WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN PART C APPENDICES

WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX A:

LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN

Local Cycling and Walking Infrastructure Plan

2019 – 2029

Version Control –

V2.3 – 25/11/2019

WARRINGTON
Borough Council

Local Cycling and Walking Infrastructure Plan – Contents

Section 1:

Introduction

1) INTRODUCTION

1.1 WHY HAVE WE PRODUCED A LCWIP?

Walking and cycling are the two most sustainable and accessible methods of transport. We want walking or cycling to be the first choice for everyday journeys in Warrington.

To ensure that we are taking the right approach to identifying and delivering the improvements that are necessary to enable more walking and cycling in Warrington we have developed a Local Cycling and Walking Infrastructure Plan (LCWIP).

A LCWIP is a long-term approach to developing comprehensive local cycling and walking infrastructure and will help us achieve three key objectives for the network:

Serves the highest levels of current walking and cycling trips.

Enables the highest levels of 'walkable' and 'cyclable' trips to be realised.

Provides for areas expecting the highest growth in population and employment.

Warrington is growing. Over the past ten years we've created new jobs, built new homes and attracted new investment. We are one of the highest economically performing areas in the UK but are experiencing significant traffic congestion on many of our key roads during peak hours.

The built form of Warrington, past and future, makes a compelling case for strategic network planning for walking and cycling:

Over the last 40 years Warrington has grown from a town with a population of 70,000 people to a town of over 200,000 people.

After its designation as a New Town in the 1960's the town grew rapidly, but the premature closure of the New Town meant essential infrastructure, including active travel provision, was never completed to a high standard.

Different parts of Warrington were built at different times and the different designs following the prevailing fashions mean that permeability and thus accessibility is vastly different in different areas.

Warrington's Proposed Submission Version Local Plan proposes significant housing and employment growth across the Borough. This provides a once in a generation opportunity to plan significant new areas of the town with active travel as a first principle.

Warrington's continued success as a place to both live and work is dependent on a transport network that is safe, convenient, and reliable for users of all transport modes. Without a transformational change to the way that we travel we risk Warrington becoming a less desirable place for people to live and invest in.

We have a statutory duty to produce a Local Transport Plan (LTP). The LTP helps us to address current and future local transport issues by providing a framework for decisions on future investment.

The 4th edition of the LTP affirms that we should be seeking a modal shift away from the current high levels of car use towards greater use of more sustainable travel modes. Warrington should be a place where significantly more people choose to walk and cycle, allowing them to live healthier lifestyles. This requires a transformational change in the transport offer that is currently available to residents.

Through this LCWIP we will tackle many of the crucial infrastructure related issues that are currently preventing people from walking and cycling in Warrington.

The term 'cyclist' throughout this document refers to any one person who chooses to use a cycle as a mode of transport (including as a mobility aid). This includes children, elderly and inexperienced cyclists, as much as 'commuter' cyclists who tend to be adults who cycle on a regular basis. It also includes those benefiting from electrically-assisted pedal cycles (e-bikes).

When referring to "pedestrians" or "walking" it is intended that this refers to wheelchair, mobility scooter users as well those with prams and pushchairs. When a place works well for people in wheelchairs it works for everyone.

1.2 STRUCTURE

Walking and cycling as modes of transport have many similarities, however the LCWIP process outlines separate approaches to planning and identifying walking and cycling improvements. It was considered that the different nature of the two modes requires separate approaches to be adopted for improving the infrastructure for walking and cycling.

Walking and cycling both generally have two main purposes - utility and leisure:

- Utility walking and cycling involves making a journey for the main purpose of doing an activity at the journey's end, such as work, education or shopping.
- Leisure walking (including running) and cycling, whether undertaken independently, as part of social activities or within competitive sport.

Whether for utility or leisure purposes, all forms of active travel deliver substantial environmental, health, social and wider community benefits.

The LCWIP focuses on providing fit for purpose walking and cycling infrastructure as a means of everyday transportation, from point A to B to access employment, education and retail, and leisure opportunities. The scope to enable more leisure cycling trips within Warrington should however be considered fully within planned infrastructure.

The structure of this LCWIP is as follows:

- Sections 2 and 3 provides a background to transport in Warrington, highlighting relevant policy documents, examining previous and current trends in walking and cycle use and looking at the existing active travel infrastructure in the Borough;
- Section 4 provides the 'Evidence Base' upon which the cycle network is to be developed. It looks at the different potential markets for new cycle trips, and builds up the different layers of information which are required in order to produce a network of routes;
- Sections 5 and 6 outlines infrastructure interventions which are most likely to result in more people cycling in Warrington and complimentary measures to ensure that cycle trips are enabled;
- Sections 7 looks at the different opportunities to increase walking trips and outlines infrastructure interventions to enable more people to walk more often; and
- Section 8 presents a programme of promotion focusing on the means of communicating Warrington's walking and cycling infrastructure to the different target markets identified.

Section 2:

Warrington's Transport Challenges

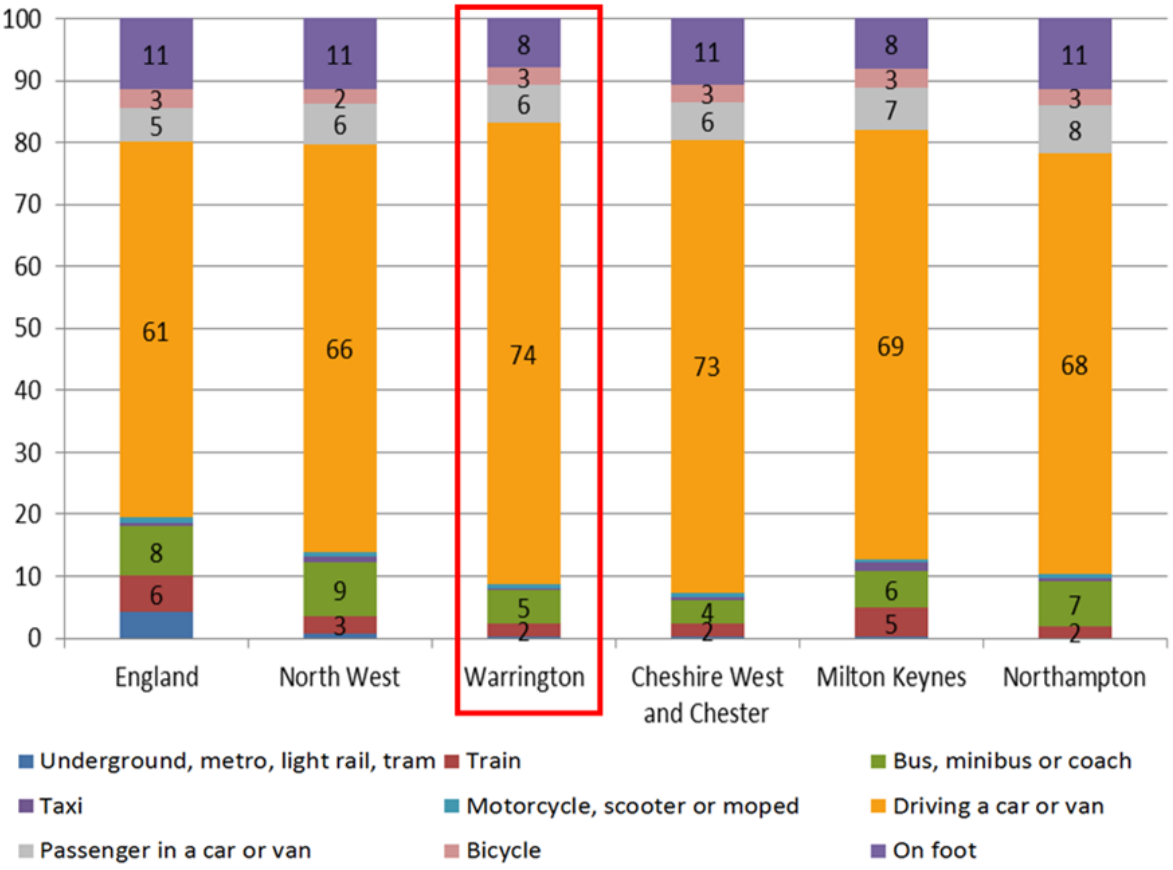
2) WARRINGTON'S TRANSPORT CHALLENGES

2.1 HOW PEOPLE TRAVEL IN WARRINGTON?

Transport is an essential part of our lives as it connects us with jobs, education, healthcare, shopping and a wide range of leisure activities. It is a key component of the economy as it links businesses with their workers, customers and clients, whilst providing for the delivery of goods.

Transport shapes our neighbourhoods and influences our lifestyles. Our choice of transport impacts on us as individuals and on our wider environment.

The travel to work modal split from 2011 Census data shows that nearly three quarters of Warrington residents (74%) drive to work. This high car dependency figure is the highest in the North West and is far higher than the national picture.



Warrington also has very high car ownership levels (81%) and this is also well above the 74% national average. There is an overreliance on the private car as a mode of transport in Warrington.

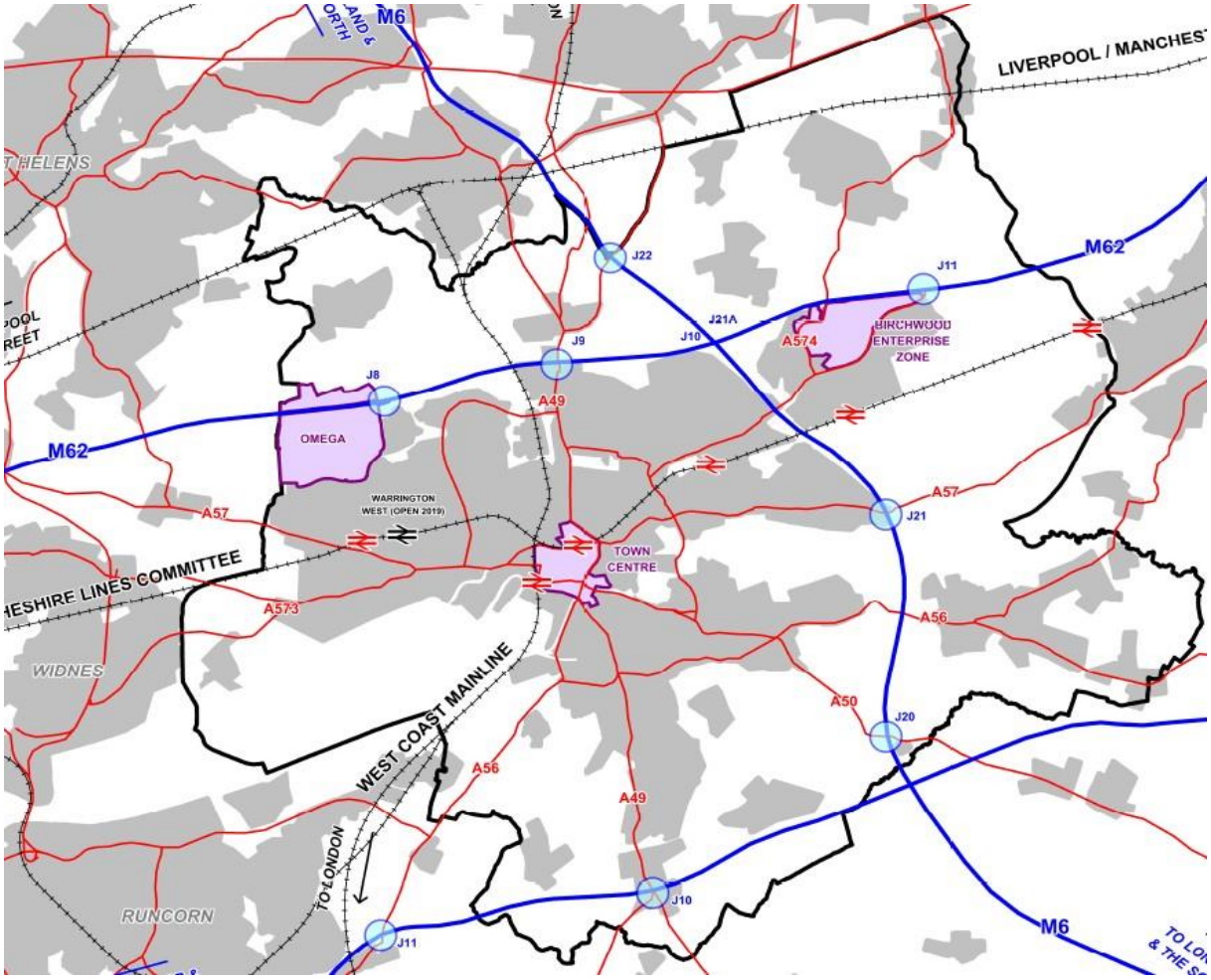
It is a well-documented fact that cars make poor use of available street space and offer a less efficient means of travel compared to walking and cycling.

Motorised transport is also a major cause of harm to the environment including air pollution, noise and its impact on the living environment.

In addition, Warrington's high car dependency is noted in the council's Public Health Annual Report (2017) as an underlying cause of a variety of poor health indicators such as obesity, heart disease and mental health.

The dominance of the car in Warrington has led to the subordination of other travel modes and serious congestion problems within the town. This is compounded by the limited number of crossings across the River Mersey, Manchester Ship Canal and West Coast Main Line, and the frequent diversion of traffic through the town whenever there is an incident on the surrounding motorways (M6, M62 and M56).

The road hierarchy in Warrington is shown below:



Many of the principal roads in Warrington (shown in red) are heavily trafficked, although they do often provide the most direct route between trip origins and destinations and are therefore used by more confident cyclists as the quickest route between destinations.

The road layout developed around the Town Centre to cope with the growing traffic has resulted in a very car dominated urban environment featuring large multi-armed roundabouts and dual carriageways which are very pedestrian and cycling unfriendly.

Many roads in Warrington have been designed for cars, and not for people. Main roads and busy junctions disrupt journeys, and make walking and cycling less enjoyable, less convenient and less safe.

Public Transport – Walking and cycling in Warrington should also be an attractive option for the first and last mile of a person's longer journey, for example by improving integration with public transport and providing the first or last 'mile':

- Rail: Nationally, rail use is growing and this trend is evident in Warrington with a 20% increase in patronage across Warrington's six rail stations between 2013/14 and 2017/18.
- Bus: Warrington's Own Buses (WOB) is the main bus provider within Warrington. Many services are centred on Warrington Interchange providing a circular route from the Town Centre. This provides good access to the Town Centre, but travel across the Borough is less convenient and generally requires interchange in the Town Centre.

Public transport services benefit from more customers if people can easily walk or cycle to a stop or station.

2.2 WARRINGTON'S TRANSPORT CHALLENGES

Without a transformational change to the way that we travel we risk Warrington becoming a less desirable place for people to live and invest in.

We want to create a Warrington that is not dominated by car movements and where streets provide a space for people that is pleasant to be in. The following set out how enabling walking and cycling can be the solution to many of our transport challenges:

Addressing Car Dependency and Congestion

- The car is the travel mode of choice in Warrington and dominates the highways network. To address congestion there is an underlying need to reduce the number of journeys made by car, and increasing the levels of cycling and walking in Warrington is one way to do this.

Grow Bus Patronage and Continue the Trend in Rail Usage

- Many journeys require more than one mode of transport. If we are to encourage people to use sustainable modes for their journeys it is important that the interchange between modes at key locations is as seamless as possible.

Improving Air Quality and Reducing Transport Noise

- Vehicle emissions are the main local source of air pollution. It is vital that we aim to improve health by reducing air quality related transport emissions. This can be done by reducing the number of vehicles on our roads.

Transport Inequalities in Warrington

- The existing transport situation is not the same across the whole borough and for all sections of our community. For example, whilst Warrington as a whole is a car dominated place, with the number of households with no car lower across the borough (19%) than the England national average (26%), the converse is true for Inner Warrington, where car ownership is much lower than it is in the more suburban and rural areas of the borough.

Making Warrington Accessible for All

- It is a myth that disabled people don't (or can't) cycle. Many streets require improvement to the latest accessibility standards so that Warrington's residents can live more independently.

Supporting Growth

- The level of housing and employment growth across the Borough in the Proposed Submission Version Local Plan will result in significantly more trips being made to, from, and within Warrington. To be able to accommodate the increased number of trips there is a critical need to increase cycling and walking as alternative modes of transport.

The following sections sets out the opportunity that is available and how we will create an attractive, high standard, user-friendly environment for walking and cycling trips.

Section 3:

Active Travel in Warrington

3) ACTIVE TRAVEL IN WARRINGTON

3.1 INTRODUCTION

We are not starting from scratch. Work is well underway improving and expanding Warrington's offer for active travel. Warrington's walking and cycling networks have developed over time as funding has become available and as development has come forward. Successful cycling schemes have been delivered through the Council's LTP capital programme which comprises schemes from the annual Integrated Transport Block (ITB) allocation.

In the recent past we have used the Local Sustainable Transport Fund (LSTF) to fund a number of new strategic cycle routes, including the Westbrook to Dallam Greenway and a traffic free route between Daresbury and Warrington.

Section 106 developer contributions have also supported the development of our network, particularly at strategic sites such as Omega and Birchwood.

3.2 WARRINGTON'S ACTIVE TRAVEL NETWORK

The current Warrington cycling network consists of a combination of on and off road routes. Currently, there are over 40 miles of surfaced segregated cycle paths, 18 miles of unsurfaced paths and over 23 miles of shared use paths alongside roads.

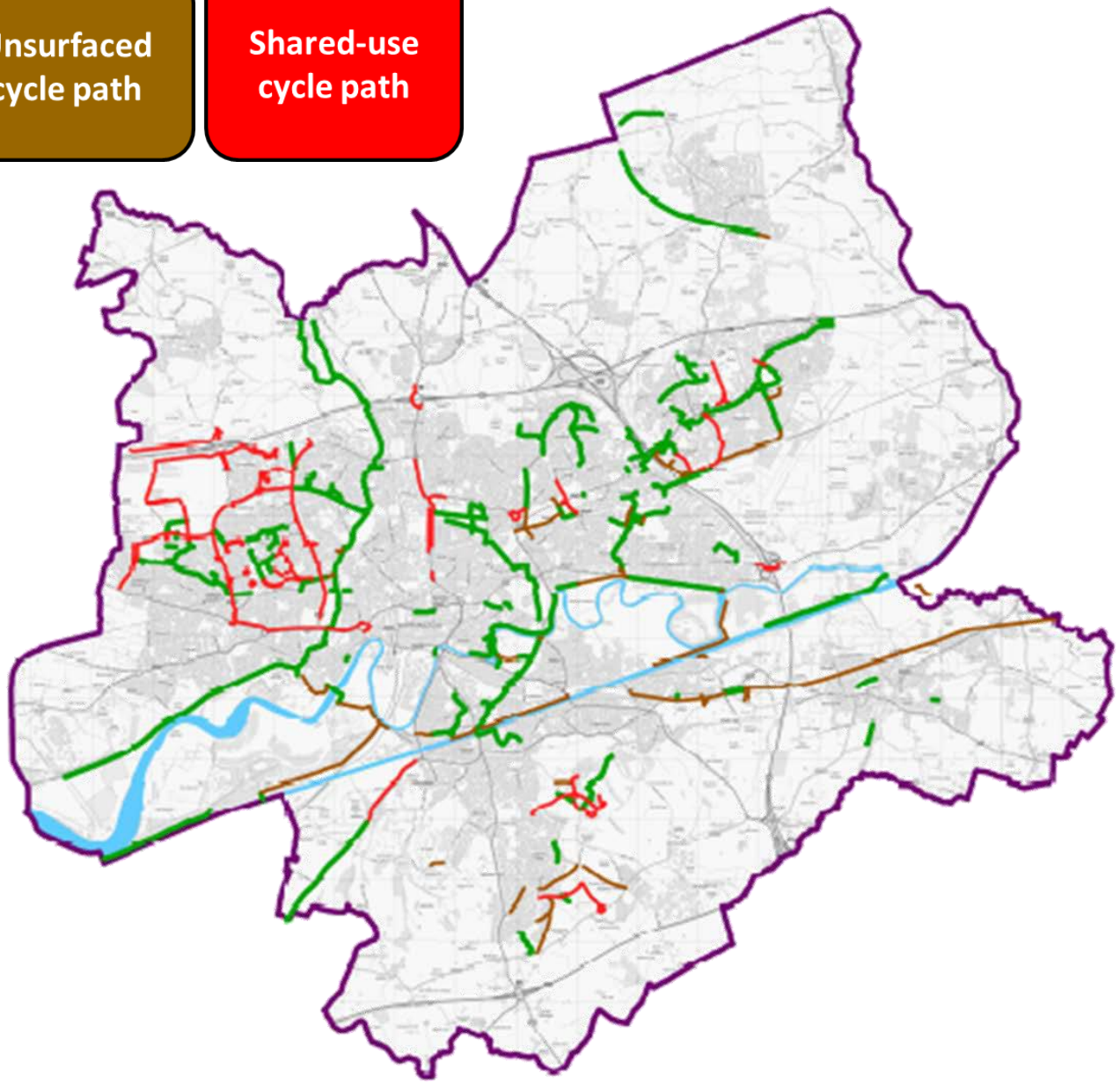
The current network is in many regards good and in places the foundations for a high quality network for active travel are there, but there are gaps in network coverage and variations in quality.

Our Existing Network

Tarmac surfaced cycle path

Unsurfaced cycle path

Shared-use cycle path



‘Greenways’ are a key element of our walking and cycling network, particularly for providing for leisure trips. The term is used to describe a largely off-road and traffic free network of ‘attractive’ routes for getting around on foot, in a wheelchair or mobility scooter, on a bike and where appropriate on horseback.

The Greenway network within the Borough includes the following routes:

- Trans-Pennine Trail;
- Whittle Brook;
- River Mersey Towpaths;
- Westbrook to Dallam;
- Sankey Canal Trail;
- Woolston New Cut and Woolston Park.

The best known of these is the Trans Pennine Trail. This forms part of the National Cycle Network (NCN) and provides a long-distance signed route from Southport to Hornsea. Roughly three quarters of the Trail through Warrington is on traffic free paths. From Warrington, the route provides a connection to Widnes in the west and through Lymm and onwards towards Altrincham in the east.

The north-south route through Sankey Valley Park is also an important greenway link providing cross boundary connections to the Trans Pennine Trail and Halton in the south and St Helens in the north. There is an aspiration to include this route within the National Cycle Network.

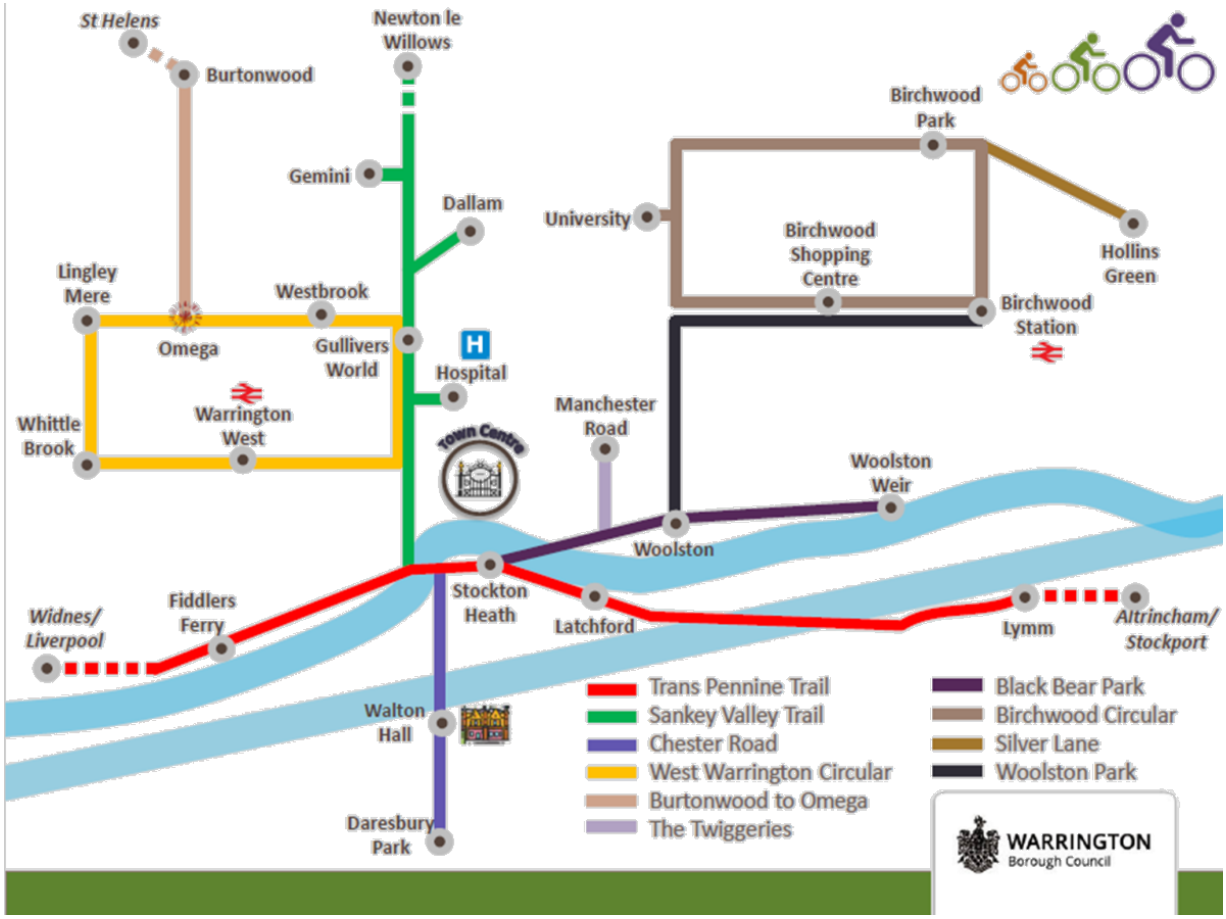
This greenway network has been the focal for much of the recent active travel investment, opening up key open spaces and connecting communities. For example, the Westbrook to Dallam greenway is an example of Council investment to provide a new high quality path constructed through an area of open space offering an attractive off-road route for cyclists of all abilities.

The Bridgewater Canal Towpath is currently a public right of way for pedestrians only and its condition is of generally poor standard. The Bridgewater Canal Trust is seeking to upgrade this to a permissive shared route (The Bridgewater Way) for both pedestrians and cyclists. If successful, this will provide a useful off-road route linking Warrington with neighbouring areas in Wigan, Trafford, Halton, Salford, Cheshire East and Cheshire West and Chester.

Shared use paths – There are also many existing shared use paths which form an extensive neighbourhood route network across parts of Warrington. Some of these are on purpose built footway/cycleways such as Lingley Green Avenue in Great Sankey, Admirals Road in Birchwood and Witherwin Avenue in Appleton.

Many new-town roads were not provided with any footways and over the years the highway verges on these routes have been retrofitted with a shared use path adjacent to the road. For example, the new path constructed on Cromwell Avenue near the Gemini retail park.

In places, the combination of shared use paths and greenways provide a good network of traffic free or very lightly trafficked routes:



On-road – Although compared to other urban areas the extent of on-road facilities in Warrington are limited, where these are in place this provision is often focused largely on links (the stretches of road between junctions).

Low Traffic Neighbourhoods – Most walking and cycling across Warrington takes place on quiet streets where people live. Street layouts that create slow speed, low traffic environments are good for people wishing to cycle or walk.

Across Warrington there are high quality examples of 'filtered permeability' schemes, where a direct route for walking and cycling is not open to motor traffic, which create favourable conditions for active travel.

Having measures in place to ensure that traffic uses appropriate routes is an important factor in improving road safety, and has wider benefits in terms of improving air quality, and improving the local environment. As such, within many residential areas across Warrington, such as Callands and Fairfield, area wide traffic calming initiatives have helped discourage rat-running.

In 2014, we completed implementing 20mph speed limits on the majority of residential roads and the Town Centre, where the greatest interaction between traffic and vulnerable road users would be expected. 20mph speed limits and zones for residential developments have also been adopted as a design standard in the planning process.

Sat-nav apps increasingly route vehicles off strategic roads and onto our residential streets to shave seconds off a journey. That means many previously quiet roads in Warrington are becoming increasingly busy and hostile for the people who live on them.

There is huge potential to go further with the protection and creation of low traffic neighbourhoods and expand the coverage wider across the Borough.

Signing – Recognising that the legibility and function of some existing routes require improvement we recently undertook a project to improve wayfinding across our network. This included the creation of our first strategic signed walking and cycling route, the Birchwood to Sankey Way, a signed 8 mile route connecting Great Sankey to Birchwood.

Public Cycle Parking – Within Warrington Town Centre alone there are over 350 publicly available cycle parking areas spread across the two rail stations, retail facilities and the general public realm.

Smarter Travel Choices describes a range of targeted approaches designed to help people to become less car dependent. The ambition is to reduce the number of car trips by providing greater awareness of sustainable travel choices.

The Council provides a Workplace Travel Advisory Service to businesses to inform and promote sustainable travel choices, working with employers and employees to understand the barriers to making more sustainable journeys and where possible instigate change. In addition, jobseekers also receive advice on their travel options to different job destinations which can increase their employment opportunities.

The Council's School Travel Advisory Service supports the existing and growing needs of schools within Warrington, and delivers some of the elements of the current Sustainable Modes of Travel Strategy.

The provision of Bikeability child cycle training has been a major success in Warrington. Professionally delivered training is offered free-of-charge to every 9 – 13 year old child in their school and between 2007 and 2018 over 22,000 pupils were successfully trained.

The main promotional tool to support cycling is Warrington's Cycle Map. This has been developed with the help of many partners, and is regularly reviewed and updated when new routes are built.

3.3 COMMITTED ACTIVE TRAVEL SCHEMES

Work is currently well advanced to enable delivery of three key projects funded by the Cheshire & Warrington LGF3 Growth Deal:

- Strategic route on Chester Road approaching the Town Centre (Indicative value – £900,000;
- Shared use neighbourhood route between Omega and Burtonwood village (Indicative value – £1.6m); and
- Enhanced strategic greenway route along the Trans Pennine Trail (TPT) between Latchford and Chester Road (Indicative value – £750,000).

Chester Road

Omega to Burtonwood

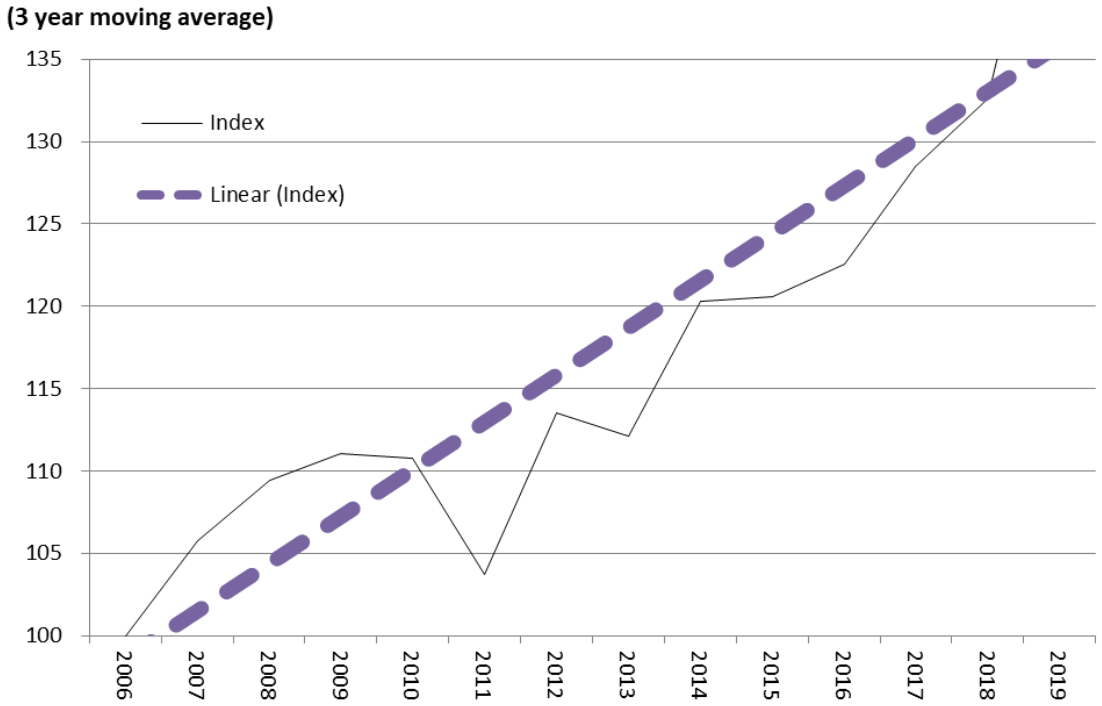
Trans Pennine Trail

The forthcoming Integrated Transport Block (ITB) 2019/20 programme of Active Travel improvements, with a total value of around £300,000, is expected to deliver schemes within Sankey Valley Park, Woolston New Cut, and Howley Lane/Black Bear Park alongside a programme of accessibility improvements, cycle parking, vegetation clearance and signing enhancements across the Borough. Additional ITB themes such as bridge maintenance, road safety and traffic signals, further increase expenditure on Active Travel related schemes.

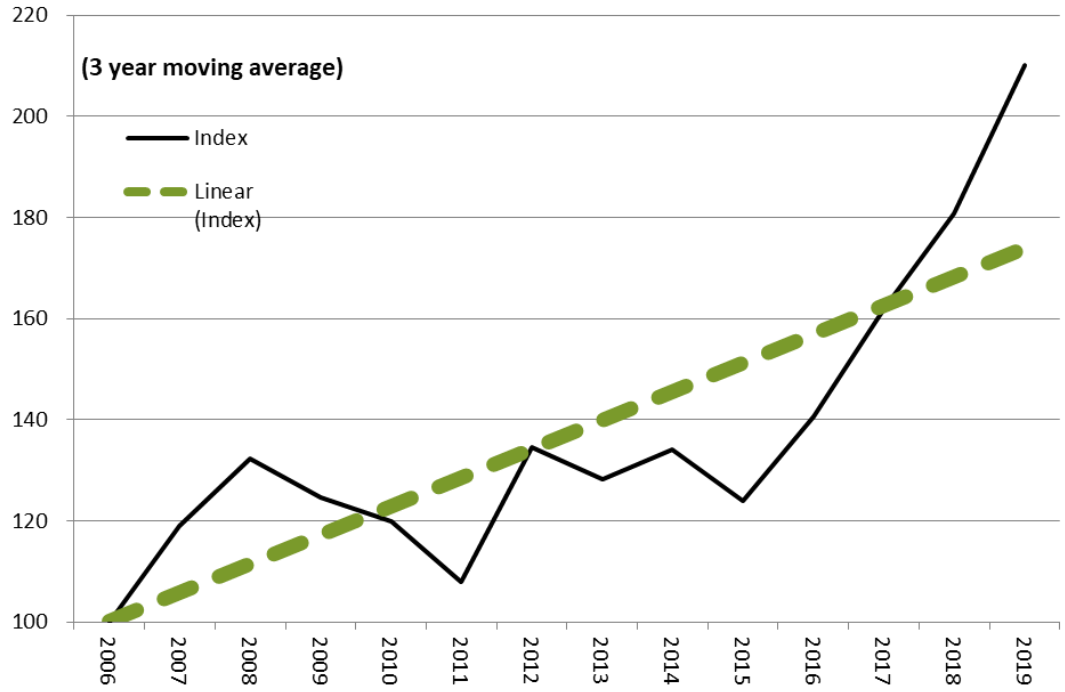
3.4 EXISTING PATTERNS OF WALKING AND CYCLING

Walking and cycling flow trends in Warrington are monitored annually by using data recorded at several survey locations across the Borough. The latest surveys were undertaken in June 2018 at 40 'Greenway' and 'Radial' locations, a number of which provide a time series of data going back to 2004.

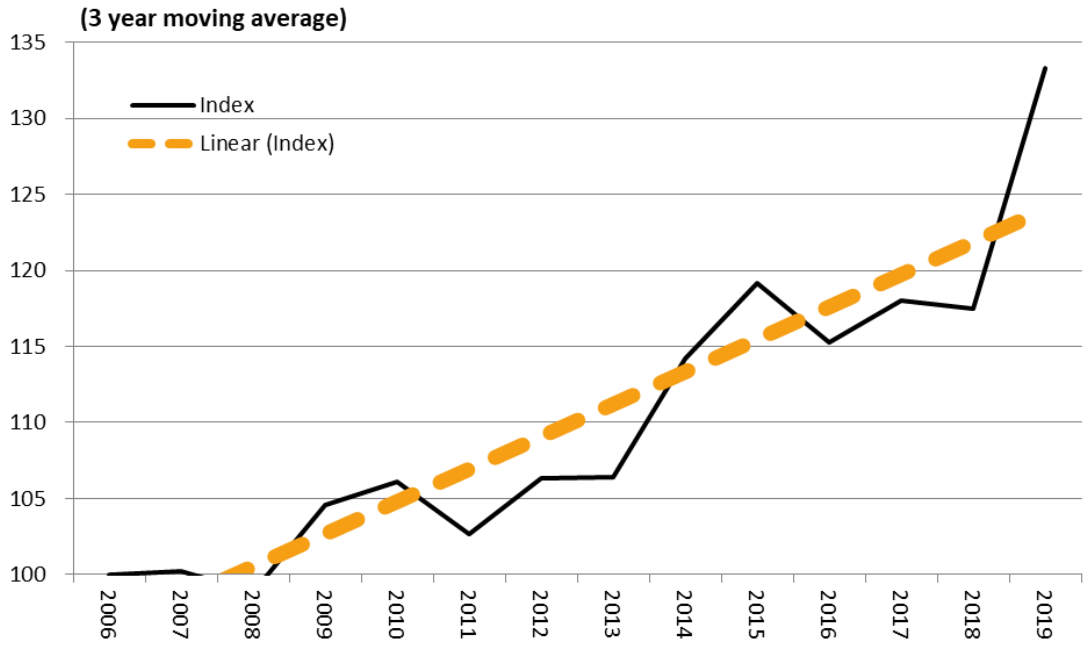
The data from the past surveys show a steady increase in cycling since 2004, with 35% more cyclists on our surveyed routes in 2019.



Data shows that there has been a substantial increase in cycling on 'greenway' routes since 2004 with over 70% more cycle trips on these routes since 2004.



A smaller increase (around 25%) has been seen on radial routes, many of which do not incorporate segregated cycle provision away from traffic, such as Manchester Road and Wilderspool Causeway.



On some key routes in Warrington, the level of cycling is already at a significant level:

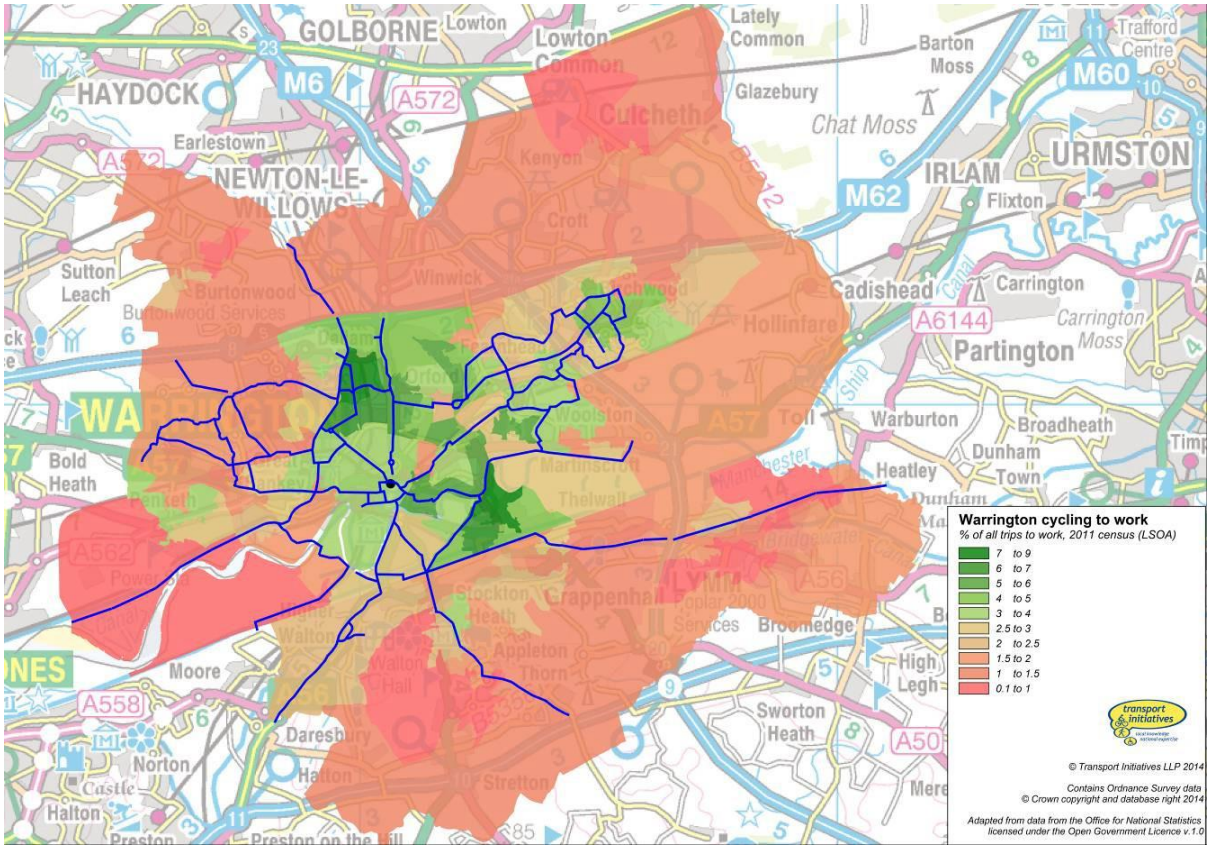
- Liverpool Road – 650 cycle movements per day.
- Kingsway Bridge – 900 cycle movements per day.
- Winwick Street – 500 cycle movements per day.

Also of note is at least 1 in 5 of the surveyed cycle trips across Warrington occurred outside 7am-7pm period. This is notable at many employment sites such as Woolston and Omega where many companies operate on fixed shift patterns.

Data shows that cycling in Warrington is increasing. Where investment have been made, such as in greenway routes, the positive outcomes are clear.

Whilst it is helpful to use data from existing cycling, we need to consider where people would like to travel but currently don't because an attractive route is not available. This is where we need to target our efforts. Footway cycling on certain routes, particularly on the main radial routes to/from the Town Centre, is common. This is a clear indication of suppressed demand for cycling on these routes and represents a strong demand for more suitable infrastructure.

Travel to Work – Cycle to work data was analysed for the Warrington area:



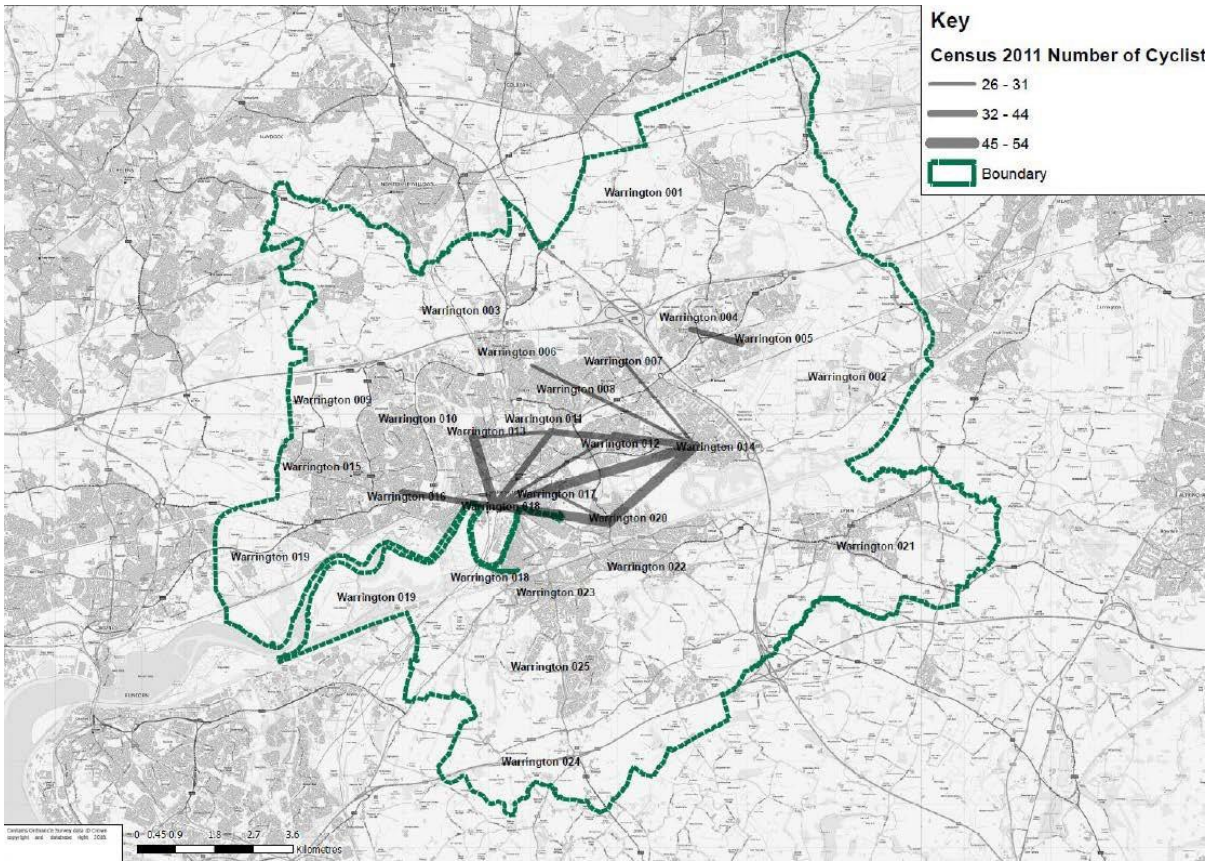
The amount of cycling in Warrington varies significantly between different parts of the Borough, from less than 1% to nearly 9% of trips to work (2011 Census). It is noted that most of the wards with the highest levels of cycling are found in the inner areas of Warrington.

It should be noted that Travel to Work census statistics excludes students and crucially those who cycle for less than half of their total journey (for instance, to the station). This means that the data underrepresents the true level of cycling in Warrington.

Propensity to Cycle Tool/Principal Corridors of Demand – The national Propensity to Cycle Tool (PCT) is a freely-available online resource that has been designed to help with the strategic planning of cycling networks. It shows transport planners and policy-makers where to build cycling infrastructure to increase levels of cycling and have the greatest benefits.

Cycle movements are based on trips between the Census (2011) output areas that people worked and resided in at the time. It has limitations as it is derived from commuting trip data only, does not take into account new developments (i.e Omega in Warrington) and excludes cycle-rail trips where cycling is not the main mode. However it is a useful tool to indicate current and future cycle movements which, together with local knowledge, can inform the planning of new routes.

The top 20 ‘existing’ cycle movements in Warrington were identified and plotted as a starting point for understanding the existing desire lines for cycle trips.



This highlighted how the key movements are into the Town Centre and to/from Woolston and Latchford. The absolute numbers for each route are however low.

Travel to work data is the statistic that we have the most data available. However, if we are striving for mass change to active travel modes, we need to consider the everyday transportation needs of people, rather than just the daily commute. Commuting represents a relatively small proportion of trips.

Although only 2.8% of Warrington residents cycle to work as their main mode of travel, more people cycle in the Borough when other trips and more infrequent cycling are accounted for.

Data collected through Sport England's nationwide survey 'Active Lives' provides detailed and reliable insight into the physical activity habits of Warrington residents:

Proportion of adults that walk and cycle, by frequency and purpose 2017-2018

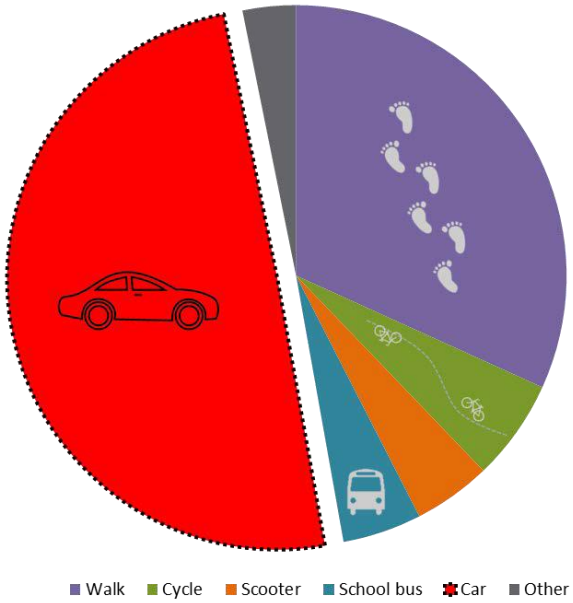
At least:	Once per month	Once per week	Three times per week	Five times per week
Cycling (%)				
Any	18.7	10.6	5.8	2.6
Leisure	15.0	7.7	2.4	1.1
Travel	7.4	5.4	3.2	1.5
Walking (%)				
Any	77.1	69.0	38.7	26.4
Leisure	62.5	48.4	22.6	14.9
Travel	46.5	37.8	18.1	12.3

Department for Transport Statistics
Tables CW0302/3

These statistics cover the time period mid-November 2017 to mid-November 2018.
"Leisure" in this table refers to walking or cycling for the purpose of health, recreation, training or competition, not to get from place to place. Results are grouped according to the area where respondents live, which may not be the same as the area where they walk or cycle.

Travel to Schools/College - Travel associated with education generates a substantial number of trips. Children can get their daily dose of physical activity without even thinking about it, just by walking or cycling their journey. Getting the next generation to fall in love with walking and cycling will form a key part of the LCWIP strategy.

Method of travel to school (Key Stages 1&2)



September 2018
WBC Data

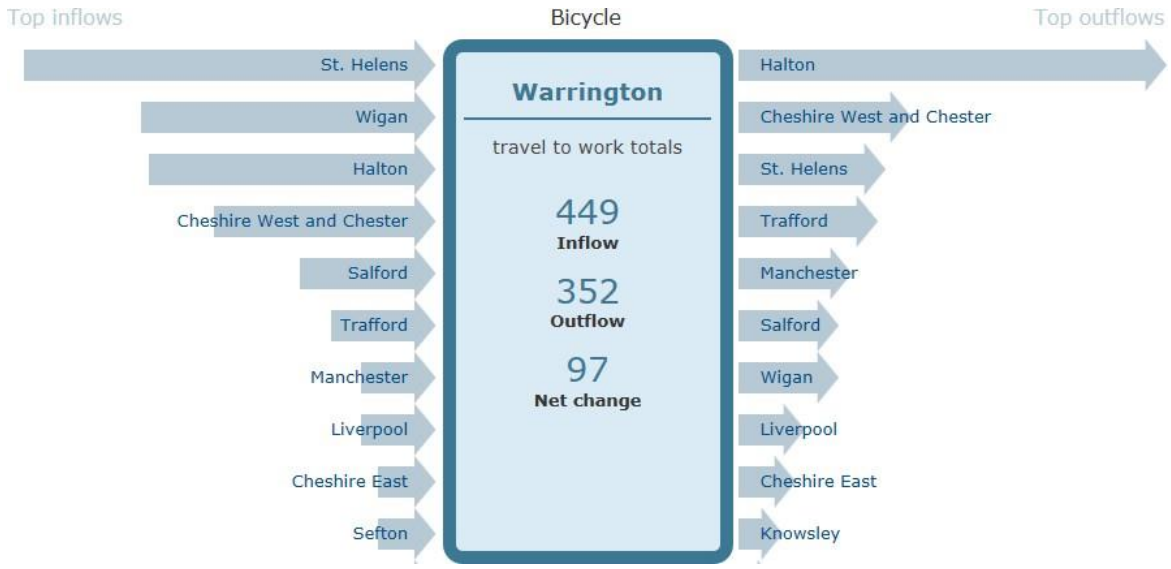
Enabling more walking and cycling trips to be made to education sites is an important aspect of LCWIP.

3.5 CROSS-BOUNDARY ACTIVE TRAVEL TRIPS

Warrington Borough Council share a boundary with 7 other unitary local authorities with various long-distance routes such as the Trans Pennine Trail and the Sankey Valley Trail crossing multiple administrative areas.

Unsurprising given the central location of Warrington, Census data identifies that a substantial proportion of people travel (all modes) into Warrington to work (49,172) from neighbouring Boroughs. Commuting results in a daily net population increase of 14,179 in Warrington.

However, only a very small proportion (449) of these 'inward' trips is however made by bike:



We will continue to work with our neighbours on the development of our LCWIP to ensure high quality cross boundary connectivity. It is however important to acknowledge that a larger proportion of residents travel to work within the relatively compact extents of Warrington (50,422).

3.6 ROAD SAFETY

The safety of people cycling, in terms of actual (number of collisions) and subjective (how safe a journey feels) clearly have an impact on the attractiveness of walking and cycling in Warrington. Concern about safety on the roads is a key barrier to people getting on their bikes and travelling on foot.

Warrington has seen significant improvements in road safety over the last 10 years with a 36% reduction in collision occurrence resulting in a 43% reduction in casualties.

Nationally, only 6% of deaths and 14% of serious injuries are amongst cyclists, although over four times as many pedestrians (25%) are killed in road collisions. In Warrington the picture is slightly better as only 11% of all killed or seriously injured casualties are pedal cyclists and 14% are pedestrians.

44% of Warrington's pedestrian casualties are represented from the 6 to 18 age band. The age band that appears to present the greatest risk of being a pedestrian casualty is 10 to 18.

A key point to emphasise is that the data does not pick up junctions and routes which are potentially hostile to cyclists and pedestrians or there is a perception of danger, to the effect that people avoid using them.

As such, the key distinction to be made is between the number and rate of collisions. If people avoid using a junction, it may have a low number, but high rate of collisions per journey walked or cycled.

3.7 BARRIERS TO WALKING AND CYCLING

In 2017 the council hosted a series of stakeholder summits to gain feedback on a range of transport topics. The first of these focussed on active travel, stakeholders were asked what the barriers were for replacing short car journeys with a walk or cycle trip. Concerns about safety, lack of knowledge of routes and the dominance of the car making walking and cycling unwelcome in some areas were identified as key barriers.

Many busy junctions and routes in Warrington can feel like hostile places, intimidating to people travelling by cycle and on foot. On any journey – to school, to work or to the shops – the route is only as good as its weakest link.

Along with many other authorities nationally, the Council takes part in the annual National Highways and Transport Network public satisfaction survey. This data details the satisfaction of Warrington residents with the provision, location and condition of active routes and facilities.

The most pertinent results for walking and cycling are outlined below, based on overall satisfaction measures:

97% agreed that 'pavements' are important
75% agreed that 'cycle routes/lanes/facilities' are important
93% agreed that 'reducing traffic' is important
90% agreed that 'traffic pollution' is important

49% were satisfied with 'pavements' in Warrington
32% were satisfied with 'cycle routes/lanes/facilities' in Warrington
27% were satisfied with the 'reduction of traffic' in Warrington
24% were satisfied with 'traffic pollution' in Warrington

There is clearly a need to improve existing active travel infrastructure and reduce this general perception so that public confidence and awareness is improved.

Section 4:

Cycling - Our Opportunity

4) CYCLING – OUR OPPORTUNITY

4.1 WHY CYCLING? WHY NOW?

By giving people a true alternative to the car, we will tackle many of our health, congestion and air quality issues in one go. The delivery of a fit for purpose cycle network is not anti-car; it is about giving people an attractive alternative, especially for short journeys.

Cars occupy a lot of space on our highway network and represent the most inefficient use of highway space. Enabling active travel is the cheapest, least disruptive way to improve capacity quickly.

A high proportion of car borne short trips is also an indication that many people in Warrington are being less active which has clear implications for their health and wellbeing.

Cycling has acknowledged positive physical and mental health benefits. As a result physical exercise through cycling for everyday trips has been described as a 'wonder drug' and active travel allows people to build physical activity in to their everyday routines.

4.2 THE OPPORTUNITY

There are clearly areas of the Borough where current cycle levels are particularly low, and particular junctions where sight of a cyclist is a rarity. However, there is a saying that *'it's hard to justify a bridge by the number of people swimming across a river"* and this holds for cycling in particular.

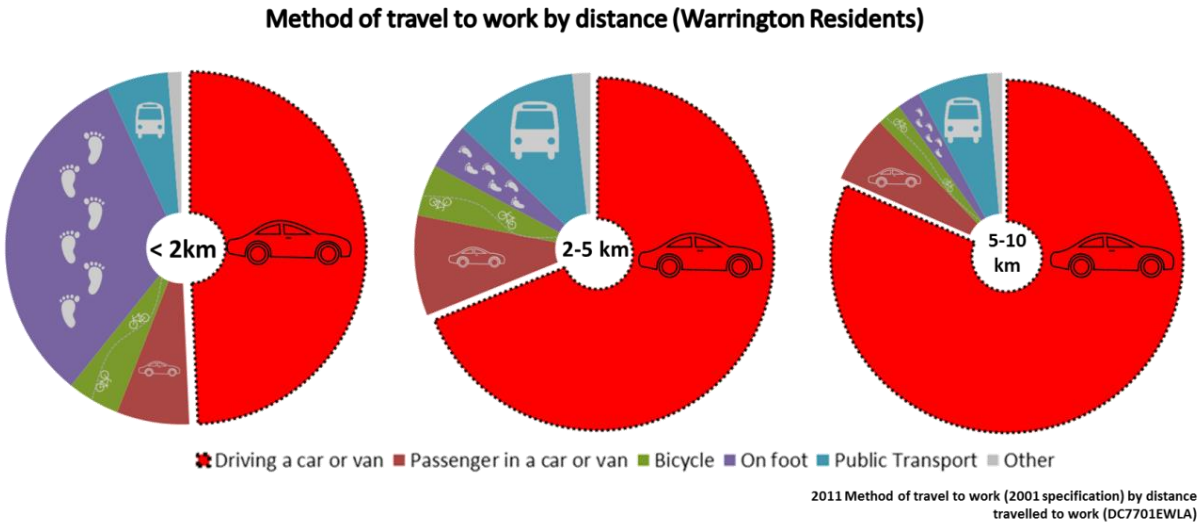
This section presents the results of analysis carried out to better understand the potential to increase travel by bike in Warrington, in terms of what type of trips, places and people offer the best opportunities.

Data from the 2011 Census shows that 2.8% of Warrington's residents cycle to work. Our target is to have 7% of residents cycling to work by 2040. If we want to meet this target and ease the burden of traffic we really need to make it easier for people to use other means of transport.

This means having two and a half times more people regularly using their bike to get to work. This will not happen overnight, and will not occur without significant and sustained intervention. However, as this section will emphasise, whilst the growth target is ambitious, it is eminently attainable.

The first step in testing the opportunity is to examine current travel patterns, including the origin, destination and length of short car trips, to gain a better understanding of the potential for cycling across the Borough.

Purely in terms of travel to work, most short journeys are still made by car:



These car trips contribute to congestion on the roads, poor air quality, and contribute to poor health caused by inactivity.

A majority of working-age residents in Warrington commute less than 5km in length, a highly cyclable distance.

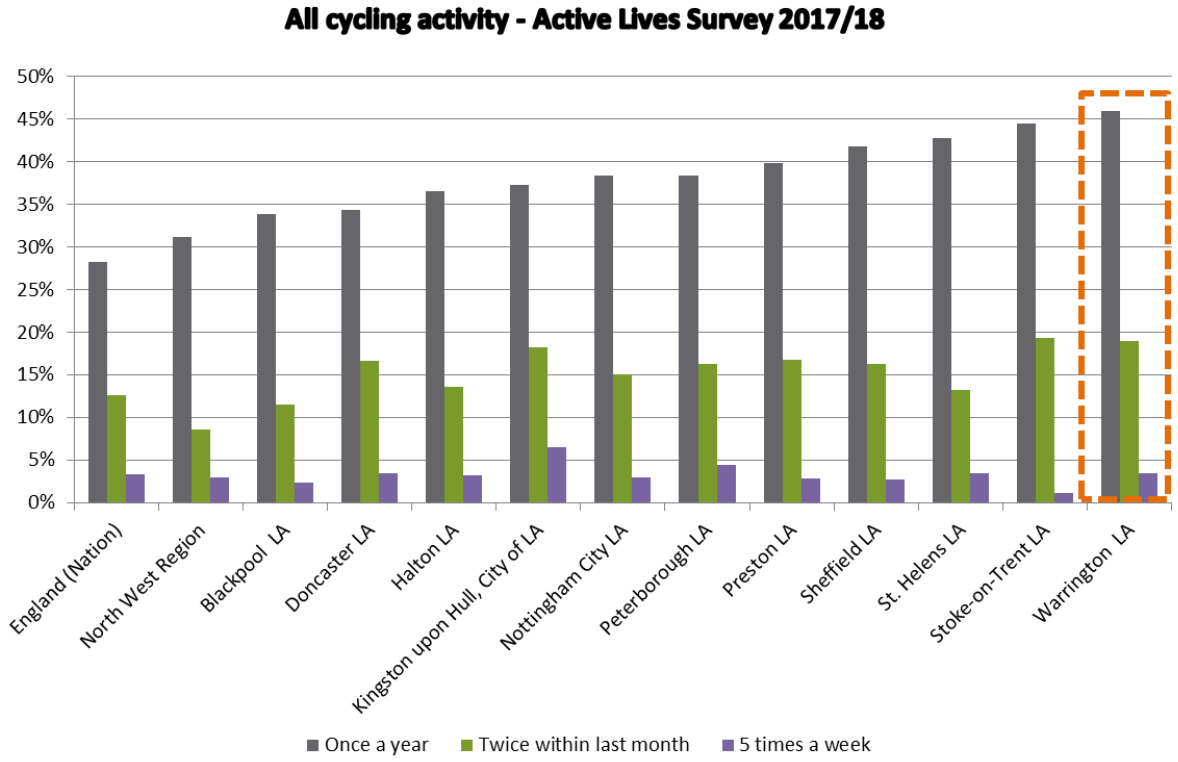
We can predict future demand for high quality cycle infrastructure to some extent by current cycle levels and in some areas a good indication is also provided by counting the number of people cycling on footways or pushing their bike at difficult points.

Better yet, we can count the number of people making short journeys in cars. Those are the people we need to serve. Many discussions about cycling are dominated by people who are already cycling. We need to start enabling those that currently drive.

Not everyone can cycle – but many more people could. It is clear from the data that we need to get people thinking about shorter journeys.

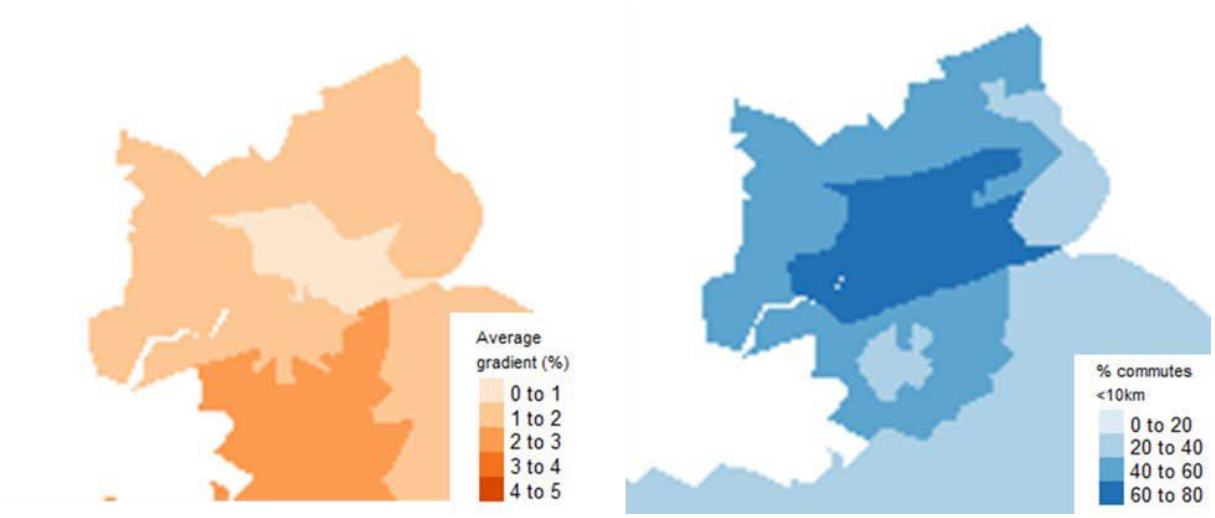
Unless the high quality infrastructure is in place to enable cycle trips, they simply won't occur. We need to predict, provide and enable.

A section of Warrington's population has never cycled and some may never but almost half already do. 46% of the adult population have cycled within the last year, an impressive proportion that is well in excess of the national average and surpassing comparable settlements.



However, one of our primary issues is frequency. For many, whilst the concept of cycling is fine, it is an infrequent activity only. We wish to bring about 'everyday cycling'. A good starting point to increase cycling in Warrington would be to enable existing cyclists to cycle much more and for a wider range of journeys.

The images below, obtained from the Propensity to Cycle Tool, show the proportion of commuters in each zone with a fast route commute distance less than 10km (calculated excluding people with no fixed workplace) and the average hilliness of the fastest routes used by commuters living in each zone.



Warrington's compact size and fairly flat terrain offers a great opportunity for local journeys, currently made my car, to be made by cycling.

4.3 NETWORK PLANNING FOR CYCLING - WHERE ARE THE 'CYCLABLE TRIPS'?

This section presents what the latest datasets, forecasts and models show about potential corridors and locations where current and future cycling demand could justify future investment.

- MAJOR TRIP ATTRACTORS

All trips have an origin and a destination. The DfT guidance states that LCWIPs should be evidence-led. It adds that identifying demand for a planned network should start by mapping the main origin and destination points across the geographical area to be covered by the LCWIP.

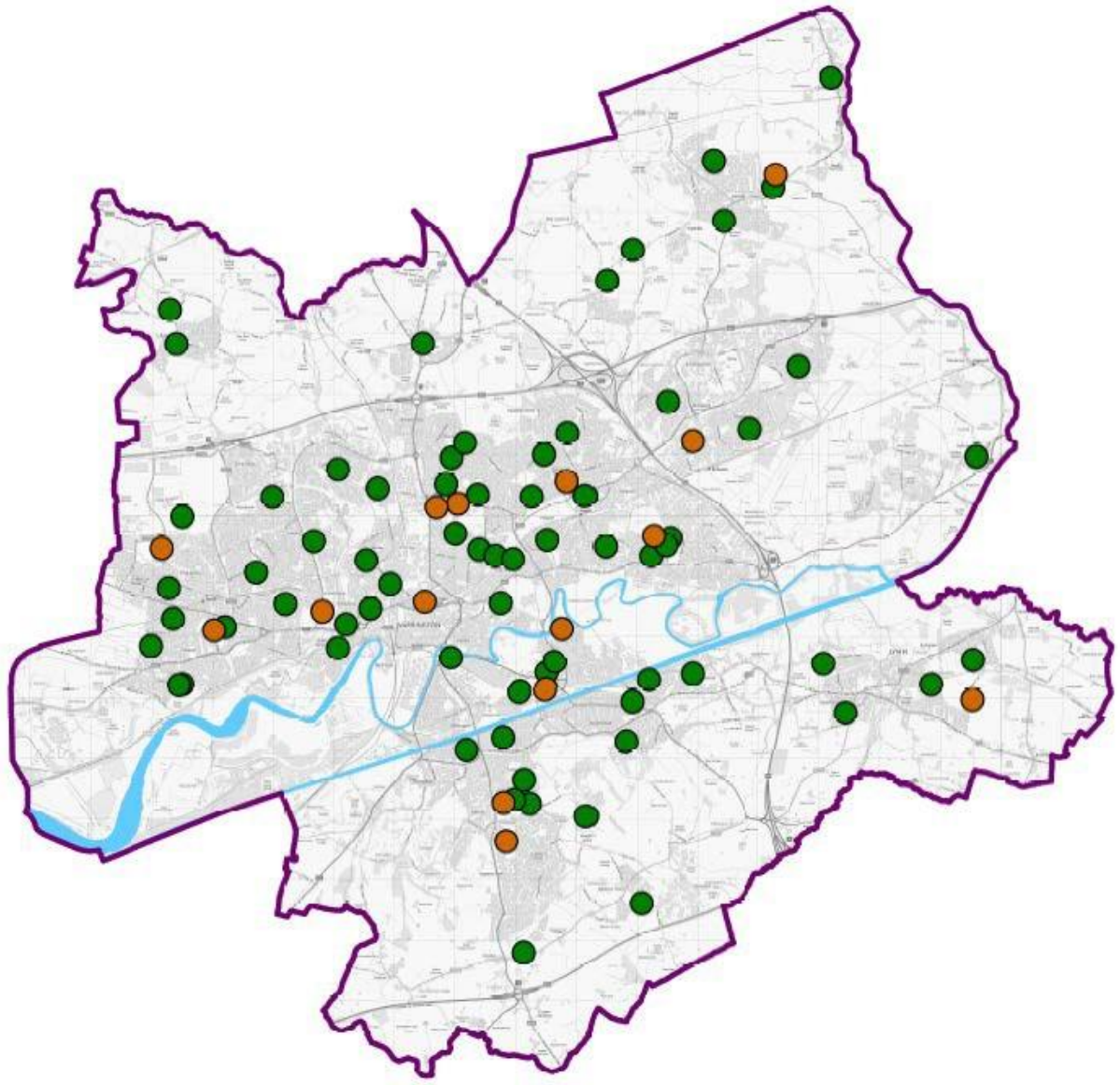
A variety of major trip attractors within Warrington have been identified through site assessments, assessments of relevant data and consultation with key stakeholders. These strategic locations attract a significant number of trips, and as such they could have the potential to attract a sizeable number of future cycling trips.

The DfT guidance identifies that it may be appropriate to include only the most significant trip generators. Some types of destination were excluded (eg schools, individual retail stores) to create a manageable number of destinations.

