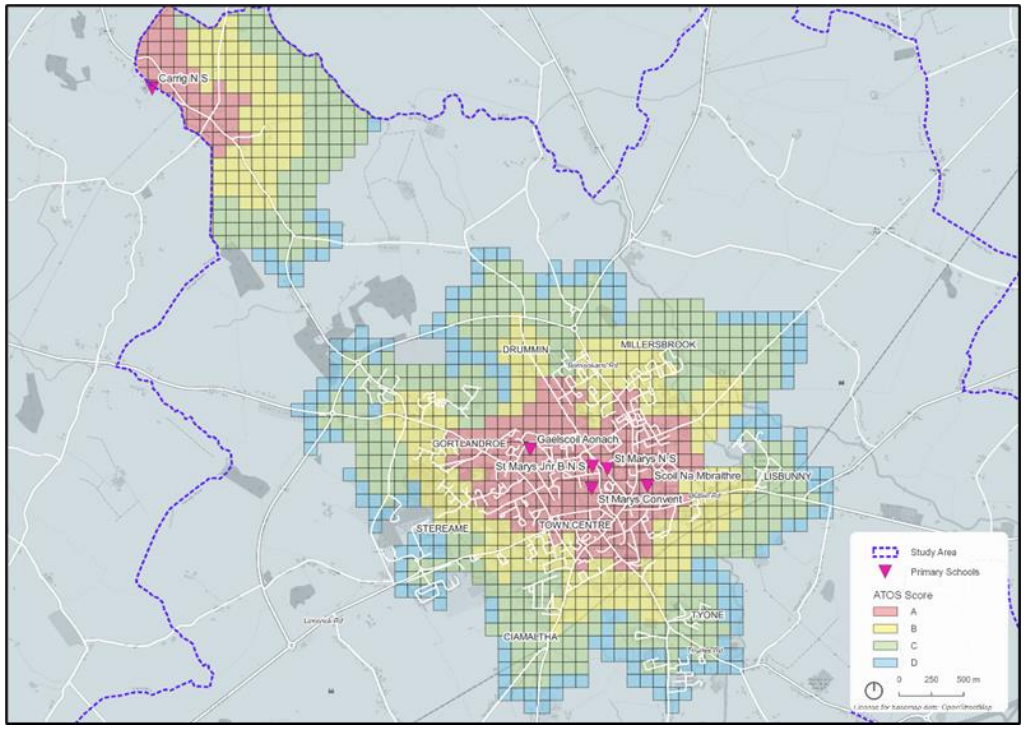


Figure 2.10 ATOS Primary School Results - Cycling

The results indicate that there is generally good accessibility to primary schools within the study area. Almost all residents are within a 10-minute cycle of their nearest school, with the main exceptions being part of the Springfort Meadows (Limerick Road) and Cluain Muillean (Thurles Road) housing estates. While many residents are within a 15-minute walk, those living in peripheral housing estates are outside of the ATOS walking catchment. These include all of those residing south of the Nenagh railway line in Tyone, those west of the Tipperary County Council offices on the Limerick Road, northwest Gortlandroe, and parts of Millersbrook and Dromin to the north. As expected, areas closest to primary schools have the shortest travel times and best ATOS scores, with scores decreasing as distances and travel times increase.

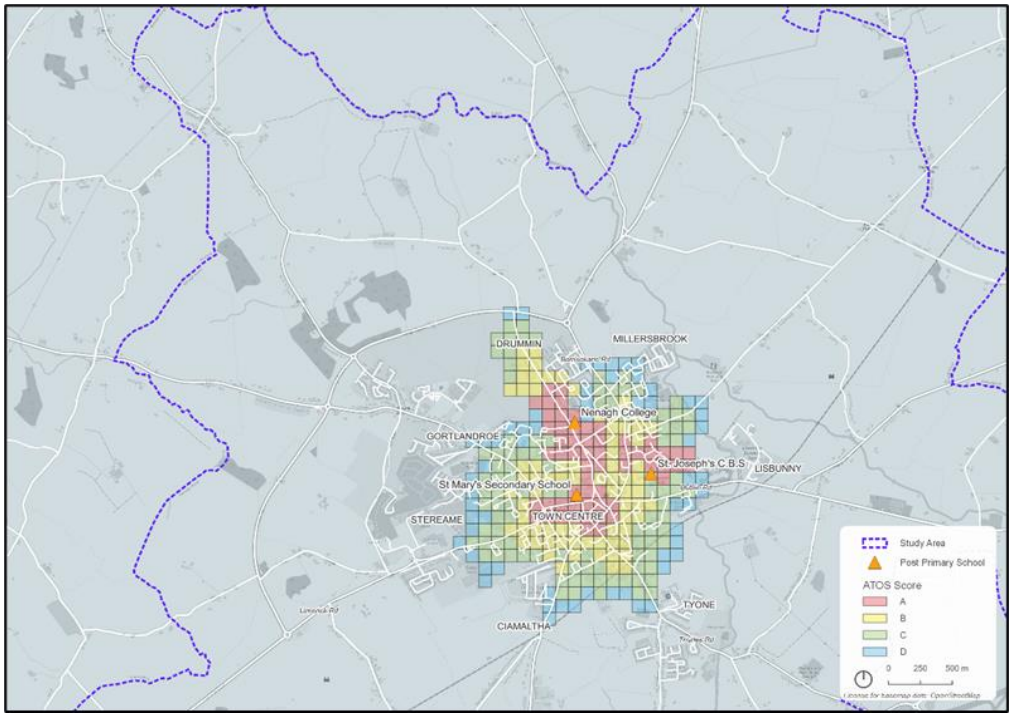


Figure 2.11 ATOS Post-Primary School Results - Walking

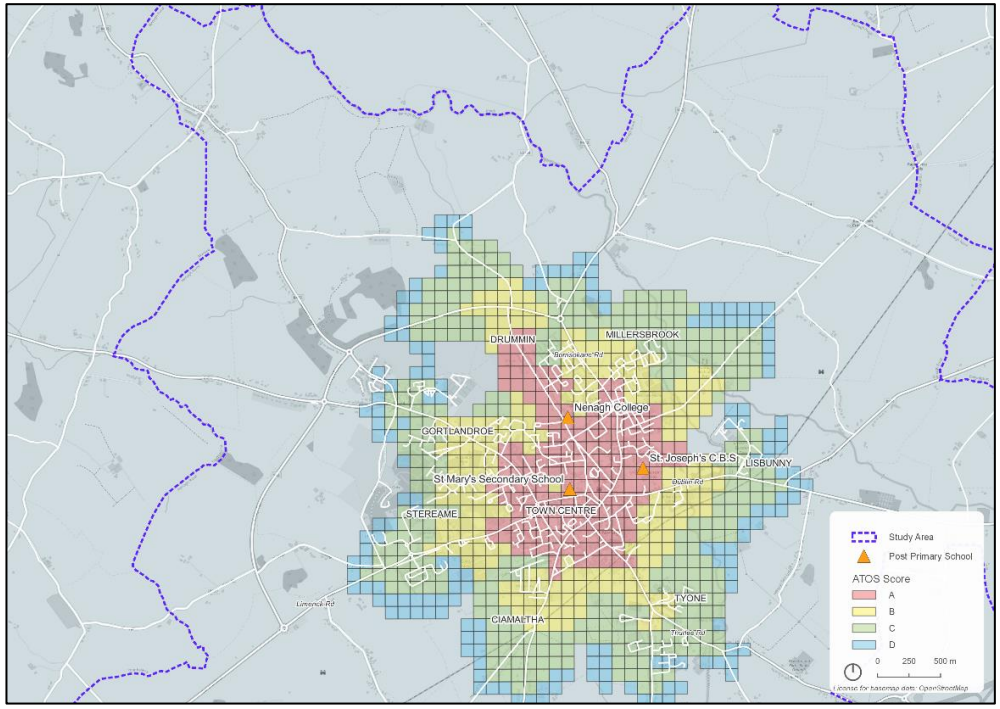


Figure 2.12 ATOS Post-Primary School Results - Cycling

For post-primary schools, access is again relatively good with all residents of the study area within a 10-minute cycle of a school. The railway line is a noted barrier to accessing St. Joseph's CBS, particularly from the south (Tyone). While there is a good dispersal of post-primary schools in the study area, two of these are single gender schools – St Mary's Girls Secondary School and St. Joseph's CBS for boys. As such, while a large proportion of residents are within 15-minute walk of their nearest school, access may be limited depending on their gender. This is normal as, for post-primary schools in particular, location is not the only factor in the decision on what school to attend with aspects such as ethos, reputation, religion etc. all considered. In general, the majority of residents within the study area are within a 15-minute walk and 10 minute cycle of their nearest school, and as such, there should be opportunities to support and encourage walking and cycling for these journeys.

2.10 Existing Transport Infrastructure and Services

Walking Network

A detailed review of walking facilities along key links within the study area was undertaken. For walking facilities, the assessment focused on footpath provision and pedestrian crossings.

The Design Manual for Urban Roads and Streets[7] (DMURS) sets out that a minimum footpath width of 1.8m is considered adequate for areas of low pedestrian activity, whilst the desirable width is 2.5m.

A minimum width of 3.0m is considered adequate for areas of moderate to high pedestrian activity and a minimum width of 4.0m is considered adequate in areas of high pedestrian activity. Pedestrian crossings are described in terms of their frequency, type and provision of dropped kerbs, tactile paving, road markings and pedestrian guard rails.

In summary, pedestrian infrastructure is quite varied throughout the study area. Footpaths are generally adequate in terms of width in the town centre core and are between 1.5-3.0m in width.

There are also zebra crossings on all three arms of the Pearse Street/Kickham Street main roundabout and pelican crossings on all arms of the signalised crossroads at Mitchell Street/Pearse Street/Kenyon Street/Silver Street.

Footpaths on the streets supplementing the core of the town centre are less consistent with the footpaths on Sarsfield Street and William Street for example being too narrow, reducing visibility for pedestrians at intersections with side streets and entrances.

The footpaths on the backstreets in the town centre, although improving permeability, are often too narrow or non-existent and unsuitable for those with disabilities. Prominent examples of unsuitable footpaths exist on Friar Street, Abbey Street, Cecil Walk, Emmet Place and Hanly's Place.

Several other links in the network also feature narrow and inconsistent footpaths, many of which are between 1.4-1.5m in width, with some between 1.0-1.3m, as is the case on Ballygraigue Road.

Many of the link roads in and around Nenagh Town also have very limited pedestrian crossings which prevent pedestrians from safely and easily accessing important destinations. Pedestrian crossings on the Martyr's Road for example are uncontrolled and have no central protection islands limiting pedestrian accessibility to Nenagh Train Station. The same can be found on Dromin Road, Church Road limiting safe and easy pedestrian accessibility to Nenagh College, pre-school and child centre.

Finally, the issue of cars parking on footpaths is also prevalent on many of the links in the Nenagh network, reducing the already limited pedestrian space. St. Conlan's Road and William Street are such examples of where this behaviour was observed.

[7] Source: https://www.gov.ie/en/publication/3360b1-design-manual-for-urban-roads-and-streets/

Cycling Network

A description of existing cycle facilities within Nenagh was also undertaken with reference to availability and cycle facility type (i.e. segregated cycle track, on-road cycle lane, contra flow cycle lane, etc). Figure 2.13 illustrates the key links within the study area that were reviewed for walking and cycling facilities.

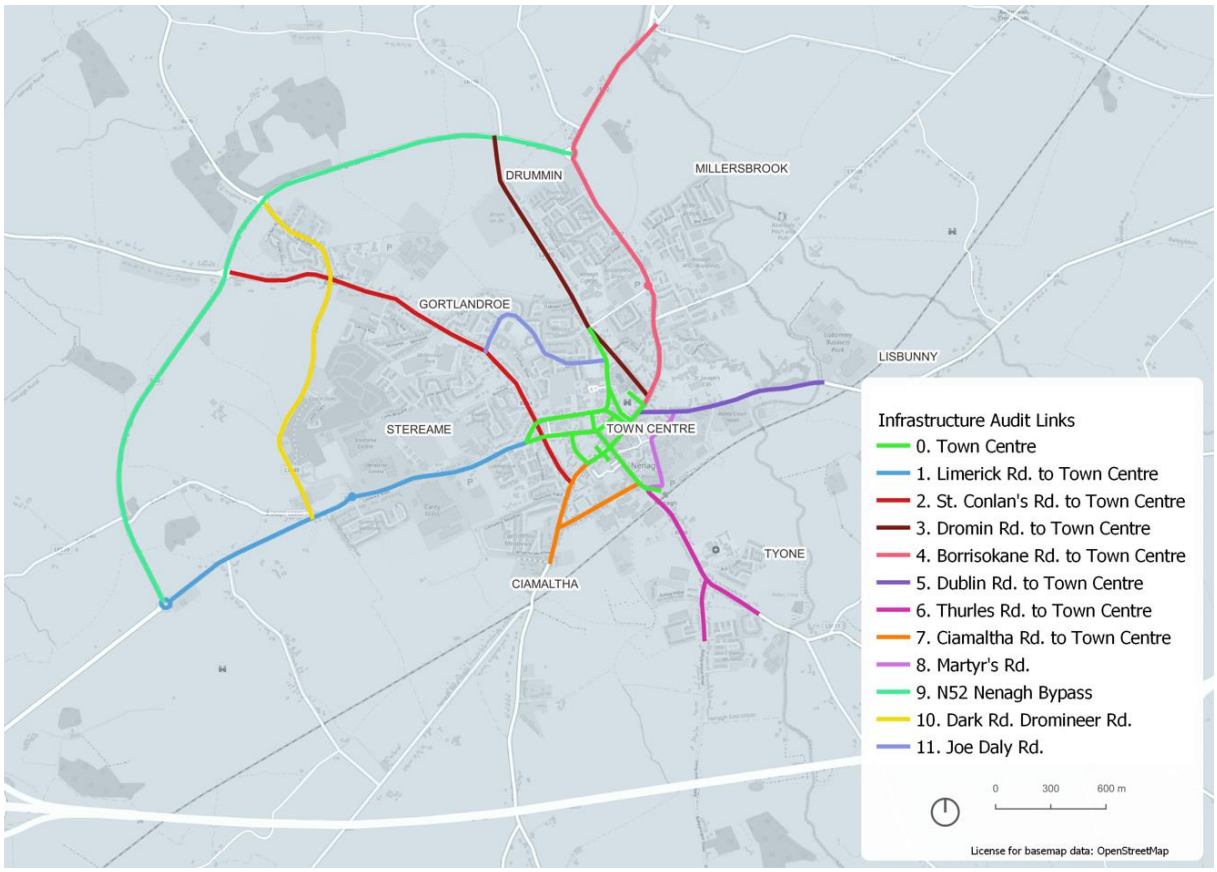


Figure 2.13 Links included in Walk and Cycle Review

A mixture of advisory and mandatory cycle lanes are provided on several of the links to and from Nenagh town. The locations are outlined below Figure 2.14. There are advisory cycle lanes, demarcated by a broken white line, on Ashe Road which end abruptly at Banba Square. There are breaks in the cycle lane at two zebra crossings where the road narrows, and on the north side of the road close to the St. Conlan's Road roundabout to facilitate on street parking.

An advisory cycle lane is also present on the north side of the road for the entire length of the Limerick Road to Town centre route and on the south side of the road between the town centre and the Stereame Roundabout but discontinues for a short period before reappearing 250m later. Inconsistent cycle lanes exist on both sides of the St Conlan's Road link and both sides of the Borrisokane Road from the roundabout heading along the R497.

These cycle lanes are a combination of advisory stretches and mandatory stretches, the latter being demarcated by a continuous white line as opposed to a broken white line. An integrated

pedestrian/cycle lane separated from the road by a kerb starts from the N52/Dromin Rd junction and continues for 260-270m in a south-eastern inbound direction; it discontinuous on the north side of Nenagh College.

Finally, an inconsistent cycle lane commences at Martyr's Road/R445 junction heading east on the Dublin Road. Once again, the cycle lane is a combination of mandatory and advisory stretches. The remaining links are without any cycle infrastructure provision.

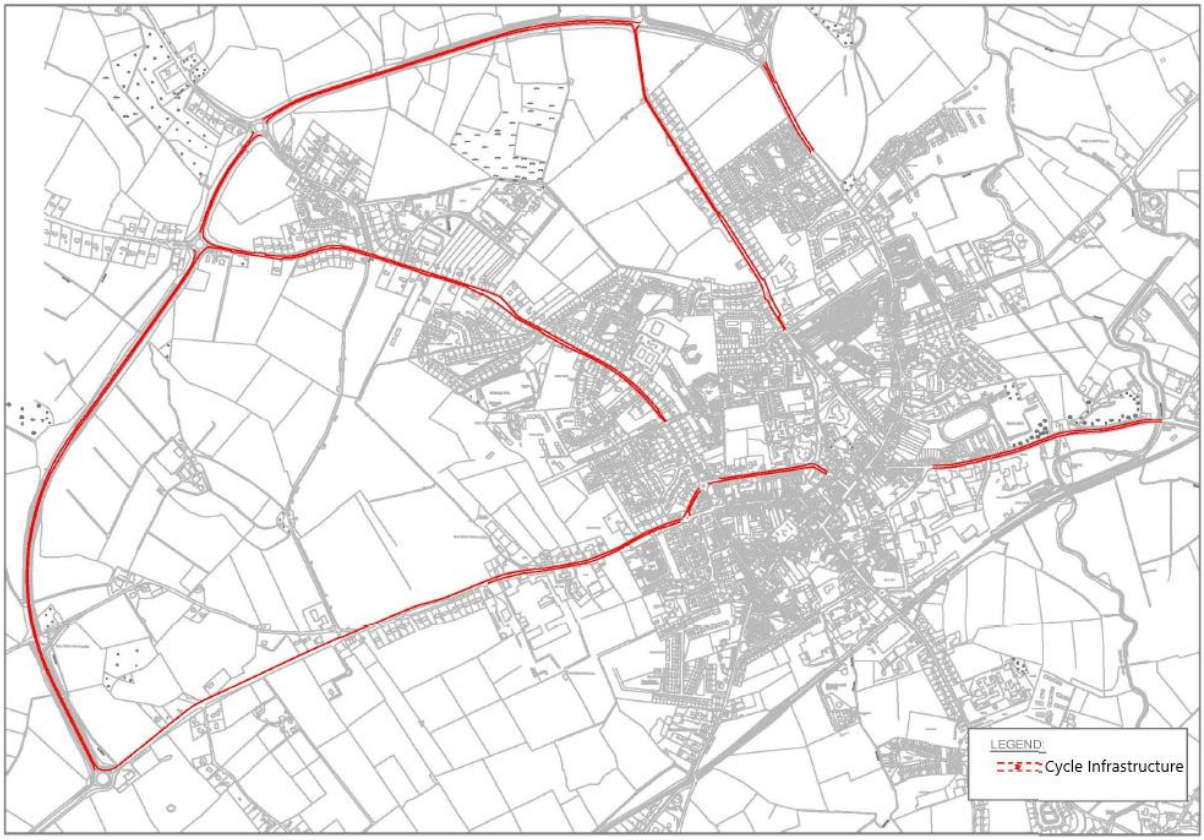


Figure 2.14 Locations of Existing Cycle Infrastructure (Sourced from Nenagh Traffic and Transportation Plan, 2019)

With the exception of the integrated pedestrian/cycle lane on Dromin Road, the cycle lanes in and around Nenagh Town are at carriageway level. No examples of cycle tracks exist in Nenagh, which are distinct from cycle lanes in that they are physically segregated and raised, despite the high levels of traffic and speeds on many of the links.

Without exception, the cycle lanes that do exist end abruptly at junctions and roundabouts, with no cycling infrastructure apparent through any of the six roundabouts/junctions in Nenagh.

The Ashe Road/ Banba Square junction and Limerick Road/Cudville Street roundabout are prominent examples of this. According to the National Cycle Manual 'junctions are critical components of cycling networks, and cycle friendly junctions facilitate safe and efficient passage for all modes of transport' with the majority of cyclist accidents occurring close to or at junctions.

Public Transport

The Nenagh LTP study area is served by an Iarnród Éireann Rail line along with a number of regional and local Bus services operated by Bus Éireann, Bernard Kavanagh & Sons, JJ Kavanagh and Transport for Ireland (TFI) Local Link.

The following section provides an overview of the services operating in the area with information on frequencies, locations served and potential future improvements to the Public Transport network.

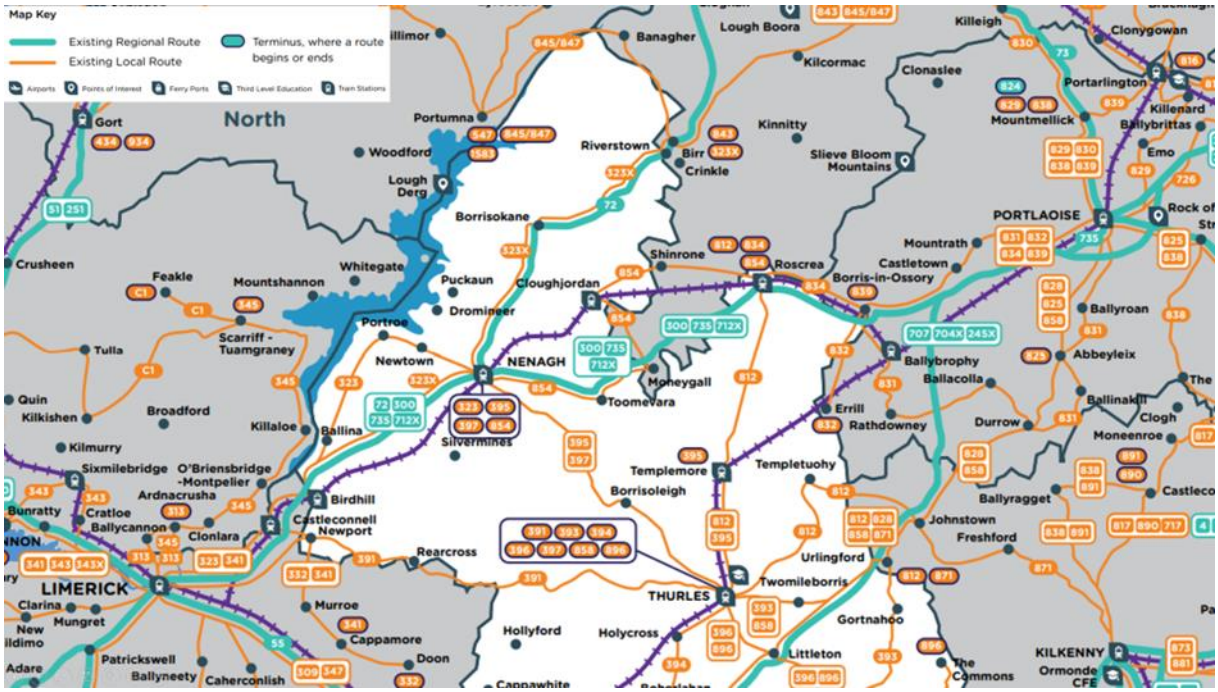


Figure 2.15 Existing Public Transport options to and from Nenagh

Rail Network

Nenagh is served by the Limerick – Ballybrophy railway line. At Ballybrophy, there are scheduled connections with Dublin Heuston services which operate on the Dublin-Cork main line. The trains that operate the line are the Iarnród Éireann 2800 Class, a type of commuter style Diesel Multiple Unit. The train station in Nenagh is located on the Thurles side of the town. Services on the line are irregular and, on a typical weekday, there are just two trains in each direction from Ballybrophy to Limerick.

There is also one additional commuter service from Nenagh to Limerick in the morning, however the last return service to Nenagh operates just before 5pm, the typical afternoon peak hour. On Sundays there is just one train in each direction. Upgrade work on 9.5 miles of the track was completed in 2022 and this will facilitate future journey saving times for users of the line with additional services also being considered.

The 2019 National Rail Census Report was analysed to determine the level of Rail usage at Nenagh train station during pre-COVID conditions. It suggests that there were on average 28 daily boardings at Nenagh Station in 2019, including 14 southbound boardings and 14 northbound boardings. This was the highest daily boarding total of the seven years analysed, an increase of nine boardings on 2018.

There were also 15 total daily alightings at Nenagh station, 6 of which were attributed to northbound services and 9 to southbound services, a reduction of three alightings on 2018. In comparison to other Tipperary train stations serviced by the Dublin Heuston – Limerick route, Nenagh station had both higher daily boarding rates (28) and daily alighting rates (15) in 2019 than Roscrea (7 & 3), Cloughjordan (12 & 10) and Birdhill (15 & 1).

In total however, commuter trips undertaken by train accounted for just 4% of all public transport generated trips in Nenagh according to the 2016 Census. As a percentage of total modal share this equated to just 0.12%, significantly below the nation-wide figure of 3.4%.

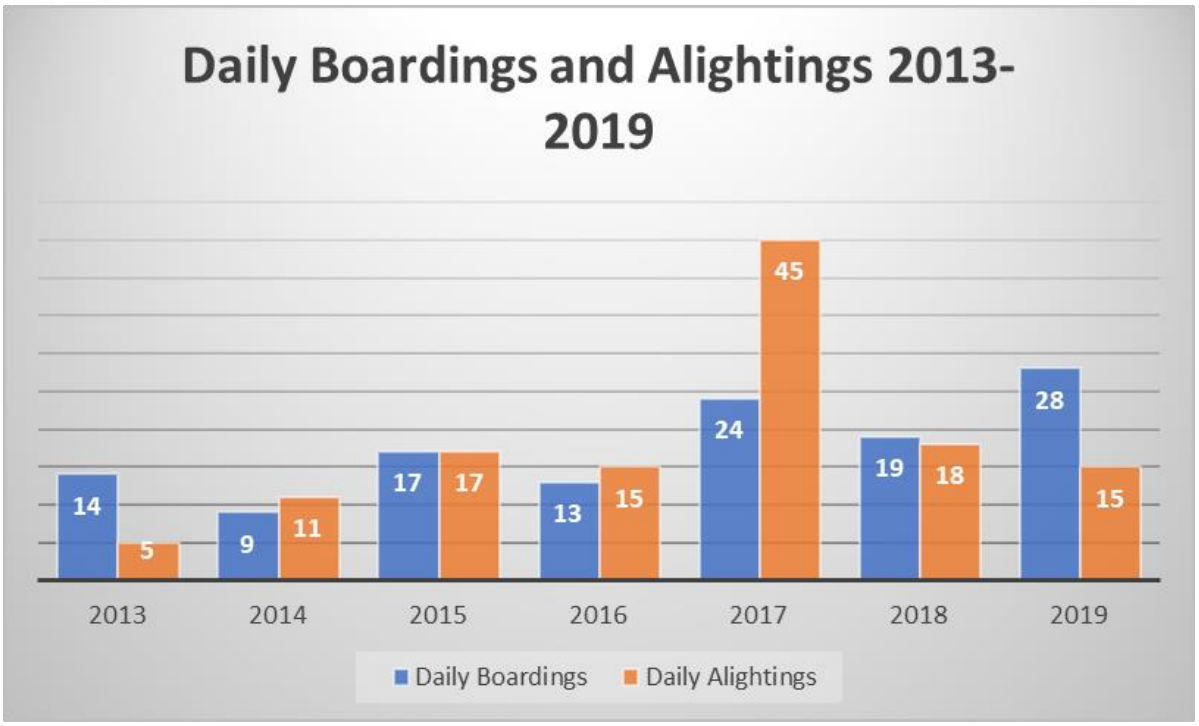


Figure 2.16 Daily Boardings and Alighting's at Nenagh Train Station

Bus Network

Table 2.4 and Table 2.5 outline the bus routes currently serving the study area including their regular morning peak frequency. 2016 Census data suggests that approx. 1.5% of commuter trips generated within the study area are undertaken by public transport (compared to just under 10% nationally), with Bus services representing the vast majority of public transport demand (96%).

Table 2.4 Weekday Study Area Bus Services

ROUTE NO.	ROUTE ORIGIN - DESTINATION	OPERATOR	WEEKDAY FREQUENCY AT NENAGH (DEPARTURES & ARRIVALS)
72	Limerick - Athlone	Bus Éireann	12:10, 15:10, 18:10
72	Athlone - Limerick	Bus Éireann	09:35, 15:35, 18:35
323	Limerick - Nenagh via Ballina & Portroe	Bus Éireann	08:04, 11:13, 14:13, 17:20, 18:24, 19:18, 22:01
323	Nenagh - Limerick via Portroe & Ballina	Bus Éireann	06:22, 07:22, 09:01, 12:01, 15:02, 18:02, 21:02
323X	Limerick - Birr	Bus Éireann	07:45
323X	Birr - Limerick	Bus Éireann	17:15
854	Nenagh - Roscrea	TFI Local Link	08:50, 12:50, 16:50
854	Roscrea - Nenagh	TFI Local Link	08:24, 11:54, 16:24
395	Nenagh to Templemore via Thurles	Bernard Kavanagh & Sons	18:05
395	Templemore to Nenagh via Thurles	Bernard Kavanagh & Sons	09:35
397	Nenagh to Thurles	Bernard Kavanagh	11:20

ROUTE NO.	ROUTE ORIGIN - DESTINATION	OPERATOR	WEEKDAY FREQUENCY AT NENAGH (DEPARTURES & ARRIVALS)
		& Sons	
397	Thurles to Nenagh	Bernard Kavanagh & Sons	17:15
735	Limerick to Dublin Airport	JJ Kavanagh & Sons	02:00, 04:30, 07:45, 09:45, 11:45, 14:10, 15:50, 18:10, 19:10, 20:50
735	Dublin Airport to Limerick	JJ Kavanagh & Sons	07:55, 10:00, 14:25, 12:00, 16:15, 18:35, 20:30, 22:25, 02:40

Table 2.5 Weekend Study Area Bus Services

ROUTE NO.	ROUTE ORIGIN - DESTINATION	OPERATOR	WEEKEND FREQUENCY AT NENAGH (DEPARTURES & ARRIVALS)
72	Limerick - Athlone	Bus Éireann	12:14, 15:14, 18:32
72	Athlone - Limerick	Bus Éireann	09:15, 15:30, 19:10
323	Limerick - Nenagh via Ballina & Portroe	Bus Éireann	07:58, 11:09, 14:13, 17:18, 18:19, 19:08, 22:03
323	Nenagh - Limerick via Portroe & Ballina	Bus Éireann	06:22, 07:22, 09:02, 12:05, 15:03, 18:02, 21:02
323X	Limerick - Birr	Bus Éireann	No Service
323X	Birr - Limerick	Bus Éireann	No Service

ROUTE NO.	ROUTE ORIGIN - DESTINATION	OPERATOR	WEEKEND FREQUENCY AT NENAGH (DEPARTURES & ARRIVALS)
854	Nenagh - Roscrea	TFI Local Link	08:50, 12:50, 16:50
854	Roscrea - Nenagh	TFI Local Link	08:24, 11:54, 16:24
395	Nenagh to Templemore via Thurles	Bernard Kavanagh & Sons	18:05
395	Templemore to Nenagh via Thurles	Bernard Kavanagh & Sons	09:35
397	Nenagh to Thurles	Bernard Kavanagh & Sons	11:20
397	Thurles to Nenagh	Bernard Kavanagh & Sons	17:15
735	Limerick to Dublin Airport	JJ Kavanagh & Sons	02:00, 04:30, 07:45, 09:45, 11:45, 14:10, 15:50, 18:10, 19:10, 20:50
735	Dublin Airport to Limerick	JJ Kavanagh & Sons	07:55, 10:00, 14:25, 12:00, 16:15, 18:35, 20:30, 22:25, 02:40

Road Network

Figure 2.17 below illustrates the key National, Regional and Local roads serving the study area.

Figure 2.17 Study Area Road Network

Nenagh is served by the M7 motorway which by-passes the town and provides accessibility to the cities of Limerick and Dublin. The N52 by-passes the town to north and connects Nenagh with the Midlands and onward connections to Galway. These routes, along with the R498 to Thurles carry most strategic traffic to/from the town. The existing road network around Nenagh reaches capacity during peak commuter and shopping periods, with a combination of both local and strategic traffic contributing to congestion.

A detailed review was undertaken on key junctions and links around Nenagh town centre which focused on road layouts, facilities for pedestrians/cyclists and highlighting any potential issues noted. This full review can be found in the baseline report which is included in Appendix A.

2.11 Permeability

As part of the detailed review of walking and cycling facilities combined with lessons from the ATOS and catchment analysis, a review of permeability within the town was undertaken. As noted in the policy context, the NTA have produced a Best Practice Guide to permeability which notes how it can

facilitate demand for walking and cycling in urban areas. The more permeable the urban environment to active modes, the more likely they are to be more appealing over the private car.

However, there are certain areas in Nenagh which do not have the same level of permeability. Where possible, small permeability improvement schemes could have a big impact in terms of shortening active travel journey times. Through a mix of permeability upgrades and new linkages, an improved permeable network could be achieved.

2.12 Consultation Methodology & Feedback

Methodology

An online survey was developed using the tool 'Snap Surveys' and was accessible between Friday the 31st of May and Friday 24th June 2022 and was made available through the Tipperary County Council consultations portal. Following completion of the survey, respondents were directed to the map-based platform hosted by PlaceChangers.

The survey was posted on the Tipperary County Council website and was promoted with local newspaper adverts, radio adverts, and on social media channels to generate as much engagement as possible. In addition to this, key stakeholder groups were notified, including local councillors, local schools, the chamber of commerce etc. Some paper based versions were also made available from Tipperary County Council Offices for those with limited digital capabilities and/or online access. These paper-based responses weren't able to access the PlaceChangers map-based tool as it was only accessible via the web-based survey.

A total of 234 responses were received, 233 of which were deemed valid respondents. The map based part of the consultation received 110 'ideas' and 57 annotations from 114 respondents.

Feedback

Of the 233 responses in the questionnaire –

- 48% rated cycle facilities as 'poor' or 'very poor'
- 68% rated public transport provision as 'poor' or 'very poor'
- 81% rated pedestrian facilities as 'adequate' or better
- 79% rated traffic conditions as 'adequate' or better

In the map based platform, 114 responses were received and the figure and bullet points below shows the split of responses, classified under five broad headings: Active Travel, Parking, Public Realm, Public Transport and Traffic Management & Safety.

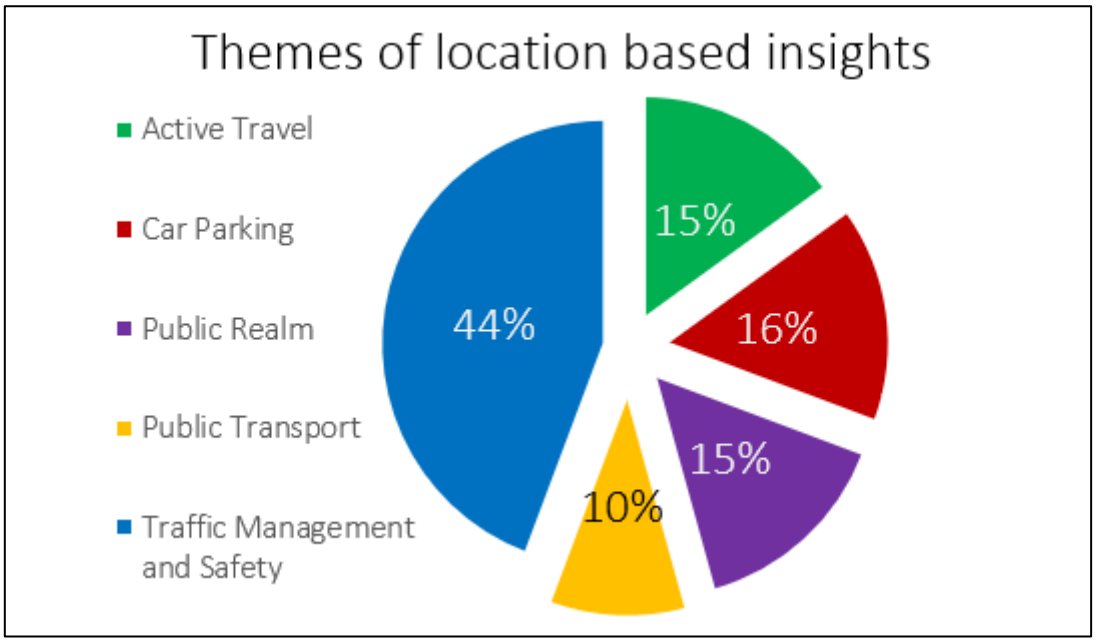


Figure 2.18 Location Based Insights split by Themes

- **Active Travel** – more pedestrian crossings in town centre and near schools, need for more segregated cycle facilities particularly linking to schools, safer walk/cycle connection to the train station, pedestrianise Abbey St.
- **Parking** – Illegal parking causing congestion, parking on footpaths, school pick-up/drop-off an issue particularly on Ashe Road and O'Rahilly Street
- **Public Realm** – Footpath audit needed to identify issues and improve facilities, inadequate lighting at some locations e.g. Connolly St, Dark Road, Limerick Rd
- **Public Transport** – Lack of bus stops on existing services near large residential areas, improved rail services needed (poor timing, not enough services), creation of transport hub at train station with bus stops relocated
- **Traffic Management and Safety** – one-way system in town centre, junction upgrades for safety e.g. McDonagh St roundabout, traffic congestion during peaks, high vehicle speeds and traffic calming required – Martyr's Road, St. Conlon's Road, R497 Borrisokane Road

As illustrated by the figure above, the majority of responses can be classified under the Traffic Management & Safety theme. In this theme, the following three key locations were mentioned –

- **McDonagh St** – roundabout creates congestions resulting in difficulty of traffic movements on adjoining roads, pedestrian crossing should be moved further from bend to improve visibility
- **Pearse St** – establish one way system with Mitchel, Emmet and Kickham, repaint roundabout by Ryan's Pharmacy to avoid use as a T-junction, pedestrian crossing should be moved further from roundabout and increased time given for people to cross
- **Summerhill** – lights to replace roundabout besides Tesco, zebra crossing needs to be moved further from roundabout as contributing to congestion, establish pedestrian crossing at CBS entrance to minimise jay walking that creates delays

Other general comments/suggestions included the need for improved junction layouts to ease congestion and the potential for one way traffic systems to help improve traffic flow and ease congestion.

The full results from the community consultation can be found in the Baseline assessment which is included in Appendix A.

2.13 Schools Consultation

In addition to the Nenagh community consultation, the primary and secondary schools were consulted as part of the Nenagh ABTA Baseline Assessment. The online survey was issued to all eight schools in Nenagh (five primary and 3 secondary) and of the eight schools, five responded. Of the five responses, 1 was found to be very dissatisfied with the level of access to their school while two others were neither satisfied or dissatisfied.

A question was posed to the respondents to hypothetically consider a range of different changes in the transportation infrastructure for the school. The measures that were most supported were:

- Increase and improve space for pedestrians and cycling by reducing road space for vehicle traffic (e.g. narrowing carriageway, removing parking, a one-way system)
- Enforcement to prevent illegal / inconsiderate parking
- Physical barriers between road and school entrance areas to prevent informal vehicle drop-off and parking at the front of school
- Introduction of new pedestrian/cycle crossings in vicinity of school entrance
- Speed calming measures to reduce vehicle speeds (e.g. speed humps, raised crossing point, road narrowing etc.)
- Introduction of more cycle and scooter parking

In addition to the question above, the survey asked if respondants would be supportive of any transport measures which would support students and staff accessing the school more easily, safely and sustainably. The most popular responses were for:

- Improved/more cycle paths
- Improved/more walking routes
- Improved/more pedestrian crossings
- Formal carpool / car share scheme
- Free high-vis/reflective gear and/or bike lights

The full results from the schools consultation can be found in the Baseline assessment which is included in Appendix A.

2.14 SWOT Assessment

The Baseline Assessment provided an understanding of the key transport issues, opportunities and constraints within the Study area. The findings from the Baseline Assessment have been used to inform a Strengths, Weaknesses, Opportunities and Threats/Constraints (SWOT) analysis for the Nenagh LTP study area, and the results are outlined in the Table 2.6 and Table 2.7 below. This has been used to provide insight and inform the subsequent stages in development of the LTP.

Table 2.6 Strengths and Weaknesses

STRENGTHS
• Designated as a 'key town' within the RSES for its potential to contribute to and consolidate economic growth beyond cities • Fast growing town with ambitious NPF 2040 growth forecast, further establishing it as an urban centre for development • Good strategic road connectivity to Limerick and Dublin via the M7 motorway, also benefits from a rail link to both cities with upgrades planned • Town bypassed by both strategic roads (M7 and N52) • Proximity to Lough Derg on the River Shannon and the attractive form and impressive architecture add to the town's tourism appeal • Good permeability in town centre • Generally, favourable flat topography enabling more walking, cycling & other active travel trips.
WEAKNESSES
• Deficiency in the level of provision and quality of service level for pedestrian and particularly cyclist infrastructure • Deficiency in level of provision for bus stop and shelter infrastructure • No bus priority measures in the Study Area • Congestion within the town centre, particularly on the Pearse Street, Kenyon Street and Mitchell Street • Low mode share in public transport, particularly rail, and very poor level of resident sentiment surrounding PT provision • Severance effect of rail line limits connectivity to the south of the town including residential areas and Nenagh Hospital (which is expanding)

Table 2.7 Opportunities and Threats

OPPORTUNITIES
• Opportunity to build upon existing bus and rail infrastructure assets & sustainable mobility hub concept with electric vehicle charging and car sharing options • Opportunity to build upon existing Slí Eala walkway to convert to a greenway and extend out to lough Derg, maximising tourism linkages while enabling new active travel linkages • Opportunity to enhance public transport infrastructure, with greater level of provision in, and linkages to, existing residential & employment areas • Large amount of space in town centre allocated to parking, opportunities to reallocate space as part of public realm improvements to maximise use of attractive streetscape and encourage sustainable mode shift • Opportunity to encourage enhanced Mobility Management for residential developments, schools and businesses – including Safer Routes to Schools • Pedestrian connectivity between rail station and key areas of demand in town centre could be improved • Centre of Excellence for Sustainable Energy plan gives an opportunity to become a leader in sustainable mobility in the Irish context
THREATS
• Nenagh serves a wide rural hinterland and the fragmented settlement patterns mean that it will be very challenging to cost effectively serve these areas by public transport, resulting in continued private car use. Provision for this residual traffic, and its access and parking requirements, must be carefully considered to ensure the LTP objectives are not undermined. • Failure to prioritise sustainable transport measures (including active travel and the reallocation of road space) and the introduction of appropriate transport demand management measures likely to contribute to an increase in car-use • A continuation of low-density development on the periphery of the town in areas not well served by public transport and away from local schools will perpetuate unsustainable travel patterns and put increased pressure on the road network • A failure to provide residential and commercial development at the required densities to support public transport investment • Insufficient investment and improvement to public transport service provision and supporting infrastructure may limit the attractiveness of the public transport alternative and increase car-based congestion as the town grows

3. LTP OBJECTIVES & FUTURE DEMAND FOR TRAVEL

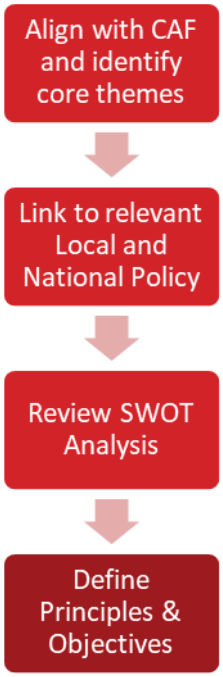
3.1 Introduction

Part 2 of the ABTA process focuses on applying the information gathered from the baseline assessment (including the SWOT analysis) to determine the principles and objectives that guide the development of the LTP. The following sections provide an overview of the methodology used to derive the objectives for the Nenagh Local Transport Plan, along with the Key Performance Indicators (KPIs) used to assess the performance of the strategy options in meeting the study objectives.

3.2 Developing the Objectives and KPIs

The development of the principles and objectives for the Nenagh LTP were informed by

- The opportunities and constraints identified in the Part 1 Baseline Assessment SWOT Analysis;
- Existing local policies and objectives; and
- National level policy guiding the delivery of sustainable development.



In order to ensure a robust assessment of transport options, the objectives were broadly aligned with the key categories outlined in the Department of Transport's Common Appraisal Framework (CAF) with common themes identified:

- **Accessibility & Social Inclusion:** supporting local accessibility by walking and cycling within Nenagh for all users;
- **Environmental:** supporting climate change initiatives and a general switch to more sustainable modes of travel;
- **Economic:** supporting the vibrancy and connectivity to Nenagh Town Centre enhancing its economic competitiveness;
- **Integration:** supporting the integration of land use and transport planning in a manner that can affect significant modal shift to walking, cycling, and public transport; and
- **Safety & Physical Activity:** promote walking and cycling and provide a safe environment for vulnerable users.

A detailed review was then undertaken of Local and National Policy to identify existing objectives under each of the CAF headings and themes outlined above. In particular, strategic outcomes and policies from the County Development Plan were identified which could inform the objectives for the Nenagh LTP. The SWOT analysis from the Baseline Assessment was also reviewed to identify specific constraints and issues currently within the study area which should be addressed by the Nenagh LTP objectives. Whilst the objectives developed for the LTP focus on the need to improve travel by sustainable modes in Nenagh, in accordance with DoECLG Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities', an overarching aim in the development of all LTP transport measures is the need to safeguard the strategic function, capacity and safety of the existing national road network in the plan area.

Performance measurement is used to determine if the full set of recommendations proposed under the Nenagh LTP achieve the desired outcomes. Key Performance Indicators (KPI's) have been identified and were used to measure the performance of the LTP strategies under the various objectives. Table 3.1 below outlines the objectives and associated KPIs developed for the Nenagh LTP.

Table 3.1 Nenagh LTP Objectives and KPI's

HEADING	OBJECTIVE	KPI
Accessibility & Social Inclusion	To create and enhance inter-urban connectivity through delivery of a quality public transport service between Nenagh and the Limerick Metropolitan Area (and settlements within). There should also be improved connections to key settlements throughout the County including towns such as Roscrea, Thurles, and Clonmel.	People within 15min walk of a Public Transport Stop. Narrative qualitative assessment of improved services (Connecting Ireland), and bus stop upgrades and integration with mobility hub
	To promote the application of Universal Design through the delivery of a sustainable transport network for users of all abilities in Nenagh, where services are accessible via a comfortable short and safe walk, cycle, or Public Transport ride from dwellings.	Length of additional / improved walk and cycle infrastructure
Integration	To promote the '10-minute settlement' concept in Nenagh aiming to reduce walking times and provide easy access to essential daily services and facilities through improved integration of land use and transport.	Catchment analysis - population within 10 mins of key destinations (PT, Schools, Shops) by sustainable modes
	To align and integrate with incumbent and upcoming National, Regional, and Local planning policy	Rating Scale - Review against policy compliance

HEADING	OBJECTIVE	KPI
Safety & Physical Activity	Provide safe access to schools for vulnerable road users and ensure a safe front of school environment	Qualitive assessment of walking and cycling infrastructure to schools and front of school environment
	To invest in active travel to benefit the health and wellbeing of residents and visitors of Nenagh with schemes that foster a healthy lifestyle to create a more liveable town	Population within 200m of new cycle infrastructure
Environment	To provide an environment which supports and encourages a modal shift from the private car to more sustainable modes. This will support the County to reach Climate Action and Sustainable Energy targets while helping achieve a more environmentally sustainable and circular economy	Qualitative assessment of Mode Share with target which should be monitored
	To improve and create a more appealing town centre environment for pedestrians and reduce harmful air and noise pollution from vehicles. Prioritise improvements at school zones and along the main pedestrian access routes immediately adjacent to schools	Traffic volumes through the town centre core

HEADING	OBJECTIVE	KPI
Economy	To support Nenagh's pathway to a low-carbon economy through the delivery of a sustainable transport network, improving access to employment, retail and business opportunities for all in Nenagh Town.	Narrative on sustainable links to zoned employment lands. Catchment analysis to employment – population within 10-minute walk of key employment sites
	Help grow and enhance Nenagh as a renowned centre for activity based and sporting tourism. Complement and capitalise upon the rich cultural and environmental assets inherent in Nenagh, enhancing access and movement for local residents and visitors alike.	Qualitative assessment of town centre public realm and access to places of interest

3.3 Future Demand for Travel

In addition to the review of present-day conditions in Nenagh, the project team examined the Land Use Zoning Map contained within the Nenagh Local Area Plan, as illustrated in Figure 3.1 below. In collaboration with Tipperary County Council, an assessment of appropriate lands for future potential development was completed. The existing development patterns in Nenagh were taken into account during this process. Access to existing, and planned, development sites was taken into consideration when determining the transport options for the LTP.

Any new residential or employment developments (including expansion of existing) in Nenagh will also need to provide active travel infrastructure throughout the proposed developments, which will connect to the proposed set of measures outlined in this LTP. This will ensure that connectivity across the network is maintained as Nenagh is developed into the future.

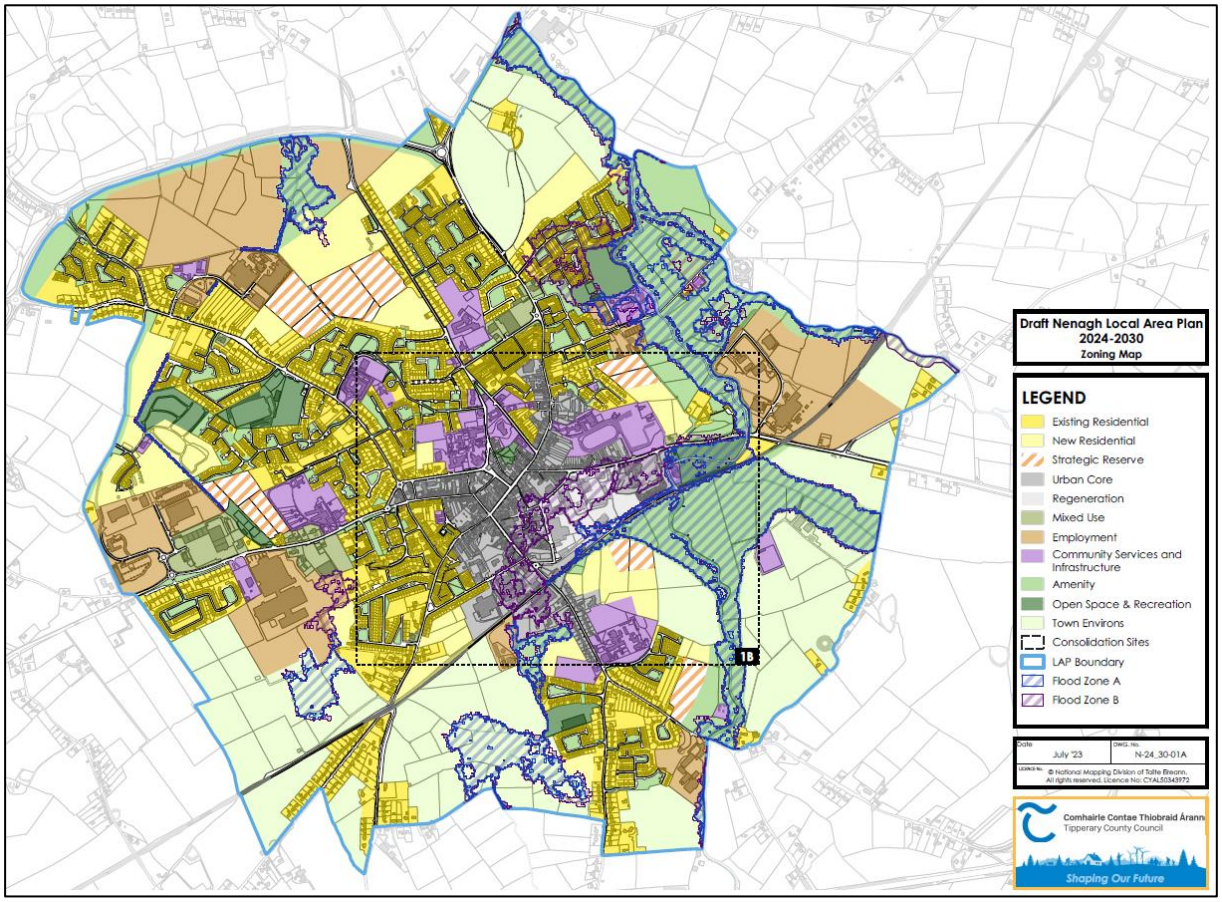


Figure 3.1 Local Area Plan Zoning Map

4. OPTIONS DEVELOPMENT

4.1 Options Development Overview

The following chapter outlines the options developed to overcome some of the weaknesses and constraints identified in the baseline assessment, and achieve the defined objectives for the LTP. The options list was developed in collaboration with the wider project working group including representatives from TCC and the NTA, through the following:

- Insight from the **Baseline Assessment** phase of the study**,** which includes the Public Consultation elements which sought initial views from the wider public;
- **Data review** to identify proposals from wider policy/strategies/masterplans for the study area and any existing/new data i.e. traffic data;
- **Site visits** to review issues identified in the baseline assessment and opportunities for improvement; and
- **Workshops** between the project working group, Elected Members and Tipperary County Council staff to discuss and agree potential options.

The options have been developed at a strategic level in accordance with national and regional policies. It is important to note that all suggested proposals will undergo further examination to establish the most suitable site-specific interventions. This will involve comprehensive analysis and design processes to ensure that the proposed schemes are meticulously developed.

The options development process followed the Department of Transport's National Investment Framework for Transport in Ireland (NIFTI) modal and intervention hierarchies (see Figure 4.1). As such, options for applicable measures were first considered in relation to active modes (walking and cycling), followed by public transport and finally vehicular traffic. Options were also initially focused on maintaining, optimising and improving existing facilities before considering the construction of new infrastructure.

Figure 4.1 NIFTI Modal and Intervention Hierarchy

The following section provides an overview of the options across active modes, public transport, vehicular traffic and supporting measures identified to assist in achieving the overarching Nenagh LTP objectives. Full detail on these options including maps and descriptions can be found in Appendix B.

4.2 Active Travel – Walking and Cycling

The development of the LTP active travel measures has been focused on increasing walking and cycling mode share, by providing high quality, attractive alternatives for journeys by car (particularly for short distance car trips which are common in Nenagh) and also improving transport choice for those without access to a car.

Providing a safe, low speed, traffic calmed environment for people of all ages and abilities to confidently cycle and walk is essential to achieve mode shift.

The provision of quality, secure cycle parking in Nenagh Town Centre and at other key locations in order to meet future demand will also be critical to achieve this step change towards active travel. This is complemented by a range of supporting behavioural change measures to lock in the benefits of this investment in active travel.

Where feasible, fully segregated cycle facilities are proposed to improve safety for cyclists. Where segregation was not considered to be possible given constraints, particularly within the town centre, measures have been proposed aimed at providing a safe, low speed, traffic calmed environment for sections of cycle trips which must be made on-road.