Major employment sites were identified using Office of National Statistics Workplace Zones combined with Census 2011 journey to work data to identify employment numbers in each workplace zone. Proxy nodes were located to denote the significant employment areas identified through the data. These were typically town or district centres or business/commercial/industrial sites. Town and District Centres were not mapped on their own as they are covered by the other trip generators, predominantly retail. The following retail areas were plotted:

- Golden Square
- Birchwood
- Cockhedge
- Culcheth
- Honiton
- Knutsford Road
- Lymm
- Stockton Heath
- Gemini
- Junction Nine
- Westbrook

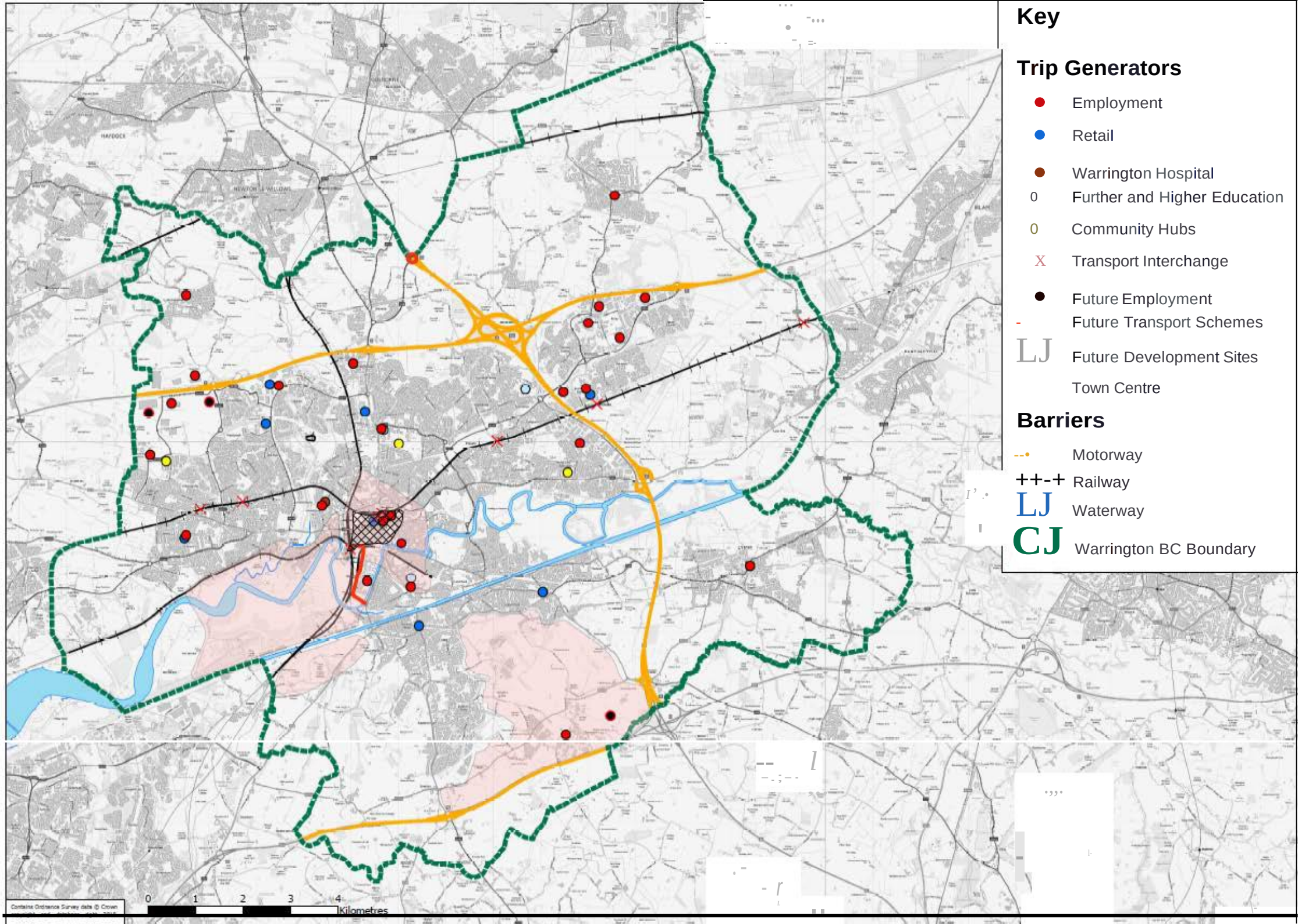
Schools - There are a large number of primary schools in Warrington, which are spread throughout the multiple residential areas. Secondary schools are located more sporadically in the Borough, while there are only three further education establishments.



It was decided to not include primary and secondary schools at the strategic level, but to focus on the larger educational trip generators including Warrington & Vale Royal College, Priestley College and the University of Chester's Warrington Campus. Primary and secondary schools will be considered when we look at local connectivity to ensure that there are appropriate connections within local areas and to the strategic network.

This approach was also applied to healthcare establishments and community facilities. Warrington Hospital and Hubs at Orford, Great Sankey and Woolston have been considered from a strategic level, with smaller healthcare (such as GP surgeries) and community (such as libraries) sites reintroduced when looking at local connectivity.

The transport interchanges identified include all railway stations (Central, Bank Quay, Birchwood, Padgate, Warrington West, Sankey for Penketh and Glazebrook) and Warrington Bus Station.


Key
Trip Generators
Employment
Retail
Warrington Hospital
Further and Higher Education
Community Hubs
Transport Interchange
Future Employment
Future Transport Schemes
LJ
Future Development Sites
Town Centre
Barriers
Motorway
Railway
LJ
Waterway
CJ
Warrington BC Boundary
0
1
2
3
4
Kilometres

- FUTURE DEVELOPMENT OPPORTUNITIES

It is also important to identify future changes to transport and land use that may be completed within the timescale of the LCWIP.

The emerging Local Plan is proposing around 20,000 new homes and 360ha of employment land. It will ensure that walking and cycling are fully incorporated in any spatial planning policies for the Borough.

For locations where a significant growth in population is expected additional nodes have been created to represent future journey origins, and likewise destination nodes for major proposed employment sites. This identify where there is likely to be a future requirement for the Borough's cycling network to penetrate. New developments will also offer significant opportunities to improve or increase the network of facilities for cyclists through the planning process.

No matter how sustainable this development is, it'll create vehicle trips. However, it is predominantly the unsustainable use of existing development that drives local congestion in Warrington. We need to reduce total vehicle trips from existing areas of the Borough. A comprehensive, high quality and well used walking and cycling network will support and enable the growth aspirations of the Borough.

- IDENTIFYING BARRIERS TO MOVEMENT

Barriers to movement were identified to understand how they may impact on potential cycle movements. The existing Warrington cycling network is strongly influenced by several constraints and barriers both natural and man-made. These include:

- The three road crossings of the River Mersey and single footbridge;
- The five crossings of the Manchester Ship canal, four of which are subject to daily opening and constrained width;
- Two main railway line; and
- A busy road network that is difficult to cross (including the motorways).

When combined, these barriers segment Warrington. This is particularly the case within the Town Centre:

Warrington – The Last Mile

The last mile of journeys into Warrington town centre has regularly been identified as a key barrier in encouraging people to walk and cycle into, and within, the town centre.

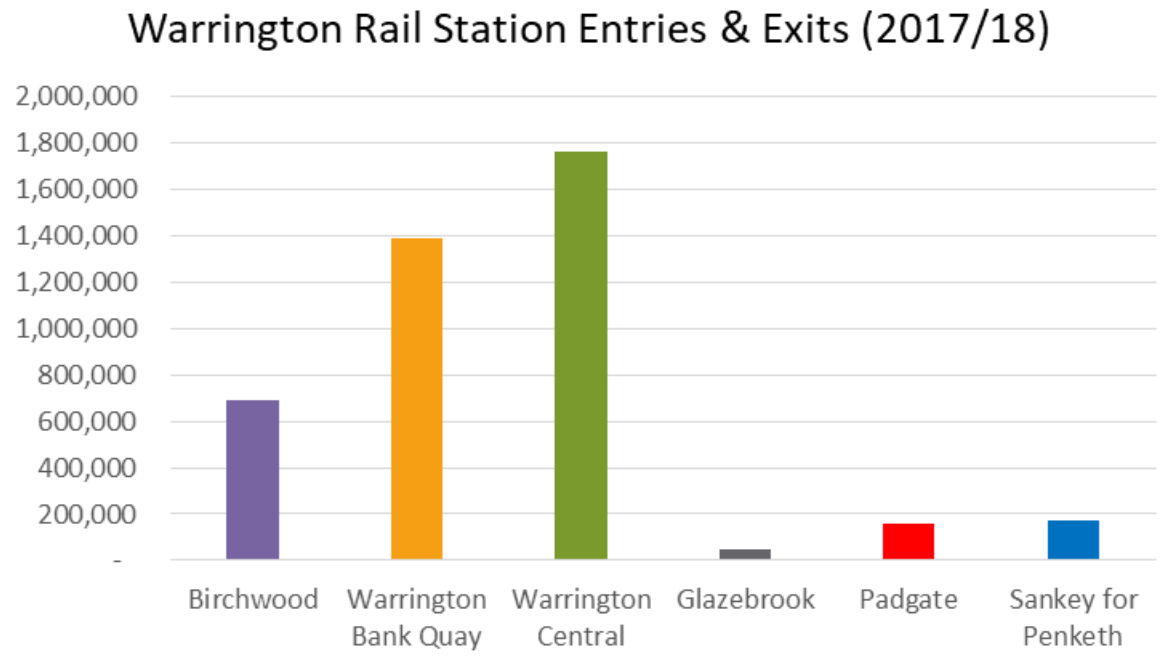
The road layout has been developed to cope with the growing traffic, and has resulted in a very car dominated urban environment featuring large multi-armed roundabouts and dual carriageways.

This results in a limited number of crossing points for pedestrians, and a very unpleasant cycling environment. These barriers are often mentioned by local people as reasons for why they prefer not to cycle into the town centre.

If we are to successfully support a large increase in the number of people travelling into the centre Warrington on foot, on cycle, or by bus we need to make ensure that we create a safe environment that supports reliable journey times for these modes.

- CYCLE-RAIL INTEGRATION

There has been a 20% increase in patronage across Warrington's six rail stations between 2013/14 and 2017/18. A seventh station in West Warrington will be opened in December 2019 with direct services to Liverpool and Manchester provided within the December 2019 timetable.



The level of cycle-rail integration (combining cycling with rail) in Warrington presents unrealised potential.

To quantify this potential we have calculated the number of people (based on 2011 Census) who are within a 3km cycle of each station:

Rail Station	Workplace Population	Residential Population
Sankey for Penketh	6,908	34,009
Warrington Bank Quay	33,569	39,053
Warrington Central	36,438	47,185
Padgate	16,107	51,271
Birchwood	12,893	9,735
Glazebrook	304	1,529

The identification of routes to/from rail stations and the ability to capture these active travel trips as part of longer journeys will form an important part of the plan. Enabling active travel to rail stations can enhance the attractiveness of rail as a means of travelling to key commuter destinations such as Liverpool and Manchester.

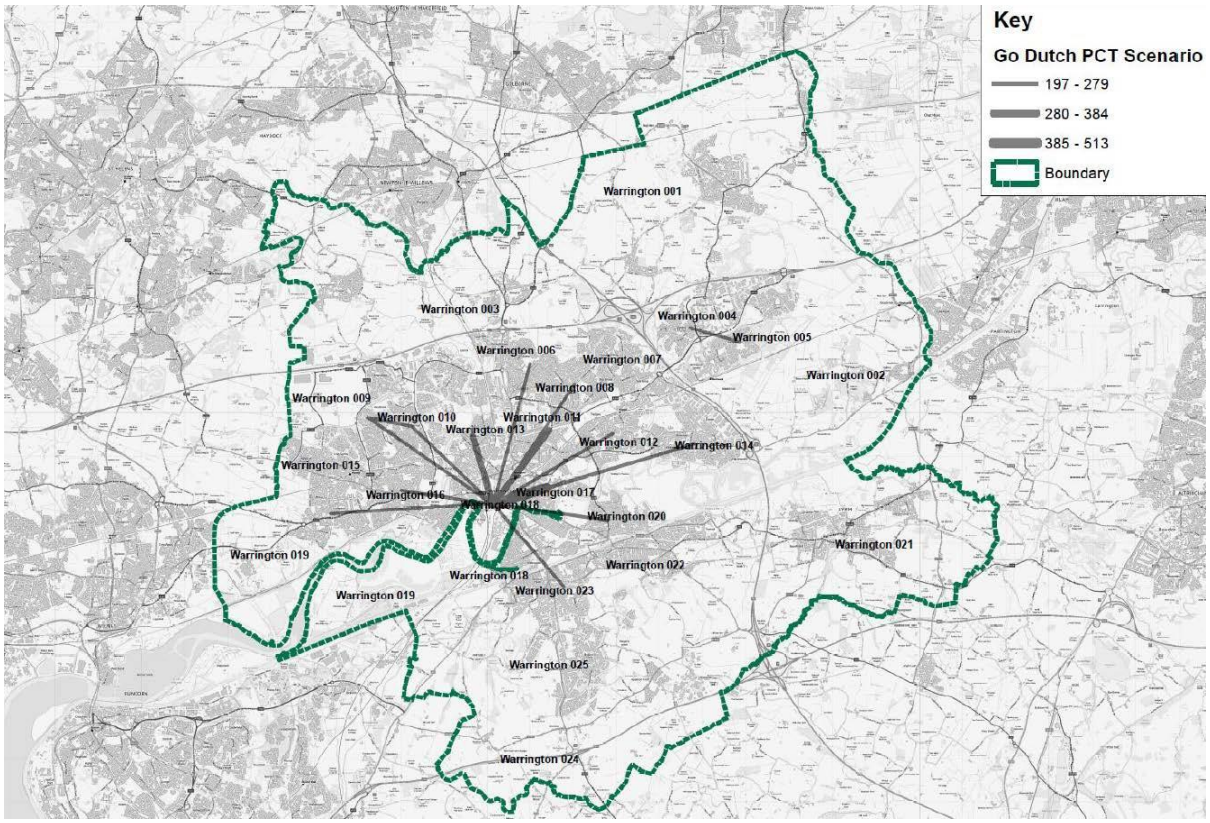
- PROPENSITY TO CYCLE ANALYSIS

As introduced in Section 3, the Propensity to Cycle tool (PCT) comprises an interactive map that shows the current distribution of commuter cycling trips in Warrington.

Crucially, it also predicts potential future cycling trips under different potential future growth scenarios. The PCT allows us to look at where cycling flows go, and which parts of the route network might be busiest. It provides numerical and graphical outputs, including estimated increase in numbers of cyclists in an area, along straight 'desire' lines and along routes.

The 'Go Dutch' scenario provides a simulation of what cycling levels would look like if an area have the same infrastructure and cycling culture as the Netherlands. It is emphasised that 'high quality infrastructure' and 'bike culture' feed each other.

The scenario generates desire lines based on trips that could be expected to be made by bike should this infrastructure and culture be in place, while considering current trip patterns and levels of hilliness. The 'Go Dutch' scenario was used to estimate potential future cycle demand to align with our ambitious vision for cycling within the Borough.



Projected movements are concentrated round the Town Centre with six out of the top seven movements being to/from or within the Town Centre area.

The scenario also identifies potential for a high number of potential cycle movements wholly within Lymm, Birchwood and Woolston.

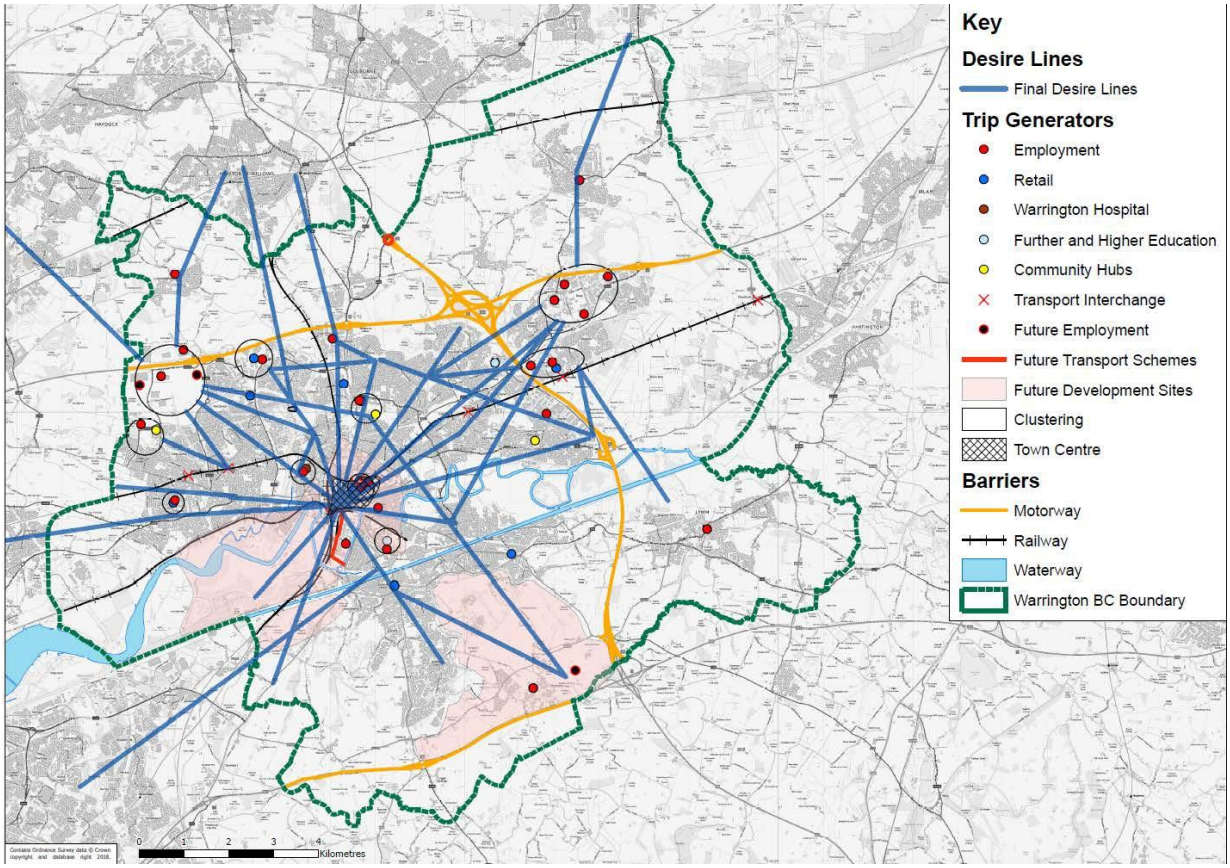
- CLUSTERING

Once the significant trip origin and destination points were identified and mapped, the next step is clustering. This involves grouping trip generators within proximity to each other into clusters allowing for the identification of significant trip generation. However, it is vital that it is acknowledged the clustering exercise doesn't exclude some trip types, including:

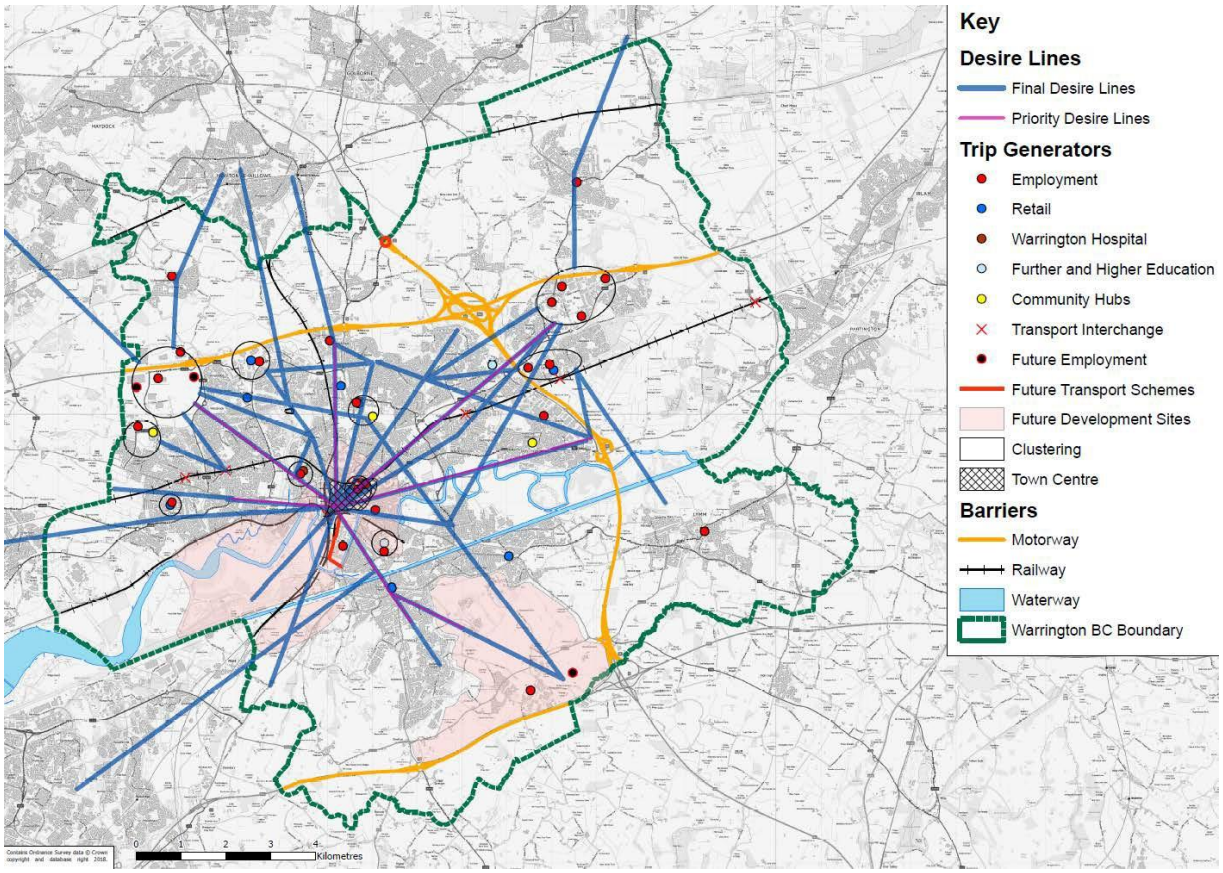
- Leisure/Recreation – Much focus of the LCWIP is centered on catering for utility trips but leisure cycling will not be neglected as it has been shown that this can encourage future utility trips as well as providing huge health benefits.
- Cross Boundary – Although the LCWIP focus on shorter trips within the urban area, desire lines for longer trips, such as those to/from neighbouring authorities are also present. Travel between Warrington and neighbouring authorities is important and will need to be considered as part of improvements to the cycling network.

- DESIRE LINES

With the trip generators, barriers and clusters identified, the next step is to plot direct (i.e currently do not link directly to existing roads or pathways) desire lines between the trip generators and trip generator clusters to identify the links that the cycle network needs to provide.



The purpose of identifying priority desire lines at this stage is to provide focus with regards to identifying routes to meet the maximum number of potential trips. The priority desire lines effectively form corridors within which preferred route alignments and improvements will be identified.

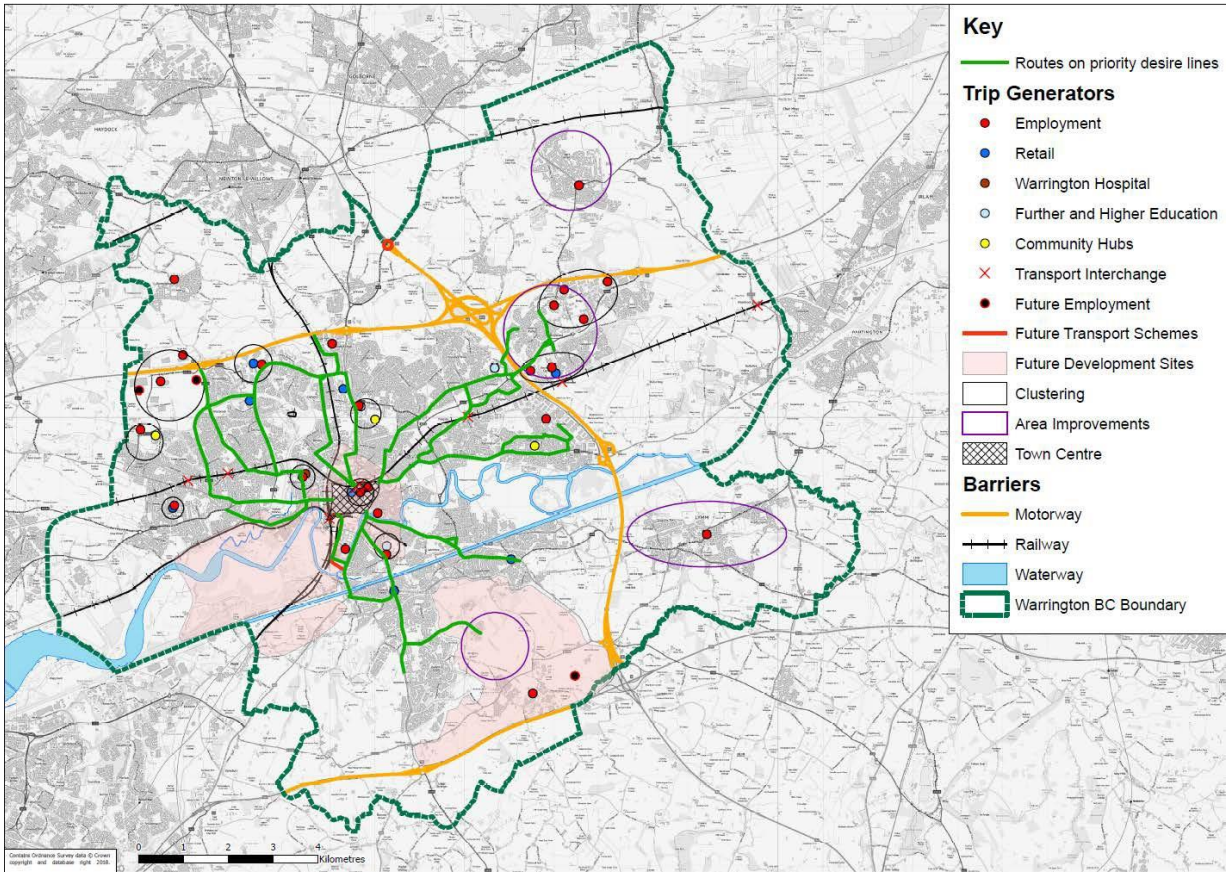


Primary corridors were included in where there are high flows of cyclists forecast along desire lines that link large residential areas to trip attractors:

- Movements to and from the Town Centre were identified due to the concentration of economic activity and for connections to the rail network;
- Connectivity to significant strategic employment sites at Omega, Birchwood, Winwick Quay and Appleton Thorn with desire lines to both sites from the Town Centre and the communities in between.

With the priority desire lines identified, we need to convert into routes. The approach involved identifying the most direct route based on the existing highway network.

Due to the complex nature of cycle network routing within the Town Centre, the routes at this stage extend to the edge of Town Centre only. The Town Centre has been identified as a specific area for further detailed movement analysis for all modes within which a key principle would be improving cycle and walking movements.



In addition to the priority routes, areas were identified where a package of improvements would be appropriate to facilitate local cycling trips. This approach is influenced by the significant potential for short cycle trips within these communities at a local level.

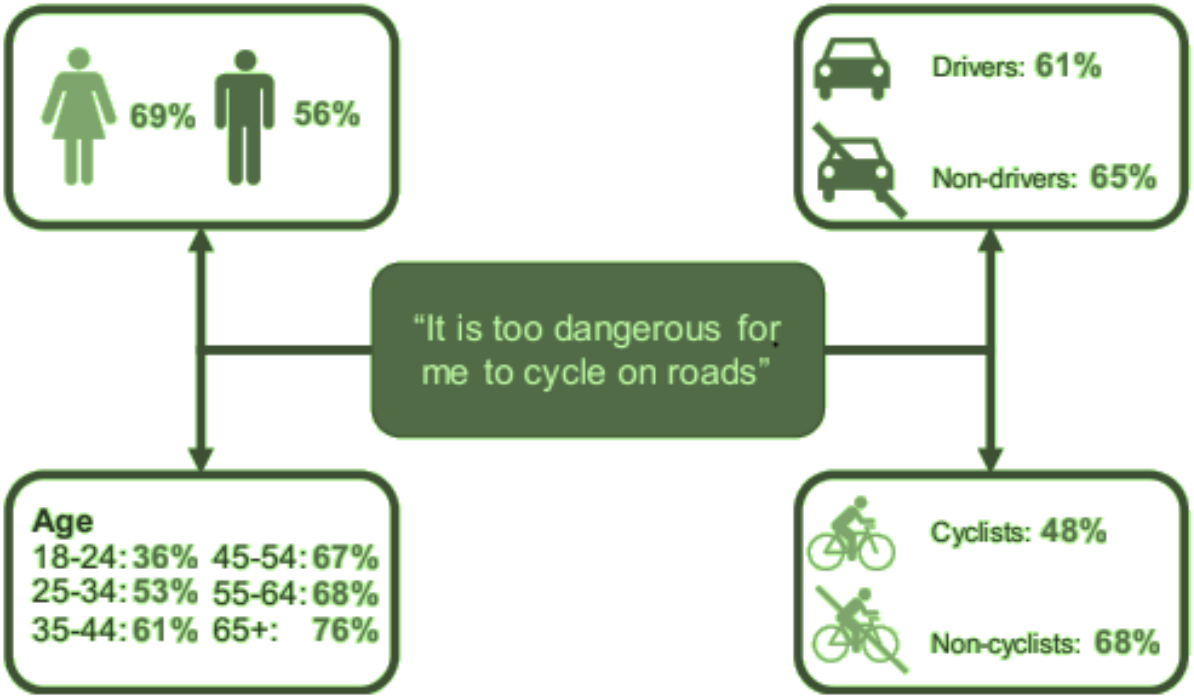
Section 5 and 6 indicates how we intend to transform these desirable routes into safe routes, which include reallocating road space, providing and enhancing greenway corridors and/or quietway corridors.

4.4 WHO ARE THE POTENTIAL CYCLISTS?

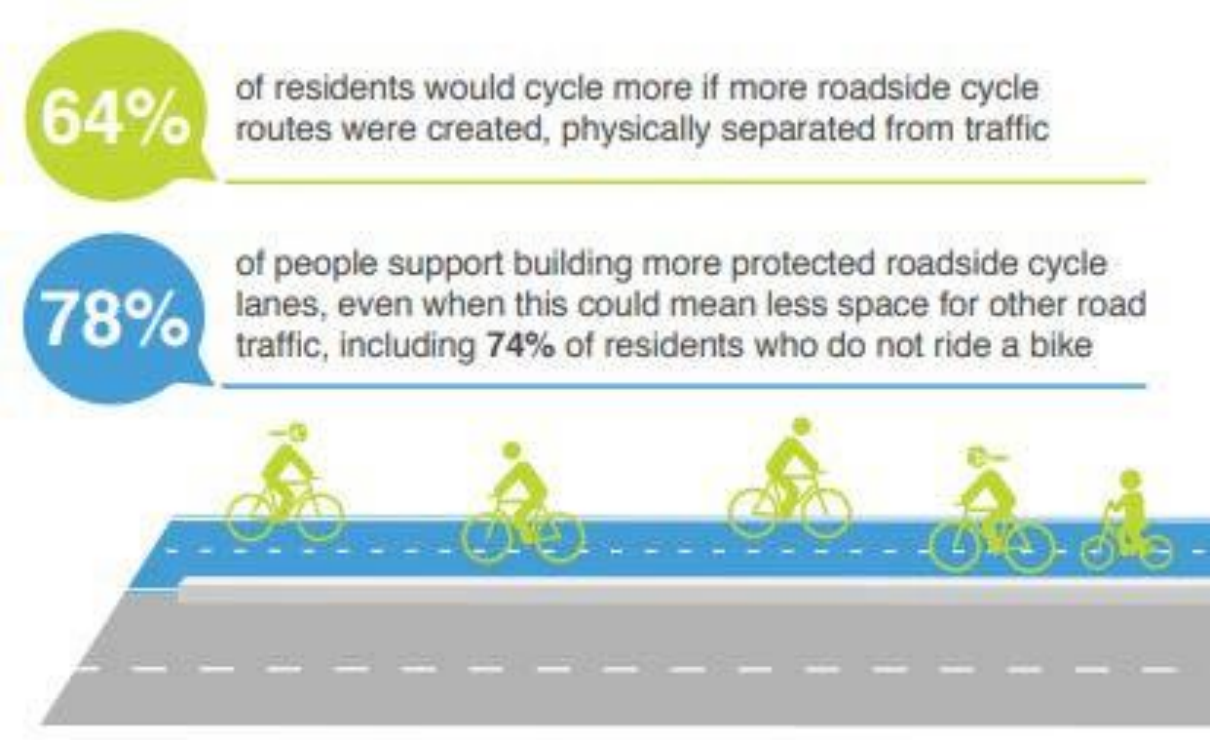
We have now identified the locations of potentially cyclable car trips but a cycle network is very different for different users and needs to take account of preferences. Cyclists have differing levels of confidence and experience:

- Some will find it easier to cycle around the Borough as they have the confidence and experience to deal with heavier and faster traffic flows.
- At the other end of the spectrum there will also be those cyclists who may find sections of the road network particularly difficult to negotiate.

In 2016, 62% agreed that “It is too dangerous for me to cycle on the roads” (The British Social Attitudes Survey). This rises to 68% for non-cyclists, the people we’re aiming for.



The 2017 'BikeLife' survey commissioned by Sustrans found that:



For many people, cycling with busy traffic is hugely off-putting. A systematic review carried out found this particularly puts off women, and probably also older people and those riding with children (Aldred et al 2017).

People's willingness to cycle can be categorised as shown in the diagram below. Whilst it can be accepted that there will always be those who will not cycle for personal or perhaps practical reasons, there is a large number of people who can cycle and would cycle more given the right conditions. The Active Lives surveys note that nearly 46% of Warrington adults have cycled at least once a year. This suggests that there is a huge potential target audience for cycling.

Section 4:

Enabling Cycling - The Plan

5) ENABLING CYCLING

Based on an evidence led approach as outlined in Section 4, the development of a network plan will identify core cycling corridors in Warrington. This network needs to be appealing, pleasant, easy to use and safe to increase cycle numbers. Cycle routes only work if they connect places people want to go. The network infrastructure identified in this section will help people make journeys to work, school, shops and for other utility trips as well as for leisure.

5.1 CORE DESIGN OUTCOMES

Cycling is not walking and it is not driving. It is a distinct mode which requires distinct design details. We want our network to be usable by a competent 12 year old, meaning that it will be easy, accessible and a pleasant experience.

New cycle facilities must be designed to cope not just with existing levels of use, but with the future we are planning.

5.2 THE PROPOSED CYCLE NETWORK

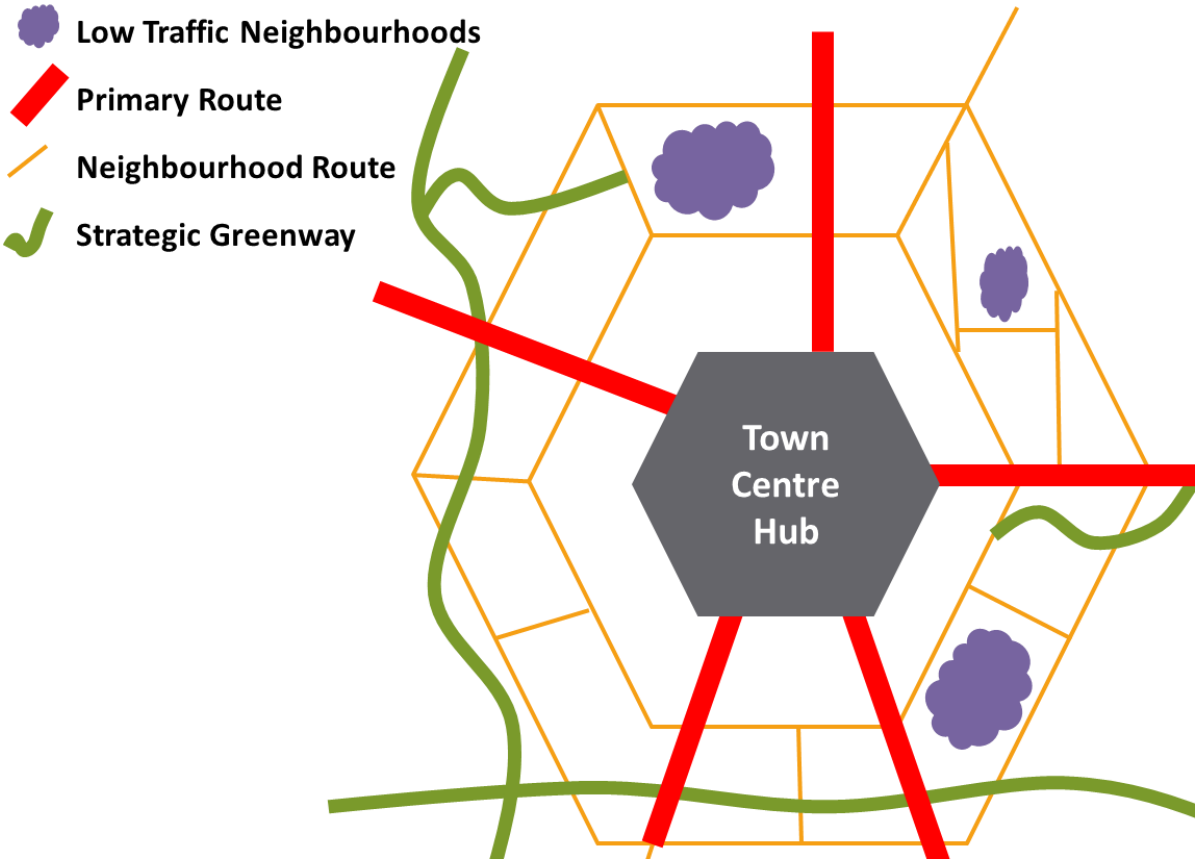
We do not propose dedicated cycle infrastructure everywhere.

On key routes, led by evidence of existing and potential trips, we will seek to provide direct high quality cycling infrastructure.

On quieter residential roads we will seek to ensure that the street environment enables cycling.

We will create a network (ideally meeting a 400m by 400m density) of dedicated space for cycling; creating corridors that link key places of employment, leisure, public transport and residential areas. The proposed cycle network is formed around three guiding principles of making it connected, easier and safer to travel by bike.

The proposed network will bring a good quality cycle route within the reach of most people within the Borough and include both high quality, segregated routes to and from the Town Centre, as well as a network of quiet streets and off-road greenway paths, so that cyclists can choose the route that suits them best. To facilitate this, a range of different categories of cycle infrastructure are planned based on the differing types and needs of people who cycle and trip type.



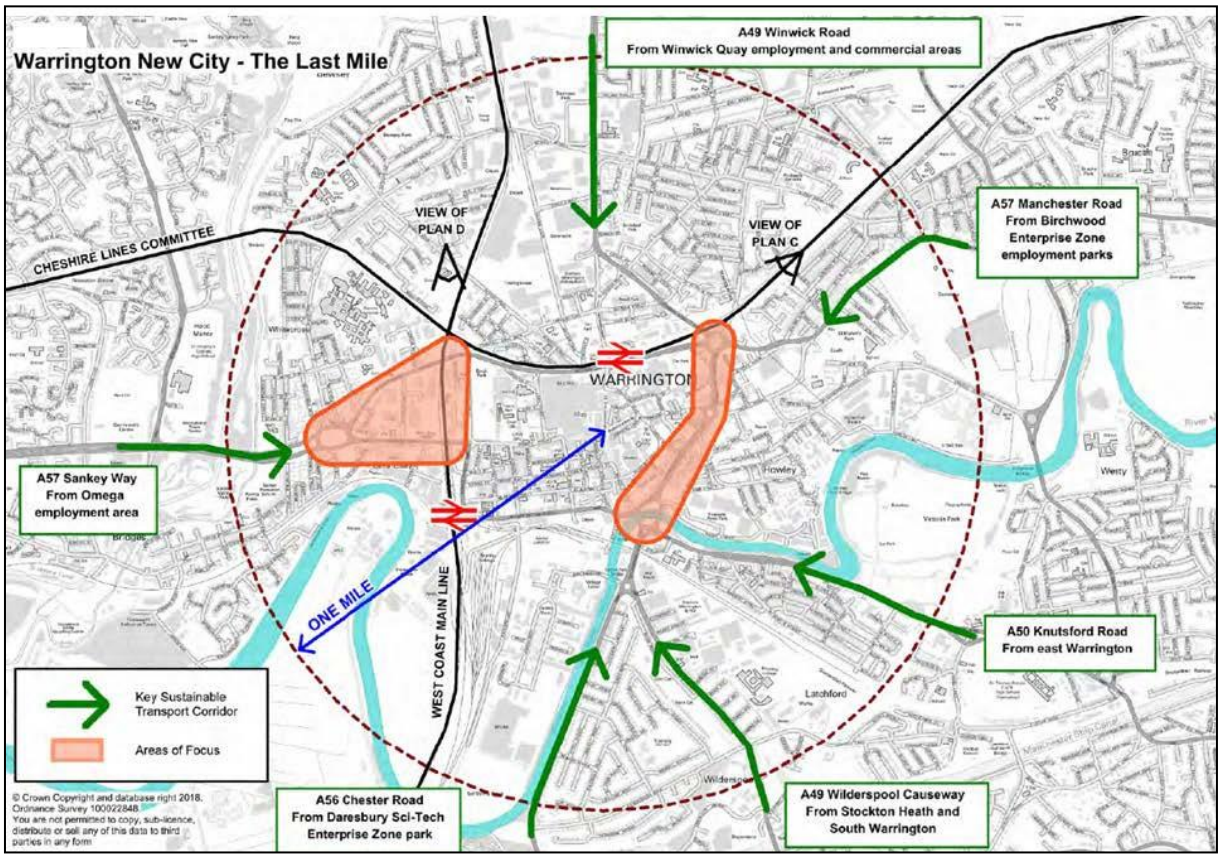
Cycle movements are not confined to a network but the network has been developed so that cycling can be enabled on key desire lines, especially where cycling is inhibited on our main transport corridors.

The proposed approach is for the primary, neighbourhood and strategic greenway cycle corridors to act as core routes for the highest volumes of cycle journeys, from which branches connect to nearby facilities, such as schools, which are often located on side streets or cul-de-sacs.

The cycling network has however not been produced in isolation, with concurrent development of a programme of walking infrastructure improvements with intrinsic links anticipated during delivery, recognising the areas of potential conflict and the differing requirements of each mode.

Town Centre Hub – The issue of the 'last mile' into Warrington Town Centre is a key barrier to being able to cycle towards and through the Town Centre.

Improving the 'last mile' of journeys into the Town Centre for pedestrians, cyclists and buses has therefore been identified as a priority. Our aspiration is to provide high quality and fit for purpose transport infrastructure that will make walking, cycling and public transport the obvious way to get to, from, and through Warrington Town Centre.



Major transport improvements such as the Centre Park Link and the Western Link aim to reduce traffic levels within the Town Centre. This release of road space should be captured for use by walking and cycling.

The "Last Mile" study will be commissioned later in 2019 to identify a Town Centre Masterplan and a package of measures to help meet our accessibility and connectivity objectives. This will receive financial support from the Cheshire and Warrington Local Enterprise Partnership.

The Last Mile project will focus on improving the most acute issues which are experienced on the last mile of sustainable travel trips to key destinations in Warrington Town Centre. The priority corridors for investment are shown in Plan B and described below:

- From the East, the A49 corridor, which forms part of the Major Road Network (MRN), creates a substantial barrier for bus and cycle movements into and across the Town Centre. This is particularly acute at the Cockhedge and Dial Street roundabouts. Warrington Central station is one of the important destinations which would be reached by improvements on this corridor.
- Further south on the A49, the Bridgefoot Gyratory crossing of the River Mersey and Brian Bevan Island create an intimidating and unappealing environment for cyclists. Improvements to this approach to the Town Centre will support the delivery of the Warrington Waterfront and the South East Garden Suburb developments that are proposed in the draft Local Plan. Warrington Bank Quay Station is an important destination within the corridor with its national and regional rail connections.
- From the West, the A57 connects the Town Centre to Great Sankey and Chapelford Urban Village. On this corridor the large, congested Sankey Green Roundabout creates a barrier for walking and cycling trips, and crossings of the West Coast Mainline on Liverpool Road and Priestley Street create pinchpoints entering and leaving the Town Centre for and cyclists.

This will support our ambition to grow the Town Centre and make it more accessible to residents, visitors and workers. A more pleasant environment around the Town Centre will help with inward investment and business confidence as well as attracting new visitors. As the Town Centre is the focal point for many cross-Warrington journeys then removing the transport barriers around the Town Centre will help with the ambitions of the Council to support cycle journeys.

Strategic Greenways – These are completely traffic free routes through parks and open spaces providing pleasant and attractive places for everyone to cycle.

Much of this network already exists, albeit the quality in places is indifferent. In places the greenways feel as if they have not been maintained regularly since they were built, and the network in places has an air of isolation.

Warrington's extensive green infrastructure, its network of green spaces and parks, is an economic resource as well as a resource for nature conservation and wildlife. It is a key component of Warrington's quality of life and image.

New greenway routes are planned within the Infrastructure Development Plan (IDP) as part of the emerging Local Plan.

The Warrington Means Business regeneration framework for the Borough also identifies a number of prominent aspirational routes such as those to be integrated as part of the following developments: Warrington Waterfront, Port Warrington and additional routes into and connecting the Omega north and south sites.

The identified national HS2 cycle way also offers an opportunity to connect parts of our existing off road cycle network into a prominent piece of national infrastructure and to improve cross boundary links.

It is a myth that disabled people don't (or can't) cycle. There is however currently a number of physical, financial and attitudinal barriers that prevent more people from taking up cycling. In many places, particularly on our greenway network, there are examples of infrastructure that disable people from utilising and benefiting from otherwise accessible routes.

We will undertake a programme of improvements to improve surface condition and width, visibility, accessibility and signing on existing greenway routes.

There are also existing cycle routes which form an extensive neighbourhood route network in some areas of Warrington.

Neighbourhood Routes are defined as continuous routes segregated from traffic that may be shared with other non-vehicular users. In general, these would be shared use paths which are at least 3m wide which follow the line of a highway and often benefit from street lighting.

Many of the roads constructed within the New Town estates of Warrington were built with grass verges and no pavements. During the 1990's many had wide pavements provided and many of these have since been re-designated as shared use routes. For example along Lingley Green Avenue in Great Sankey and Admirals Road in Birchwood.

Where some roads were not provided with any pavements, then over the years these have been retrofitted with a new shared use path adjacent to the road. For example Cromwell Avenue near Gemini retail park. This work will continue with the retrofitting of existing roads and/or the construction of new routes within new developments, such as those within the Omega employment park. Improvements will also be made to existing routes, improving continuity and providing additional priority at crossings.

These local routes allow people in neighbourhoods to access local destinations such as shops, secondary schools, and to access the primary routes for longer journeys.

Primary Routes – Arterial cycle routes in and out of the Town Centre with protected space for cycling is the essential starting point for improving Warrington's cycle network.

The speed and intensity of traffic on these corridors is typically too high to enable cyclists to safely integrate with traffic, and as such, the aim will be to provide priority for cycling with segregated, dedicated and safe paths and spaces for people to cycle separated from traffic.

Primary Routes have been defined based on their propensity to increase cycle trips with a focus on the journeys between the Town Centre and suburban destinations. These are high quality integrated corridors that radiate out from the Town Centre hub that use, or follow, the main arterial transport routes.

Key elements of these corridor routes are likely to include:

- Remodelled junctions and provision of cycle facilities physically separated from general traffic or signalised cycle-only movements;
- Various measures to increase the separation of cycles from other traffic: 'wands', cycle tracks between pavement and carriageway height (hybrid) and kerb-separated cycle tracks; and
- Bi-directional cycle tracks between 3.0m and 4.0m wide on one side of a carriageway. Various mitigation measures to be incorporated to minimise the risks entailed by cycles travelling in the opposite direction to which one would expect, particularly at junctions and pedestrian crossings.

Proposed Scheme by Leicester City Council

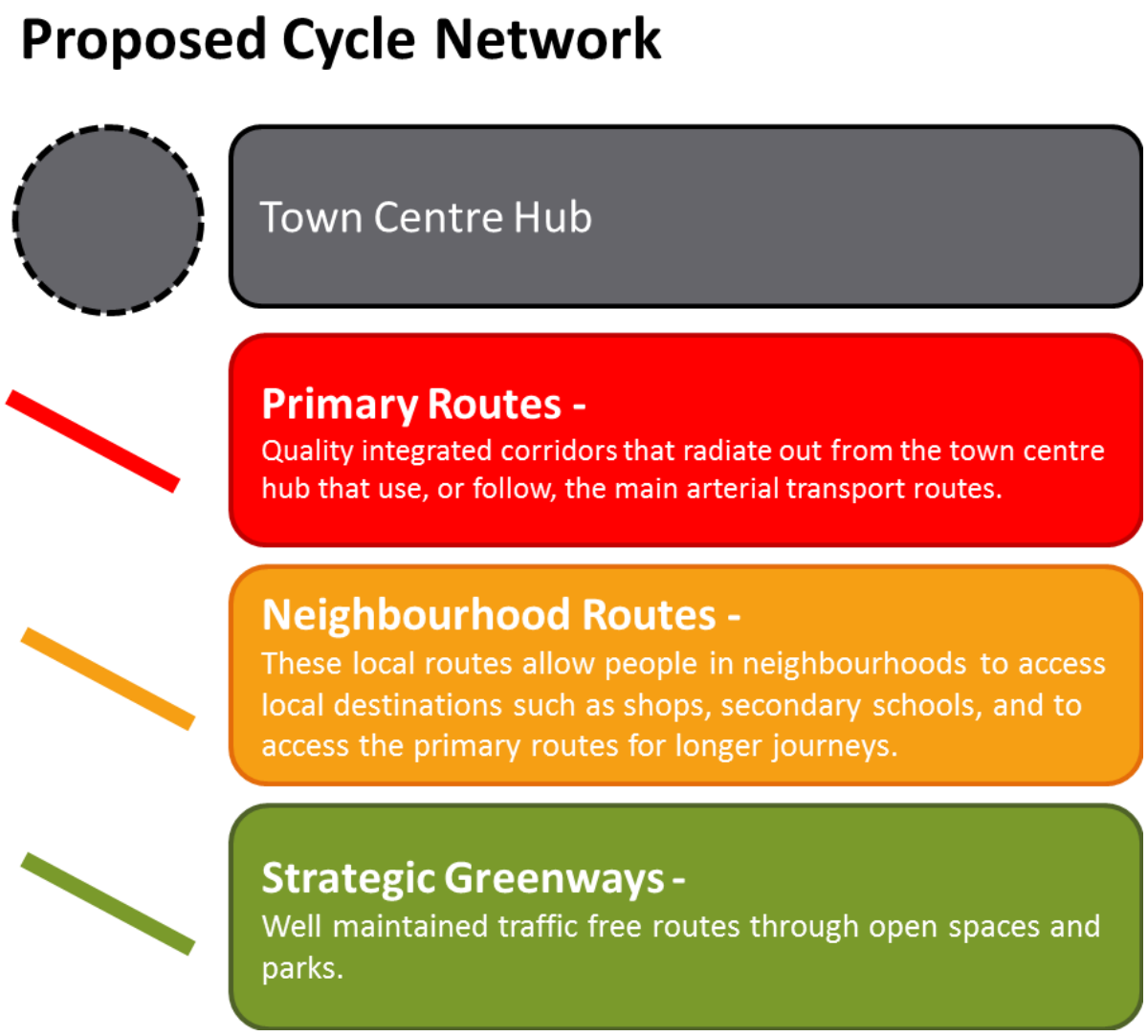
- At bus stops, we will look to introduce 'bus stop bypasses', routeing cycles through the footway, around the back of bus stops.

Lewes Road, Brighton (DfT Case Study)

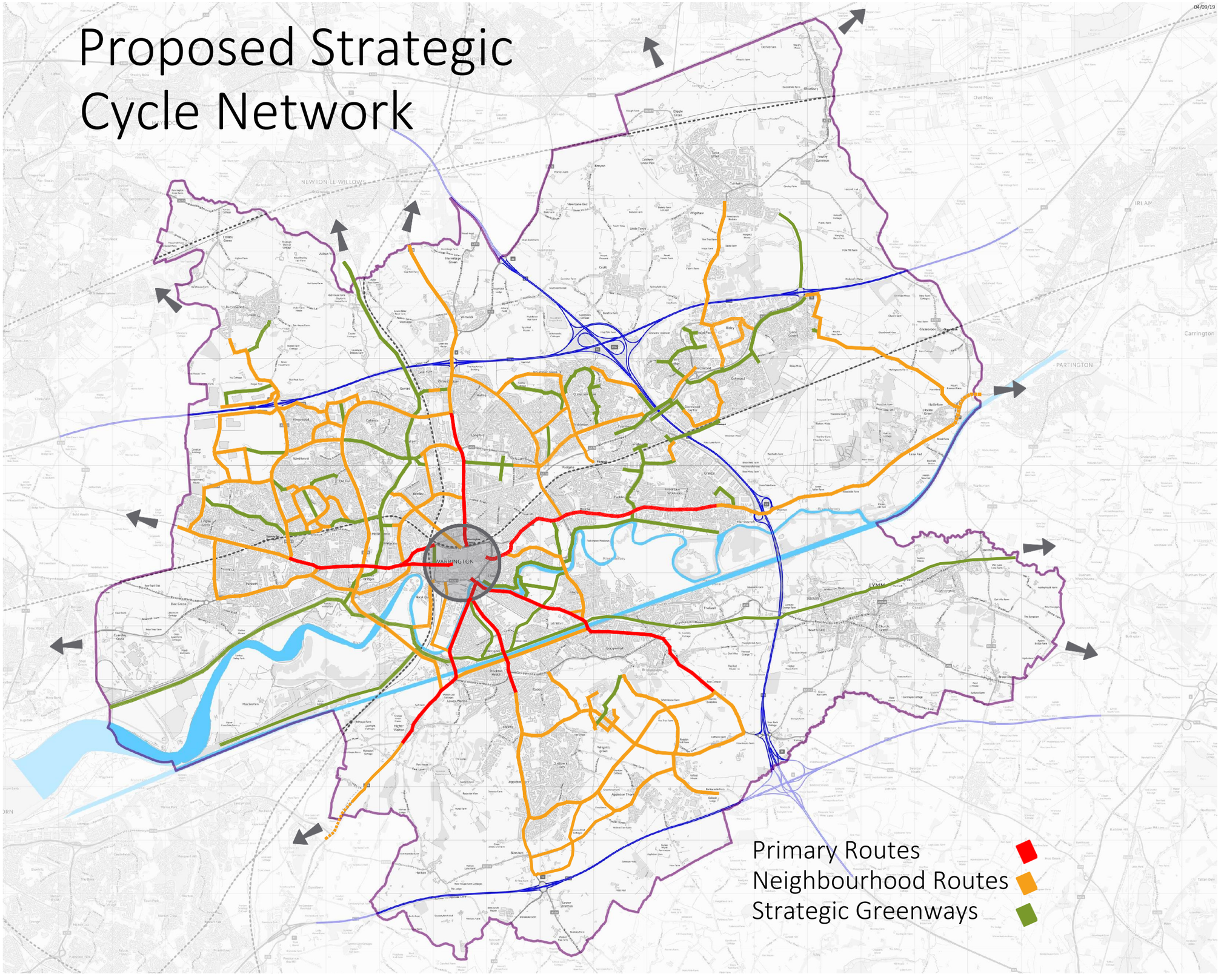
On highly trafficked routes, only distinct and separate provision for cycle traffic can ensure the creation of attractive and comfortable infrastructure for cyclists.

Currently, there are no routes in Warrington which match the definition of a primary route as set out. This is one of the primary ambitions of the LCWIP and LTP4 and allows us to raise the bar on the standard of cycle provision across the Borough.

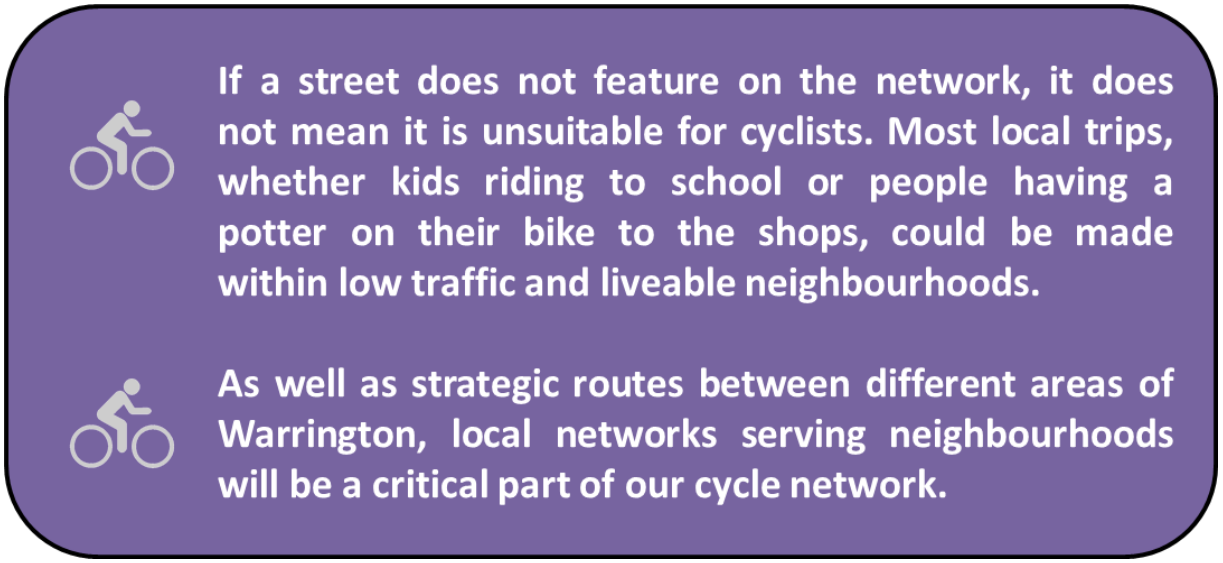
The proposed network would allow a transformational increase in cycling provision and will go some way to improving Warrington as an attractive place to live.



Proposed Strategic Cycle Network



Low Traffic Neighbourhoods



Many of our residential streets were laid out before cars came to dominate the roads and were not intended to carry heavy through traffic. Heavy traffic kills social interaction and we will promote schemes to put the 'right traffic on the right roads'.

In Warrington certain streets have been closed to through traffic for decades, resulting in better quality of life for residents and enabling walking and cycling. There are however many more neighbourhoods in Warrington which should be very lightly trafficked and benefit from low speeds.

A "mesh" of quiet streets will provide the glue between the aforementioned three part route hierarchy and allow people to make direct, safer and comfortable routes to their destinations. Low traffic neighbourhoods are key to ensure that people can cycle safely from their front door to where they want to go.

Removing rat running (non-local traffic which permeates through residential areas in order to save time by cutting out congested main roads or junctions) is a key part of creating low traffic neighbourhoods and conditions that are conducive to people walking and cycling. In most instances, making an area more attractive for cycling doesn't need to exclude cars but should reduce their dominance.

These low traffic neighbourhoods will utilise quiet streets, cut-throughs (e.g. cycle bypasses or traffic-free areas) and most will initially require relatively inexpensive intervention.

Some will however require interventions including reducing traffic volumes or speeds on roads and the provision of filter points, which allow for movement of people walking or on bike but do not allow through motor traffic.

We will implement an active programme of restricting rat-running through residential areas. Traffic travelling through the area should be kept on main roads instead. It sounds like a radical ask – but it's common sense. We will create networks of quieter streets where children play out, neighbours catch up, air pollution is lower, and walking and cycling are the natural choice for everyday journeys.

Section 6:

Delivering the Cycle Network

6) DELIVERING THE CYCLE NETWORK

6.1 INTRODUCTION

Delivery of key elements of this cycle network is dependent on available funding. A variety of funding sources are available to us, but at time of publication there is no specific government funding for delivering LCWIPs.

The identified infrastructure will be delivered via a variety of mechanisms, including delivery by the Council and its partners and through development proposals. As well as its own internal resources, the Council will pursue external funding, particularly given that many of the proposed actions will have positive benefits for many stakeholders.

An audit was undertaken of the existing infrastructure in areas identified as being key to providing a high quality network to serve existing and potential cycle journeys. Gaps in provision, suitable schemes and additional links were then identified.

Based on this audit we will develop a programme of works, including specific 'cycling' projects as well as improvements secured as part of new developments, regeneration projects and wider schemes, and will proactively identify funding opportunities.

6.2 USING THE PLANNING PROCESS

There are ambitious plans for growth in Warrington as set out in the Draft Local Plan. This will bring new houses and new jobs to the Borough and a further increase in the overall population in the town. The Local Plan provides a once in a generation opportunity to plan significant new areas of the town with active travel as a first principle. This, and all subsequent reviews of the Local Plan and its associated documents will include the role of Active Travel in enabling the growth in population and jobs.

We can also influence the Active Travel arrangements through the Development Control Process. Transport for Warrington officers are consulted routinely on planning applications. All relevant planning applications should be accompanied by a Travel Plan (TP) which outlines the developer's proposals for walking and cycling infrastructure that will be built as part of the scheme.

The proposed cycle network aims to identify network development opportunities arising from planned developments and allocations within the Council's Local Plan.

It is envisaged that this plan will be integral in the negotiation of developer contributions for new walking and cycling infrastructure, as part of future developments in the Borough.

6.3 SCHEME DELIVERY

We will prioritise and focus on improvements that will help to enable cycling on journeys under 5km. These will help us to convert some of those car journeys that are less than 5km in length into cycle trips.

Excess road space for vehicular traffic suggests that the environment is for motor vehicles. In most locations, carriageway widths of 3.0m provide enough width for all general traffic to use lanes effectively. To successfully deliver the cycle network, reallocation of space may be necessary.

Typically this will involve one or more of the following:

- Filtered permeability, e.g. road closures (with exemptions for pedestrians and cyclists);
- Removal of one or more general traffic lanes;
- Reduced width of general traffic lanes;
- Removal or relocation of car parking.

The reallocation of road space from motor vehicles to active travel modes makes an important statement about the relative priority of different transport users.

As and when junctions and streets are scheduled for improvement (such as structural maintenance), we will assess the needs of cyclists and include high quality cycling provision where possible to improve priority for cyclists.

We will strive to ensure that, wherever appropriate, new road schemes and changes to existing roads infrastructure will be designed and implemented to reflect the needs of cyclists and a placemaking approach.

We will work towards designing and implementing new infrastructure identified in the cycle network, with detailed design and route alignments taking account of public consultations as part of wider schemes.

A full feasibility study for each route will be needed to determine the precise interventions needed through the corridor, to define the exact routes and more accurate costings.

6.4 ENSURING GOOD QUALITY DESIGN – ACTIVE TRAVEL PROOFING

Cycle-proofing' is cycle-policy-speak for the idea that cycle-friendliness should be designed in at the outset when planning any road or traffic scheme new development or even planned highway maintenance works. We need to ensure that changes work to support people who currently drive but would like to walk and cycle more.

Interim Advice Note 195/16 Cycle Traffic and the Strategic Road Network give requirements and advice regarding designing for cycle traffic for the Strategic Road Network (SRN).

Away from the Strategic Road Network (SRN) no law or standard currently exists in the UK that defines the dimensions of cycling provisions. Unlike some local authorities, WBC does not have adopted design guidance for cycle infrastructure.

The Active Travel (Wales) Design Guidance, Transport for the West Midlands Cycle Design Guidance and the Nottingham City Cycling Design Guide are resources that contain best practice and recommendations for designing high quality cycling infrastructure.

They provides advice on the design, construction and maintenance of active travel networks and infrastructure, and alongside emerging guidance including national guidance, will be used to inform development of our network.

The implementation of modern fit-for-purpose infrastructure will be achieved by engaging with planning, highway engineers, and design staff through training on the use of the best design guidance.

Cycle Parking - Within Warrington Town Centre there are over 350 publicly available cycle parking spaces. We will continue to increase and improve the attractiveness of cycle parking across the Borough, including provision to accommodate non-standard cycles.


Example Wayfinding (Left – Broxap Cycle Shelter/ Right – Hull Public Realm)

Signing and Wayfinding - Walking and cycling journey times are often overestimated. We will review and expand cycle signing as the network expands.

Example Wayfinding (Left – 'Trueform' Totem Sign / Right – Quietway Route Signing)

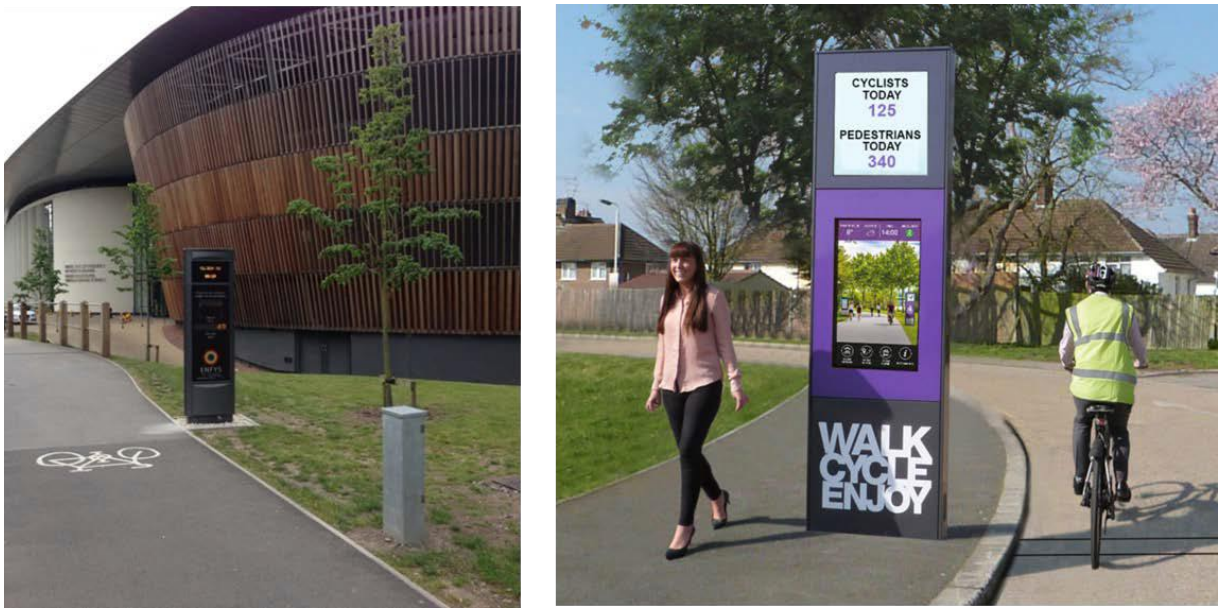
It is important that all signage and wayfinding information across the whole of Warrington is consistent.

6.5 MAINTENANCE & MONITORING

As important as building a route itself is maintaining it properly afterwards. The value of an enhanced network of facilities is greatly reduced if the network is not maintained, and this is an issue which has suffered in Warrington as revenue budgets become more stretched.

Arrangements for proper maintenance should be included in considering the design detail. Active travel corridors need special consideration in terms of maintenance. We will implement an ongoing programme for monitoring and maintaining the cycle network. This will include regular sweeping, surface repairs, gritting in cold weather, drain clearance and lighting repairs.

Monitoring and evaluating the benefits of investment in delivering the cycle network will be critical, and will enable us to make the case for future investment in our streets. Monitoring will be carried out for individual schemes and the whole programme of network improvements.



Example Monitoring Totems (Left – Cardiff / Right – Waltham Forest)

Section 7:

Enabling Walking

7) ENABLING WALKING

7.1 INTRODUCTION

As active transport modes, many of the benefits of walking and cycling are shared, and very often improvements for one will affect the other as large parts of the two networks overlap. For example, pedestrians and cyclists are often in close proximity and may share routes and crossings.

Walking trips are however generally shorter than cycling trips with longer trips being enabled through high quality access around public transport stops and interchanges.

In most places a comprehensive network which accommodates most pedestrian trips already exists. Warrington is well provided with paths and footways which offer an extensive network of routes many of which are traffic free and follow greenways and make use of open spaces and parks.

However, main roads which tend to be the most direct routes often have a poorer physical environment including narrow pavements with overgrown vegetation, infrequent crossing points and uneven surfaces. People may be deterred from using them due to severance issues eg need to cross busy roads or because the facilities are poorly designed or maintained.

The main focus of the LCWIP is therefore to improve and in some cases extend the existing walking network in order to encourage people to make more short trips on foot.

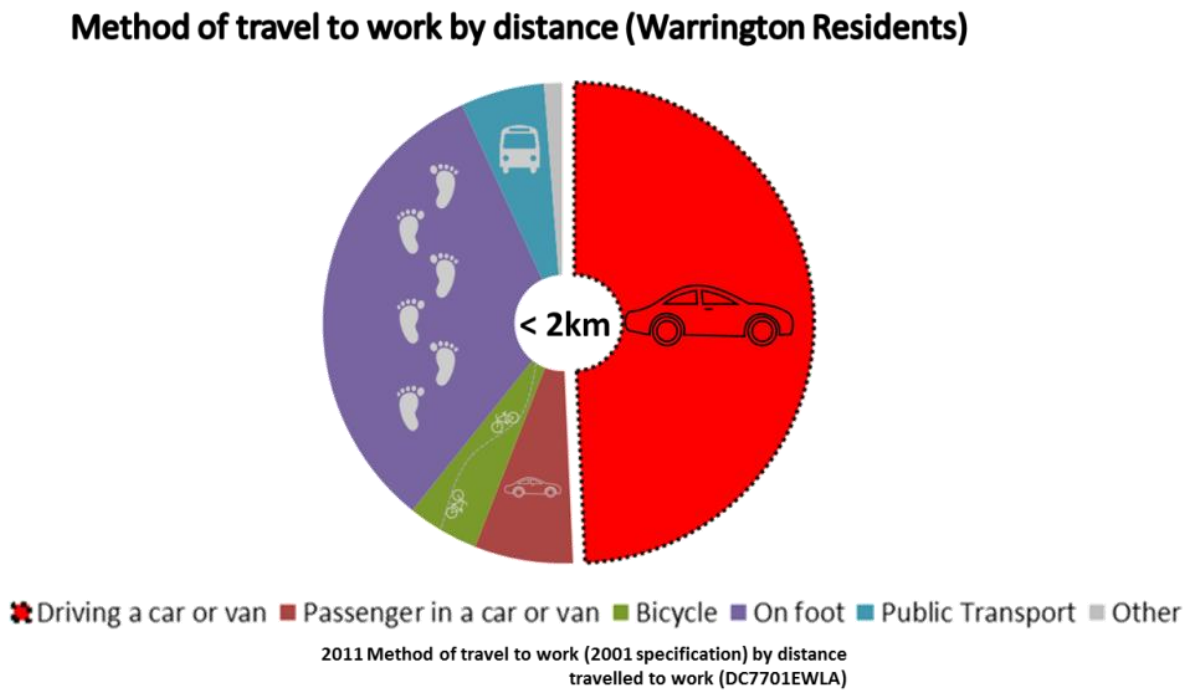
References to “people walking” are made throughout this section, but this should be taken as shorthand to include people using wheelchairs and mobility scooters as well as those using pushchairs or even children using scooters.

Walking on the wider PRoW network is covered under policies and schemes within the Rights of Way Improvement Plan.