Figure 4.2 Example of a Segregated Cycle Track

The key aim in developing Active Travel Options was to provide Nenagh with a safe, comfortable and integrated walking and cycling network enabling trips to school, work, shopping and all other purposes to be made using active travel modes.

Full detail on all options proposed, including maps and descriptions can be found in Appendix B.

4.3 Public Transport Options

While active travel investment focuses on encouraging people to switch from car to cycling or walking for short distance journeys, public transport has the potential to encourage mode shift from car journeys for medium and longer distance trips. Improving public transport also has the potential to

support those who regularly choose active travel to also choose public transport – for example, when weather conditions are particularly inclement.

The success of the Local Link Bus Services in the Nenagh Area may provide evidence of latent demand for public transport within the Study Area. The development of the LTP public transport options has incorporated insight from the Baseline Assessment phase of the Study (including the improvement of existing public transport services, enhanced passenger information and improved passenger waiting environments and an interchange facility) along with the development of new public transport services to meet future demand (based on desire lines, future land use and Activity Density mapping).

4.4 Demand Management & Supporting Measures Options

In line with the Demand Management tool of Avoid-Shift-Reduce-Manage Transport Demand Management (TDM) Toolkit to reduce carbon, improve air quality and the urban environment, and manage congestion, a limited number of TDM Measures have been identified to support the switch to sustainable modes across the Study Area.

Supporting measures include those to support Active Travel, Public Transport and School Travel. A number of other supporting behavioural change measures are identified, including the role that Mobility Management can play in both avoiding the need to travel and supporting a switch from car travel to sustainable modes on a site by site basis.

The Park & Stride concept has also proven effective in promoting modal shift within cities and should be promoted in towns too. It optimizes the utilization of existing town car parks, enabling individuals to complete the last portion of their journey using active modes.

4.5 Road & Traffic Management Options

Options for the Road Network strategy were identified in order to improve performance and safety. The priority in the development of the road network options (as per NIFTI) is to maintain, renew, manage and operate the existing road infrastructure in a more efficient manner, and any new road schemes must demonstrate that public transport, traffic management or demand management measures can't effectively address the problem prompting the road proposal or are not applicable/appropriate.

Further, the core focus of this LTP is increasing the safety, comfort and attractiveness of active travel in the town, particularly for school trips. Therefore, road options that would unduly induce car trips that could otherwise be made by active travel would not be appropriate. However, road options that facilitate the reallocation of road space in the town centre by enabling traffic to bypass the town centre streets are more in line with the LTP objectives and current national policy.

In addition to options concerning upgraded and new road infrastructure, a number of traffic management options were developed in combination with associated Walking & Cycling proposals. These traffic management options are mainly located in the town centre where streets are narrow and active travel facilities are poor. These options and their associated Walking & Cycling measures aim to improve the public realm in key areas and provide a safer environment for people walking, cycling and driving within the town.

Full detail on all road network and traffic management options proposed, including maps and descriptions can be found in Appendix B.

5. OPTIONS ASSESSMENT METHODOLOGY

5.1 Options Assessment Methodology

The following chapter provides an overview of the options assessment process used to determine the Emerging Preferred Strategy for the Nenagh LTP. It includes an initial screening process followed by more detailed Multi-Criteria Analysis to determine the optimal package of measures to meet the identified study objectives.

To determine the Emerging Preferred Strategy to form the LTP, the long-list of options were passed through a four-stage assessment process as outlined in Figure 5.1 below, including:

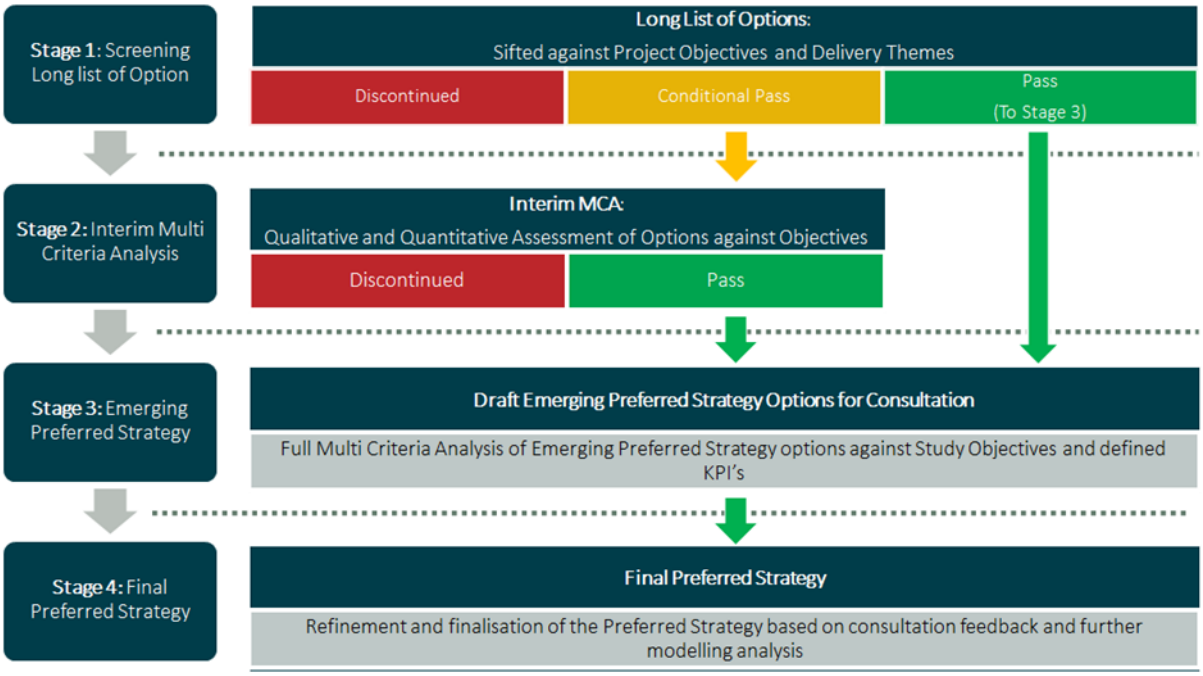


Figure 5.1 Options Assessment Methodology

- **Stage 1 Options Screening:** The long-list of options were screened against the overall project objectives and core delivery themes to identify which ones should be discontinued, which could pass directly to the final strategy, and which required further assessment;
- **Stage 2 Interim Multi-Criteria Analysis (MCA):** Options requiring further analysis were passed through an MCA with qualitative indicators used to score each option against the study objectives;
- **Stage 3 Draft Emerging Preferred Strategy Options for Consultation:** Options passing Stage 1 and Stage 2 form the initial draft Emerging Preferred Strategy for the LTP.

- **Stage 4 Final Preferred Strategy (Post LTP Consultation):** Feedback from the project steering group and public consultation as part of the Nenagh LTP process will be used to refine the preferred final strategy for the LTP.

The following sections provide a more detailed description of Stages 1-3 outlined above.

5.2 Stage 1: Options Screening

Stage 1 of the Options Assessment examined each of the long-list of measures to see whether they helped to achieve the LTP themed objectives (Economic; Health and Safety; Environment; Integration; Accessibility and Social Inclusion). The options were also assessed at a high level against the following **core delivery themes**:

- Engineering feasibility;
- Acceptability;
- Funding potential; and
- Value for money

Based on this initial screening, options were classed as follows:

- **Discontinued:** the option did not align with the LTP objectives and therefore is not included in the Emerging Preferred Strategy;
- **Pass:** the option satisfied the project objectives and the core delivery themes, and no alternative proposals were identified in the options development process. These options passed directly into the Emerging Preferred Strategy without the need for an interim assessment.
- **Conditional Pass:** the option aligned with the LTP objectives, however, either didn't fully meet all of the core delivery themes or had a number of alternative proposals identified. In these instances, the options were assessed in further detail as part of the interim MCA.

Further details on the outcomes of the Options Screening process, including all options assessed and associated scoring is provided in Appendix B.

5.3 Stage 2: Interim MCA

The Interim MCA was used to evaluate options classed as having a Conditional Pass (as outlined above). At this stage, options were assessed in more detail based on their ability to meet the core delivery themes outlined above and also the overarching study objectives.

This assessment was predominantly qualitative in nature, however where possible, quantitative information was used to supplement the scoring e.g. survey data, demand data, GIS analysis, traffic modelling etc.

A five point scoring system, outlined in Table 5.1 below, was used to assess the options across the objectives and delivery themes. This produced a performance matrix which was reviewed to rank the scenarios and identify which ones performed best and therefore, passed into the Emerging Preferred Strategy.

Table 5.1 Interim MCA Scoring System

Scoring	
Major Benefit: The proposal is expected to have a clear and considerable benefit or positive impact when compared to existing conditions.	
Minor Benefit: The proposal is expected to have a minor benefit or positive impact when compared to existing conditions.	
Neutral: Overall, the proposal is expected to have neither a positive nor negative impact when compared to existing conditions.	
Minor Disbenefit: The proposal is only expected to result in a minor negative impact when compared to existing conditions.	
Major Disbenefit: The proposal is expected to have a clear and considerable negative impact when compared to existing conditions.	

To ensure that the options that had advanced to the interim MCA stage were assessed holistically, and that mutually exclusive options were assessed at the same time, where possible/reasonable options were packaged together for the MCA process.

Detailed work was undertaken to balance the positive and negative outcomes of each option to assess whether it would be included in the Emerging Preferred Strategy. Further details on the Interim MCA, including all options assessed and associated scoring is provided in Appendix C.

5.4 Stage 3: Emerging Preferred Strategy Assessment

The options that passed from Stage 1 and Stage 2 of the assessment process formed the draft Emerging Preferred Strategy for the Nenagh LTP. This included a wide range of proposals across walking, cycling, public transport, road network changes and wider supporting measures.

The Emerging Preferred Strategy was then comprehensively reassessed against all of the study objectives using the Key Performance Indicators outlined in Table 3.1. This included qualitative scoring but also more detailed quantitative analysis such as accessibility analysis (ATOS), length of infrastructure improvements, GIS catchment analysis, traffic modelling results etc. Further details on all elements of the Emerging Preferred Strategy, including the MCA results are provided in Chapter 6.

6. EMERGING PREFERRED STRATEGY

6.1 Overview

The previous chapters in this report have detailed the process followed in identifying the Emerging Preferred Strategy for the Nenagh LTP. The following sections provide a summary of the proposed measures which have passed through the assessment process and now form part of the Local Transport Plan.

These modal network strategies have been developed in order to determine the key infrastructure and transport policy measures required in Nenagh and its wider hinterland in order to effectively address existing constraints in transport capacity, taking all journey purposes and modes of transport into consideration, to plan for the projected growth in population and to encourage sustainable mobility.

The Emerging Preferred Strategy of the Nenagh LTP will enable the town to further develop and realise its potential as a regional growth centre supporting a positive modal shift to sustainable transport by identifying and prioritising key transport related investment decisions for the town and its environs, whilst safeguarding and promoting commercial activity within the town.

All options have been developed at a strategic level in accordance with national and regional policies. It is important to note that all proposed interventions will undergo further examination to establish the most suitable site-specific interventions. This will involve comprehensive analysis and design processes to ensure that the proposed schemes are meticulously developed.

6.2 Active Travel

The development of the LTP active travel measures have been focused on increasing walking and cycling mode share, by providing high quality, attractive alternatives for journeys by car (particularly for short distance car trips) and also improving transport choice for those without access to a car.

Providing a safe and convenient network of routes for people of all ages and abilities to confidently cycle and walk is essential to achieving a mode shift. In keeping with the principles set out in the CAP, NIFTI and Sustainable Mobility Policy (SMP), this has primarily been achieved through the reallocation of road space away from vehicular traffic towards providing protected cycle lanes. Where traffic speeds and volumes are low, cyclists may share the carriageway space with vehicular traffic. In these circumstances, appropriate interventions will be implemented to reinforce low traffic speeds (30kph or less). These will be designed in accordance with the principles set out in the Design Manual for Urban Roads and Streets and will be sympathetic to the character and function of the street.

The provision of quality, secure cycle parking in Nenagh Town Centre and at other key locations in order to meet future demand will also be critical to achieve this step change towards active travel. This is complemented by a range of supporting behavioural change measures to lock in the benefits of this investment in active travel.

The overall proposed walking and cycling measures in the Emerging Preferred Strategy for Nenagh are illustrated in Figure 6.1 below. These measures will deliver radically improved connectivity and permeability from residential areas to main trip attractors including the town centre, key employment and education sites and leisure opportunities.

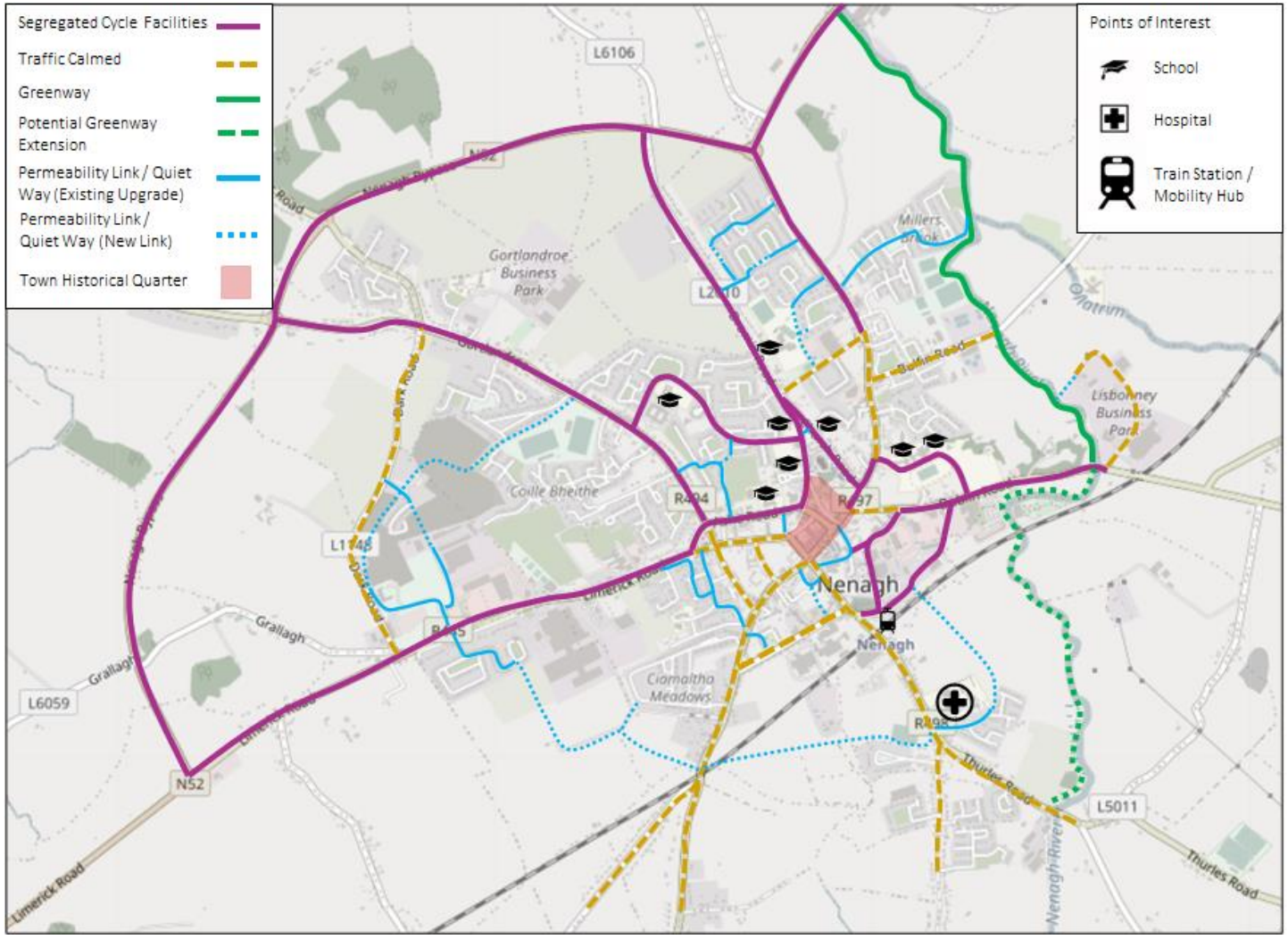


Figure 6.1 Active Travel – Envisaged Network

Segregated cycle infrastructure has been proposed to improve safety and comfort for cyclists across the network. The segregated cycle network connects Nenagh's considerable population residing to the north and west of the town to the town centre. In some locations delivery of segregated infrastructure will be challenging and other means of delivering a high quality cycling environment will be considered, including, potentially, Rapid Build/Quick Win schemes. In addition to high quality segregated cycle lanes, a number of permeability links are proposed which will increase the walking catchment of schools, key employment destinations, the town centre, and other destinations

The implementation of permeability links in the town centre along key desire lines will reduce walking distances and help create a more pedestrian-friendly environment. This promotes physical activity and a healthier lifestyle, reducing the reliance on cars and decreasing traffic congestion. Several pedestrian desire lines were identified during the baseline assessment and these have been proposed as part of the active travel network as they would dramatically reduce the walking and cycling distances/times to key destinations.

The network also proposes new and improved footpaths and traffic calming on roads and streets with insufficient width for implementing segregated cycle infrastructure. A full description of the proposed measures included in the Emerging Preferred Strategy are provided in Table 6.3. The key elements of the active travel strategy are summarised in the remainder of this section with the following terminology used to describe proposed interventions:

Table 6.1 Active Travel Terminology

INTERVENTION	EXAMPLE IMAGE
Cycle Tracks = cycle lanes separated from vehicular traffic with a physical barrier (e.g. Kerb or bollards)	
Traffic Calmed = measures to reduce vehicle speeds and create a safer environment for pedestrians and cyclists. Typical measures include: • Narrowing of the traffic lanes to minimum recommended widths; • Raised pedestrian crossings to provide priority for pedestrians; • Tightening of corner radii at residential estates to reduce crossing distances and improve safety; • Reduced speed limits; and • surface treatments, streetscape and landscaping enhancements.	

INTERVENTION	EXAMPLE IMAGE
Greenway = an off-road trail for use by cyclists, pedestrians and other non-motorised transport, in scenic surroundings with access to nature and urban areas which connect residential areas with key destinations	
Permeability links = walking and cycling links connecting neighbourhoods and providing greater accessibility along desire lines.	
Quietway = low-trafficked street (typically <2,000 Annual Average Daily Traffic (AADT)) and low-speeds meaning cyclists can safely share the carriageway. Typical measures include: • Traffic calming to enforce low-speeds (if on road); • Improved public realm to encourage active travel; • Improved signage and way-finding to encourage use; and • Surface treatments and landscaping.	

INTERVENTION	EXAMPLE IMAGE
School Zone = front of school works to prioritise safe pedestrian and cycle access to the school, improving school visibility through signposting & placemaking, reducing vehicle congestion & preventing illegal parking in the area.	

Safe Routes to School

Across Ireland, approximately 55%[8] of children are driven to primary school. The provision of a safe and connected active travel network across Nenagh will have substantial benefits for both pupils and the wider community including; improved road safety, better air quality, reduced levels of congestion and improved health and wellbeing of children.

The active travel measures have been built around creating a safe and attractive network of footpaths and cycle tracks that are suitable for use by children. This will support safe and sustainable access to local schools and support the national objective of ensuring more journeys to education are made by walking and cycling. All schools are on the proposed segregated cycle network (see Figure 6.1 above) and link to major residential areas in the town such as Gortlandroe, Dromin, Millersbrook etc. The name and location of each school is presented in the table below.

Table 6.2 Nenagh Schools & the Active Travel Network

School	Type	Adjacent Active Travel Measures
Gaelscoil Aonach Urmhumhan	Primary	• St Conlan's Road – On segregated cycle network • Dromin Road – On segregated cycle network • Joe Daly Road – On segregated cycle network • Permeability links via Ashe Road to Joe Daly Road • School Zone Treatment in front of School
Nenagh Community National School (St. Mary's Boys) + St. Mary's Convent Primary School	Primary	• Dromin Road – On segregated cycle network • Joe Daly Road – On segregated cycle network • O'Rahilly Street – On segregated cycle network • Saint Flannan Street – On segregated cycle network • School Zone Treatment in front of Schools

[8] Source: Census 2022

School	Type	Adjacent Active Travel Measures
Christian Brothers Primary School + St Joseph's Christian Brother Secondary School	Primary + Secondary	• Church Road – On segregated cycle network • Summerhill – On segregated cycle network and traffic calming • Borriskokane Road - On segregated cycle track and traffic calmed street • Dublin Road – On segregated cycle network • School Zone Treatment in front of Schools
St. Mary's Primary School	Primary	• Dromin Road – On segregated cycle network • Joe Daly Road – On segregated cycle network • Church Road – On segregated cycle network • School Zone Treatment in front of School
St Mary's Secondary School	Secondary	• Dromin Road – On segregated cycle network • Joe Daly Road – On segregated cycle network • Permeability links via Ashe Road to Joe Daly Road • Ashe Road – On segregated cycle network • School Zone Treatment in front of School
Nenagh College	Secondary	• Dromin Road – On segregated cycle network • Joe Daly Road – On segregated cycle network • Permeability and traffic calming links between Borrisokane Road and Dromin Road • School Zone Treatment in front of School

Measures identified include a range of Safe Routes to School connections from key residential areas in the study area, more bicycle parking, new pedestrian crossings, permeability improvements and enhanced walking and cycling routes. As the active travel measures illustrated in Figure 6.1 are delivered, they will provide safe access for children choosing to walk and cycle to school. As noted in Table 6.2, in accordance with NTA's Safe Routes to School Design Guidance, school zone treatments are proposed outside each school to encourage safe driver behaviour and create a calmed traffic environment. Exact details on proposed school street works will be defined at the individual project level following thorough option engineering and consultation with key stakeholders and the public, as part of developing these individual projects. An example of the active travel measures which could be provided on Ashe Road, outside of St. Mary's Secondary School are illustrated in Figure 6.2 below.

These measures will be supported by a range of behavioural change and Educational Mobility Management initiatives to help encourage local school communities to switch from car based journeys to sustainable and active modes. This could include initiatives such as 'Walk Once a Week', 'Walk on Wednesdays' which encourages pupils and teachers to walk to school and/or home at least once a week.

Figure 6.2 Example of Active Travel Scheme on Ashe Road close to St. Mary's Secondary School Nenagh

Radial Connectivity

As an important market town in North Tipperary, Nenagh has developed around several key radial links, which, due to their width have significant potential for active travel upgrades in the short or longer term. Figure 6.3 shows how these radial links serve key employment centres in the study area, while Figure 6.4 gives an example of the type of infrastructure that can be delivered. The key proposed radial active travel links are described below:

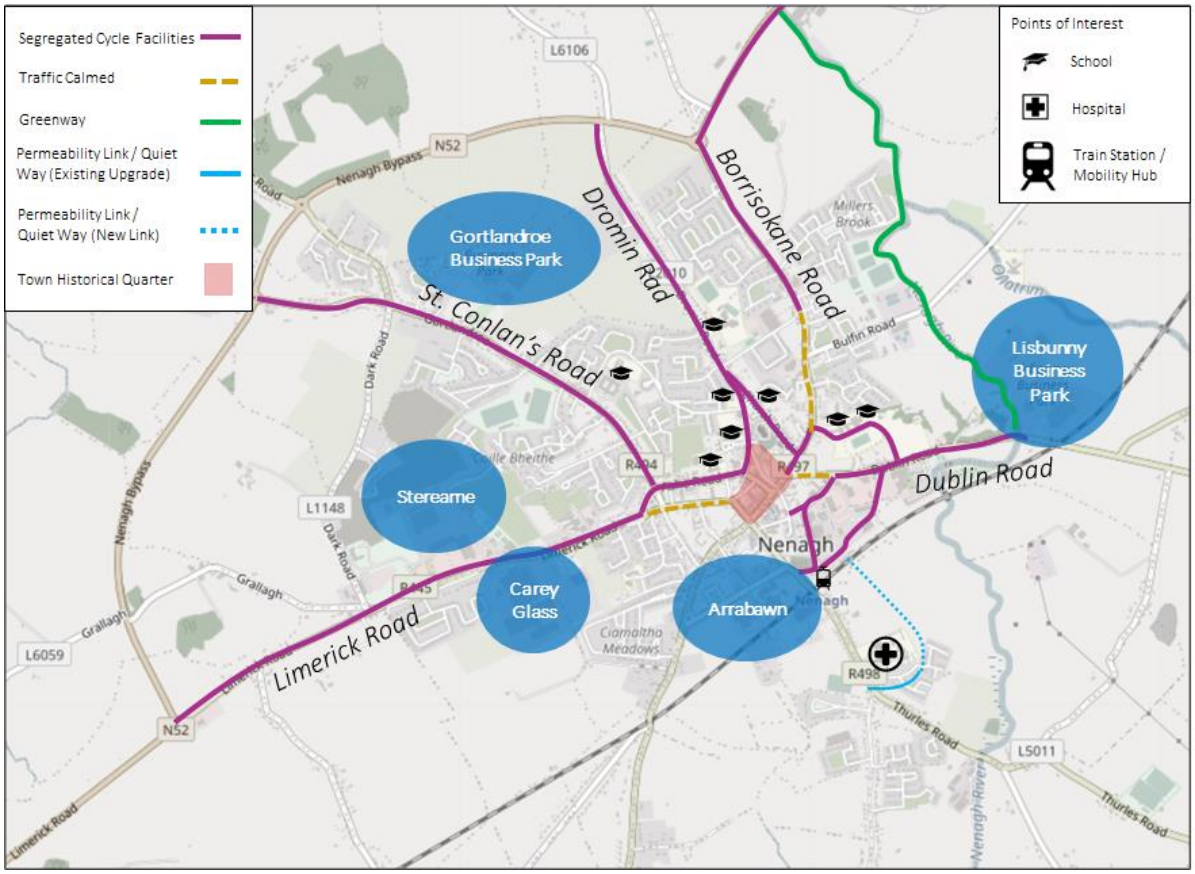


Figure 6.3 Map of key radial active travel linkages

- **Limerick Road**: Is a key artery into the town for all modes of transport connecting residential, retail and large employers situated to the west of Nenagh to the town centre. The route currently has advisory unsegregated cycle lanes along most of its length, although these are sub-standard in width and terminate at the junction with Sarsfield Road. As illustrated in Figure 6.4 below, sufficient room exists to upgrade these routes with protected cycle lanes for its entire length from the N52 bypass to Sarsfield Road. Given the space constraints on Sarsfield Road, it is proposed that the segregated cycle lanes continue on Ashe Road as detailed in Figure 6.3 above (Figure 6.2 illustrates the type of facilities that could be provided on Ashe Road). This will provide a safe, continuous cycle link from the N52 Roundabout all the way into the centre of Nenagh.

Figure 6.4 Example of Active Travel Scheme on the Limerick Road close to the Tipperary County Council Offices

- **St Conlan's Road**: Serves a number of residential developments on both sides of the road, in addition to Eire Og Nenagh GAA Club, Office of the Revenue Commissioners and Gaelscoil Aonach Urmhumhan via Joe Daly Road. Sections of unsegregated cycle lanes are provided along the route however these terminate at key junctions. As part of the LTP, it is recommended that continuous segregated cycle lanes be provided along St Conlan's Road linking the N52 bypass to Ashe Road.