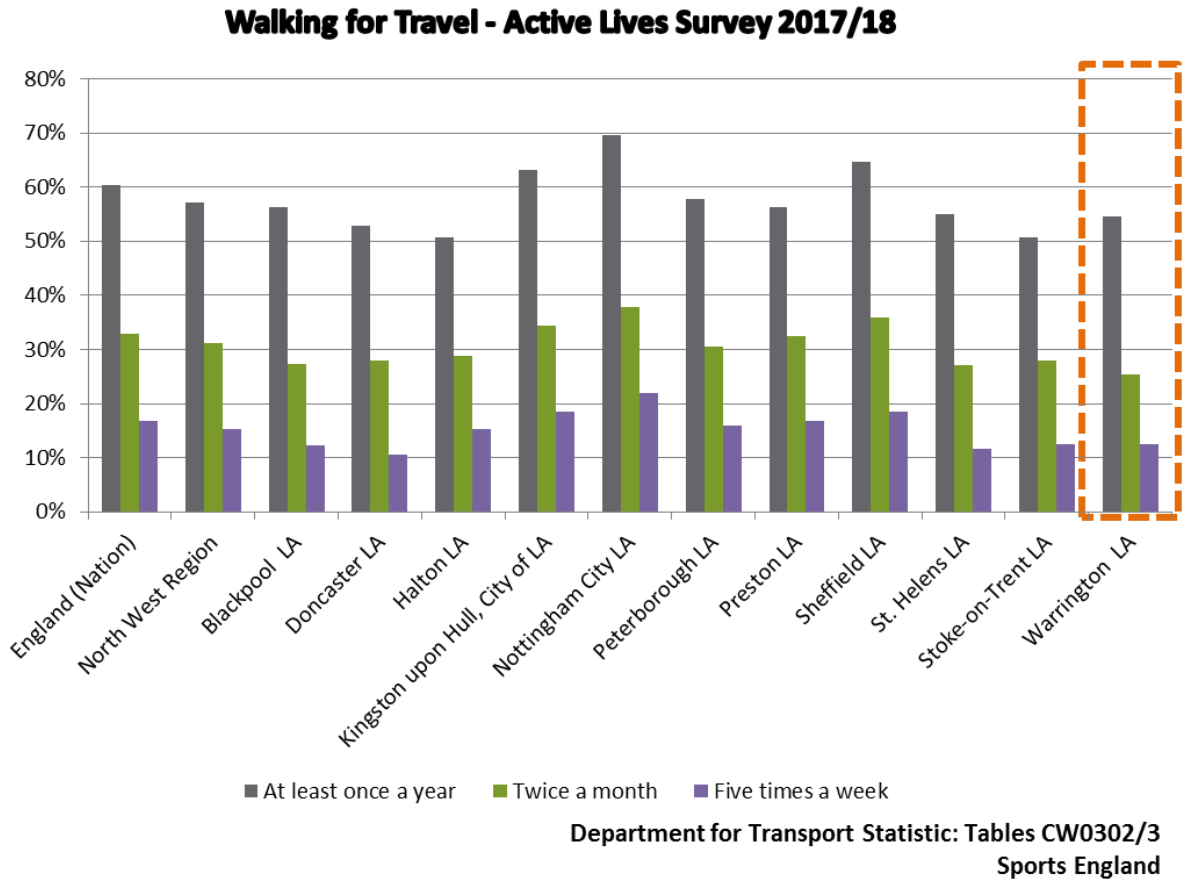
7.2 THE OPPORTUNITY

This section presents the results of analysis carried out to better understand the potential to increase travel on foot in Warrington, in terms of what type of trips, places and people offer the best opportunities.

As has been noted in section 3, many of the car trips driven in Warrington are very short, less than 2km in length. This distance is not only easily cycleable but for most people is well within their capability to walk. A reasonably healthy person should be capable of walking 2km in around 20-25 minutes.



Yet Warrington's performance as regards the numbers of people walking is not good. From the national Census it is noted that only 7.7% of Warrington's residents walk to work compared with 10.7% nationally. Also, from the annual Active Lives Surveys it is noted that only 55% of Warrington residents walked as a means of travel at least once a year compared with 60% nationally and 57% in the North West region.



Department for Transport Statistic: Tables CW0302/3
Sports England

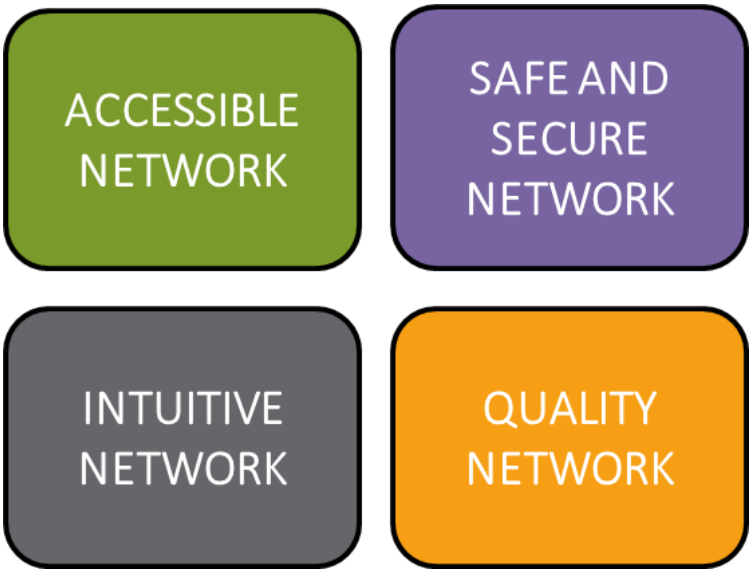
The journey to a local primary school or to the local shops, are examples of journeys where people could be walking rather than using the car.

The British Social Attitudes Survey shows that only 23% disagree that many short journeys currently made by car could just as easily be made on foot.

This is the underlying principle of the opportunity for Warrington. Every time somebody chooses to walk rather than travel by car, it's a win for Warrington.

7.3 BASIC DESIGN PRINCIPLES

A number of factors affect the propensity to walk but if walking is made difficult, people are less likely to do it – particularly if they don't have to. We need to make it easy and safe for people to follow the route that they want. The basic design principles behind our walking strategy are as follows:



- ACCESSIBLE NETWORK

The highway environment has evolved over many years and although new schemes and developments should have dropped crossings incorporated as standard, the majority of the roads and footways in the Borough were built many years ago when there was little or no consideration for the needs of people with mobility difficulties.

Warrington's population is getting older and more people have long term illnesses and conditions. Many streets require improvement to the latest accessibility standards so that Warrington's residents and visitors can live more independently.

8.4% of Warrington residents described their day to day activities being limited a lot by a health condition or disability. An additional 8.9% described their day to day activities being limited a little.

At many locations across the Borough full height kerbs present a significant barrier to mobility. At locations where pedestrians are expected to cross, dropped kerbs should be provided.

Existing networks should be upgraded where practical towards during maintenance or improvement schemes. Section 106 developer contributions may also be available in specific locations to support this activity.

We will continue our ongoing programme of footway reconstruction and routine footpath maintenance which makes paths more usable.

We will continue our ongoing programme of drop kerb crossing provision and new footpaths to address severance issues and ensure continuity for pedestrians.

- SAFE AND SECURE NETWORK

Well designed, responsive pedestrian crossings can benefit all road users. Everybody should be able to cross the road safely, directly and without delay. Crossings should be positioned in the right place and give everyone enough time to cross the road.

Maximum waiting time for signalised crossings varies. Evidence has shown that after 30 seconds of waiting at a crossing encourages risky behaviour such as crossing before the green man comes on. Signalised crossings should prioritise people on foot with short wait times and comfortable crossing times.

We will continue our ongoing programme of improvements to existing signalised crossings.

Footways are provided for pedestrians. Encroachment by vehicles parking or loading reduces the comfort and ease of use of footways, forces pedestrians into the carriageway to pass vehicles (especially people using wheelchairs and pushchairs).

We will work with the police and civil enforcement officers to penalise inconsiderate or illegal behaviour including 'pavement parking'.

Concerns relating to personal security can discourage people from walking, particularly after dark. There are a wide range of factors which impact on this issue which the Council has some influence on including:

- The existence and quality of street lighting
- Vegetation and tree cover which can make some paths unpleasant places to walk
- Subways and underpasses which are in remote locations and are therefore unattractive to use.

We will consider personal security issues as part of the design process for any new transport project.

- INTUITIVE NETWORK

There are many Warrington residents and visitors who are unfamiliar with walking routes in Warrington. As a result the walking distance horizons are very short as people don't know how to get to places which are actually very close.

The fear of getting lost in an unfamiliar area is a barrier to walking, especially when pedestrian routes are not directly between places of interest.

Clear signing on the highway and walking network is a key tool in this respect. The use of fingerpost signs to indicate key destinations is particularly important and whilst there are already good examples of this in the Town Centre there is a need to expand these signs into other areas.

A review of fingerpost signing across the Borough will be undertaken with an emphasis on key destinations such as the Town Centre, transport interchanges and to educational establishments.

Of equal importance is the need to provide maps, both printed and online, which show people how they can walk to their chosen destination. The Warrington cycle map is of equal benefit to pedestrians as well as to cyclists and this will be reviewed to enhance its usefulness to both active modes of travel.

The Warrington Cycle Map will be continually reviewed to ensure its usefulness to pedestrians as well as cyclists.

- QUALITY NETWORK

The propensity to walk is influenced not only by distance, but also by the quality of the walking experience. A 20-minute walk alongside a busy highway can seem endless, yet in a rich and stimulating street, such as in a town centre, it can pass without noticing.

The removal of street clutter, including redundant signing, benefits the pedestrian by reducing confusion and creating a more attractive walking environment.

Although guardrail can be useful in limited circumstances, it is visually and physically intrusive, and reduces the width of available footway.

Electric vehicle (EV) charging points installed on footways could prove hazardous for some pedestrians. All footways should remain as accessible as possible. We will ensure that all new EV charging points provide adequate clear footway width. Unless there are special site circumstances, all new chargers should be installed on build outs in the carriageway.

We will actively explore opportunities to de-clutter streets of unnecessary street furniture.

7.4 TRANSFORMATIVE DESIGN PRINCIPLES

In addition to the programme of Borough wide improvements, due to the physical size of Warrington, it was considered important to identify specific areas for targeted improvement to the pedestrian realm, rather than implement isolated schemes on a borough-wide basis. It is proposed to focus on the following areas:

- Low Traffic Neighbourhoods;
- Warrington Town Centre;
- Access to Public transport interchanges; and
- Access to schools and colleges.

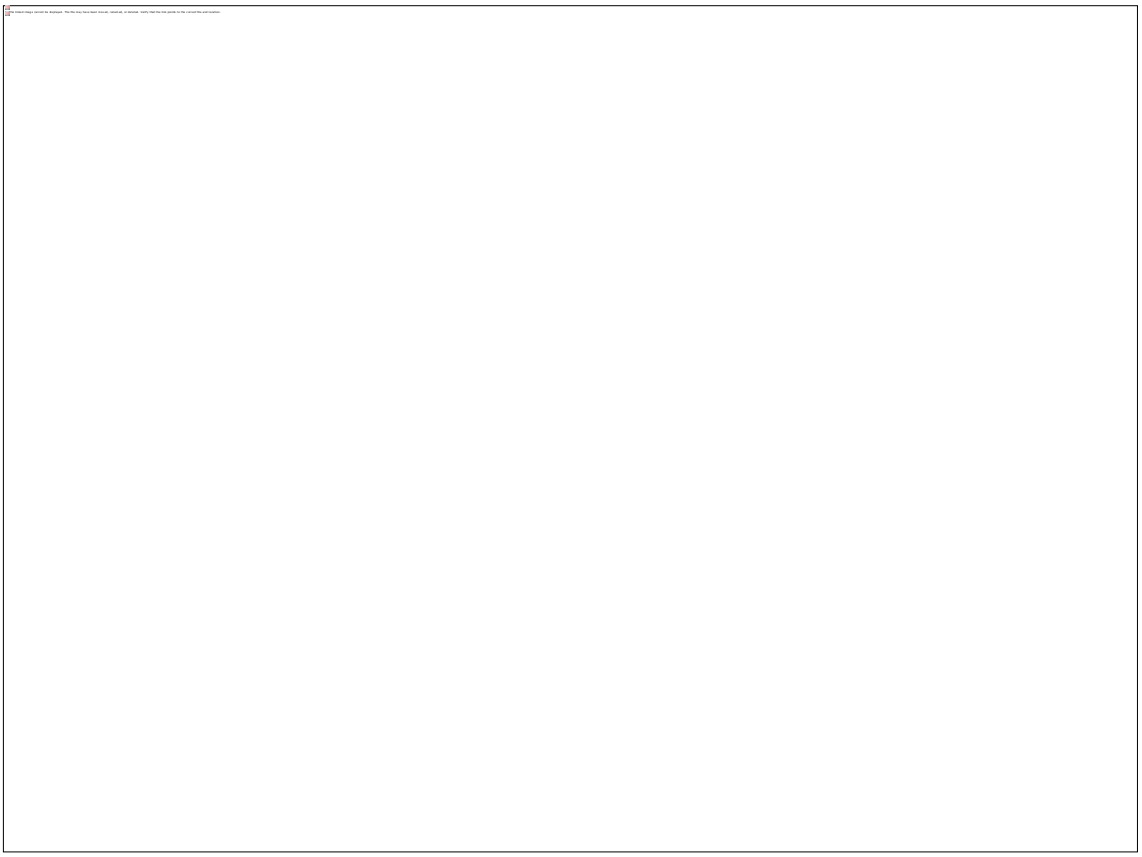
- REDUCING SEVERANCE: CONNECTING OUR LOW TRAFFIC NEIGHBOURHOODS

As described in section 5.3 “Low traffic neighbourhoods” are groups of residential streets, bordered by main or “distributor” roads (the places where buses, lorries, non-local traffic should be), where “through” motor vehicle traffic is discouraged or removed. Applying this approach benefits both walking and cycling.

The creation of low traffic neighbourhoods can deal with residential and local streets, but we know that many trips, even short ones, pass across a number of ‘cells’. These are often severed by busy roads.

Some of our major roads create both psychological and physical barriers to pedestrian movement with limited at-grade crossing. A lack of adequate pedestrian crossings has the ability to create severance and discourage active travel choices.

Busy urban junctions without adequate pedestrian facilities increase the likelihood that pedestrians will be injured while crossing the road, or at least intimidated. The quality, provision or absence of crossing points also affect people’s ability and desire to walk in the first place.

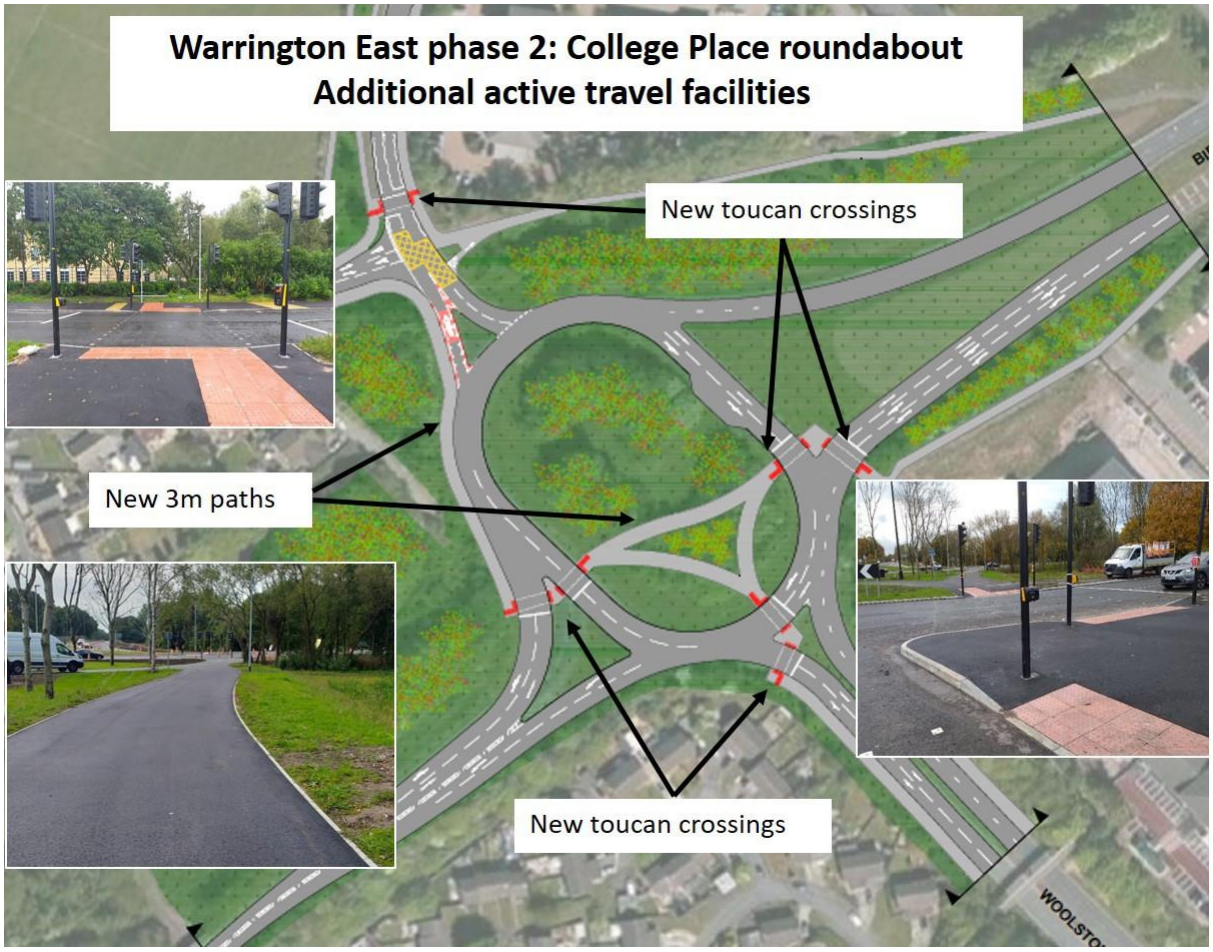


Peterborough (DfT Case Study)

Once we've set up one low traffic neighbourhood, by placing crossings cleverly on main roads, we can join it to the next one and the next one, so anyone can walk easily across several low traffic neighbourhoods, from home to school, or work, or the station.

We need to ensure that crossings are sufficient in number and direct, avoiding diversions or unnecessary delays. Major junctions of key classified roads should have controlled pedestrian crossings to accommodate desire lines.

We have been successful in providing pedestrian crossing facilities as part of major schemes in recent years, for example as part the Warrington East Phase 2 project (www.warrington.gov.uk/WE2) which was part funded by Local Growth Fund resources.



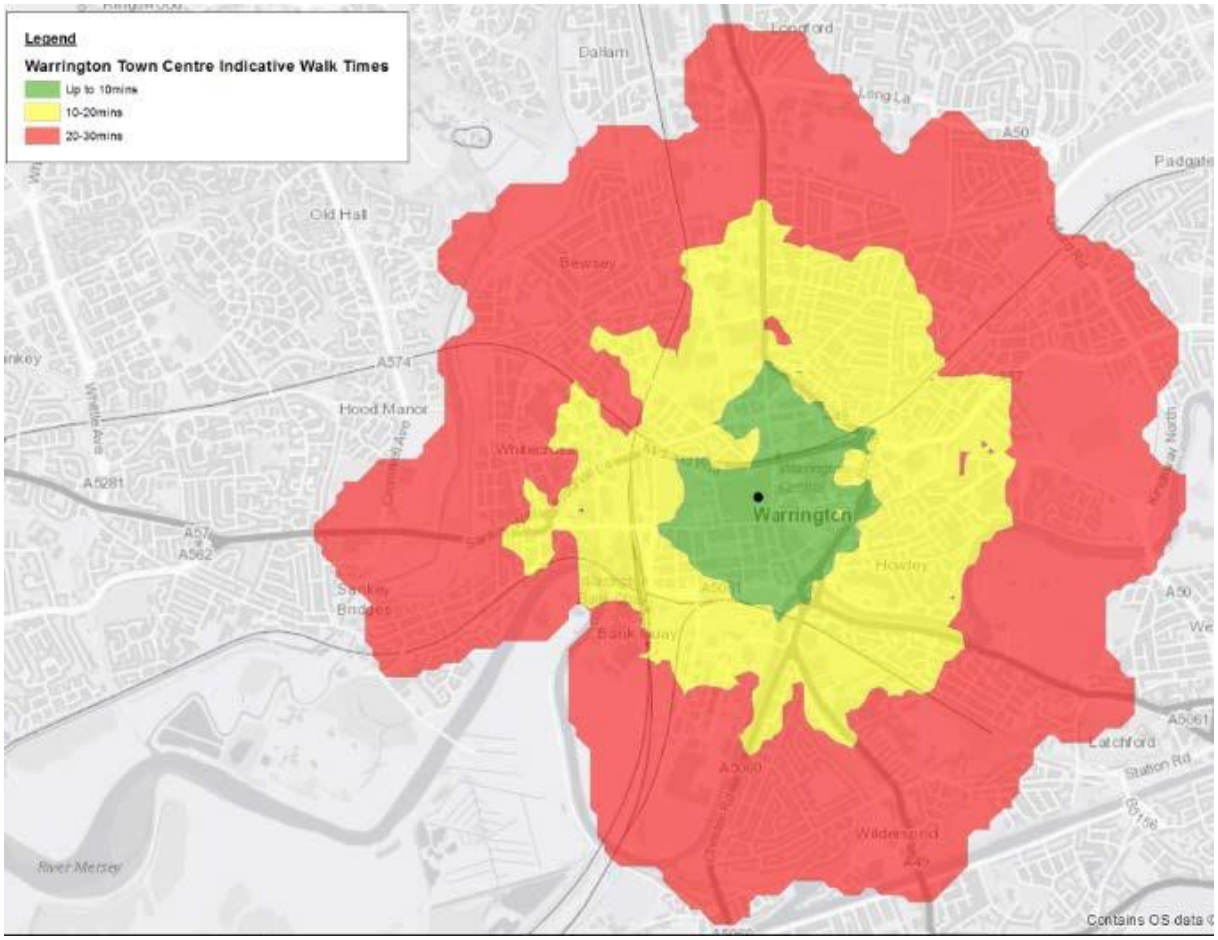
College Place roundabout – new crossings and paths

We will continue to identify opportunities to reduce severance between neighbourhoods, and between the origins and destinations of potentially 'walkable' trips.

We shall ensure that caution is exercised when using existing pedestrian flows as a guide to demand. Low pedestrian flows may be an indication of people being intimidated by traffic or finding it difficult to cross and therefore are not crossing the road.

- WARRINGTON TOWN CENTRE (CORE WALKING ZONE)

Residential development and more people living in Warrington's Town Centre is fundamental to our Local Plan. This will drive vitality, activity and foot-flow, reinforce Warrington's sense of place and enable regeneration as well as providing new homes for local people. It will change the face of the Town Centre.



The key streets in the Town Centre have already been successfully pedestrianised and enhanced to a high quality. We have also extended environmental improvements to some of the adjoining streets – Lower Bridge Street and the Cultural Quarter.

With its excellent public transport connectivity the Town Centre will be a focus for new businesses development – putting business at the heart of Warrington.

The delivery of this major change programme in the heart of Warrington means that there needs to be a step change in street purpose and design. A substantial redesign of the Town Centre is required to make it genuinely excellent for pedestrians. We have to realign our thinking when it comes to pedestrian infrastructure in the Town Centre.

We will reduce the number of vehicles (except buses) driving through the core of the Town Centre.

- WALKING TO ENABLE PUBLIC TRANSPORT

Attractive walking links are also needed at key origins and destinations to enable longer journeys using public transport. Our ambition is to create an environment where more residents can consider Door to Door sustainable integrated journeys within and beyond the Borough, rather than using a private vehicle for longer trips.

Measures can be relatively straight forward and low cost and could include additional or enhance crossings of busy roads, new footpath links, clearer signing, and better lighting.

The forthcoming 2019/20 programme of Active Travel improvements is expected to deliver schemes to improve accessibility on walking routes to and from Warrington West Station.

- WALK TO SCHOOL

The walk to and from school should be safe, calm and free of pollution. Over 50% of children currently walk to school in Warrington though in line with national trends noted in the National Travel Surveys this figure has been falling. There are many factors associated with this issue and not all are related to improving the walking environment.

Factors such as more working parents, larger school catchments areas and the growth in the personal security fears has reduced the number of children walking to school. Yet school children are the commuters of the future and this issue should be addressed head on.

It follows that as regards the physical walking environment a greater emphasis will be placed on measures which provide a safer route to school (as well as having wider community benefits). Again, these could include a mixture of new or improved crossing points, widened or improved pavements, and better lighting. Each school will have its own specific requirements and this would be strongly influenced by the school travel plans and road safety plans already in existence.

We will work in partnership with all schools in order to carry out an accessibility review of their approaches and the development of an accessibility plan.

Section 8:

Promoting Active Travel

8) PROMOTING ACTIVE TRAVEL

Improvements to infrastructure alone will not be sufficient to get people out of their cars on school trips, work trips and leisure outings. Smarter travel choices interventions will be needed, particularly to persuade people that journeys have become easier.

Evidence shows that complementing infrastructure with practical support and promotion achieves greater levels of uptake in walking and cycling and ultimately better value for money from investment.

A significant element of delivering the plan will be a package of home and work-end smarter travel measures. These will be critical to encouraging take-up and continued use.

Our programme will include:

- Awareness and communication – a marketing plan to raise awareness of the emerging network, which will feature positive messaging, using case studies and happy, healthy images. We will use social media as well as conventional techniques to change the traditional perception of cycling to encourage a positive and confident growth in uptake. The main promotional tool to support cycling is the Warrington's Cycle Map. This can be found at www.warrington.gov.uk/cyclemap.
- Cycle training and organised rides – Many people never learn to ride a bike and others never ride once they are adults. Also, for many people, a lack of confidence and feelings of vulnerability are common reasons for not cycling. Training can give new or less confident cyclists the help that they need to give cycling a try. A scheme of group and one-to-one training sessions will be established, from learn-to-ride to advanced, and organised rides will help to raise confidence and promote new routes.
- School travel planning – In 2017/18, nearly 82% of all 10 year olds in Warrington received Bikeability training. Bikeability is 'cycling proficiency' training for the 21st century, designed to give the next generation the skills and confidence to ride their bikes. Bikeability not only ensures young people can cycle safely but also demonstrates to them the value of cycling more often.
- Workplace Travel Planning – WBC will work with employers to help them develop travel plans to promote sustainable travel. Marketing, promotional and training support will be offered to businesses along improved routes.
- Travel planning at major trip attractors – in addition to workplaces and schools, we will seek out opportunities to promote the network at key destinations, events and trip attractors, including shopping centres, in the Town Centre, at organised events and even within new housing developments.
- Cycle hire – many people, especially those living in apartments, don't have the space to store a bicycle. To enable them to and get around without a car and experience the many benefits cycling has to offer, we will continue to investigate opportunities for a cycle hire scheme.

Section 9:

Proposed LCWIP Delivery Plan

9) PROPOSED LCWIP DELIVERY PLAN

Parts of the LCWIP network already exists with cycling and walking infrastructure that is generally fit for purpose. Other parts have existing infrastructure in need of an upgrade, whilst the remaining locations will require entirely new infrastructure.

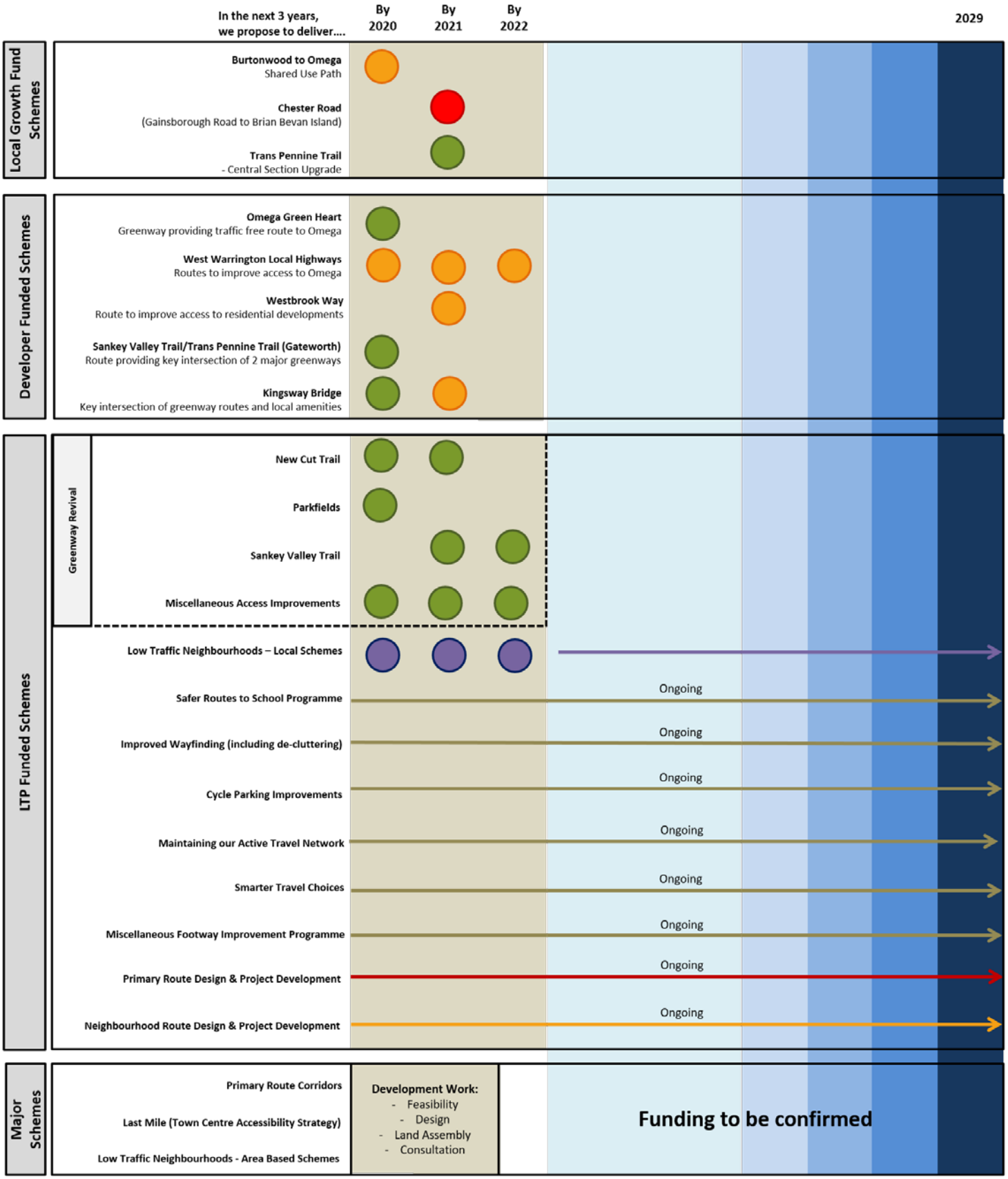
There is significant amount of work to be done to implement the improvements to deliver our network. The LCWIP covers a period of 10 years throughout which routes proposed for the network are planned to be rolled out for design and implementation.

The Warrington LCWIP Delivery Plan reflects the existing work programmes which are funded through the Council's LTP capital programme and amounts to over £500,000 a year. In the first 2-3 years this is being supplemented by £1.7 million from the Cheshire and Warrington LGF3 Growth Deal to deliver three large active travel projects. The challenge will be to maintain and increase this level of expenditure for the life of the LCWIP, i.e. to 2029, so that the aspirational network can be delivered.

The LCWIP delivery programme will be reviewed on an annual basis to reflect the development of the planned schemes and the availability of new funding.

A summary of the current programme is provided overleaf.

LCWIP Programme



Enabling Active Travel in Warrington
Our Proposed Plan

Walking and cycling brings cheaper travel, better health, better air quality, increased productivity, increased footfall in shops, better community and lower congestion, and it creates vibrant and attractive places and communities.

Warrington's compact size and fairly flat terrain offers a great opportunity for local journeys, currently made my car, to be made by cycling or on foot. We can and should be ambitious for the future of walking and cycling in Warrington.

Enabling more people to walk and cycle short journeys doesn't mean everyone will be forced to walk and cycle. Not everyone can – but many more people could.

We need to deliver a network, through provision of high quality infrastructure, to enable walking and cycling.

Our proposed approach to deliver this transformative change is to:

- Provide a network of primary, neighbourhood and strategic greenway cycle corridors to act as core routes for the highest volumes of journeys;

- Improve the 'last mile' of journeys into the Town Centre for pedestrians and cyclists; and

- Create networks of quieter streets where children play out, neighbours catch up, air pollution is lower, and walking and cycling are the natural choice for everyday journeys.

WARRINGTON
Borough Council

WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX B: TRANSFORMATIONAL PROJECTS STUDY

MOTT MACDONALD

WARRINGTON Borough Council

Warrington Transformational Projects Study

Final Report

February 2019

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Warrington Transformational Projects Study

Final Report

February 2019

Issue and Revision Record

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A	26th Feb 2018	AW	NO	RB/KR	First Issue
B	23rd Apr 2018	AW	NO	RB	Second Issue
C	11th Oct 2018	AW	NO	RB	Revised Issue (October 2018)
D	26th Feb 2019	AW	NO	RB	Final

Document reference: 392670 | 1 | D

Information class: Standard

Contents

1 Introduction

1.1 Scope

Mott MacDonald was appointed by Warrington Borough Council (WBC) in December 2017 to help identify a transport solution to support long term, sustainable growth in Warrington, and to help to reduce the borough's dependence on the private car to provide access to work, leisure and retail opportunities. In many instances, taxis and cars provide the cheapest and most convenient motorised mode of travel for short distance journeys completed within Warrington. The aspiration of the Council is to make sure that public transport becomes a more attractive and widely available alternative to the private car for all trips in the town.

The study has three concurrent and inter-connected themes as follows:

1.1.1 Theme A: Demand Management

The Demand Management element of the study will identify ways in which WBC can better manage demand from private vehicles within Warrington including mitigating through-traffic and better managing workplace parking. The feasibility of a number of demand management concepts including a Workplace Parking Levy and Clean Air Zone will be investigated through exploration of the concepts, review of benchmark examples, initial feasibility assessments and SWOT analysis.

1.1.2 Theme B: Strategic Mass Transit

The second element of the study will explore potential large-scale, high quality, public transport solutions to help reduce congestion across Warrington and to help support Warrington's ambitious growth plans. It is intended that a mass transit solution for Warrington would work alongside and potentially be funded by options assessed within the Demand Management element of the study. Initially, this section will analyse the need for transit in Warrington through considering long term growth proposals within the town and surrounding areas. The section will then identify potential corridors and modes which best meet the growth needs and aspirations of Warrington. Transit solutions to be assessed include tram/metro, bus rapid transit and park and ride.

1.1.3 Theme C: Funding, Finance and Legislation

The final theme for the study will tie the Demand Management and Strategic Mass Transit elements of the study together to identify how the transformative connectivity improvements for Warrington can be delivered. The section will identify and assess potential transit funding sources for the council and assess relevant legislation and powers that should be considered in order to enable the demand management and transit schemes to come forward. Key delivery issues will also be explored including procurement, resourcing and reporting.

1.2 Background

WBC is currently reviewing the Local Plan Core Strategy, with public consultation having taken place in 2017 on the Preferred Development Option to deliver over 24,000 new homes and over 380 hectares of employment land over the next twenty years. Whilst the figures have since been reduced in the Draft Local Plan, such transformational growth proposals require equally transformational investment in transport within the town.

This Transformational Projects Study is the first of a number of commissions to be completed to support WBC's growth proposals. The study will inform the development of an updated Transport Vision for Warrington which, in turn, will inform the updated Warrington Local Transport Plan (LTP). The updated LTP 4 (in draft form) is expected to be published alongside the draft final of the Warrington Local Plan in early 2019. The opportunity to publish the new LTP and Local Plan at the same time is a real opportunity for the borough in terms of ensuring that Local Plan policy best supports the borough's transport ambitions and that development and strategic transport investment proposals are aligned over the length of the plan period.

Informed by this study, the new transport vision within the draft LTP 4 will help to shape transport investment in Warrington over the twenty-year lifespan of the Local Plan. It is imperative that transport objectives and investment proposals are identified and prioritised as early as possible to ensure that private and public sector driven residential and employment investment responds to transport proposals and comes forward in a manner that best supports the needs of the town.

It should also be highlighted that a number of the transit proposals identified within later sections of this report are not entirely new concepts. Prospective tram operators have been in discussion with WBC and produced feasibility studies for a new tram system for Warrington in recent years. The relative merits of solutions that have already been identified will therefore be appraised alongside new proposals within later sections of this study.

The remainder of this report is structured as follows:

- **Chapter 2:** Context
- **Chapter 3:** Issues
- **Chapter 4:** Opportunities
- **Chapter 5:** Demand Management and Funding Options
- **Chapter 6:** Demand Management and Funding: Concept Feasibility
- **Chapter 7:** Mass Transit Concepts
- **Chapter 8:** Mass Transit Corridors
- **Chapter 9:** Conclusions and Recommendations – Preferred Options

2 Context for Study

2.1 Overview

This chapter outlines the context for this Transformational Projects Study, considering the significant economic development, future growth, environmental and transport factors that are driving the need for this study. This contextual analysis is crucial to understanding the current and anticipated future baseline situations from which possible demand management and strategic mass transit schemes can be identified and delivered.

Already the best performing economy in the North West, rates of growth in Warrington continue to be amongst the highest in the UK. Sustaining and enhancing this growth is crucial for Warrington ensuring it remains attractive to residents, workers, visitors and investors.

2.2 Economic and Development Context

Warrington represents a major focus for employment in the North West and the Northern Powerhouse as a whole, supported by Warrington's well-developed highway infrastructure. The M62, M6 and M56 motorways provide strong north-south and east-west connectivity for Warrington and help bring 2.5 million people to within a 30-minute drivetime of Warrington, the highest catchment for any town outside of the M25. As shown in the table below, Warrington is a town of extremely high economic performance:

Ranking Warrington's Economic Performance (2017)[1]:

1st	1st	3rd	5th	14th
out of 64 UK towns and cities for the highest percentage of employment per population, with **79.8%** of the population in employment	for the second year in a row in terms of supporting the **highest proportion of high growth firms** of any UK location – 15.8% vs the national average of 11.8%	in terms of the highest level of **business growth** of any UK location, bettered by only Aberdeen and London	place ranking in terms of best **GCSE results** nationwide including for Maths and English	highest UK town or city in terms of its wages and welfare ranking and the only location in the North of England to be defined by the Centre of Cities as '**high wage and low welfare**'

Progress towards Warrington's ambitious economic objectives has been rapid. By virtue of positive attitudes towards growth and investment as well as excellent locational characteristics at the confluence of major road and rail networks, Warrington has established itself as the primary North West location where people want to live and business wants to be located outside of the two major cities, Manchester and Liverpool. The attractiveness of Warrington as a place to live is reflected by the fact that over the last 40 years, Warrington's population has grown from around 70,000 to over 200,000. Specifically, between 2008 and 2016, the borough's population grew at double the rate of the wider North West region and slightly higher than for Great Britain as a whole, as shown in **Table 1**. Over the longer term, between 2000 and 2016, population growth in Warrington (10%) far exceeded the level of growth for the North West (6.6%). This reflects the strong job prospects and living environment in Warrington, with aspirational and affordable homes and neighbourhoods, good schools and colleges and attractive parks and open spaces.

Table 1: Population Growth 2000-2016 (000s)

Area	Total Population			Population Growth	
	2000	2008	2016	2000-2016	2008-2016
Warrington	**190**	**196**	**209**	**10%**	**6.6%**
North West	6,774	6,958	7,219	6.6%	3.8%
Great Britain	57,203	60,044	63,648	11.3%	6%

Source: Mid-Year Population Estimates (ONS)

A summary of the key recent and emerging economic success stories for Warrington are outlined below:

- As highlighted within the Warrington Means Business document, **development projects exceeding £750m in value** are either recently completed or underway within the town, with **over 5,000 jobs created** in the last two years.
- In less than three years, a vacant airfield in the north of the town has been transformed into the **Omega** site, delivering over **7,500 jobs**.
- The **£11 million investment** in **UTC Warrington** was completed in September 2016 for over 350 students, dedicated to providing the young people in the region with the Science and Engineering skills they need to be employed by locally based businesses in this field including Amec Foster Wheeler and Sellafield Ltd. This will enable these businesses to be sustained and grow over the coming years.
- **New Balance, Sonova** and a number of other multinational corporations have established their UK and European **head offices within the borough** over recent years, creating hundreds of jobs. This reflects the attractiveness of Warrington to international businesses as a result of the town's excellent strategic connectivity relating to Manchester Airport and the motorway and rail networks that are served by the town. It is also indicative of the fact that employers see Warrington as a town where skilled employees will want to live and work.
- Progress towards completion of the £107 million **Time Square** development is well underway and will deliver a **step change in retail and leisure in the centre of Warrington** (**Figure 1**) upon completion in 2019, including a new cinema, market hall and multi-storey car park.

[1] Warrington Means Business (2017) Available at: http://warringtonandco.com/wp-content/uploads/2017/01/Warrington-Means-Business-December-2016.pdf

Figure 1: Vision for Time Square

Source: Warrington Borough Council

2.3 Future Growth Context

An *Area Profiles and Options Assessment (2017)* document has been prepared by WBC to understand the implications of different growth scenarios for the different geographic areas within the main urban area of Warrington and for each of the outlying settlements of the borough. This has helped to identify and progress the Preferred Development Option for the emerging 20-year Warrington Local Plan (2017 to 2037), highlighted within the *Preferred Development Option Regulation 18 Consultation (2017)* paper. The total Local Plan growth proposals for Warrington are outlined below:

WARRINGTON DRAFT LOCAL PLAN (2017 - 2037) GROWTH PROPOSALS

- **Target delivery of 945 new homes per annum**
- **Employment land target of 362 hectares by the end of the Plan Period**
- **Total target for a minimum 18,900 new homes across the borough in the full Plan Period to 2037 (with a total requirement of 20,790 homes including 10% flexibility)**

(Source: Warrington Borough Council)

The Council believes that planning for this level of growth provides a major opportunity for Warrington. Addressing severe town centre congestion, unlocking major brownfield sites, delivering improved infrastructure and enabling the creation of new sustainable communities are also key to making this transition. The proposed 20,790 new homes will be located across the following areas:

- **Existing Urban Area** including Warrington Waterfront, inset settlements and other sites identified in the Council's Strategic Housing Land Availability Assessment: Approximately 13,700 new homes.
- **Garden Suburb**: Approximately 6,400 new homes, of which c4,200 homes are to be delivered in the Plan Period. This is in addition to 930 homes within the allocation which already have consent.
- **South West Warrington Garden Village**: c1,600 new homes in the Plan Period.
- **Outlying settlements**: Approximately 1,085 homes to be delivered on allocated sites to be removed from the Green Belt.

2.3.1 Urban Area & Warrington Waterfront

The Local Plan will guide the evolution of Warrington over the next 25 years.

Significant town centre investment has been achieved in recent years including enhanced public realm centred around Horsemarket Street and Buttermarket Street, the delivery of Golden Square and most recently the completion of 50,000 sq ft office space at The Base on Dallam Lane which forms the first phase of the new Warrington Business District development.

Warrington Town Centre Urban Quarters and Development Proposals

As highlighted within Warrington Means Business, regeneration and development of Warrington town centre will be focused around key quarters. Targeted investment in these key urban quarters will help drive forward growth in Warrington.

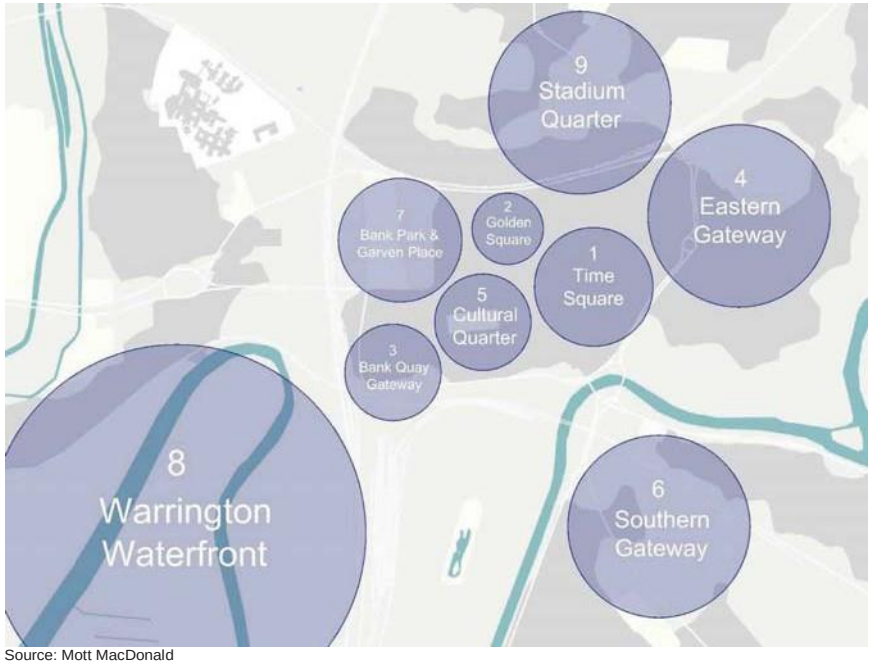
A step change in public realm across the town will help to connect these sites and increase the attractiveness of the town for all investors and users. The key characteristics of the town's urban quarters and the nature of investment proposals are outlined below.

1) Time Square • Phase 1 of this development focuses on the delivery of a vibrant new leisure destination including: – New Market Hall – Multi-screen cinema – New offices and restaurants – New 1,160 multi-storey car park	**2) Golden Square** • Thriving major indoor shopping mall at the heart of the town including major nationwide retailers. • This includes emerging opportunities to further use the Old Market Place as a focus for outdoor cafes.	**3) Bank Quay Gateway** • Delivering a new major rail station based development area to the west of the town centre is a key objective.
4) Eastern Gateway & St Elphin's Urban Village • Creating a new urban village and new Eastern Gateway in an area of underused land at the heart of the town centre.	**5) Cultural Quarter** • Delivering heritage urban living in Warrington's premier Conservation Area. • The aim is to use development to complete the gaps in the unique and attractive built form of the area.	**6) Southern Gateway** • New urban quarter to link Stockton Heath to the city centre along Wilderspool Causeway.
7) Bank Park & Garven Place • Over the last two years, the council has updated Bank Park to produce a revitalised urban park and festival venue. • Garven Place will be redeveloped as an area of new town houses.	**8) Warrington Waterfront** • Bringing forward new homes and new business space at the waterfront and Port Warrington. • Development of the waterfront has been historically constrained by a lack of access infrastructure however the forthcoming Centre Park Link, Western Link will address this.	**9) Stadium Quarter** • Creating a new Central Business District and a wider mixed-use area to live, work, study and enjoy. • Redevelopment of key sites including Central Rail Station and vacant and underused sites and buildings will create a new northern gateway into the town centre.

These significant growth proposals within the urban centre emphasise the importance of delivering solutions to reduce the already high congestion levels on the highway network in order to increase the attractiveness of the town for prospective developers and investors. Proceeding sections of this report will explore how demand management solutions and strategic mass transit might help to support delivery of the ambitious town centre growth.

The graphic displayed below as **Figure 2** indicates the spatial distribution of the town's urban quarters.

Figure 2: Town Centre Urban Quarters



Source: Mott MacDonald

2.3.2 Green Belt

In addition to the growth proposals for the existing urban centre and at Warrington Waterfront, to meet the proposed total 20,790 new homes and 362 hectares employment land target by 2037, significant development is to be brought forward across the rest of the borough. In the *Local Area Profiles and Options Assessment (2017)* work, WBC noted that the preferred spatial distribution for new development in outlying areas would be to accommodate the majority of new development in the green belt adjacent to the main urban area, with incremental growth in outlying settlements.

It is expected that around 6,400 new homes will be brought forward through green belt release in the Garden Suburb to the south east of the town. A key point of consideration for the proposed Garden Suburb is the lack of direct rail connectivity for the area whereas a number of other proposed garden suburbs of similar scale also incorporate plans for a new station or are already served by a station.

At a smaller scale, 1,600 new homes are expected to be developed through the release of green belt to the south west of the urban centre, the South West Warrington Garden Village. A further 1,085 homes are proposed through green belt release and 'incremental growth' in the borough's outlying settlements. This incremental growth is defined as development that could be accommodated by existing infrastructure, subject to minor expansion, up to 10% of settlement size.

In total, the proposed delivery of new homes and employment land in the borough's green belt could have significant implications on access and movement across the borough. The demand management and strategic mass transit sections of this report will consider how WBC can work with investors to ensure that reliance on single occupancy car trips for access to and from new sites in the green belt to employment, education and leisure opportunities can be reduced.

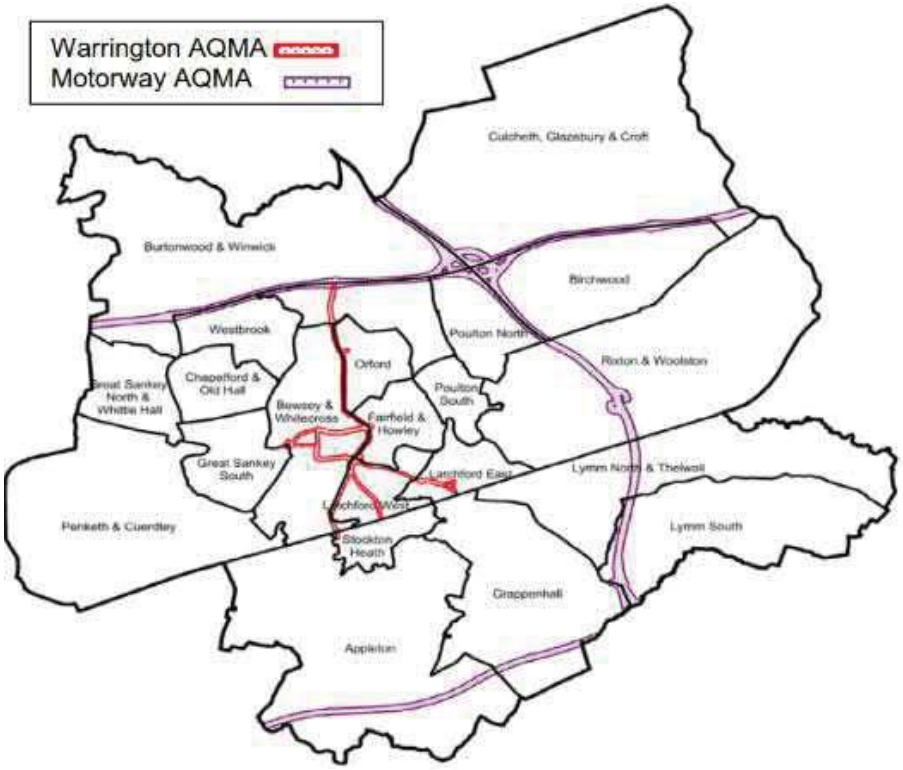
2.4 Environmental Context

The Warrington Means Business Growth framework highlights that the proposed growth could be built on a number of key principles including being a *Sustainable and Self Sustaining place* where Warrington is low carbon and energy positive, self-sustaining financially through growth and is connected by modes of travel that are fit for the 21st century.

A key challenge for the Council is to ensure that growth is promoted across the borough whilst at the same time improving air and noise quality and congestion and reducing carbon emissions. The Warrington *Air Quality Action Plan (2017)* has been produced to outline how air quality in Warrington will be improved between 2017 and 2022, focusing on reducing nitrogen dioxide (NO_2) levels within Warrington.

Whilst the majority of Warrington benefits from good air quality, two Air Quality Management Areas (AQMAs) are currently in place (**Figure 3**). The motorway related AQMA was designated in 2002, whilst there are areas close to the main arterial roads that lead into and around the town centre where national standards for NO_2 are also being exceeded. This led to the creation of the Warrington AQMA in November 2016.

Figure 3: Map of Warrington's AQMAs



Source: Warrington Brough Council

2.5 Transport Context

A range of previously completed studies have identified key transport issues and opportunities for the borough as well as potential transport investments which will help to support long term sustainable growth within Warrington. Key concepts and investment opportunities will be explored in further detail within the following sections of this report.

Notably, the *Warrington Transport Summary Evidence Base (2017)* highlights that bus patronage has been declining across the borough. This study also notes that there are a number of congestion hotspots across the borough including within the town centre and on the motorway network. A key transport challenge identified is also that population growth in areas of lower population density can make the promotion of sustainable travel more challenging if the public transport network is not developed. A further key challenge is the fact that growth of LGVs in Warrington has been significant and will need to be considered in transport policy and strategy within the borough.

2.6 Health and Social Context

Decreasing bus patronage, the dominance of the car for journeys undertaken across the town and reduced propensity to walk and cycle for shorter distance journeys, or as part of a longer journey, are combining to reduce individual and community health standards. Going forward, it is fundamentally important to ensure that public realm and walking and cycling routes are attractive enough to encourage modal shift from vehicular modes in order to deliver individual health and wellbeing benefits as well as wider air quality improvements. Specifically in the context of this study, any investment in mass transit will need to be accompanied by improvements to walking and cycling routes between key residential and employment areas and transit stops in order to encourage patronage on the route(s).

2.7 Summary

This baseline analysis of Warrington has outlined a number of key implications for the demand management and strategic mass transit elements of this study. Headline findings are as follows:

- It is recognised that Warrington suffers from regular traffic congestion (most significantly within peak periods on select links) and notable air quality issues within both the town centre and on the motorway network. If Warrington is to realise its target for 20,790 new homes and 362 hectares employment land by 2037, it is essential that all residents, commuters and visitors are provided with attractive non- car modes to be able to access opportunities within the borough.
- Given the scale of proposed growth within the urban centre and in green belt land that surrounds the existing town, as well as sustained population growth in Warrington, it is likely that sustained and radical investment in transport infrastructure will be required to create the conditions for future high growth. Isolated junction improvements and new car parking will not be enough to realise the ambitious economic ambitions within the Local Plan and Warrington Means Business.
- Delivering sustainable transport enhancements for Warrington is only one element of the long term transport plan for Warrington. Exploration of demand management concepts such as the Workplace Parking Levy as well as exploring opportunities relating to a Clean Air Zone are important for identifying ways to reduce congestion, improve air quality and improve the attractiveness of the borough for new investment.
- Furthermore, whilst it has been demonstrated that Warrington is a hugely economically successful location, the connectivity needs of the most deprived areas of the borough should not be forgotten. Exploring opportunities to deliver attractive, safe and convenient non-car modes of travel are particularly important to these localities.

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3 Issues

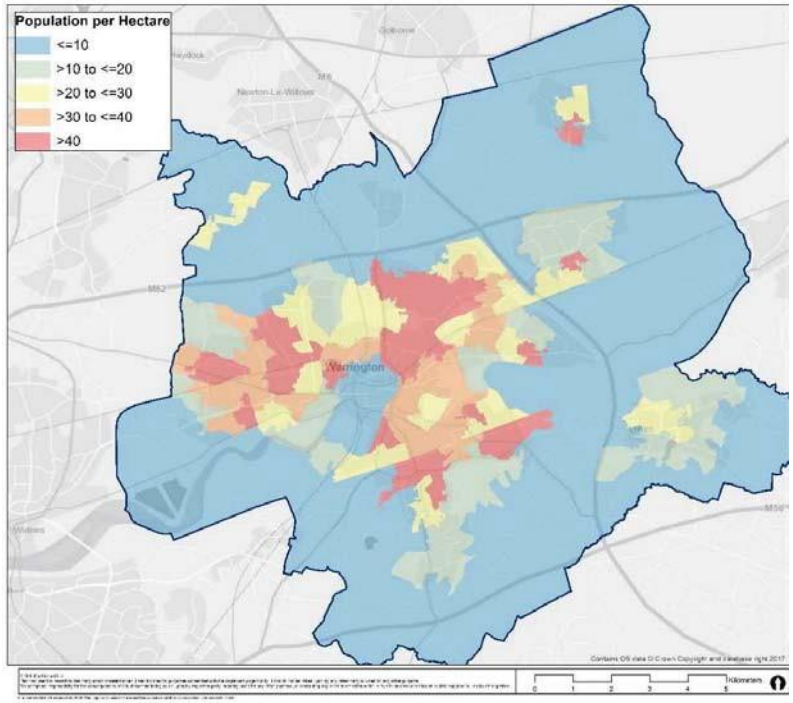
3.1 Overview

To achieve the high levels of growth aspired to in the Local Plan, a step change in Warrington's transport infrastructure is required to support the additional housing and employment sites and to ensure that transport connects residential areas to existing and emerging job opportunities. This chapter provides an assessment of Warrington's current and likely future transport and demographic baseline in order to identify where there are currently gaps in the transport network. Without addressing these issues, negative impacts in terms of congestion and air quality, are likely to constrain economic and housing growth in Warrington.

3.2 Baseline Situation

3.2.1 Population and Employment

Figure 4: Population per hectare (2016)

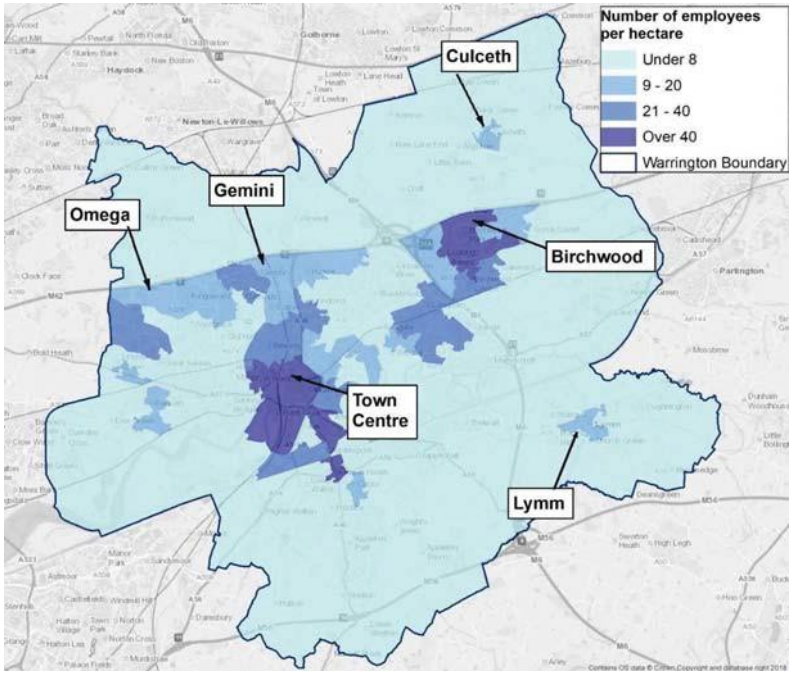


Source: ONS Mid-year Estimates 2016

Warrington is a multi-centric borough in terms of population and employment. **Figure 4** shows the current population per hectare for each LSOA in the borough. This demonstrates that the urban area of Warrington covers a large expanse, with the majority of the borough's population located to the west, east and south of the town centre, with fewer residents north of the M62. There is also a sizeable number of outlying settlements in the borough, such as at Lymm, Culcheth and Birchwood.

According to the latest available census data from 2011, levels of car ownership in the borough are above the regional and national averages; 81% of households had access to a car or van, compared to 74% in England and 72% in the North West. As well as the residential area of Warrington being dispersed (**Figure 4**) employment density is also spread out (**Figure 5**). As in the case of the distribution of the borough's population, a 'T' shaped distribution can be seen, with employees concentrated in the town centre, and along the M62 corridor to the north of the town centre. There is an inverse relationship between residential and employee densities as the densest employment locations are predominantly located in the areas where residential densities are smallest.

Figure 5: Employees per hectare

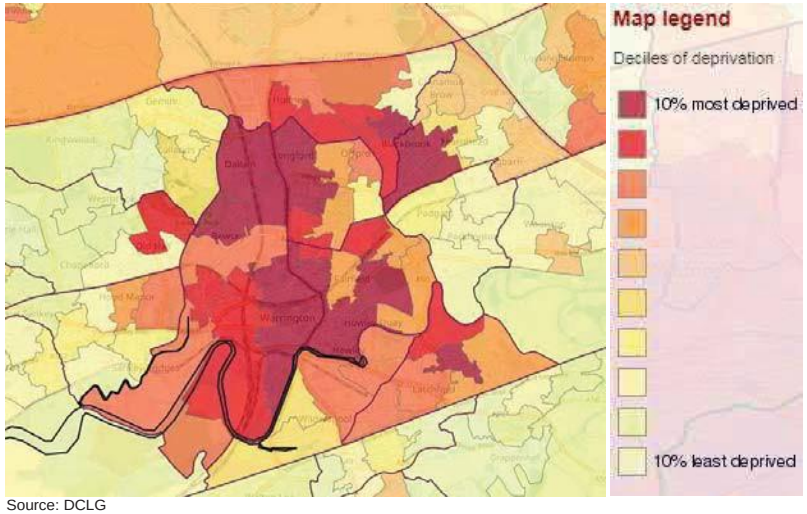


Source: BRES, 2016

Warrington is a borough of relatively low deprivation when compared regionally and nationally, although there are pockets of higher deprivation in the town centre and to the north around

Longford, Dallam and Blackbrook. **Figure 6** displays a graphical summary of 2015 IMD data for the town centre and immediate surrounding areas, reflecting the fact that a small number of town centre and north of town centre wards fall within the 10% most deprived in the country. Better connecting residential populations in these areas to education and employment opportunities by non-car modes will be a crucial step in helping to reverse economic decline and deprivation in these areas.

Figure 6: Warrington Town Centre IMD Mapper



Source: DCLG

3.2.2 Travel

3.2.2.1 Cars

Travel within and into Warrington Borough is dominated by private vehicles. Census data indicates that the private car or van is used by 80% of Warrington residents to get to work (anywhere). Further to this, 73% of Warrington residents who also work within the borough travel by car to work – 65% as a driver, 8% as a passenger (see **Figure 10**). **Figure 7** shows the proportion of people in each MSOA who travel to work within Warrington borough by car (driver or passenger). **Figure 8** and **Figure 9** show the proportions of people who work in Central Warrington and Birchwood respectively who travel by car to work as a driver, despite both being served by rail stations. Even greater dominance of car usage is seen at Omega, which is not served by a rail station.

The situation is undoubtedly influenced by the geography of employment in Warrington, with many large employment sites, namely Birchwood, Gemini and Omega, being spread out around the borough and away from public transport hubs. This is reflected by larger than national average increase in households with 2 or 3 cars/vans between 2001 and 2011, and a larger than national average drop in the number of households with no cars.

3.2.2.2 Buses

Bus services in Warrington are mainly operated by two companies: Warrington's Own Buses and Arriva, with smaller numbers of services operates by companies including First and Springfield. Warrington's Own Buses are the largest operator and are well placed to work in partnership with the council given their status as a council-owned arms-length organisation. The overall bus network is strongly centred around the town centre, with almost all routes starting/ending in the town centre, in a hub-and-spoke layout. There are very few cross-town routes or routes between outlying parts of the borough, leading to passengers often requiring two services to get to destinations beside the town centre. Bus patronage in Warrington has fallen from 11.1 million passenger journeys in 2010/11 to 6.9 million in 2015/16 – a drop of nearly 40%. This is significantly more than the 10% decrease observed across the North-West region over the same time period. Moreover, according to Department for Transport statistics for 2016/17, the number of bus passenger journeys completed per head across Warrington was only 31.8. Whilst this is broadly similar to the figure for Cheshire West and Chester (31.5), it compares unfavourably to the number of bus journeys per head at North West level (56.6), and at national level (80.0).

However, officers from WBC have highlighted that previously, patronage on Warrington's bus network had held up better than for the region as a whole and a more accurate interpretation of the falling patronage is that the borough has experienced a later and slightly sharper decline in patronage rather than a larger overall decline. Whilst route coverage and frequencies of the bus network have fallen in Warrington in recent years, it is understood that no more than 10% of services are publicly subsidised and WBC have also significantly reduced funding for evening services. There has, in fact, been some increase in evening bus services across the borough in recent years, implying that some of these routes are now considered commercially viable by operators. During 2018, new high frequency services between south Warrington and Warrington Interchange and Bank Quay, and rebranded "Cheshire Cat" services between the town centre and Stockton Heath were introduced.

3.2.2.3 Rail

Warrington has six rail stations within its boundary, but the frequency of rail services between them are poor. Five of these lie on the CLC Liverpool – Manchester line, with Bank Quay on the north-south West Coast Main Line. There is one train an hour between Sankey for Penketh and Warrington Central, and no direct services between Sankey for Penketh and Birchwood before 08:00am. Interchanges between the Central and Bank Quay stations in Warrington town centre require a 15-20-minute walk, and no bus services call immediately outside Bank Quay Station.

The combination of dispersed employment sites, out of town retail parks, limited cross-town bus routes, and limited rail services between local stations, is a major driver of the car dependent culture, and associated congestion, which is observed in Warrington. Further to this, the 'New Town' urban form with historically poor pedestrian links, disconnected cul-de-sacs and limited connection points is another important driver for this car dependent culture. Cars account for 75% of traffic miles on major roads in Warrington[2].

[2] DfT (www.dft.gov.uk/traffic-counts/area.php?region=North+West&la=Warrington)

Figure 7: Proportion of Warrington residents who travel to work in Warrington by car as driver or p'ngr

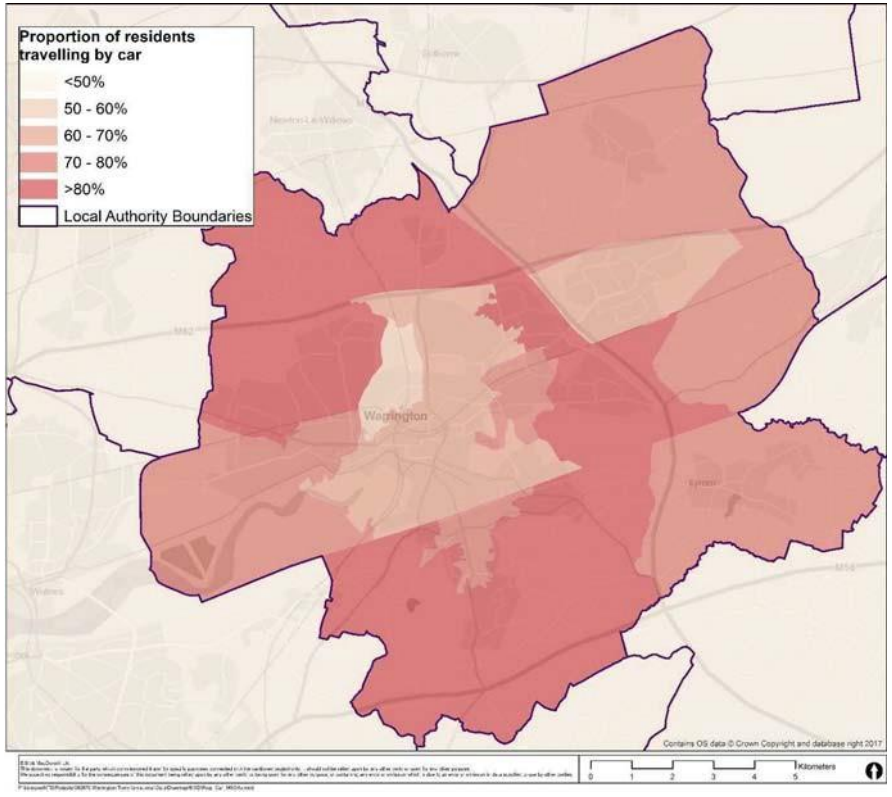
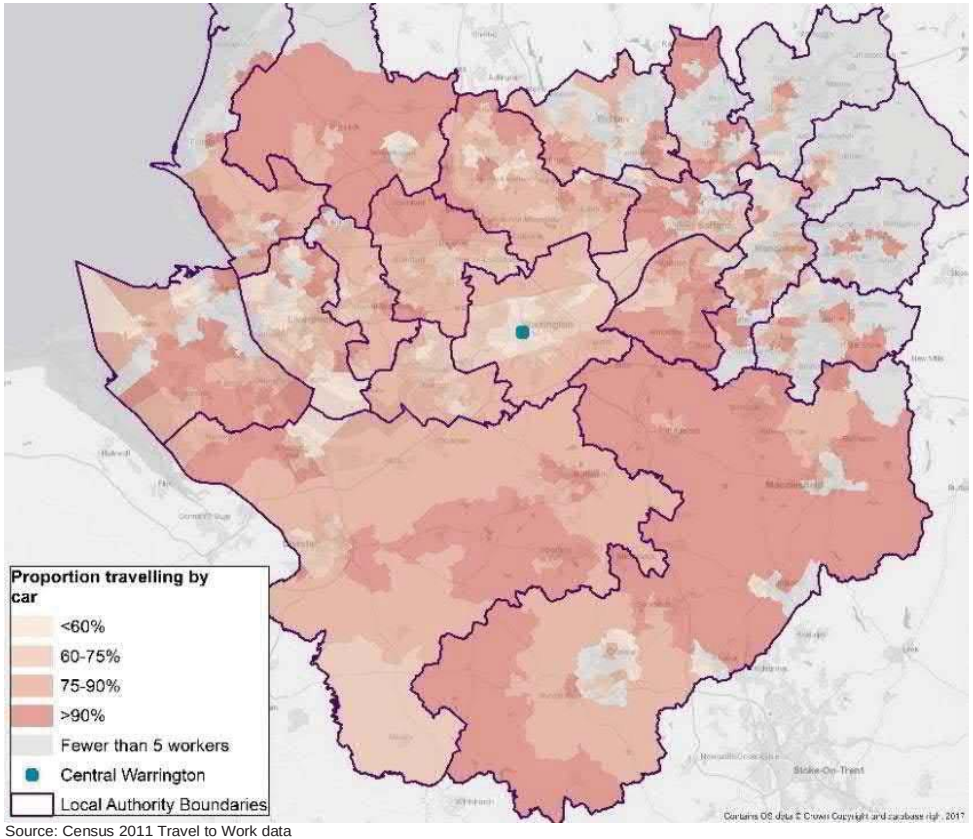
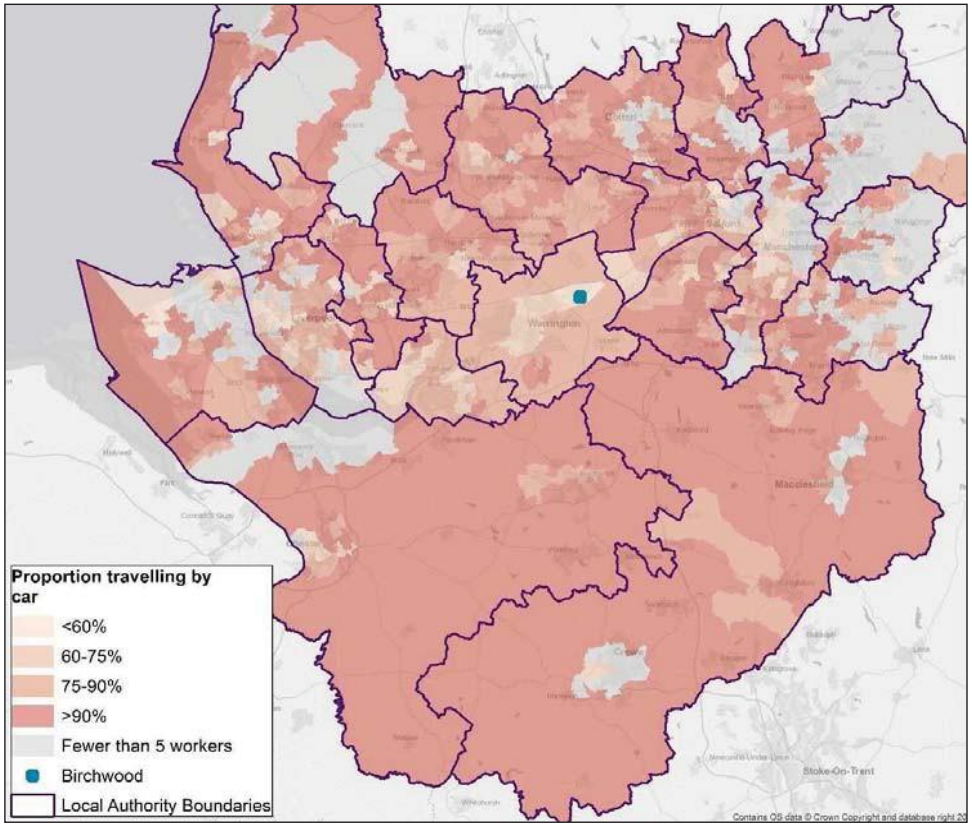


Figure 8: Proportion of people who travel to work in Central Warrington by car



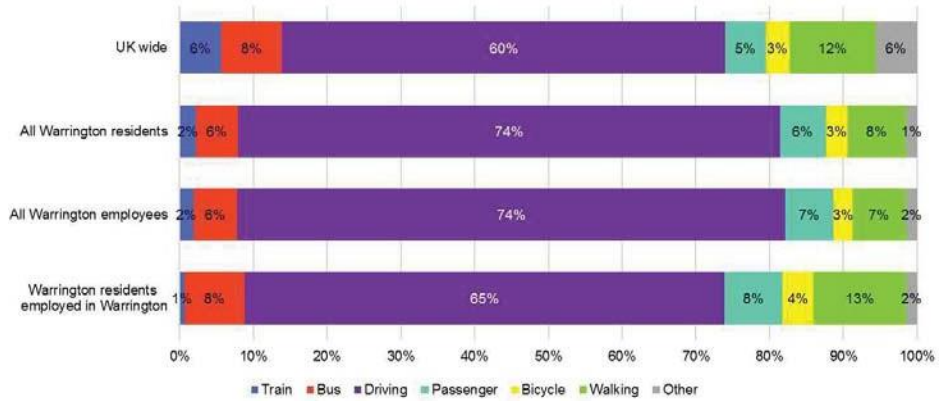
Source: Census 2011 Travel to Work data

Figure 9: Proportion of people who travel to work in Birchwood by car



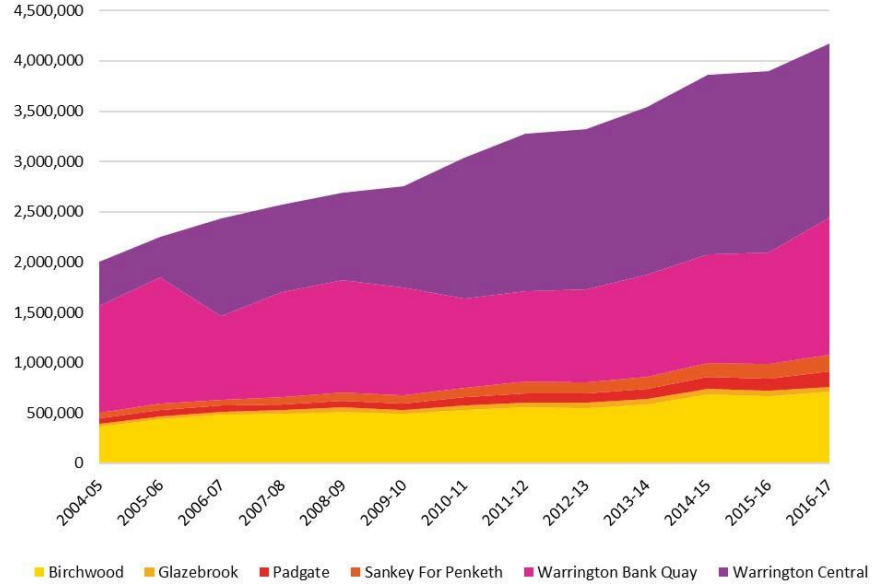
Source: Census 2011 Travel to Work data

Figure 10: Usual method of travel to work by Warrington residents and employees



Source: Census 2011 Travel to Work

Figure 11: Warrington Station Usage



Source: ORR, 2017

Figure 11 shows that despite rail accounting for a low proportion of mode share for travel to work, patronage at rail stations has risen steadily since 2004. Growth at Warrington Central station from 444,000 in 2004-05 to 1,730,000 in 2016-17 accounts for 60% of the increase.

3.2.2.4 Walking and Cycling

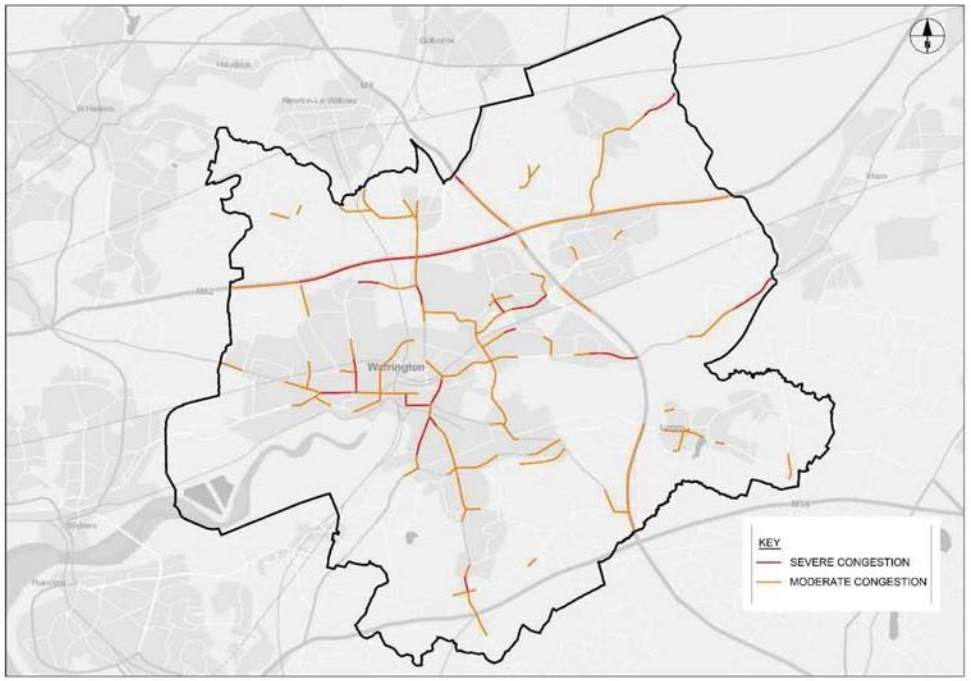
It is important to consider active travel within this report given that mass transit is part of a wider transport vision for the borough and opportunity to increase levels of walking and cycling should be considered. According to government figures from 2016, at borough level, levels of walking and cycling among adults in Warrington fall slightly below the national average but just above the average for the North West. In Warrington, just over 69% of adults walk or cycle at least once per week, while 44% walk or cycle at least three times per week. This compares to the regional averages of 68% and 42% respectively and the national averages of 71% and 46%[3]. On the whole, pedestrian and cycle counts conducted by WBC indicate that level of walking and cycling in the borough are on an upward trend, particularly for access to and from Omega and in part due to the demographic of the workforce.

Improving the 'last mile' of journeys into the town centre for pedestrians, cyclists and public transport is a key priority within the emerging LTP4. It is imperative that any investment in enhanced public transport for Warrington is integrated with walking and cycling proposals to deliver seamless journeys for all users in the area.

3.3 Implications of CarCulture

The clearest impacts of such heavy dependence on private vehicles is demonstrated in **Figure 12** and **Figure 13** which show levels of highway congestion in the AM and PM peaks. Congestion, particularly in the AM Peak, is observed on most of the main routes into Warrington town centre, plus a long section of the M62 to the north of the town centre. This congestion is already beginning to have economic implications for the borough; some consultation responses received from developers in relation to the Preferred Development Option of the Local Plan have expressed concern that the borough's highway network may not be able to accommodate the expected increased travel demand that their developments would have. Further implications of this car culture include health inequalities related to atmospheric pollution, community severance and noise as well as in relation to quality of life in terms of increased inactivity.

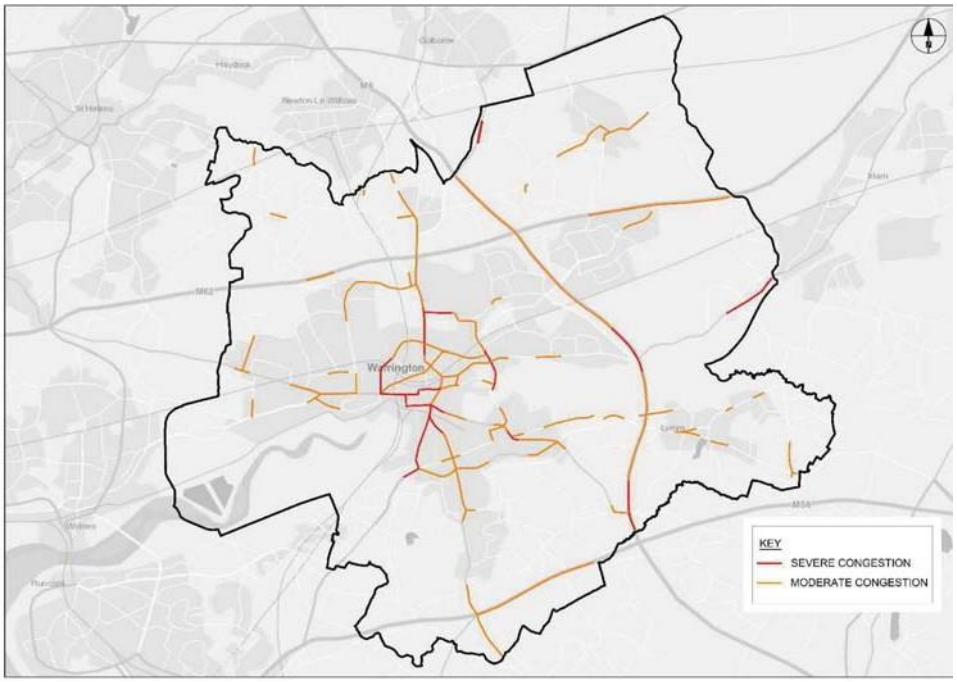
Figure 12: Congestion in AM Peak



Source: Google Maps

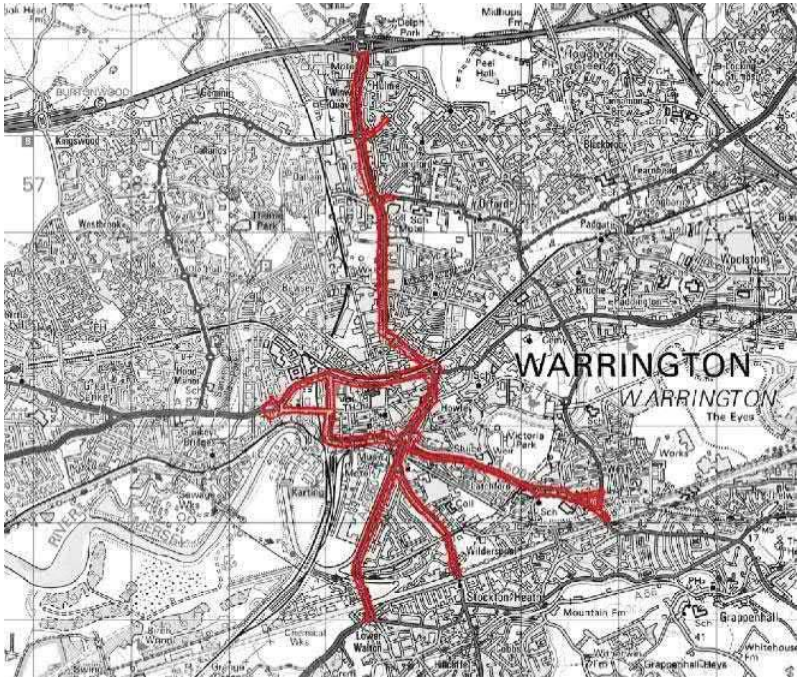
[3] https://www.gov.uk/government/collections/walking-and-cycling-statistics#data-tables

Figure 13: Congestion in PM Peak



Source: Google Maps

Figure 14: Central Warrington AQMA



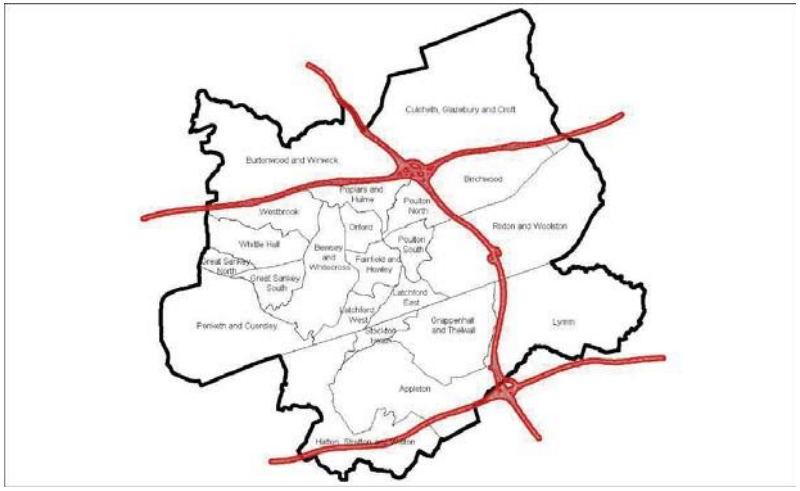
Source: Warrington BC

Beside congestion, poor air quality is a key issue in Warrington. This is reflected by the fact that in 2013, 4.8% of all mortality in the town was attributable to man-made particulate pollution, the equivalent to 95 premature deaths. This is slightly worse than the average for the north west of 4.6%[4]. Air pollution, in the form of Nitrogen Oxide (NO_x) and Nitrogen Dioxide (NO_2), has severe detrimental impacts on people's health and wellbeing.

Two Air Quality Management Areas have been declared by Defra in Warrington. The extents of these are shown in **Figure 14** and **Figure 15**. Whilst not the only component, vehicular traffic is a strong contributor to air pollution, hence AQMAs are along heavily-trafficked major roads.

[4] https://www.warrington.gov.uk/info/201090/environmental_issues/2024/air_quality_and_pollution

Figure 15: Motorway AQMA



Source: Warrington BC

3.4 Emerging Trends

The Mersey Gateway Bridge opened in Halton in late 2017 and is located 5.5 miles west of Warrington town centre, taking much of the traffic demand from the older Silver Jubilee Bridge. The standard toll for crossing the bridge is £2.00 for a one-way trip, rising to £8.00 for an HGV. The Mersey Gateway scheme represents a substantial increase in capacity for crossing of the Mersey at Halton, but the imposition of a toll raises the possibility that some traffic may find the option of cross river travel using the bridges at Warrington more attractive and that may have consequent traffic impacts across the Warrington area.

To better understand the impacts of the new Mersey Gateway on traffic within Warrington, flows on ten strategic routes in the town have been monitored in the period before and after the opening of the Mersey Gateway. Interim results suggest that changes in travel levels since the opening of the Mersey Gateway have been relatively small, with the most notable proportionate increases being off peak, although small in actual numbers.

The new Warrington West rail station was approved in late 2017 where it received full funding, and opening is expected in 2019/20. It is located on the CLC line, to serve Chapelford, Lingley Mere and Omega with three services per hour: two stopper services (Liverpool Lime Street – Manchester Oxford Road) and one semi-fast (Liverpool Lime Street – Manchester Airport). Crucially, this station will deliver a fit for purpose rail station in the west of the town, opening up access to rail services for a significant number of residents and employees in this area. The station will have a large 250-space car park which will also make it an attractive park and ride station for those living within the wider catchment of the station

Warrington Western Link is a proposed new highway between the A56 and A57 on the western side of Warrington and is expected to bring much needed relief of congestion for Warrington town centre. The route will connect between the A57 and A56 providing a bypass of Warrington Town Centre and a new higher capacity river crossing. The key opportunity related to Western Link and this study is for greater segregation of Warrington's public transport offer on roads where traffic flows are reduced by the new Western Link, particularly in the town centre.

3.5 Future Baseline

As highlighted within Chapter 2 of this report, the Warrington Draft Local Plan Preferred Development Option sets out the future requirements for housing and employment sites in the borough. Approximately 20,790 new homes and 362 hectares of employment land are incorporated in to the preferred development option for building over the next 20 years.

To estimate the additional quantum of trips produced each day as a result of the additional housing proposed in Warrington over the next 20 years, a simple calculation based on a number of assumptions and first principles is possible. From the 2011 census, the average number of employees per household is 1.3 so for 20,790 additional households, this amounts to 27,027 additional employees living in the borough. If we assume each of these employees makes two trips (1 outbound, 1 inbound per day) this equates to 54,054 additional daily trips. Not all of these will be by car, however, so assuming car driver current mode share for Warrington residents (74% from **Figure 11**) we obtain a total of around **40,000** additional car trips. This however doesn't take into account increased car trips to Warrington employment sites from those who don't live in the borough, or any non-work trips by new residents.

If a standard urban traffic lane has a throughput of about 2,000 vehicles per hour in free-flowing conditions, this amounts to a requirement for **20 additional traffic lanes in the peak hour.** Clearly this is a significant additional traffic impact however **Figure 19** also demonstrates how much more efficiently we can use space in the town is if we encourage more people to travel by bus, by bicycle or on foot as opposed to by car.

Figure 16: Difference in road space requirement for 60 pedestrians, cyclists, bus users and car drivers

Source: Mott MacDonald

Employment sites are likely to be concentrated in areas where high levels of employment already exist, namely the town centre, Birchwood, Omega and around J20 of the M6 on the southern edge of the Garden Suburb. Additionally, employment development is proposed in the Waterfront area to the west of the town centre.

Whilst some residents will be employed within the new development areas, such as in new schools, health centres, retail and community facilities, many will likely travel to work in other

parts of the borough. To ensure Warrington's economy benefits from the new housing and population associated with it, and does not simply become a commuter settlement for people working in other places such as Liverpool and Manchester, improving transport connectivity within the town is of utmost importance. The proximity of the Garden Suburb to a good motorway network makes commuting by car to other locations an attractive option for many; without careful consideration and transport investment within Warrington, the borough will miss out on the business investment and growth which could be generated.

The growth proposals for new residential (and employment) developments for Warrington Borough will put added pressures on to an already congested network. With many of the proposed new residential developments being on the south-eastern and south-western edges of the urban area, the propensity to default to car-dominant travel is high unless viable, high-quality alternatives are provided, with suitable demand management to discourage people from travel by car. Later in this report, various demand management and public transport improvements such as mass transit are considered.

3.6 Summary

The assessment of the baseline current and future transport situation has identified the following key potential issues for Warrington to be resolved by the Transformational Scheme Strategy:

- **Car Dominance:** The Census 2011 shows that 80% of Warrington residents travel to work by car (74% as drivers). This congestion and air quality issue situation is exacerbated by:
  - The geographical spread of employment;
  - Higher than national levels of average car ownership;
  - Good access to the motorway network on most radial corridors within the borough; and
  - Low density housing and employment development away from town centre.
- **Accessibility to Public Transport:** Many people that live and work in Warrington borough do not enjoy easy access to a high frequency public transport corridor. This is because of a variety of factors including:
  - Dispersal of the population in areas of low density which are notoriously difficult to serve by cost effective public transport;
  - Significant amounts of employment in out-of-town business parks not well served by public transport;
  - A public transport network focussed on the town centre despite the dispersed nature of both housing and employment across the borough; and
  - Reduced availability of funding from Central Government to spend on non-commercial bus services.
- **Future Housing and Employment Growth:** Over the next 20 years, the Local Plan aspires to build 20,700 new houses. This could equate to around 40,000 additional car trips per day from Warrington residents for employment alone.
- **Congestion and Air Quality Issues:** As a result of the above, Warrington's road network experiences some of the worst congestion in North West England and has led to the declaration of two Air Quality Management Areas: one covering the town centre and A49 Winwick Road and the other covering the M6, M62 and M56 motorways within Warrington. In this context, improving pedestrian and cycling accessibility is an opportunity that Warrington should investigate as part of any investment in transformational transport schemes.

As Chapter 2 explained, Warrington is one of the best performing economies in the North West and has significant economic potential for further growth and development. A failure however to ensure that the borough is both better connected by public transport and has a transport network which can accommodate future growth, will stifle the economic prosperity and success of the borough.

4 Opportunities

4.1 Overview

A review of economic context has demonstrated that Warrington is a key location outside of the two big cities in the North West where businesses want to invest and people want to live. Sustaining this position of strength requires targeted and sustained investment in our key infrastructure. At the more local level, the concurrent production of Warrington's Local Plan and LTP provide a key opportunity to ensure that transport aspirations are captured within the Local Plan. At the more strategic level, the opportunity for north south and east west high speed rail connectivity provided by HS2 and Northern Powerhouse Rail will support our advanced businesses to grow and thrive, strengthening Warrington's position as the cornerstone of the UK's research and technology sector. Investment to establish Warrington Bank Quay station as a destination and transport hub is crucial for Warrington to be able to capture the full benefits of high speed rail connectivity.

4.2 Local Context

A unique and exciting opportunity is presented for Warrington due to the Local Plan and the Local Transport Plan (LTP) being refreshed simultaneously. The Local Plan and the LTP are two of the most important documents for shaping the strategic direction and development of the housing and transport network at a local level, and producing them concurrently allows for them to be aligned and consistent with one another. This study aims to identify major transformational transport projects which will be needed to support and enable the full realisation of the ambitious plans for housing and employment growth in Warrington. Both the Local Plan and LTP can be written with regard to the identified projects to prevent conflicts between them and ensure full local policy support. The Local Plan and the LTP are Warrington's own documents and cover policy and decision making that is within the control of Warrington Borough Council. This means they can be shaped to reflect the specific needs and situation of Warrington and implemented fully whereas other policies such as those relating to High Speed 2 and Northern Powerhouse Rail are national policies which Warrington has limited power to influence.

Two Stakeholder Transport Summits have recently taken place in Warrington, each covering a key area of transport network development: public transport and highways network management. The purpose of these summits was to get stakeholder input into the development of the fourth LTP, explain the development process to stakeholders and to gather ideas for transforming the public transport and highways networks of Warrington to be considered for incorporation in to the LTP, based on feedback from the Transport Summit in June 2016.

The Passenger Transport Summit outlined the existing situation with the public transport networks in Warrington (bus, rail and taxi) in terms of patronage and service provision, the scope of the Council's powers to influence and change the situation, and the actions the Council is currently undertaking to improve the network. It then looked at the future situation as it is currently understood and highlighted the biggest changes which are expected to come: the Buses Bill, which will give Council's greater power to improve bus service provision, Smart and Integrated Ticketing, and future rail services on the CLC Line, HS2 and NPR. The key themes and issues identified by stakeholders for where improvements to public transport are needed are:

- Frequency of services and off-peak coverage
- Provision and speed of services to out of town destinations
- Cost and affordability, including season tickets and multi-operator tickets
- Information and communication, both of changes to services and real-time updates
- Prioritisation of public transport and disincentivisation of car usage
- Improvements to air quality.

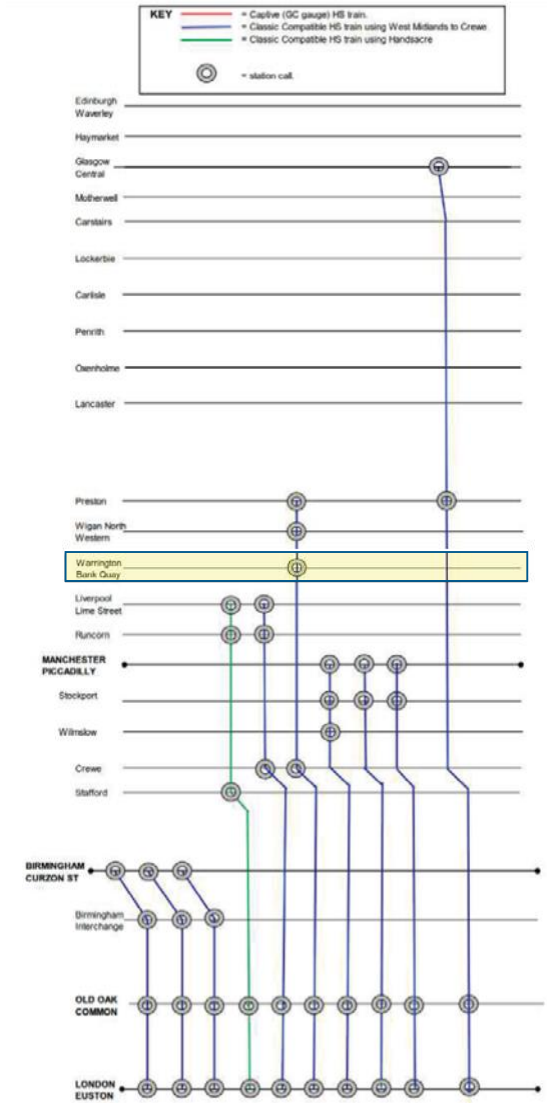
The second summit focused on managing highways in terms of vehicular movement and the maintenance of the highway assets. As with the public transport summit, the session followed a format that facilitated discussion of: the current situation; current issues; the Council's existing powers; and future opportunities. Vehicle flows on Warrington roads are high, with cars accounting for around 75% of traffic. Particular areas of congestion and slow average speeds include Wilson Patten Street and the A574. As the highways authority, the Council is responsible for maintaining the highways network to ensure it remains fit for purpose and maintains movement of traffic around the borough.

The Council has a range of technological systems to monitor and manage the live situation on the highways network; this infrastructure is currently being updated to the latest systems. The use of technology and apps was a recurrent theme with regards to improving management of the highway. Good maintenance of active travel routes was identified as a factor which would encourage modal shift towards active travel, along with better integration and coverage of affordable public transport services to provide a viable alternative to car use.

4.3 High Speed 2 (HS2)

Warrington will be served by HS2 from day one of Phase 1 of the scheme. At present, the core consulted scheme suggests an hourly service in both directions between London Euston and Preston serving Warrington Bank Quay providing an approximate 80-minute journey time to London in 2026 reducing by 12 minutes upon the completion of Phase 2A in 2027 (**Figure 17**). This compares with typical current fastest journeys of 110 minutes. HS2 services are not yet set but Warrington will be lobbying for a residual West Coast Mainline service between Scotland and London Euston via Warrington Bank Quay to be retained providing multiple journey opportunities from Warrington each hour as per **Figure 18** which shows the modelled assumptions for classic rail services on the West Coast Main Line consistent with assumptions for HS2 shown in **Figure 17**.

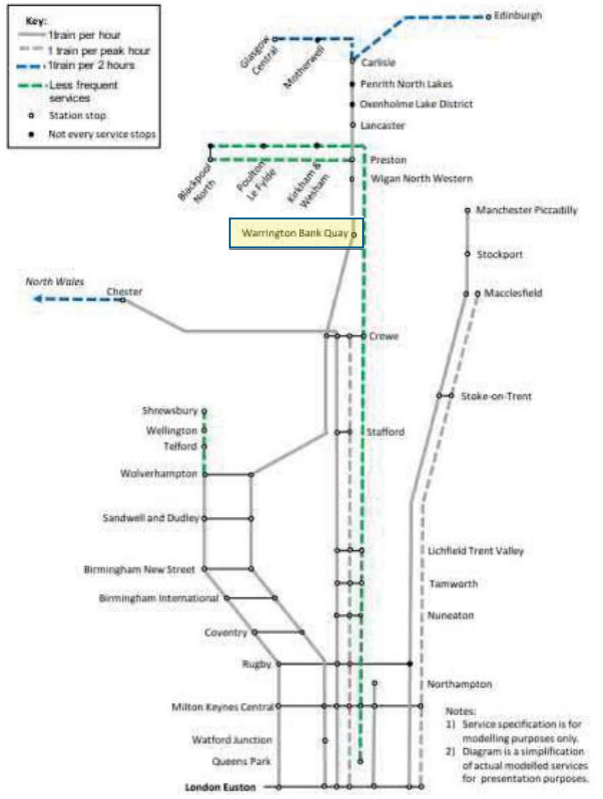
Figure 17: HS2 Phase 2A Service Patterns



Source: HS2 Ltd

The primary opportunity around HS2 for Warrington is in the increased number of passengers passing through Warrington Bank Quay as a result of the increased accessibility and reduced journey time to London. This may, in turn, make Warrington a more desirable place to live and/or locate a business in, and will see significantly increased passing trade as a result of increased passengers using the town as a transport interchange hub. Warrington would become a key access point to the HS2 network for a large catchment of people from within Warrington borough, from the St Helens and Widnes areas and their surrounds, and from selected parts of north Cheshire and north Wales, Merseyside and western Greater Manchester. This emphasises the importance of providing high quality accessibility into Warrington Town Centre from these areas. Later sub-sections detail the proposals to transform Warrington Bank Quay into a 21st century interchange station, and to significantly improve its accessibility and attractiveness in its urban context.

Figure 18: Residual West Coast Mainline Service Patterns – HS2 Phase 1/2A



Source: HS2 Ltd

WBC has put forward an alternative option to HS2 in its response to the Phase 2 consultation in which the so-called Golborne link (which bypasses Warrington) is removed and the West Coast Mainline is upgraded between Crewe and Wigan instead. This option would see significantly more trains passing through Warrington with the potential for some or all of these to stop, improving the service level for the town. Nonetheless, even if this option is not realised, Warrington will still reap the benefits of its hourly HS2 service and will represent the best access to the HS2 network for a large catchment of the Mid-Mersey and north-Cheshire region.

4.4 Northern Powerhouse Rail (NPR)

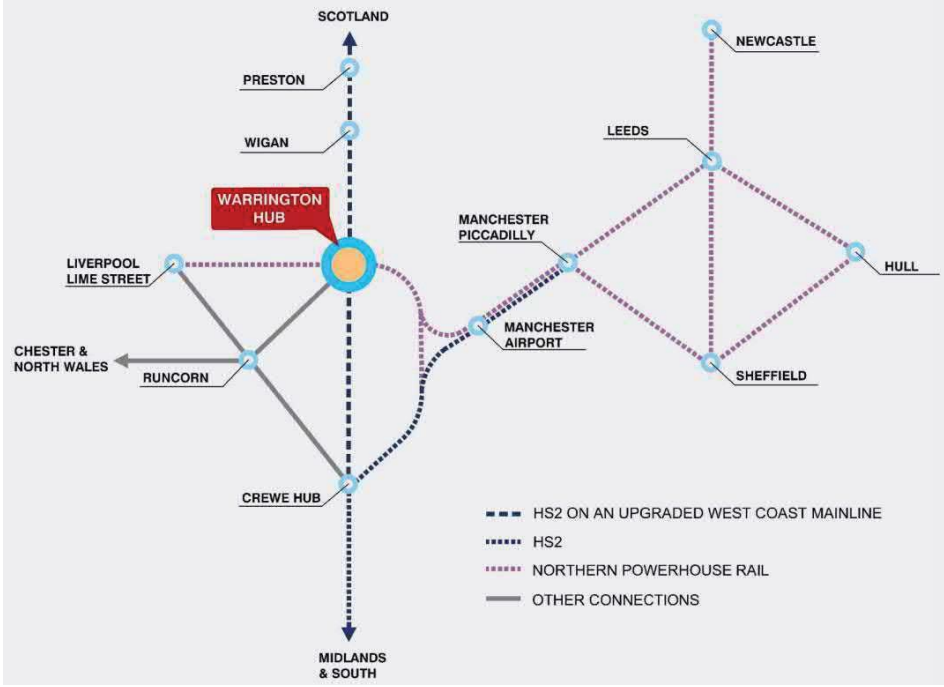
NPR represents a significant aspiration for northern city regions and local authority areas to enhance their intra-regional connectivity and to create a so-called 'Crossrail of the North'. The ultimate prize of this endeavour is for the North of England to operate as a single economic region with a population and economy to compete with the South East and London. The aim is to create a more balanced economy with the northern towns and cities better able to tap into the agglomeration benefits that a more mobile workforce and a polycentric economy can bring. Although currently uncommitted, NPR enjoys the support of significant political leaders across the North of England and central Government, and is included in Transport for the North's recently published Strategic Transport Plan.

The Strategic Transport Plan has confirmed that the preferred NPR proposals include a stop in Warrington, Warrington having been confirmed as an Other Significant Economic Centre (OSEC). The exact alignment of NPR will be the subject of further development work, but there are clear advantages in developing a hub station in Warrington town centre.

The benefits would be enhanced attractiveness of Warrington town centre as a location from which to catch long distance services, and better levels of investment in the town both in terms of those attracted to live by the increased accessibility, and those attracted to locate businesses in the town. The increased number of trips passing through Warrington town centre under the HS2 and NPR proposals will also significantly justify a focus for a new mass transit network for the town centre.

Figure 19 illustrates a potential future network incorporating NPR and HS2 and a Hub in Warrington town centre.

Figure 19: Potential Northern Powerhouse Rail and HS2 Connectivity at Warrington



Source: Mott MacDonald

4.5 Warrington Bank Quay

HS2 and NPR provide a unique opportunity to enhance the area surrounding Bank Quay station. With an enhanced high speed hub at the heart of the town serving HS2 and NPR, Warrington will provide a crucial point where 'North South meets East West' and high speed rail services will meet an expanded town centre offer. It is possible that this new hub could be centred around Bank Quay station incorporating HS2, NPR and conventional rail connectivity. The viability of a nationally significant station gateway will also be boosted by the fact that Warrington will provide a connected hub for the populations of the West Cheshire and North Wales areas, linking them to both NPR and Scotland/Lancashire bound HS2 services. In total, over a million people from the Mersey Dee area would have better, more logical access to the NPR network if Warrington comes forward as an NPR hub, with the additional interchanging passengers.

Increased rail connectivity for Warrington will also increase the attractiveness of the location as a place to do business, helping to stimulate the wider Bank Quay area in terms of new residential and employment growth. Ultimately, there is no reason why Warrington should not

be aspiring to deliver a station hub and gateway area similar to what is proposed at Birmingham International (**Figure 20**).

Figure 20: Example HS2 Hub – Birmingham International

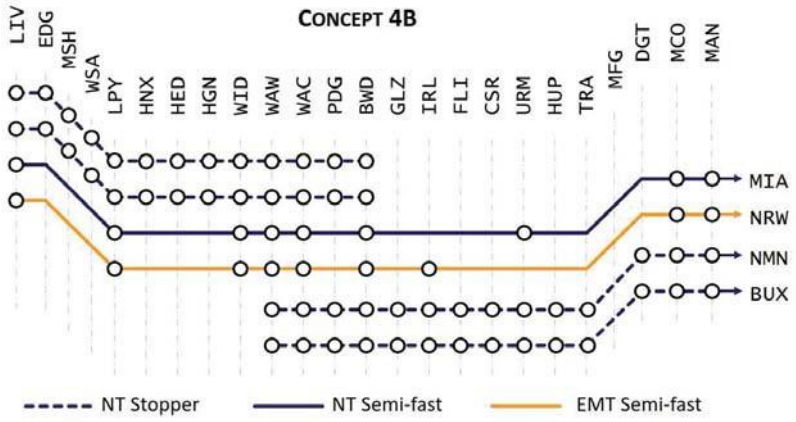
Source: Grimshaw and Mott MacDonald

4.6 Cheshire Lines Committee (CLC) Route Enhancements

The majority of rail trips into and out of Warrington at present are made via the busy Cheshire Lines Committee Rail Line which runs through the town on its way between Liverpool and Manchester. As important as inter-regional and long-distance connectivity is for the borough, the priority of the highest proportion of rail travellers (as revealed by recent survey work) is good connectivity to these two cities. The CLC experienced, in May 2018, a significant change in service patterns when the Liverpool – Scarborough TransPennine Express service transferred to a different route. It has been replaced by an hourly Northern Liverpool – Manchester Airport service, however Trans-Pennine connectivity from Warrington Central and Birchwood stations has been lost (an additional service between Chester and Leeds via Warrington Bank Quay will mitigate against this loss slightly, but will now not be delivered until December 2019 at the earliest).

To provide guidance as to the future use and identity of the CLC, the route has recently been the subject of a strategic study looking at the types of service and likely calling patterns that might use it in future. A variety of options were modelled with the most favourable from Warrington's perspective being increased frequencies to both east and west through extending Merseyrail suburban rail services from Liverpool Central to the town from the west, and Metrolink light rail services from Manchester in the east, possibly with a degree of overlap in Central Warrington. Concurrently there is a strong desire to retain semi-fast services through the town to provide through connectivity. An indicative diagram of stopping patterns under a scenario where semi-fast services are retained for Warrington is included as **Figure 21**. This future for the CLC line would deliver faster journey times for key CLC flows and include splitting of stopping services to improve service reliability whilst also providing a high-level service frequency between Warrington West and Birchwood across the town. It would also facilitate future extensions of Merseyrail towards Warrington, increasing connectivity between Warrington and Liverpool.

Figure 21: Stopping Pattern for CLC Strategy Concept 4B



Source: AECOM (2017)

The CLC does not have line capacity to support these aspirations at present and enhancements such as increased passing loops, re-signalling work and possible future electrification could be required to realise these aspirations. It is clear that Warrington has strong levels of demand to both east and west and, as evidenced in the previous section, large amounts of this demand are currently being catered for by private car leading to congestion and environmental ill effects. Accommodating the current and future demand on rail is key to the success of the town and its continued growth, and the CLC will remain a vital corridor to achieve this.

5 Demand Management and Funding Options

5.1 Overview

Theme A of this study focuses on concepts which could help support the delivery of Strategic Mass Transit, exploring both:

- **Demand Management** mechanisms in terms of how WBC can better manage demand from private vehicles within the town centre of Warrington including mitigating the impacts of through traffic. This includes analysis of:
  - Workplace Parking Levy (WPL)
  - Clean Air Zone (CAZ)
  - Road User Charging
- **Non-Demand Management** mechanisms in terms of their potential to raise revenue for investment in Strategic Mass Transit. This includes analysis of:
  - Community Infrastructure Levy (CIL)
  - Council Tax Levy

Assessments of each of these concepts will be made using a multi-stage process, structuring our approach to understanding both the likely implications of the demand and non-demand management mechanisms as well as experience from introducing the concepts elsewhere. In this section (5), the options themselves will be explored further, looking in particular at the logic mapping of each option, and the lessons learnt from elsewhere using benchmark examples worldwide.

In the following section (6) we will review the suitability of each option in relation to demand management and revenue generating concepts in Warrington itself, providing details of the legislative framework, implementation requirements, ability to achieve the required objectives and specific modelling results if available.

5.2 Demand Management

5.2.1 Workplace Parking Levy

A Workplace Parking Levy (WPL) is a charge on employers who provide workplace parking for their employees. Where a local authority introduces a WPL, all businesses who provide more than a given number of free employee-only parking spaces are charged an annual 'per-space' fee. Employers are therefore encouraged to manage and potentially reduce the level of free workplace parking spaces that they provide when the WPL is introduced. The levy charged per space creates a revenue stream which must be reinvested in sustainable transport improvement projects. The underlying aim of WPL is to facilitate enhanced economic growth and increased public wellbeing by managing congestion, improving accessibility to urban centres and encouraging a shift towards healthier and cleaner modes of travel to work.

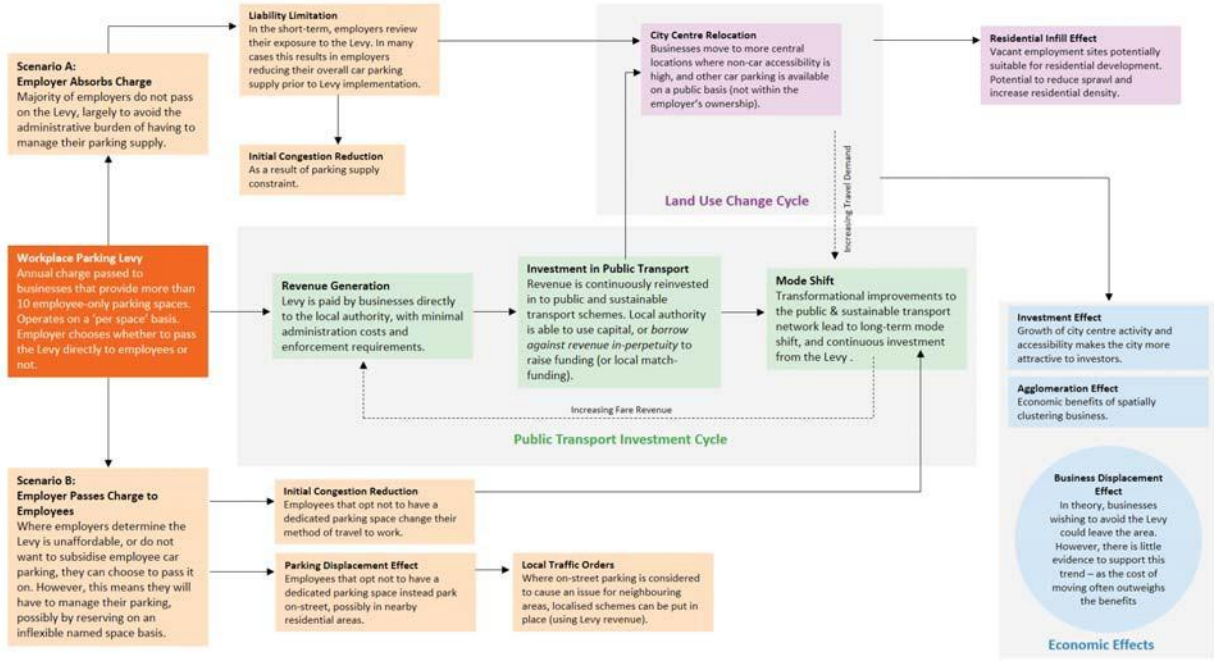
The Government first consulted on the idea of WPL in 1998 and granted implementation powers to local authorities in England and Wales through the Transport Act 2000. A WPL can be introduced provided that the revenue stream from charges is ring-fenced and invested in transport improvements (i.e. effectively a hypothecated tax) for a period of at least ten years.

The only local authority so far to have piloted and introduced the levy is Nottingham City Council. The introduction of WPL in Nottingham has a dual function, acting both as a major funding mechanism for transport infrastructure initiatives as well as a travel demand management tool by incentivising employers to manage their workplace parking provision. Parking provision and enforcement can exert a powerful influence on congestion in towns, as parking availability and the cost of parking is a significant consideration for motorists when deciding whether to drive to a destination. Where there is limited private, non-residential parking and through-traffic can be controlled, parking controls can be effective in reducing private car use, which can in turn reduce congestion.

5.2.1.1 Logic Mapping

The concept map below (**Figure 22**) outlines the key elements of the WPL, based upon a scenario where a local authority introduces a WPL charge on all businesses providing more than 10 employee-only parking spaces. Key elements of the WPL are also described below:

Figure 22: WPL Concept Map



Source: Mott MacDonald

1) Revenue Generation

The levy is paid by businesses directly to the local authority. As all businesses are legally required to register their workplace parking spaces, the authority is able to accurately calculate the revenue that the WPL will generate on a year to year basis. The stable revenue stream enables better long-term planning for new investment and the authority can borrow against this income stream in perpetuity to raise funding for transport investment.

2) Investment in Public Transport

This ability to borrow capital against revenue in perpetuity unlocks the ability to match fund to deliver transformational transport schemes that would not possible when the local funding model is short-term. The WPL revenue stream and borrowed capital are therefore continuously invested in public and sustainable transport schemes. Ring fenced money can also be used to repay capital borrowing for scheme delivery, with the full WPL spending guidelines outlined in the Transport Act regulation on WPL (179(2)).

3) Mode Shift

The delivery of transformational improvements to public and sustainable transport leads to long-term modal shift from private cars towards these more sustainable modes. Increased public transport patronage and associated revenue adds to the level of funding available for sustained investment in the network.

4) Land Use Change

In the short term, as employers and their employees review their exposure to the levy, many employers choose to reduce their overall parking supply, opening up new parcels of land for development. In the longer term, following investment in local public transport networks, businesses on the periphery of the urban area are likely to relocate to more central locations where non-car accessibility is high and employers are able to make use of public car parking (not owned by the employer) stock if required. The growth and increased accessibility of the urban centre makes it more attractive to new investors and vacant employment sites on the outskirts of the town become potentially suitable for residential infill or various other new development.

5) Business Displacement Effect

In theory, businesses wishing to avoid the levy could leave the area or relocate to another locations outside of Warrington however there is little evidence to support this as the cost of moving and difficulties that staff may have in being able to work in the new location often outweigh the benefits. Experience from the implementation of the WPL in Nottingham is explored below.

5.2.1.2 Benchmarking

Restricting free workplace parking in towns and cities is an established phenomenon. In Sydney, Australia, a Parking Space Levy (PSL) has been in place since 1992 for the central business district and other areas of the city with a high concentration of office space. In the UK, the *Transport Act (2000)* gave local authorities the power in principle to introduce a WPL, with the implementation in Nottingham taking just over 10 years. Nottingham remains the only UK town or city to have introduced a WPL, with the scheme rolled out in full in 2012.

Case Study: Nottingham	*Warrington*
Population (City): 321,500	**Population (Town): 39,580**
Population (Urban): 916,000	**Population (Borough): 208,809**
City Pop Density: 4,359 p/km^2	**Borough Pop Density: 1,156 p/km^2**
City Governance: Nottingham City Council	**Governance: WBC**

The Nottingham WPL was introduced in 2012 and employers with 11 or more parking spaces pay £402 per year per space (increasing to £415 per year per space from 1st April 2019), although there are some exemptions including relating to visitor and disabled spaces. Despite initially mixed reviews from the business community, with some smaller companies blaming the WPL on having to leave the city, the scheme has received plaudits from the early stages for its role in increasing the propensity of staff to travel to work by active modes, delivering improvements to quality of life. Currently, the supply of liable workplace parking spaces stands at around 75% of the city's pre-WPL level and the levy has also helped Nottingham reach its carbon reduction target in recent years[5]. As per the *Transport Act (2000)*, it is also important to highlight that the WPL revenue stream must be ring-fenced and invested in transport improvements for at least 10 years from implementation. For every £1 raised, the Levy also helps to lever in at least £3 of external funding in the city through additional investment related to reduced levels of congestion.

As highlighted within the 2011-2026 Local Transport Plan strategy, commuters in Nottingham account for about 70% of peak time congestion and the city council therefore considers it only fair that employers accept their responsibility for this and to contribute to investment in public transport alternatives to the car. This investment in public transport is understood to be a major factor in the city continuing to attract inward investment from new businesses into the city, resulting in an extra 2,000 new full-time jobs.

Nottingham's WPL in numbers:

3 years	**18%**	**40%**	**95%**	**£25 million**
now the estimated timeframe for introducing a WPL scheme in a UK city despite taking 12 years in Nottingham	employers currently with more than 10 spaces and therefore required to pay the levy	journeys in the city now undertaken by public transport	customer satisfaction across the city's bus and tram networks and the highest level of bus and tram usage per head outside of London	raised for public transport projects in just 3 years, supporting investment in new tram lines, cycle lanes, 45 electric buses and a redeveloped train station

WPL collection rates in Nottingham stand at 100%, and therefore no penalty notices have needed to be issued to businesses who have failed to pay the levy. This acceptance of the levy from businesses is reflective of the successful comprehensive communications campaign for the scheme which includes a dedicated hotline with trained staff to deal with day to day inquiries, an online licence registration system and meetings with specific groups of employers,

[5] Nottingham City Council. 2016. Workplace Parking Levy (WPL) Evaluation Update – April 2016.

such as those on business parks. Grants have also been made available to help companies to put car park management schemes in place.

Further positive headlines from the WPL scheme in Nottingham include that there has been a total 1 million person increase in total public transport patronage since the opening of Phase 2 of the tram network, and it is predicted that public transport improvements associated with WPL will take 2.5 million cars off the roads[6]. However, it is also considered difficult to isolate the effect of the WPL charging scheme from that of other traffic management measures that have been implemented across the city[7].

Without more detailed work, it is hard to estimate the possible effects that a WPL scheme could have on the potential future relocation of businesses currently based in Warrington. It is not possible to make a direct parallel between outcomes in Nottingham and potential impacts in Warrington as spatial form and sectoral composition of the local economy vary from place to place. It is also noted that the Nottingham City WPL has only been operational for around five years. Firm relocation decisions tend to be experienced over the longer-term due to existing contractual commitments of these businesses (e.g. with employees or landowners).

A few potential factors which could arise after the implementation of a WPL and which could lead businesses to relocate out of the licensing scheme area can be identified as:

- A sharp increase of overall operating costs due to the WP affecting the profitability and the competitiveness of a company;
- The inability of a firm to recover this operating cost increase through the sales revenue of the company or through passing on these costs to employees;
- Challenges in attracting new employees on the companies' site/s within the licencing scheme area.

Nottingham City Council decided to allow exemptions from the scheme for car spaces allocated for retail purposes and for companies providing less than 11 workplace parking spaces. In the first case, the reason was to not penalise retailers' activities at the city scale, whereas in the second case, the explanation was to not damage SME activity, given its often marginal economic viability. This flexibility offered by the enabling legislation in designing a scheme tailored to the needs of a local authority area, would apply in equal measure to any scheme that Warrington Borough Council might adopt.

Building on the success and lessons learnt from Nottingham, from 2017/18, more UK cities as well as the Scottish Government, have been exploring potential schemes to cut congestion and improve air quality, including introduction of a WPL:

- **Cambridge:** A detailed consultation was staged in 2017 with employers around the potential introduction of a WPL. Initial analysis from the county council has reflected that the needs of the Cambridge region are "very different" to Nottingham, highlighting the importance of detailed analysis and consultation before rolling out a WPL.
- **Oxford:** As part of a drive to create a Zero Emission Zone in central Oxford, Oxfordshire County Council explored demand options for the city including a congestion charge and a WPL. In October 2017, the county council commenced a survey of 1,500 businesses to understand levels of staff parking and staff travel habits to help inform how a WPL could be implemented. A public consultation also took place in 2018. It is hoped that the WPL could fund the development of a Bus Rapid Transit network in the city.
- **Leeds:** Leeds City Council consulted in 2018 on both the Clean Air Zone (CAZ) that they have been ordered by Government to introduce, as well as a WPL. CAZ as a concept will be further explored below in Section 5.3.
- **Scotland**: The Scottish Government also approved plans in February 2019 to enable councils across the country to introduce a WPL.

Further discussion of WPL feasibility is included in Section 6.

5.2.2 Clean Air Zone

Clean Air Zones (CAZ) seek to improve the urban environment and air quality by placing restrictions or charges within a given zone on the most polluting road vehicles. Clean Air Zones are typically linked to locations with established air quality problems. Warrington as a borough has two Air Quality Management Areas (AQMAs), as shown in **Figure 3**.

A CAZ is an area where targeted action is taken to improve air quality and resources are prioritised and coordinated in order to shape the urban environment in a way that delivers improved health benefits and supports economic growth. CAZs fall into two categories:

- Non-charging CAZ: defined geographic areas where action is focussed to improve air quality. Actions can include a range of forms but does not the use of charge based access restrictions.
- Charging CAZ: zones where vehicle owners are required to pay a charge to enter or move within a zone if they are in a vehicle that does not meet a particular standard for their vehicle type.

In the national air quality plan for nitrogen dioxide, published in December 2015, the UK Government (Department for Environment, Food and Rural Affairs (Defra)) set out that five cities (Birmingham, Derby, Leeds, Nottingham and Southampton) would be mandated to implement a charging CAZ. Legislation to facilitate this was published for consultation in late 2016 and the Government expects charging schemes to be introduced by the end of 2019. Councils in the five cities covered by Defra's plans will be permitted to set charges for CAZs to recoup costs but not to raise additional revenue.

In January 2019, Leeds City Council approved its CAZ charging regime and will charge up to £50 per vehicle per day to enter the CAZ from January 2020. Non-compliant buses, coaches and HGVs will all be charged the full £50, with a £12.50 charge for taxis and private hire vehicles. By contrast in Southampton, following a period of consultation and assessment, plans to charge up to £100 per vehicle per day were scrapped and a non-charging CAZ was agreed, also in January 2019.

London has operated a Low Emission Zone since 2008, covering the whole of the Greater London Authority Area. Further to this, an Ultra Low Emission Zone (ULEZ) in central London, targeted at diesel vehicles, will be launched in April 2019 and extended to inner London from October 2021. Separately, a "Toxicity Charge" was introduced as a supplement to the central London Congestion Charge in late 2017, payable by older vehicles that do not meet Euro 4 emission standards.

[6] http://www.cbtthoughtleadership.org.uk/WPL-Briefing-Nottingham.pdf

[7] Dale et al. 2017. Evaluating the impact of a workplace parking levy on local traffic congestion. The case of Nottingham UK. *Transport Policy 59.* 153-164.

5.2.2.1 Logic Mapping

The logic map below (**Figure 23**) encapsulates the main elements of a Clean Air Zone, where highly polluting vehicles are restricted from entering a designated zone. It covers both a ban of highly polluting vehicles and charges for said vehicles to enter the zone. Key elements include:

1) Poor Air Quality

Warrington has two air quality management areas declared, as shown above. Poor air quality contributes to poor health and wellbeing of residents and workers, resulting in additional sick days, early deaths, and additional health care costs. High levels of greenhouse gases also contribute towards climate change.

2) Removal or reduction of highly polluting vehicles

The worst vehicles in terms of emissions of PM10, NOx and NO2 are either completely banned from entering the designated zone, or are charged to do so. Both options should lead to fewer or no vehicles such as older HGVs and buses entering the zone. Owners may choose to retrofit their vehicles to make them conform to the standard, or replace vehicles with newer, less polluting vehicles. Alternatively, operators may choose to reassess whether the journey is absolutely necessary and potentially avoid making the trip.

3) Environmental benefits

A complete ban on the dirtiest vehicles would prevent all highly polluting vehicles from entering the zone, whereas a charge would disincentivise such vehicles from entering. A blanket ban would likely have greater environmental impacts, while the second option would lead to some drivers/operators choosing to pay the charge, raising some revenue (subject to a change in legislation) which can be invested in to other transport initiatives, while others would choose to replace vehicles or avoid driving in to the area. The exact split between 'payers' and 'changers' would probably depend on the level of the charge, the feasibility of changing vehicles to meet the limits, and alternative route options.

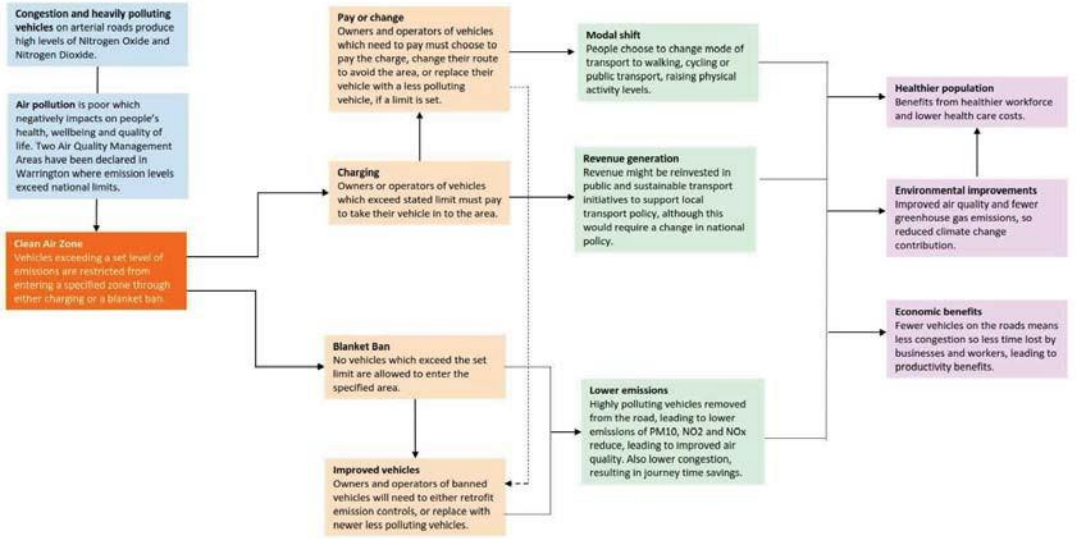
4) Health benefits

The reduction in highly polluting vehicles from residential and employment areas generates health benefits for people due to less inhalation of particulates and pollution. Also, the removal of highly polluting, large vehicles makes for a more pleasant environment which may encourage people to choose to walk or cycle journeys rather than use their car. This results in further environmental and health benefits.

5) Reinvestment

The revenue generated if highly polluting vehicles are charged to enter the area but not banned might be used for investment in publicly beneficial transport schemes, such as improved cycle/walk infrastructure, or strategic mass transit systems as discussed in subsequent chapters. However current regulations prohibit the use of CAZs to raise additional revenue for unrelated schemes, reducing their impact as a means of funding potential improvements to public transport.

Figure 23: CAZ Concept Map



Source: Mott MacDonald

5.2.2.2 Benchmarking

No cities yet operate direct Clean Air Zones, but the UK Government has informed five cities – Leeds, Birmingham, Nottingham, Derby and Southampton – that they must have CAZs in place by 2019/20. These cities are currently developing their CAZ system. A further 29 local authorities, not including Warrington, have been instructed to draw up plans for how they will tackle dangerously high levels of roadside nitrogen dioxide (NO2) in their area.

A number of cities in the UK already operate a similar concept to Clean Air Zones, in the form of Low Emission Zones.

London charges HGVs and coaches registered before 2006, and vans and 4x4s registered before 2002 a charge of £100 or £200 per day to enter the Greater London Local Authority Boundary due to their high emission rates. This is in addition to the well-known London Congestion Charge, but covering a much larger area.

Oxford, Brighton and Norwich operate Low Emission Zones which do not permit any buses not meeting Euro V emissions standards to enter the central urban area. The rules are enforced using Automatic Number Plate Recognition (ANPR) technology as vehicle registration plates are linked to the DVLA. Proposals for a full ban on all petrol and diesel vehicles in Oxford City

Centre from 2020, and the potential to expand this in future years, are currently under consultation.

5.2.3 Road User Charging

The ability for charging authorities to introduce Road User Charging is set out in the Transport Act 2000. Road User Charging is, in simple terms, a mechanism through which motorists pay to use a defined area of road (for example, by tolling). This approach is currently used extensively across Europe and on key estuarial and river crossings in the UK. It can also form a larger scheme to charge for use of road space, and provide a means through which road space can be re-allocated to public transport, for example. It is commonly referred to as "congestion charging", particularly by the media, but strictly speaking, congestion charging is just one possible form of road-user charging[8].

It is a method of internalising for the driver the external costs of congestion such as the cost of extra congestion for all other vehicles on the road due to this driver being there, pollution/environmental costs and accident costs[9].

There are a variety of different Road User Charging options, including[10]:

- **Area Licensing**: allows for provision of a licence, which enables the user to enter a certain defined area an unrestricted number of times.
- **Cordon/zone charging**: involves setting up a linear cordon and charging at access points to the zone.
- **Distance-based charging**: The fee levied is proportional to the distance travelled.
- **Time-based charging**: The driver is charged a fee related to how much time is spent on charging roads, or in an urban area, within a cordon.
- **Congestion charging**: This can be considered as a sub-set of road-user charging, as the fee levied would be directly related to the amount of congestion caused by a car's journey.

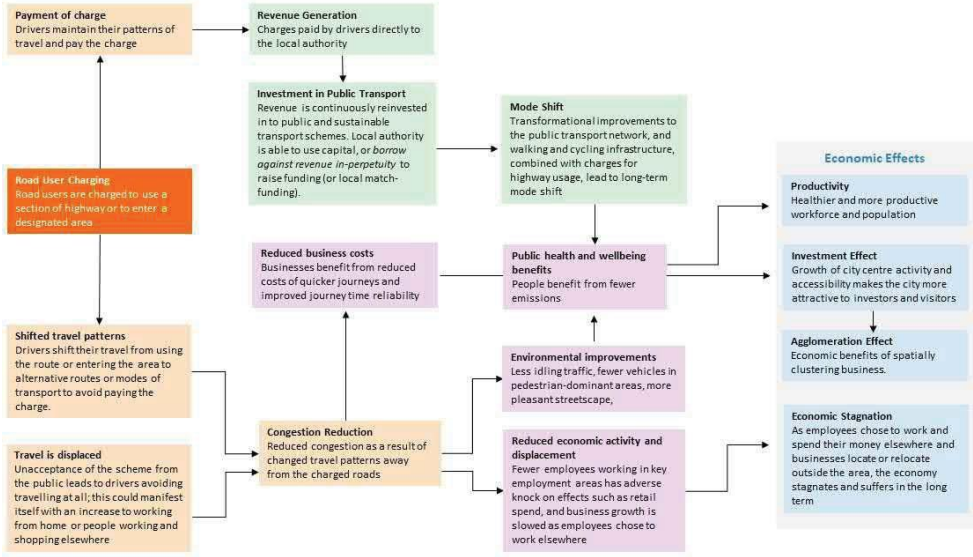
Road users tend to perceive that their usage of the road does not preclude others from using it. However, capacity of roads is not limitless and each vehicle on a road occupies space. When the demand for space on the road approaches capacity, congestion occurs. This is becoming an increasing problem in Warrington. Road user charging is a way of managing that demand by making users pay towards the costs of them occupying road space. Road user charging can be imposed to cover a defined area (such as the London Congestion Charge), or on specific sections of highway, such as on bridges and tunnels.

It is also noted that the establishment of road user charging in the form of tolls for the new Mersey Gateway Bridge not only sets a precedent for charging to cross the River Mersey, but also potentially provides an extant system which could be extended in to Warrington.

5.2.3.1 Logic Mapping

The logic map opposite (**Figure 24**) outlines the concepts of a road user charging scheme. The following paragraphs provide additional commentary on this diagram

Figure 24: Road User Charging Concept Map



Source: Mott MacDonald

Congestion has a number of negative benefits including making journey times unreliable, adding to businesses' operating costs, reducing economic productivity, and adding to pollution from stationary vehicles. The situation can worsen locally as a result of growing out of town employment and retail sites, but can also be negatively affected by more strategic regional interventions in neighbouring areas such as the introduction of tolls or schemes which lead to the large-scale reassignment of traffic movements.

Route changes and mode shift are affected as some drivers/operators choose to re-route their journey in light of the tolls or elect to use different modes of transport which don't attract toll charges. Traffic flows are then lighter, leading to reduced congestion and fewer emissions generated from stationary vehicles.

Revenue generation or travel displacement – for those drivers who do not re-route, there is the potential that they will may choose to pay the charge to use the section of route or enter the designated area. Vehicle registration plates are captured on ANPR cameras, and drivers (or businesses) must pay for the vehicle charge online. The revenue collected can then be used to reinvest in transport infrastructure, such as public transport and walking and cycling infrastructure. Alternatively, lack of public acceptance of the scheme could encourage drivers to avoid travelling in the area at all, choosing to either work from home or work in a different area.

[8] Lloyd D Bennett (2017) Measures to Reduce Congestion and The Demand to Travel Road-User Charging
[9] Lloyd D Bennett (2017) Measures to Reduce Congestion and The Demand to Travel Road-User Charging
[10] Lloyd D Bennett (2017) Measures to Reduce Congestion and The Demand to Travel Road-User Charging

Economic effects - on one hand, as revenue is raised and investment can be made in public transport and active travel, businesses could benefit from a healthier workforce and improved economic productivity. However, if people choose to neither pay the charge or travel by an alternative mode, activity in the area will be reduced and retail spend for example will decrease. As the available workforce choses to work and spend their money elsewhere, businesses also locate or relocate elsewhere, leading to economic stagnation.

5.2.3.2 Benchmarking

London: The London Congestion Charge has been in place in the centre of the city since 2003. Most vehicles which enter the designated zone are charged £11.50 per day. The charge only applies 07:00 – 18:00 Monday to Friday, excluding holidays, and does not apply to buses, taxis, residents of the zone or blue badge holders. The impact of the charge has been overwhelmingly positive in terms of congestion reduction and air quality improvements; traffic volumes entering the original charging zone have remained stable at 27% lower than pre-charging conditions in 2002 - the equivalent of nearly 80,000 fewer cars entering the zone each day[11] and PM10 emissions within the zone decreased by 22% between 2002 and 2004[12].

Durham Road User Charging Zone: Durham operates a congestion charge in a specific area of the city between 10am and 4pm Monday to Saturday. The daily charge is £2.00 and is again enforced using ANPR cameras. The underlying aim of the zone is to reduce traffic congestion and pollution in the area, improve air quality, and make the centre of Durham safer and more attractive to pedestrians and cyclists[13]. The scheme is operational in the interpeak periods as a result of the type of traffic that cause the problem e.g. students and day trippers, rather than employees.

Most other tolls in the UK are for bridges and tunnels. Examples include Severn Bridge Crossings, Dartford Tunnel, and Kingsway and Queensway Tunnels between Liverpool and Wirral.

Mersey Gateway Bridge: The Mersey Gateway Bridge across the River Mersey in the neighbouring borough of Halton, has recently opened and is tolled at £1.80 to £8.00 per crossing depending on vehicle type, with £2 being the single crossing price for cars. Halton residents are exempt from the charge.

5.3 Non-Demand Management

5.3.1 Community Infrastructure Levy

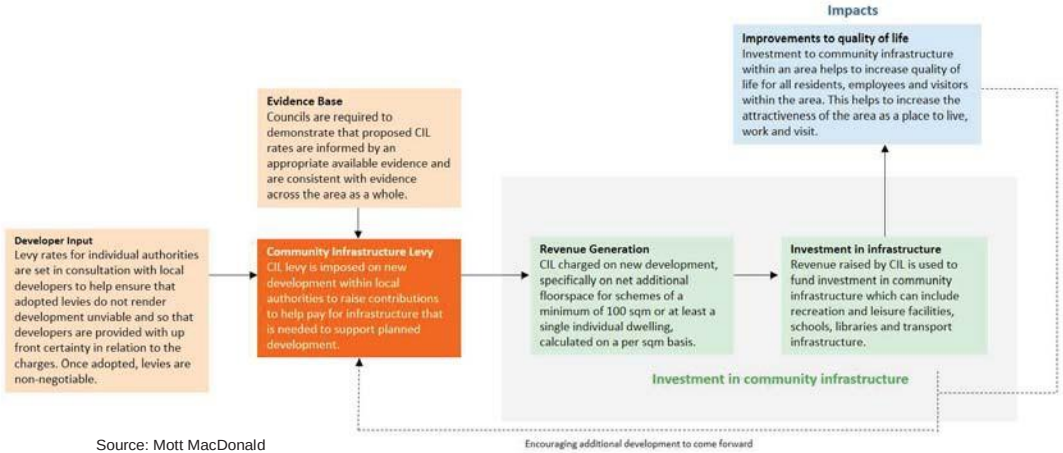
Transport investments can encourage development by changing the value of the land around them, making different uses and/or increased densities viable. This is often known as transit orientated development. Local authorities have tools to obtain funding to mitigate the impacts caused by these developments, including S106 and S278 agreements (negotiated between the developer and authority to deliver infrastructure and non-infrastructure measures), and more recently the Community Infrastructure Levy (CIL). Whether or not to charge a CIL is a decision for the charging authority, usually the local planning authority.

CIL is a planning charge, introduced by the Planning Act 2008 as a tool for local authorities in England and Wales to help deliver infrastructure to support the development of their area. New development which creates net additional floor space of 100 square metres or more, or creates a new dwelling, is potentially liable for the levy. The CIL levy is a fixed charge (per square metre) on the development of new floorspace. Local authorities may vary charges by location, use, size and type of development[14]. Once Local Plan growth targets for new jobs and homes have been confirmed, it will be possible for WBC to introduce a CIL.

5.3.1.1 Logic Mapping

As highlighted within the associated logic map (**Figure 25**), developers play a key role in the shaping of CIL's. Local authorities are required to consult with developers when setting levy rates in order to ensure that developers are not unduly discouraged from investing in an area and so that they have certainty in terms of the levy they can expect to pay in relation to a given development. The money then raised through CIL can be used by local authorises to fund a wide range of infrastructure needed as a result of development. This can include investment in road schemes, flood defences, schools, health and green spaces and leisure centres[15]. CIL is intended to provide funding to address the cumulative impact of development.

Figure 25: CIL Logic Map



Source: Mott MacDonald

5.3.1.2 Benchmarking

As of October 2016, there were a total of 130 local authorities across England and Wales charging CIL, not including the Mayor of London and the London Legacy Development Corporation, with a further 88 working towards adoption of a CIL[16]. CIL implementation is much further advanced in the south and east of England, including almost complete coverage in London. Implementation is however much patchier in the north, midlands and Wales.

[11] Transport for London Congestion Charge Factsheet: http://content.tfl.gov.uk/congestion-charge-factsheet.pdf
[12] Centre for Public Impact, London's Congestion Charge: https://www.centreforpublicimpact.org/case-study/demand-management-for-roads-in-london/
[13] Durham County Council: https://www.durham.gov.uk/article/3437/Durham-Road-User-Charge-Zone-congestion-charge
[14] https://www.gov.uk/guidance/community-infrastructure-levy
[15] DCLG, 2011, 'Community Infrastructure Levy: An overview'
[16] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/589637/CIL_REPORT_2016.pdf

Case Study: Camden

Camden Council has one of the most progressive approaches towards CIL, with 25% of total CIL funds put in the hands of local ward councillors who nominate projects for funding in their respective wards. This has helped to fund projects including upgrades to libraries and community centres. The remaining 75% of Camden CIL is used to fund general infrastructure including schools and transport improvements. In total it is estimated that over the four-year period between 2016/17 and 2019/20, CIL would raise over £22.5 million worth of funding to the borough to deliver essential local infrastructure.

5.3.2 Council Tax

In theory, council tax is a type of property tax and therefore a form of land value capture however in reality, unlike with business rates, domestic property valuations in England and Wales have not been revalued since the introduction of the tax in 1991. As a result, council tax does not necessarily reflect changes to land value in an area that have resulted from improvements to transport infrastructure. Mechanisms that could capture this benefit and be used to fund prolonged investment in transport infrastructure include:

- **Council Tax Precept** – Households within a defined area are subject to increased council taxes for a defined period.
- **Special Infrastructure Tax** – Payable by all individual and business taxpayers within a given area. This mechanism is being used to contribute to the development and construction of the new multi-billion-pound Grand Paris Express metro system in France and is estimated to directly generate up to €117m per year. For individuals it operates on a per capita basis.

5.3.2.1 Logic Mapping

The concept map opposite (**Figure 26**) shows the key elements to explain how council tax can be used to raise local authority income to fund transport improvements.

In December 2017, the Department for Communities and Local Government approved proposals to allow authorities to raise council tax by up to 5.99% for the 2018/19 financial year, up from 4.99% for unitary authorities such as WBC, increasing the level of funding that can be raised through council tax levies[17].

5.3.2.2 Benchmarking

The only contemporary examples of a council tax levy being used to fund a package of transport improvements are in Greater London relating to the London 2012 Olympics and in Greater Manchester for various transport works[18].