- **Dromin Road**: Orientated in a north-south direction, Dromin Road connects the N52 to the town centre via O'Rahilly Street and Church Road. A number of large residential developments are situated on both sides of the road, in addition to 3 Primary & 2 Secondary Schools along the corridor. An off-road segregated cycle lane is provided on the western side of Dromin Road from the N52 up to its junction with Oaklawn Drive. As part of the LTP it is recommended that the cycle lane be upgraded to a segregated facility and continued southwards to connect into proposed active travel routes on Church Road and O'Rahilly Street. Delivered in tandem with the proposed School Zone treatments, as highlighted above, this will provide a safe continuous active travel route linking a large proportion of Nenagh's residential population to Primary & Secondary Schools situated along this corridor, in addition to the town centre, rail station and employment opportunities.

- **Borrisokane Road:** The Borrisokane Road (R497 Regional Road) runs parallel to the Dromin Road linking a number of residential communities to schools, retail sites and the town centre. Intermittent sections of advisory cycle lanes are provided along the road, however these afford limited protection to cyclists travelling along the route. As part of the LTP, segregated cycle lanes are proposed along Borrisokane Road from the N52 up to the junction with St. Joseph's Park. To the south of St. Joseph's Park, insufficient width exists on Ormond Street to provide segregated

cycle facilities into the town centre. Traffic calming and footpath improvements are proposed on Ormond Street to facilitate pedestrians and cyclists continuing their journey south into the town centre. Alternatively, cyclists will be able to travel down St. Joseph's Park to avail of the proposed segregated cycle facilities on Church Road.

- **Dublin Road:** Orientated in an east-west direction, the Dublin Road links the Lisbunny Business Park, St Joseph's CBS and other commercial centres situated off Marty's Road to the town centre. As part of the LTP it is recommended that a segregated cycle track be provided linking the Lisbunny Business Park to Martyr's Road. Beyond Martyr's Road, Dublin Road transitions to McDonagh Street (a narrow residential town centre street). Insufficient width exists along McDonagh Street to continue the segregated cycle lanes into the town centre to its junction with Pearse Street. Instead an alternative cycle route into the town centre is proposed along Martyr's Road and via the proposed regeneration of town centre laneways to the south of Pearse Street. Further information on these proposals are contained below.

Orbital connectivity to employment

As noted in the Baseline report, the residential areas in Nenagh are predominantly located to the north and northwest of the town centre and to a lesser extent, to the south of Nenagh. The main business and industrial areas are situated at Stereame to the west, Gortlandroe in the northwest, and at Lisbunny in the east. The location of these key trip generators and attractors highlights the importance of providing good orbital connectivity for walking and cycling, particularly to serve employment trips.

As can be seen from the map in Figure 6.5, below, orbital permeability measures are a key part of the plan, with linkages from Gortlandroe to Stereame (via Eire Og GAA grounds, see Figure 6.6), Stereame to Tyone, Nenagh Hospital and onwards to the Sustainable Energy Centre. These key orbital measures proposed as part of the LTP are as follows:

- **West-South Orbital from Eire Og Club to Martyr's Road**: Opportunity exists to connect the large residential population situated to the north of Nenagh to a number of key employment centres located to the west and south of the town centre. These include Stereame, Carey Glass, Arrabawn Nenagh General Hospital and the commercial centres situated off Martyr's road. This will be achieved through providing upgrades to existing roads to accommodate enhanced active travel facilities (e.g. Springfort Industrial Park and Martyr's Road) and providing new active travel only connections as highlighted in Figure 6.5. The provision of this orbital active travel route will facilitate a range of short distance employment, education and commercial trips which are presently undertaken by private car. This will help reduce congestion in the town centre and support a switch to more sustainable travel modes.

- **Town Centre South Orbital - Limerick Road to Martyr's Road**: Opportunity exists to improve orbital movements to the immediate south of the town centre via a series of minor interventions on existing laneways with the central aim of improving way finding and pedestrian /cyclist accessibility. This includes providing improved directional signage and minor footpath / pedestrian crossing improvements. Reinforcing these existing streets and laneways will provide alternative routes for pedestrians and cyclists wishing to bypass the town centre to access Arrabawn, the train station etc.

- **North-West Orbital - Gortlandroe Business Park to Lisbunny Business Park:** The longer term plans of the LTP include for the provision of a segregated cycle facility along the Nenagh bypass which

would connect directly to the planned greenway along the route of the Nenagh River. The combined delivery of these routes will provide an outer orbital cycle connection linking employment centres such as Gortlandroe Business Park and Lisbunny Business Park, the Old Birr Road, and the ABP meat factory site to the wider active travel network. The planned greenway due to be submitted for planning in 2023, will provide key additional permeability links to the large residential areas such as Millersbrook and Bulfin Road would further serve to improve the attractiveness of this route for commuting and leisure trips. The linkage of the greenway with the active travel scheme planned for the R445 Dublin Rd, will create a key active travel corridor to the CBS School, the retail area along Martyr's Road and direct connectivity to the train station once the linkage is completed through the planned Sustainable Energy Excellence Centre Campus (Road Measure R20 in Section 6.4 below).

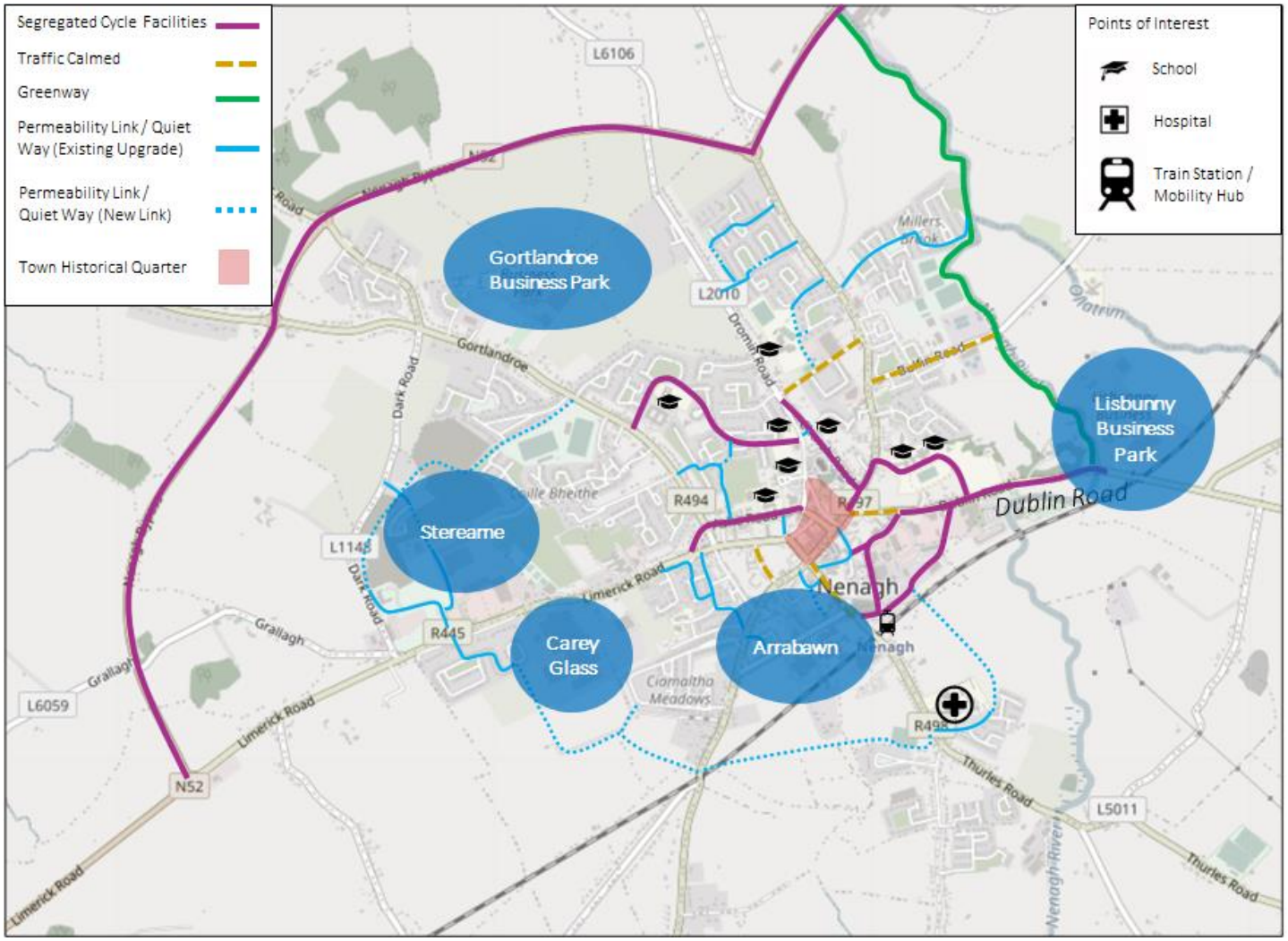


Figure 6.5 Map of key orbital and permeability linkages

Figure 6.6 Example of Active Travel Scheme on Saint Conlan's Road at McDonagh Park (Nenagh Eire Og GAA)

Connectivity to Future Zoned Land

As outlined previously in Section 3.3, the proposed LTP measures considered access to existing development but also took cognisance of the Nenagh Local Area Plan land use zoning map illustrated in the Figure 6.7 below. This was to ensure that all future zoned land are served by strong active travel infrastructure to support the sustainable growth of Nenagh. The following section sets out the key sustainable transport measures which will serve future development lands. Through the planning process, proposed future developments will be required to prioritise active travel infrastructure integrated with the wider active travel network to ensure future residents/employees are provided with a choice of sustainable transport modes.

Residential Lands

The majority of the zoned Residential lands will be served by proposed segregated cycle facilities along Limerick Road, St. Conlan's Road, Dromin Road, Borrisokane Road and Dublin Road. All of these routes provide a connection to the wider active travel network, providing a link to all of the schools in the town along with the town centre itself.

Employment Lands

There are three large banks of zoned employment land. The first is to the north of the Gortlandroe Business Park. These lands will have access to Conlan's Road, which will be provided with segregated cycle lanes for the entire length of the road from the N52 bypass to Ashe Road. This will provide a safe, continuous cycle link for potential users trying to access the site from the centre of Nenagh.

The second large employment lands are adjacent to Stereame and Carey Glass and will have access to the segregated cycle facilities along Limerick Road between the N52 bypass and Sarsfield Road. The third zoned employment land bank is around the Lisbunny Business Park and will have direct access to

the Greenway with segregated facilities and access to the Dublin Road, which the LTP is recommending to provide segregated cycle facilities between the business park and Martyr's Road

Combined with the wider active travel network, the LTP proposes a strong walk and cycle network connecting these lands to residential areas along with the town centre.

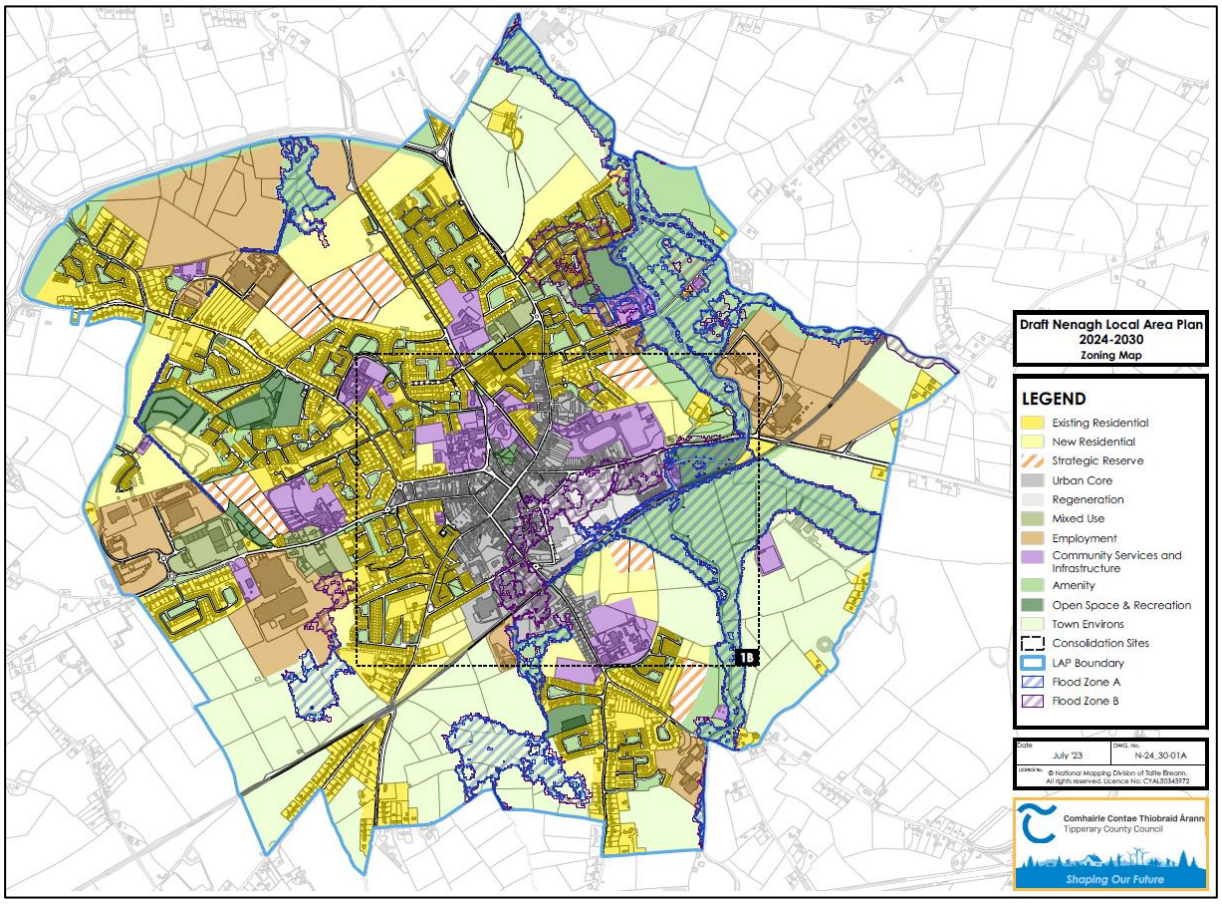


Figure 6.7 Local Area Plan Zoning Map

Permeability Upgrades & Town Centre Historic Quarter

Nenagh has an attractive and vibrant town centre supporting a wide range of independent businesses, social activities and tourist interests. The access strategy developed for the LTP seeks to build upon the success of the town centre through supporting other initiatives being developed for the town and improving access for sustainable modes. Key components of the Town Historical Quarter active travel plan are highlighted in Figure 6.8 and summarised below:

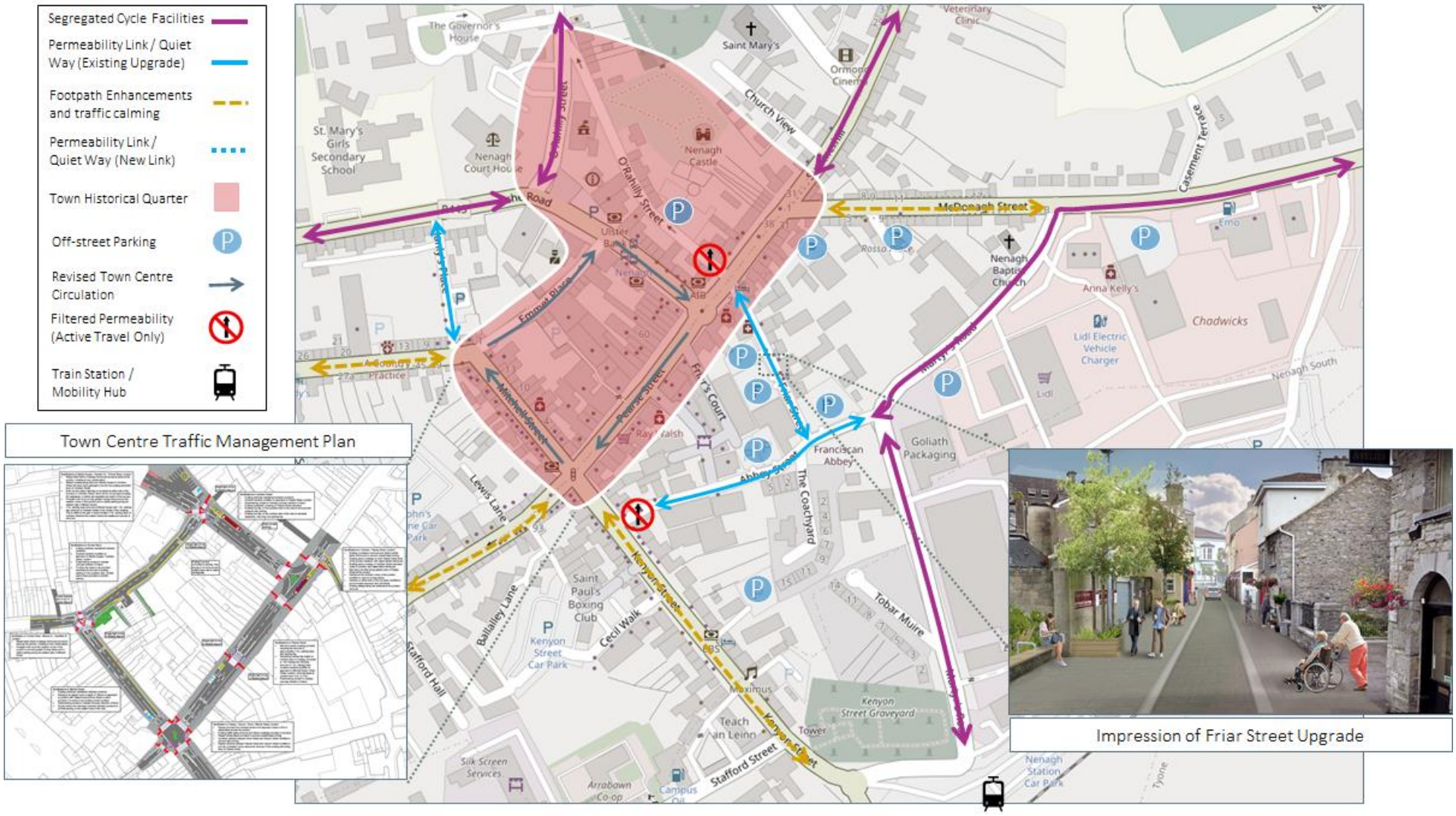


Figure 6.8 Town Historical Quarter Active Travel Map

Town Circulation Plan

As illustrated in Figure 6.9 below, Tipperary County Council are at an advanced stage of implementation a one-way system in the town encompassing Pearse Street, Mitchell Street, Emmet Place and Kickham Street. The purpose of the revised circulation plan is to provide enhanced crossing facilities for pedestrians and ease traffic congestion in the town centre. It is presently planned that the revised circulation system will be implemented in 2023.

The transport measures proposed in the LTP have been developed to compliment the implementation of the revised town centre circulation system. Over the longer term horizon of the LTP, further enhancements to the proposed one-way system may be feasible through reallocation of road space for public realm upgrades and further provision for active modes, in tandem with the enhancements and public realm scheme planned for the Nenagh Historic and Cultural Quarter.

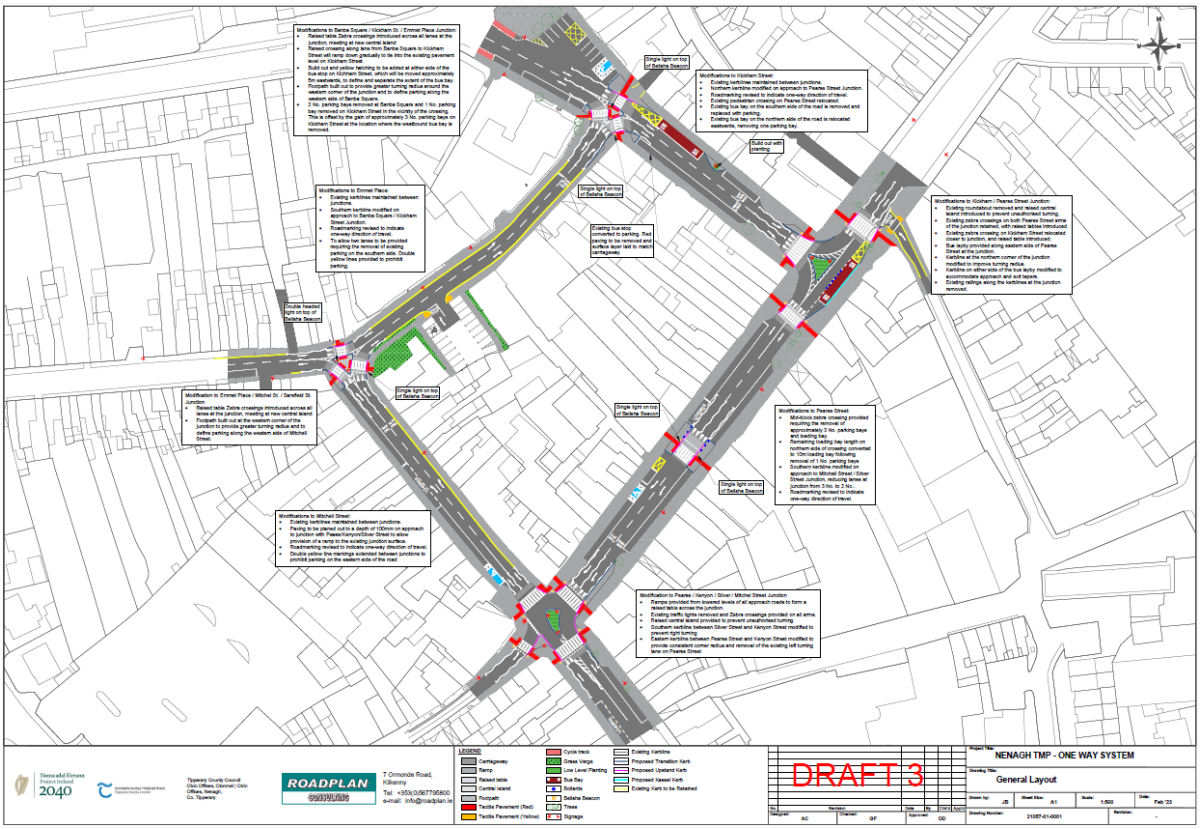


Figure 6.9 Proposed Nenagh One-Way System

Nenagh Historic & Cultural Quarter

Nenagh's Historic and Cultural Quarter is a large quadrant in the heart of Nenagh Town Centre characterised by a cluster of historic landmark buildings, including the Castle and the Gaol, and set around Banba Square. The aim of this programme being undertaken by Tipperary County Council is to examine the various historical attractions in the town centre and develop a comprehensive strategy to transform Nenagh as a successful and sustainable visitor attraction. Whilst the plan is still in its early stages of development, it will contain a number of initiatives to significantly enhance the public realm

in the historic centre, including, providing high quality civic spaces for congregation, improving access by walking & cycling, reducing town centre traffic speeds and facilitating access by buses/private coaches.

The creation of enhanced civic spaces in the town centre at destinations such as Banba Square, Nenagh Castle Keep and the Gaol Complex will contribute to the development of a walkable town centre for both visitors and residents of Nenagh. The wider sustainable transport measures within the LTP complement the early initiatives developed as part of the Nenagh Historic and Cultural Quarter project, supporting the development of a comprehensive active travel network across all of Nenagh.

Town Centre Laneways

In the last number of years many of the laneways within the town centre have been upgraded to well-lit and attractive spaces, serving as key permeability links adding to the walkability of the Town.

View of Abbey Street from Martyr's Road

As previously noted, McDonagh Street is too narrow to facilitate segregated cycle lanes into the town centre up to Pearse Street. Instead an alternative cycle route into the town centre is proposed along Martyr's Lane from its junction with Dublin Road to Thurles Road. The provision of this link could be delivered in the short term, but would be further enhanced by the implementation of the link road for the Sustainable Energy Centre, which will result in a reduction of traffic flows on Martyr's Road.

As part of a wider regeneration of the town centre laneways, opportunity exists to create an attractive gateway / civic space at the entrance to Abbey Street. This would be framed by the historic Abbey and the potential regeneration of the adjoining car park site as detailed in the Martyr's Road Master Plan. Whilst traffic flows on Abbey Road are relatively low already, the closure of Abbey Street for traffic entering the street through the arch on Kenyon Street, would improve safety for pedestrians at this location and would support the delivery of a calmed shared street at this location.

Friar Street already operates as a narrow laneway permitting one way traffic in the northbound direction. Whilst traffic flows are very low, the provision of narrow substandard footpaths, creates an unwelcoming environment for pedestrians and hinders access for people with mobility impairment. The introduction of a shared street, as illustrated in Figure 6.10, will create an attractive space for pedestrians and cyclists, helping to reinvigorate activity along the street.

Similarly to Abbey Street, O'Rahilly Street is a very narrow lane at its junction with Pearse Street. To help reduce turning movements on Pearse Street and improve safety at this location, it is recommended that the southern end of O'Rahilly Street be closed to vehicular traffic only. The delivery of this filtered permeability link will help reinforce the attractiveness of this town centre route for pedestrians and cyclists.

Figure 6.10 Impression of Friar Street upgrade

Summary of Key Active Travel Measures

A summary of the key active travel interventions contained in the Emerging Preferred Strategies are outlined in the Table 6.3 and Figure 6.11 below.

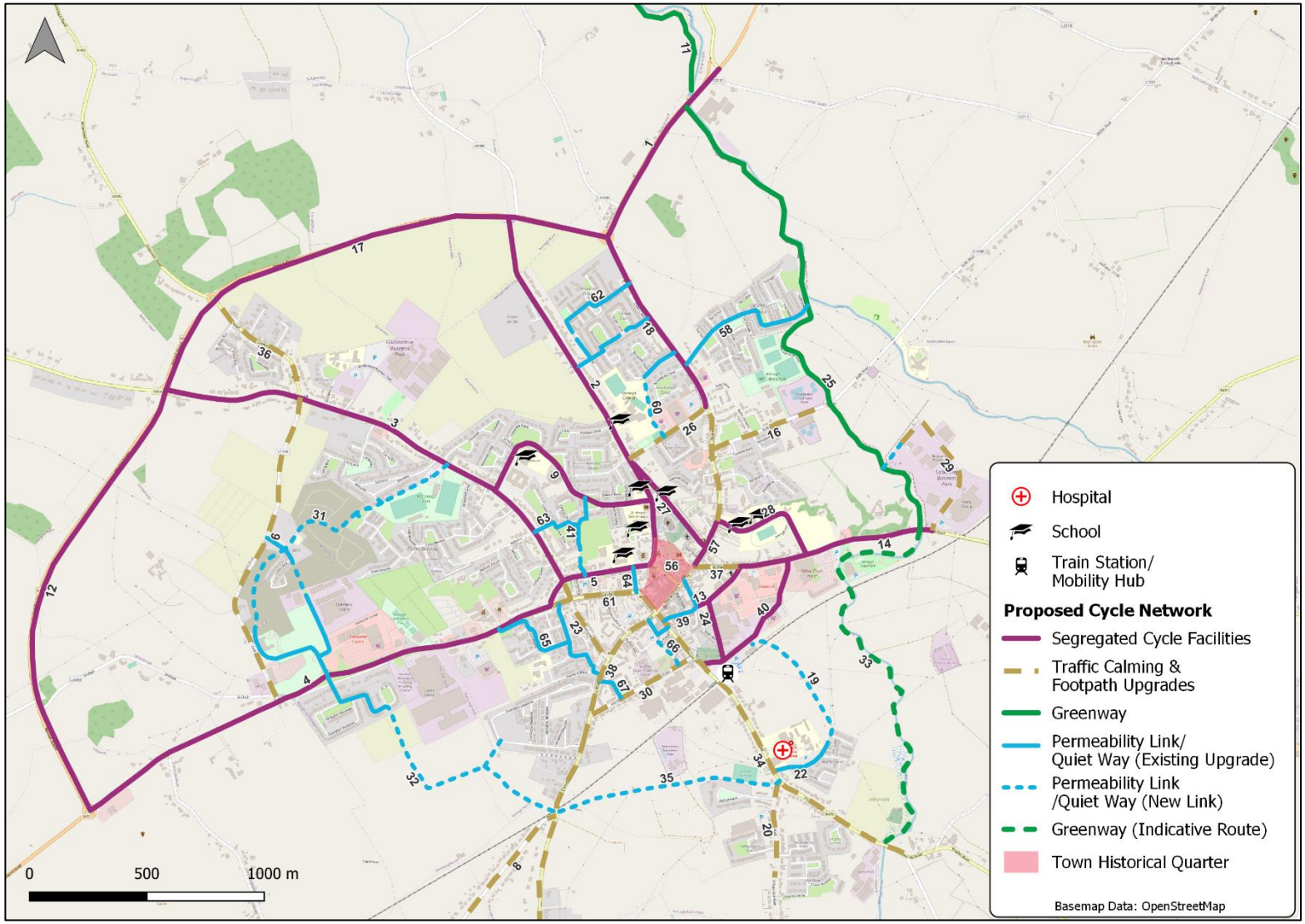


Figure 6.11 Active Travel – Envisaged Network with Option Numbers

Table 6.3 Active Travel Interventions

Option	Location	Intervention	Description
AT1	N52 Borrisokane Rd	Segregated Cycle Facilities	Cycle track from Borrisokane Roundabout out to the ABP Food Group factory along the N52 to link to future greenway (AT25/AT11)
AT2	Dromin Rd / St Flannan St / O'Rahilly St	Segregated Cycle Facilities	Segregated cycle facilities between the N52 and Banba Square. Part constructed where easiest to install. Important link connection residential areas to schools along with the town centre and proposed Historic and Cultural Quarter.
AT3	R494 St. Conlon's Rd	Segregated Cycle Facilities	Segregated cycle track from the N52 to Ashe Road. Potential for link via Joe Daly Road and into town behind Cormac Drive (AT41). Links residential areas in Gortlandroe with schools and the town centre.
AT4	R445 Limerick Road	Segregated Cycle Facilities	Segregated cycle facility along the Limerick Road from the N52 to Clare Street. Links retail and employment areas such as Stereame and Carey Glass with the town centre.
AT5	Ashe Rd	Segregated Cycle Facilities	Segregated cycle facilities along Ashe Road connecting from the Limerick Road to town centre. This would include upgrading existing sections of cycle lane. Important connection to St. Mary's Secondary School and town centre.
AT6	Dark Road	Traffic Calming & Footpath Upgrades	Traffic Calming, footpath and lighting upgrades.
AT8	Ballintoher	Traffic Calming & Footpath Upgrades	Traffic Calming & footpath upgrades along this link road, improving road safety for residents in ribbon development.
AT9	Joe Daly Road	Segregated Cycle Facilities	Segregated cycle facilities along Joe Daly Road linking St. Conlan's Road to O'Rahilly Street. Important for 'Safe Routes to School' as it links to the Gaelscoil, it is also a key orbital linkage to St. Mary's Junior Boys National School, St.

Option	Location	Intervention	Description
			Mary's Convent Primary School and St. Mary's National School.
AT11	Nenagh River	Greenway	Upgrade Sli Eala Way to Greenway and link to Lough Derg along the Nenagh River. Important project for tourism product and local amenity.
AT12	N52 Bypass West	Segregated Cycle Facilities	Provision of cycling and pedestrian improvements between the Portroe Roundabout on the N52 and the Springfort Cross on the R445.
AT13	Friar Street	Permeability Link / Quiet Way	Enhanced public realm and shared surface on Friar Street to link town centre to proposed energy centre.
AT14	R445 Dublin Rd	Segregated Cycle Facilities	Segregated cycle facility connecting from Lisbunny Business Park to the proposed new Energy Centre Link Road. Links CBS school, hotel, park, leisure centre, shopping centre and new Greenway.
AT16	Old Birr Road	Traffic Calming & Footpath Upgrades	Traffic Calming & Install footpath as far as the proposed Greenway (AT25).
AT17	N52 Bypass	Segregated Cycle Facilities	Provision of cycle track and pedestrian walkway on N52 between the Borrisokane Rd and the Portroe Roundabout.
AT18	N52 Borrisokane Road roundabout along the Borrisokane Road as far as Tesco	Segregated Cycle Facilities	Segregated cycle facility from the N52 Roundabout to Tesco. Important 'Safe Routes to School' link providing a connection from large residential areas off the Borrisokane Road to schools. This would be complimented by improvements on St. Joseph's Park (AT26) and permeability link through Brookville Green (AT60).
AT19	Nenagh South & Tyone	Permeability Link / Quiet Way	Off-road pedestrian and cycle path from the hospital and Tyone/Ballygraigue housing estates to the train station and town centre via Martyr's Road/Friar Street.

Option	Location	Intervention	Description
AT20	Ballygraigue Road	Traffic Calming & Footpath Upgrades	Traffic Calming & Footpath upgrades along this section of mainly residential road.
AT22	Árd Cruidín	Permeability Link / Quiet Way	Walking/Cycling permeability link to hospital and onwards to AT19.
AT23	William Street	Traffic Calming & Footpath Upgrades	Traffic Calming & Footpath upgrades along this residential town centre street.
AT24	Martyr's Rd	Segregated Cycle Facilities	Segregated cycle facilities along Martyr's Road connecting into Friar Street and Abbey Street providing link between the train station/Mobility Hub and town centre.
AT25	Nenagh River	Greenway	Nenagh River Greenway: N52 to Dublin Road linking to Millersbrook & Old Birr Road
AT26	St. Joseph's Park	Traffic Calming & Footpath Upgrades	Narrow street with insufficient space for implementation of segregated cycle tracks. Traffic calming and footpath upgrades recommended particularly outside Nenagh College.
AT27	Church Road	Segregated Cycle Facilities	Segregated cycle facilities along Church Road. Important link for access to schools such as St. Mary's National School, St. Josephs CBS and Nenagh CBS Primary School
AT28	CBS	Segregated Cycle Facilities	Pathway / Cycleway between Summerhill and Dublin Road through CBS grounds (with school's permission)
AT29	Lisbunny Business Park	Permeability + Traffic Calming & Footpath Upgrades	New permeability connection towards NCT centre side of park from River Greenway, traffic calming and footpath upgrades along business park distributor road.
AT30	Stafford Street	Traffic Calming & Footpath Upgrades	Traffic Calming & Footpath upgrades along this town centre street.

Option	Location	Intervention	Description
AT31	Nenagh West	Permeability Link / Quiet Way	Planned pedestrian/cycle pathway by Éire Óg GAA connecting from St. Conlon's Road to the Dark Road and onto the Limerick Road via permeability route through Stereame. Important orbital active travel link connecting residential areas to the north of the town with retail and employment on the west.
AT32	Ciamaltha	Permeability Link / Quiet Way	Active travel route connecting Limerick Road with the R497 and residential development at Ciamaltha Meadows. Part of wider orbital pedestrian and cycle route connecting to the west of town.
AT33	River	Greenway	Extend River Greenway south to Thurles Road (indicative routing only).
AT34	Thurles Road	Traffic Calming & Footpath Upgrades	Traffic Calming & Footpath upgrades along arterial road into town centre & past train station.
AT35	Ciamaltha to Tyone	Permeability Link / Quiet Way	Active travel route connecting the R497 to the Thurles Road. In combination with AT32, provides orbital pedestrian and cycle connection from the south of Nenagh to employment and retail in the west
AT36	Dromineer/Richmond Road	Traffic Calming & Footpath Upgrades	Footpaths on both sides of the road with upgrade of crossing points
AT37	MacDonagh St	Traffic Calming & Footpath Upgrades	Traffic Calming & Footpath upgrades where insufficient width for cycle tracks.
AT38	Ciamaltha Rd (R497)	Traffic Calming & Footpath Upgrades	A narrow street with insufficient space to provide segregated cycle infrastructure without removal of all residential parking. Recommend traffic calming, public realm and footpath upgrades where required. Suggest creation of 'Gateway' feature signifying to drivers that they are entering the town and should reduce speeds. This could correspond with 30 kph speed zone.

Option	Location	Intervention	Description
AT39	Abbey St /Friar Street	Permeability Link / Quiet Way	Pedestrianise archway to Kenyon Street and upgrade footpaths & create a shared surface street.
AT40	Energy Centre Railway Station Link (towards Greenway)	Segregated Cycle Facilities	Footpaths and segregated cycle facilities delivered as part of the proposed Energy Centre road
AT41	Cormack Dr	Permeability Link / Quiet Way	Proposed permeability link connecting from the Joe Daly Road to Ashe Road via Cormack Dr. Would provide safe, quiet pedestrian and cycle connection to Ashe Road for residents along Joe Daly Road.
AT56	Town Centre	Improved Active Travel Provision	Implementation of the proposed revised town centre circulation plan with enhanced public realm and crossing facilities for pedestrians. Potential for future public realm upgrades and further provision for active modes, in tandem with the enhancements and public realm scheme planned for the Nenagh Historic and Cultural Quarter. This includes a proposed measure for filtered permeability on O'Rahilly Street to help enhance the attractiveness of this route for pedestrians and cyclists.
AT57	Summerhill	Segregated Cycle Facilities	There looks to be sufficient space for a protected facility. Will link to CBS school, town centre and other cycle routes. Traffic Calming & footpath upgrades on Ormond Street where insufficient width for cycle tracks.
AT58	Millersbrook	Permeability Link / Quiet Way	Strengthen quiet route for pedestrians and cyclists through Millersbrook with connection onto the Nenagh River Greenway
AT60	Brookville Green	Permeability Link / Quiet Way	Permeability link from St. Joseph's park to Borrisokane Rd R497 via Brookville Green linking in with Nenagh College. Provides safe, quite route connecting to Nenagh College
AT61	Sarsfield Street	Traffic Calming & Footpath Upgrades	Insufficient width for segregated cycle tracks along entire length, traffic Calming & Footpath upgrades proposed.

Option	Location	Intervention	Description
AT62	Drummin Village	Permeability Link / Quiet Way	Links to improve permeability around estates and between Dromin Road and Borrisokane Road
AT63	Cormac Drive	Permeability Link / Quiet Way	Proposed permeability link through Cormack Dr connecting from St. Conlon's Road onto the Joe Daly Road. This would provide wider accessibility to schools along with the town centre via the proposed connection to Ashe Road (AT41).
AT64	Hanly's Place	Permeability Link / Quiet Way	Improve permeability link through Hanly's Place between Sarsfield Street and Ashe Road.
AT65	Annbrook Heights/Yewston Estate	Permeability Link / Quiet Way	Links provide improved permeability between multiple estates and quiet streets for trips between Ciamaltha Road and Limerick Road/Sarsfield Street
AT66	Stafford Street to Connolly Street	Permeability Link / Quiet Way	Provides a safe alternative routing for active travel trips between Connolly Street, Kenyon Street and Stafford Street. (Linked to the delivery of Road measure R21)
AT67	Knockanpierce	Permeability Link / Quiet Way	Upgrade and strengthen existing permeability link between Ciamaltha Road and Patrick's Terrace.
AT68		Cycle Parking	The LTP recommends the provision of high-quality secure cycle parking at appropriate locations to be delivered in line with guidance set out within the National Cycle Manual.

6.3 Public Transport

The success of the Local Link route 854 between Nenagh – Roscrea provides evidence of the latent demand for the enhanced provision of public transport in North Tipperary. The development of the LTP public transport options has incorporated insight from the Baseline Assessment phase of the Study to develop measures including the improvement of existing public transport services, enhanced passenger information and improved passenger waiting environments and interchange facilities.

Connectivity, convenience, reliability, journey times and cost are all important factors in encouraging a mode shift from the private car to public transport. The development of the LTP public transport measures are focused on medium and longer distance trips to and from Nenagh. Currently, the town is not considered to be of a scale which would merit the provision of a town bus service, with walking and cycling considered to have considerable potential for local trip making within the town. As the town continues to grow, a town bus service could be examined in future iterations of the an LTP process.

The public transport measures in the Emerging Preferred Strategy are focused around the NTA's Connecting Ireland Rural Mobility Plan bus service proposals and will provide enhanced connectivity both within Nenagh and to nearby settlements and other regional towns. The Connecting Ireland proposals will bring an increased level of public transport service into the town, increasing the attractiveness and viability of bus-based public transport across a range of journey purposes.

The proposed measures also include options for enhanced bus-rail integration and integration with other modes. The following section sets out the key proposed public transport measures contained in the plan:

Bus Stop Provision

The Nenagh Town catchment currently has limited bus stop provision and with the further roll out of the National Transport Authority (NTA) *Connecting Ireland Rural Mobility Plan* there is an opportunity to provide enhanced public transport connectivity to the residential zones of Nenagh Town. From consultations with bus operators as part of the baseline, a key message was the importance of enhancing access to public transport on radial links into the town such as the residential and employment areas of the Town. This could be achieved with the provision of bus stops along the routes that currently connect with Nenagh Town while optimising bus stop connectivity to the Town core main trip attractors.

Figure 6.12 sets out a number of new radial bus stop locations that will serve the study area in the absence of a dedicated town bus service. These stops have been broadly sited at 400 metre intervals and will serve key trip attractors such as residential estates, Nenagh Hospital, and all local schools.

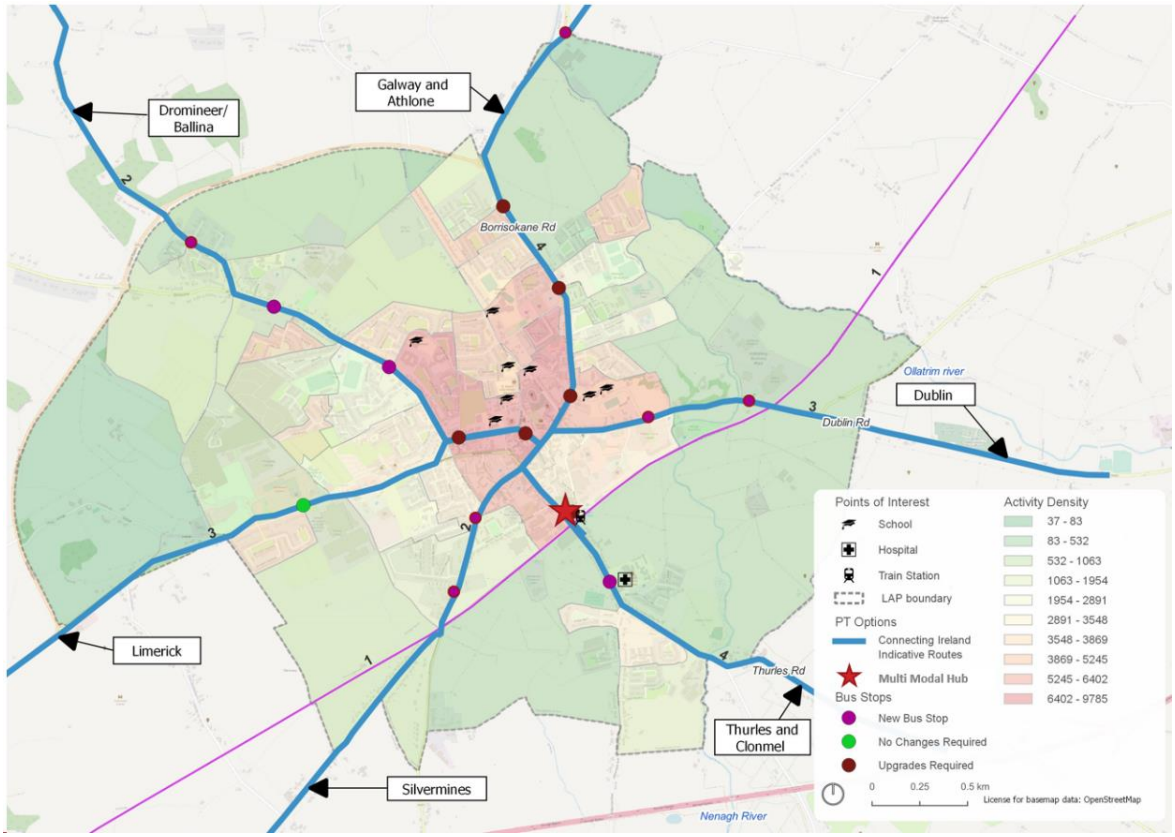


Figure 6.12 Public Transport – Envisaged Network

The upgrade of the bus stop infrastructure at Springfield Retail Park (see Figure 6.13) has been a welcome addition for users and where the space allows such improvements would further encourage the use of public transport.

The proposed relocation of the south bound bus stop on Kickham Street to Pearse Street as part of the Nenagh town centre circulation plan will reduce the build-up of buses on Kickham Street. The long term view would be to create a Mobility Hub at the Nenagh Train Station to cater for the increasing number of bus services traveling to and from Nenagh Town.

The development of a mobility hub for the town would complement the town centre bus stops while allowing the opportunity to rationalise the routing of the more regional bus services to interconnect with the rail services.

An appropriate level of bus stop waiting infrastructure & passenger information will be provided at each designated stop in line with NTA standards.

Figure 6.13 Example – Bus shelter provided at Springfield Retail Park

Mobility Hub

A mobility hub is a conveniently located place which provides people travelling by various modes the opportunity to change onto alternative transport modes. Successful mobility hubs are normally supplemented with a range of travel information and supporting facilities to make the interchange a comfortable and seamless user experience.

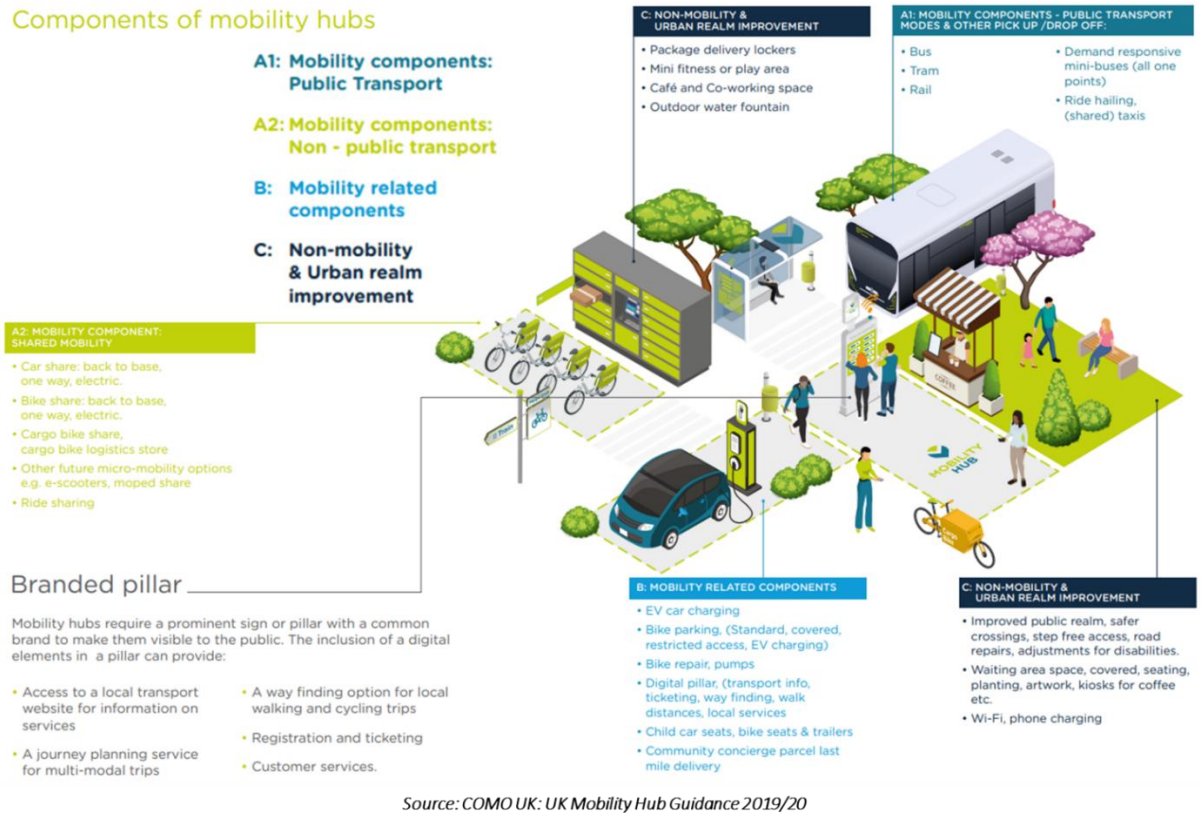
A range of factors contribute to the identification of an appropriate location for a mobility hub, these include:

- **Public Transport**: Routing of existing public transport services (Bus and Rail)
- **Accessibility**: Provision of active travel infrastructure, particularly for those with a mobility impairment
- **Density**: Sufficient density of residents and businesses in the area to create a demand
- **Safety and Activity**: Visibility of the area to passing pedestrians / transport users
- **Space**: Sufficient room on site to accommodate the needs of all, integrating modes and supporting drop-off/pickup and parking facilities .
- **Growth**: Site is supported by future growth proposal in the Local Area Plan

With these characteristics in mind, Nenagh train station is well placed to serve as a mobility hub. It has space for shared mobility modes and public realm upgrades, will serve an interchange between rail and bus, and is between the town centre and hospital, two key demand attractors. The site also supports the zoning of future residential lands to the south of the town centre.

The utlimate design of the mobility hub will respond to the specific setting in Nenagh and will need to be developed in a collaborative way with input from various stakeholders and interest groups, however it is envsiaged that it may contain the following elements:

- **Interchange Area**- serving rail, bus (PSO and private services), taxis and private vehicles
- **Travel Information –** Centrally located area providing information on external travel destinations, interchange between transport services and internal attractions within Nenagh
- **Mobility Supports** – bike parking, bike repairs / rentals, EV charging
- **Non Mobility Supports**- Comfortable waiting area, refreshments, Parcel pick ups and parking
- **Active travel connections -** provide for connectivity to active infrastructure



Source: COMO UK: UK Mobility Hub Guidance 2019/20

Figure 6.14 Potential Components of a Mobility Hub

Rail Services

As set out above, the LTP contains a number of active travel measures which will enhance access to the rail station for pedestrians and cyclists. In addition, the creation of a mobility hub at the station will substantially improve integration of transport modes within the town, providing residents with a choice of modes for different journeys and needs.

Whilst the delivery of enhanced rail services is not within the scope of the LTP, Tipperary County Council will work proactively with Irish Rail and the NTA to improve timetabling and frequency on the Limerick-Ballybrophy branch line to further increase the impact and appeal of the Nenagh Interchange Hub.

Summary of Key Public Transport Measures

The key public transport options contained in the Emerging Preferred Strategy are summarised in Table 6.4 below.

Table 6.4 Public Transport Interventions

Option	Location	Intervention
PT1	Railway Line	Support upgrade of the railway line (more services, better speeds)
PT2	Bus Route to Dromineer/Ballina/Ennis	Connecting Ireland Route A41
PT3	Bus Route Dublin/Portlaoise/Limerick	Connecting Ireland Route 17
PT4	Bus Route to Portumna/Galway	Connecting Ireland Route 1583
PT5	Bus Route to Thurles / Clonmel/Athlone	Connecting Ireland Route 16
PT6	Radial Routes in Nenagh	New & upgraded bus stops
PT7	Nenagh Railway Station	Locate bus stops at Railway Station to create multi modal interchange hub

6.4 Road Network

As outlined above, a number of traffic management arrangements have been proposed within the study area to support walking, cycling and public realm improvements. This includes the imminent implementation of the Nenagh Town one-way system on Pearse Street, Mitchel Street, Emmet Place, and Kickham Street along with the closure of the Abbey Street access and Sarsfield street for HGV traffic which will free up space for provision of active modes and provide an opportunity to enhance public realm.

As set out in the Government's National Investment Framework for Transport in Ireland (NIFTI), the priority in the development of the road network options is to maintain, manage and operate the existing road infrastructure in a more efficient manner before considering the need for new road infrastructure. The limited number of road based options developed for Nenagh have taken account of the importance of performance and safety of the road network up to 2030, in order to ensure the future road network is appropriate to serve the town's needs.

Sustainable Principles of Road Development

Aligned with recent changes in national transport, climate and land policies, the following principles have been applied to the consideration of any new roads in Nenagh:

- **Alternative Solutions**: Any new road schemes must demonstrate that public transport, traffic management or demand management measures cannot effectively address the circumstances prompting the road proposal or are not appropriate.
- **Road Capacity:** Ensure implementation of the road will not lead to a significant increase in capacity for private vehicles on radial roads leading into Nenagh thereby inducing demand for further car travel.
- **Re-allocate road space**: where a road scheme comprises an urban bypass, measures must be proposed and implemented to reallocate road space within the bypassed area to sustainable transport and/or public realm improvements
- **Multi-modal:** Ensuring all road schemes are designed to facilitate walking, cycling and public transport provision.
- **Protection of National Road Network**: Any proposed road must not undermine the capacity and function of National Roads for strategic traffic in accordance with the NPF's objective to 'Enhance Regional Accessibility', as well as Department of Environment, Community and Local Government (DoECLG) Section 28 Ministerial Guidelines 'Spatial Planning and National Roads' document.
- **Safety**: All proposed roads or network upgrades improves safety for all users on the national / regional road network.
- **Activation of Development**: Any new road infrastructure required to support new development, must contribute to the delivery of compact growth and not result in additional road capacity on the wider road network
- **Strategy Alignment**: That the development of the road scheme does not diminish the expected beneficial outcomes of the LTP/LAP process.

Road Measures

Aligned with the sustainable principles of road development outlined above, the LTP has identified the following road schemes which would provide major benefits for the town and enable it to grow sustainably into the future by providing access for new developments or by allowing reallocation of road space to sustainable modes:

Southern bypass – R445 Limerick Road to R498 Thurles Road

The provision of an urban relief route to the South of Nenagh linking the R498 Thurles Road to the R445 Limerick road is an objective of the Southern Regional Economic and Spatial Strategy. Enhancing the road connectivity between these two regional roads removes the need for traffic on the N52 Nenagh bypass to travel through the town to access key employment centres situated to the south of the town. This results in a substantial reduction in both car and HGV traffic on sensitive residential streets in the town centre, particularly Sarsfield Street and William Street. The reduction of through

traffic within the town centre helps create a calmed environment more conducive to pedestrian and cycle activity, supporting the reallocation of road space to sustainable modes.

With consideration of the forecast growth over the lifetime of the LTP, there is no identified need to continue the bypass Road eastwards to link into the R445 Dublin Road, however it is advised that a corridor be retained to potentially support the further expansion of the town beyond 2030.

Energy Centre Link Road

As part of the development of the Energy Centre, a link road is proposed connecting Kenyon Street at the train station to the R445 Dublin Road via Martyr's Road. The delivery of this road would provide access to the proposed Energy Centre and support the regeneration of the brownfield sites along its route.