Case Study: Greater Manchester

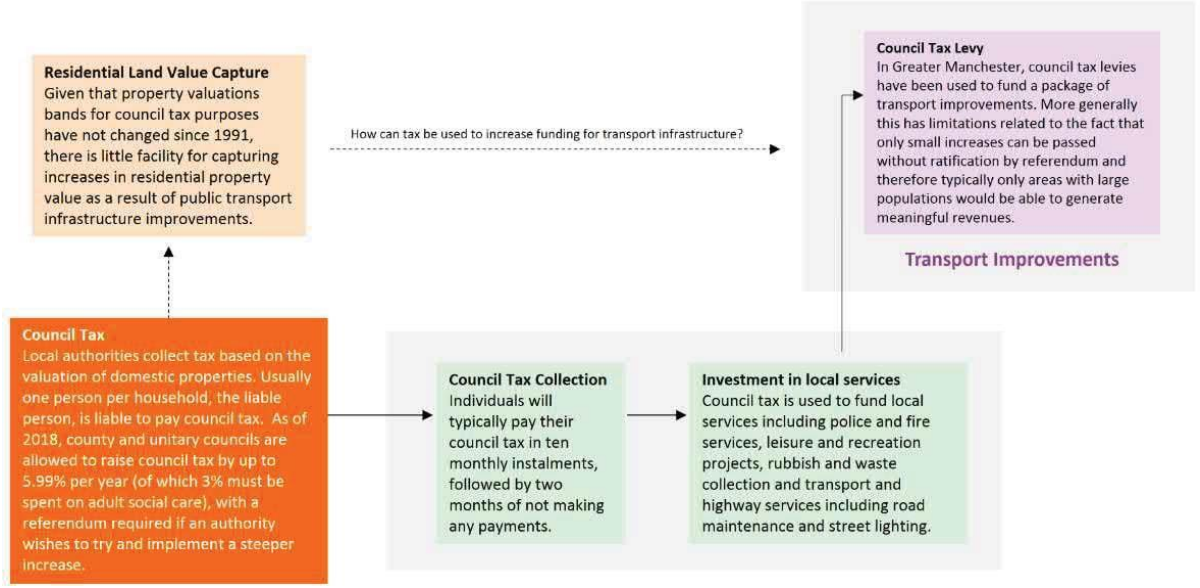
After the proposed introduction of congestion charging in Greater Manchester was rejected in a 2008 referendum, the ten councils of Greater Manchester explored a number of different options to fund major transport schemes. The final funding package included a 3% annual increase in the council tax levy to the Greater Manchester Integrated Transport Authority for six years, estimated to contribute an extra £300 million of transport funding.

Subsequently, in January 2018 it was announced that all households across Greater Manchester would have to pay an extra £6-£18 annually as part of the new Greater Manchester Mayoral Precept which will raise £6.5m across the region for investment in transport, housing and social schemes. Just under £4m of this has been allocated to fund plans to ease congestion and improve public transport[19]

Case Study: Olympic Council Tax Precept

The Olympic Council Tax Precept demonstrates a further UK precedent for levying tax precepts for specific and time bound purposes. The theory behind this precept was that Greater London residents would disproportionately benefit from the 2012 Olympic Games and should therefore contribute to its staging. The introduction of the precept commenced in 2006/7 and raised £625 million across a ten-year period.

Figure 26: Council Tax Levy Concept Map



Source: Mott MacDonald

[17] BBC News. 2017. Council tax bills in England may rise by up to 5.99%.
[18] Campaign for Better Transport, 2016, 'Funding and Financing Public Transport Infrastructure'
[19] http://www.bbc.co.uk/news/uk-england-manchester-42833518

6 Demand Management and Funding Options: Concept Feasibility

6.1 Overview

In this section the feasibility of each Demand Management and revenue raising (Non-Demand Management) option is assessed taking into account a number of considerations. For each option the legislative process required for implementation is discussed alongside the specific requirements for each. A local feasibility assessment is then undertaken to include:

- Key considerations
- Geography
- Costs and Revenue and
- A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) of each option.

Finally, where possible an estimate is made, using standard modelling tools, of the likely generated revenue that may be available to Warrington Borough Council as a result of the implementation of the option.

6.2 Workplace Parking Levy

6.2.1 Legislation and Implementation

A WPL can be introduced by any local traffic authority outside of London, either singly or jointly with another local traffic authority. Government policy makes clear that a scheme may only be made if it facilitates the policies set out in the local authority's Local Transport Plan (LTP). The January 2011 Local Transport White Paper states that the local authority must demonstrate that they have properly and effectively consulted local businesses and addressed any proper concerns raised by local businesses during those consultations.

It is expected that the introduction of a WPL involves an extensive period of consultation with residents and businesses, and with boroughs of the area it is being implemented. An important part of the consultation would be deciding on suitable boundaries for the area covered by the levy. A WPL works best when there are controlled parking zones (CPZs) in order to avoid commuters parking on nearby streets instead of at work. It is therefore helpful if comprehensive resident parking controls are in place. There also needs to be a comprehensive audit of workplace parking spaces within the area.

Once a register and licensing system is in place, the administration is relatively simple. A consultation and implementation timetable in London, for example, was estimated to be 18 months. Implementation of the WPL in Nottingham was a long process, involving several updates of a business case, several public consultations, a public examination and several approvals needed from the City Council and higher boards such as the Secretary of State for Transport. A three-month period was needed which allowed workplace parking places to register for the WPL.

[20] DALE, S. ....et al, 2013. Workplace parking levies: the answer to funding large scale local transport improvements in the UK? Thredbo 13, 13th International Conference on Competition and Ownership in Land Passenger Transport, St Anne's College, Oxford, 15th - 19th September 2013, 16pp.

A crucial part to its acceptance was the comprehensive communications campaign, which involved: mailouts to over 5,000 employers in the city, dedicated hotline and email contact with trained staff to deal with day to day inquiries; workshops for employers liable to pay a charge; 1:1 meetings with individual employers; meetings with specific groups of employers, such as those in business parks; consultations and presentations to employer organisations including the Chamber of Commerce; and a dedicated website and user-friendly online licence registration system.

The delivery of the scheme was successful due to its heavy focus on compliance with officers working with employees to assist them in licensing their parking spaces correctly and encouraging them to take advantage of the business support available

As of February 2019, few studies have attempted to estimate the expected or actual budget required to implement and monitor a WPL scheme in the UK.

Dale et al (2013) have published a study which gives an overview of the actual WPL scheme's costs after its first year of operation in Nottingham[20].

According to the study, WPL revenue was £7.8 million in 2012/2013. Approximately 10% of this total amount was used to recover the cost of support to employers (travel planning and travel management advices[21]) and the scheme's operating cost (5% each). This data reveals that, after its first year of operation, the WPL scheme in Nottingham contributed 90% of its revenue towards further transport improvements. This last ratio suggests the financial efficiency of the WPL scheme, relative to other demand management options (e.g. the London Congestion Charge, where operating costs amount to around 33% of revenues).

Another study published by Frost, M.W and Ison (2009), tried to give an estimate of the required implementation and operation costs in Nottingham[22]. The implementation costs, including employer assistance package, were estimated to be £1.9m (in 2008 prices, equivalent to £2.41m in 2017 prices), which makes the investment cost required for such a scheme's implementation low.

6.2.2 Local Feasibility Assessment

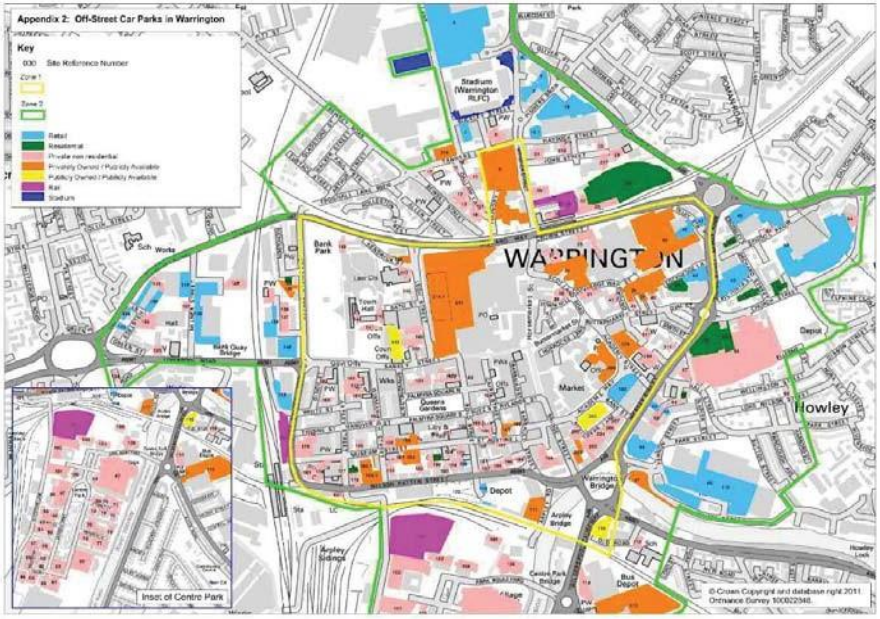
6.2.2.1 Key Considerations

WBC last completed a comprehensive assessment of public and private car parking spaces in 2010/11 in order to inform the WBC Parking Strategy which was published in 2013. Clearly the number of employee parking spaces across the borough will have shifted since this period and private sector operators in particular may have changed tariffs and opened/closed car parks relatively quickly. **Figure 27** indicates the approximate extent of the town centre parking study area and car park distribution completed in 2010/11, with around 4,800 private non-residential spaces (i.e. parking for employee on private property) located within this geography. Further to this, WBC holds data for the number of available private employee-only car parking spaces at Lingley Mere and Birchwood Park, however this does not account for all Birchwood employment sites. 2,413 spaces are currently located at Lingley Mere, with in excess of 4,832 at Birchwood Park. The decision on the geographical extent of the WPL (explored below) will ultimately influence the scale of additional data collection required to support the introduction of the scheme.

[21] Workplace Parking Levy Employer Handbook, Nottingham City Council, February 2015, source: https://secure.nottinghamcity.gov.uk/wpl/common/Employer_handbook.pdf

[22] FROST, M.W. and ISON, S.G., 2009. Implementation of a workplace parking levy: lessons from the UK. Transportation Research Board 88th Annual Meeting, 11-15 January, Washington DC., USA, Paper No. 09-0249

Figure 27: Warrington Town Centre Car Parks (2011)



Source: Warrington Borough Council

6.2.2.2 Geography

There are a range of potential options for the ultimate geographical scope of the WPL in Warrington. Summarised merits and disadvantages of these are outlined below:

Table 2: WPL Geographical Assessment

Geography	✓	
Borough wide	• WPL should be easy to understand – businesses within the borough will know that they need to comply with WPL regulations.	• Likely to lead to challenges from business located in rural areas who have reduced access to non-car modes of travel for workplace trips compared to businesses in urban areas.
Town Centre only	• In the long run, this could help to increase available development land in the town as businesses reduce their parking supply to reduce WPL costs.	• There is a relative lack of high quality office space in the town centre and if WPL is only enforced here, skilled jobs could be further pushed away from the town centre.
Selected Geographies (including Town Centre, Birchwood and Omega)	• Will ensure that businesses located in the key employment areas of the borough are forced to review their parking stock and their exposure to the levy.	• Could lead to criticism from businesses that WBC are cherry picking the employers across the borough that they want to enforce the WPL upon.
Wider Urban Area	• Ensures that businesses located in the periphery of the borough who are reliant on car access are not penalised by the WPL.	• May lead to challenges from businesses on the periphery of the urban area who are poorly served by public transport.

Source: Mott MacDonald

In addition to these geographical considerations, there are a number of additional factors which should be considered when devising a potential WPL charging schedule for Warrington. These considerations have been identified in discussion with officers from WBC and include:

- If a borough or wider urban area wide charge was introduced, there could be merit in introducing a reduced town centre charge given the ongoing difficulties for WBC to attract new office space to the town centre.
- At borough level, and if legislatively enforceable through either existing (Transport Act 2000) or new national policy, it may be useful to exempt certain types of new developments i.e. new Grade A office development from paying the levy for a given number of years in order to not unduly discourage the creation of skilled jobs in the borough. Whilst not explicitly enforceable through existing legislation, the Transport Act was written with the potential flexibility to facilitate this, although this would likely require significant input by legal counsel.
- The need to recognise that some businesses are already contributing significant sums towards public transport, including contributions for bus services, through established planning arrangements. Again, if legislatively possible, WBC may wish to explore implementing a reduced charge for these businesses.

6.2.2.3 Costs of implementation

A key early cost in the development of a WPL for Warrington would be the need to collect more up to date parking information for existing businesses within the geography that the WPL is proposed. In Oxford, the costs to prepare and submit a WPL scheme to the DfT have been outlined at £505,000 over the period 2016/17 to 2019/20[23]. Once operational however, it is not forecast that significant revenue is required to maintain the scheme. In Nottingham, the WPL costs less than 5% of the annual revenue to run, with fewer than 10 FTE employees required to manage the scheme.

6.2.2.4 SWOT Analysis

Strengths	Weaknesses
• Experience from Nottingham highlights that WPL has been incredibly successful in helping to raise funding for major public transport schemes. • WPL can also be supported and maintained using a very small proportion of the total scheme revenue. • Evidence from Nottingham indicates that the new tram routes in the city, supported	• Evidence from cities which are also exploring the introduction of WPL reinforces the fact that WPL is politically a highly sensitive issue.

[23] Oxfordshire County Council (2016) *Oxford Workplace Parking* Levy – *Cabinet Report 22 November.* Available at: https://mycouncil.oxfordshire.gov.uk/documents/s35345/CA_NOV2216R02%20Workplace%20Parking%20Levy.pdf

by the WPL scheme, have attracted new businesses along their length.	
Opportunities	**Threats**
• Congestion relief and associated air quality improvements. • Increased investment in major transport schemes, enhancing the attractiveness of the borough as a place to invest for existing and new businesses and investors. • Modal shift will help unlock road space for alternative modes. • Land use change and increase in land values.	• Whilst officials in Nottingham estimate that a WPL could now be introduced elsewhere in the UK within 3 years, there is no available evidence on length of WPL implementation from another UK location. • Distortions created by the levy could lead to economic displacement, potentially reducing the economic case for the measure, however once investment in public transport has been delivered, this threat can easily become a strength with which new employees and businesses can be attracted rather than lost.

6.2.2.5 Further Study

Commissions to develop feasibility work and undertaken traffic modelling will be required to support further feasibility work for WPL. WBC will also need to update the existing parking strategy evidence base for the town centre, key employment locations and other district and neighbourhood centres within the borough depending on the proposed geographical scope of the WPL.

It is recommended that an ultimate decision on whether to progress with optioneering for a WPL or to discount it as a new demand management scheme for the borough should be taken once this further work is complete.

6.2.3 Revenue Modelling

6.2.3.1 Description

Nottingham's WPL constitutes a substantial and stable funding model that has been applied across the city to part-fund new transport investment. If applied in Warrington, the WPL could potentially generate revenues for similar transport investments. Car Parking revenues are generally a stable source of revenue, allowing private finance to be raised against them at a relatively low cost of capital. Implementing a WPL scheme in Warrington would however require defining precisely the licensing scheme's area of coverage, the categories of workplace parking spaces and companies liable as well as the level of fees to be charged to employers.

6.2.3.2 Basis and methods of calculation

In terms of the geographical coverage for a WPL in Warrington, it is expected that as a minimum, any scheme would apply to businesses located in the town centre and at the Lingley Mere and Birchwood Park business parks who have with 11 or more free parking spaces.

In terms of calculating the total number of eligible spaces across these three areas, a town centre wide parking stock survey for Warrington town centre was last completed in November 2013. Whilst it is acknowledged that the number of private non-residential business parking sites will have changed since this survey was conducted, given the growth of the town in recent years, we can use the data from this survey as a conservative estimate of the total number of eligible spaces within the town centre. The survey indicates that the total number of private non-residential spaces for premises with 11 or more spaces is 4,742. Data on the total number of available business parking spaces in Birchwood Business Park and Lingley Mere Business Park has been collected within the last two years and is assumed to be a fairly accurate representation of the total number of eligible parking spaces. In total, 4,832 spaces are located at Birchwood Business Park, with a further 2,413 at Lingley Mere. For the purposes of calculation, it is assumed that all available spaces at these two business parks will be subject to the WPL charge, giving a total 11,987 eligible spaces across the Warrington Borough Council area.

To calculate the total annual revenue that could be raised from a WPL in Warrington Borough Council, we have looked to the WPL amount in Nottingham which stands at £402 per space per annum as of 2018. It is however worth noting that the annual cost to park in the 277-space car park at Warrington Bank Quay Station is £1,200 and this indicates that parking might be more finite in Warrington than in Nottingham and therefore the WPL annual charge per space in Warrington could be increased from the £402 figure. Consequently, we have taken the £402 charge in Nottingham and have devised three charging scenarios, with £400 as a medium charge scenario and £300 and £500 per space per annum as lower and high charge scenarios respectively.

No assessment has been made of the costs of implementing or operating a WPL in Warrington. No allowance has been made in the model for compliance costs. It has been assumed that 100% of applicable companies will pay the WPL. No fine income has been assumed.

6.2.3.3 Model outputs

As noted above, we expect that a conservative estimate for the total number of eligible parking spaces to be subject to a WPL charge is 11,987. For the purposes of further calculations, we have rounded this figure up to 12,000. Data set out in **Table 3** applies the low, medium and high charge scenarios to the total number of eligible spaces, giving an indication of the revenue that the scheme could raise annually as well as across a 20-year period.

Table 3 : Estimated WPL Revenues in Warrington

Scenario	Low Charge (£300)	Medium Charge (£400)	High Charge (£500)
Annual Revenue	£3.6m	£4.8m	£6.0m
20-Year Revenue	£72m	£96m	£120m

Source: Mott MacDonald (using parking data supplied by WBC)

Under the medium charge scenario it is estimated that circa £4.8 million could be raised per annum through applying the WPL in Warrington.

If we assume that, similarly as what has been observed in Nottingham after the WPL's first year of operation, 90% of the WPL's revenue will be hypothecated, we can estimate at this early stage, that £4.3m could be raised on average under the medium charge scenario to finance transport investment in Warrington. Over a 20-year period, this medium charge rate could generate around £86.4m of cumulative transport investment in Warrington (all prices based in 2018).

6.3 Clean Air Zone

6.3.1 Legislation and Implementation

Similarly to WPLs, the ability for charging authorities to introduce a CAZ is set out in the Transport Act 2000. Part III of the Act empowers local authorities (as "charging authorities") to make a local charging scheme in respect of the use or keeping of motor vehicles on roads. The CAZ Framework does not stipulate that Clean Air Zones must incorporate charging, however it does note that they cannot be used as a form of taxation to raise general revenue for the local authority. As a result, it is considered unlikely that CAZ could form an effective method of raising revenue to support Mass Transit schemes in Warrington. The Framework indicates that Clean Air Zone restrictions are applied equally to all vehicles. Annex A of the framework sets out the minimum classes and standards for Clean Air Zones.

As a minimum Defra guidance expects any CAZ to[24]:

- Address and improve a clearly defined air quality problem, and ensure it's understood locally;
- Be included in local strategies (e.g. local land use and local transport plans) to ensure consistency;
- Actively support ultra-low emission vehicle (ULEV) take up through facilitating their use;
- Include a programme of awareness raising and data sharing;
- Include local authorities taking a lead in their own/contractor vehicle operations and procurement;
- Ensure bus, taxi and private hire vehicle emission standards meet or improve to meet CAZ standards using licensing, franchising or partnership approaches as appropriate;
- Support healthy, active travel by reducing vehicle emissions; and
- Have signs in place along major access routes to clearly delineate the zone.

The introduction of the zone requires extensive engagement and consultation with neighbouring authorities, local communities and businesses to: explain the aims, including the potential health and economic benefits; understand any concerns; and assess the need for any mitigating actions.

The longer lead-in time that businesses and individuals have to make these changes the easier it will be for them to do so, and increase compliance/behaviour change. Early engagement in the planning of a zone helps to raise awareness of the implementation and allows individuals and businesses to prepare for the zone's introduction and to understand the impacts on their personal circumstances.

Time will need to be allowed between formally announcing the details of a zone and it beginning to operate to allow businesses and individuals to adjust.

Items for consideration within the CAZ include:

- Designating the roads and classes of vehicles subject to a charge;
- The charges imposed;
  - charging zones should apply only to older, higher-polluting models of the vehicle types, so as to have a targeted impact on pollution. Local authorities implementing a charging CAZ should ensure they are using the most recent version of the minimum classes and standards.
- The manner in which charges are to be made, collected, recorded and paid;
  - The CAZ guidance states that Automatic number plate recognition (ANPR) should be used for the operation of charging CAZ. Cameras will capture all vehicles on the monitored road(s), regardless of whether it is their final destination or they are moving within or passing through the zone.
- The period for which a scheme is in force;
- Exemptions and reduced rates from charges;
  - Guidance states that there is a general presumption that charges for CAZs will apply to all vehicles according to the relevant zone class. However, certain circumstances where exemptions and discounts may be appropriate i.e. a person's particular circumstances; the type of vehicle concerned may be difficult or uneconomic to adapt to comply; or the operation a vehicle is engaged in is particularly unique or novel.
- Enforcement regimes and penalties for non-payment of charges.

The Draft Impact Assessment prepared by Defra and published in May 2016 includes a Competition Assessment sub-section which deals with the potential impacts of the CAZ schemes on businesses' activities[25]. It mentions that Clean Air Zone schemes will likely impact businesses located within the zone or those entering the zone who own vehicles that would be subject to a charge, as they will face an additional cost of complying with the zone restrictions. The impact should be stronger during the first years of the implementation as some businesses who own vehicles subject to a charge will opt for renewing their fleet towards cleaner vehicles exempted from the scheme. No attempt is made to quantify these impacts in the Draft Impact Assessment.

There is no evidence of the implementation and operational costs borne by a local authority outside London in the UK in implementing a Clean Air Zone. The Draft Impact Assessment prepared by Defra and published in May 2016, however, proposes some estimated implementation and operational costs required in the case of the implementation of a Clean Air Zone in one of the five selected cities outside London as well as in the capital[26].

Implementation costs estimates include scoping studies, infrastructure costs such as installation costs and IT equipment (automatic number plate recognition). These costs have then been scaled up based on population and perimeter lengths of the CAZ considered, according to the three options defined. Operating costs have been defined as enforcement, running costs of equipment and staffing costs' estimates. They also vary according to the CAZ scheme scenario in question. These two main categories of costs were estimated as inputs to calculate the net present value of each scheme option.

The three scenarios considered for the implementation of a CAZ are as follows:

- Option 1: Implementation of ULEZ and tightening of LEZ standards in London; mandatory Clean Air Zones within five local authorities, Petrol Euro 4, Diesel Euro 6/VI

[24] Department for Environment Food and Rural Affairs and Department for Transport (2017) Clean Air Zone Framework

[25] Committed Clean Air Zone Impact Assessment, Department for Environment, Food and Rural Affairs, 26th May 2016, Consultation https://consult.defra.gov.uk/airquality/implementation-of-cazs/supporting_documents/161012%20%20CAZ%20Impact%20Assessment%20%20FINAL%20consultation.pdf

[26] Committed Clean Air Zone Impact Assessment, Department for Environment, Food and Rural Affairs, 26th May 2016, Consultation

- Option 2: Implementation of ULEZ and tightening of LEZ standards in London; non-mandatory Clean Air Zones within five local authorities, Petrol Euro 4, Diesel Euro 6/VI
- Option 3: Implementation of ULEZ and tightening of LEZ standards in London; mandatory Clean Air Zones within five local authorities with lower emission standards, Petrol Euro 3, Diesel Euro 5

The estimated implementation and operational costs for each scenario are shown in **Table 4.**

Table 4: Estimation of implementation and operational costs for each CAZ scenario, in £m 2016 prices

£m (2016)	Option 1	Option 2	Option 3
Implementation costs	20	10	20
Operational costs (10Y period)	81	41	81

Source: Defra, Impact Assessment Consultation Draft, May 2016

As Table 4 shows, implementation costs, estimated in 2016 prices and assumed to be spent in 2020, would range between £10 and 20m, while operational costs would vary between £41m to £81m over a ten years period, hence representing an annual average £4.1 or £8.1m cost.

6.3.2 Local Feasibility Assessment

6.3.2.1 Key Considerations

The two key considerations relating to a Clean Air Zone are whether highly polluting vehicles are banned from entering the zone or are charged to do so, and identifying which Euro emissions standard group(s) should be charged or banned from the CAZ. The rationale for these differ slightly – a charged system would likely generate revenue but may not be effective in reducing congestion and pollution if the charge is insufficiently high enough to deter people from entering the zone. A blanket ban would not generate revenue except for fines for non-compliance, but would likely be more effective in engendering environmental and congestion benefits.

6.3.2.2 Costs of implementation

Establishing the potential cost of implementing a CAZ for Warrington will become clearer once the first of the five UK cities mandated to introduce CAZ by 2019/20 have made further progress on their CAZ proposals. Oxford City Council and Oxfordshire County Council are however currently consulting on proposals to ban all petrol and diesel vehicles from parts of their city centres, with longer term proposals in place to expand the geographical extent of the ban to cover the wider city. Estimated costs for installing CCTV cameras and electric vehicle charging points are £7m, while a further £7m is estimated to be needed to replace buses, taxis and goods vehicles with electric vehicles.

Enforcement method is a key determinant of cost for CAZ. The CAZ Framework produced by Defra states that ANPR cameras linked to the DVLA database are to be used for enforcement[27]. This enables vehicles exceeding the emissions threshold to be identified based upon vehicle emissions records held by the DVLA. Naturally, the wider the geographical extent of the CAZ, the more cameras will be required to monitor emissions. Whilst this will have a greater financial burden on the authority in terms of outline capital and revenue costs, it is likely to generate more revenue.

[27] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/612592/clean-air-zone-framework.pdf

The revenue generated by a CAZ will be strongly influenced by whether a charged system or blanket ban is used to enforce it. A charged system would generate net revenue for the council in the long term, offsetting the costs of implementation and enforcement; any excess revenue must also be invested in supporting local transport policies. A non-charged blanket ban of highly polluting vehicles would only generate revenue through fines issued to non-compliant vehicles entering the zone. The CAZ Framework notes that charges do not have to applied – authorities are free to choose – but any charges applied to vehicles must be appropriate for the local circumstances.

6.3.2.3 Geography

Table 5: Clean Air Zone Geographical Assessment

Geography	✓	
Borough wide	• Uniformity across the borough should help to make CAZ easier to understand and is likely to have the greatest impact in terms of delivering air quality improvements for Warrington.	• Unpopular to charge all users in Warrington, especially so for the numerous warehousing and logistics companies in the borough who play a significant role in the local economy. • Impractical to apply charges to motorway users who don't otherwise drive on Warrington roads.
Town Centre only	• Focuses on where air quality in the borough is poorest without penalising the owners of more polluting vehicles in areas without air quality problems. • Buses and HGVs, which usually make up the highest proportions of vehicles failing to meet the CAZ standards, account for a large proportion of town centre traffic.	• Could reduce the town centre's economic vitality if businesses and owners of the most polluting vehicles are unable to find a solution to avoiding CAZ charges and as a result of the potentially negative press coverage that may stem from this. • Risk of drivers choosing to drive further to avoid restrictions which merely shifts the vehicle pollution to other locations. • Risk that bus companies merely shift their most polluting buses onto routes away from the town and businesses receiving deliveries from HGVs divert their dirtiest vehicles away from Warrington, potentially shifting pollution problems elsewhere. • Work will be required to identify which roads should fall within the liable town centre charging zone.
Selected hotspots of poor air quality (e.g. AQMAs)	• Seeks to directly address air quality issues in the locations where air pollution is currently most serious.	• Likely to cause drivers of non-compliant vehicles to use alternative routes to avoid the charges, therefore merely shifting rather than solving the problem. • Impractical to apply to motorway users who don't otherwise drive on Warrington roads.
Wider Urban Area	• Outside of a borough wide implementation, charging CAZ at the scale of the Wider Urban Area is likely to have the most significant positive impact on the borough's air quality.	• Defining the urban area and therefore which of the borough's businesses fall within the CAZ catchment may cause upset amongst businesses and encourage them to seek to move their operations outside of the borough.

Source: Mott MacDonald

6.3.2.4 SWOT Analysis

Strengths	Weaknesses
• Reductions to vehicle emissions and improved air quality as the dirtiest vehicles are slowly replaced by their owners with cleaner vehicles which comply with CAZ regulations. • As owners of the vehicles which are liable to pay CAZ review their exposure to the charges, they may seek to reduce their total mileage. Reduced vehicle volumes on the borough's roads may increase the propensity of Warrington's residents and workforce to undertake more local journeys on foot and by bicycle.	• Aimed at heavily polluting vehicles such as older buses and HGVs and avoids tackling emissions from the most heavily polluting cars. • Requires significant cooperation with bus operators and delivery companies/local businesses to help them to upgrade their fleets to CAZ compliant vehicles. • If CAZ is only enforced within the town or the urban centre, there is a risk that bus operators and businesses will merely avoid routing their dirtiest vehicles in this area and use them elsewhere in the borough. • As noted previously, CAZ cannot be used as a means of raising general revenue implying that any revenue generated must be used to fund the CAZ implementation only (and not potential Mass Transit options).
Opportunities	**Threats**
• Choice between blanket ban or charging most polluting vehicles to enter defined area • In addition to delivering significant air quality improvements for the borough, CAZ can revenue can also be used to fund investment in public and sustainable transport.	• Warrington has a high concentration of businesses across logistics, manufacturing and distribution which are most likely to be at risk of being liable to CAZ charges. If these businesses perceive CAZ charges to be unaffordable they may relocate elsewhere which is likely to have negative socio-economic impacts for the borough. • Long term viability and effectiveness of CAZ may be reduced by natural improvements to fleet efficiencies.

6.3.2.5 Further Study

With five cities in the UK being mandated by central Government to implement Clean Air Zones, and other cities, such as Bristol, conducting feasibility studies in to the appropriateness of CAZ for their area, a wealth of information is likely to be emerging soon regarding the extent of coverage, levels of emissions which will be banned/charged, revenue estimations and the impact that the CAZ will have on overall air quality. WBC should pay close attention to the publication of these reports to further understand the relative merits of introducing CAZ. The borough has also recognised the need to commission a study to further inform the decision about implementing CAZ for Warrington.

6.4 Road User Charging

6.4.1 Legislation and Implementation

Traffic authorities wanting to introduce a road user charging scheme must do so by making a charging scheme order (CSO) under section 168 of TA 2000. Any CSO needs to be approved by the Secretary of State for Transport prior to being made.

Sections 171 to 172 of TA 2000 set out the content which must be included in a CSO – for example, the location of the road to be charged, how the charges are defined, the classes of motor vehicles that will be subject to a charge, the levels of road user charge that will apply and the duration of the scheme. These elements are for the traffic authority to determine, subject to the approval of the Secretary of State for Transport.

Automated vehicle tolling systems require four components: automated vehicle identification, automated vehicle classification, transaction processing, and violation enforcement. A variety of implementation models exist for tolling systems with the major variable being how far these functionally independent systems are delivered in an integrated vs disaggregated manner.

Subsequent changes to regulations surrounding penalty charges, adjudication and enforcement have been introduced in 2013 and 2014 as road user charging has evolved in the last few years to incorporate free-flow charging (as in place on the Mersey Gateway) which makes use of ANPR technology to link liable vehicles to online charging systems. The system of penalty charge notices for free-flow charging falls in line with the penalty charge mechanism used for the London Congestion Charging Scheme.

6.4.2 Local Feasibility Assessment

6.4.2.1 Key Considerations

Road user charging can be implemented on specific roads, such as bridges, or for a whole area, such as the London Congestion Charge, depending on what the intended outcomes are for the area. There is scope for local residents to be exempt, as is the case for the Mersey Gateway Bridge, so as to target through-traffic, but the rationale for this would need to be established. Exempting local residents from the charges may not be effective in managing demand of private vehicle flows on Warrington roads, and may not therefore generate the congestion benefits desired. It may therefore not be considered to be acceptable publicly. Any charge applied in Warrington would need to be set broadly in line with the other tolls in the area, notably the Mersey Gateway Bridge and the Mersey Tunnels. The toll charged would be hugely important in striking the right balance between the revenue raising mechanism and journey times, since traffic may divert if alternative routes with only a minor journey time penalty are available.

Other key considerations include whether sufficient transport alternatives, such as adequate service provision of public transport, and safe cycling routes are available. Reliable, frequent and affordable public transport across the charged route/area, with a simple and integrated ticketing system, is vital to provide people with an alternative for moving away from private vehicles. Such a system would need to be well established and demonstrably high quality and comfortable, to serve as a sufficient alternative before road user charging can be implemented. The current hub and spoke layout of the bus network, combined with disjointed ticketing between operators and diesel vehicles, makes the current offer sub-optimal.

Enforcement of road user charges is most easily done using ANPR cameras which record the vehicle registration details of all vehicles which enter/cross the charged area or route, and

drivers must register and pay for their vehicle using an online system. This method is employed on the Mersey Gateway Bridge and for the London Congestion Charge but can be costly. There is potential for a system in Warrington to be linked to the Mersey Gateway Bridge system, pending discussions with Merseyflow as the operator. If a cross-river charge were implemented in Warrington, it is likely that the charges would need to mirror the Mersey Gateway charging structure in order to reduce challenges from Halton BC.

One possible mitigation to take into account when planning a Road User Charging scheme is the potential to provide free or discounted parking within Warrington Town Centre for those paying the toll. The aim of this is to provide an incentive for Warrington visitors to make use of the Town Centre whilst providing a meaningful mitigation to the impact of charging.

6.4.2.2 Geography

Table 6: Road User Charging Geographical Assessment

Geography	✓	
Borough wide (except motorways)	• A standard charge applied across the borough (excluding the motorways) for all vehicles would likely have the greatest impact on traffic flows and air quality whilst also being fairly easy to understand.	• A daily charge for all drivers will be extremely unpopular with all road users and is likely to encourage residents and businesses to move away from Warrington as they are unable to avoid the charges. • A borough wide charge will reduce the attractiveness of the borough for new investment, stifling economic growth.
Town Centre only	• Will focus charges on some of the geography where AQMAs have been declared. • Buses and HGVs account for large proportion of town centre traffic, which are usually the highest polluting vehicles.	• Could decrease town centre's vitality as drivers choose to drive to both out of town and out of borough retail areas to avoid paying the charge. • Risk that drivers will take more circuitous routes to avoid the charges, increasing congestion on potentially low capacity and unsuitable routes. • Work will be required to identify which roads should fall within the liable town centre charging zone.
Wider urban area	• Charges for road users across the wider urban area of Warrington should pick up the vast majority of all trips completed within the borough, helping drive a reduction in total volumes of traffic on the borough's roads.	• Significant work and consultation will be required to determine the geographical extent of the wider urban area and therefore which roads should be subject to the charge. • A catchment for the wider urban area will encompass the majority of identified Local Plan development land within the borough. If the charging is introduced, the attractiveness of these sites for developers and occupiers is likely to be significantly reduced.
Cross-river	• Consistency with road user charging approach in Halton re. the Mersey Gateway Bridge • Would reduce through-traffic seeking a free cross-Mersey alternative to the Mersey Gateway.	• Would comprise of the following charging places – A50 Kingsway Bridge, A49/A5061 roundabout, Forrest Way and (in future) Western Link, Centre Park Link and Park Boulevard (if bus gate is opened up as part of Centre Park Link) – this would require notable investment in charging technology (although there is potential to potentially piggy-back on existing nearby schemes such as Merseylink). • Threat that river crossing might use the J20/J21A Thelwall Viaduct Crossing on the M6 to avoid charges however this also provides benefits to the borough in terms of reducing vehicles from the town centre of Warrington.

Source: Mott MacDonald

Note: For the purposes of modelling and ongoing discussion at this stage, it is assumed from this point that Road User Charging relates to tolling of the river crossings in Warrington only given that use of the river crossings is perceived as the most achievable and publicly understandable geography for which charging could be applied to. An exception would also be applied for Local Residents (in common with the existing Mersey Gateway Scheme in Halton). It is clear, however, that further investigation is required to establish the most effective form of Road User Charging.

6.4.2.3 Costs of implementation

Implementation of the scheme is likely to be relatively low cost, especially if it is possible to use the Merseyflow system already in place on the Mersey Gateway Bridge. Cameras and signage would be required, but it is not envisaged that toll booths would be necessary with the system operated using ANPR and an online payment system. Discussions would need to be had with Halton Borough Council and Merseyflow to discuss potential alignment of the scheme with the existing tolling regime – given the potential increase in demand for use of the existing Mersey Gateway bridge as a result of the scheme, it is not anticipated that there would be significant opposition to this proposition from Halton and Merseyflow.

6.4.2.4 SWOT Analysis

Strengths	Weaknesses
• The Mersey Gateway has established a local precedent for charging both new and existing (Silver Jubilee Bridge) crossings of the River Mersey. • Forecast congestion benefits in Warrington town centre associated with road user charging should play a significant role in facilitating economic growth in the town.	• If charging exemptions for local residents are introduced, the overall congestion benefit and reductions to car dependency will be weakened. • Introducing tolls on Warrington's river crossings will attract political challenges from Halton BC if transport modelling indicates that tolling in Warrington will reduce traffic on the Mersey Gateway.
Opportunities	**Threats**
• There is the potential for significant revenue to be generated via this method which could be used to fund Public Transport enhancements including Mass Transit. • There will be opportunities for Warrington to tie into the Mersey Gateway tolling system in terms of using the same	• If an inappropriate geography for road user charging is chosen, drivers **may** choose to drive further to avoid charges, thus adding to overall congestion and negating benefits. • If charges are set too low, they may not be sufficient enough to stimulate changes to driver behaviour top reduce the number

technology and monitoring rooms which will deliver efficiency benefits for both WBC and Halton. • Using ANPR technology and cordon points would enable the toll cameras to pick out which vehicles are through traffic and therefore, if desired, the tolls could ensure that only through traffic rather than local traffic or commuters are charged.	of through trips made through Warrington town. centre. • Drivers may choose to neither pay the charge or travel by another mode, instead relocating to another area for work or for leisure and retail opportunities. This will encourage businesses to relocate elsewhere and lead to a stagnation of the local economy.

6.4.2.5 Further Study

If Warrington wish to implement a road user charging scheme, early discussions with Halton Borough Council and Merseyflow should be a priority. More detailed studies, including traffic modelling, need to be carried out in order to understand what impact different road user charging scenarios may create. Traffic modelling will be used to understand flows of vehicles which are passing through the town from outside the local exemption area and therefore the number of vehicles which would be liable to pay the charge. This will enable the borough to build up a more detailed understanding of the likely revenue that the scheme will generate, over and above the figures presented below.

However, at this current stage it is not proposed that further study for Road User Charging will take place due to low levels of public, stakeholder and political support. As has been observed in a range of locations across the UK, proposals to introduce Road User Charging have led to significant public backlash and political instability. In Manchester, proposals to introduce a congestion charge were worked up in detail over a number of years at significant cost to the public purse, before ultimately being rejected by referendum in 2008[28]. Ongoing debate in Reading to explore a potential WPL, CAZ and Road User Charge is also worth noting, with one local party outright rejecting Road User Charging at options identification stage due to the perceived adverse effect of the charging on businesses, as has been discussed earlier in this report[29].

6.4.3 Revenue Modelling

For the reasons outlined above, centring on anticipated lack of public, stakeholder and political acceptability, we are not proposing any further development of Road User Charging as a demand management mechanism for Warrington. Consequently, no revenue modelling has been undertaken for Road User Charging at this stage. There is potential to revisit this in the longer term should it be deemed that Road User Charging is publicly and politically palatable.

6.5 Land Value Capture Option - Community Infrastructure Levy

6.5.1 Legislation and Implementation

Transport investments can encourage development by changing the value of the land around them, making different uses and/or increased densities viable. This is often known as transit orientated development. Local authorities have tools to obtain funding to mitigate the impacts caused by these developments, including s106 and s278 agreements (known for the relevant sections of the acts of Parliament in which these measures were enacted), and more recently the Community Infrastructure Levy (CIL).

s106 and s278 agreements are negotiated planning agreements between a developer and a local authority. s106 agreements can relate to a broad variety of infrastructure and non-infrastructure measures. s278 agreements relate to provision of highways infrastructure only.

CIL is a planning charge, introduced by the Planning Act 2008 as a tool for local authorities in England and Wales to help deliver infrastructure to support the development of their area. New development which creates net additional floor space of 100 square metres or more, or creates a new dwelling, is potentially liable for the levy. The CIL levy is a fixed charge (per square metre) on the development of new floorspace. Local authorities may vary charges by location, use, size and type of development[30].

The money raised through CIL can be used by local authorises to fund a wide range of infrastructure needed as a result of development. This can include investment in road schemes, flood defences, schools, health and green spaces and leisure centres[31]. CIL is intended to provide funding to address the cumulative impact of development.

In 2016 the Department for Communities and Local Government (CLG) commissioned an independent review into the use of CIL to fund infrastructure projects[32]. The review found that the CIL mechanism was failing to facilitate a faster and more transparent way of collecting contributions towards the infrastructure necessitated by the impact of development. It also found that CIL is not raising sufficient revenue to contribute effectively to the funding of the infrastructure needed to support development. Evidence suggested that CIL was not raising sufficient funds needed support infrastructure development. The report estimated that £170 million had been raised via the CIL mechanisms by March 2015, significantly less than the estimated £470 million to £680 million per annum outlined in the original impact assessment.

The report recommended CIL be replaced with a hybrid system of a broad and low level Local Infrastructure Tariff and s106 agreements for larger developments. The mechanism would constitute a twin track system with all developments subject to an extremely low-level tariff (almost without exception) and larger or strategic developments having an increase but be able to negotiate additional and specific section 106 arrangements[33].

6.5.2 Local Feasibility Assessment

6.5.2.1 Key Considerations

In October 2015, WBC undertook a statutory consultation on a draft charging schedule for CIL. After receipt of initial representations, further viability work was commissioned to review technical issues contained within the representations, however it was concluded that there were no issues raised which required revision to the draft charging schedule. Despite this, additional viability work identified that the council requirement to provide new Starter Homes within the borough could enable WBC to increase proposed charges. Following this work, it was subsequently determined not to pursue CIL any further and that fresh feasibility work would be undertaken in line with the Local Plan process[34].

[28] https://www.manchestereveningnews.co.uk/news/greater-manchester-news/c-charge-a-resounding-no-976016
[29] https://www.inyourarea.co.uk/news/councillors-clash-over-plan-to-introduce-reading-congestion-charge/
[30] https://www.gov.uk/guidance/community-infrastructure-levy
[31] DCLG, 2011, 'Community Infrastructure Levy: An overview'
[32] DCLG, 2017, 'A New Approach To Developer Contributions: a report by the CIL review team'
[33] Ibid.
[34] https://www.warrington.gov.uk/info/200564/planning_policy/1903/local_plan/5

6.5.2.2 Geography

Guidance for CIL highlights that charging rates may vary across geographical zones, building uses and scale of development. However, there are restrictions in terms of differential charging in that it must be justified by differences in development viability rather than by policy or varying infrastructure costs. Further work will be required to determine how a CIL might be enforced in Warrington though given that key strategic development sites are both located within the urban centre and in the green belt. It is likely that WBC would be best enforcing the CIL borough wide in order to help mitigate the impacts of new development across the borough.

6.5.2.3 Implementation Costs

A *Community Infrastructure Levy Viability Report* commissioned by WBC in 2015 explored the viability of the CIL for a range of development types including residential, office and industrial and retail and leisure land uses. For residential developments varying in both size (between 0.25ha and 5ha) and value, it was estimated that overages would fall between £40 per sqm to £163 per sqm, from which a CIL charge could be drawn. Based on 2015 market conditions, it was however estimated that pure office development within the town centre of Warrington was not viable based on the cost assumptions applied to development and therefore no potential CIL charging rates were further explored. There is provision within the CIL regulations to use up to 5% of CIL receipts towards the administration and set up expenses related to the operation and management of the levy, which would provide WBC with a useful funding source.

In the Autumn Budget 2017[35], the UK Government responded to the CIL Review, and committed to introduce changes to CIL designed to speed-up its implementation, make it more tailored and responsive to changes in land values, and allowing Combined Authorities and planning joint committees with statutory plan-making functions the option to levy a Strategic Infrastructure Tariff in future that would be additional to CIL. Given the shortfalls in funding the CIL has been raising, in late December 2017, the draft Community Infrastructure Levy (Amendment) Regulation 2018 was published. This legislative change ensures that where development is granted permission before a CIL comes into force in an area and then conditions of the permission are later amended after a CIL has come into effect, the developer will then be liable to pay CIL[36].

6.5.2.4 SWOT Analysis

Strengths	Weaknesses
• As community infrastructure improvements are brought forward using funds raised by the levy, developers will be encouraged to further invest in an area. • New CIL legislation will speed up the process for local authorities to introduce and revise the CIL. • Legislation enables up to 5% of CIL receipts to be used towards administration and set up expenses relating to the management of the levy	• Previously commissioned CIL viability reports in the borough have indicated that it would be unsuitable to enforce the levy on office and industrial land uses in the town centre as a result of the narrow margins associated with this development.
Opportunities	**Threats**
• There is huge potential for CIL to raise revenue to fund transport as Local Plan development comes forward. • Changes to CIL legislation will enable WBC to enforce the levy on previously approved developments when conditions are amended following the introducing of the CIL.	• Liable developers who have not engaged in the CIL consultation process and are unaware of the charging structure may be discouraged from investing in Warrington once they have calculated the financial implications.

[35] HM Treasury 2017, Autumn Budget 2017

6.5.2.5 Further Study

A crucial next step for WBC if the implementation of a CIL is to be further assessed will be to explore key development cost and land value assumptions based on latest information. If build costs have materially increased and sales values have decreased, this is likely to have a significant impact on overall development viability and therefore introducing a CIL charging schedule would unlikely be justified. Conversely, if values and costs have risen at a broadly similar level or values are further outstripping costs, the implementation of a CIL would appear more feasible.

6.6 Land Value Capture Option – Council Tax Levy

6.6.1 Legislation and Implementation

Council tax is a form of land value taxation. However it is poorly targeted because a) it takes account of the value of the "betterment" of the land via including the value of the property on the land as well as the underlying value of the land itself and b) the tax is charged in broad bands rather than being set on a more granular basis and these bands have not been revalued since 1991.

Council tax is explicitly used to fund infrastructure around England. In London and in combined authority/integrated transport authority areas around the country, a "precept" is placed on council tax bills to pay for transport investments and services. This option is less relevant to Warrington Borough, as it is not in a combined authority/integrated transport authority area. It would be possible however, for individual parish councils within Warrington to apply a precept that was explicitly tied to transport investment in their parish area however.

Local authorities are limited in their discretion on increasing council tax charges in their area. From the 2012-13 financial year, local authorities, have been required to hold a referendum if they wish to increase council tax by more than a set percentage. This is fixed by the Secretary of State each year. To date, no local authorities have held a referendum on increasing council tax that was explicitly tied to transport investment. Secondary legislation may also be required to enable WBC to introduce the levy and it is recommended that transport colleagues enter discussions with policy makers if the council tax levy is to be taken forward.

[36] http://www.legislation.gov.uk/ukdsi/2018/9780111163030

6.6.2 Local Feasibility Assessment

6.6.2.1 Key Considerations

Examples from Greater Manchester and Greater London highlight that this method has been used to raise additional revenue for transport investment however these do represent isolated examples, indicative of the political sensitives required to enforce the levy.

6.6.2.2 Geography

It is anticipated that the levy would be enforced over the entirety of the borough for all houses.

6.6.2.3 Costs of implementation

Both upfront and ongoing administrative costs would be required to introduce the levy. In terms of revenue, experience from the Olympic Council Tax Precept indicates that a band D Council tax payer paid in the order of £20 extra council tax each year for the ten-year period whilst under the new Greater Manchester Mayoral Precept, the average household will be charged an extra £7 annually. At the time of the 2011 census, the borough of Warrington had 85,100 households; charging each Warrington household an extra £7 on their council tax bill annually would raise an extra £595,700 each year, whilst an average extra £20 on top of council tax bills in the borough would raise just over £1.7 million per year.

6.6.2.4 SWOT Analysis

Strengths	Weaknesses
• An established mechanism is in place to collect the council tax levy whereas some of the other demand management systems have significant costs to establish.	• Increases in council tax above 6% must be ratified by a referendum across the area. • As only small increases can therefore be passed without referendum, the total raised levy can be small.
Opportunities	**Threats**
• Whilst politically sensitive, there is a clear legal route to enable the levy to be introduced. • The evolution of the Special Infrastructure Tax, in place to fund Grand Paris Express project, may also offer some opportunities for WBC in understanding how a similar tax could operate in the borough.	• Levies on council tax are very politically sensitive and can be greatly unpopular with the public. • In the case of the Olympic Council Tax Precept, there were cases of non-payment that received notable press coverage, underlying the political sensitivity of council tax increases.

6.7 Conclusions and Recommendations: Preferred Demand Management / Funding Option

It is clear from the analysis presented above that each of the Demand Management and revenue raising options have some distinct advantages and disadvantages in relation to their application in Warrington. For the purposes of this study, we are primarily interested in the options that perform the dual role of both managing demand and raising revenue to support enhanced public transport within and around the borough.

CAZ, whilst evidentially highly effective at bringing about widespread changes to the quality and cleanliness of the commercial transport fleet within a given area, is restricted in its ability to raise revenue to be spent on transport schemes such as Mass Transit. It is also less effective historically at reducing the demand for private cars. As a result it is not considered suitable for the purposes of this study, however it may be considered as a worthwhile complimentary exercise in its own right to bring about improved environmental outcomes for the borough. The land value capture options of CIL and Council Tax are conversely seen as effective ways of supplementing the revenue streams for transport schemes including Mass Transit (particularly following the changes to guidelines and regulations surrounding CIL), however neither can be considered as Demand Management options. As a result they are considered unsuitable as primary solutions to the problem under consideration, although they could be investigated further as potential supplementary revenue sources.

A tolling or Road User Charging system for Warrington is also deemed unsuitable, primarily due to low levels of public, stakeholder and political support. A number of key risks of introducing Road User Charging for Warrington have been outlined, including that people will chose to work of shop elsewhere if the charging comes in, which will ultimately encourage businesses to locate or relocate elsewhere, leading to stagnation of the economy.

Consequently, further investigation is recommended for a borough-wide Workplace Parking Levy, with a view to implementing this demand management measure. It would effectively manage private car demand whilst raising revenue, prioritising public transport, walking and cycling, and encouraging sustainable modes to become the modes of choice for residential and employment populations in the borough. It is anticipated that CIL or Section 106/278 contributions could supplement the revenue raised by WPL, with these multiple funding options working together to enable WBC to borrow increased capital against these revenue streams to fund investment in mass transit systems.

7 Mass Transit Concepts

7.1 Overview

This chapter explores a number of benchmark 21st century transit solutions from across the UK and Europe that will inform optioneering for strategic mass transit solutions in Warrington within the Theme B element of the study. As highlighted within Transport for the North's recently published *Strategic Transport Plan (2018)*, enhancement of new and existing multi-modal transport systems, including rapid transit, are key to the long term economic strength of the north of England. The following transit modes have been identified as those which WBC wishes to pay particular consideration to within the scope of this study and therefore benchmark solutions which fall under these categories will be explored:

- Tram/Metro
- Bus Rapid Transit
- Park and Ride

Through a review of tram/metro, bus transit and park and ride, WBC is seeking to understand the common strengths of successful strategic mass transit schemes which should be further explored within the optioneering phase for a new transit solution(s) for the borough. This review aims to succinctly understand the key reasons behind why these transit solutions are successful, being mindful of unique geographical and economic factors which may influence the network.

7.2 Trams

At national level, through the *Creating Growth, Cutting Carbon, Making Sustainable Local Transport Happen (2011)* paper, the previous government set out their ambitions to enhance sustainable travel choices for everyday local transport journeys. This highlighted that light rail and trams specifically can play a significant role in improving the attractiveness and quality of public transport in major conurbations. Support for enhanced investment in the rail network and other mass-transit systems has subsequently been expressed through the *Transport Investment Strategy: Moving Britain Ahead (2017)* plan.

7.2.1 Case Study: Nottingham

- **Location:** East Midlands, UK
- **Population (city):** 321,550
- **Population Density:** 4,190 p/km^2

Whilst Nottingham is much more densely populated than Warrington with around 4,190 people per sq km, the city offers a number of valuable lessons in relation to the development of a successful tram system. The Nottingham Express Transit (NET) is a cross city tram system which has been open since 2004 and has subsequently more than doubled in size following the opening of Phase 2 in August 2015.

The network now consists of two lines with a total of 51 stations providing trams every 3-5 minutes during peak times and every 7-10 minutes into Nottingham from the surrounding areas of Hucknall, Phoenix Park, Toton Lane and Clifton South. An overview of the network is shown in **Figure 28**. To enhance the attractiveness and efficiency of the network, 7 of the tram stops are also Park and Ride hubs, including Hucknall, Clifton and Totton Lane, located on the outskirts of the city. These Park & Ride sites are available 7 days a week and each provide over 500 free parking spaces to help make use of the tram network more attractive for those who live in areas which are not directly connected to a stop on the network.

Figure 28: Nottingham Express Transit Network

Source: thetram.net

Similar to how a tram network might work for Warrington to serve Birchwood and Omega, NET also directly serves a number of business parks and industrial estates on the outskirts of the city including the NG2 Business Park, which supports 4,000 jobs.

7.2.1.1 Why does the network work well?

Nottingham's Express Transit network is well positioned to serve a large number of both commuting and leisure trips between the centre of Nottingham and surrounding urban areas. Park and Ride facilities at the periphery of the network also increase the number of potential passengers on the network. The NET therefore offers a convenient alternative to car travel, helping to reduce peak time congestion on key routes into and out of the city centre.

The success of the tram network alongside active demand management measures including the WPL system has meant that Nottingham has seen less of an increase in car usage over recent years in comparison to comparable cities. The WPL scheme has also provided a ready revenue source which has been used to help fund the network. This helped support the case for the substantial expansion of the network which increased passenger journey numbers by 35% to 16.4 million in 2016/17 over the previous year (DfT Light Rail and Tram Statistics 2016/17). The attractiveness of the network as a key mode of transport is also reflected by a high level (97%) of overall passenger journey satisfaction.

7.2.1.2 Lessons for Warrington

The following lessons for Warrington can be learnt from the Nottingham Express Transit:

- Nottingham provides seamless journeys for commuters, visitors and shoppers through offering a range of ticket options which can be used across services and modes. Smart ticketing must be applied in Warrington to increase the attractiveness of rapid transit.
- The tram network is complemented by park and ride facilities which increase the accessibility of the tram for people in more rural areas around Nottingham.
- It is important to plan the network to ensure the largest most densely populated settlements are well connected to maintain a good level of patronage. Direct connectivity to large employment centres should also be considered.

7.2.2 Case Study: Vauban, Freiburg im Breisgau

- **Location:** Baden-Württemberg, Germany
- **Population:** Vauban (5,500); Freiburg (226,400)
- **Population Density:** Vauban (13,490 p/km^2); Freiburg (1,479 p/km^2)

7.2.2.1 Overview

The district of Vauban in the Black Forest represents a world leading example for how to develop and sustain new environmentally sensitive neighbourhoods. Vauban occupies the site of a former army barracks to the south of the city of Freiburg, a city of over 200,000 residents and a population density just under 1,500 inhabitants per km^2, broadly similar figures to that for Warrington as a borough. At city level, Freiburg is renowned across Europe for their progressive approach to urban development and sustainable environmental policy.

Freiburg is connected by five cross-city tram lines which connect 20 of the city's 28 districts including Vauban. This network has benefited from ongoing investment, expansion and upgrade since its inception in 1901, with the emerging €150 million 'Stadtbahn 2020' programme adding significant extensions to the inner city tram network as well as extending the network further into the city suburbs. Annual patronage on the city tram network exceeds 63,000,000, equating to over 275 journeys made on the network per year by each inhabitant in the city. The network also has close to 30 million more riders on an annual basis than Manchester Metrolink despite Greater Manchester boasting a population of over 2.7 million. The attractiveness of the Freiburg tram network is further reflected by a number of special services which are put in place on a regular basis, including night services on selected lines at weekends and additional matchday services when the SC Freiburg football team play their home fixtures in the city.

7.2.2.2 Why does the network work well?

High density development in Vauban has been key to driving strong patronage levels on the Line 3 tram link which runs from Vauban, into the city centre and out to suburbs north of the city. As indicated in **Figure 29**, typical residential blocks in the neighbourhood are four-storeys high, giving rise to a total population density well 13,000 p/km^2, and supporting peak time frequencies of 8 trams per hour in each direction.

It is important to also emphasise the role that progressive transport policy has played in establishing Freiburg's reputation as one of Europe's most sustainable cities. City level transport objectives to reduce reliance on car travel for short distance travel first emerged in 1989, with more recent policies including forward thinking proposals to reduce the extent to which cars can penetrate new residential neighbourhoods. Commitment to this policy is clearly demonstrated in Vauban; as indicated in **Figure 30**, only a small number of 'collector' roads that surround the residential core are designated for use by cars. Consequently, Vauban residents must pay an annual €18,000 charge to park their car in one of the interceptor car parks located on the outskirts of the neighbourhood and this has played a key role in the fact that there are less than 200 cars per 1,000 residents in Vauban[37].

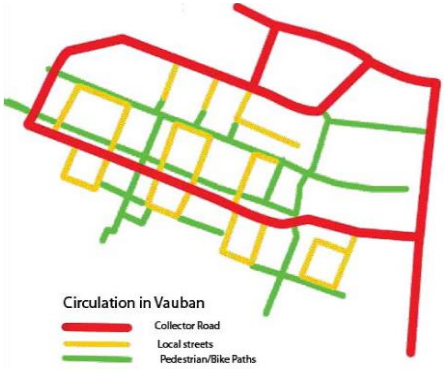
For residents who live in car-free streets but still wish to use their own car, they are able to make use of designated loading and unloading bays before parking in one of the car parks that surround the neighbourhood. Pool cars are also available across Vauban to further discourage the need for residents to purchase their own car.

[37] https://www.theguardian.com/environment/2008/mar/23/freiburg.germany.greenest.city

Figure 29: Typical Vauban street

Source: Mott MacDonald

Figure 30: Road Hierarchy in Vauban



Source: Fgrammen

The drive within Vauban and Freiburg more generally to promote car -free living is also reflected in the city's strategic approach towards cycling. Across the city as a whole, there are over 60,000 bike parking spaces, with covered bike parking places in key public spaces and residential neighbourhoods. 450km km of cycle paths have also been created across Freiburg, with quieter streets also designated as 'Cycle Streets' where bicycles have priority over cars. 2016 data indicates that for journeys started and completed within the city, 29% of all journeys are completed on foot, a further 34% are made by bicycle, 16% are made using public transport and only 21% of all cross-city journeys are made by car[38].

7.2.2.3 Lessons for Warrington

Whilst it is recognised that Freiburg, and more specifically Vauban, represents a highly ambitious benchmark for investment in transport and their approach towards sustainable living, there are a number of key lessons that Warrington can take from the city:

- The desire from the local government of Freiburg to reduce car dependency across the city is not only backed up by sustained investment in public transport but a positive approach towards walking and cycling connectivity with local transport policy.
- Progression to a position where car trips make up only a fifth of all cross-city journeys has not taken place overnight and has required sustained effort. Transport policies specifically focused towards ensuring that walking, cycling and public transport are the most attractive modes of travel for local journeys emerged over 25-years ago. Ambitious policy within the forthcoming LTP is required to help ensure that transformational improvements to local transport are supported.
- In addition to the commitment from local government to support sustainable development, high population density and reduced car access for individual dwellings has played a key role in supporting the viability of the tram link to Vauban. WBC must take a proactive approach in discussions with developers across the borough to help ensure that the design of new neighbourhoods encourages the occupants of new properties to use non-car modes for regular journeys as far as possible.

[38] https://www.freiburg.de/pb/,Lde/231648.html

7.2.3 Case Study: Dresden

- **Location:** Sachsen, Germany
- **Population:** 543,825
- **Population Density:** 1,656 p/km^2

7.2.3.1 Overview

Dresden has one of the most successful public transport networks in Germany, with the municipal transport company Dresdner Verkehrsbetriebe AG (DVB) operating a system of trams, buses, hillside railways and ferries. In recent years, the city has also led the way nationally for the highest average number of public transport journeys undertaken per resident, at close to 250 trips per person[39]. Following near complete destruction of the city centre during World War II, restoration work has helped to deliver a significant expansion to the city tram network. In total, twelve tramway lines help to form a 134km network across the city, with individual trams up to 45m in length (**Figure 31**), some of the longest in the world. Given the geological setting of the city, all tram lines in the city are at ground level, with a number of sections of network on reserved track sewn with grass to help reduce the noise of the running trams, as shown in **Figure 32**. Where Dresden's tram network stands out from others and offers a number of interesting lessons for other locations is in relation to the fact that the tram lines are used throughout the day by both passenger trams and cargo trams. These cargo trams, referred to as 'CarGo', are operated by DVB and used exclusively to supply Volkswagen's 'Transparent Factory', a construction facility for the e-Golf model.

Figure 31: Dresden Passenger Tram

Source: Flickr

Figure 32: CarGo Tram Dresden

Source: Flickr

7.2.3.2 Why does the network work well?

CarGo trams were launched in Dresden in 2001 to help reduce the need for lorries to pass through the city centre between the Friedrichstadt freight terminal and the Volkswagen factory. These trams were in part launched to help alleviate significant local concern that deliveries to the factory would lead to increased congestion and a reduction to air quality within the city.[40] With the exception of the car chassis, all other car parts and components (of which there are over 1,000 per car) are shipped from the Dresden freight terminal in the west of the city to the Volkswagen factory in the east of the city by tram, significantly reducing the need for goods vehicles to penetrate the city centre. Whilst Dresden has only 2 CarGo trainsets, both are 60m long and can run up to every 40 minutes, using one of a number of different routes to cover the 5.5km distance between the freight terminal and the car assembly factory depending on the volume and distribution of passenger traffic on the network at the time of travel.

DVB and the City Council of Dresden are also delivering demand responsive investment in the tram network as part of the 'Stadtbahn 2020' programme **(Figure 33**). One of the city's key bus routes, which serves the Technical University of Dresden, suffers from regularly overcrowding and delay, with in excess of 15,000 passengers per day using the route. Consequently, the entire line is to be replaced in a number of stages with a new tram line, construction of which is due to begin in 2020. Alongside key sections of the route, cyclists will also benefit from new dedicated cycle lanes for the first time.

Figure 33: Stadtbahn 2020

Source: DVB

7.2.3.3 Lessons for Warrington

Whilst the introduction of cargo specific trams for Warrington are likely to be a more long-term aspiration for both WBC and for key construction, distribution and logistics firms within the town, there are a number of lessons and potential opportunities that Warrington can take from Dresden's CarGo system:

- Experience from Dresden highlights the potential to integrate passenger and freight traffic on the same tram network. More specifically, freight routes can be adapted depending upon the time of day that the journey is made and which areas of the network are most busy with passenger services. This helps to ensure that the freight movements do not adversely impact on the efficiency of the passenger network.
- A number of new and emerging sites might benefit from freight tram connectivity in the borough including Omega, Gemini and Port Warrington.
- The City Council and municipal transport company in Dresden are also now delivering demand responsive investment to replace over-capacity bus routes with new higher capacity tram routes.
- It is however important to note that Dresden and its hinterland are far larger than Warrington, helping increase the viability of capturing internal freight movements by rail.

[39] https://web.archive.org/web/20080128233503/http://dvb.de/untnehm/unnehm.htm

[40] http://www.metro-report.com/news/single-view/view/freight-tram-to-support-electric-car-production.html

7.3 Bus Rapid Transit

Bus Rapid Transit (BRT) is a growing form of rapid transit within the UK, typically incorporating dedicated stretches of road which can be used solely by specialist buses. These buses will often make use of normal stretches of highway at junctions or for part of their route where land constraints make it unfeasible to have a dedicated bus route alongside the main carriageway. At intersections with public highway, all buses (including conventional services) will typically be given priority over other road users in order to reduce journey delay and maintain the attractiveness of the system as an efficient mode of travel. Recently completed BRT systems in the UK include the Leigh to Manchester system, explored in more detail below. A number of leading systems are also in operation in Europe, including in Eindhoven, again explored below in order to better understand the characteristics of successful BRT systems elsewhere and the lessons that Warrington can learn from these.

7.3.1 Case Study: Leigh-Salford-Manchester Bus Rapid Transit

- **Location:** Greater Manchester, UK
- **Population:** 52,855
- **Population Density:** 4,865 p/km^2

7.3.1.1 Overview

Opened in 2016, the Leigh-Salford-Manchester BRT scheme has delivered a high quality public transport service that links Leigh, Atherton, Tyldesley, Ellenbrook, Salford and Manchester via a guided bus way and on-street bus priority measures. The scheme formed part of a total £122 million bus priority package for Greater Manchester. The importance of Manchester city centre as a regional centre for the inflow of commuters demands high quality transport links to satellite towns of Greater Manchester, a primary objective of this scheme. A further key objective for the scheme is to facilitate regeneration of the former Lancashire Coalfield area which suffers from high economic deprivation and poor access to social services.

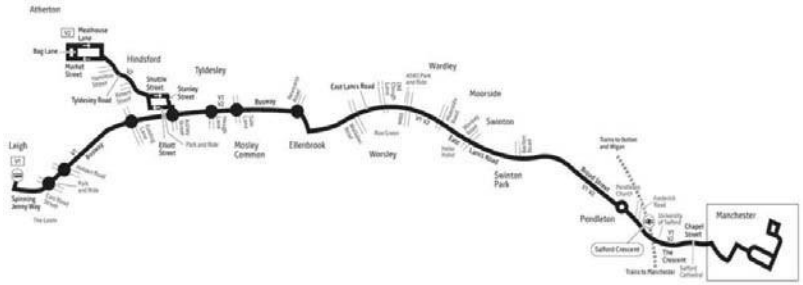
The scheme is located approximately 10 miles to the north of Warrington town centre and provides a working case study for how to connect a large suburban population with an urban centre to improve connectivity and reduce network congestion. A scheme of this nature for Warrington could similarly incorporate new guided bus corridors as well as utilising the existing highway network with added bus priority measures in a similar way to the Leigh scheme. This would enhance Warrington's local transport network with a rapid transit link between key residential areas and the town centre.

To this point, the populations of Leigh, Atherton, Tyldesley and Astley have immediate access to services along the route, a catchment exceeding 94,000 people. The busway section of the service runs through farmland and open greenspace but utilises the converted rail alignment to follow a flat route between Leigh and Ellenbrook. As part of environmental mitigation for the project, TfGM worked with the Forestry Commission to secure the planting of 25,000 trees to create a 10ha Community Forest at Higher Folds.

7.3.1.2 Why does the network work well?

Further to supporting commuter inflows and access to Manchester city centre, the scheme is driving inward investment along the length of the corridor between Leigh and Manchester (**Figure 34**). For Leigh specifically, the scheme will support the further development of the town as a key commercial and business centre within the Greater Manchester Combined Authority area. Greater Manchester's road network is heavily congested and this scheme serves an area where heavy rail access is restricted. In addition to the new guided busway element of the scheme, bus priority measures on existing highways will enable buses to become a more attractive mode of travel for all users. This is reflected by the fact that peak hour bus journey times between Leigh and Manchester reduced by 30 minutes, with over 50,000 passengers carried per week. This has exceeded any patronage forecasts put forward within the business case. In terms of customer satisfaction in early surveys, 98% of customers were satisfied with their overall journey and 97% would recommend the guided busway to a friend or relative[41].

Figure 34: Leigh-Salford-Manchester route map.



Source: The Transport Knowledge Hub

7.3.1.3 Lessons for Warrington

This Leigh-Salford-Manchester BRT scheme provides several lessons when considering the possibility of implementing a similar scheme in Warrington:

- A guided busway is a costly and environmentally sensitive scheme to develop though it should be noted that that BRT does not necessarily require guided routes. In Leigh, the guided section utilises the former rail alignment to help reduce environmental sensitives regarding green belt release. Warrington must replicate this approach where possible to maximise disused corridors and to protect green space.
- Leigh is in an area with poor heavy rail services, increasing the potential catchment of the BRT system. Warrington must ensure that any BRT scheme does not unduly compete with patronage with the existing rail network.
- To deliver an attractive BRT scheme, Warrington must ensure bus priority measures are implemented where appropriate to ensure journey times are competitive with car travel. A high standard of facilities must also be maintained on services to maintain an attractive travel offer.
- Vehicles should also be low polluting and ideally electrically powered, with a high frequency of service to reduce passenger waiting times and increase the overall attractiveness of the service.

[41] http://www.brtuk.com/wp-content/uploads/2016/11/BRT-UK-presentation-Sept-16.pdf

7.3.2 Case Study: Caen

- **Location:** Normandie, France
- **Population:** 106,260
- **Population Density:** 4,135 p/km^2

7.3.2.1 Overview

The city of Caen is located in northern France, connected to the English Channel by the 9-mile Caen Canal. Historically, direct connectivity to the sea played an important role in Caen becoming established as a key economic centre in the region. Whilst the city has a significantly smaller population than Warrington as a whole, public transport systems are supported by the dense belt of residential development that surrounds the historic city centre. The residential blocks in the background of **Figure 35** are indicative of the dense nature of residential development in the city. Car access to, from and within the inner city is also constrained by the number of narrow, pedestrianised and one-way streets, increasing the attractiveness of travel by non-car modes for local journeys.

Both conventional and guided buses have been operated in Caen by Keolis, the largest private sector transport organisation in France. The city's two guided bus lines were introduced in 2002 however all services on these two lines ended in December 2017 and will be replaced with new conventional tram lines. During operation, the two north-south guided bus lines connected over 15km of the city centre, with a daily patronage in excess of 40,000 and services operating at frequencies of up to every 4 minutes[42]. The replacement of the guided bus network is indicative of both the issues that the guided buses have faced in Caen as well as the opportunities for the city that tram conversion offers.

Figure 35: Guided Busway, Caen

Source: Wikimedia Commons

[42] https://france3-regions.francetvinfo.fr/normandie/calvados/caen/caen-ville-travaux-preparer-chantier-du-tramway-1318793.html
[43] https://www.tramway2019.com/questions-reponses/

7.3.2.2 Why does the network work well?

Rather than being an example of a successful BRT system that Warrington should seek to emulate where possible, WBC should be aware of the challenges and issues that the guided bus system faced in Caen. The most notable of these are as follows:

- During the planning phase for the busway network, reports suggested that less than one in four residents were in support of the project, with this disapproval growing following the opening of the network because of the increased local congestion relating to the new bus priority measures introduced across the city.
- As has been recognised in the documentation for the new tramway, a number of technical problems and poor reliability affected the old busway system, with the operator regularly failing to fulfil their full daily contracted service pattern[43].