The road would also lead to a reduction in traffic volumes on the existing Martyr's Road and town centre laneways, for example Abbey Street. This would support the LTP proposals to create a network of people centred laneways south of Pearse Street, supporting improved active travel and placemaking in the town centre, and along Martyr's Road

Old Birr Road to Lisbunny Link Road

The Lisbunny industrial estate is situated to the east of the town with access from the Dublin Road. An industrial estate road currently exists through the centre of the business park for a distance of approximately 500metres. As part of the proposed scheme, an additional 300 metre length of road would be required from the end of the existing Lisbunny Estate Road to the Old Birr Road, in addition to cycle lanes and enhanced pedestrian facilities being implemented on the existing section of road. The provision of this route would activate development lands at the industrial estate and provide a moderate level of traffic relief to some key town centre links which currently experience congestion during peak periods, notably Summerhill and McDonagh Street and relief to Bulfin Road junction.

With consideration of the forecast growth over the lifetime of the LTP, there is no identified need to continue the link Road northwards to link into the N52 bypass currently, however it is advised that a corridor be retained to potentially support the further expansion of the town beyond 2030.

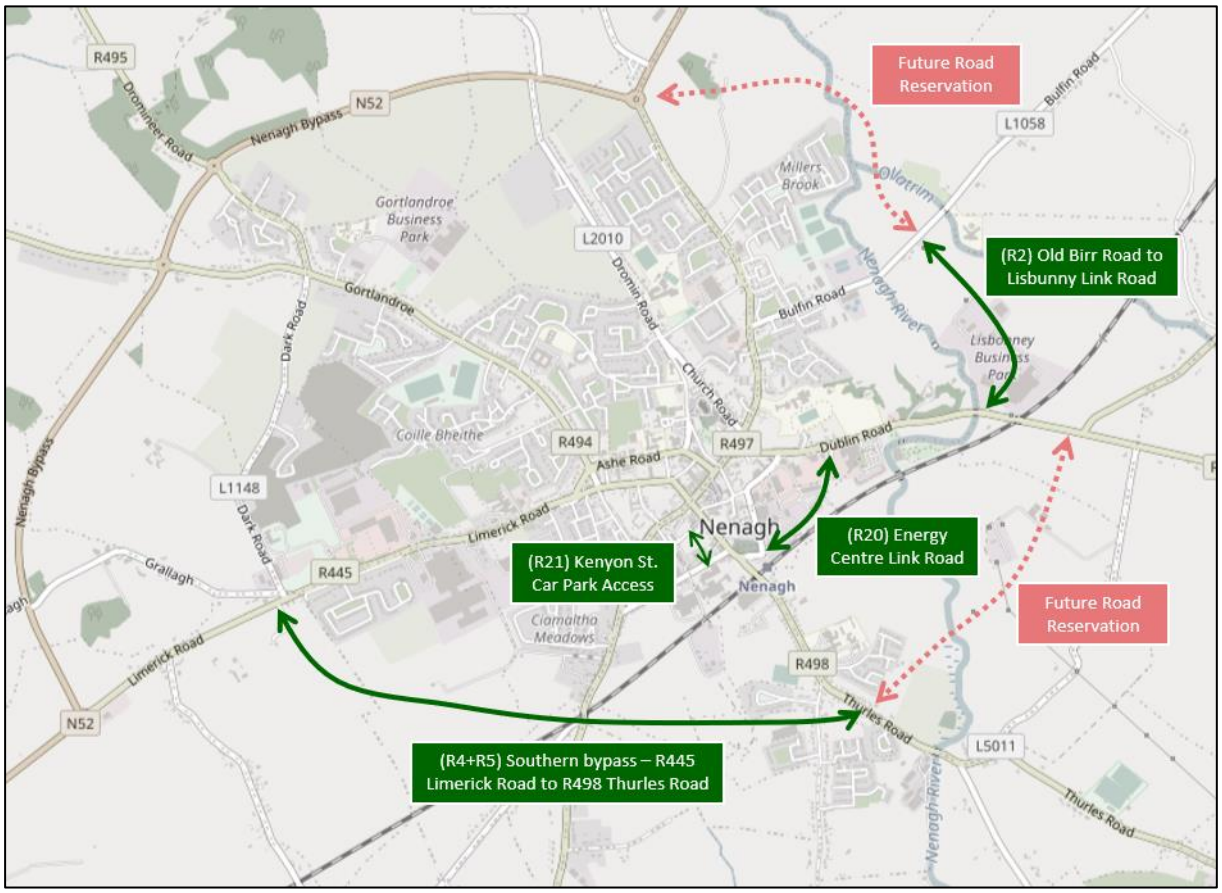


Figure 6.15 Envisaged New Road Schemes (Green) Protected Road Corridors (Red)

The key road network measures contained in the Emerging Preferred Strategy are summarised in Table 6.5. For the full list of all considered measures, see Appendix B.

Table 6.5 Road Schemes

Option	Location	Intervention
R2	Old Birr Road to Lisbunny	Link from Lisbunny Industrial Estate to Old Birr Road as part of future expansion
R4	Tyone to Ciamaltha	New Link Road from Tyone to Ciamaltha
R5	Ciamaltha to Limerick Road	New Link Road from Dublin Road to Ciamaltha
R9	Town one-way system	Implementation of the proposed town circulation plan with enhanced public realm and crossing facilities for pedestrians.

Option	Location	Intervention
R12	Sarsfield Street	HGV Ban in the west bound direction on Sarsfield Street.
R13	Pound Lane/Pound Road	One-way southbound on Pound Lane/Pound Road
R20	Martyr's Road to Dublin Road	New road link around proposed sustainable energy centre linking Nenagh Station with Dublin Road
R21	Stafford Street	New Entrance to Kenyon Street Car Park from Stafford Street. Will take traffic away from the Town Centre
R22	Abbey Street	Pedestrianise archway to Kenyon Street, upgrade footpaths and create a shared surface street

The LTP also proposes the upgrade of a number of junctions throughout the town to improve safety for all road users. The current transport network in Nenagh is often difficult to traverse for pedestrians and cyclists, with few formal crossings provided in the town and most junctions featuring wide, splayed turns for cars leaving long crossing distances for pedestrians and hazards for cyclists from turning vehicles. As the active travel measures illustrated in Figure 6.1 are delivered, all junctions along the routes will need to be reviewed and upgraded to provide safe access for pedestrians and cyclists. Exact details on proposed upgrade works will be defined at the individual project level.

6.5 Demand Management & Supporting Measures

In line with the Avoid-Shift-Reduce-Manage Travel Demand Management (TDM) Toolkit to deliver reduce carbon, improve air quality and the urban environment and manage congestion, a range of TDM Measures have been identified to support the switch to sustainable modes across the Study Area.

This includes Traffic Management proposals for Nenagh Town Centre, with a focus on improving the public realm in key areas and providing a safer environment for walking and cycling. A number of other supporting behavioural change measures are also identified, including the role that Mobility Management can play in both avoiding the need to travel and supporting a switch from car travel to sustainable modes on a site by site basis. Supporting measures for Active Travel, Public Transport and School Travel can also be found in their respective Strategies.

Weight Limit in Town Centre

As noted from the consultation, there is a recognised issue of a high volume of HGVs routing through Nenagh town centre. HGVs are a well-known deterrent for active travel because they are longer, higher and wider than other road vehicles and possess many blind spots. For example, research[9] in London showed that, over a period of 3 years, HGVs were involved in over 70% of cyclist fatalities, despite HGVs only making up 4% of road miles in the city. A weight restriction would significantly reduce HGV volumes in this sensitive area. Nenagh is well placed for a ban of this type, given that it is already bypassed on two sides. Heavy vehicles can avoid the town centre to access most industrial areas in the town by using the M7 or N52 bypass. This is illustrated in Figure 6.16 below.

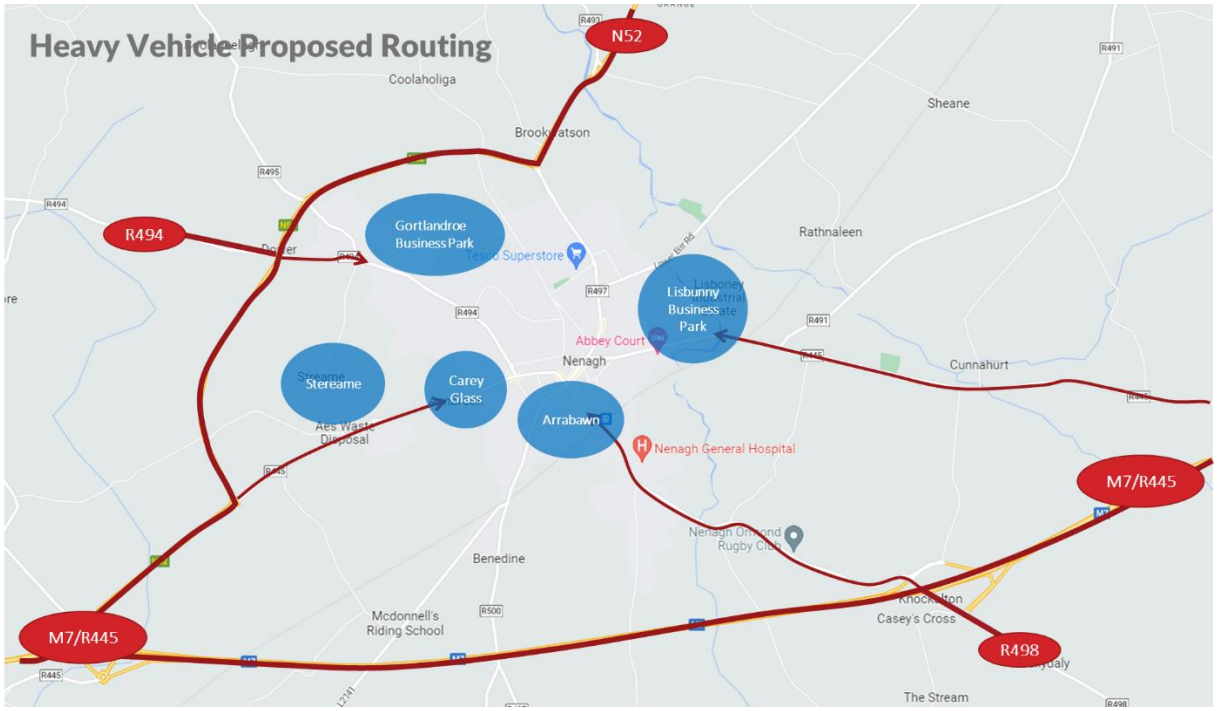


Figure 6.16 Envisaged Heavy Vehicle Diversions

An indicative area for the restriction is shown in Figure 6.17 below. This creates a second inner diversion route around the town centre using Stafford St, William St, Joe Daly Road, Church Road, McDonagh St, & Martyr's Road. A modelling assessment was undertaken to examine the impact of the HGV routing on town centre streets in the AM peak hour. The increase (Blue) and reduction (Green) in HGV volumes on the network are shown in Figure 6.17 below:

[9] See Transport for London 'Direct Vision Standard for HGVs' https://tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/direct-vision-in-heavy-goods-vehicles

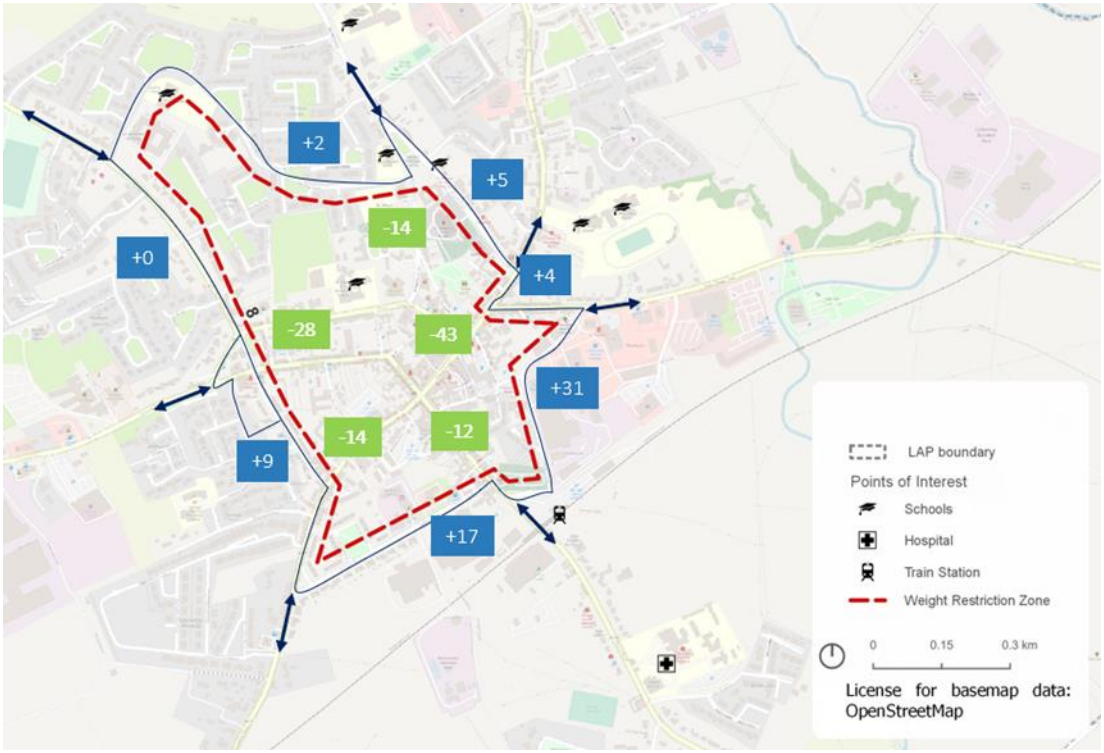


Figure 6.17 Impact of Heavy Vehicle Ban

As can be seen from Figure 6.17, the weight restriction will result in substantial reduction in Heavy Goods Vehicles (HGV) movements on key town centre streets. An increase in HGV movements on certain streets on the periphery of the inner diversion was also recorded. For example, William Street, Stafford Street and Martyr's Road. The overall results indicate the Weight Restriction does achieve the objectives of the study and take HGV traffic away from the town centre. Furthermore, the ban will be complimented further by the road proposals outlined in Figure 6.15 above, which when implemented will result in reductions in HGV traffic on Martyr's Road, Stafford Street and William Street. The phasing of these measures should be linked to the delivery of key roads in any implementation plan.

30Km/h Speed Limit in Town Centre & Residential Areas

It is widely recognised that the application of lower speed limits reduces the likelihood and severity of accidents for vulnerable road users, and contributes to a more attractive environment for walking and cycling. Research undertaken by Transport for London, concluded that the reduction of speed limits from 50kph to 30pkh in the city on residential roads, produced a 50% reduction in cyclists being fatally or seriously injured. Lower speeds will also provide environmental benefits by reducing traffic noise which benefits the local environment. The lower speeds also improve the perceived safety of the area which in turn makes it more attractive for walking and cycling.

Whilst traffic speeds in Nenagh town centre are relatively low, the introduction of a 30kph zone in the centre will reinforce the need to reduce traffic speeds in the centre of the town and support the overall implementation of the other sustainable transport measures. Figure 6.18 below indicates the potential area for the 30kph zone encompassing all Nenagh Schools, a large proportion of the residential

population, the rail station and town centre. To demarcate the extent of the 30kph zone it is recommended that gateway features and signage be installed on the key radial routes leading into the town centre.

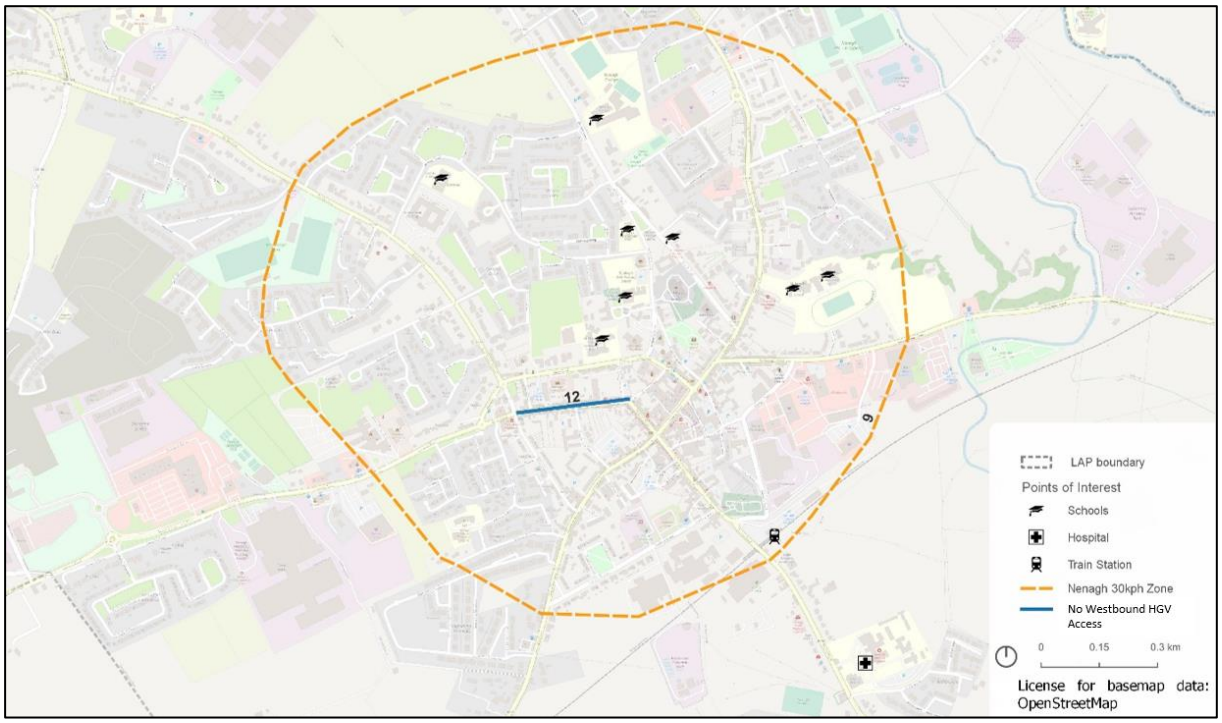


Figure 6.18 Envisaged 30Kp/h Town Centre Zone

Summary of Demand Management & Supporting Measures

Table 6.6 outlines supporting demand management measures included in the Emerging Preferred Strategy. These measures will complement the active travel and public transport proposals within the LTP encouraging a mode shift towards sustainable modes.

Table 6.6 Supporting Demand Management Measures

Option	Intervention	Description
DM1	Town Car Club / Car Sharing Scheme	A car sharing service should be facilitated for residents of the study area. Car sharing schemes work by allowing those who sign up to book cars online or via an app for short periods of time. The car can be unlocked with a smart phone or card; the keys are in the car, with fuel, insurance and town parking charges all included.
DM2	Dockless Town Bicycle Sharing Scheme	Bicycle sharing schemes are key in the multi-modal transport environment, providing for everyday urban trips as well as 'last mile' journeys from public transport stops to urban destinations. Bicycles can be located and unlocked with a smart phone app. Dockless schemes use existing 'sheffield stands' and don't require dedicated infrastructure.

Option	Intervention	Description
DM3	Safer Routes to School & School Streets	As the active travel measures illustrated in Figure 6.1 and Figure 6.11 are delivered, they will provide safe access for children choosing to walk and cycle to school. Outside schools should include engineering details to encourage safe driver behaviour and ensure a calmed traffic environment. Exact details on proposed school street works will be defined at the individual project level.
DM4	School Mobility Management Plans (MMPs)	The town has several schools. Travel Plans can be developed to encourage more sustainable trip making.
DM5	Workplace Mobility Management Plans (MMPs)	The town has a number of significant employment centres: Carey glass, Revenue Commissioners, Arrabawn Co-Op, Tipperary County Council. Travel Plans can be developed for these employment centres to encourage more sustainable trip making.
DM7	Park & Stride initiatives	Supports the use of existing and potentially new car parks on the periphery of the town centre for Park & Stride, to further enhance and safeguard the economic viability of the town and its sustainable development.
DM8	Weight Limit in Town Centre	Heavy vehicles will need to use M7/N52 - Or use an inner diversion route around the town centre using Stafford St, William St, Joe Daly Rd, Church Rd, McDonagh St, & Martyr's Road. Phased in line with the delivery of key roads in any implementation plan
DM9	30KPH Speed Limit	Reduced speed limit in town centre and in residential areas. Guidance is expected to be published on a national level which will help inform a reduction to 30kph speed limit in town centres, the LTP proposal should be refined to match national guidance.
DM10	Parking Standards	It is recommendation of the LTP that parking requirements for new developments will be in line with the standards set out within the County Development Plan with reduced levels of parking sought in highly accessible locations with good access to services and public transport opportunities. Any proposal for reduced level of parking shall be accompanied by robust justification.

6.6 KPI Assessment

The Emerging Transport Strategy as a whole has been assessed against the objectives and KPIs listed in Table 3.1. The KPIs are both quantitative and qualitative, with local transport modelling and GIS analysis used to calculate the majority of the quantitative KPIs. The strategy has been assessed against an existing 'Do Nothing' scenario using the 5-point rating scale outlined in Table 5.1. The following sections provide an overview of the performance of the Emerging Preferred Strategy in meeting the overarching study objectives.

Accessibility & Social Inclusion

Table 6.7 Emerging Preferred Strategy Accessibility & Social Inclusion Outcomes

OBJECTIVE	KPI	SCORE
To create and enhance inter-urban connectivity through delivery of a quality public transport service between Nenagh and the Limerick Metropolitan Area (and settlements within). There should also be improved connections to key settlements throughout the County including towns such as Roscrea, Thurles, and Clonmel.	People within 10 min walk of a Public Transport Stop.	
To promote the application of Universal Design through the delivery of a sustainable transport network for users of all abilities in Nenagh, where services are accessible via a comfortable short and safe walk, cycle, or Public Transport ride from dwellings.	Length of additional / improved walk and cycle infrastructure	

KPI: People within 10 minute walk of a Public Transport Stop

The Nenagh LTP supports the further roll out of the NTA's Connecting Ireland Rural Mobility Plan providing additional connectivity to surrounding settlements such as Limerick, Ennis, Dromineer, Thurles, Clonmel, Roscrea etc. In addition to this, a number of new radial bus stops have been identified that will serve residential areas and key trip attractors. This will make public transport more accessible to more people living in Nenagh.

Figure 6.19 illustrates the 10-minute walk catchment to public transport in the existing network and also the proposed future network with additional bus stops. The GIS catchment analysis indicates that approximately 5,400 people currently live within a short 10-minute walk (800m) of their nearest public transport stop. This increases to just under 8,700 people (+61%) due to the proposed Nenagh LTP measures.

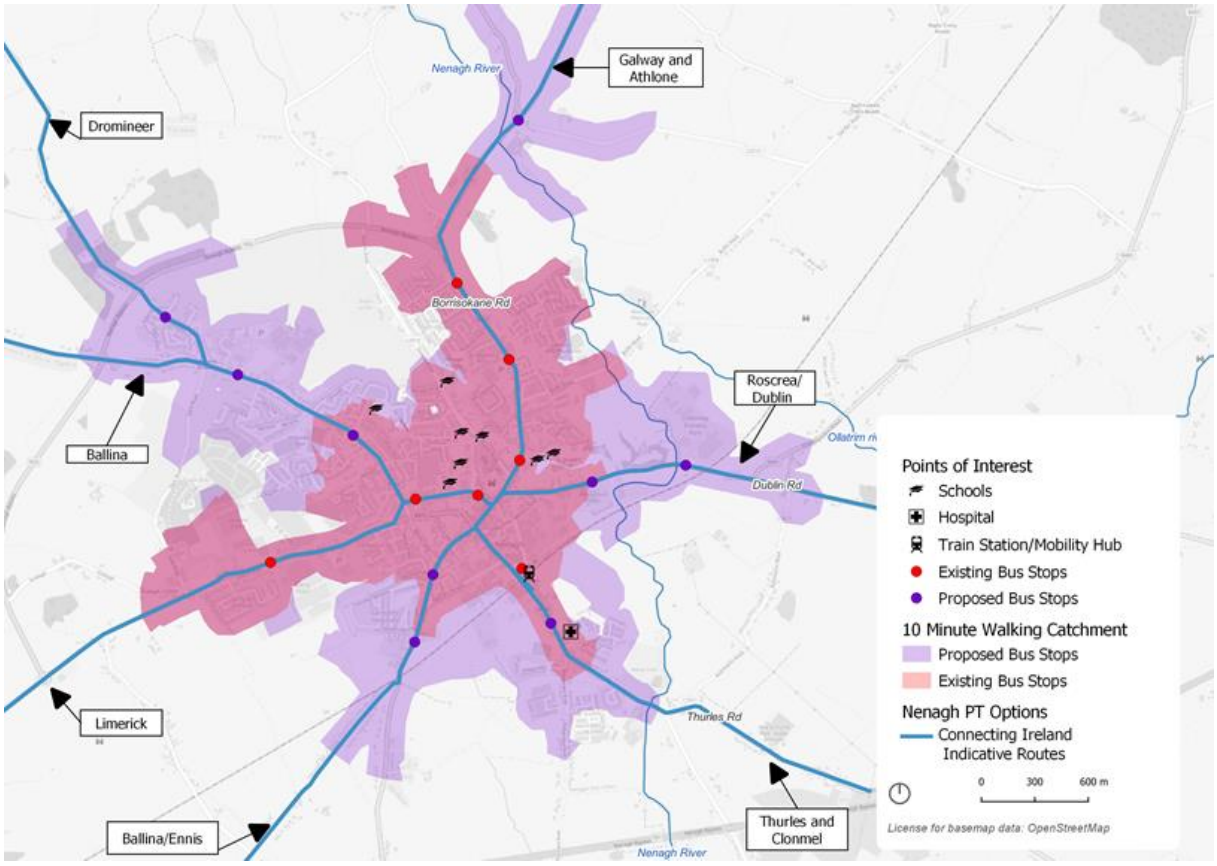


Figure 6.19 Nenagh Bus Stop Catchment (Existing vs Proposed)

The active travel measures proposed as part of the LTP will improve the safety and quality of walking and cycling connections to public transport. The creation of a Mobility Hub at Nenagh train station will also support integration between bus, rail and other transport services increasing the attractiveness of public transport. Overall, the proposed LTP measures will significantly improve connectivity from Nenagh to surrounding settlements by public transport encouraging a mode shift away from private car.

KPI: Length of additional / improved walk and cycle infrastructure

As illustrated in Figure 6.1 and Figure 6.11, the Nenagh LTP includes a substantial improvement in active travel infrastructure throughout the town. The LTP will deliver over 24km of segregated cycle facilities providing a safer environment for cyclists, in particular vulnerable users. The upgraded network connects residential areas to a number of schools and other key destinations including the town centre and large employers.

In addition to this, a number of links have been identified for footpath upgrades and public realm enhancements to create a more attractive environment for walking within Nenagh.

Integration

Table 6.8 Emerging Preferred Strategy Integration Outcomes

OBJECTIVE	KPI	SCORE
To promote the '10-minute settlement' concept in Nenagh aiming to reduce walking times and provide easy access to essential daily services and facilities through improved integration of land use and transport.	Catchment analysis - population within 10 mins of key destinations (Schools and Town Centre) by sustainable modes	
To align and integrate with incumbent and upcoming National, Regional, and Local planning policy	Rating Scale - Review against policy compliance	

KPI: population within 10 mins of key destinations (Schools and Town Centre) by sustainable modes

Schools

Figure 6.20 illustrates the 5, 10 and 15-minute catchment area to schools within Nenagh. Based on the 2016 Census figures, approximately 4,700 people (total population) will live within a 10-minute walk of their nearest school under the proposed LTP network. This is an increase of around 18% when compared to the existing network. Permeability improvements such as the link from Brookville Green to St. Josephs park will reduce access times for children walking and cycling to school, along with providing an off-road, quiet route. Approximately 6,900 people will be within a 15-minute walk of their nearest school under the proposed network with all of the town within a 10-minute cycle.

Town Centre

Figure 6.21 illustrates the 10, 15 and 20-minute catchment area to Nenagh town centre – taken to be Kickham Street/Pearse Street for the purpose of this analysis. The results indicate that just over 4,600 will be within a 15-minute walk of the town centre with the proposed LTP network. Whilst the overall catchment to the town centre doesn't increase significantly, the LTP proposes substantial changes to the quality of the active travel network. This includes segregated cycle routes connecting into the town centre core along with improvements to laneways such as Abbey Street and Friar Street creating a safe, attractive connection for pedestrians and cyclists. The provision of these upgrades will improve accessibility for pedestrians and cyclists, particularly vulnerable road users by improving the quality and safety of links to the town centre.

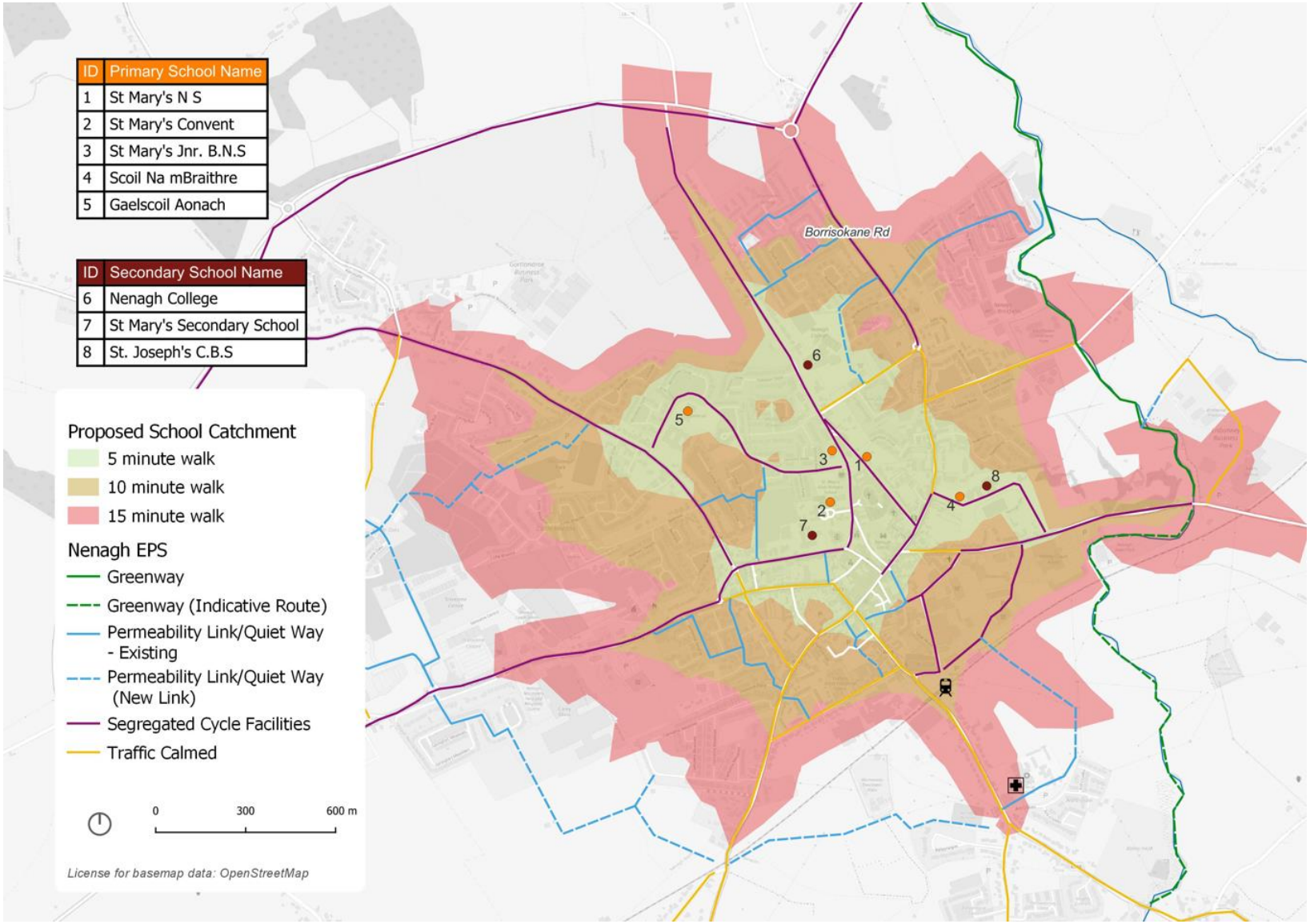


Figure 6.20 School Catchments

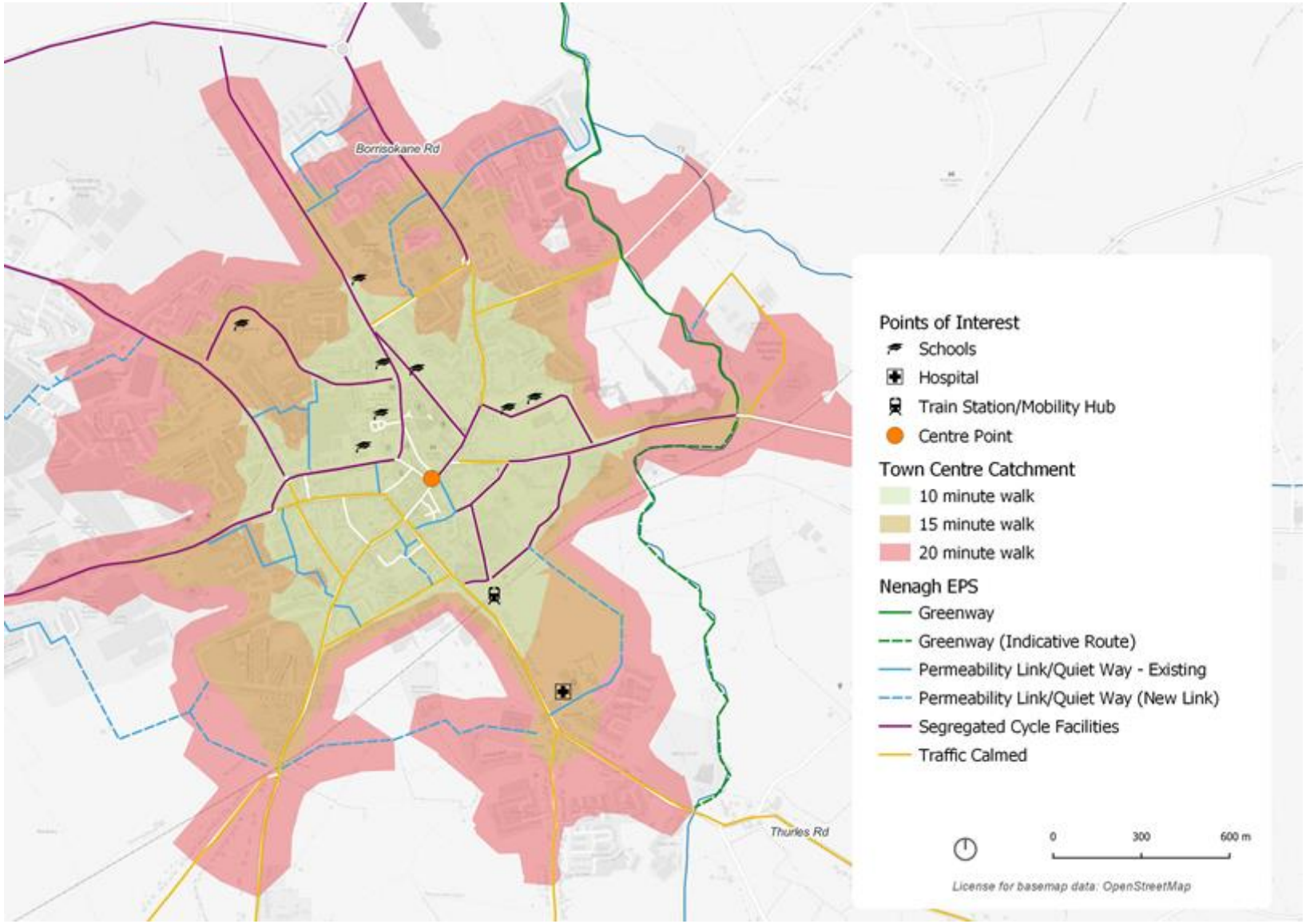


Figure 6.21 Town Centre Catchment

KPI: Rating Scale - Review against policy compliance

The focus of the Emerging Preferred Strategy on active modes and urban realm enhancements is deemed to comply with national and regional policy as covered in Section 2.2. In particular, the town centre improvements align with the Town Centre First policy and active travel improvements align with the focus by the NTA on Safe Routes to School. The overall rebalancing of the transport network towards sustainable modes aligns with the National Planning Framework, National Sustainable Mobility Policy, the Climate Action Plan 2023, the Regional Spatial and Economic Strategy and the Tipperary County Development Plan 2022-2028.

Safety & Physical Activity

Table 6.9 Emerging Preferred Safety & Physical Activity Outcomes

OBJECTIVE	KPI	SCORE
Provide safe access to schools for vulnerable road users and ensure a safe front of school environment	Qualitive assessment of walking and cycling infrastructure to schools and front of school environment	
To invest in active travel to benefit the health and wellbeing of residents and visitors of Nenagh with schemes that foster a healthy lifestyle to create a more liveable town	Population within 200m of new cycle infrastructure	

KPI: Qualitive assessment of walking and cycling infrastructure to schools and front of school environment

The proposed LTP measures will deliver a step-change in active travel facilities to schools. As illustrated in Figure 6.1 and Table 6.2, segregated cycle facilities are proposed to all schools within the town connecting to residential areas to the north, east and west. This will increase the safety for children and parents cycling to school and encourage active travel. In addition, school zone treatments are proposed at all schools within the plan area. This includes measures to support reduced vehicular speeds and safer driver behaviour creating a safer environment for children walking and cycling to school.

KPI: Population within 200m of new cycle infrastructure

The LTP measures will facilitate a healthy lifestyle for people living in Nenagh by increasing opportunities for active travel journeys to employment, education and leisure with over 50km of improved active travel infrastructure proposed.

This expansion in coverage of the network in both km and catchment will improve safety for those undertaking short journeys by active modes with continuous infrastructure limiting conflicts with

motorised road users. Improved connections to employment, education and leisure sites across all areas of the town will help to support a modal shift from private cars and encourage healthy lifestyles. Figure 6.22 and Figure 6.23 below illustrate the extent of the current segregated cycle network and the proposed full network and associated catchment areas. Existing segregated cycle facilities in Nenagh are limited to the Dromin Road where it continues on to Nenagh College. There is also a short section of shared path at the entrance to Stereame Centre. In the proposed LTP network, the provision of segregated cycle facilities significantly improves as illustrated in Figure 6.23 with upgraded infrastructure provided on the majority of key radial routes into town including the Limerick Road (R445), St. Conlon's Road (R494), Dromin Road, Borrisokane Road (R497) and the Dublin Road (R445). There are also a number of other proposed active travel links which will provide a segregated route for cyclists away from vehicular traffic including the Nenagh River Greenway, the proposed route via Eire Óg GAA club and the connection from the Dublin Road to the Limerick Road.

In total, it is estimated that the number of people within 200 metres of segregated cycle infrastructure will increase from around 1,300 to just over 8,400 due to the delivery of the proposed LTP active travel measures. This improved accessibility to safe cycling infrastructure will encourage a shift towards active travel supporting greater levels of physical activity and associated health benefits.

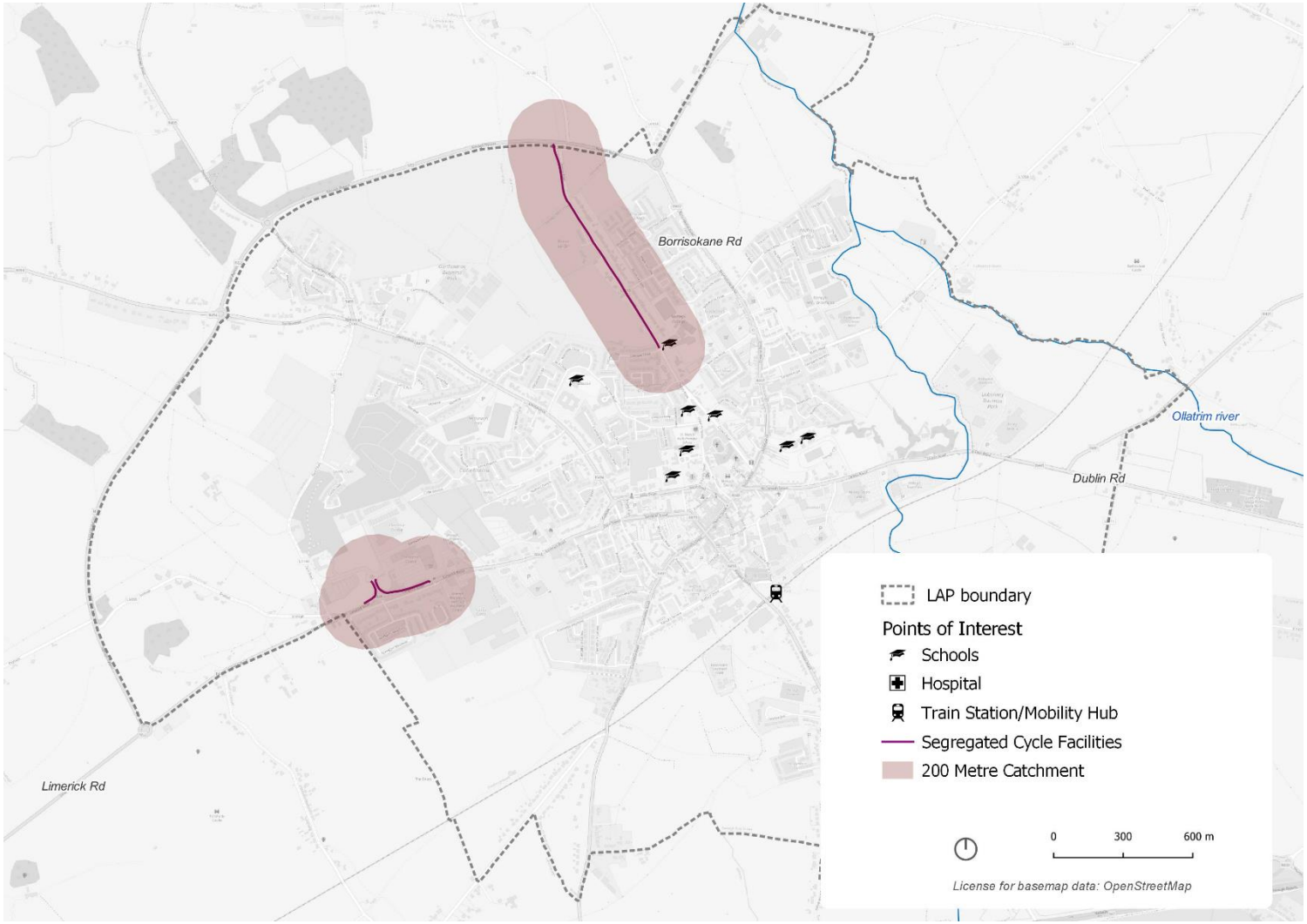


Figure 6.22 Existing Segregated Cycle Facilities – 200m Catchment

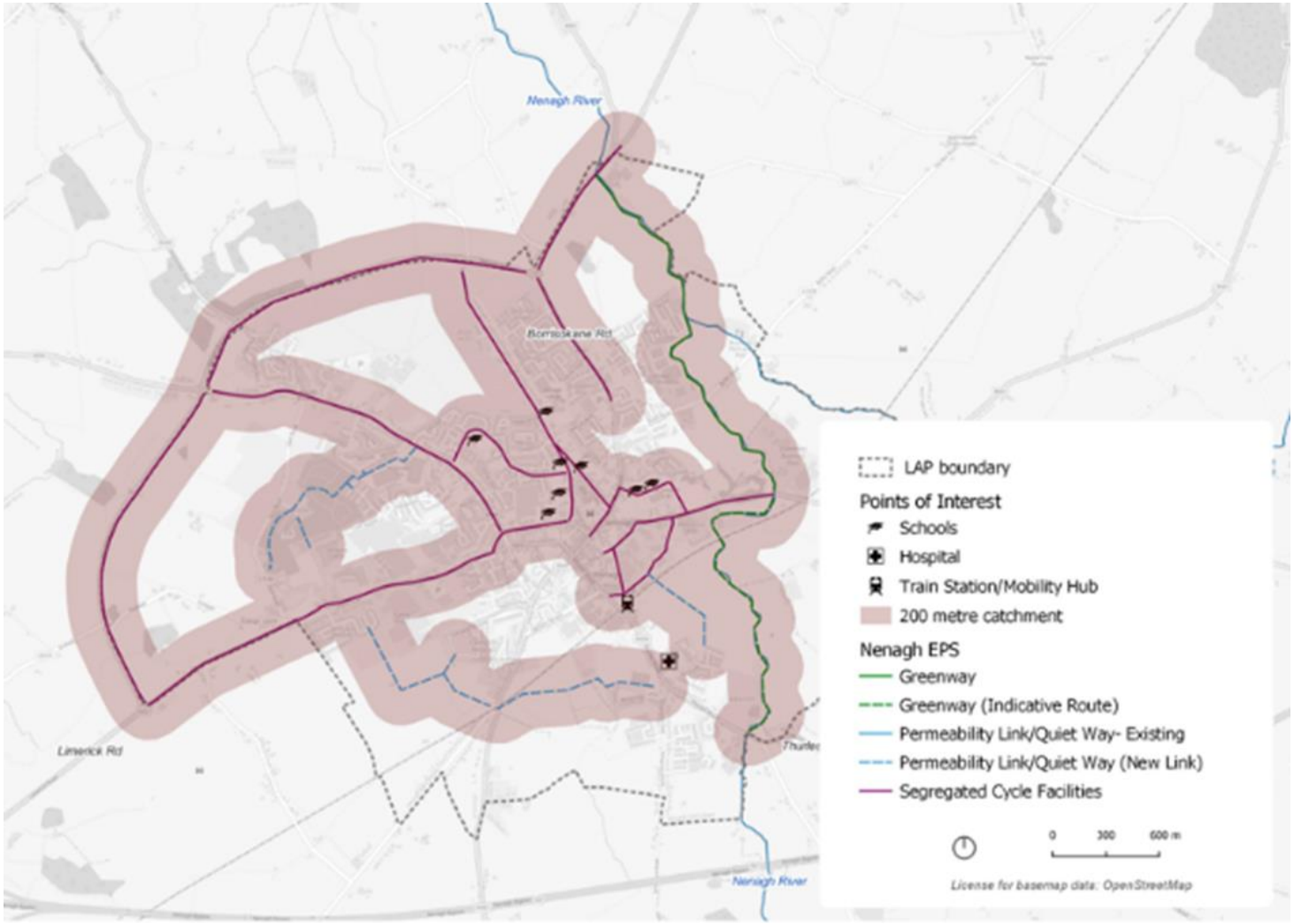


Figure 6.23 Proposed Segregated Cycle Facilities – 200m Catchment

Environment

Table 6.10 Emerging Preferred Strategy Environment Outcomes

OBJECTIVE	KPI	SCORE
To provide an environment which supports and encourages a modal shift from the private car to more sustainable modes. This will support the County to reach Climate Action and Sustainable Energy targets while helping achieve a more environmentally sustainable and circular economy	Qualitative assessment of Walk and Cycle Mode Share with targets	
To improve and create a more appealing town centre environment for pedestrians and reduce harmful air and noise pollution from vehicles. Prioritise improvements at school zones and along the main pedestrian access routes immediately adjacent to schools	Traffic volumes through the town centre core	

KPI: Qualitative assessment of Walk and Cycle Mode Share with targets

One of the key objectives for the Nenagh LTP is to create an environment that supports a shift onto sustainable modes, particularly walking and cycling for shorter trips within the town. 2016 Census data indicates that walking represents approximately 19% of all trips to work and school in the morning, with cycling accounting for just 2%. Taking cognisance of this, along with travel patterns within the town, walk and cycle mode share targets for the Nenagh LTP have been developed and are outlined in Figure 6.24.

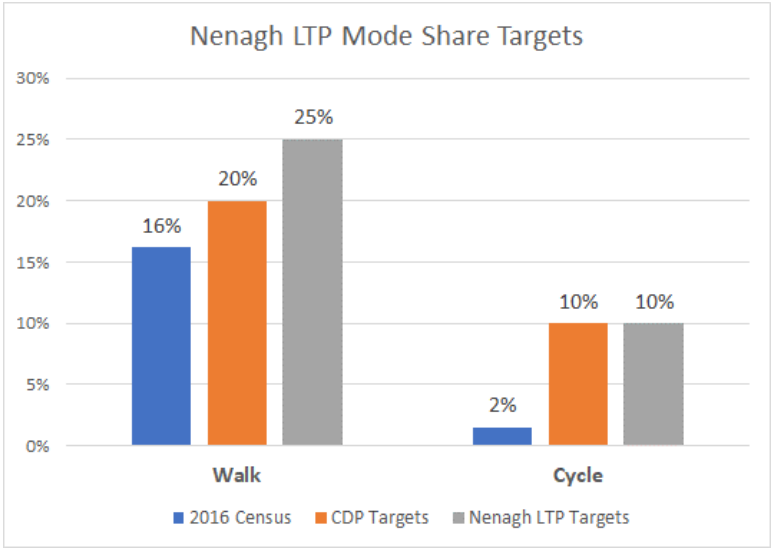


Figure 6.24 Nenagh LTP Walk and Cycle Mode Share Targets

The Tipperary County Development Plan has outlined mode share targets at a county level of 20% for walking and 10% for cycling over the lifetime of the Plan. As of Census 2016, the County target for walking has almost been achieved in Nenagh (for trips to work and education at least). As such, a more ambitious target of 25% has been chosen for the LTP to reflect the impact the investment in proposed measures will have on encouraging increased levels of walking within the town. Cycling mode share is currently low in Nenagh, which is reflective of the available infrastructure at present. As such, the County Development Plan target of 10% was identified as being suitably ambitious for the Nenagh LTP.

The proposed LTP measures will help support a shift away from private vehicles and assist in achieving the walking and cycling mode share targets for the town. As outlined above, over 7,000 additional people will have close access to a segregated cycle facility in the new network. The creation of a safe, integrated walking and cycling network across Nenagh connecting to schools, the town centre and key employers will make active travel a more attractive choice.

KPI: Traffic volumes through the town centre core

The Nenagh LTP recommends road schemes to help remove traffic from the town centre improving the environment for pedestrians and cyclists, and allowing for the reallocation of road space to active mode infrastructure. Detailed traffic modelling was undertaken to understand the impact of these road schemes on traffic around Nenagh. Analysis was undertaken on the total volume of traffic travelling in the town centre core in the existing network ('Do Nothing') and the proposed LTP road network ('Do Something'). The proposed road schemes and the town centre core used for this analysis are illustrated in Figure 6.25.

The modelling results indicate that the proposed LTP measures will lead to a 20% reduction in total traffic within the town centre core. This includes roads outside the majority of schools within the town. This reduction is associated with through traffic which doesn't have an origin or a destination in the town centre area outlined in Figure 6.25. The reduction in traffic volumes will have a number of significant benefits including road safety, reduced air and noise pollution and an improved environment for pedestrians and cyclists.

The results also indicate a reduction in Heavy Goods Vehicles within the town centre of 35%. The removal of these large vehicles will improve safety for pedestrians and cyclists and create a more appealing town centre environment.

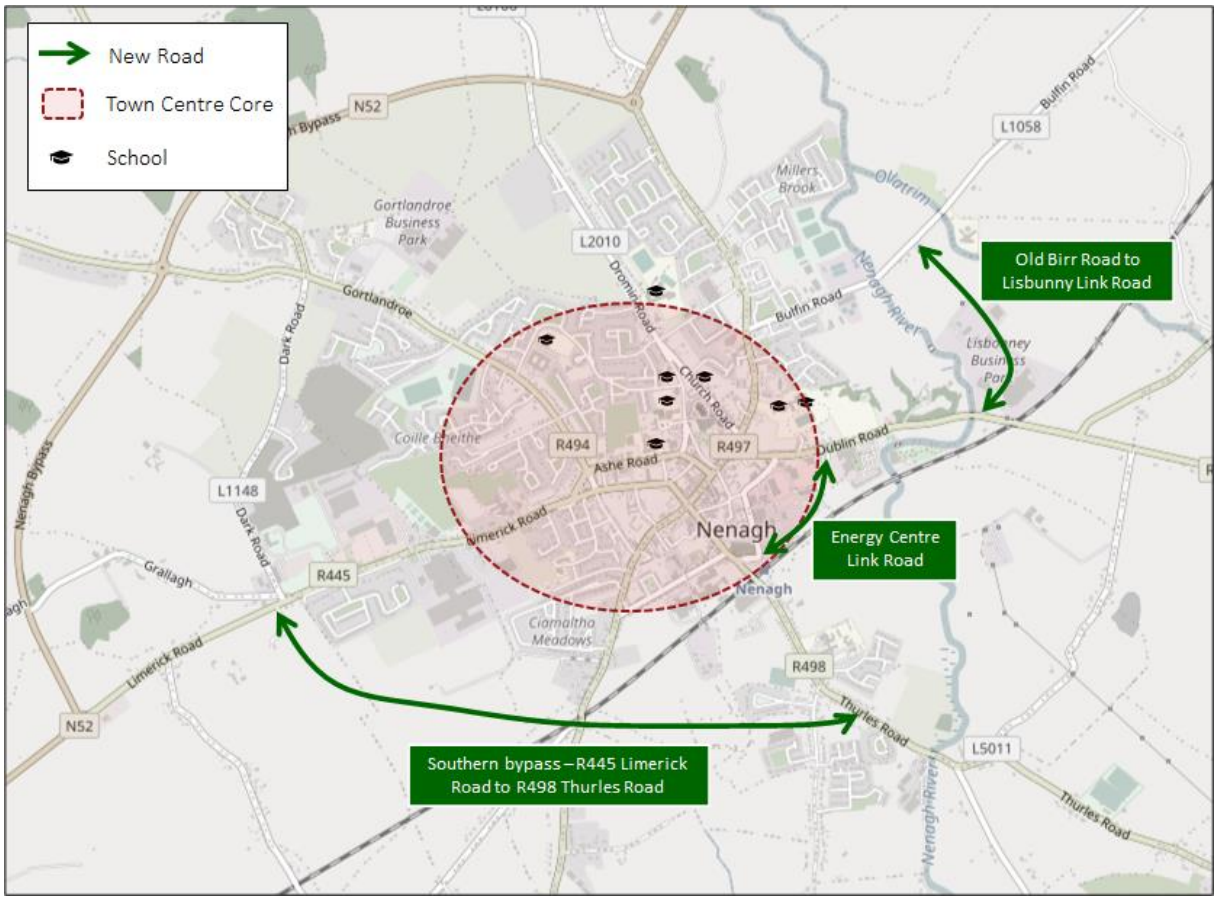


Figure 6.25 Nenagh Town Centre Core Traffic Analysis

Economic

Table 6.11 Emerging Preferred Strategy Economy Outcomes

OBJECTIVE	KPI	SCORE
To support Nenagh's pathway to a low-carbon economy through the delivery of a sustainable transport network, improving access to employment, retail and business opportunities for all in Nenagh Town.	Catchment analysis to employment – population within 20-minute walk of key employment sites	
Help grow and enhance Nenagh as a renowned centre for activity based and sporting tourism. Complement and capitalise upon the rich cultural and environmental assets inherent in Nenagh, enhancing access and movement for local residents and visitors alike.	Qualitative assessment of town centre public realm and access to places of interest	

KPI: Catchment analysis to employment

GIS catchment analysis was undertaken to determine the areas within a 10, 15 and 20 minute walk of key employers in Nenagh and the results are illustrated in Figure 6.26 for the existing and proposed active travel network. The results indicate a large increase in catchment due to the proposed LTP measures. In particular, the delivery of the southwest active travel route between the Thurles Road and Limerick Road improves accessibility for residents to the south of the town to big employers such as Carey Glass and Stereame Centre.