By September 2019 it is expected that the transition from a two-line guided bus system to a three-line tramway system will have been completed. Advantages of the new tram system over the previous bus rapid transit system include that all 37 stations on the network will be accessible for passengers with reduced mobility, unlike many of the busway stops. Each of the new trams will also have capacity for 210 passengers, a 60% increase in capacity compared to each of the busway vehicles. By 2023, it is expected that total public transport patronage in the city will have increased by 19.5% on 2017 levels when the busway was still in operation This is reflective of the fact that 74,000 (approximately three quarters) of the city's residents will be within 500m of a tram station once the network opens[44]. In order to ensure that the rest of the city can benefit from improved public transport accessibility, a new circular urban bus route will be launched alongside the tram system.

The tram services are also expected to run at 3-minute headways in peak times on the section of the route within the city centre used by all three new routes. The network will be served by a total fleet of 23 trams, with the total project cost estimated at €247m.

7.3.2.3 Lessons for Warrington

The guided busway experience from Caen offers a number of important lessons for WBC when considering the opportunities and threats of introducing a similar scheme in Warrington:

- Despite the obvious issues which the guided bus network has faced in Caen, daily patronage remained in excess of 40,000 across the two lines. This is driven by a number of factors but can be best attributed to the high density of development in the city. WBC must seek to maximise the density of residential and commercial development in the borough, particularly in areas which are identified as having potential to significantly benefit from and support a new transit system.
- Experience from Caen has indicated the pitfalls of investing in a rapid transit system which is poorly supported by the public. Before committing to investment in any form of mass transit, extensive public consultation and information sharing sessions must take place to help shape the development of the network and educate the public on the impacts of the system.
- Caen's guided bus system was persistently affected by poor reliability and timetabling issues, with late running services causing increased congestion in the city centre. WBC must ensure that assessments of the reliability of various BRT systems are completed if further feasibility for BRT takes place.

[44] http://www.metro-report.com/news/single-view/view/keolis-awarded-caen-operating-contract-covering-bus-to-tram-conversion.html

7.3.3 Case Study: Eindhoven

- **Location:** North Brabant, Netherlands
- **Population:** 227,751
- **Population Density:** 2,596 p/km^2

7.3.3.1 Overview

Eindhoven is the only one of the Netherlands' largest five cities without a tram network, however significant and sustained investment has been made to deliver a highly attractive bus network. The bus network is comprehensive and includes a number of dedicated busways including between the city centre and Eindhoven Airport, one of eight segregated high quality HOV (Hoogwaardig Openbaar Vervoer) bus routes in the city. These busways are served by the advanced guided buses known as Phileas (**Figure 36**) which have been branded by the city's transport officials as a 'tram on tyres' and have been specifically designed to deliver an improved passenger experience over conventional buses and give passengers the feel that they are travelling by tram rather than by bus. These buses were developed in the city and introduced onto the city's network in 2004, with varieties of the vehicles being introduced in a number of other cities within the Netherlands and worldwide including Amsterdam, Istanbul and Cologne. With the exception of the dense city centre which is characterised by a number of high rise office and apartment blocks, development in Eindhoven is fairly low density, with a number of typical suburban neighbourhoods located only kilometre of the heart of the city centre. This makes the city better suited for supporting a conventional bus network, supported by BRT on select high patronage routes, as opposed to a full tram system.

Figure 36: Phileas Bus

Source: VDL

7.3.3.2 Why does the network work well?

The network of guided bus routes and associated Phileas buses in Eindhoven offers a number of advantages over other forms of mass transit and conventional buses. These include that the buses deliver a tram-like experience for passengers at a very low cost as no rails or overhead lines need to be provided **(Figure 37**). The outline savings in terms of infrastructure costs can also be reflected in ticket prices for users. In terms of operation, magnets are built into the busways and the Phileas buses are fitted with magnetic sensors which enable the buses to be automatically steered by an onboard computer using signals received from the sensors. This automatic steering delivers jerk-free acceleration and deceleration, reduced noise and improved comfort for passengers, however the vehicles are also flexible as they can also operate on conventional roads and be steered manually. Further advantages of the Phileas buses are that the batteries are charged by electromagnetic induction, improving efficiency and delivering environmental benefits over regular buses including an estimated 25% reduction in fuel use compared to regular buses[45].

Phileas buses offer a number of the same advantages as tram systems including that vehicles are fitted with tracking technology which is fed back to display boards at stops in addition to the fact that the buses are fitted with luggage storage compartments, bicycle storage and are entirely accessible for users with mobility impairments. Going forward, there are plans for further investment in the segregated HOV bus network to enable routes to towns on the outskirts of Eindhoven including Nuenen to be served the Phileas buses. Innovation in the Phileas bus technology is also continuing to take place and newer vehicles are being designed to comply with new higher European emissions standards (**Figure 38**).

Figure 37: Eindhoven Busway

Source: Mott MacDonald

Figure 38: Guided Bus to Eindhoven Airport

Source: Mott MacDonald

7.3.3.3 Lessons for Warrington

Eindhoven's system of busways and the associated Phileas vehicles provides an interesting example for how new investment in busways and specialist vehicles could combine with the existing bus network to deliver an enhanced local transit system:

- As opposed to a tram system, Phileas buses are flexible and not fixed to infrastructure. As well as using the magnet technology on dedicated busways, the vehicles can operate on normal roads and operate on roads with higher gradients than trams are typically able to. The advantages of this flexibility must not be forgotten when further assessing the relative merits of tram and BRT systems for Warrington.

[45] https://www.polisnetwork.eu/uploads/Modules/PublicDocuments/os_aw_appl_eindhoven.pdf

- If funding constraints necessitate that WBC can only commit to a lower level of funding at the outset, a Phileas type system that can be expanded with new track and more vehicles could be an attractive investment option. In Pescara, a Phileas system was established was established for the relatively modest cost of €28 million including an 8km long track, 34 stops and 6 vehicles.
- Phileas vehicles offer a number of advantages over conventional buses including that they are fitted with luggage compartments, bike storage and have space for mobility scooters, helping increase the attractiveness of travel on these vehicles for all users. The multiple doors which open on these buses also increase the efficiency of boarding and alighting.

7.3.4 Case Study: Metz

- **Location:** Grand Est, France
- **Population:** 119,775
- **Population Density:** 2,900 p/km^2

7.3.4.1 Overview

The city of Metz is located in the northeast of France where the River Moselle and River Seille meet. The city's Bus Rapid Transit Network, known as METTIS, comprises 24m hybrid articulated buses across 38 stops to accommodate around 25,000 passengers per day[46]. Spacious tram-like Van Hool vehicles, each with a capacity of 150 passengers, are used in Metz to provide a high level of technical and environmental performance and maximise passenger experiences. A total of 27 buses are in operation across the city and these have helped change local perceptions towards using buses as a main mode of travel as a result of the transformational improvement that they have delivered in terms of passenger experience compared to conventional buses (**Figure 39**).

Figure 39: METTIS Vehicle on dedicated BRTtrack

Source: Wikimedia Commons

[46] https://brtdata.org/location/europe/france/metz

Metz is situated at the economic heart of the Lorraine region, specialising in information technology and automotive industries with around 73,000 people travelling to work in and around the city each day. Metz is also home to the University of Lorraine where more than 55,000 students are enrolled. The BRT network plays a central role in supporting economic activity and research facilities, providing thousands of employees and students with efficient public transport.

A number of waterways run through Metz such as the Moselle and the Seille rivers which meet just north east of the city centre. These rivers segregate the land and create small island districts within the city such as Les Îles and Île du Saulcy. However, bridges constructed across rivers allow the BRT network to maintain connectivity across these areas.

There are two different BRT lines (A and B), with a total line stretch of about two miles. The buses of lines A and B circulate with priority at lights and tramway type signalling at intersections in order to maintain commercial speed and to ensure punctuality. Key destinations across the city that are served by the high capacity vehicles include the Grigy-Technopôle Science Park and new Mercy Hospital. In total, the buses run on dedicated traffic free carriageway for just under 86% of the route, ensuring that the BRT network offers an efficient and attractive alternative to private car travel.

7.3.4.2 Why does this network work well?

The BRT was introduced in Metz to provide the city with a network which encouraged people to travel collectively to reduce traffic and improve the environment. Although a tram network was considered, BRT was seen to be a more cost effective solution which did not compromise any of the historical elements of the city.

Since the beginning of 2013 when the METTIS was introduced, travel by public transport has increased by 45% and has helped to bring forward further regeneration in areas along Lines A and B of the network. Fare integration within the system allows electronic integration between buses, permitting passengers to make transfers between services with one type of ticket/card in limited period of time. In this case, the passenger validates the ticket/card in each new trip, without paying for the transfer or paying a reduced fare. Smartphone applications are also available to make it easier to access network information.

Due to priority at junctions and tramway type signalling for buses it is now faster, and in some cases cheaper, to travel by bus than it is to travel by car. This means that for many commuters, students and visitors the METTIS is likely to be the preferred mode of travel. This transit network is particularly important for students who live in and around Metz and are less likely to have access to a car than residents in full-time employment. Reasonable METTIS fare prices (€229.50 for a year) make this a viable and attractive mode of travel for students requiring access to university facilities.

7.3.4.3 Lessons for Warrington

Warrington can take the following lessons from Metz's BRT system:

- Ensuring that the BRT fleet of vehicles is efficient, comfortable and reliable is important for reducing potential stigma around buses as an attractive alternative to car travel for local journeys. WBC should also consider the relative costs and benefits of facilities such as Wi-Fi to enable travel time to become more productive and increase the attractiveness of the service for commuters.

- Priority signalling for BRT vehicles at junctions is crucial for improving commercial performance and punctuality and ensuring that journeys by bus can become faster and more reliable than car, especially during the morning and evening peak periods when congestion on the highway network is likely to be greater.

7.4 Park and Ride

Establishing a new Park and Ride system within Warrington could provide an attractive mass transit solution for the borough as well as potentially being more cost effective to a new BRT or tram network. Over the following pages we explore some of the key characteristics of successful Park and Ride schemes within Chester, Norwich and Shrewsbury and the lessons that WBC should take from these systems if further work within this study and going forward identifies that a Park and Ride system is the, or one of, the preferred options for transit investment in the borough.

7.4.1 Case Study: Chester

- **Location:** Cheshire, UK
- **Population:** 118,200
- **Population Density:** 4,009 p/km^2

7.4.1.1 Overview

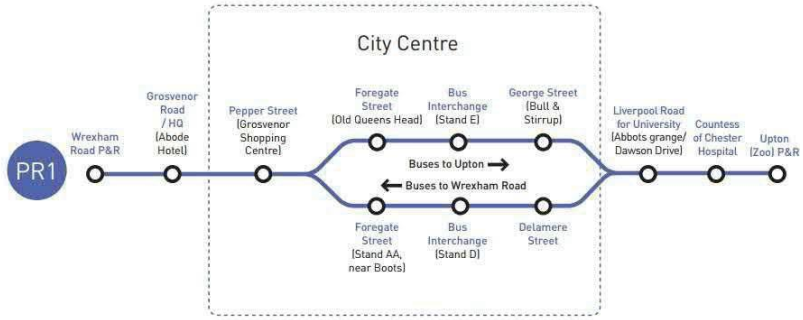
Chester is a historical city with a number of physical barriers to cross-city movement including the historic city walls, River Dee and the Shropshire Union Canal. In addition to the attractive cultural and retail offer within the city centre, Chester has a number of major trip attractors located on the periphery of the city, including Chester Zoo, Chester Business Park and Sealand Industrial Estate. Whilst the historic nature of Chester city centre makes it far denser than the centre of Warrington, cross-city movement within Warrington is similarly constrained by the River Mersey and Manchester Ship Canal and can relate to Chester in terms of key destinations being located on the outskirts of the urban area. This includes Gulliver's World, Birchwood Park, Gemini Park and Omega Park all on the periphery of the town centre.

Two Park and Ride routes operate in Chester between a total of four Park and Ride sites, connecting the historical city centre to key strategic sites on the outskirts of the city including the Sealand Road Industrial Estate and Chester Zoo (**Figure 40**). With employment and leisure trip attractors located at either ends of the routes, as shown in the figures below, patronage along the length of the line via the city centre is strong. The network has high frequency throughout the day, making it attractive to commuters and shoppers, with the following hours of operation in place on both routes:

- Monday to Friday: every 12 minutes between 7am and 7pm.
- Saturdays: every 12 minutes between 8am and 7pm
- Sundays and Bank Holidays: every 15 minutes between 9.30am and 6pm.

Operated by Stagecoach on behalf of Cheshire West and Chester Council, a fleet of 12 new buses were introduced in 2016 and feature free 4G Wi-Fi for passengers, improved climate control and USB charging. This fleet upgrade was part funded by the Local Sustainable Travel Fund (LSTF) and a new ticketing system has also recently been introduced to enable passengers to make card payments to pay for their travel, helping to reduce passenger boarding delay.

Figure 40: PR1 route map.



Source: Cheshire West and Chester

7.4.1.2 Why does the network work well?

The success of the service is largely attributed overall affordability and the strategic location of each Park and Ride site. Ticketing includes free parking for Park and Ride customers, with a return ticket costing £2 per adult, and children able to travel free if accompanied by a paying adult. The service also runs a series of promotions included discounted fares to the Countess of Chester Hospital, multi day saver offers for frequent travellers and free travel promotions on certain days. It should however be highlighted that the Chester Park & Ride network is heavily subsided by Cheshire West and Chester Council, and publicly available information indicates that the operators of the bus services across the four sites received a gross £1.1 million subsidy for the period April to December 2014 inclusive[47].

The Park & Ride network in Chester is also supported by the fact that the overall parking stock in Chester is low, with just over 5,000 spaces distributed across 18 private and 14 public car parks. Car parking prices are also relatively high in Chester, with the average car park charging £1.45 per hour (averaged over the first 8 hours).

As highlighted above, the decision to locate Park and Ride hubs at the site of key trip attractors within the city plays a significant role in supporting high patronage on the network. The strategic locations of the Park and Ride sites serve the key employment sites on the periphery of Chester and the Upton Park and Ride site serves Chester Zoo, the leading UK attraction outside of London (AVLA, 2016). The cross-city bus routes between the Park and Ride sites provide a high-quality transit system that attracts trips for employment and recreation across the area.

7.4.1.3 Lessons for Warrington

Chester's Park and Ride scheme provides a leading example for Warrington when considering park and ride opportunities for the area. Key lessons are:

[47] https://www.whatdotheyknow.com/request/park_and_ride_subsidy_in_chester

- Cross-city routes can maximise efficiency through attracting two-way journeys both into the city centre and to key destinations on the city centre's periphery.
- The location of park and ride sites must be carefully considered to maximise service demand. In Chester, the location of park and ride hubs provide a north-south and east-west route via the city centre, all of which are located at key sites that attract high footfall.
- Warrington has many important employment and visitor sites on the periphery of the town centre where strategically placed park and ride sites could be located. From here, buses could provide a through route to the town and outward to key destinations on the opposite side of Warrington, enhancing overall connectivity around the town.

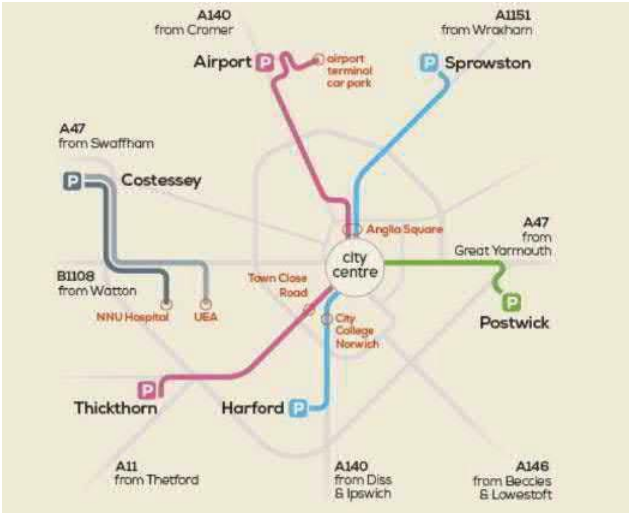
7.4.2 Case Study: Norwich

- **Location:** Norfolk, UK
- **Population:** 213,166
- **Population Density:** 3,480 p/km^2

7.4.2.1 Overview

In comparison to previously introduced bus transit examples from Chester and Leigh, Norwich provides an example of a city of a similar scale to Warrington. The Norwich Park and Ride network is operated by Konect Bus on a commercial basis with no public subsidy and comprises a combination of cross-city and peripheral routes to serve the city centre and key locations on the periphery of the city including Norwich International Airport, the University of East Anglia (UEA) and the Norfolk and Norwich University Hospital (**Figure 41**).

Figure 41: Norwich Park and Ride Network



Source: Konect Bus Ltd

[48] http://news.bbc.co.uk/1/hi/england/norfolk/6649831.stm

Routes serving the city centre (5, 501, 502) operate Monday to Saturday, and the peripheral routes (501, 511) operate on weekdays only. Ticketing across the Park and Ride network also varies vary depending on the service used, with a peak adult return ticket on routes via the city centre costing £3.50, including cost for parking.

Peripheral routes are also highly affordable with an adult return ticket costing £1 between Costessey and the hospital. The 511 service from Costessey to University of East Anglia is also free, for all students and staff at the university. This free service has helped contribute to the reduction in private vehicle use at the hospital and university with Park and Ride becoming an attractive mode of travel to and from these campuses.

Norwich is Norfolk's largest and most important economic centre, with a large inflow of commuters from across the county on a daily basis. This contributes to significant peak time congestion on key arterial routes in and out of the city, as Warrington also suffers from. Norwich's largest employers operate in financial services, public services, retail and hospitality, many of which are located in the city centre. A number of key employment destinations are also located to the south west of the city centre including the University of East Anglia, Norfolk and Norwich University Hospital and Norwich Research Park. This area is well served by the Park and Ride services from Costessey Park and Ride as discussed above.

Residential neighbourhoods surround the city on all sides and are well connected by the Park and Ride sites. Sprowston and Postwick are two of the densest residential areas of the city and benefit from direct access to the Park and Ride network, enabling commuters from these areas to access the city centre more quickly and often more cheaply than if they were to undertake the journey by car.

7.4.2.2 Why does the network work well?

As observed within the route network diagram, Norwich's Park and Ride termini are strategically located around the city centre to intercept vehicles on key routes into the city including the A140, A47 and A11. This increases the convenience of the service to Norwich commuters and shoppers from the wider area, helping to reduce the number of vehicles penetrating the city centre. The cost and time benefits of the scheme for users and the easy access from the road network to each site also helps maintain a high level of service demand.

The attractiveness of Norwich's Park and Ride network has contributed to the sustained high patronage since the scheme's inception in the early 1990s. The range of available payment mechanisms, fare structure and mobile fares app all maintain the scheme's appeal to users. Annual patronage levels of around 3 million passengers per over the last decade also helps keep up to a million cars out of Norwich city centre on a yearly basis[48].

The success of the scheme and the future development of Norwich's Northern Distributor Road has led to proposals to amalgamate the current Sprowston and Norwich Airport sites to develop a new super Park and Ride site close to the A140 and Northern Distributor Road. Proposals to release new land for development means that greater expansion of the scheme is required to enhance the service further.

7.4.2.3 Lessons for Warrington

Norwich's Park and Ride scheme provides several important lessons for Warrington

- The strategic planning of park and ride sites is an important facet in delivering a successful scheme. Patronage can be increased through locating sites on the urban centre periphery, with strong links to the immediate A-road and motorway network.
- Experience from Norwich demonstrates that not all routes must be cross-city routes, peripheral routes can be utilised to serve key employment destinations such as business parks, hospitals and education facilities. Norwich have successfully combined periphery and cross-city routes to deliver an encompassing network of routes.
- Norwich provides a high standard of customer service through delivering a range of payment options, a modern fleet of buses and an affordable and safe experience. These components that must be adopted to attract uptake in a park and ride scheme.

7.4.3 Case Study: Shrewsbury

- **Location:** Shropshire, UK
- **Population:** 71,715
- **Population Density:** 3,411 p/km^2

7.4.3.1 Overview

Shrewsbury is a market town located on the River Severn in Shropshire with a notably smaller population to that of Warrington. Shrewsbury has a constrained historic town centre and has a significant Park and Ride system to help reduce town centre congestion, reduce parking requirements within the town centre and create a more pleasant and less car dominated feel within the town. There are three Park and Ride sites serving Shrewsbury located to the north, west and south of the town centre including:

- Harlescott - 677 spaces
- Meole Brace - 672 spaces
- Oxon - 500 spaces

All Park and Ride sites are closed and locked after the arrival of the last bus from the town centre which is 6.40pm for the Oxon and Meole Brace car parks and around midnight for Harlescott, with this later service helping to connect both the edge of town retail and residential area with the town centre supporting retail and leisure facilities in the town centre. The services also stop at key locations such as the railway station facilitating easy access to the town centre by public transport. Buses run every 20 minutes from all sites to the town centre from Monday to Saturday from 7.20 am to 6.20pm and all vehicles are equipped to support pushchairs and people who are less mobile. There are no services on Sundays or bank holidays.

All day parking at all sites is free when purchasing a return bus fare which costs as little as £1.60 which is considerably less than the commercial fare for an equivalent bus journey. A number of different ticket types are available including group tickets (£2.50), season tickets (£6.40 per week, £24 per month) and 50% discount for students during term time.

Both the town and county councils, and a number of retail complexes are located in and around the town centre, providing significant employment. In addition to be a key centre of employment in the borough, the town is home to four shopping centres and has a strong visitor economy. Therefore, the Park and Ride in Shrewsbury provides an important facility for large numbers of both commuters, shoppers and visitors.

An overview of the Park and Ride network is indicated in **Figure 42**.

Figure 42: Shrewsbury Park and Ride Network

Source: Shropshire Council

There are a number of suburbs and surrounding villages separated from the town centre by the River Severn. Bayston Hill is a large neighbouring village 3 miles south of the town centre which is now separated from the Meole Brace suburb by the A5 bypass. The smaller village of Battlefield, north of the town, is considered a suburb of the metropolitan area. These large settlements and suburban areas are all well connected to the town centre via the Park and Ride facilities, reducing the need for large populations to travel to the centre by car.

7.4.3.2 Why does the network work well?

The success of the current Park and Ride sites have led to recent proposals within Shropshire Council's car parking strategy to add an additional site to the network and include the Royal Shrewsbury Hospital along the route.

As shown in **Figure 42**, the town's Park and Ride sites are located adjacent to key A roads, such as the A5, A458 and A49, which link Shrewsbury to the wider area. This offers opportunities for visitors and commuters from further afield to access the town centre and its retail facilities via by a potentially cheaper mode than if they were to travel and park within the town. Bus routes connecting the sites to the town centre are direct to help minimise journey time and ensure the service remains attractive and competitive with the car.

7.4.3.3 Lessons for Warrington

Shrewsbury's network provides a good example of a successful park and ride scheme offering more sustainable travel for commuters and visitors. Key lessons that Warrington should consider from Shrewsbury include:

- Ensure car park opening times and bus services can facilitate business hours for commuters and retail/entertainment facilities for visitors.
- Consider the location of park and ride sites close to key strategic road links on the periphery of the area. For Warrington, this could be in proximity to junctions on the surrounding motorway network such as the M6, M56 and M62.
- Fare prices must be kept low to increase the attractiveness of the facility as an alternative to the cost of driving and parking within the town centre.

7.5 Headline Findings

This chapter has explored the key details of a number of established successful mass transit schemes within the UK and Europe. Whilst some of the key lessons learnt in these locations are more geographically unique to the town or city where the system has been implemented, including the fact that the city centre of Caen is highly constrained by a dense network of pedestrianised and one-way streets and less navigable for private vehicles than Warrington, many of the key lessons should help to guide further optioneering for mass transit in Warrington. Key lessons from the UK and European examples of different rapid transit modes are as follows:

7.5.1 Tram

- It is important to plan tram networks so that the largest and most densely populated settlements are directly connected to the network. This helps to support high levels of patronage on the line. Providing park and ride facilities at select stations on the route towards the outskirts of the urban area can also increase the accessibility of the tram network for those who live further from the line in more rural areas.
- A drive to reduce car dependency and congestion and to improve air quality is not only supported by investment in public transport but should be backed up by a positive approach towards investment in walking and cycling connectivity.
- A proactive approach from local authorities through both policy and in discussions with developers is needed to help deliver the development pattern and density required to support usage of rapid transit systems and to help reduce the propensity to travel by car for short distance journeys. In terms of development patterns, at the most extreme level, this could include reducing car access to new dwellings.
- Given the nature of Warrington's economy, there could be potential to integrate passenger and freight traffic on the same tram network, thereby reducing freight movements on congested roads within the borough. Depending on the total size and scale of the tram network, freight routes can be adapted depending upon the time of day that the journey is made and which areas of the network are most busy with passenger services. This helps to ensure that the freight movements do not adversely impact on the efficiency of the passenger network.

7.5.2 Bus Rapid Transit

- Before committing to investment in any form of mass transit, extensive public consultation and information sharing sessions must take place to help shape the development of the network and educate the public on the impacts of the system. This point can also apply to all other forms of mass transit.
- Priority signalling for BRT vehicles at junctions is crucial for improving commercial performance and punctuality and ensuring that journeys by bus can become faster and more reliable than car, especially during the morning and evening peak periods when congestion on the highway network is likely to be greater.
- Ensuring that the BRT fleet of vehicles is efficient, comfortable and reliable is important for reducing potential stigma around buses as an attractive alternative to car travel
- As well as using the magnet technology on dedicated busways, most BRT vehicles can operate on normal roads and operate on roads with higher gradients than trams are typically able to. In addition, BRT systems may be rolled out gradually over time potentially starting as road-based but with the ultimate potential for more segregated running. The advantages of this flexibility must not be forgotten when further assessing the relative merits of tram and BRT systems for Warrington.

7.5.3 Park and Ride

- The location of park and ride sites must be carefully considered to maximise service demand. Cross-city routes can maximise efficiency through attracting two-way journeys both into the city centre and to key destinations on the city centre's periphery.
- The strategic planning of park and ride sites is an important facet in delivering a successful scheme. Patronage can be increased through locating sites on the urban centre periphery, with strong links to the immediate A-road and motorway network.
- For out of town park and ride facilities, fare prices must be kept competitive to increase the attractiveness of the facility as an alternative to the cost of driving and parking within the town centre. In essence, Park & Ride fares must be lower than the cost for parking within Warrington and driving to and from the town centre.

8 Mass Transit Corridors

8.1 Establishing Need

Warrington is a rapidly growing town. It is one of the North West's strongest economies and is a net 'importer' of workers. The draft Local Plan proposes nearly 21,000 new houses to be built in the borough in the next twenty years, however Warrington is currently a town dominated by car usage. As discussed shown in section 3, 80% of Warrington residents use a private vehicle (car or van) to get to work, and 73% of commutes within the borough (people who both live and work in the borough) are done by people driving a car or van.

The impact of this dependency manifests in two key ways: congestion (and associated journey delays, costs and reduced accessibility) and poor air quality. These have negative consequences in terms of added operating costs for businesses, decreased efficiency, health impacts due to pollution and reduced quality of life.

The dispersed nature of the borough, with many out of town employment and retail sites, does play a part in this, but need not mean that car dependency is inevitable. However, to redress the balance, a transformative approach to transport needs to be taken. As previously mentioned, to increase public acceptance of new demand management mechanisms within Warrington, viable alternatives to incentivise people away from car usage will need to be provided. With growing employment and residential numbers in Warrington spread across the borough, a mass transit system must be considered.

8.1.1 Origins and Destinations

Analysis of trip origins and destinations for all trip purposes, not just commuter trips, has been carried out using the Warrington Multi Modal Transport Model (WMMTM)[49]. **Figure 43 - Figure 46** show the numbers of trips originating and destinating in each model zone in the AM Peak in 2036, with the Local Plan Preferred Development Option proposals realised.

The origin and destination plots for journeys by all modes show a wide spread of journey origins in the AM Peak, reflecting the fact that most people's trips will begin at home. The destinations of trips are concentred in five areas – the town centre and the four corners of the borough – Omega//Lingley Mere, Birchwood/Culcheth, the Waterfront and the Garden Suburb around J20 of the M6.

Figure 43: Number of originating trips, AM Peak 2036, all modes

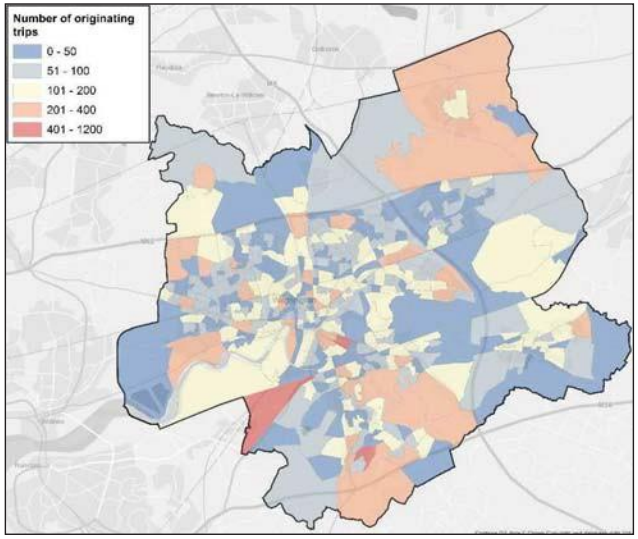
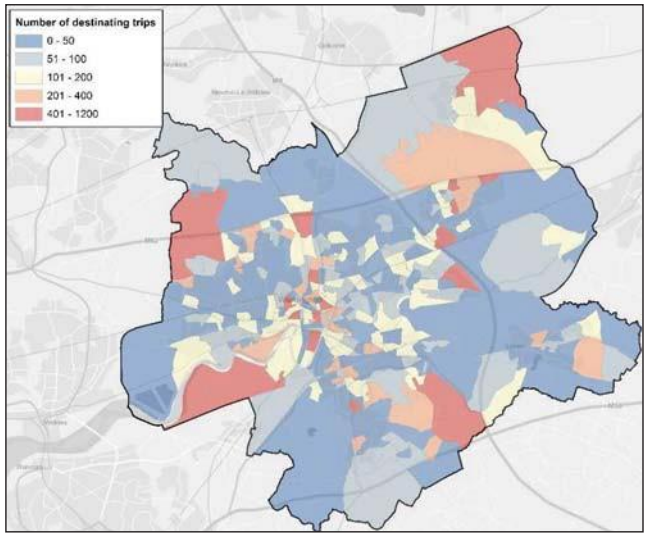


Figure 44: Number of destinating trips, AM Peak 2036, all modes



[49] Based on Preferred Development Option land use

Figure 45: Number of originating trips, AM Peak 2036, Public Transport only

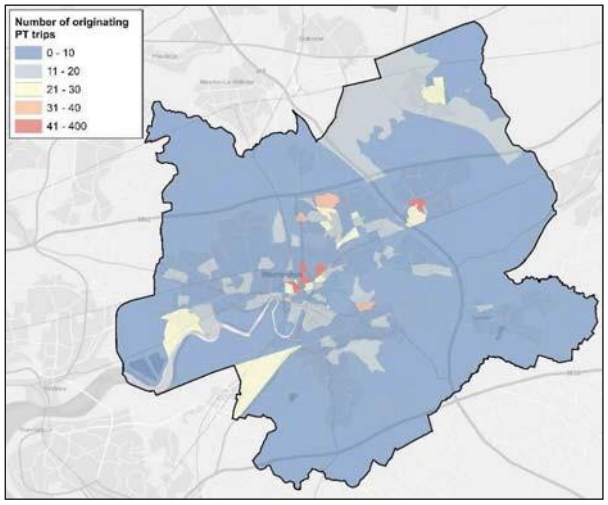
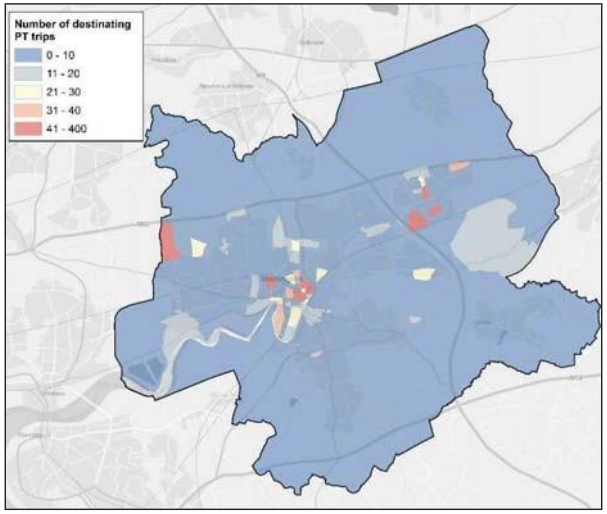


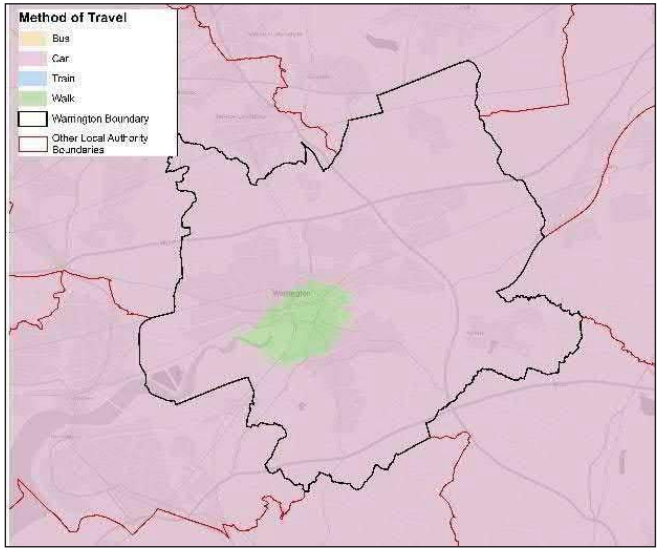
Figure 46: Number of destinating trips, AM Peak 2036, Public Transport only



For public transport trips, a broadly similar pattern is observed to all trips, with origins spread across the borough; destinations of public transport trips are constricted to the town centre, Omega/Lingley Mere and Birchwood.

8.1.2 Modes of travel

Figure 47: Most common mode of travel to work trips into Warrington Town Centre



Source: Census 2011

Figure 47 above indicates the domination of the car for work trips into Warrington. **Figure 6** (earlier in the document) shows the areas where population densities are currently high: broadly the eastern (from Orford south to Grappenhall and Thelwall) and north-western (Penketh and Westbrook) parts of the wider urban area. In terms of employment density, the key areas, as already mentioned, are the town centre, Birchwood and the corridor bordering the M62, covering Gemini, Omega and Lingley Mere. This is reflected in the WMMTM outputs which show large concentrations of journeys in the AM Peak ending in these areas.

Following the full implementation of the Local Plan growth proposals, residential population densities are expected to significantly rise in the areas where large developments are planned – particularly the Garden Suburb and Waterfront areas, but also along the South West Warrington Garden Village towards Daresbury. 6,400 new houses are proposed to be built in the Garden Suburb area, to the south east of the town centre, equating to a population increase of around 15,360. Similarly, the Waterfront area (towards Fiddler's Ferry) will have 4,000 new properties (9,600 people). Outputs from WMMTM **(Figures 43 – 46)** show large numbers of trips originating in the AM Peak in the Waterfront and Garden Suburb areas, and also the Culcheth area.

Based on current trips rates, the 20,790 new houses proposed under the Local Plan could generate as many as 40,000 additional car commute trips across the borough each day (based on Census 2011 data which indicates there are 1.3 employees per household and 74% of work trips as car drivers on return journeys). Leisure, school, and business trips would be in addition to this and these calculations are only looking at trip growth from new development areas; it is

likely that there will also be growth in population and car trips in established areas. Given the already congested nature of many of Warrington's strategic routes, these additional trips would lead to even greater congestion issues, resulting in more delays, more pollutant emissions, and generally greater and unsustainable pressure on the highway network. The sections below describe the process by which the options for a future bespoke Mass Transit system in Warrington, to avoid dependency on the private car and to promote sustainable journeys between home and work, were identified and prioritised. This includes a description of the multi-criteria analysis used to assess the best performing options, the mode assessment analysis work used to suggest a suitable mode in each case, and proforma treatment of each corridor to illustrate each in more detail.

8.2 Option Identification

As a first step in the identification of Mass Transit options for Warrington, a workshop was held with Warrington Borough Council officers including representatives from the Transport Planning and Development Control, and Local Plan teams. During this workshop, discussion focussed on the proposed Local Plan Growth areas and on the full spectrum of future corridors that could best serve these in future, regardless of existing constraints. The output of these discussions was a plan of potential corridors overlaid on key growth zones.

Using the Local Plan proposed growth areas and outputs from the WMMTM as a guide, ten primary corridors where high levels of movement are anticipated following the implementation of the Local Plan have been identified. On these corridors, future congestion might reasonably be anticipated to be significantly worse than at present if no or minimal intervention is undertaken. Without good accessibility to existing and future growth areas, the economic development and success of the borough may be stifled. Therefore, some form of mass transit system, whether it be light rail (LRT), bus-based (BRT) or another alternative, is to be considered as an option for providing good accessibility between residential, employment, and retail and leisure areas, to enable the borough of Warrington to achieve its maximum potential. This is vital to ensure Warrington retains its position as an excellent economic and employment centre and continues to attract a highly skilled workforce to both live and work in the borough.

The ten corridors selected in this way form a long list of potential origin-destination pairs to be appraised in the assessment phase of the study. For many of these, a number of options exist in terms of specific routing, however the appraisal in this section looks in general at the corridor itself rather than the specific routing. For the purposes of appraisal, the following general corridors were identified:

1: Town Centre to Winwick

2: Town Centre to Birchwood / M62 J11

3: Town Centre to Lymm

4: Town Centre to Garden Suburb / Poplar 2000

5: Town Centre to Stretton

6: Town Centre to Daresbury

7: Town Centre to Fiddler's Ferry

8: Town Centre to Lingley Mere / Omega / M62 J8

9: Lingley Mere / Omega / M62 J8 to Birchwood / M62 J11

10: Garden Suburb / Polar 2000 to Birchwood / M62 J11.

Most of these corridors are radial routes from the town centre and may be linked to run continuously across the town centre – this is examined according to convenience and feasibility following the assessment stage. Two of the corridors are orbital corridors and therefore do not necessarily enter the town centre but instead link two or more out-of-town localities by a more direct route. This type of corridor has a number of distinct advantages and disadvantages in terms of operation and these are discussed briefly in the following sub-section Two

8.2.1 Orbital Corridors

Public transport routes may be divided into those that run radially to a town centre and provide direct linkage between that centre and the locality in question, and those that run orbitally. The latter type is significantly less common than the former due to a number of operating and commercial difficulties including:

- The difficulty in locating sufficient demand to justify the service since often the main economic area within a town or city is within the town centre which becomes the main focus of the network as a result. Orbital corridors often are only able to link residential areas with other residential areas which frequently fails to generate the level of demand required to justify the service;
- Long and circuitous routing - In many cases, due to the need to link multiple areas of trip production with trip attraction, orbital corridors must follow long and indirect routes in order to serve the level of demand that they require. This can lead to long journey times and lack of competitiveness with the private car as a result unless significant amounts of priority can be provided.

In the circumstances in which an efficient and cost effective route can be delivered by an orbital service they do offer some distinct advantages, most notably by:

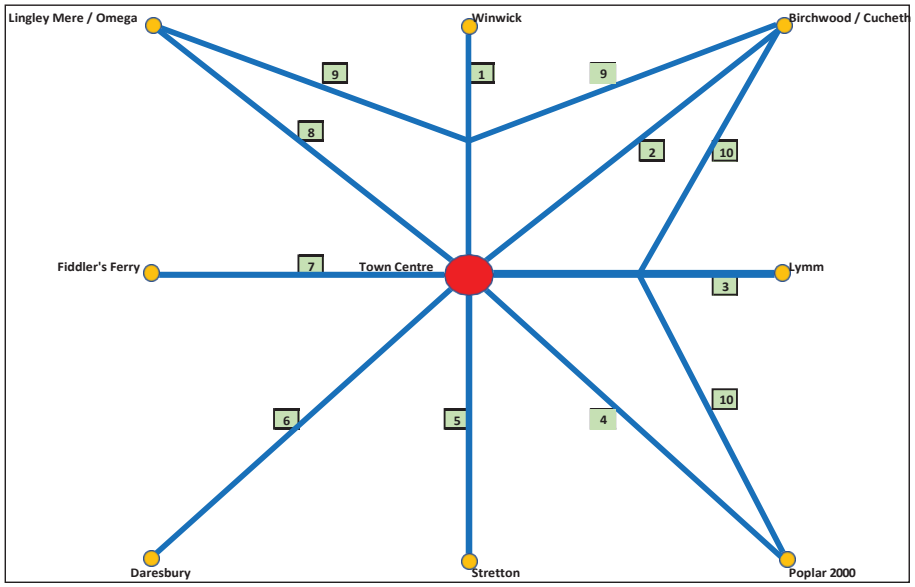
- Avoiding the congestion that can build up around town centres as the usual focal points of the transport network; and by
- Connecting residential areas into out-of-town employment locations such as business parks and industrial sites.

In the case of Warrington, there may be justification for a number of orbital corridors due to the previously noted dispersion of commercial development around the borough and the relatively reduced economic importance of the town centre compared with some other locations. In this way, providing orbital corridors that connect residential areas with key employment localities such as Birchwood, Omega or Lingley Mere, may lead to sustainable and successful interventions as long as the demographics linking these people and jobs are coherent and that an efficient route that balances the need to access demand with the relative speed of the journey compared to competitor modes can be identified.

8.2.2 Corridors to be Appraised

The large trip generator (residential) and attraction (employment and retail) areas can be drawn in the following schematic configuration' as shown in **Figure 48** with links representing the major flows of movement between the key locations.

Figure 48: Schematic of key travel corridors



Source: Mott MacDonald

Following the identification of the ten long-listed corridors for which a mass transit system may be a potential solution, each corridor was subjected to a Multi-Criteria Assessment to differentiate their feasibility against a number of set objectives. This assessment covers a wide range of criteria, which is explained in the following section. It should be noted that, at this stage, there is no attempt to differentiate between route options within a specific corridor nor to determine a specific mode, Instead the assessment is proposed to decide which of the corridors have potential to carry future Mass Transit – a key next stage in the process will be to undertake more detailed routing of the resulting corridors.

8.3 Multi-Criteria Assessment

A bespoke multi-criteria assessment has been developed for the ten long-listed corridors in Warrington, to ensure the specific geographic, economic, social and environmental aspects of Warrington are considered. Four main criteria were used, each of which had 5-6 sub-criteria. A description is provided below of the specific criteria and sub-criteria against which each corridor options was assessed.

8.3.1 Assessment Criteria

Economic Drivers

- Economic Growth – This assessed the level of linkage between the town centre and the main existing (i.e. non-Local Plan) poles of growth within and adjacent to the borough i.e. Birchwood, Lingley Mere / Omega, Daresbury, and the area to the west including Fiddler's Ferry;
- Local Plan Fit – This scored the level of linkage offered by the corridor between the town centre and the main Local Plan sites for growth (particularly the Garden Suburb, Waterfront and South West Warrington Garden Village since these represented the highest concentrations of new housing and employment);
- Journey Time – This assessed the likely journey times by transit assuming a realistic amount of priority (if road based) as compared with the private car in standard conditions at midday on a weekday (taking into account normal traffic congestion). This rewarded routes that provide an alternative to the most congested traffic corridors in Warrington according to traffic data available from Google;
- Reliability – This provided an estimate of the likely reliability of transit journey times compared with current car journey time reliability (i.e. how variable journey times on the network are at present). Most corridors scored positively, but the highest scores were reserved for corridors in which there is currently a high level of journey time variability by private car according to traffic data available from Google;
- Congestion – This assessed the qualitative potential of each corridor to alleviate highway network congestion on that corridor by providing an alternative to the private car. It provided a measure of the likely attractiveness of the mass transit mode as compared with private car as a result of current level of congestion on that particular corridor according to traffic data available from Google;

Environmental drivers

- Safety – This sub-criterion assessed the potential reduction in the number of serious and fatal accidents as a result of implementing Mass Transit on a particular corridor. This was done by assessing the number of serious and fatal accidents on the highway equivalent of that particular corridor in the past 3 years using Crash Map statistics (http://www.crashmap.co.uk/search);
- Public realm – This score reflected the ability of Mass Transit to bring about improvements to public realm environments on a particular corridor i.e. the potential for integration with new district centres and public square developments. Given the lack of available information at present as to the specific plans for public realm, all options score equally in this area;
- Air Quality – This measured the potential impact on air quality as a result of switching from private car to Mass Transit with corridors intersecting with Air Quality Management Areas scoring more highly than others;
- Noise – The potential reduction in noise nuisance as a result of switching to Mass Transit formed the basis of this score with corridors in which traffic may be expected to transfer away from busy roads near to residential areas scoring the most highly. Given the similar conditions of each corridor in this regard, and in the absence of specific details on routing, all corridors are assumed to score equally for the time being;
- Carbon – This assessed the ability of each Mass Transit corridor to bring about a reduction in global carbon emissions. Given the similar distance of each corridor and lack of currently available information on demand in each case, each option was assumed to score equally for this sub-criteria.

Transport drivers:

- Employment connectivity – This score was awarded to measure the ability of each corridor to connect areas of residential population with key employment sites – namely Lingley Mere, Birchwood, Daresbury, Gemini and Omega;

- Other attractor connectivity – A further score was awarded to compare each corridor's connectivity to major attractors including retail and leisure. Corridors linking to key sites such as Gemini for IKEA and the stadium quarter scored the most highly in this assessment;
- Efficiency – This assessed the potential efficiency of Mass Transit compared with current public transport and car journeys and considering items such as parking, layover and vehicle capacity. In the absence of more specific data here, each option was assumed to score an equivalent amount in the field;
- Capacity – This measure provided an indication of the corridors' ability to provide the required additional capacity to meet demand. Corridors with the largest existing capacity problems were specifically prioritised in this context;
- Existing demand – A qualitative assessment was made of the ability of each corridor to cater for existing demand (both demand currently catered for by existing networks, and an estimate of likely levels of latent demand due to existing capacity shortfalls;
- New demand – A further assessment was made of the ability of each corridor to provide capacity for new demand generated on the routes in the corridor as a result of the Local Plan and other organic growth on each corridor.

Deliverability

- Affordability – This assessed the likely cost of Mass Transit on each corridor compared against the likely level of benefit (estimated qualitatively). Corridors with large infrastructure costs (i.e. those requiring new bridges or large amounts of dedicated priority, therefore required higher threshold of potential benefit in order to score well in terms of affordability;
- Acceptability – This provided an estimate of the likely acceptability of Mass Transit on each corridor to politicians, stakeholders and members of the public. Corridors requiring works that would likely impact negatively on accessibility for other modes were considered likely to score less well in this regard, as were corridors that were likely to require significant amounts of demolition or relocation;
- Constructability – This assessed the estimated ease of construction, taking into account physical constraints such as watercourses, and the need to provide new infrastructure;
- Suitability – This provided an indication of the estimated fit of a mass transit system to the corridor in terms of demographics, density of housing, scale of existing problem and potential resultant take-up of the offer;
- Legislative framework – A score was awarded to quantify the difficulty in overcoming the assumed legislative barriers for each corridor. It was assumed that all Mass Transit corridors would have the same legislative framework and they were therefore scored equally;
- Independency – The final score was awarded according to the extent to which the Local Plan schemes must be adopted in order to justify the route in terms of proposed developments. In this way, the highest scoring schemes are those that could potentially be justified even without the Local Plan growth and for which there is an existing problem to overcome.

8.3.2 Scoring Mechanism and Weighting

In undertaking the Multi-Criteria Assessment, each sub-criteria was assessed on a five point scale, from -2 for a strongly negative / poor fit score, to +2 for a strongly positive / good fit score, and with 0 representing a neutral (no benefit or disbenefit) position.

Each main-level criteria (Economic, Environmental, Transport and Deliverability) was equally weighted in terms of impact, with each sub-criteria equally weighted within each criteria. This meant that sub-criteria within the Economic bracket were each worth 20% of the total score for Economic Drivers, whilst each of the Transport sub-criteria was only worth around 17%.

8.3.3 Assessment Results

The full appraisal table and scoring exercise is included as **Appendix A**. The average scores of the sub-criteria, weighted as described above within each main-level criteria, were summed to produce a final score, which ranged from a low of 2.50 to a high of 4.33. Based on these scores, corridors were ranked in order of greatest overall benefit to lowest overall benefit. The rankings serve as a prioritisation for Mass Transit system intervention by corridor. The scores and ranks awarded, broken down into scores awarded for each of the main-level criteria, are shown in the following **Table 8**. A more detailed description of the findings from this exercise, and the final shortlist of corridors for consideration is then presented below:

Table 7: Transport Corridor Scoring Summary

Corridor Reference	Economic	Environmental	Transport	Deliver'ty	Total	Rank
1: Town Centre to Winwick	1.20	1.50	1.33	-0.50	3.63	7
2: Town Centre to Birchwood / M62 J11	1.00	1.00	1.67	0.50	4.17	2
3: Town Centre to Lymm	1.00	1.00	0.83	-0.33	2.50	10
4: Town Centre to Garden Suburb / Poplar 2000	1.40	1.25	1.67	-0.17	3.90	4
5: Town Centre to Stretton	0.80	1.50	1.00	-0.50	2.90	9
6: Town Centre to Daresbury	0.80	1.50	1.83	-0.17	3.87	5
7: Town Centre to Fiddler's Ferry	1.40	1.25	1.50	-0.17	3.93	3
8: Town Centre to Lingley Mere / Omega / M62 J8	0.80	1.25	1.83	0.50	4.33	1
9: Lingley Mere / Omega / M62 J8 to Birchwood / M62 J11	0.20	1.50	1.33	0.33	3.27	8
10: Garden Suburb / Polar 2000 to Birchwood / M62 J11	0.80	1.50	1.50	0.00	3.70	6

Source: Mott MacDonald

- **Town Centre to Winwick** – This corridor scores well for economic drivers due to potential relief for heavy congestion on A49, which also explains the high environmental score. The corridor scores well for connectivity to existing markets but does little to connect new markets from Local Plan sites. In addition, the option has potential acceptability issues since it would inevitably involve a loss of road-space for general traffic, potentially exacerbating delays for the drivers that do not change modes;
- **Town Centre to Birchwood / M62 J11** – This corridor scores very well in terms of connectivity to growth areas, but less well in terms of Local Plan connectivity. It is also less beneficial in terms of congestion relief and environmental benefit since congestion has reduced significantly since the Birchwood pinchpoint scheme has been implemented. There are major transport benefits, however, due to the ability to serve both existing and new markets and the option is considered deliverable and potentially popular with stakeholders and the public;
- **Town Centre to Lymm** – This corridor has limited value in terms of connectivity to areas of economic growth. Whilst there is some congestion on the A57 corridor that would be alleviated as a result of the scheme, this is not enough to offset the lack of connectivity to employment or residential growth areas. In transport terms, there is potential to better serve existing markets, however there is little potential to cater for new markets and the scheme has low affordability (benefit vs cost). There is no obvious Mass Transit fit for this corridor.
- **Town Centre to Garden Suburb / Poplar 2000** – This corridor has high economic benefits due to its ability to serve a key Local Plan Growth area. It also provides an alternative route to areas such as Grappenhall that avoid the congested Manchester Ship Canal bridges, creating Journey Time and Reliability benefits, and reducing environmental impacts.

Transport benefits are based around new markets of demand which are significant. Affordability is potentially low (requiring a new bridge) but acceptability is likely to be high.

- **Town Centre to Stretton** – The economic argument for this corridor suffers due to its lack of ability to serve key growth areas, either existing or Local Plan related. It is highly congested, however, and if a route that avoids the Swing Bridge at Stockton Heath can be avoided it could potentially bring substantial benefits in terms of congestion and environment. The transport argument cannot currently be made in terms of demand for existing or new markets due to low density development, and deliverability is low due to the lack of alternatives to routing Mass Transit along the A49.
- **Town Centre to Daresbury** – Although not officially in Warrington borough, there is a significant cross-boundary movement to and from Daresbury scoring well in terms of economic growth. The route would also serve the South West extension Local Plan site. The existing A56 route is not currently a congestion hotspot in the town and hence the benefits to journey time, reliability and environment are limited. Transport benefits are potentially significant, in linking such an important employment area with new markets of demand, and deliverability is good – Mass Transit could potentially be designed into the South West extension Local Plan site.
- **Town Centre to Fiddler's Ferry** – The corridor between Warrington and Fiddler's Ferry scores well regardless of route due to the ability to serve the Waterfront Local Plan growth area as well as the potentially redeveloped Power Station site. Congestion on the A562/A57 corridor can be significant ensuring it scores well environmentally as well as economically. The corridor can serve both existing and new markets, particularly the latter, and is on the deliverable side with good levels of acceptability and suitability.
- **Town Centre to Lingley Mere / Omega / M62 J8** – The 8th radial corridor is perhaps the most compelling economically serving Warrington's biggest business park and the major employment opportunities at Omega. Routing could either take in the under construction Warrington West station and Chapelford Urban Village, or could route via the existing Hospital site and the Bewsey / Dallam residential community bringing regeneration and economic benefit to the areas. Alternatively, the route could split to serve both the hospital and Chapelford areas. Transport benefits are correspondingly major and the corridor is considered to have good deliverability, being essentially independent on much of the Local Plan growth.
- **Lingley Mere / Omega M62 J8 to Birchwood / M62 J11** – The so-called Northern Orbital corridor has some challenges to overcome, however if a route can be identified and prioritised to strike a balance between servicing demand and speed, it has significant potential to be suitable for Mass Transit. High levels of priority are likely to be required to overcome the speed competition from the M62, but the route will also serve some key areas of deprivation and older housing and, as such, may have an important social role to play in terms of connecting residential and employment areas.
- **Garden Suburb / Polar 2000 to Birchwood / M62 J11** – Similarly to the above, this route may struggle on speed due to competition from the M6 motorway alternative, however the option could effectively connect corridors 2 and 4 without needing to cross the town centre providing a potentially viable option, and connecting an area of high employment with a key Local Plan growth zone. Although difficult to justify and deliver as a route in and of itself, its ability to run alongside corridors 2 and 4, sharing infrastructure costs and increasing service levels on high demand sections of line makes this routing significantly more feasible.

Following the logic described above and the scoring in **Table 10**, the following routes are shortlisted for further consideration. All scored more highly than the 20th percentile score of 3.19.

- Corridor 1: Town Centre to Winwick;
- Corridor 2: Town Centre to Birchwood / Culcheth;
- Corridor 4: Town Centre to Garden Suburb;
- Corridor 6: Town Centre to Daresbury;
- Corridor 7: Town Centre to Fiddler's Ferry;
- Corridor 8: Town Centre to Lingley Mere / Omega;
- Corridor 9: Lingley Mere / Omega M62 J8 to Birchwood / M62 J11; and
- Corridor 10: Garden Suburb to Birchwood / Culcheth.

It should be noted that no specific routing options within corridors have been undertaken at this stage and several options exist. It is also noted that the corridors which are not being further considered within this work could still come forward as a new conventional bus route. More work would need to take place to explore this outside of the scope of this study.

8.4 Mode Feasibility Assessment

For the eight corridors taken forward to the short list, the second part of the assessment focuses on mode. The mode assessment aims to identify the mass transit mode which is most suitable and could reasonably be justified and financially viable for the corridor. Three main factors taken into account in determining the most appropriate mode for a corridor are:

- Operating Costs per year;
- Number of vehicles required to operate a service;
- Likely catchment and revenue for a service.

8.4.1 Capital Costs for Construction

As noted previously, two potential Mass Transit modes have been considered as part of this study, although in reality there are a kaleidoscope of potential modal solutions for Warrington (with varying costs, benefits and disadvantages). The two more conventional transit modes considered are Tram / Light Rail (LRT) and Bus Rapid Transit (BRT – incorporating potential bus-based Park & Ride).

The biggest cost differentiator between these two potential modes is in the cost of construction of each of the systems, i.e. the capital cost required to lay the infrastructure and purchase all of the equipment required for the system. Although it is the ongoing revenue (operating) cost of the system that will ultimately decide it's viability, capital cost will clearly be a major determining factor in the ultimate mode choice for the system.

For LRT, capital costs vary significantly. Worldwide examples studied range from £96m per km (for the in-construction Ottawa Confederation Line) which includes significant amounts of tunnelling, to the proposed LRT system in El Paso which is projected to cost only £8.8m per km. Taking an average capital cost of all UK LRT systems and converting to 2018 prices, then based on previous experience LRT costs around **£20m per kilometre** to construct. It should be noted that Warrington Borough Council has been made aware of proposals for significantly cheaper systems and investigations into the feasibility and value for money of these are ongoing.

In the case of BRT, fewer UK examples are available to draw upon, however systems that have been completed include the c£230m Bristol Metrobus, Vantage BRT network in Greater Manchester which utilises the Leigh – Salford Guided Busway, and the Luton to Dunstable Busway. Costs for these networks range from around £4.6m per km in the case of Bristol

Metrobus (though it should be noted that this scheme has faced a number of fundamental challenges including that vehicles are unable to run along parts of the route) to £8.9m per km for the Luton to Dunstable scheme and £9.7m per km for the guided busway stretches of the Leigh – Salford scheme. Despite the observed range in costs for different BRT systems of between **£4.6m to £9.7m per kilometre**, as a rule we would expect that LRT is more expensive than BRT to implement on balance.

8.4.2 Operating Costs per Year

In the case of LRT, Mott MacDonald's Light Rail Team provided costs per km of operation for the primary cost components of an exemplar light rail network in the UK – the Manchester Metrolink system. Considering the key operating (revenue) cost components and excluding any capital costs, the main cost elements per tram per kilometre of travel are shown in the following **Table 8** which has been uplifted to 2016 cost.

Table 8: LRT Operating Costs per km

Cost Element	Operating Cost per Tram per km (£2016/km)
Driver wages	1.23
Other staff wages	0.87
Insurance and legal services	0.17
Energy (inc risk)	0.45
Vehicle maintenance	0.11
Total	**2.84**

Source: Manchester Metrolink and Mott MacDonald Light Rail Team

For the case of a bus-based system, component costs and proportions were extracted from the DfT's annual bus statistics publication (2016) and from the Confederation of Passenger Transport's Cost Index (2016). The most relevant cost elements relating to operation only were extracted from the DfT's annual bus operation statistics and these were grouped to match the LRT costs in Table 8. The specific cost elements for bus are shown in the following **Table 9**.

Table 9: Bus Operating Costs

Cost Element	Operating Cost per bus per km (£2016/km)
Drivers wages	0.94
Other staff wages	0.29
Insurance and legal services	0.05
Energy (fuel)	0.34
Vehicle maintenance	0.09
Total	**1.71**

Source: DfT and CPT[50]

Significantly, given the notably higher capital and operating costs for LRT systems compared to BRT, and the fact that BRT in general operates more flexibly than LRT as shown by the case study analysis presented within Chapter 7, we would expect that BRT systems are likely to be more deliverable than LRT for Warrington in the shorter term.

[50] www.gov.uk/government/organisations/department-for-transport/series/light-rail-and-tram-statistics and http://www.cpt-uk.org//_uploads/attachment/4159.pdff

8.4.3 Operating Kilometres for Each Corridor

The next stage is to determine the specific number of kilometres that may be expected to be required for each corridor to run a potential service. A number of assumptions are made in calculating these values. These may be summarised as follows:

- Average vehicle speed is 20km/h (12mph) across the whole route – this accords with normal speeds in an urban environment (although speeds on segregated track are likely to be significantly higher);
- Frequencies should be set at every 6 minutes over the majority of each corridor, corresponding to 10 services per hour in each direction – this accords with standard frequencies on rapid transit corridors worldwide;
- A 20% uplift on the minimum number of vehicles required to run a service is required for resilience, reliability and maintenance purposes;
- Each vehicle is assumed to operate over an 18-hour day

For Corridor 1: Town Centre to Winwick

Route Length = 4.3km
Round Trip Length = 8.6km
Round Trip Journey Time = 25.8 mins
No of vehicles required for 6 min frequency = 6
Total Annual Operating Cost if LRT ~ £1.6m
Total Annual Operating Cost if BRT ~ £1.0m

For Corridor 2: Town Centre to Birchwood

Route Length = 8.1km
Round Trip Length = 16.2km
Round Trip Journey Time = 48.6 mins
No of vehicles required for 6 min frequency = 10
Total Annual Operating Cost if LRT ~ £3.0m.
Total Annual Operating Cost if BRT ~ £1.8m

For Corridor 4: Town Centre to Garden Suburb

Route Length = 8.1km
Round Trip Length = 16.2km
Round Trip Journey Time = 48.6 mins
No of vehicles required for 6 min frequency = 10
Total Annual Operating Cost if LRT ~ £3.0m
Total Annual Operating Cost if BRT ~ £1.8m

For Corridor 6: Town Centre to Daresbury

Route Length = 6.4km
Round Trip Length = 12.8km
Round Trip Journey Time = 38.4 mins
No of vehicles required for 6 min frequency = 8
Total Annual Operating Cost if LRT ~ £2.4m

Total Annual Operating Cost if BRT ~ £1.4m

For Corridor 7: Town Centre to Fiddler's Ferry

Route Length = 6.3km

Round Trip Length = 12.6km

Round Trip Journey Time = 37.8 mins

No of vehicles required for 6 min frequency = 8

Total Annual Operating Cost if LRT ~ £2.4m

Total Annual Operating Cost if BRT ~ £1.4m

For Corridor 8: Town Centre to Lingley Mere

Route Length = 6.6km

Round Trip Length = 13.2km

Round Trip Journey Time = 39.6 mins

No of vehicles required for 6 min frequency = 8

Total Annual Operating Cost if LRT ~ 2.5m

Total Annual Operating Cost if BRT ~ £1.5m

For Corridor 9: Lingley Mere / Omega to Birchwood

Route Length = 13.5km

Round Trip Length = 27.0km

Round Trip Journey Time = 81 mins

No of vehicles required for 6 min frequency = 15

Total Annual Operating Cost if LRT ~ 5.0m

Total Annual Operating Cost if BRT ~ £3.0m

For Corridor 10: Garden Suburb to Birchwood

Route Length = 16.2km

Round Trip Length = 32.4km

Round Trip Journey Time = 97.2 mins[51]

No of vehicles required for 6 min frequency = 20

Total Annual Operating Cost if LRT ~ £6.0m

Total Annual Operating Cost if BRT ~ £3.6m

8.4.4 Likely Catchment and Revenue

A corridor's catchment assesses the number of residents who potentially could use the mass transit system. National planning policy guidelines consider 800m to be a reasonable distance for people to walk to a public transport (bus, tram or train) stop, therefore the number of people expected to reside within 800m of the corridor, assuming full implementation of the Local Plan proposed developments, has been calculated to use in the assessment.

In order to convert corridor catchments to likely tram users and resultant revenue for the proposed service, further assumptions are required. The following bullet points list our core assumptions on which we base our calculations. In the following sub-section, a number of sensitivity tests and the impacts these have on the results are discussed for each corridor.

[51] This journey time is uncompetitive compared to private car travel and therefore not a viable journey time to get residents of the Garden Suburb to Birchwood Park. The viability of the route would therefore depend on other shorter trips on the corridor.

Core Assumptions for Catchment and Revenue Calculations

- Average household size in Warrington is 2.34 people;
- 1 return trip is made per day for each household;
- Proportion of employees living in Warrington that also work in Warrington is 60%;
- Mode share of the transit mode is 10%;
- Average return fare for journeys on the transit mode is £3.

The expected annual revenue for each corridor may then be calculated as the product of the various factors noted. For example, for Corridor 1:

Corridor 1 – Example Calculation using Core Assumptions

- The total predicted catchment living within 800m of Corridor 1 (after implementation of the Local Plan) is 39,207 people;
- Assuming 2.34 people per household, the number of households within 800m of the corridor is 16,755;
- The total daily revenue expected for Corridor 1 may be estimated by applying the assumptions above:
  - Daily Revenue = 16,755 x 1 return trip x 60% live and work x 10% mode share x £3 average fare
  - Daily Revenue = £3,015.92
  - **Annual Revenue = £1.1 million.**

Following a similar logic to the example above, the following table (**Table 11**) shows, for each of the prioritised corridors, the expected catchment of people within 800m of the route assuming the Local Plan Preferred Development Option is fully implemented, and the resultant annual revenue (assuming 365 days per year) after inputting the above core assumptions. The table also compares these revenues with the previously estimated annual operation costs of LRT and BRT systems.

It should be noted that the revenue calculation is based on a high level estimation process only based on catchments rather than existing trip origin and destinations, Further research using the Warrington Multi-Modal Model, or similar, is likely to be required as the proposals are refined and routes are solidified to confirm likely demand and revenue results.

Table 10: Comparison of Revenue vs Operating Costs

Corridor	Route Length (km)	LRT Annual Op Ex (£m)	BRT Annual Op Ex (£m)	Catchment	Revenue (£m)
1. Town Centre to Winwick	4.3	1.6	1.0	39,207	1.1
2. Town Centre to Birchwood / M62 J11	8.1	3.0	1.8	54,508	1.5
4. Town Centre to Garden Suburb / Polar 2000	8.1	3.0	1.8	57,305	1.6

Corridor	Route Length (km)	LRT Annual Op Ex (£m)	BRT Annual Op Ex (£m)	Catchment	Revenue (£m)
6. Town Centre to Daresbury	6.4	2.4	1.4	25,602	0.7
7. Town Centre to Fiddler's Ferry	6.3	2.4	1.4	38,867	1.1
8. Town Centre to Lingley Mere / Omega / M62 J8	6.6	2.5	1.5	42,800	1.2
9. Lingley Mere / Omega / M62 J8 – Birchwood / M62 J11	13.5	5.0	3.0	63,908	1.8
10. Garden Suburb / Polar 2000 to Birchwood / M62 J11	16.2	6.0	3.6	111,813	3.1

Source: Mott MacDonald

It is clear that, using these core assumptions, insufficient revenue is likely to be generated to meet operating costs in full, particularly in the case of LRT, although the deficit is significantly less in the case of BRT. This analysis therefore shows the need for additional complimentary funding sources to meet the operational requirements of the network, and highlights the value of measures such as Workplace Parking Levy (WPL) which could both help to manage demand by vehicular traffic, and generate revenue to support the mass transit system. It is also worth noting that a complimentary demand management measure such as WPL could serve to increase the mode share of the mass transit system above the 10% assumed here, thereby increasing the revenue of the service helping it to become more self-sustaining.

8.4.5 Sensitivity Tests

Given that the above analysis is based on a set of core assumptions around factors such as number of return trips made per day per household, and proportion of the working population that both lives and works in Warrington, there is a need to undertake a number of sensitivity tests to understand better the impact of changing these. In particular, five sensitivity tests have been undertaken which review the impact on annual estimated:

- Sensitivity Test 1: Increasing mode share to 20% to account for the impact of WPL in changing travel behaviour;
- Sensitivity Test 2: Reducing the number of trips made per day per household to 0.5;
- Sensitivity Test 3: Reducing the proportion of people that live and work in Warrington to 40%;
- Sensitivity Test 4: Increasing the proportion of people that live and work in Warrington to 80%;
- Sensitivity Test 5: Reducing the number of operating hours for the service per day to 12 hours and reducing the number of trips per day to 0.5 per household at the same time (note this affects both operating costs and revenue).

Table 11 highlights the revenue results from sensitivity tests 1-4 compared with the BRT operating costs and the core assumption test, whilst **Table 12** presents results from test 5:

Table 11: Comparison of Revenue vs Operating Costs – Sensitivity Tests 1-4

Corridor	BRT Annual OP Ex (£m)	Core Revenue (£m)	ST1 Revenue (£m)	ST2 Revenue (£m)	ST3 Revenue (£m)	ST4 Revenue (£m)
1. Town Centre to Winwick	1.0	1.1	2.2	0.6	0.7	1.5
2. Town Centre to Birchwood / M62 J11	1.8	1.5	3.1	0.8	1.0	2.0
4. Town Centre to Garden Suburb / Polar 2000	1.8	1.6	3.2	0.8	1.1	2.1
6. Town Centre to Daresbury	1.4	0.7	1.4	0.4	0.5	1.0
7. Town Centre to Fiddler's Ferry	1.4	1.1	2.2	0.5	0.7	1.5
8. Town Centre to Lingley Mere / Omega / M62 J8	1.5	1.2	2.4	0.6	0.8	1.6
9. Lingley Mere / Omega / M62 J8 – Birchwood / M62 J11	3.0	1.8	3.6	0.9	1.2	2.4
10. Garden Suburb / Polar 2000 to Birchwood / M62 J11	3.6	3.1	6.3	1.6	2.1	4.2

Source: Mott MacDonald

Table 12: Comparison of Revenue vs Operating Costs – Sensitivity Test 5

Corridor	BRT Annual OP Ex (£m)	ST5 Revenue (£m)
1. Town Centre to Winwick	0.6	1.1
2. Town Centre to Birchwood / M62 J11	1.2	1.5
4. Town Centre to Garden Suburb / Polar 2000	1.2	1.6
6. Town Centre to Daresbury	1.0	0.7
7. Town Centre to Fiddler's Ferry	0.9	1.1
8. Town Centre to Lingley Mere / Omega / M62 J8	1.0	1.2
9. Lingley Mere / Omega / M62 J8 – Birchwood / M62 J11	2.0	1.8
10. Garden Suburb / Polar 2000 to Birchwood / M62 J11	2.4	3.1

Source: Mott MacDonald

It may be seen that the revenue estimates are highly sensitive to the assumptions used. On mode share, in reality, it is likely that this will increase gradually with time and there will clearly be a desire to keep average fares as low as possible in order to stimulate usage. In most cases it is likely that some corridors will generate a higher proportion of their required operating costs with revenue alone than others and there may be a need to cross-subsidise the less profitable parts of the network using revenue generated from more profitable parts (as well as from funding streams such as that raised by WPL).

The analysis in this section would seem to point to a BRT system (supported with additional revenue from the Demand Management options) being most feasible at least initially within the borough. It is likely, however, that once the route is established and the passenger base is solidified, that the viability of LRT on certain corridors will increase, potentially leaving the door open for system upgrades and enhancement at points in the future.

8.5 Emerging Preferred Mass Transit Network

The analysis in this section has concluded that a total of 6 radial and 2 orbital corridors are considered most feasible to support a Mass Transit system in Warrington, and that all of these (apart from the corridor between the Town Centre and Daresbury) could potentially be served with either BRT or LRT systems (assuming some additional revenue is available from the Demand Management measures – to be discussed further in the next section). In practice, it is unlikely that these corridors would be served as radial routes with one end in the town centre since this would require expensive layover and turnaround facilities in the densest part of the borough where space is at the highest premium. Instead, routes would likely operate as cross-town services formed of linkages between 2 or more services and taking layover at the extremities of the network only.

To create logical journey opportunities, direct straight-line cross-town journeys are favoured since these provide the greatest potential journey time advantage over the alternative car journey around the outside of the borough via the motorway and strategic road network. Consequently, the strongest linkages are considered to be formed of:

- The Birchwood corridor and the Fiddler's Ferry route;
- The Lingley Mere route and the Garden Suburb route;
- The Daresbury route and the Winwick route.

It is also logical to extend routes to key Park and Ride opportunities as much as possible, which are most easily envisaged at key motorway junctions or adjacent to busy traffic corridors. These could include:

- M62 Junction 8 at Omega;
- Fiddler's Ferry off the A562;
- Daresbury Park off the A56;
- Poplar 2000 at M6 Junction 2

The core of the proposed network would be a town centre routing system that provides linkage to the key hubs of Warrington Central, Bank Quay and Bus Interchange. The network would integrate with the future HS2 and NPR networks at Bank Quay and with the enhanced CLC system at Warrington Central. If the ultimate solution for the CLC is light rail based (extension of Manchester's Metrolink) there is also the potential in the future for direct linkage between a future LRT Warrington network and the CLC although initially at least this is likely to be formed of interchange at Warrington Central with extended Merseyrail and Metrolink services from Liverpool and Manchester respectively.

Also included in order to promote further discussion is a dedicated fast coach link between Poplar 2000 services and Manchester Airport to provide interchange with air and HS2 services. Whilst it is unlikely that the rapid transit could extend to the airport itself (due to unfavourable journey time compared with the fast motorway route), it is conceivable that a fast dedicated interchange with coach services could be achieved.

No analysis of specific routing has been undertaken at this stage, there remain several options for routing of many lines.

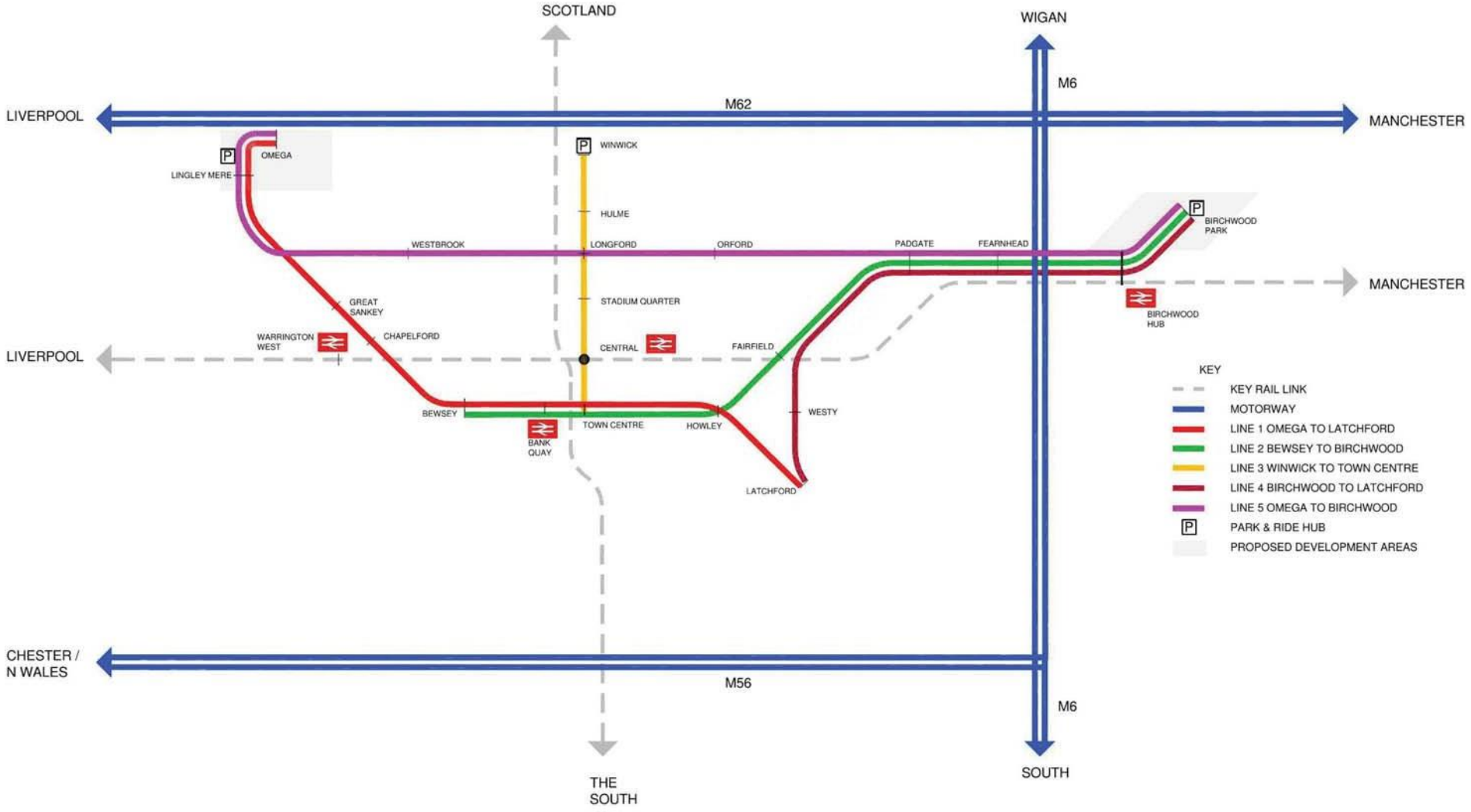
Translating these above points into schematic network maps for the potential mass transit system in Warrington leads to Figure 49 to Figure 52 overleaf, which summarise how a transit network for Warrington could build up over a number of phases. The build up of the network is as follows, **however it should be noted that this network is illustrative only and should not be considered as a detailed proposal**:

- **Phase 1**: Serving existing geographies and built up areas of the town including the town centre, Omega and Lingley Mere and Birchwood.
- **Phase 2**: The line between Winwick and the town centre is extended southward to serve Warrington Waterfront and out towards Sci-Tech Daresbury.
- **Phase 3**: Lines from Birchwood and Lingley Mere which terminate at Latchford are extended south west to serve the Garden Suburb, with a new link to Manchester Airport from Lymm Interchange also being introduced.

8.6 Future Expansion beyond Warrington

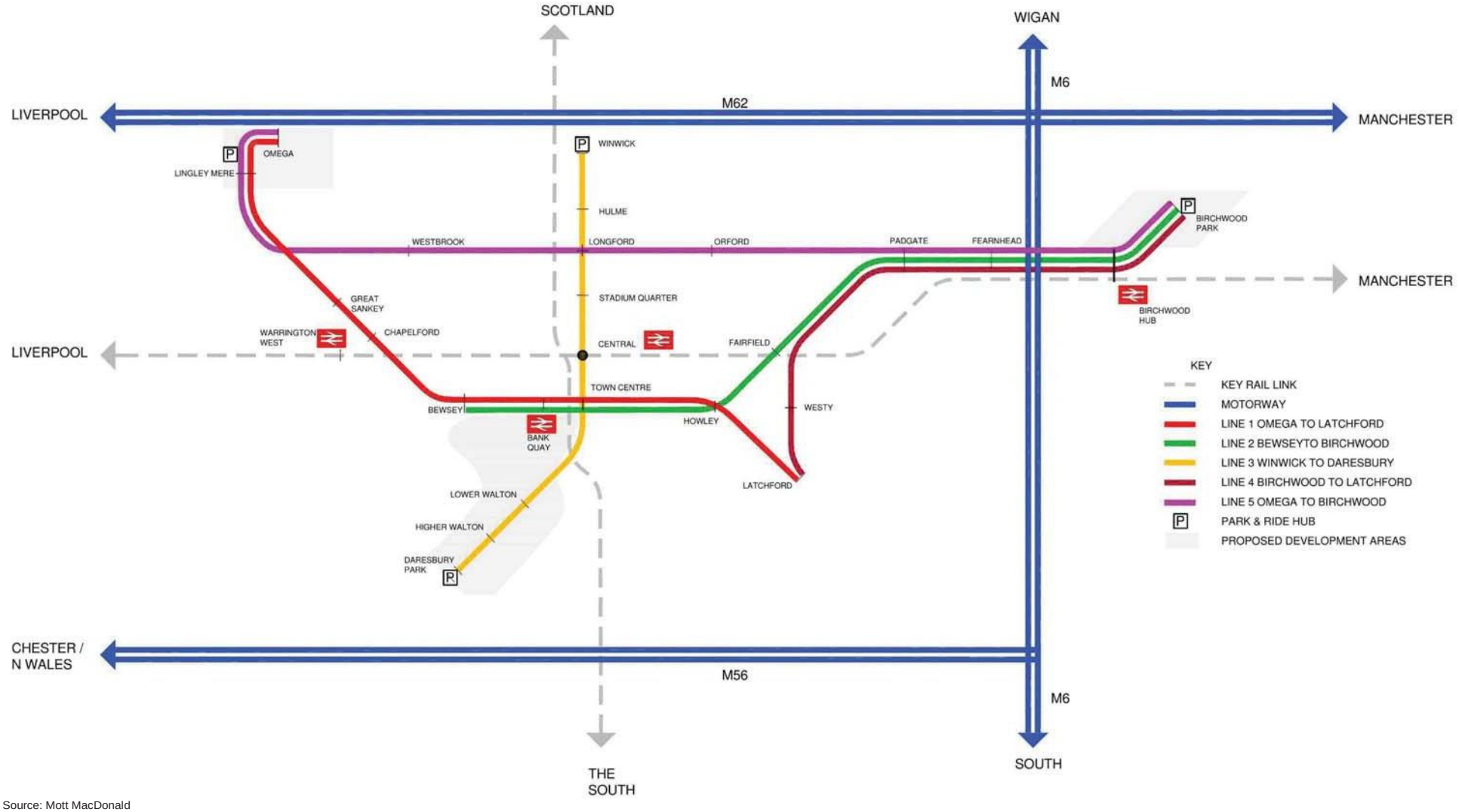
Although a comprehensive and self-contained network in its own right, it is clear that the preferred network is currently geared towards serving the internal Warrington market and is therefore more-or–less fully deliverable by Warrington Council. The exception to this is Daresbury which is politically within Halton but relates strongly towards Warrington. It is considered likely that the attractiveness of the system and the business case for constructing the above network could be strengthened further if some or all of the lines were extended across political boundaries to serve neighbouring locations since this would open up new markets to the network and effectively use its capacity for multi-use journeys and in multiple directions.

Figure 49: Warrington Area Rapid Transit Network (Phase 1)



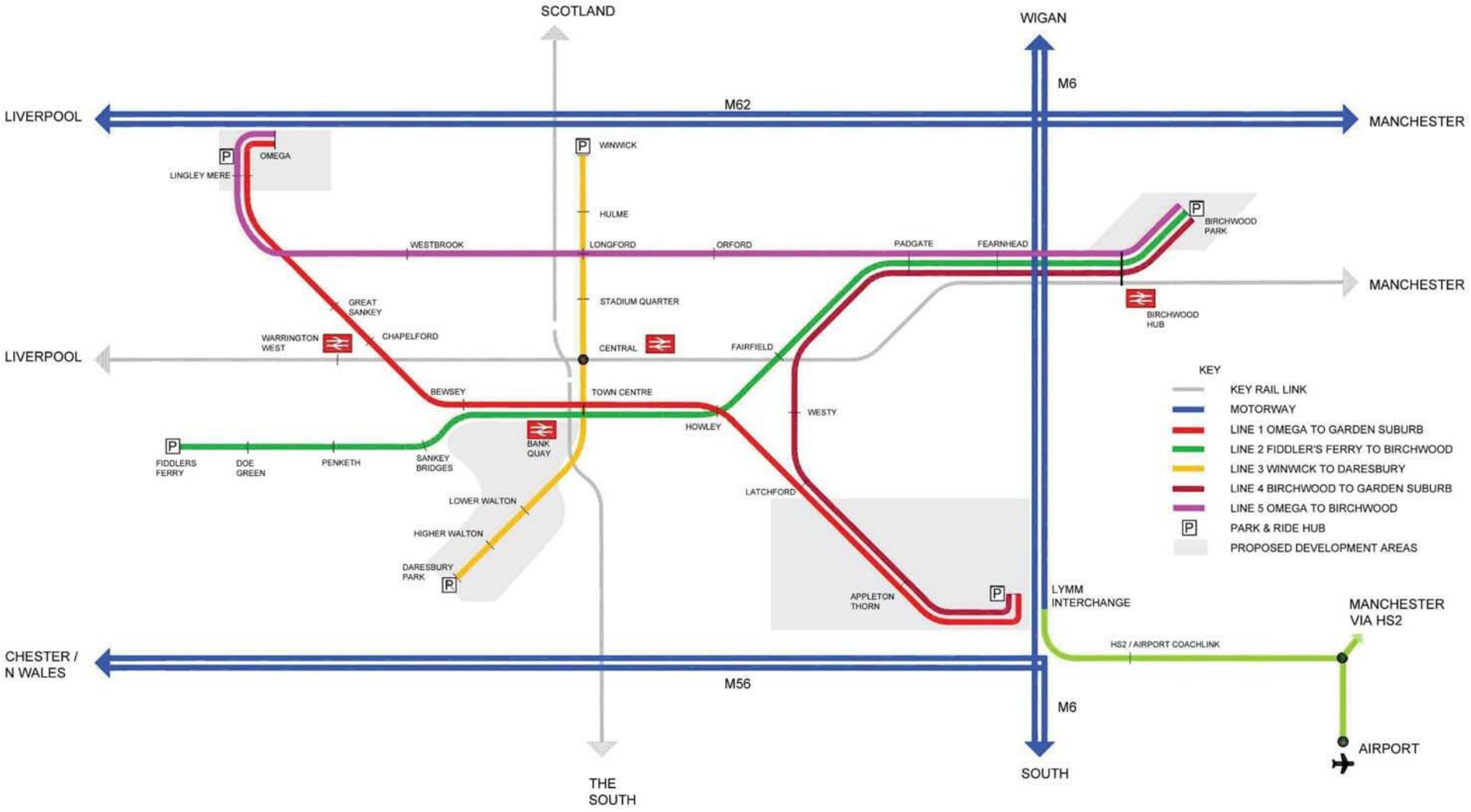
Source: Mott MacDonald

Figure 50: Warrington Area Rapid Transit Network (Phase 2)



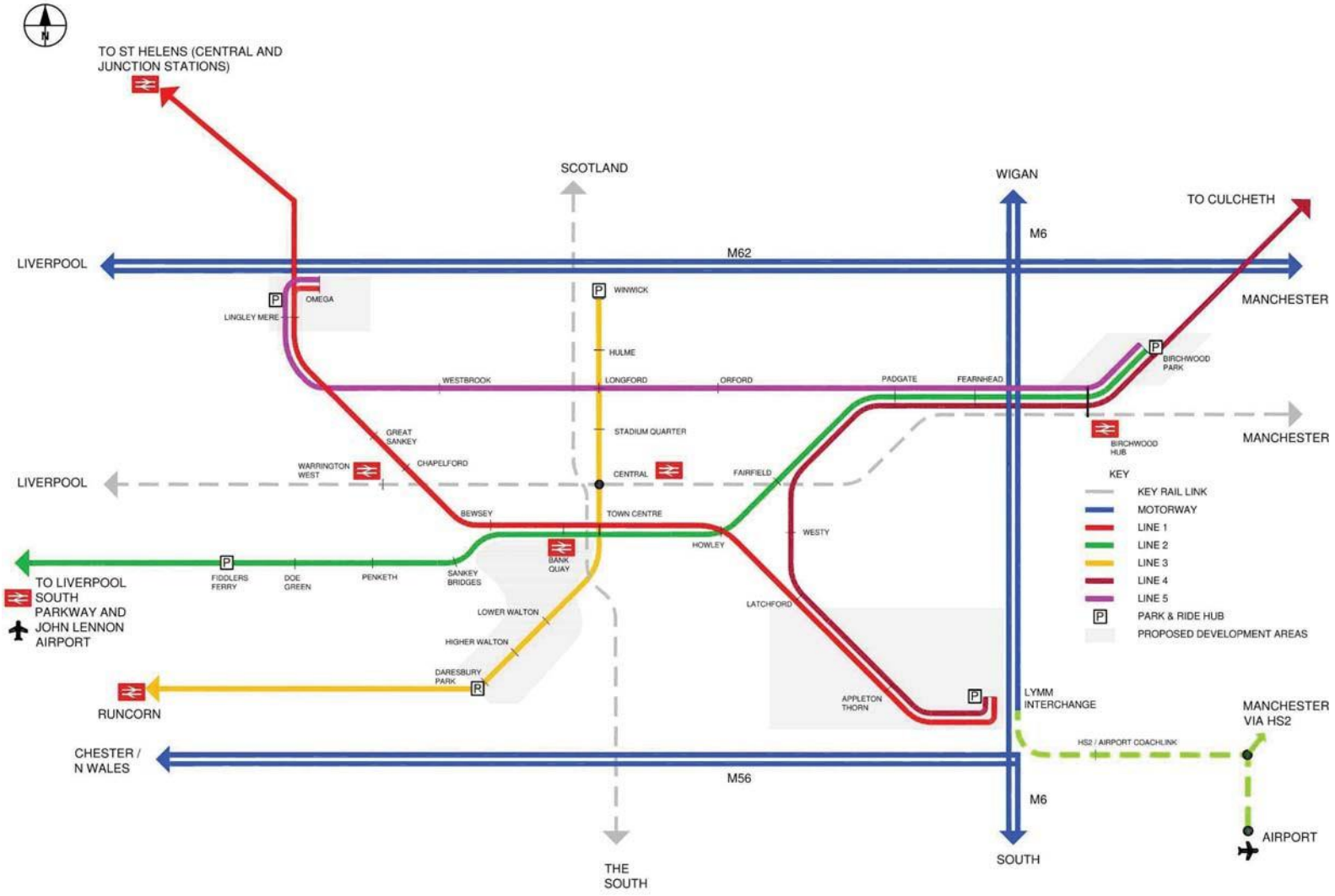
Source: Mott MacDonald

Figure 51: Warrington Area Rapid Transit Network (Phase 3)



Source: Mott MacDonald

Figure 52: Full Mid-Mersey Rapid Transit Network (Phase 4)



Source: Mott MacDonald

9 Conclusions and Recommendations - Emerging Preferred Package of Options

9.1 The Key Issue for Warrington

The analysis and assessment of differing options for Warrington Borough Council to adopt in the coming years has provided a tangible starting point for the more detailed development work ahead. In assessing the various transformative schemes that the borough might employ in the coming years, this study has been successful at highlighting the options that have significant potential as compared with those that are less likely to provide a beneficial outcome for the borough. What is abundantly clear, however, is that to do nothing is not an option for the Council. If the Local Plan is fully realised over its lifetime, the population of the borough will have increased by around **50,000 people** and many of these people will live in areas not well served by the current public transport network. Inaction could lead to an additional **40,000** commuter car trips per day on an already overcrowded and congested road network. This is considered an unattractive prospect.

The difficulty in the choice for Warrington lies in the challenge the Council faces in capturing the value of the new development to facilitate the dramatic improvements to public transport, walking and cycling required. Some of the options may be shown to be highly advantageous from a demand management and revenue raising standpoint, however they may be extremely difficult to accept politically leading to some difficult choices with large implications for the borough's development prospects. However, the opportunity that is presented by the coming together of planning and strategic transport policy within the borough provides a once in a generation opportunity to act in a truly progressive manner to ensure the prosperity of the borough and its residents for years to come.

With this in mind, the study has explored the positives and negatives of the various options available to Warrington Borough Council which may be broadly summarised in the following table.

Table 13: The Options Available to Warrington Borough Council

Option	Positives	Negatives
Do Nothing – maintain status quo	• Potentially the easiest course in terms of public acceptability and requires the smallest capital outlay at least initially…	• Likely to lead to significantly increased traffic congestion in the future, getting more problematic over time • Congested environment and significant amounts of lost time lead to a reduction in investment in Warrington and a downturn in its outlook • Further development becomes less desirable and Warrington loses the benefits of its vibrant economy (e.g. high levels of employment and mobility). • Further congestion on the strategic road network in the Warrington area.
Implement demand management scheme only	• Traffic levels are reduced with road demand transferred to other routes including those outside of the borough • Congestion is reduced and air quality is improved	• With no alternative transport provision in place, Warrington becomes less accessible and less desirable due to the high cost of access • Demand for residential and employment development in Warrington decreases in favour of its neighbours and Warrington loses the benefits of its vibrant economy. • Further congestion on the strategic road network in the Warrington area.
Fund significant improvements to Public Transport and Walking and Cycling	• Mass Transit schemes are introduced on key corridors • Local Plan development sites are made more accessible by non-car modes	• Lack of additional funding for Mass Transit schemes limits the scope of what can be achieved. Quality, extent and ultimately attractiveness suffers. • Non-Local Plan growth areas such as Birchwood and Lingley Mere are not prioritised for Mass Transit due to their relatively good road access. Growth in these areas is stifled by increasing car traffic and congestion.
Implement mixed package of both	• Reductions in car traffic in Warrington are offset by increases in use of sustainable transport modes • Congestion is reduced, air quality is improved and revenue is generated to help fund sustainable alternatives • Warrington gains a reputation as a national leader in progressive transport policy which adds to the attractiveness and investibility of the borough.	• Warrington Borough Council must navigate a challenging path balancing long term aspiration against potential short term political and public opposition

Source: Mott MacDonald

From a cold analysis, the most advantageous course of action seems clear, however the potential challenges are significant. It is considered essential therefore that the logic and full narrative of the policy decisions are communicated effectively to stakeholders and the public at large as proposals are developed. An effective communications strategy is likely to be an integral part of the package of schemes going forward and forms a key next step consideration to be discussed later in the following section.

9.2 The Emerging Preferred Package

The emerging preferred package of options from this study, and therefore recommended for further development and study, is formed of a combined package of both Demand Management and Mass Transit solutions. This will provide both the incentive to use private cars less and to prioritise journeys in which there is no alternative, whilst at the same time providing a valid alternative for the journeys with the highest demand both currently and following the build-out of the Local Plan.

In terms of Demand Management, a combined package of options is favoured from the analysis undertaken:

- Pending further study, scheme optioneering, and detailed scheme design, it is recommended that Workplace Parking Levy is investigated further with a view to potential implementation within Warrington. The specific details of the scheme are yet to be fully investigated, however it is anticipated that revenue raised through WPL could be supplemented by CIL or Section 106 contributions to provide a 'cocktail' of revenue funding which could be used as a means to borrow capital for investment in BRT/LRT;
- A borough-wide Clean Air Zone could potentially be considered as a complementary scheme to improve air quality, but this measure is not recommended as a demand management or revenue raising tool due to the inability to use revenue on public transport improvement schemes, and the relatively limited amount of time that these schemes remain effective;
- Further investigation is required as to whether the funds raised by WPL could be supplemented by levies from Council Tax. If so, this could be a useful additional funding source, although it is unlikely that this measure could generate sufficient additional revenue to be anything other than a top up measure. As such, the business case for pursuing this may be marginal.

In parallel with the preferred Demand Management package a Mass Transit network is recommended for Warrington. There is the potential to link corridors across the town centre to create a 5-line network (60):

- Line 1: Poplar 2000 (M6 Junction 20) to Omega (M62 Junction 8);
- Line 2: Fiddler's Ferry to Birchwood and M62 Junction 11;
- Line 3: Daresbury to Stadium Quarter; and
- Line 4: Poplar 2000 (M6 Junction 20) to Birchwood and M62 Junction 11
- Line 5: Omega to Birchwood Park
- Potential for new P&R sites at M62 J8 (Line 1), Fiddler's Ferry (Line 2), Daresbury (Line 3), Poplar 2000 (Lines 1 and 4), and M62 J11 (Lines 2 and 4).

The core of the proposed network would be a town centre routing system that provides linkage to the key hubs of Warrington Central, Bank Quay and Bus Interchange and therefore with the proposed HS2, NPR and CLC (Merseyrail and Metrolink) networks. This town centre connectivity could take the form of a Warrington focused network as shown in **Figure 53** or as an expanded sub-regional transit system (**Figure 54)**. It is also imperative that onward walking and cycling connections from mass transit stops, particularly town centre stops, are of the highest quality to deliver efficient access to leisure, training and employment opportunities. This will help maximise the return on any investment in mass transit.

Clearly significant further work is required to develop these proposals further, however a package of measures similar to that described above is considered to be the most ultimately beneficial future direction for Warrington Borough and will allow it to realise its aspirations in terms of housing and population growth. The analysis presented in this report brings into ever sharper focus the assertion that Warrington will not be able to accommodate its full growth aspirations without significant intervention in the form of a package of Demand Management and Mass Transit investment.

Figure 53: Warrington Rapid Transit Network (Phase 3)

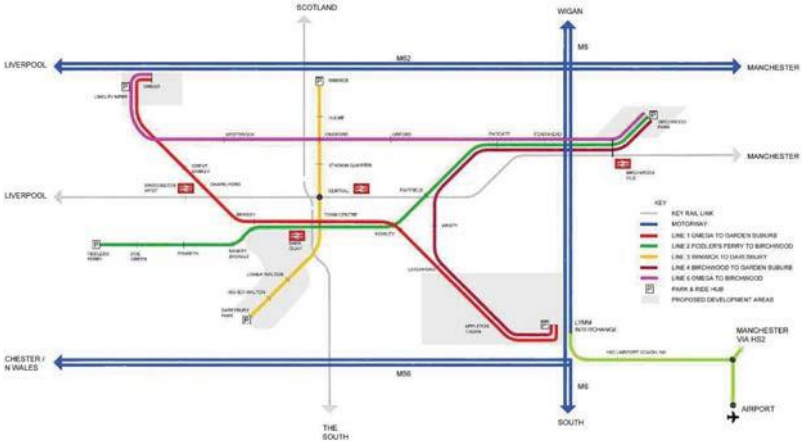
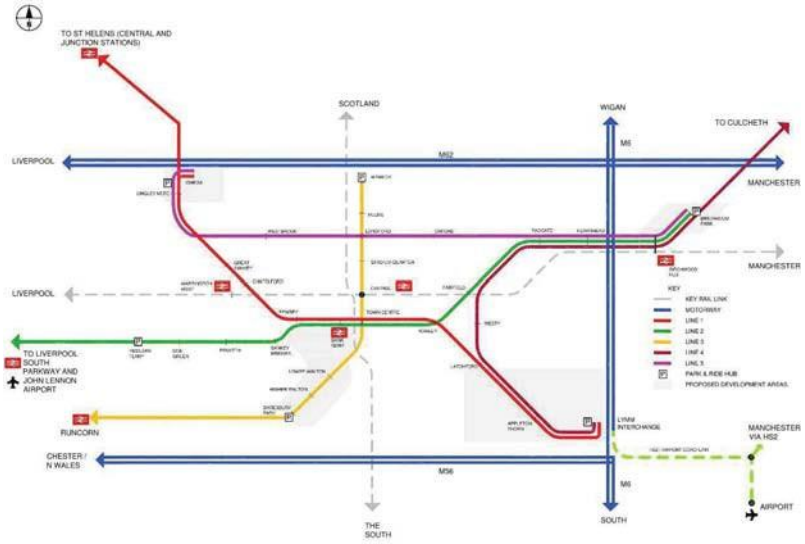


Figure 54: Potential Expanded Rapid Transit Network (Phase 4)



9.3 Next Steps – Turning Vision into Reality

The work undertaken in this study has been necessarily high level and has formed an important conceptual first step to provide Warrington Borough Council with a strategic direction for the joint development of transport and planning policy. It has investigated the options in terms of

demand management and mass transit and has recommended a preferred package of measures that, whilst transformational in scope and impact, would set the borough on a course towards a sustainable and prosperous future.

Clearly, significant amounts of further study are required to hone and refine the preferred strategy, and to fully develop the feasibility, implementation, legislation and construction steps required to move the project forwards. The items below provide a list of the main tasks that will need to be undertaken to progress the concepts recommended here towards implementation:

- **Further option specification and identification:**
  - *Detailed demand forecasting and revenue calculation* – a key task will be to look in significantly more detail at the likely demand and resultant revenue that may be generated by the mass transit propositions. This will include use of local growth forecasts, flavoured with corridor specific development and growth characteristics, and national trends towards mode shift, to understand more completely the likely usage of the lines and the proportion of self-sustainability each could generate;
  - *Consultation with stakeholders, politicians and the public* – in implementing a strategic direction such as that described here, it will be of the utmost importance that it is supported in principal by local politicians, stakeholders and ultimately the general public. Whilst it is always difficult to make the case for increased demand management measures to regulate the flow of private transport, this must be put in the widest context i.e. development of the borough with high growth, improved quality of life for the borough's residents, and provision of a high quality public transport alternative that is usable by all. This is particularly important if the mistakes of previous schemes where lack of public support has led to cancellation and watering down of the ultimate offer.
  - *Further investigation of available technologies* – Whilst a brief benchmarking section has provided some insight into the technologies that are being employed elsewhere to address similar transport issues, further work is required to establish the correct system for Warrington. In the case of WPL, the mechanisms already in place in Nottingham could potentially be adapted for Warrington's market.

- **Business Case work and funding applications:**
  - *Further design and costing work* – As part of the development of a strong WebTAG compliant business case for funding to implement the scheme, a significantly higher level of detail will be needed in terms of design and costing. In the case of the mass transit lines, specific routes will need to be developed (to allow these to be protected and for any Compulsory Purchase Orders to be prepared). These can then be fully costed using cost consultants to provide a solid basis on which to base an economic case assessment.
  - *Business Case Production* – The business case process will need to be followed (either for the package of schemes as a whole or for individual elements (whichever is felt to be more expedient in terms of obtaining funding). The usual route is for a Strategic Outline Business Case to be produced first to alert the funder of the schemes and to obtain backing for progression, followed by an Outline Business Case to support legal and planning requirements and a Full Major Scheme Business Case to obtain the funding from the relevant agency. In this case, this is likely to be the Department for Transport but funding elements could potentially be made available from allocations from Transport for the North (TfN) and Highways England in the future.
- **Detailed design and implementation:**
  - The final stage in the process is the detailed design and implementation of the scheme package which might be undertaken by a contractor under a Design & Build commission.

It is clear that the list of above-specified tasks is significant and much work is required in order to implement the types of options recommended within this study, however the workload should be measured against the potential requirements if a more Do Minimum approach is followed. In this case, further development of land as specified within the Local Plan would lead to large-scale growth in traffic levels in and around the borough resulting congestion and air quality reductions. Such issues would inevitably lead to the need for a major reactive response at some point in future and, having missed the optimum time for action, the scale of this reactive work is likely to exceed the proactive schemes proposed here.

To conclude, with its excellent track record of attracting the very highest quality business and investment, and its enviable top-rated position in terms of employment and prosperity, Warrington is in a strong position as it looks towards its future. With population set to continue growing and increasing interest from business in setting up regional and national headquarters in the borough, the objectives to make Warrington a better place to live and work seems highly achievable. However, in order for this to be realised, Warrington cannot depend on the private car for accessibility in the way it has in the past. By investing in a proactive manner at a time in which land use and transport policy can align, a solution can be found that is ultimately sustainable and that, if well planned, will allow Warrington to achieve its fullest potential.

Appendices

A. Multi-Criteria Appraisal Table and Results

Warrington Transformational Mass Transit Corridors - Multi-Criteria Assessment Scoring

Rank (Copy)	Corridor	Terminus	Route	Economic Drivers						Environmental Drivers						Transport Drivers							Deliverability Drivers							Total Score	Priority
									1						1							1							1			
				Economic Growth	Local Plan Fit	Journey Time	Reliability	Congestion	Total	Safety	Public Realm	Air Quality	Noise	Carbon	Total	Employment Connectivity	Other Attractor Connectivity	Efficiency	Capacity	Existing Demand	New Demand	Total	Affordability	Acceptability	Constructability	Suitability	Legislative Framework	Independenc	Total		
7	1	TC to Winwick	A49	1	0	2	1	2	1.20	2	1	2	1	2	1.50	1	2	2	2	1	0	1.33	-1	-2	-2	1	-1	2	-0.50	3.63	
2	2	TC to Birchwood / Culcheth	A57 - A50 - A574 or A49 - Former CLC - A574	2	0	1	1	1	1.00	1	1	0	1	2	1.00	2	1	2	2	2	1	1.67	-1	2	-1	2	-1	2	0.50	4.17	
10	3	TC to Lymm	A57 or Former Warrington - Lymm Railway (FWLR)	0	1	2	1	1	1.00	1	1	0	1	2	1.00	0	0	2	2	1	0	0.83	-1	0	-1	0	-1	1	-0.33	2.50	1
4	4	TC to Garden Suburb	FWLR - New route via Thelwall Heys or FWLR - New route via Grappenhall or A5061 - New route via Grappenhall or A57 - Victoria Park - New route via Grappenhall	1	2	1	2	1	1.40	0	1	1	1	2	1.25	2	2	2	2	0	2	1.67	-2	1	-1	2	-1	0	-0.17	3.90	
9	5	TC to Stretton	A49 or New route via Grappenhall	0	1	1	1	1	0.80	2	1	2	1	2	1.50	0	1	2	2	1	0	1.00	-2	-1	-2	1	-1	2	-0.50	2.90	
5	6	TC to Daresbury	A5060 or New route via South Western Development	2	2	0	0	0	0.80	1	1	2	1	2	1.50	2	1	2	2	2	2	1.83	-1	-1	-1	2	-1	1	-0.17	3.87	
3	7	TC to Fiddler's Ferry	Fiddler's Ferry Railway or A57 - A562	1	2	2	1	1	1.40	1	1	1	1	2	1.25	1	1	2	2	1	2	1.50	-1	1	-1	1	-1	0	-0.17	3.93	
1	8	TC to Lingley Mere / Omega	A57 - New Chapelford route - Whittle Avenue - Lingley Green Avenue or A57 / New Hospital route - Bewsey/Dallam - Sankey Valley Park - Westbrook Way	2	0	0	1	1	0.80	1	1	1	1	2	1.25	2	2	2	2	2	1	1.83	-1	2	-1	2	-1	2	0.50	4.33	
8	9	Lingley Mere / Omega - Birchwood / Culcheth	Charon Way / Cromwell Avenue / New Hulme Fearnhead route / A574 or Westbrook Way - Sankey Valley Park - A50 / Cheshire Lines - A574	2	0	-1	0	0	0.20	1	1	2	1	2	1.50	2	1	2	2	1	0	1.33	-1	2	-1	1	-1	2	0.33	3.27	
6	10	Garden Suburb - Birchwood / Culcheth	M6 or New route via Grappenhall - Victoria Park - A57 - A574	2	2	-2	1	1	0.80	1	1	2	1	2	1.50	2	1	2	2	0	2	1.50	-2	2	-1	2	-1	0	0.00	3.70	

Warrington Transformational Schemes - Mass Transit Appraisal Results

Priority Rank	Corridor	Terminus	Route	Economic Score	Environmental Score	Transport Score	Deliverability Score	Total Score	20th Percentile	Pass / Fail
1	8	TC to Lingley Mere / Omega	A57 - New Chapelford route - Whittle Avenue - Lingley Green Avenue or A57 / New Hospital route - Bewsey/Dallam - Sankey Valley Park - Westbrook Way	0.80	1.25	1.83	0.50	**4.33**	**3.19**	**Pass**
2	2	TC to Birchwood / Culcheth	A57 - A50 - A574 or A49 - Former CLC - A574	1.00	1.00	1.67	0.50	**4.17**	**3.19**	**Pass**
3	7	TC to Fiddler's Ferry	Fiddler's Ferry Railway or A57 - A562	1.40	1.25	1.50	-0.17	**3.93**	**3.19**	**Pass**
4	4	TC to Garden Suburb	FWLR - New route via Thelwall Heys or FWLR - New route via Grappenhall or A5061 - New route via Grappenhall or A57 - Victoria Park - New route via Grappenhall	1.40	1.25	1.67	-0.17	**3.90**	**3.19**	**Pass**
5	6	TC to Daresbury	A5060 or New route via South Western Development	0.80	1.50	1.83	-0.17	**3.87**	**3.19**	**Pass**
6	10	Garden Suburb - Birchwood / Culcheth	M6 or New route via Grappenhall - Victoria Park - A57 - A574	0.80	1.50	1.50	0.00	**3.70**	**3.19**	**Pass**
7	1	TC to Winwick	A49	1.20	1.50	1.33	-0.50	**3.63**	**3.19**	**Pass**
8	9	Lingley Mere / Omega - Birchwood / Culcheth	Charon Way / Cromwell Avenue / New Hulme Fearnhead route / A574 or Westbrook Way - Sankey Valley Park - A50 / Cheshire Lines - A574	0.20	1.50	1.33	0.33	**3.27**	**3.19**	**Pass**
9	5	TC to Stretton	A49 or New route via Grappenhall	0.80	1.50	1.00	-0.50	**2.90**	**3.19**	**Fail**
10	3	TC to Lymm	A57 or Former Warrington - Lymm Railway (FWLR)	1.00	1.00	0.83	-0.33	**2.50**	**3.19**	**Fail**

= Shortlisted

WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX C: MONITORING AND EVALUATION PLAN

1 Introduction

Warrington Borough Council's Local Transport Plan Four (LTP4) aims to address local transport issues in Warrington by providing a framework for decisions on future investment. LTP4 does the following:

- sets objectives for transport to support our wider goals and ambitions;
- establishes policies to help us achieve these objectives; and
- contains plans for implementing these policies.

A key focus of the LTP4 is supporting the transformational change of Warrington's transport system. The transport plan recognises Warrington's over-dependency on the private car and how the vehicle is the cause of many of the town's travel and environmental problems.

LTP4 aspires for Warrington to be a place where significantly more people choose to walk, cycle, and use public transport, allowing them to live healthier lifestyles. Thereby, a transport system that transitions from one which is dominated by car movements to one that is more balanced in favour of sustainable transport.

In order to achieve this change, the borough's public transport services and active travel network need to be significantly improved to provide a more attractive alternative to the car. There are four key elements that will support transformational change:

1. **Increasing walking and cycling:** LTP4 focuses particularly on improving the walking and cycling network within Warrington, as well as enhancing last mile access to the town centre for active travel users.

2. **Transforming public transport:** delivery of a mass transit solution (Light rail/Bus rapid transit) which can enhance the quality of public transport services through delivering substantial journey time savings.

3. **Managing demand for private car travel:** implementation of demand management measures which can help reduce private car use and support the use of other travel modes. Once LTP4 is adopted, the strategy will further investigate the implementation of a workplace parking levy in Warrington, as a way of managing demand for private car use.

4. **Major and priority infrastructure:** creating sufficient transport capacity on the network through major and priority infrastructure.

Figure 1 - LTP4 Delivery Cycle

Following the adoption of LTP4, Warrington Borough Council (WBC) has a responsibility to report and monitor the impact of the strategy. This document sets out the monitoring and evaluation plan for LTP4 and identifies a structured method for evaluating LTP4 objectives and key interventions.

Monitoring and evaluation is an integral part of any transport strategy or scheme, it forms a crucial part of the delivery cycle (Figure 1). Once a scheme or strategy is implemented, monitoring and evaluation provides the opportunity to assess the effectiveness of the action as well as giving an indication of how to prioritise future action.

2 Our Monitoring Strategy

Our strategy is split into monitoring of the LTP4 and stakeholder engagement. These are outlined in greater detail below.

Monitoring of the LTP4 encompasses two aspects:

- Monitoring of LTP4 objectives
- Monitoring of key LTP4 policies (which have been identified as important in achieving transformational change).

Performance indicators are identified under each of these aspects in order to derive changes of travel behaviour, modal shift, transport trends and differences. The performance indicators will be used as a proxy to help determine if key actions of the LTP4 have been delivered over the course of the strategy.

A key part of determining the success of LTP4 objectives will be to evaluate if transformational change has been met. To have a transformative effect on the town, LTP4 identifies that there needs to be increases in cycling (approximate 2.5 times increase in the proportion of cycling), bus (nearly 3 times the proportion for bus use), and increases in walking. To monitor this, LTP4 identifies modal shift targets shown in Figures 2 and 3.

The monitoring of the LTP4 objectives will therefore include reviewing these modal shift targets at 2031 and 2041 census periods.

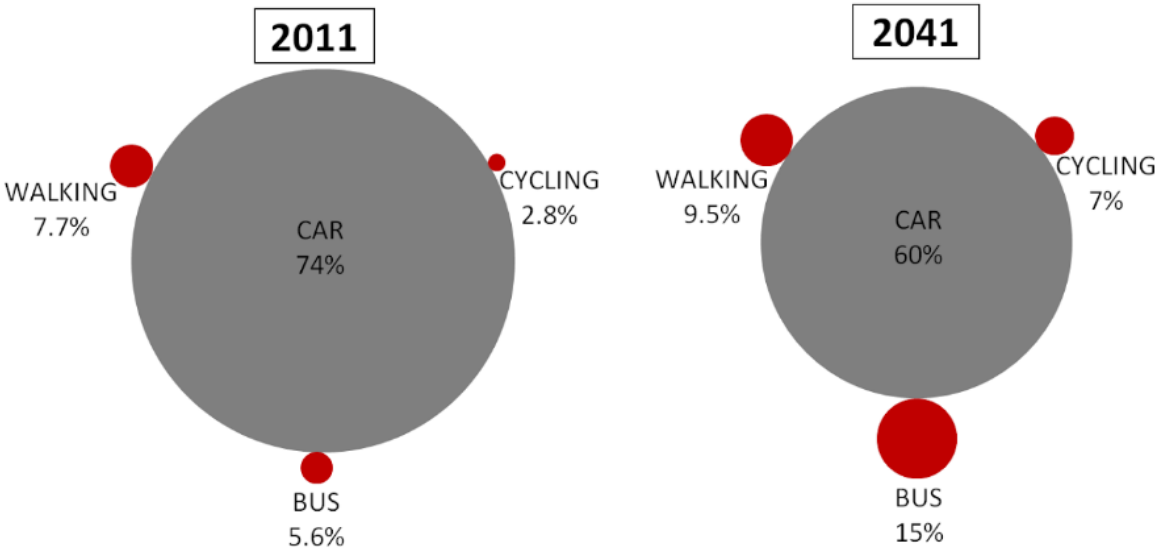


Figure 2 - Aspirational Mode Share Change

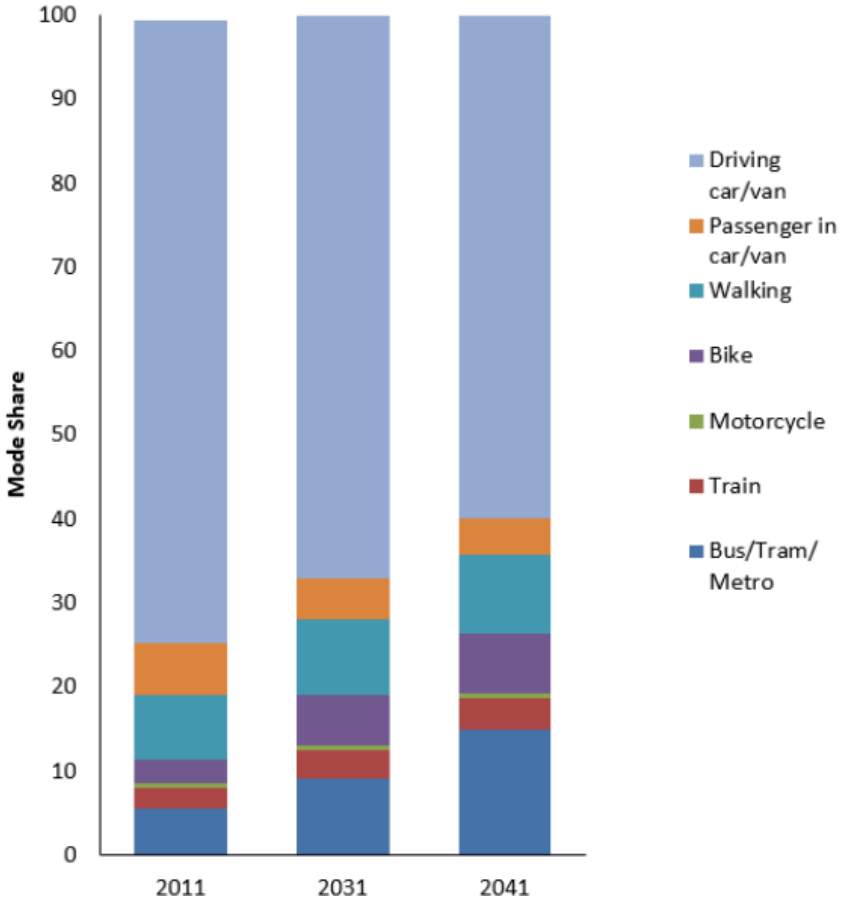


Figure 3 - Aspirational Mode Share Change Graph - All modes

LTP4 identifies several priority transport infrastructure schemes that are required to support the vision, transform transport in Warrington and help to deliver the growth that is proposed in the Local Plan. The identification of this forward programme has been informed by transport modelling undertaken using the Warrington Multi-modal Transport Model. A further set of major schemes have been identified that will support the growth of the borough and also help us to achieve our vision for transport in Warrington. These are shown in Table 1.

Scheme Name	Scheme Type	Description	Status
Priority transport infrastructure required to deliver the growth that is proposed in the Local Plan			
Warrington Western Link	Highway	Major infrastructure improvements including new high-level bridge across the Manchester Ship Canal and link road.	Awarded Programme Entry Status by DfT
Warrington South Strategic Infrastructure Phase 1 (Garden Suburb Strategic link)	Multi - modal	Major highway and public transport infrastructure to support development in south Warrington.	Development Concept
Scheme Name	**Scheme Type**	**Description**	**Status**
Major schemes required to support our vision for transport			
Local Cycling and Walking Implementation Plan	Cycling	Major strategic corridors schemes and completion of neighbourhood and greenway networks	Concept stage. Design work required
Mass Transit Network for Warrington	Public Transport	Network of mass transit corridors.	Indicative concept
The 'Last Mile' project / Town Centre Vision Access Package	Multi-modal	Major package of junction improvements, rail station enhancements and access measures to support town centre growth.	Indicative concept Bid submitted to Transforming Cities Bid

Table 1 - Transport Infrastructure Required to Support Housing and Economic Growth and Deliver Our Vision for Transport

Each priority infrastructure scheme will have its own individual monitoring and evaluation plan. This is for the reason that they form substantial infrastructure schemes and will require enhanced monitoring.

3 What We Will Monitor

Details of what we will monitor during LTP4, and how these contribute to delivering our objectives are shown in Table 2.

Policy Area	Performance Indicator	Methodology	Warrington will be a thriving, attractive, accessible, and well-connected place with popular, high-quality walking, cycling, and public transport networks supporting our carbon-neutral future										Baseline	Target	Target Year	Interim Target(s)			
			LTP4 Objectives (Summarised)																
			Provide travel choice	Reduces the need to travel by car	Sustain-able access to town centre	Resilient & efficient network	Reduce traffic congestion	Reduce emissions	Maintain & improve infra-structure	Healthier lifestyles /activity	Improve safety for all	Disabled friendly place							
Vision	% decrease in travel to work by car	Census travel to work data		✓		✓	✓	✓		✓			74%	60%	2041	67% by 2031			
Active Travel	% increase in the proportion of Warrington residents regularly cycling	Active Lives Survey (CW0302) Any cycling at least 3 times per week		✓		✓	✓	✓				✓	5.8% (17/18)	15%	2022 /23	18/19	19/20	20/21	21 22
																6.8%	8.3%	10.3 %	12.5 %
Active Travel	% increase in the proportion of Warrington residents regularly walking	Active Lives Survey (CW0303) Any walking at least 5 times per week		✓		✓	✓	✓					26.4% (17/18)	35%	2022 /23	18/19	19/20	20/21	21 22
																27.4 %	28.9 %	30.9 %	33.4 %
Active Travel	% increase in cycle counts on key routes	Annual Survey		✓		✓	✓	✓					3,760 (Index 100) 2019	4,512 (Index 120)	2024	N/A			

Policy Area	Performance Indicator	Methodology	Warrington will be a thriving, attractive, accessible, and well-connected place with popular, high-quality walking, cycling, and public transport networks supporting our carbon-neutral future										Baseline	Target	Target Year	Interim Target(s)
			LTP4 Objectives (Summarised)													
			Provide travel choice	Reduces the need to travel by car	Sustain-able access to town centre	Resilient & efficient network	Reduce traffic congestion	Reduce emissions	Maintain & improve infra-structure	Healthier lifestyles /activity	Improve safety for all	Disabled friendly place				
Active Travel	Primary routes installed	Recording of quality segregated routes implemented through LCWIP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0km	10km	2024	N/A
Smarter Travel Choices	Number of people signed up to car club and bike share scheme	Recording of member numbers	✓	✓	✓		✓	✓		✓			0	1000	2025	N/A
Smarter Travel Choices	Number of cycle training courses delivered	Recording of activities	✓	✓	✓		✓	✓		✓	✓		2500	4000	2024	N/A
Smarter Travel Choices	% decrease of children being driven to school	Annual school travel survey	✓	✓	✓		✓	✓		✓	✓	✓	56%	53.5%	2024	N/A
Smarter Travel Choices	Number of businesses engagements relating to smarter travel	Recording of activities	✓	✓	✓		✓	✓		✓			58	500	2024	20/21: 100; 21/22: 100; 22/23: 100; 23/24: 100
Smarter Travel Choices	Number of residences receiving smarter travel pack	Recording of activities	✓	✓	✓		✓	✓		✓			0	2000	2024	20/21: 500; 21/22: 500; 22/23: 500; 23/24: 500

Policy Area	Performance Indicator	Methodology	Warrington will be a thriving, attractive, accessible, and well-connected place with popular, high-quality walking, cycling, and public transport networks supporting our carbon-neutral future										Baseline	Target	Target Year	Interim Target(s)
			LTP4 Objectives (Summarised)													
			Provide travel choice	Reduces the need to travel by car	Sustain-able access to town centre	Resilient & efficient network	Reduce traffic congestion	Reduce emissions	Maintain & improve infra-structure	Healthier lifestyles /activity	Improve safety for all	Disabled friendly place				
Smarter Travel Choices	Number of residences receiving travel advice via Town Centre travel plan	Recording of activities	✓	✓	✓		✓	✓		✓			0	400	2025	N/A
Passenger Transport	% increase in public transport for travel to work	Census travel to work data		✓		✓	✓	✓		✓			5.6%	15%	2041	9% by 2031
Passenger Transport	Passengers Boarding Bus Services (Warrington Stops)	Bus patronage data	✓	✓	✓	✓	✓			✓			6.8m	8m	2024	20/21: 7m; 21/22: 7.3m; 22/23: 7.5m; 23/24: 7.8
Passenger Transport	Feasibility study for mass transit system with identification of mode and corridors	Approval of mass transit feasibility study	✓	✓	✓	✓	✓	✓	✓	✓			0	1	2021	N/A
Safer Travel	% reduction in Car Occupant casualties	Cheshire Police Casualties data				✓					✓		2016 to 2018 Average 260	46% (140)	2030	N/A
Safer Travel	% reduction in Two-wheeled Vehicle casualties	Cheshire Police Casualties data				✓					✓		2016 to 2018 Average 43	18% (35)	2030	N/A
Safer Travel	%reduction in Car Occupant casualties	Cheshire Police Casualties data				✓					✓		2016 to 2018 Average 72	15% (61)	2030	N/A

Policy Area	Performance Indicator	Methodology	Warrington will be a thriving, attractive, accessible, and well-connected place with popular, high-quality walking, cycling, and public transport networks supporting our carbon-neutral future										Baseline	Target	Target Year	Interim Target(s)
			LTP4 Objectives (Summarised)													
			Provide travel choice	Reduces the need to travel by car	Sustain-able access to town centre	Resilient & efficient network	Reduce traffic congestion	Reduce emissions	Maintain & improve infra-structure	Healthier lifestyles /activity	Improve safety for all	Disabled friendly place				
Safer Travel	% reduction in Pedal Cyclist casualties	Cheshire Police Casualties data				✓					✓		2016 to 2018 Average 68	25% (51)	2030	N/A
Cleaner Fuels	Study to identify preferred strategy for increasing EVs	Approval of study	✓					✓					0	1	2021	N/A
Network Management	Reduction in average delay compared to free flow on local A roads	DfT monthly & 12 monthly rolling average delay compared to free flow on local A roads				✓	✓	✓					50.7sec in 2018	50.7	2024	Annually
Network Management	Number of swing bridge movement in peak periods fewer than 100 per year, in line with MoU	Bridge Swing data				✓	✓	✓					45 in 2017	< 100	2024	Annually
Network Management	Feasibility study for Workplace Parking Levy	Approval of study		✓	✓	✓	✓	✓		✓			0	1	2021	N/A
Asset Management	Maintain Band 3 status	Annual self-assessment questionnaire				✓			✓		✓		Band 3	Maint - ain Band 3 status	Ongoing	N/A
Asset Management	Reduction in % of roads that should be considered for maintenance	DfT data				✓			✓		✓		2% in 2018/19	1%	2024	N/A

Policy Area	Performance Indicator	Methodology	Warrington will be a thriving, attractive, accessible, and well-connected place with popular, high-quality walking, cycling, and public transport networks supporting our carbon-neutral future										Baseline	Target	Target Year	Interim Target(s)
			LTP4 Objectives (Summarised)													
			Provide travel choice	Reduces the need to travel by car	Sustain-able access to town centre	Resilient & efficient network	Reduce traffic congestion	Reduce emissions	Maintain & improve infra-structure	Healthier lifestyles /activity	Improve safety for all	Disabled friendly place				
Freight Management	Production of freight routing strategy	Approval of strategy			✓	✓	✓	✓					0	1	2023	N/A
Freight Management	Study of lorry parking facilities	Approval of study				✓	✓	✓					0	1	2023	N/A

Table 2 - what we will monitor during LTP4

4 Data sources

Performance indicators in Table 2 are derived from a number of data sources, these are summarised below.

Annual traffic counter data
Annual traffic counters (ATC) will be utilised to calculate changes in traffic flows. WBC already have a network of ATC installed across the local highways network. ATC traffic flow data will be obtained before LTP4 is implemented and annually during LTP4s operation. The data will help evaluate changes to highways traffic, congestion, journey times and delay.

Cycle and pedestrian counter
WBC already have its own network of cycle and pedestrian counters; the network will be expanded along key corridors as part of the LCWIP programme. The data will help evaluate: changes to cycle travel patterns; pedestrian flow; cycle accessibility; and changes to day-to-day physical activity.

Census data
ONS census data will be important in monitoring changes over longer periods of time (10years). The 2011-year census will be used as the baseline, and 2021, 2031 and 2041 utilised for monitoring changes over the course of LTP4. Car ownership and travel to work data will help evaluate the following: cultural change in terms of car travel; active travel patterns; and daily physical activity.

DfT data
A number of DfT travel data sources will be used, the datasets below will be utilised for monitoring a number of LTP4 objectives and key policies:

- Average speed and delay data on A roads;
- Proportion of residents who do any walking or cycling, for any purpose, at least once per month;
- Proportion of how often and how long adults walk for (at least 10 minutes) by local authority;
- Reported KSI casualties by region and local authority;
- Road causalities report;
- Ultra-low emission vehicles (ULEVs), Vehicle Licensing Statistics; and
- Principal and non-principal classified roads where maintenance should be considered.

Air quality monitoring
Warrington Borough Council already has designated sites where air quality is monitored. This is conducted through a mix of diffusion tubes and real-time monitoring. Monitoring sites at Selby St, Parker St and Chester Rd roadside will be used to monitor air quality impacts of LTP4 for NO/NOx/NO2. There is also the proposal for a Particulate matter monitoring site at Latchford to monitor PM10 and PM2.5. The proposed monitoring station will be used if approved.

National Highways & Transport (NHT) public travel survey
The NHT public travel survey collects public perspectives on, and satisfaction with, Highway and Transport Services in Local Authority areas. The survey will be utilised to acquire an understanding of the quality of walking and cycling facilities, satisfaction of active travel services and accessibility.

Swing bridge movements
The council records the number of swing bridge movements on the Manchester Ship Canal. This data will continued to be monitored quarterly and used as a proxy for the reliability of the highways network.

Cleaner fuels
A data collection exercise will be required to collate information on the current number of public transport and WBC fleet ULEVs. This database will need to be updated and monitored over the course

of the LTP4 to evaluate the uptake of ULEVs.

Individual LTP4 reporting
A number of performance indicators are derived following the implementation of LTP4 schemes. This will be a relatively simple exercise and likely require transport officer time.

5 Reporting

Reporting of monitoring and evaluation will be conducted in three stages:

1. **Pre-LTP4 implementation** - a report will be undertaken outlining the baseline conditions prior LTP4 implementation.
2. **LTP4 implementation short term** - reporting will be undertaken annually to understand short term trends.
3. **LTP4 implementation long-term – reporting will take place over 5-year periods to capture the longer term impacts of the LTP4 policies and schemes.**

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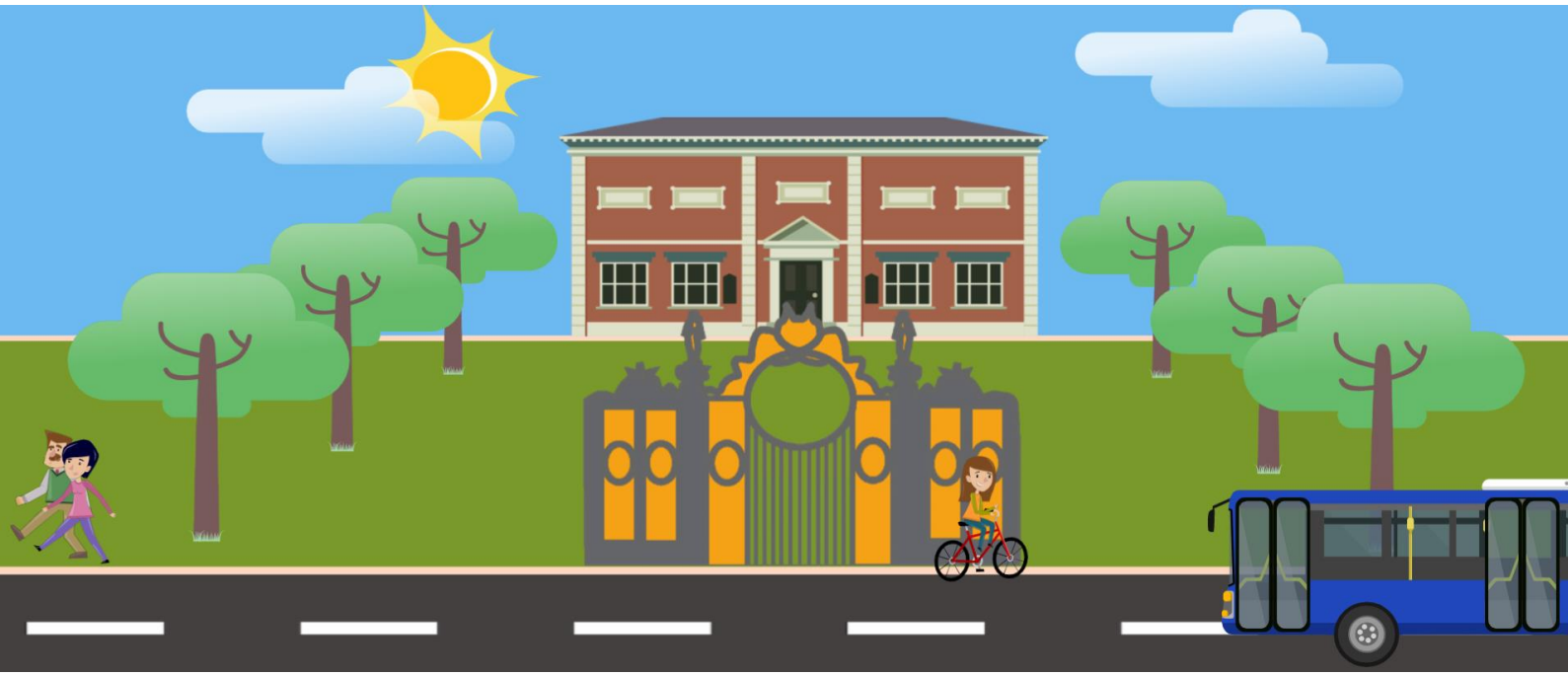
WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX D: IMPLEMENTATION PLAN



1 Introduction

In order to maintain and improve Warrington's networks for all modes and to incentivise the increased use of sustainable travel, a range of physical improvements will be required over the course of the fourth Local Transport Plan. The scale and cost of these measures will be broadly divided into the following categories:

Minor Improvements

These will be measures which will support a range of transport objectives, such as:

- Pedestrian and Cycling Accessibility Improvements
- Road Safety and Traffic Management schemes
- Junction upgrades
- Bus stop improvements and small scale priority measures
- Highway maintenance programmes

Typically these will be schemes under the value of around £2m and be funded from a combination of the annual DfT Integrated Transport and Maintenance Blocks and in some cases 3rd party contributions.

Whilst lower in value than major schemes (set out below) they are large in number and have a significant contribution to make in delivering the vision and policies set out in the LTP. As a package they can help to transform the transport network in Warrington.

Major Improvements

These will typically be large scheme infrastructure projects over £2m and be funded from specific bids to agencies such as Department for Transport, Homes England, Highways England, Network Rail and Cheshire and Warrington Local Enterprise Partnership.

Significant match funding is also likely to be required from the council's own capital programme and developer contributions.

These schemes will have a transformational effect in themselves, such as giving a step change in sustainable transport provision, addressing a major congestion problem on existing networks or unlocking a development site.

The funding for minor and major improvements is discussed in sections 2.0 and 3.0 below.

Minor Improvements

Funding to deliver the local transport improvements is received from Government on an annual basis. The funding is split between the Integrated Transport Block (ITB) and Highways Maintenance Block (HMB). Indicative funding has been allocated for 2019/20 and 2020/21 by the DfT, beyond these years the amount of funding is unknown. The indicative allocations for 2019/20 and 2020/21 and anticipated allocations to 2023/24 are presented in Table 1.

	Year				
	Indicative		Anticipated		
Block	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Integrated Transport Block	£1,494,000	£1,494,000	£1,494,000	£1,494,000	£1,494,000
Highways Maintenance Block (needs based)	£2,571,000	£2,571,000	£2,571,000	£2,571,000	£2,571,000
Highways Maintenance Block (incentive based)	£535,000	£535,000	£535,000	£535,000	£535,000
Total	£4,065,000	£4,065,000	£4,065,000	£4,065,000	£4,065,000

Table 1 – Indicative ITB and HMB Government Funding Allocations

Each of the funding blocks is discussed in more detail in Sections 2.1 and 2.2 below. Other sources of funding for minor improvements are discussed in 2.3.

2.1 Integrated Transport Block

The Integrated Transport Block for LTP4 is split into 8 transport themes covering a diverse programme of transportation works as set out in Part B of the LTP4 document. These themes have been devised based on:

- LTP Stakeholder Consultation
- Local Plan Preferred Development Option Feedback
- Air Quality Strategy
- LTP 4 Vision

The themes reflect the objectives set within the draft LTP4, which subsequently received support during the draft LTP4 consultation.
The proposed allocations for each theme for the next 5 years are presented in Table 2.

LTP INTEGRATED TRANPORT BLOCK THEMES	**Budget £millions**				
	2019/20	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Active Travel	**0.350**	**0.350**	**0.350**	**0.350**	**0.350**
LTP Studies	**0.129**	**0.129**	**0.129**	**0.129**	**0.129**
Network Management	**0.315**	**0.315**	**0.315**	**0.315**	**0.315**
Public Transport	**0.060**	**0.060**	**0.060**	**0.060**	**0.060**
Safety & Security	**0.575**	**0.575**	**0.575**	**0.575**	**0.575**
Smarter Choices	**0.040**	**0.040**	**0.040**	**0.040**	**0.040**
Freight	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**
Cleaner Fuels	**0.015**	**0.015**	**0.015**	**0.015**	**0.015**
Grand Total	**1.494**	**1.494**	**1.494**	**1.494**	**1.494**

Table 2 – Proposed ITB 2019/20 – 2023/24 Allocations

The allocations above may change based on the level of funding available from the DfT and

emerging priorities within the remit of the LTP4 objectives. However, this is a starting point for the next 5 years. Within each annual budget, funding is allocated for transport studies to identify and inform future schemes and funding decisions within and outside of the ITB. Although the theme allocations are presented individually above, the majority of schemes delivered will complement multiple themes. For example, the management of existing bus lane enforcement is classified within the Network Management theme which provides multi-theme benefits, including improving reliability of bus journeys, removing obstructions from the carriageway and providing a more conducive environment for walking and cycling.

2.2 Highways Maintenance Block

In December 2014, the Government announced that £6 billion was being made available between 2015/16 and 2020/21 for local highways maintenance capital funding. From that funding, £4.7 million has been set aside for Highways 'Needs' based funding and £578 million has been set aside for 'Incentive' funding.

Needs based funding is allocated based on the length/number of highway assets the council need to maintain such as length of roads and number of structures. Indicative funding of £2.571 million is allocated by the DfT in 2019/20 and 2020/21.

Incentive funding aims to reward councils who demonstrate they are delivering value for money in carrying out cost effective improvements when looking after their highway assets. Councils are banded 1 to 3 where band 3 receives the highest award. Warrington is a Band 3 authority. Indicative funding of £0.535 million is allocated in 2019/20 and 2020/21 and anticipated allocations to 2023/24.

The Highways Maintenance Block for LTP4 is split into 6 highways maintenance themes covering a range of works as described in Part B of the LTP4 document. The proposed allocations for each theme for 2019/20 to 20203/24 are presented in Table 3 below.

	Budget £millions				
MAINTENANCE BLOCK	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Bridge maintenance	0.438	0.438	0.438	0.438	0.438
Street lighting	0.398	0.398	0.398	0.398	0.398
Roads maintenance	1.368	1.368	1.368	1.368	1.368
Traffic signals	0.121	0.121	0.121	0.121	0.121
Bus stop maintenance	0.015	0.015	0.015	0.015	0.015
Cycleway & footway maintenance	0.231	0.231	0.231	0.231	0.231
Grand Total	**2.571**	**2.571**	**2.571**	**2.571**	**2.571**

Table 3 - Proposed HMB 2019/20 Allocations

Incentive based funding will be allocated in year based on emerging priorities.

2.3 Other Sources of Funding (Minor Improvements)

2.3.1 Local Highways Maintenance Funding

In October 2018, the Government announced it was allocating a further £420 million of new money for local highways maintenance nationally. This additional resource is to be used for the repair of roads (including potholes), bridges and local highways infrastructure generally. Warrington received £1.416m of this funding for expenditure in 2018/19 and 2019/20.

2 Major Improvements

Major Improvements are typically funded by a mixture of:

- Council Borrowing
- Funding Competitions
- Developer Funding

In the five year period up to 2020/21 the council has been successful in securing funding for a number of major schemes, producing a package of schemes costing approximately £100m. Figure 1 below provides a breakdown of how this funding has been split, with each funding source described in more detail in 3.1 to 3.3 below. It can be seen how successful the authority has been in securing external funding, with almost two thirds of funding for major schemes coming from Government Grants (54%) and developer contributions (7%).

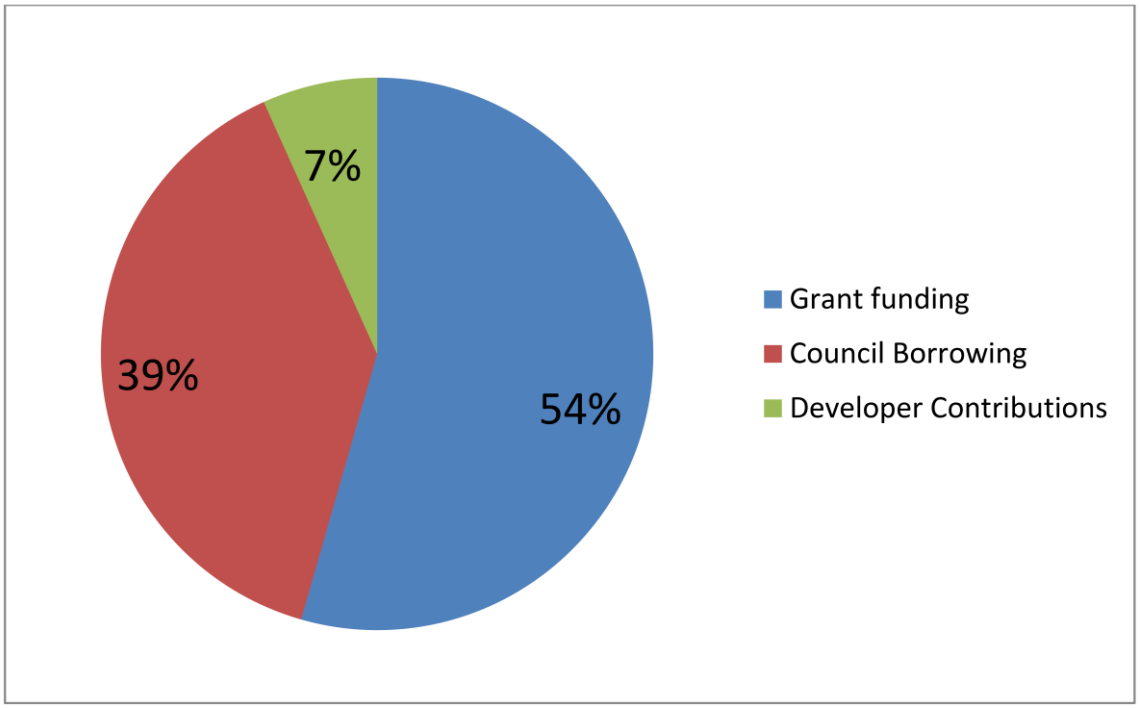


Figure 1 – Major Improvements Funding Split

2.1 Council Borrowing

Aside from local transport grants and funding competitions, the Council has also been required to find its own capital resource for transport measures in order to support the council's wider priorities. The various packages of borrowing approved by the Councils Executive Board are discussed below.

2.1.1 Top-up allocations

In 2012, the authority was awarded £2.93m from the Local Sustainable Transport Fund over a 3 year period to deliver projects that improved and encouraged walking and cycling. This equated to £0.98m per year. This DfT funding was not renewed in 2015/16. However, the economic case for investment in walking and cycling infrastructure remains strong and high quality investment in schemes for sustainable modes can also release highway capacity, help avoid congestion and have positive benefits for health and quality of life. Therefore, the councils Executive Board approved capital borrowing of £2.93m in October 2014 to enable the continuation of the Local Sustainable Transport Fund.

In July 2014 the DfT confirmed that the council's ITB Allocations for 2015-2021 would be £1.494m per year between 2015/16 and 2017/18 with an indicative allocation of £1.494m per year between 2018/19 and 2020/21. This was an annual reduction of £0.597m (30%) compared to the 2014/15 allocation of £2.091m. In response to this reduction, in October 2014 the Councils executive Board approved capital borrowing of £3.6m to 'top-up' the reduced LTP allocation from DfT. This was broadly based on a £600k per annum shortfall for 6 years of ITB budgets compared to previous levels.

Both of these top-up funds are capital borrowing and not part of the LTP grant allocation. Table 4 below describes examples of schemes funded through these allocations to date.