In total, approximately 9,500 people will be within a 20-minute walk of these key employers under the proposed LTP active travel network, which represents around 75% of the future planned population within the Study Area. This is a 14% increase when compared to the existing network illustrating the impact of the proposed LTP measures on improving accessibility to employment within Nenagh via walking and cycling.

Figure 6.26 Catchments to key employers using existing (left) and proposed (right) active networks

KPI: Qualitative assessment of town centre public realm and access to places of interest

The Nenagh LTP includes a number of measures aimed at improving the town centre environment and creating a more attractive space for residents and visitors to spend time. The introduction of the proposed one-way system will provide additional space for public realm enhancements within the town centre. This will be completed in tandem with the delivery of the Nenagh Historic & Cultural Quarter which will promote historic landmark buildings, including the Castle and the Gaol, as a successful and sustainable visitor attraction.

In addition to this, the LTP includes specific measures to expand the town centre through the regeneration of laneways. This includes the potential for an attractive gateway/civic space at the entrance to Abbey Street framed by the historic Abbey. The redevelopment and regeneration of these laneways will create a more attractive town centre improving the walkability of the town.

The delivery of the Nenagh River Greenway included in the LTP which will provide an excellent outer orbital cycle connection linking employment centre and residential areas with the wider active travel network while also providing a scenic route for both local residents and visitors to Nenagh. It is planned that this route will extend further out providing a connection to Dromineer and Lough Derg in the future.

Overall, the measures proposed within the LTP will help grow Nenagh as an attractive destination, encouraging increased footfall within the town and supporting local businesses.

7. IMPLEMENTATION AND MONITORING

This strategy contains a range of transport solutions to support the sustainable compact growth of Nenagh as set out in the Local Area Plan. In keeping with the objectives established for the study, the sequencing of measures within the plan seeks to provide existing and future residents of Nenagh with a range of sustainable travel choices. As such, the plan provides a strong emphasis on the upfront delivery of active travel and public transport measures, supported by a range of demand management measures encouraging sustainable travel behaviours.

This chapter provides an overview of the mechanism for delivery for transport schemes in Ireland, followed by the proposed phasing of the Nenagh transport measures providing commentary on impacts and dependencies. The chapter then provides a list of key transport measures that should be progressed as priority schemes. Finally, the chapter presents the mode share ambitions for Nenagh aligned with regional policy as well as a strategy for monitoring the implementation of the LTP measures.

7.1 Delivery Process

Delivery Mechanisms

As individual measures progress beyond the LTP Strategy to project level, each individual project will need to be delivered in accordance with the relevant guidance and standards, in particular TII's Project Management Guidelines and Project Appraisal Guidelines for National Roads and the NTA's Project Management Guidelines.

Depending on the type and scale of the scheme, there are a number of delivery mechanisms for each of the projects set out in the Nenagh LTP. Large transport projects, for example road schemes, exceeding a certain threshold will be subject to Environmental Impact Assessment and will need to be submitted to An Bord Pleanála for approval. As set out in legislation, these projects will need to undergo a statutory public consultation process.

Many of the active travel schemes, as well as some of the smaller road interventions within the town, will be subject to a Part 8 process which will be decided upon by the elected members following a statutory public consultation process.

Certain smaller interventions which improve safety on the road network for all modes of travel may be delivered under Section 38 of the Road Traffic Act 1994 (as amended). Whilst these schemes may not be required to undergo a statutory public consultation process, TCC will engage with local communities impacted by the scheme and may determine the need to undertake non-statutory public consultation.

The need for a rapid rollout of active travel infrastructure nationally, in a cost-effective manner, is urgently needed for several reasons, including:

- The Climate Action Plan 2023 requires the construction of an additional 1,000km of cycling and walking infrastructure by 2025 to help achieve emissions reductions targets. However due to rising costs in the construction sector, combined with the length of time it typically takes to deliver schemes, there is a need to change the traditional delivery approach to achieve these targets.

- The Climate Action Plan 2023 also endorses the recommendations of the report from the Climate Change Advisory Council and OECD (Organisation for Economic Cooperation and Development) on Redesigning Ireland's Transport for Net Zero.
- The National Investment Framework for Transport in Ireland (NIFTI) sets out hierarchies for where investments in transport should be prioritised and stipulates that investments in active travel and public transport should be prioritised ahead of investments in infrastructure for private cars.

Therefore, to maximise the amount of Active Travel infrastructure delivered within available resources and to increase the speed of delivery, Rapid Build active travel facilities should be prioritised where possible. Rapid Build Infrastructure is infrastructure that can generally be accommodated within the existing carriageway or verge and has limited drainage impacts. Therefore, it is more cost-effective and quicker than traditional (full build) construction methods. They can include:

- Road markings/traffic restrictions;
- Narrowing/converting general traffic lanes to active travel facilities;
- Converting on-street parking to active travel facilities;
- Creating Traffic Free streets; and
- Redesigning junctions to provide greater capacity for walking, cycling and public transport

Funding Mechanisms

The delivery of measures contained in the Nenagh LTP will be subject to available funding. Each project will be appraised on its own merits through the planning process, with the scale of appraisal required (E.g. Business Cases) commensurate with the size and cost of the project being delivered. Major projects will need to be appraised in line with the requirements of the Public Spending Code and the Department of Transport's recently released Transport Appraisal Framework (TAF).

As mentioned above, there is a need for a rapid rollout of active travel infrastructure nationally, in a cost-effective manner. Therefore, where appropriate, active travel schemes will adhere to the guidance set out in the NTA's Rapid build Active Travel Facilities note and also follow the framework set out in the NTA's Project Approval Guidelines.

Depending on the type of project and its potential benefits, there are a number of potential funding streams for their delivery:

- Projects which seek to **rejuvenate the town centre** (for example public realm enhancements) may obtain funding through the government's Urban Regeneration and Development Fund (URDF) and Rural Regeneration and Development Fund (RRDF) for settlements with less than 10,000 people. These government initiatives aims to deliver more compact and sustainable development, as envisaged under Project Ireland 2040.
- **Walking and Cycle** projects will primarily be delivered through funding sought from the NTA through their Active Travel Grants Programme. The Active Travel Grants Programme funds important projects supporting strategic pedestrian and cyclist routes, access to schools, permeability links, urban greenways and some minor public transport improvement projects.

- Measures which are targeted at improving **safety on access to schools** and encouraging active travel amongst students may be able to obtain funding through the NTA's Safe Routes to School (SRTS) Programme.
- The NTA funds and oversees Public Service Obligation (PSO) public transport in Ireland, including **Bus and Rail**. Through the NTA's Connecting Ireland programme, improvements to bus service routing/timetables and bus stop provision will be made. Further improvements to rural transport (E.g. Local Link services) will be achieved through the Rural Transport Programme.
- Improvements to the safety or operation of the **National Road network** is funded and managed by Transport Infrastructure Ireland under their capital expenditure programme. TII has developed detailed Project Appraisal Guidelines which describe the processes and detailed methodologies required for the appraisal of projects and their delivery.
- Other **local transport interventions** which are required to improve access to development lands may seek site-specific development contributions through the planning process.

Phased Implementation

The following section outlines the proposed phasing of the LTP Delivery Plan. Measures have been divided into the following phasing's:

- **Short Term (up to 2030):** This timeline corresponds with the completion of the Nenagh LAP 2024-2030 and current National Development Plan.
- **Medium Term (up to 2035):** This time period represents a midway point between the end of the Nenagh LAP period and the timeline for Project Ireland 2040.
- **Long Term (up to 2040)**: This timeline corresponds with Government's long term sustainable development strategy for the country- Project Ireland 2040.

A summary of the priority actions for immediate action are provided in Section 7.6 below. As noted above, each of these measures will be appraised individually on its own merits, in terms of feasibility, design, planning, approval and available funding. Therefore, the timelines should be considered as indicative only.

7.2 Active Travel

Short Term

- Deliver segregated active travel corridors along the radial roads leading into Nenagh Town Centre (E.g. Limerick Road, Dublin Road, Saint Conlan's Road, Dromin Road, Borrisokane Road etc.);
- School zone treatments to improve safety in front of Schools;
- Nenagh River Greenway from N52 Borrisokane Road to Dublin Road at Lisbunny;
- Development of permeability links to enhance walking at the neighbourhood level and to improve the accessibility of public transport;
- Orbital cycle delivery for Saint Conlan's Road via Eire Og GAA Club to Stereame;
- Regeneration of the Town Centre laneways at Abbey Street and Friar Street to improve access for active modes and encourage street level activity;
- Delivery of filtered permeability measures on Abbey Street and O'Rahilly Street;

- Deliver footpath enhancements and traffic calming measures.

Medium Term

- Provision of new orbital cycle link to south of Nenagh from Limerick Road to Martyr's Road;
- Provision of new orbital cycle link from Gortlandroe Business Park via N52 bypass;
- Further enhancements to the proposed town centre one-way system through reallocation of road space for public realm upgrades and active mode provision;
- Energy Centre Railway Station Link from the R445 to the Railway Station Note - this measure is dependent on the delivery of the Energy Centre Link Road;
- Support NTA and TII in delivery of Inter-urban and Greenway Cycle Networks.

Long Term

- Support NTA and TII in delivery of Inter-urban and Greenway Cycle Networks;
- Ongoing maintenance and renewal of footpaths, public realm and full realisation of the walking network proposals.

7.3 Public Transport

Short Term

- Improvements to bus stop waiting infrastructure & passenger information
- Delivery of a Mobility Hub at the train station
- Ongoing support to NTA and Irish Rail in the delivery of enhanced rail services to Nenagh
- Ongoing support to NTA in delivering enhanced bus services to Nenagh as set out under Connecting Ireland

Medium to Long Term

- Examine feasibility of a town bus service as town expands beyond its 2030 target population
- Ongoing support to NTA and Irish Rail in the delivery of enhanced rail services to Nenagh
- Ongoing support to NTA in delivering enhanced bus services to Nenagh as set out under Connecting Ireland

7.4 Road Measures

Short Term

- Implement one-way traffic circulation system in the town centre
- Commence planning and design for the Southern bypass (R445 Limerick Road to the R498 Thurles Road), Energy Centre Link Road and the Old Birr Road to Dublin Road (Via Lisbunny Industrial Estate) Link.

Medium to Long Term

- Delivery of the Southern bypass, Energy Centre Link Road and the Old Birr Road to Dublin Road Link.
- Kenyon Street Car Park enhanced access

- Retention of future road reservations

7.5 Supporting Demand Management Measures

Short Term

- Town Car Club / Car Sharing Scheme to support existing and future residents
- Dockless Town Bicycle Sharing Scheme situated throughout the town and at the train station
- Safer Routes to School & School Mobility Plans
- Workplace Travel Plans for large employers to encourage sustainable travel behaviours of staff
- Support and encourage Park & Stride initiatives
- Implement 30pkh speed limit area

Medium to Long Term

- HGV Weight Limit restriction in the town centre. The full delivery of the weight limit restriction in the town centre is dependent on the delivery of the Southern Bypass as no suitable alternative HGV routes are available for access to businesses situated to the immediate south of the town centre.

Timeframe		Short Term *(Up to 2030)*	Medium Term *(2030 to 2035)*	Long Term *(2035-2040)*
Active Travel	Segregated active travel corridors along the radial roads			
	School zone treatments			
	Nenagh River Greenway from N52 Borrisokane Road to Dublin Road at Lisbunny			
	Development of permeability links to residential Areas			
	Orbital cycle delivery for Saint Conlan's Road via Eire Og GAA Club to Stereame.			
	Regeneration of the Town Centre laneways			
	Filtered permeability measures on Abbey Street and O'Rahilly Street			
	Orbital cycle link - Limerick Road to Martyr's Road			
	Further enhancements to the proposed town centre one-way system			
	Energy Centre Railway Station Cycle Link			
	Support NTA and TII - Inter-urban and Greenway Cycle Networks			
	Ongoing maintenance and renewal of footpaths			

Timeframe		Short Term *(Up to 2030)*	Medium Term *(2030 to 2035)*	Long Term *(2035-2040)*
Public Transport	Improvements to bus stop waiting infrastructure			
	Delivery of a Mobility Hub at the train station			
	Examine feasibility of a town bus service			
	Ongoing support in the delivery of enhanced rail services			
	Ongoing support in the delivery of enhanced bus services			
Roads	One-way traffic circulation system in the town centre			
	Kenyon Street Car Park enhanced access			
	Planning and design for Road Schemes			
	Delivery of Road Schemes			
Supporting Demand Management Measures	Town Car Club / Car Sharing Scheme			
	Dockless Town Bicycle Sharing Scheme			
	Safer Routes to School & School Mobility Plans			
	Park & Stride initiatives			
	30pkh speed limit area			
	HGV Weight Limit restriction in the town centre			

7.6 Priority Actions Summary

The following table sets out the priority actions for the Nenagh LTP - with a view to the plan objectives, ease of delivery, potential funding mechanism and likely benefits.

MEASURE	REASON FOR PRIORITY DELIVERY
Limerick Road (AT4)	The delivery of these three segregated cycle routes would provide a continuous safe and attractive active travel corridor linking residential areas situated to the west and north of the town to schools and the town centre. The three routes could be delivered for the majority within the confines of the public highway and incorporate bus stops along the Borrisokane Road scheme.
R494 St. Conlon's Rd (AT3)	
N52 Roundabout to Borrisokane Road as far as Tesco (AT18)	
Nenagh River Greenway (AT25)	Delivery of a segregated cycling and walking route connecting the N52 to the Dublin Road at Lisbunny, linking the residential and employment area such as the ABP meat factory, Millersbrook and the Old Birr road allowing connectivity to the wider network.
Permeability Schemes	Delivery of various 'quick win' permeability schemes will improve the network permeability reducing walking distances to schools, local shops and the town centre.
Filtered Permeability on Abbey Street (AT 39)	The removal of vehicular traffic accessing Abbey Street via Kenyon Street could be implemented with immediate effect, thereby improving safety at this location and supporting the regeneration initiatives for the town centre laneways.
Bus stop enhancements (PT6)	The delivery of new bus stops and bus stop enhancements will considerably reduce the walking distance to bus stops and improve the legibility of the service.
Town Centre Circulation	Designs have been completed for the revised town centre circulation system which will provide enhanced crossing facilities for pedestrians and ease traffic congestion in the town centre.

MEASURE	REASON FOR PRIORITY DELIVERY
30kph Speed Limit (DM9)	A reduced speed limit in town centre and in residential areas will have a considerable impact on actual and perceived safety in the town centre, thereby creating an environment more conducive to cycling. This measure could be implemented on a trial basis in the first instance using signage to alert drivers of the new 30pkh area.

7.7 Monitoring Strategy & LTP Review

A Monitoring and Evaluation Plan will be developed and implemented as part of the delivery process for the Nenagh LTP. This will benchmark performance during the plan period against the delivery of the planned measures and the key Performance Indicators. In particular the plan will evaluate performance against the mode share ambitions established in Section 6.6 of this report which seek to increase the walking mode share to 25% and the cycle mode share to 10% in line with County Development Plan and National targets.

The NTA guidance recommends undertaking reviews during defined timeframes (e.g. short term 1-2 years; medium 2-5 years; long term 5 to 10 years; future-term 10 to 15 years). At the end of each timeframe, monitoring can be conducted to establish the following:

- Progress on the implementation of all infrastructure measures for each mode of transport.
- Progress on the implementation of all public transport service measures for each mode of transport.
- Progress on the implementation of all demand management and supporting smarter travel measures.
- Cross-checking of assumptions in the LTP against current transport patterns and population at the time of monitoring.
- Assessment of actual development and land use outcomes within the LTP Study Area at the time of monitoring against the original LTP assumptions related to land use.

Evaluation of the outcomes of the LTP can also be undertaken within similar timeframes including evaluating the following:

- Sustainable Travel Mode Share – for example via updated Census POWSCAR data, Employment and School Mobility Management Plan data, local residents' surveys, cycling and walking counts and bus patronage data.
- Economic Benefits – for example via town centre footfall and spend surveys, distinguishing between those who travelled to the town centre by car and by sustainable means.
- Health and Safety Benefits – for example via analysis of available local road safety statistics.

- Environmental Benefits – for example via Air Quality and Noise monitors at key locations within the Town Centre and usage of public Electric Vehicle car charging and eBike parking facilities. User surveys can also be conducted to determine user satisfaction levels with new active travel infrastructure and public transport services and waiting environments.

- Accessibility and Social Inclusion – updated catchment analysis for access into and within town centre, including for those without access to a car

8. SUMMARY

8.1 Overview

This report outlines the process undertaken to develop the Nenagh Local Transport Plan (LTP). The key purpose of the LTP is to guide the future transport and mobility needs of Nenagh, taking into account the transport demand arising from existing and projected development both within the study area and the wider area of influence. In developing the LTP, SYSTRA have followed guidelines set out in TII/NTA's 'Area Based Transport Assessment (ABTA) Guidance Notes.

8.1.1 Baseline Assessment

A detailed Baseline Assessment was undertaken to understand existing conditions within Nenagh along with potential opportunities and constraints. This included multiple site visits, analysis of census information, review of existing transport conditions and environmental constraints. Public consultation was also undertaken during the Baseline Assessment with online surveys and mapping software allowing residents to raise issues and identify potential solutions. The outcome of the Baseline Assessment was a Strengths, Weaknesses, Opportunities and Threats (SWOT) assessment which was used to inform the objectives of the study and transport options for Nenagh.

8.1.2 Local Transport Plan Objectives & Future Demand for Travel

Core study objectives were identified for the Nenagh LTP informed by:

- The opportunities and constraints identified in the Baseline Assessment SWOT Analysis;
- Existing local policies and objectives; and
- National level policy guiding the delivery of sustainable development.

In particular, strategic outcomes and policies from the Tipperary County Development Plan 2022-2028 were identified which could inform the objectives for the Nenagh LTP. A series of Key Performance Indicators (KPIs) were identified to measure the performance of specific measures in achieving the overarching study objectives.

A review was undertaken of future land-use zoning proposed as part of the Nenagh LTP. This was to ensure that any transport proposals for the town took cognisance of future development within Nenagh, in particular providing sustainable access to key residential and employment sites.

8.1.3 Options Development

An initial long-list of options was developed to overcome some of the weaknesses and constraints identified in the baseline assessment, and achieve the defined objectives for the LTP. The options were developed based on insights gained from the Baseline Assessment, public consultation feedback, reviews of proposals from other strategies and plans for Nenagh along with workshops with Tipperary County Council and the NTA.

The options development process followed the Department of Transport's National Investment Framework for Transport in Ireland (NIFTI) modal and intervention hierarchies. As such, options for applicable measures were first considered in relation to active modes (walking and cycling), followed

by public transport and finally vehicular traffic. Options were also initially focused on maintaining, optimising and improving existing facilities before considering the construction of new infrastructure.

8.1.4 Options Assessment Methodology

The long-list of options were then passed through a detailed assessment process to determine the measures that performed best in terms of achieving the overarching study objectives. Initially, the options were screened qualitatively against the study objectives and core delivery themes including engineering feasibility, acceptability and affordability. Options were then classified as follows:

- **Discontinued:** the option did not align with the LTP objectives and therefore was not included in the Emerging Preferred Strategy;
- **Pass:** the option satisfied the project objectives and the core delivery themes, and no alternative proposals were identified in the options development process. These options passed directly into the Emerging Preferred Strategy without the need for an interim assessment.
- **Conditional Pass:** the option aligned with the LTP objectives, however, either didn't fully meet all of the core delivery themes or had a number of alternative proposals identified. In these instances, the options were assessed in further detail as part of the interim Multi-Criteria Analysis (MCA).

At the MCA stage, options were assessed in more detail based on their ability to meet the core delivery themes and also the overarching study objectives. This assessment was predominantly qualitative in nature, however where possible, quantitative information was used to supplement the scoring. A local area traffic model was developed for Nenagh to test the impact of proposed measures on the performance of the road network and this information was used to inform the options assessment where required.

Options passing through the initial screening and MCA formed the Emerging Preferred Strategy for the Nenagh LTP.

8.1.5 Emerging Preferred Strategy

Active Modes

The proposed LTP active modes measures are focused on the delivery of a safe, integrated walk and cycle network that will improve accessibility across Nenagh encouraging an increase in sustainable travel. A number of measures have focused on improving safety for access to local schools, supporting active travel and improving the health and wellbeing of children within the town. This includes segregated cycle facilities on key routes such as Ashe Road, O'Rahilly Street and Church Road along with proposed school zone treatments at the entrances to each of the schools within the town.

Key radial and orbital routes have been identified for improved walking and cycling infrastructure connecting residential areas to the town centre and key employers within Nenagh. Where possible, segregated cycle tracks have been proposed for example on the Limerick Road (R445), St. Conlan's Road (R494), Dromin Road, the N52 and sections of the Borrisokane and Dublin Roads. Where segregation was not possible given constraints, measures have been proposed to provide a safe, low speed, traffic calmed environment for sections of cycle trips which must be made on-road.

The LTP also proposes a number of off-road segregated orbital active travel links connecting to key destinations. This includes the link between the Thurles Road and the Limerick Road providing safe walking and cycling connection for residents south of Nenagh to key employers and retail centres such as Carey Glass and Stereame. This route continues further north to link in with residential areas along St. Conlan's Road via the Éire Óg GAA club to provide enhanced accessibility to key services by walking and cycling.

Measures within the town centre are focused on improving public realm and the pedestrian environment. This includes the proposed one-way traffic circulation system facilitating public realm upgrades within the town centre. This is in tandem with the creation of a Historic & Cultural Quarter which will promote historic landmark buildings, including the Castle and the Gaol, as a successful and sustainable visitor attraction. The LTP also recommends the creation of quiet, permeable links into the town centre by regenerating laneways such as Abbey Street and Friar Street creating a safe and attractive route for pedestrians and cyclists. These measures will make Nenagh a nicer place to be and spend time, increasing footfall within the town centre and supporting the sustainable economic growth of the town.

Public Transport

The LTP supports the roll-out of the NTA's Connecting Ireland Rural Mobility Plan which will provide enhanced access to settlements around Nenagh via public transport. The LTP recommends the introduction of a number of new radial bus stop locations that will serve the study area in the absence of a dedicated town bus service. These stops will serve key trip attractors such as residential estates, Nenagh Hospital, and all local schools improving accessibility to public transport for more people in Nenagh.

Whilst the delivery of enhanced rail services is not within the scope of the LTP, Tipperary County Council will work proactively with Irish Rail and the NTA to improve timetabling and frequency on the Limerick-Ballybrophy branch line to further increase the impact and appeal of the Nenagh train service.

The LTP recommends the development of a Mobility Hub at Nenagh train station to support interchange between bus, rail and other transport services to encourage sustainable trip making. Nenagh station is well suited due to its location in close proximity to the town centre and the space available for shared mobility modes and public realm upgrades. The proposed upgrades to the active travel network will also support improved, safe access via walking and cycling to public transport stops within Nenagh, including the Mobility Hub, encouraging travel by sustainable modes.

Road Network

A number of traffic management arrangements have been proposed within the study area to support walking, cycling and public realm improvements including the town centre one-way system. In addition to this, the LTP has identified the following road schemes which would provide major benefits for the town and enable it to grow sustainably into the future by providing access for new developments or by allowing reallocation of road space to sustainable modes:

- **Southern bypass – R445 Limerick Road to R498 Thurles Road:** The provision of this urban relief route to the South of Nenagh is an objective of the Southern Regional Economic and Spatial Strategy. Traffic modelling analysis has indicated that it will result in a significant reduction both car and HGV traffic on sensitive residential streets in the town centre. The reduction of through

traffic within the town centre helps create a calmed environment more conducive to pedestrian and cycle activity, supporting the reallocation of road space to sustainable modes.

- **Energy Centre Link Road**: As part of the development of the Energy Centre, a link road is proposed connecting Kenyon Street at the train station to the R445 Dublin Road via Martyr's Road. The delivery of this road would provide access to the proposed Energy Centre and support the regeneration of the brownfield sites along its route. It would also support the active travel and public realm improvements proposed along Martyr's Road, Abbey Street and Friar Street.

- **Old Birr Road to Lisbunny Link Road:** The proposed scheme includes an additional 300 metre length of road from the end of the existing Lisbunny Estate Road to the Old Birr Road, in addition to cycle lanes and enhanced pedestrian facilities being implemented on the existing section of road. The provision of this route would activate development lands at the industrial estate and provide a moderate level of traffic relief to some key town centre links which currently experience congestion during peak periods.

The LTP also proposes the upgrade of a number of junctions throughout the town to improve safety for all road users. As the active travel measures are delivered, all junctions along the routes will need to be reviewed and upgraded to provide safe access for pedestrians and cyclists. Exact details on proposed upgrade works will be defined at the individual project level.

Supporting Demand Management Measures

A range of Travel Demand Management Measures have been identified to support the switch to sustainable modes across the Study Area. This includes a proposed weight restriction within the town centre. As noted from the consultation, there is a recognised issue of a high volume of HGVs routing through Nenagh town centre which impacts on safety for pedestrians and cyclists. Traffic modelling analysis indicates that a weight restriction could significantly reduce HGV volumes in the town centre which would be complimented by the delivery of the proposed LTP road schemes. The phasing of the weight restriction should be linked to the delivery of key roads in any implementation plan.

The LTP also proposes the introduction of a 30kph zone within the town centre to reduce the likelihood and severity of accidents for vulnerable road users, and contribute to a more attractive environment for walking and cycling. Other recommendations include a suite of behavioural change initiatives aimed at encouraging more sustainable travel such as mobility management plans, workplace travel plans, bike and car sharing schemes.

KPI Assessment

The full suite of LTP measures were assessed against the study objectives using the identified KPIs. The results indicate that the proposed measures score very positively across all objectives. The delivery of an integrated, safe active travel network will improve accessibility for residents in Nenagh to key services encouraging a shift to sustainable modes. The proposed measures will deliver significantly improved safety for children walking and cycling to school. Within the town centre, the proposed public realm improvements will make Nenagh a more attractive place to spend time, increasing footfall and supporting local businesses. In terms of wider accessibility, the LTP includes upgrades to existing public transport services and facilities, including additional bus stops throughout the town and the creation of a Mobility Hub at Nenagh train station.

8.1.6 Implementation & Monitoring

An overview has been provided of the mechanism for delivery and funding of transport schemes in Ireland. A proposed phasing has been outlined determining which measures could be delivered in the short (up to 2030), medium (up to 2035) and long term (up to 2040). A list of key transport measures that should be progressed as priority schemes have been identified along with a strategy for monitoring the implementation of the LTP measures.

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