Fund	Scheme	Status
LST Top-up	Sankey Valley Cycleway Improvements	Complete
	Birchwood Station Accessibility Improvements	Complete
	Warrington West station	Under Construction
	A57/Lingley Green Ave. Junction Improvements	In Detailed Design
	Omega to Burtonwood Accessibility Improvements	In Detailed Design
	M62 Junction 9 – Signals Renewal	Complete
ITB Top-up	Great Sankey Hub	Complete
	Burtonwood Road Southbound widening	Complete
	A57/Lingley Green Ave. Junction Improvements	In Detailed Design
	Warrington East Phase 3	Under Construction

Table 4 – ITB and LST Top-up Funding allocations

2.1.2 Additional Council Borrowing

In addition to the above, the Council has borrowed over £35m to enable delivery of major improvements. Table 5 below provides a breakdown of schemes supported through additional borrowing from the coucnisl'capital programme.

Scheme	Status
Centre Park Link	Under Construction
M62 J8	Complete
Warrington West station	Under Construction

Scheme	Status
Omega to Burtonwood Accessibility Improvements	In Detailed Design
Omega Boulevard/Lingley Green Ave Junction Improvements	In Detailed Design
Burtonwood Road Southbound widening	Complete
A57/Lingley Green Ave. Junction Improvements	In Detailed Design
Chester Road Cycling Improvements	In Development
Trans Pennine Trail Improvements	In Development
M62 Junction 9 – Signals Renewal	Complete
Birchwood Pinchpoint	Complete
Warrington East Phase 2	Under Construction
Warrington East Phase 3	Under Construction

Table 5 – Major Schemes funded through Council Borrowing (including Top-up)

2.2 Funding Competitions

In addition the Council has succesfully bid for over £50m funding from Government via various funding competitions to support individual and packages of schemes since 2015. A brief summary of the types of funding awarded is given in Table 6 below.

Local Growth Funding (round 1) - In June 2013 the government announced that Local Enterprise Partnerships were to enter into negotiations for funding from a new pot of devolved government funds namely the Local Growth Fund (LGF). The Council entered successful bids for part-funding (£18.670m) of the following schemes:

- Centre Park Link, £5m – In Construction
- M62 J8, £5m - Complete
- Birchwood Pinchpoint, £2.140m - Complete
- Warrington West Rail Station, £6.530 - In Construction

Local Growth Funding (round 3) - In December 2016, the council submitted a number of potential major transport schemes to the Local Enterprise Partnership (LEP) to request funding from a further round of Local Growth funding. From this submission, the council was successful in securing funding (£12.85m) for three packages of schemes, namely:

- Warrington East Phase 2, £6.900m – In Construction
- Omega Local Highways Phase 1, £4.300 – In Development
- Warrington Sustainable Travel (Access Fund), £1.650m – In Development

Growth and Housing Fund – Funding announced by Highways England for schemes on the Strategic Road Network that unlock homes and jobs. Up to £3 m was secured from highways England to part-fund improvements to M62 Junction 8.

New Stations Fund - A £20m fund from Network Rail towards the cost of building new stations to help give local communities improved access to rail services in England and Wales. The Council submitted a successful bid to this fund and received £4.23m towards Warrington West Rail Station.

National Productivity Investment Funding (NPIF)- On 13th January 2017 the government announced a new fund for schemes which boost national productivity. The funding is specifically intended for local transport improvements which aim to reduce congestion at key locations, upgrade or improve the maintenance of local highway assets and therefore help to improve access to employment and housing, and to develop economic and job creation opportunities. The Council successfully bid for funding in 2017/18 (£0.769m) and 2018/19 (£7.363m) to contribute to the following schemes: • B5356 Stretton Road Maintenance scheme, £0.344 - Complete • A57 Liverpool Road/Whittle Ave Junction Improvement, £0.175 - Complete • M62 J9 and Delph Lane Junction Improvement, £0.250 - Complete • Warrington East Phase 3, £4.000m – In Construction • Burtonwood Southbound Widening, £2.093 - Complete • A57 Liverpool Road/Lingley Green Ave, £1.270m - In Detailed Design
Housing Infrastructure Fund (HIF)- The HIF is a government capital grant programme of up to £2.3 billion, for new physical infrastructure which will unlock sites in the areas of greatest housing demand and help to deliver up to 100,000 new homes in England. £3.686m was awarded to the Council to support Centre Park Link following submission of a successful bid in 2017.

Table 6 – Summary of Successful funding bids (2015 onwards)

2.3 Developer Contributions

Contributions from developers also support major transport improvements, £6.227m has been secured from developers via the planning process to aid the delivery of the major schemes listed in Table 5. In addition over £8m has been secured from the developers of Omega to fully fund improvements at:

- Burtonwood Road/Westbrook Way;
- Whittle Avenue/Lingley Green Avenue; and
- Widening of Burtonwood Road Southbound south of Kingswood Road.

3 Future delivery

The implementation of LTP4 will require funding to be obtained from a range of sources to deliver the transformational change set out in the vision. Warrington's recent track record is very good however in securing funding from external agencies as evidenced by the programme of major schemes described above.

The council will continue to seek funding opportunities from government agencies and departments, private sector contributions, planning obligations as well as prudent use of its own capital borrowing.

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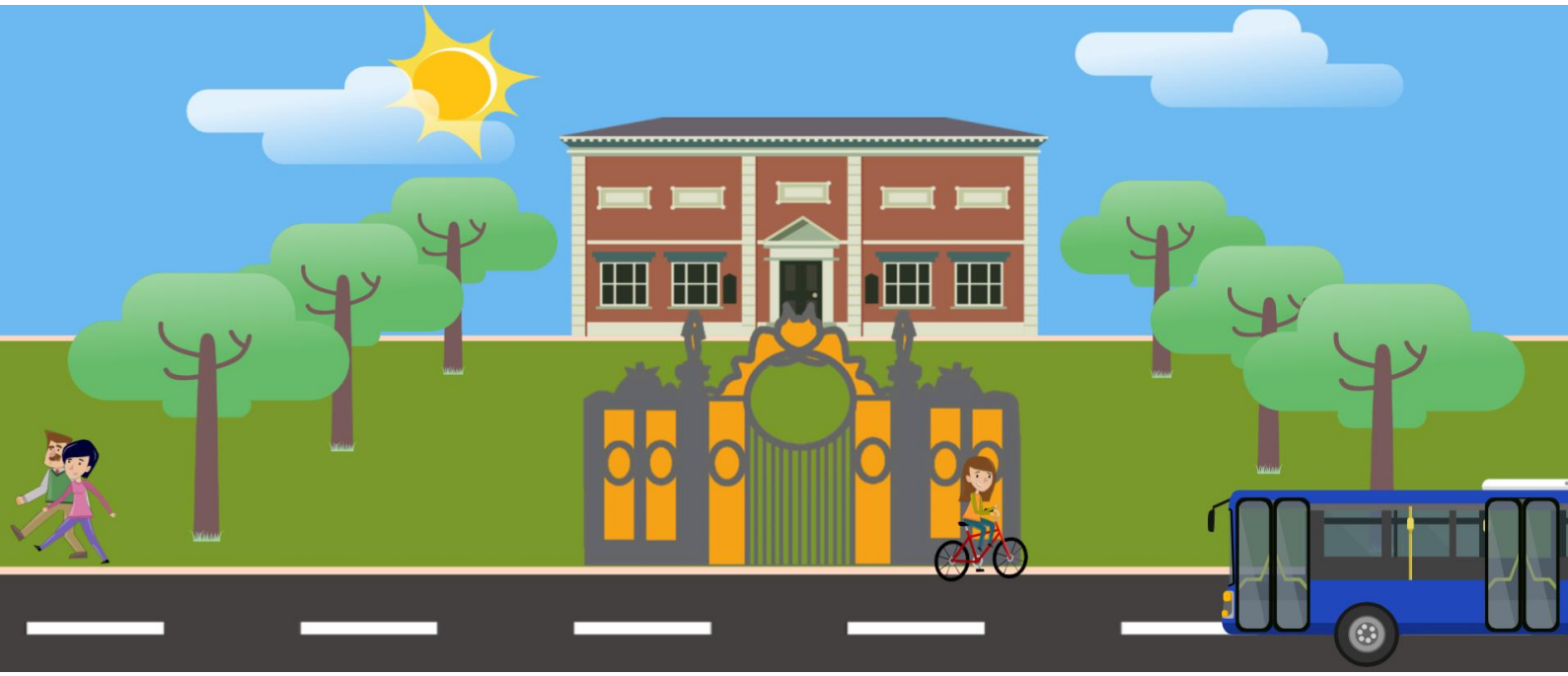
WARRINGTON
Borough Council

WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX E:
SUSTAINABLE MODES OF TRAVEL TO SCHOOL



Sustainable Modes of Travel to School Strategy

January 2019

1. Introduction

1.1. The Education and Inspections Act 2006 extended the statutory duties of local authorities to support parental choice of school through the consideration of travel and transport arrangements. The new section placed a general duty on local authorities to promote the use of sustainable travel to school, and publish a Sustainable Modes of Travel to School Strategy, to be updated annually.

1.2. The duty relates to journeys to and from institutions where education or training is delivered and applies to children and young people of compulsory school age who travel to receive education or training in a local authority's area.

1.3. Warrington's original 2006 strategy was adopted as part of Local Transport Plan 2 (LTP2) and although updated regularly, this refreshed strategy is offered for public consultation as part of LTP4 development. This update identifies the issues that have arisen since the original was approved, and provides solutions in view of the current economic climate of reduced local authority financial support.

1.4. There are five main elements to the duty that all local authorities must satisfy:

- an **assessment** of the travel and transport needs of children, and young people within the authority's area;
- an **audit** of the sustainable travel and transport infrastructure within the authority's area that may be used when travelling to and from, or between schools/institutions;
- a **strategy** to develop the sustainable travel and transport infrastructure within the authority so that the travel and transport needs of children and young people are best catered for;
- the **promotion** of sustainable travel and transport modes on the journey to, from, and between schools and other institutions; and
- the **publication** of the current Sustainable Modes of Travel Strategy.

1.5. This document details how we propose to continue to meet these five elements in the light of current financial restrictions and staffing reductions, and how this can best be achieved within the context of local and national issues.

2. Setting the Context

2.1. Warrington's resident population now stands at 209,700, an increase of 16,000 since 2006. There are 36,500 children and young people attending in excess of 90 schools and colleges, both within and outside the borough.

2.2. There are approximately 86,000 households in Warrington, with almost 36,000 of them owning one car, 33,000 of them owning two or more cars, and 80% of all journeys are made by car.

2.3. The Travel Choices team within the Transport for Warrington service already works with a wide range of council departments, schools and other organisations to enable and promote sustainable travel to school. This document sets out how that work can be sustained, albeit in diminished capacity under continuously reducing government funding.

2.4. Central funding for regional and local school travel advisers (STAs) was provided until March 2011, with the aim of ensuring every school had an effective School Travel Plan. Although this funding was continued at a reduced amount after the change of government in 2010, it was unringfenced which allowed local education authorities to determine how it was used. In Warrington the funding has remained within the general education budget and has not been used to sustain a full-time STA post.

2.5. Additionally, a considerable number of schools have or are planning to become academies which distances them from local authority financial control. This presents new challenges in communication and co-operation, but also opportunities to seek funding for services ranging from travel planning and parking management to road safety education and training.

2.6. At the local level, there are a number of relevant policy aims that this plan supports and feeds into, including the Local Plan, the Council's Corporate Strategy and the Active Warrington strategy.

3. An assessment of the travel and transport needs of children, and young people within the authority's area

3.1. The guidance advises that local authorities should base their assessment of children and young people's travel and transport needs on the data provided by schools or colleges, often contained within school travel plans.

3.2. Effective school travel plans, updated regularly, deliver a package of measures to reduce car use and improve safety. The best are backed by a partnership involving the school, police, families, and health and transport officers from the local authority.

3.3. Although at the time Warrington met the government target of all schools having a travel plan by 2011, many have not been updated since then and are now inadequate and out of date. The intention that schools would update their own travel plans has not materialised, and the resource that the council can currently devote to this results in school travel plans only being developed or updated as a result of planning conditions placed on new or expanding schools, or when the schools themselves request assistance.

3.4. A part-time School Travel Adviser is available to support schools that require help to produce and implement their travel plans. This function also offers a

programme of support that schools can choose to include in their travel plans. This includes classroom and assembly awareness raising lessons, walking bus and scooter training, programmes to support transition from primary to high school, junior PCSO schemes to help with parking enforcement, etc. These measures are jointly run with colleagues from Road Safety and the Police.

3.5. New government-approved software is being promoted through the sustainable travel organisation Modeshift. STARS, (Sustainable Travel Accreditation and Recognition Scheme), is an online tool created to support local authorities and schools with their travel planning development and measures.

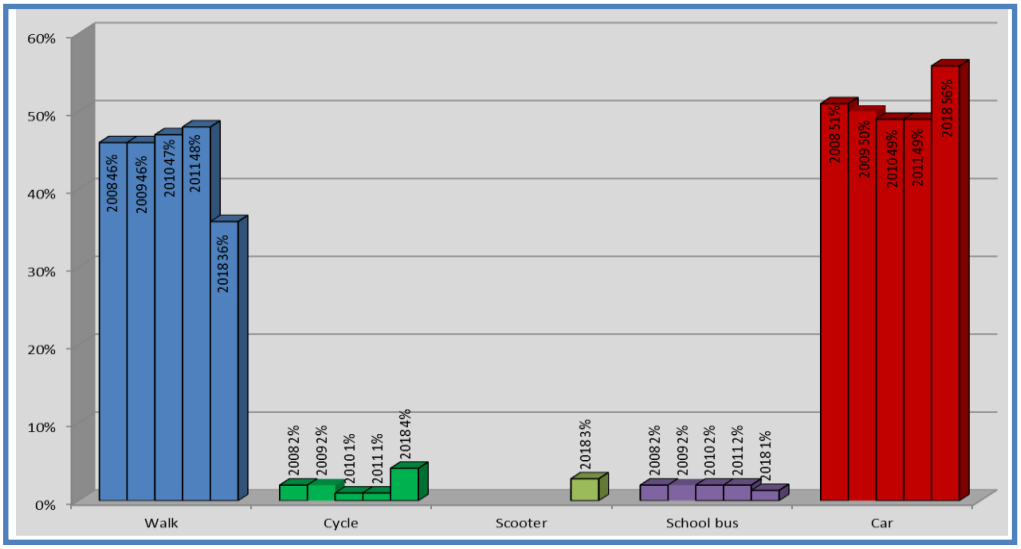
3.6. STARS is a commercial tool which will require exploration of alternative funding streams to ensure continuation, specifically from those council departments, schools and organisations which depend on the delivery of the duty and sustainable travel promotion to support their own objectives.

3.7. The benefit of this facility is that it provides an online, user-friendly template which once introduced to a school can be easily accessed and updated by school or council staff. It provides all the sections required in a travel plan and a facility to record, analyse and present travel survey data.

3.8. The data on how children currently travel to school and how they would prefer to make this journey is key to assessing their needs. Until 2011 this data was collected from each school within the national school census, but the government's direction to reduce pressure on data collection from schools resulted in these travel questions being withdrawn. This data has not been routinely collected since then, except on an ad-hoc basis when travel plans are updated.

3.9. To give a full current picture, a borough-wide primary classroom hands-up survey was undertaken in the autumn term of 2018. This involved class teachers, when willing, and council staff attending schools and surveying the children in a classroom hands-up.

3.10. The results of the primary school survey are shown below together with the data previously collected in 2011 and the previous 3 years. It shows a marked reduction in walking to school, with an increase in being driven. Cycle and scooter training appear to have had a positive effect with an increase in both modes.



3.11. There are several possible reasons for the increase in driving to school, including the high employment rate of Warrington residents (parents dropping off children on the way to work) and the ability to choose a school which is not necessarily the nearest to home.

3.12. We propose to repeat this every two years, a similar high school survey is proposed for spring 2019, and together with the information gathered during travel plan updates we will use this to support this first element. Although challenging to collect, this continued process will help to assess the specific travel needs of pupils through the school travel plan and survey data.

3.13. Actions to fulfil this element:

- Continued development and update of school travel plans when required by planning applications and requested by schools.
- Investigate funding opportunities to continue to use Modeshift STARS to help deliver the programme
- Continue to press schools for travel-to-school surveys to collect data to support the assessment of need.

4. An audit of the sustainable travel and transport infrastructure within the authority's area that may be used when travelling to and from, or between schools/institutions

4.1. Much of the information required for the audit of the infrastructure supporting sustainable school travel is already collected as part of the consideration of accessibility to key services like education as an integral part of the Local Transport Plan.

4.2. Annual catchment area maps linked to pupil postcode data are produced by the Education Service. These are useful to identify the relative distance pupils are travelling to school and evaluate the potential numbers likely to walk, cycle or are located on a bus route. The council also offers an online mapping system with various layers available to inform users of the available routes and infrastructure in local areas.

4.3. Any rebuilding or expansion of schools and colleges is also an opportunity to look at travel and transport provision. Travel planning is a standard requirement of planning consent which brings collaboration between several council departments, working together to provide highway infrastructure and identifying where additional links to schools and colleges will be required.

4.4. The council also has a Home to School Transport Policy which outlines which pupils are eligible for subsidised transport to school, often by school bus or taxi. This relates to distance from home to nearest school rather than following specific mapped routes. It also provides for children with special educational needs or disabilities. The policy and eligibility guidance can be found on the council's website.

4.5. Commercial bus services also provide for the journey to school and most bus companies offer discounted travel for under 19s in full-time education. Certain routes are provided by smaller independent operators, whilst the majority of the network is covered by the larger operators, such as Warrington's Own Buses and Arriva. The larger operators offer season tickets which further subsidise use of public transport and enable additional

journeys to be made during the evenings, at weekends and in the school holidays, further promoting sustainable and independent travel. Maps of routes and services are available online at the respective websites.

4.6. In addition all the borough's schools are identified on the Warrington Cycle Map. This not only features cycle routes but maps the entire highway network, colour-coded to highlight where more advanced cycling skills are required. The majority of schools are surrounded by streets identified as quieter, low risk routes where families could consider walking and cycling to school as an option. The map has recently been updated to include crossing points and new infrastructure, giving additional support for routes to school. The map colour-coding is also used to identify barriers to cycling and walking and to help prioritise new infrastructure locations to reduce these obstacles.

4.7. Government funded cycle training, Bikeability, is offered to every 9 year old in the borough through their school. This free instruction provides the skill and confidence to cycle on quieter roads and is ideal to enable cycling from home to school. Other age groups are also catered for, building on the basic knowledge to enable safe cycling to secondary school and eventually to the workplace. Over £400k has been secured to continue this training until 2020.

4.8. Actions to fulfil this element:

- Continue to use the cycle map to identify safer routes to school and to target available funds to reduce any barriers.
- Continue to work together on new developments and through the planning process to identify where new infrastructure is needed.
- Ensure schools are aware of mapping and timetable websites and encourage them to add to their own websites to allow them to promote routes to school and help to identify missing links.

5. A strategy to develop the sustainable travel and transport infrastructure within the authority so that the travel and transport needs of children and young people are best catered for

5.1. The ongoing financial restrictions placed upon the authority's resources and capacity to implement these principles necessitates an adjustment of how the actions are delivered.

5.2. The Travel Planning programme will continue but will prioritise schools that are required to implement a travel plan as a condition of planning consent. It will also strive to work with those schools willing to take a pro-active approach and show interest and enthusiasm.

5.3. Due to the current lack of resource to deal with the number of requests for highway infrastructure or enforcement emanating from the school community and local ward councillors, a procedure known as the 'Schools Programme' has been devised. This limits the number of schools receiving intervention and support to 10 per year, but enables a holistic package of 'engineering, education and enforcement' to take place.

5.4. This programme is jointly led by officers from Traffic Management, Road Safety, and Travel Planning to combine several specialist resources. The concept of the programme is based on the '3 Es' which are Engineering, Education and Enforcement.

5.5. The process ensures the engineering measures, such as physical changes in the highway to influence behaviour and manage access, or traffic regulation orders that restrict parking, are correct in the area. There then follows enforcement by the council's parking attendants and Police who focus on obstructive and dangerous parking behaviour. The education activity at the school gates and in assemblies and classroom lessons takes place simultaneously and describes what is being implemented and why it is important to enable all modes of travel to school.

5.6. The most successful schemes are at those schools that have embraced the importance of the education efforts and even nominated a champion within the school to promote changes in travel patterns for pupils. This includes setting up a group where the school, parents and local residents are represented to agree the engineering measures to be progressed.

5.7. Actions to fulfil this element:

- Continue to deliver a reduced travel planning programme
- Continue to deliver the Schools Programme

6. The promotion of sustainable travel and transport modes on the journey to, from, and between schools and other institutions

6.1. The sustainable school travel strategy has a broad impact, including providing health benefits for children and families through active journeys such as walking and cycling. It can also bring significant environmental improvements, through reduced levels of congestion and improvements in poor air quality to which children are particularly vulnerable.

6.2. Promotion will continue through the implementation of school travel plans and the delivery of specific schemes identified in them, including the classroom and assembly awareness raising lessons, walking bus and scooter training, transition from primary to high school programmes, junior PCSO schemes, etc.

6.3. Communications using social media and borough-wide news stories will be utilised to more effectively promote national campaigns such as Walk to School weeks, Cycle to School day, the Giant Walking Bus sponsored by road safety charity Brakes, etc.

6.4. Central grant funding has been secured until 2020 to allow the Bikeability cycle training to continue to promote safe cycling to school. It also allows for additional modules to be built-in which include the promotion to parents and teachers, starter programmes for younger children, and advanced training for teenagers in the first years of secondary school.

6.5. Actions to fulfil this element:

- Continue to deliver a reduced travel planning programme including awareness raising assemblies and lessons.
- Continue to deliver the Transition and Schools Parking programme.
- Explore ways of borough-wide promotion through social media outlets.

7. The publication of Sustainable Modes of Travel Strategy

7.1. The original Sustainable Modes of Travel to School Strategy was consulted upon and approved as part of the wider LTP2 development. Once complete it was published on the council's website with the other documents making up the council's transport strategy. It is proposed to follow that procedure for this refreshed strategy during LTP4 development.

WARRINGTON
Borough Council

WARRINGTON FOURTH LOCAL TRANSPORT PLAN

APPENDIX E:
CONSULTATION REPORT

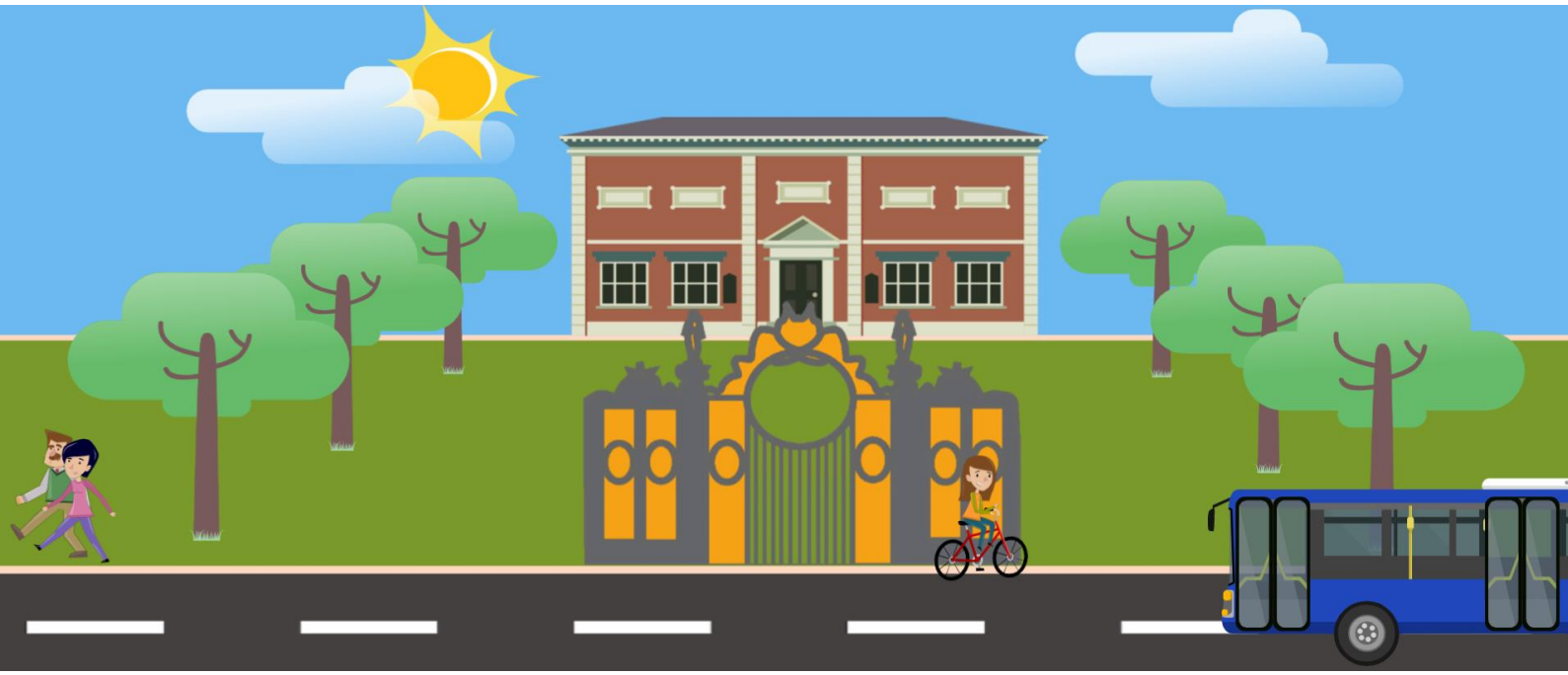


Table of contents

1 Introduction

This report is a summary of the consultation that was undertaken on Warrington Borough Council's draft fourth Local Transport Plan (LTP). Public and stakeholder consultation on the draft fourth Local Transport Plan took place for nine weeks, starting on 15th April 2019, and closing on 17th June 2019.

Documents that were consulted on

The consultation took place on the draft fourth Local Transport Plan and its associated documents. The full list of documents comprised:

- Draft Local Transport Plan 4 Executive Summary
- Draft Fourth Local Transport Plan
    - Part A - Defining Our Vision
    - Part B - Setting Out Our Policies
    - Part C - Appendices
- Draft Local Cycling and Walking Infrastructure Plan (included as Appendix A)
- Draft Monitoring and Evaluation Plan (included as Appendix C)
- Draft Implementation Plan (included as Appendix D)
- Sustainable Modes of Travel to School (included as Appendix E)
- Strategic Environmental Assessment Report
- Strategic Environmental Assessment Non-Technical Summary

Appendix B of the document was the Transformational Projects Study that informed some of the key ideas in the vision set out in the LTP.

An Evidence Base Review that helped to inform the LTP was publically available as a supporting document during the consultation period.

Consultation alongside the Local Plan

Consultation on Draft LTP4 was run concurrently with the consultation on the Draft Local Plan. This provided stakeholders and the public with the opportunity to view and comment on these two key documents at the same time. The two documents were also developed concurrently, providing a rare opportunity for the Borough Council to ensure that the LTP fully considered the opportunities and challenges raised by the growth proposals set out in the Local Plan.

Earlier Stages of Consultation

The Consultation Draft of LTP4 had been informed by a number of earlier consultation stages, including a series of Transport Summits, the feedback from the Local Plan Preferred Development consultation, and the Central Area Masterplan engagement work. This feedback is summarised in Appendix 1.

2 Consultation Information Events

Public Events

A series of six events where members of the public could find out more information about both the draft LTP4 and Local Plan were held in May and June 2019. The first five of these were held at the Halliwell Jones Stadium on:

- Wednesday 8th May (2pm - 8pm)
- Tuesday 14th May (2pm - 8pm)
- Thursday 16th May (2pm - 8pm)
- Monday 20th May (2pm - 8pm)
- Wednesday 22nd May (2pm - 8pm)

The sixth and final event was also scheduled to be held at the stadium, but the venue had to be changed due to a clash with a televised rugby league match. This event was therefore re-publicised and held at Parr Hall on:

- Saturday 8th June (11am - 4pm)

An example display board is shown in Figure 1.

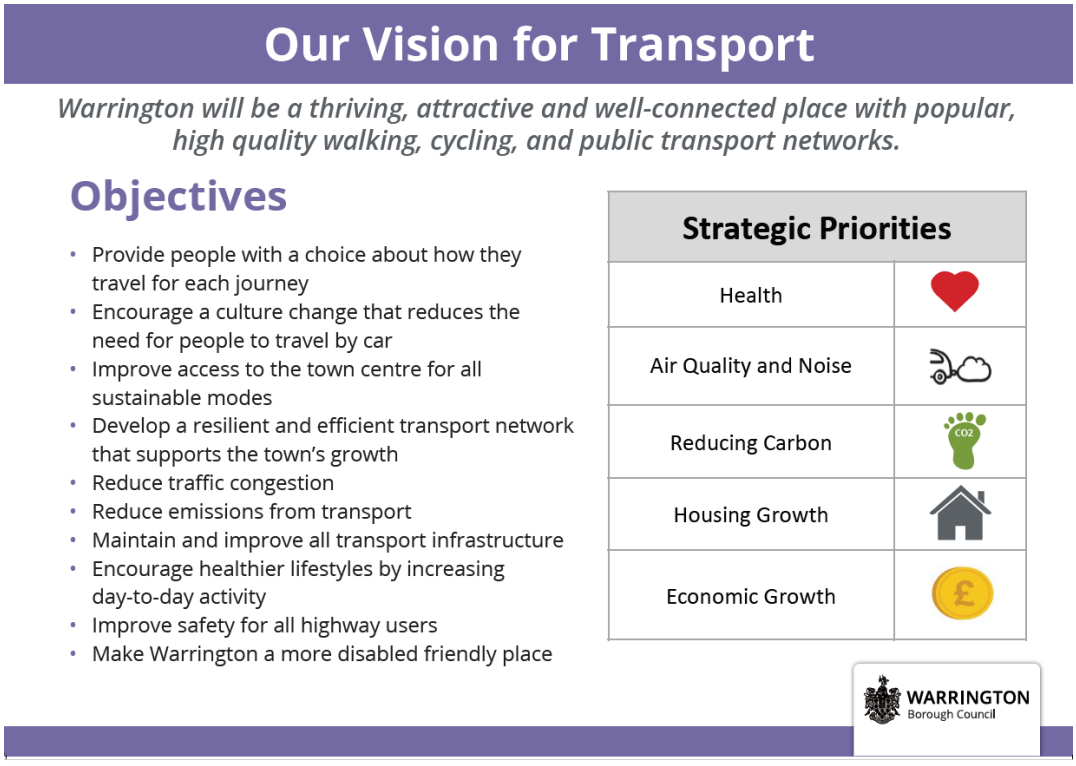


Figure 1: Example Display Board

Stakeholder Events

As well as the public events outlined above, presentations were given to a number of specialist stakeholder meetings. These were:

- Disability Partnership Staying Connected Meeting, 8th April
- Central 6 Community Forum, 14th May
- Birchwood Forum, 21st May
- Health and Wellbeing Board, 30th May

A further two events were scheduled for businesses in the borough, and promoted through Warrington&Co and the Chamber of Commerce. Despite this promotion, a very small number of registered participants led to the cancellation of these events.

3 Raising Awareness of the Consultation

A number of measures were taken to inform residents of the borough about the consultation.

In early April, ahead of the formal start of the consultation, a letter was sent to every household in the borough explain that the LTP and Local Plan consultations were starting, and promoting the dates of the public information events listed in section 2.1.

A press release was issued regarding the Local Plan and LTP that was picked up in the local press. The consultations themselves and the public consultation events were heavily promoted on the Council's social media channels, as shown in Figures 2, 3, and 4.

Figure 2: Tweet promoting consultation events

Figure 3: Twee 22nd May

A promotional video was developed to promote the LTP and the consultation. This was designed to be social media-friendly, and was played on loop at the consultation events. A screenshot of the video is shown in Figure 5.

Figure 5: Screenshot from promotional video

4 Responding to the Consultation

The public and stakeholders were encouraged to respond to the consultation using an online questionnaire hosted by Smart Survey. Screenshots of the questionnaire are shown in Figures 6, and 7. A paper copy of the questionnaire was available, and email responses could be sent to ltp@warrington.gov.uk. Two letters were submitted directly at consultation events.

The paper questionnaire is included as Appendix 2.

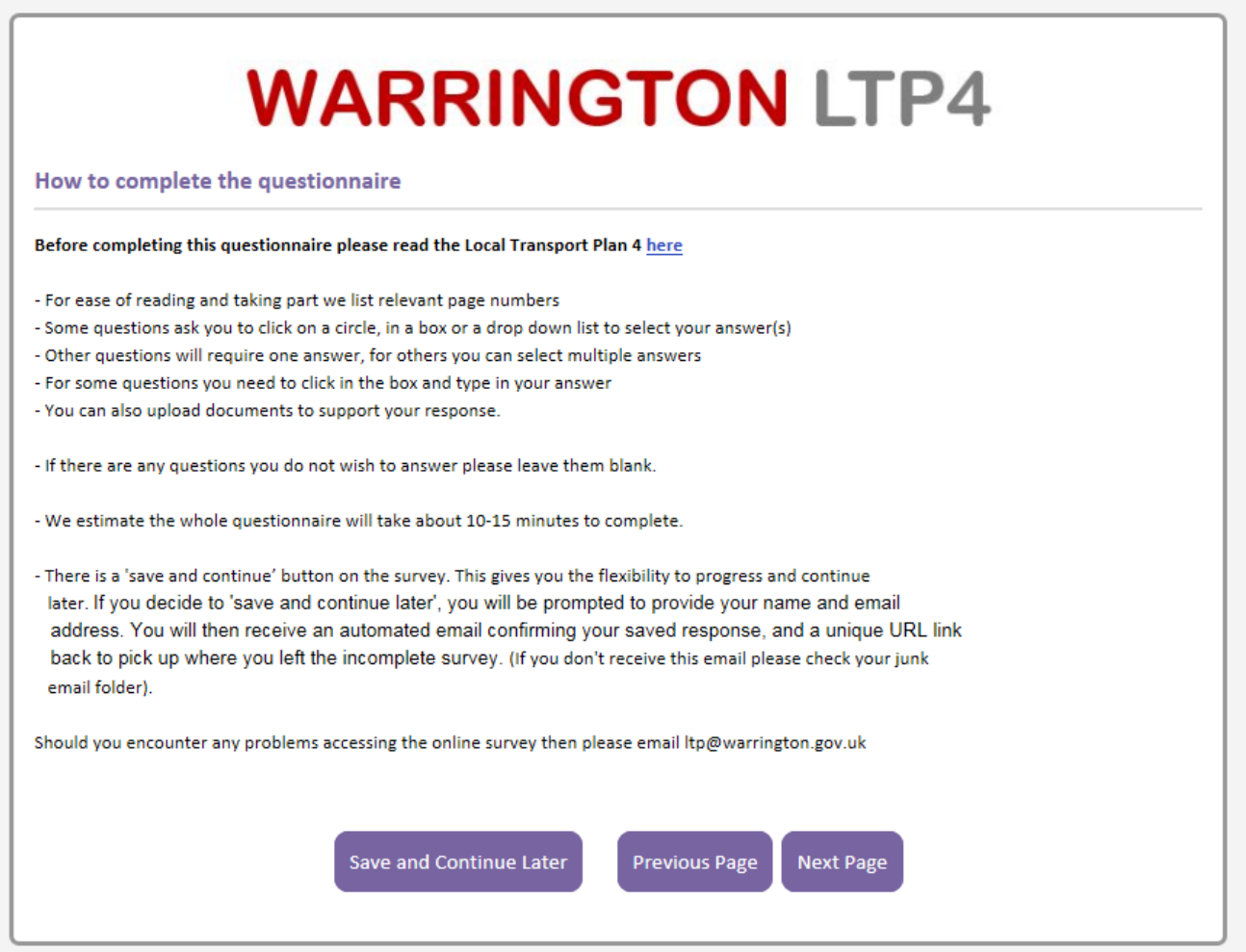


Figure 6: Guide to completing the online questionnaire

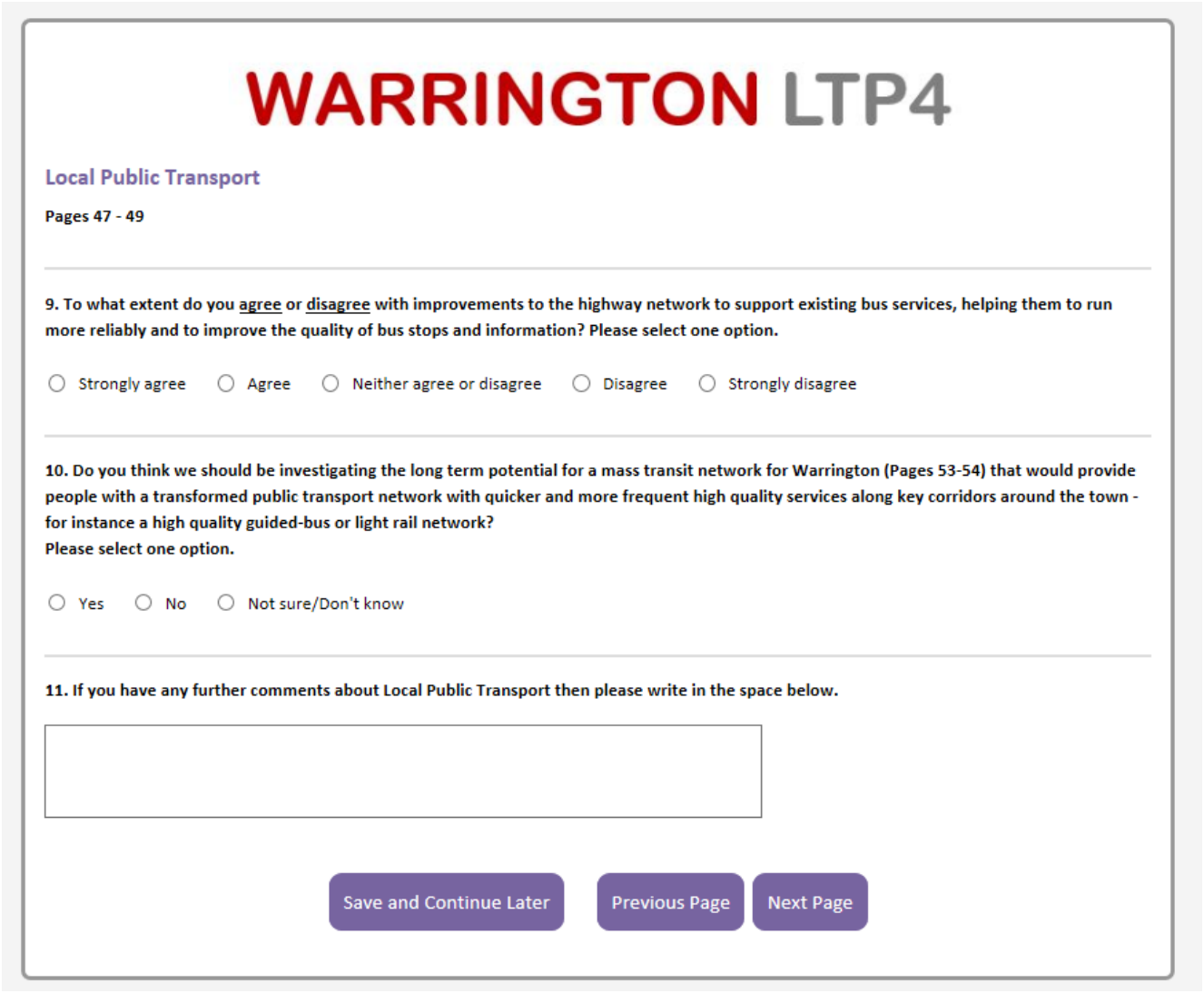


Figure 7: Example page from online questionnaire

5 Responses to the Consultation - Part A

Number of Responses

Exactly 400 responses were received to the consultation, via the online questionnaire, email and post.

Respondents were not required to answer all questions in the questionnaire. Those responses that were submitted via email were input into the questionnaire database to ensure consistency and completeness.

181 (45%) of respondents did not directly address any questions asked by the questionnaire. Comments received in this way have been recorded in the 'Additional Comment' section of the questionnaire.

Types of Respondent

The vast majority of responses were from individuals who live in Warrington, as shown in Table 1.

What type of respondent are you?			
		Response Percent	Response Total
1	A local resident who lives in Warrington	86.92%	319
2	A person who works in Warrington	6.54%	24
3	Local Borough, Town or Parish Councillor	2.72%	10
4	Local Business owner/Manager	2.18%	8
5	An agent responding on behalf of an individual, group or organisation	1.09%	4
6	A group or organisation	6.27%	23
7	Visitor to Warrington	1.09%	4
8	Other (please specify):	2.72%	10

Table 1 - Types of Respondent

Organisations and groups that responded to the consultation include:

- Warrington Disability Partnership
- Warrington's Own Buses
- Parish Councils
- Community Groups
- Action Groups
- Transport User Groups
- Adjacent Local Authorities and City Regions
- Natural England
- Environment Agency
- Network Rail
- Sport England
- Historic England
- Highways England
- Private Developers

Vision

The consultation feedback questionnaire then asked respondents about their support for the LTP4 vision.

*The Draft LTP4 sets out our vision for transport, to help make Warrington '**a thriving, attractive and well-connected place with popular, high quality walking, cycling and public transport networks**' and explains how changes to how we travel can help transform Warrington as a place. To what extent do you agree or disagree with Warrington's vision for Transport?*

The results are shown in Table 2.

To what extent do you agree or disagree with Warrington's vision for Transport?				
			Response Percent	**Response Total**
1	Strongly agree		6.15%	11
2	Agree		24.58%	44
3	Neither agree or disagree		11.73%	21
4	Disagree		16.76%	30
5	Strongly disagree		40.78%	73

Table 2 - Support for Transport Vision

These results do not appear to show support for the vision set out in LTP4. However, the vast majority of additional comments received in relation to this question refer to concerns over the proposals for growth set out in the Local Plan, and the role of LTP4 in supporting that growth.

This suggested that some respondents to the consultation may have voiced their opposition to the LTP4 vision as a way of reinforcing their opposition to the Local Plan proposals. Two sensitivity tests was undertaken to consider this further:

- **Sensitivity Test 1 (Postcode)** – to understand if there was a correlation between location and response to the vision, particularly in areas where opposition to the Local Plan was known to be strong. Results were filtered to exclude those who have included a WA4 postcode.

A further sensitivity test has been undertaken to consider the impact that age has on support for the vision:

- **Sensitivity Test 2 (Younger People)** – to understand if there was a correlation between age and response to the vision. Results include those from respondents stating their age as under 35.

The results of these sensitivity tests are shown in Table 3.

To what extent do you agree or disagree with Warrington's vision for Transport?			
	All responses (400)	Sensitivity Test	
		Excl. WA4 (154)	Under 35 (19)
Strongly agree or Agree	30%	44%	67%
Neither agree or disagree	11.73%	25%	0
Disagree or Strongly disagree	58%	31%	33%

Table 3 - Support for Vision Sensitivity Testing

This analysis indicates that there is more support within large parts of the borough and (whilst the proportion of respondents under 35 is comparatively low) amongst younger residents.

Suggested changes to the Vision

The two suggested changes to the Vision statement were:

- "**It would be good to see the word accessible used to ensure access for all is a priority**"
- "**Could include specific reference to reducing emissions"**

Objectives

In contrast to the responses to the question on the Vision, there is strong support for all of the objectives in LTP4, as shown in Table 4.

The Draft LTP4 proposes 10 objectives to support the vision. To what extent do you agree **or** disagree **with the following objectives?**					
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**
1. Provide people with a choice about how they travel for each journey	23.0% (40)	46.6% (81)	10.3% (18)	8.6% (15)	11.5% (20)
2. Encourage a culture change that reduces the need for people to travel by car	27.6% (48)	33.9% (59)	10.3% (18)	12.6% (22)	15.5% (27)
3. Improve access to the town centre for all sustainable modes	29.3% (51)	34.5% (60)	12.1% (21)	8.0% (14)	16.1% (28)
4. Develop a resilient and efficient transport network that supports the town's growth	27.6% (48)	31.6% (55)	9.2% (16)	10.3% (18)	21.3% (37)
5. Reduce traffic congestion	45.5% (80)	23.3% (41)	5.7% (10)	3.4% (6)	22.2% (39)

The Draft LTP4 proposes 10 objectives to support the vision. To what extent do you agree or disagree with the following objectives?					
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**
6. Reduce emissions from transport	47.4% (82)	23.1% (40)	3.5% (6)	4.0% (7)	22.0% (38)
7. Maintain and improve all transport infrastructure	39.7% (69)	27.0% (47)	9.2% (16)	4.0% (7)	20.1% (35)
8. Encourage healthier lifestyles by increasing day-to-day activity	37.6% (65)	27.7% (48)	11.0% (19)	5.8% (10)	17.9% (31)
9. Improve safety for all highway users	41.0% (71)	29.5% (51)	10.4% (18)	4.6% (8)	14.5% (25)
10. Make Warrington a more disabled friendly place	32.6% (56)	32.6% (56)	18.6% (32)	4.1% (7)	12.2% (21)

Table 4 - Support for LTP4 Objectives

Suggested Changes to the Objectives

93 respondees answered 'Yes' to the question '*Do you think there are any changes needed to the objectives?*' However, there were no comments that proposed any alteration to the wording of the objectives. One alteration was suggested in response to the previous question on the Vision statement. This was:

- **"It is disappointing to see that "Reducing the need to travel" is omitted from this list."**

Walking and Cycling Vision

There is a strong level of support for walking and cycling improvements. Over 70 % of respondents were supportive of the Go Dutch proposals to improve walking and cycling infrastructure that were outlined in LTP4. The results are shown in Table 5.

To what extent do you agree or disagree with our proposal to 'Go Dutch' and develop a high quality walking and cycling network to help benefit people's health, improve our local environment, and reduce congestion?				
			Response Percent	**Response Total**
1	Strongly agree		36.8%	64
2	Agree		35.6%	62
3	Neither agree or disagree		12.1%	21
4	Disagree		6.3%	11
5	Strongly disagree		9.2%	16

Table 5 - Support for Walking and Cycling Improvements

Local Public Transport Vision

Over 50% of respondents were supportive of highway improvements to support existing bus services, helping them to run more reliably and of improving the quality of bus stops and information. This is shown in Table 6.

To what extent do you agree or disagree with improvements to the highway network to support existing bus services, helping them to run more reliably and to improve the quality of bus stops and information?			Response Percent	Response Total
1	Strongly agree		21.9%	37
2	Agree		32.6%	55
3	Neither agree or disagree		18.3%	31
4	Disagree		14.2%	24
5	Strongly disagree		13.0%	22

Table 6 - Support for Improving Bus Services

The largest proportion of respondents are in favour of investigating a mass transit network as shown in Table 7.

Do you think we should be investigating the long term potential for a mass transit network for Warrington that would provide people with a transformed public transport network with quicker and more frequent high quality services along key corridors around the town - for instance a high quality guided-bus or light rail network?			Response Percent	Response Total
1	Yes		46.1%	77
2	No		28.1%	47
3	Not sure/Don't know		25.8%	43

Table 7 - Support for investigating a Mass Transit Network

However, if 'Not sure/Don't know' is discounted as a response, 62% of respondents who stated a preference, support the proposal to investigate a mass transit network.

A sensitivity test has been undertaken to understand the differences in levels of support for mass transit proposals between age groups. This demonstrates a stronger level of amongst younger people (under 35) and older people (over 64). This is shown in Table 8.

Do you think we should be investigating the long term potential for a mass transit network for Warrington that would provide people with a transformed public transport network with quicker and more frequent high quality services along key corridors around the town - for instance a high quality guided-bus or light rail network?

Response	Age under 35	Age over 64
Yes	60%	58%
No	20%	26%
Not sure/Don't know	20%	16%

Table 8 - Support for Mass Transit Amongst Younger and Older People

Revenue and Workplace Parking Levy

Less than 30% of respondents to the question on Workplace Parking Levy expressed support for the proposal, as shown in Table 9.

Do you think a Workplace Parking Levy (WPL) such as in that used in Nottingham, is an option that should be investigated further?				
			Response Percent	Response Total
1	Yes		28.4%	48
2	No		46.7%	79
3	Not sure / Don't know		24.9%	42

Table 9 - Support for investigating Workplace Parking Levy

A sensitivity test undertaken that considers the difference in support for Workplace Parking Levy amongst age groups shows that, whilst the proportion of respondents under 35 is comparatively low, there is strong support for Workplace Parking Levy amongst younger respondents to the survey. This is shown in Table 10.

Do you think a Workplace Parking Levy (WPL) such as in that used in Nottingham, is an option that should be investigated further?				
			Response Percent	Response Total
1	Yes		60.0%	9
2	No		20.0%	3
3	Not sure / Don't know		20.0%	3

Table 10 - Support Workplace Parking Levy amongst People Aged Under 35

Comments on Workplace Parking Levy

These results in isolation do not appear to demonstrate support for Workplace Parking Levy (WPL). However, the comments that were provided regarding WPL through the consultation feedback provide a broader understanding of the concerns that people have about the proposal. Comments that were non-supportive of WPL have been categorised into themes and ranked in Table 11.

Ranking	Comment Theme	Number of comments
1	Impact on Businesses	24
2	Requirement for high quality alternative to private car use	19
3	Cost to public	13
4	Alternatives to WPL (e.g. CIL, CAZ, LEZ, Council Tax)	5
5=	Impact on carers	4
5=	Out of town employment sites	4
7=	Insufficient revenue from WPL	3
7=	Shift working	3
7=	Impact on car-sharing	3
10=	Sustainable travel contributions made by employers	2
10=	WBC Staff parking	2
12=	Impact on Disabled people	1
12=	Impact of parking on neighbouring streets	1
12=	Ringfencing of revenue	1
12=	Impact on traffic	1

Table 11 - Themes for Non-Supportive Comments on Workplace Parking Levy

The topics raised through the comments in response to these questions identify some of the work that is needed to investigate these concerns through any future study work into the WPL in Warrington.

Accessing Key Centres

The next section of the feedback questionnaires asked people their views on improving access for sustainable transport modes to the town centre and to other key destinations. The results are shown in Table 12.

To what extent do you agree or disagree that there is a need to improve...						
	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Response Total
...access to the town centre for people to walk, cycle, and use public transport, particularly for the last mile of their journey	35.3% (60)	34.7% (59)	17.6% (30)	7.6% (13)	4.7% (8)	170
...access for people to walk, cycle and use public transport to other destinations such as	44.0% (73)	37.3% (62)	10.2% (17)	4.8% (8)	3.6% (6)	166

To what extent do you agree or disagree that there is a need to improve...						
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**	**Response Total**
business parks, district centres and villages						

Table 12 - Support for Improving Access for Sustainable Modes to Key Destinations

70% of respondents to this question are supportive of improving access to the town centre. Over 80% of respondents to the question are supportive of improving access to other destinations.

Comments on Accessing Key Centres

Destinations that were mentioned in the comments for this question include:

- Birchwood Park
- Stockton Heath
- Schools and colleges (all)
- South Warrington (unspecified location)
- District Centres (review all)

Improving the transport infrastructure in Culcheth was referred to in a number of examples in response to other questions.

Additional Comments

The questionnaire was structured in a way that captured feedback on the proposed vision and policies set out in the Plan. A section at the end of the questionnaire asking for any additional comments was included to allow for comments not directly linked to the LTP vision and policies.

Many of the comments sent in via email were included in this section as they did not directly address the questions asked in the questionnaire. A total of 268 responses included comments logged as Additional Comments. These have been categorised into themes and ranked in Table 13.

Ranking	Comment Theme	Number of comments
1	Expectation that LTP should be a delivery plan for Local Plan (lack of detail/scheme proposal/funding/timescales etc.)	157
2	Oppose Local Plan growth proposals	38
3	Air Quality and Carbon emissions	28
4	Western Link	16
5=	Garden Suburb Strategic Infrastructure	12

Ranking	Comment Theme	Number of comments
5=	General comment	12
7	General - unsupportive	10
8	General - supportive	9
9	Network Management	7
10	Passenger transport	5
11	Freight Management	4
12	Operational issues	3
13=	Disabled people and older people	2
13=	Cost of public transport vs parking	2
13=	Pavement parking	2
13=	Motorway Network	2
13=	Active Travel	2
18=	Workplace Parking Levy	1
18=	Response proposing a scheme	1
18=	Electric Vehicles	1
18=	SEA	1
18=	Future Transport	1

Table 13 - Themes of Additional Comments Submitted

It can be seen that the focus of many of these comments was objection to the Local Plan, or a sense that the LTP should be a delivery plan for the Local Plan infrastructure rather than its intended role as a high-level strategy document.

6 Responses to the Consultation - Part B

Allocating Our Resources

The next set of questions in the questionnaire considered the more detailed theme chapters that include the draft policies for that outline how we will deliver the vision and carry out our day to day activities.

The first of these was intended to inform our allocation of the LTP Integrated Transport Block, by seeking feedback on how important each of the themes in LTP4 were considered to be. The results are shown in Table 14. All themes were considered to be important, with over 60% of respondents considering each one 'Important' or 'Very Important'.

How do you think we should be allocating our resources to deliver LTP4? Please let us know by telling us how important you think each of the themes below is. Please select one option in each row.					
	Very Important	**Important**	**Not Important**	**Don't know**	**Response Total**
Active Travel	34.4% (53)	44.8% (69)	11.0% (17)	9.7% (15)	154
Sustainable Travel Choices	41.0% (64)	44.2% (69)	7.7% (12)	7.1% (11)	156
Passenger Transport	36.8% (57)	52.9% (82)	4.5% (7)	5.8% (9)	155
Safer Travel	43.6% (68)	48.7% (76)	3.8% (6)	3.8% (6)	156
Cleaner Fuels	50.0% (78)	41.7% (65)	5.8% (9)	2.6% (4)	156
Asset Management	17.8% (27)	48.0% (73)	10.5% (16)	23.7% (36)	152
Network Management	31.2% (49)	47.8% (75)	5.7% (9)	15.3% (24)	157
Freight Management	40.9% (65)	33.3% (53)	16.4% (26)	9.4% (15)	159

Table 14 - The Importance of LTP Themes

Comments on Policy Chapters

Respondents were then asked to comment on the policies included in Part B of the Draft LTP4. Fewer comments were received in response to these questions.

Active Travel Policies

Respondents were asked to comment on the Active Travel Policies and the Draft Local Cycling and Walking Infrastructure Plan that was included as an Appendix of LTP. Active Travel was the policy theme that was most commented on, with 28 comments. These included comments on:

- general support for the policies
- specific locations where it was felt improvements to infrastructure is required
- suggested amendments to policies
- pavement parking

Smarter Travel Choices Policies

Ten respondents submitted comments on the Smarter Travel Choices Policies. These included:

- agreement that that behaviour change is key to improving our transport system
- suggested amendments to policy wording
- comments on school run mode share
- impact on female travellers

Passenger Transport Policies

Comments on the Passenger Transport Policies were captured in the responses to the earlier Local Public Transport Vision question (see section 5.5). Comments covered:

- Mass Transit proposals
- the cost of public transport
- operational bus service issues
- specific rail issues
- HS2 and Northern Powerhouse Rail

Safer Travel Policies

Eleven comments were made on the Safer Travel policies. These considered:

- wording of specific policies
- 20mph
- use of speed cameras
- Safety of, and conflict between, Active Travel users

Cleaner Fuels Policies

Thirteen respondents submitted comments on the Cleaner Fuels policies. These considered:

- the urgency in progressing the work to support uptake of Cleaner Fuels
- EV charging point locations
- particulate emissions

Asset Management Policies

Eight respondents submitted comments on the Asset Management policies. A number of these were related to the Local Plan proposed growth and the impact that this would have on highway maintenance budgets. The comments related to the policies in the LTP considered:

- condition of highway
- drainage
- maintenance and management of vegetation

Network Management Policies

17 respondents submitted comments on the draft Network Management policies. The comments were related to:

- Manchester Ship Canal crossings
- current congestion

Freight Management Policies

There were 25 comments submitted in response to the Freight management policies, many of which were expressing concern about the proposed growth in logistics in the south of the borough. Other comments considered:

- impact of HGVs on communities
- comment on specific policies
- opportunities for cross-boundary working
- use of rail and water

Comments on Supporting Documents

Only Highways England and Historic England explicitly commented on the Strategic Environmental Assessment. Neither suggested any changes to the document.

7 Summary of Comments

Some Comments Received

It would be good to see the word accessible used to ensure access for all is a priority.

Better bus services are certainly part of the solution

Car parking charges should go up and free parking should stop. Any bus fare compares unfavourably to a free or cheap car park and this is having a detrimental effect.

It's going to be a wonderful transport utopia for our town over the coming years but only if every generation is included in the benefits and everything is for all the boroughs not just the elite

Please continue to lobby against the HS2 Golborne Link

Support the Plan's vision and objectives to reduce the dominance of the car in Warrington and to promote more sustainable movements by walking, cycling and public transport.

Road building is necessary at times, but without behavioural change, the new capacity will fill up again

Warrington should not be seen as a shortcut and the whole network needs updating.

Need better public transport for those at the edge of Warrington

When the motorways are down the town is absolutely gridlocked

This is thrilling! I had no idea that light rapid transit was being seriously considered for Warrington, and it is very good to see that quite a lot of "optioneering, feasibility, and design work" has already been done

Growing bus patronage is a key issue. The aspiration is good - need to deliver quickly and working in partnership together.

I feel very passionate about sustainable and public transport. I use my car as little as possible when carriage load, distance, time are important. My default mode of travel about town is pedal bicycle. I even have an electric bike (brilliant !)

For people living on the edge of Warrington there isn't much practical alternative to travelling by car

Welcome the Draft Local Transport Plan's approach towards encouraging modal shift, which is being promoted through improving the walking and cycling infrastructure within Warrington

Important to reduce congestion and pollution

The congestion has a negative impact on the reliability of bus services, which creates a further incentive for car travel

Car drivers should pay, unpopular but necessary as it may encourage them out of cars. But not yet - until public transport is improved.

Generally Warrington is traditionally car centric by design. An example is Bridge Foot Island

Prioritise cycling over cars

I'm generally supportive of the idea of improving the cycling network however where this is to the detriment of other forms of travel it needs to be subjected to careful cost/benefit analysis.

Any public transports must be cheaper and or more convenient than using a car to have any chance of success

We need to go Carbon free by 2030 at the very latest, that's what the climate change science is telling us! Electric mass-transit is essential to reach this

We would urge WBC and its consultants to commence work on the Mass Transit route network immediately

The number of car journeys to schools and colleges is far too high. A campaign is needed to educate children to change the mentality that it is “not cool” to walk, cycle or use public transport.

To increase "Final Mile" cycling a real improvement in infrastructure is required

The villages just need a cheap and easy connection to town centres

WBC needs to have an ITA covering our area

If a family of 4 can drive in for less than using public transport then you are unlikely to choose the more expensive option.

It is almost certainly the case that any viable tram network would exclusively comprise routes radiating from the town centre. This places a tram network in an excellent position in terms of revitalising the town centre

People will only stop using cars if a far more frequent and cheaper public transport service is provided, running across areas as well as into town.

With over 10,000 of Warrington's residents having a Blue Badge, which means they are seriously mobility impaired, it would be good to see the inclusion of people who use a mobility scooter and/or powered wheelchair

We need to focus on value for money transportation and connections

Modal change will only happen when congestion becomes intolerable

Improving walking, cycling and public transport connections to employment destinations such as Birchwood Park will be key to reducing single occupancy vehicle trips to and from these types of locations.

Warrington's size makes active transport an extremely practical and healthier option

Very careful analysis is needed to identify whether a workplace parking levy is a good idea

The biggest barrier to cycling in Warrington is the Bridge Foot roundabout

A lot of the time cycle lanes just stop when it becomes too difficult to put them in, just at the places they are most needed!

HGV movements are a major concern for our communities, particularly where these use local roads

I favour more frequent public transport ideally a tram system or very frequent hop on hop off buses - that's the only way to encourage people to ditch their cars for short/ in town journeys

Social change has to be targeted at the full age range of the population

What you Told Us and How We Responded

You told us that …	And this is how we responded
… 'Accessible' should be added to the vision statement to reflect the importance of access for all	We have amended the vision statement to say that we want Warrington to be an accessible place
… you felt that LTP4 should include a more detailed delivery plan over the full plan period for the infrastructure improvements required to support proposed growth	The LTP is primarily a policy document and sets the strategic direction for transport for the next 20 years. An LTP is not required to have fully defined or funded measures in place for the whole plan period. LTP4 does include an ongoing programme of committed work for the next five years including major schemes such as the Western Link. This confirmed programme will be delivered alongside a parallel commitment to undertake the next stage of study and feasibility work required for projects such as Mass Transit, Ship Canal crossing, Workplace Parking Levy and Infrastructure in South Warrington.
… you felt our existing infrastructure, particularly waterway crossings, is insufficient to accommodate proposed growth	We have committed to undertaking study work to assess the need for, location, and nature of additional crossings of the Manchester Ship Canal over the first 5 years of the plan
…you felt that not enough consideration was given to smaller towns and villages in the borough in draft LTP4	We have added in a section looking at "Access to Other Key Centres" which includes smaller towns, villages, and business parks
…there was no identified funding sources for schemes such as mass transit	We have committed to investigating a Workplace Parking Levy that could create a new funding source for investment in sustainable transport.
… you are concerned about the impact of traffic on air quality	We have set out a vision for transport that includes the provision and promotion of high quality alternatives to private car travel and the uptake of cleaner fuels.
…there are not currently enough attractive alternatives to using the car for journeys to/from suburban and rural areas of the borough	We have committed to undertaking the next stage of study and feasibility work required for Mass Transit scheme, and also set out our policies for improving active travel and public transport links to all areas of the borough.

You told us that …	And this is how we responded
… there are mixed views about our modal shift target that includes reducing car use for journeys to work to 60%. Some considered this unrealistic whilst others felt it was unambitious	We have looked at these targets again and consider them to be both ambitious and also realistic in view of the resources that government is making available to local authorities. The targets will be reviewed at the next update of the plan or if there are significant changes to national policy or resources available.
… low car park charges in the town centre encourage car use and dis-incentivises use of public transport	LTP4 includes a policy to consider the role of charges to manage demand for car parking and discourage unnecessary car use.
…there is a need to encourage more people to use buses	We have committed to a set of policies aimed at improving the experience for passengers and increasing bus use
… you had concerns about the impact that existing crossings of the Manchester Ship Canal have on our highway network	LTP4 contains a policy that we will continue to work with the operator of the Manchester Ship Canal to reduce this impact
… Warrington wold benefit from a Low Emission Zone (LEZ)	We considered a LEZ as one of the options in the Transformational Projects Study, and it hasn't been ruled out for the future as we continue to seek to improve air quality.
… congestion is a problem in Warrington when there is an incident on the motorway network	An action has been included in the Network Management section of LTP4 to 'Maintain and develop highway strategies for motorway closures and major diversions'
... you oppose the Golborne Link that is included in proposals for HS2	We have confirmed our aspirations for HS2 to serve central Warrington, which would make the Golborne Link unnecessary
…accessing the town centre is difficult for pedestrians and cyclists	Our Local Cycling and Walking Infrastructure Plan identifies a network of routes that we want to improve for active travel. Alongside this, we have committed to progressing our 'last mile' theme that will improve access to the town centre for all sustainable modes.
… too many children are driven to school	The Smarter Travel Choices section of LTP4 outlines the work we do to change this. Our Sustainable Modes of Travel to School document is one of the appendices of LTP4
… more frequent public transport services that operate earlier and later in the day are needed	We have committed to a set of policies aimed at improving the experience for passengers and increasing bus use

You told us that …	And this is how we responded
…there are health and safety implications of Electric Vehicle (EV) charging points being located on footways	The provision and location of charging points will be considered as part of the detailed work we will be doing on EVs and the infrastructure they require.
… active travel infrastructure should be accessible for users with mobility impairments	We have committed to design infrastructure in line with equalities legislation. The revised vision reaffirms our commitment to making the transport network accessible.
… the reasons that people choose not to cycle can include the weather, terrain, distance and an ageing population	As part of the post-consultation review of the LCWIP we have included a section that sets out to de-bunk some of the myths about cycling.
… concerns about a Workplace Parking Levy include: • impacts on blue badge holders • provision of alternatives to car use • impact on Warrington as a place to do business • impact on parents dropping children to school on the way to work • parking on streets close to employment areas • contributions made by employers to sustainable travel • geographical extent of charging	These comments and concerns will be used to inform the next stage of work looking at Workplace Parking Levy in Warrington.
… charging electric vehicles is difficult for people that live in terraced houses	Terraced houses will be considered as part of the detailed work we will be doing on EVs and the infrastructure they require.
… particulate emissions from e.g. tyres and braking can impact on people's health	We have set out a vision for transport that includes the provision and promotion of high quality alternatives to private car travel that will reduce the number of vehicles on our roads
… you would like to reduce the impact of HGV movements on the local environment	LTP4 includes our policies to improve the management and routeing of freight traffic, and encouraging modal shift for freight.

You told us that …	And this is how we responded
… things we need to consider regarding mass transit in Warrington include: • the routes and geographical area covered • the relative merits of trams, bus rapid transit and other modes • cost of travel • frequency of service • construction and operational cost • passenger demand	These comments and concerns will be used to inform the next stage of work looking at a Mass Transit network in Warrington.

8 Protected Characteristics

Gender

Of the respondents that answered the equalities questions, an even split was recorded between responses from males (47.47%) and females (48.73%).

95.24% of respondents stated that their gender identity was the same as assigned at birth. The remaining 4.76% preferred not to say.

Notable issues raised through the consultation comments regarding gender related to the aspiration to reduce the number of trips made by car. These included:

- a sense that females would feel more vulnerable walking, cycling, or using public transport, particularly at night
- the impact that discouraging car use can have on mothers doing the school run and then travelling to work.

There is less support for the LTP vision and proposals amongst females than there is amongst males, as shown in Table 15.

Question	Female	Male
Vision (% agree or strongly agree)	25%	40%
WPL (% support)	22%	39%
Walking and Cycling Vision (% agree or strongly agree)	70%	77%
Mass Transit (support)	37%	62%

Table 15 - Difference in Support for Proposals between Males and Females

Age

The vast majority of responses came from people in three age groups: 35-44 (20%), 45-54 (28%) and 55-64 (25.47%). There is variation in support for the proposals amongst age groups, as shown in Table 16.No responses were received from anyone stating that their age was over 85.

	Age Group							
	< 16	16-24	25-34	35-44	45-54	55-64	65-74	75-84
Total Number of responses	4	1	14	32	45	41	14	6
Vision (% agree or strongly agree)	0	100	70	25	27	41	21	0
WPL (% support)	0	100	62	22	28	27	29	50
Walking and Cycling Vision (% agree or strongly agree)	100	0	85	69	74	72	79	83
Mass Transit (support)	0	100	62	56	43	43	54	67

Table 16 - Difference in Support for Proposals Between Age Groups

Ethnic Origin

Of the 150 respondents that answered the question on ethnic origin, 91.33% of respondents identified as 'WHITE - English / Welsh / Scottish / Northern Irish / British.

Two respondents identified as 'WHITE - Irish' and two as 'WHITE - Other'. One respondent identified as 'MIXED / MULTIPLE ETHNIC GROUPS - Other'. No other options were selected by respondents to this question.

Sexuality

Of the 124 respondents who opted to identify their sexuality, 120 identified as 'Heterosexual/straight', one as 'Lesbian/Gay woman', and three as 'Gay man'.

Religion

144 respondents answered the question on their religion or belief. Of these, 57 declared no religion or belief, 69 were Christian, and 18 preferred not to say.

Health and Disability

Thirteen respondents to the questionnaire stated that their day to day activities are limited because of a health problem or disability that has lasted, or is expected to last, at least twelve months.

Specific comments made relating to disability include:

- adding 'accessible' to the vision statement
- more consideration to users of electric wheelchairs and mobility scooters
- impact of WPL on disabled people who need to drive to access employment

How support for the LTP4 proposals varies for people with disability, compared to the overall result is shown in Table 17.

Question	People with a Disability	Overall
Vision (% agree or strongly agree)	39%	31%
WPL (% support)	15%	28%
Walking and Cycling Vision (% agree or strongly agree)	84%	73%
Mass Transit (support)	50%	46%

Table 17 - Support for the LTP4 proposals varies for people with disability, compared to the overall result

9 Conclusions and Next Steps

The consultation on the Draft LTP4 has provided invaluable information about the views of the public and stakeholders on current and future transport issues in Warrington. It is vital that this information is used to inform decisions on transport policy.

- Draft LTP4 policies will be reviewed and amended in light of feedback received
- An Equalities Impact Assessment will be undertaken on LTP4, informed by the Protected Characteristics questions
- Study work to develop a detailed Workplace Parking Levy proposal will consider all of the issues raised through the consultation
- Study work on developing proposals for a Mass Transit offer for Warrington will be informed by the feedback received.

Appendix 1

Early Stages of Consultation

Feedback from the public and stakeholders played an important part in shaping the draft LTP4 that was consulted on. Responses from the July 2017 Local Plan Preferred Development Option Consultation and a series of Warrington Transport Summits, provided an understanding of what the current transport issues and priorities for transport investment are for the general public and stakeholders. These shaped the early stages of LTP4 development.

Some of the comments received during these consultations are shown in Figure 8.

Figure 8 - Comments received during consultation

Local Plan Preferred Development Option Consultation

The Local Plan Preferred Development Option consultation enabled public and stakeholder feedback on Warrington's existing transport system. The process enabled us to capture what transport issues were affecting Warrington residents and workers, as well as what people's priorities were for future transport intervention. A summary of the feedback regarding transport that was received during the consultation is shown in Table 18.

Theme	Summary Of Stakeholder Views

Existing Transport Issues	
Congestion	• 64% of transport comments mentioned congestion • Many saw the town centre as hot spot for traffic • Stockton Heath; Knutsford road; Thelwall; Grappenhall; A50; Chester Road; Lymm; and the A49
Car Dominance	• Creates a poor environment for living and working • Gives a poor impression to visitors • Makes walking and cycling difficult
Public Transport	• Felt to be a poor public transport offer, encouraging car usage, particularly from rural areas • Service levels, fares and frequency considered to be issues • Interchange between bus and rail considered difficult
Active Travel	• Walking and cycling links to town centre considered poor • Car dominance and air quality deterrents to walking and cycling
Air Quality and Noise	• 34% of respondents cited transport impact on air quality, noise, and light pollution • Concerns over impact on health
Parking	• Parking considered to be expensive • Limited parking in Lymm and Stockton Heath • Parking on roads and footways was considered to be an issue
Priorities for Transport Investment	
Dealing with Congestion	• Increasing highway capacity • Improving connectivity to the town centre • Additional ship canal/river crossing • Conversely, other responses considered the need to improving alternatives to car use
Highways	• Reducing the impact of issues on the motorway network • A new ship canal crossing was identified as a need but using disused railway lines for cars was discouraged
Public Transport	• A modern, high quality public transport offer • Putting sustainable transport at the heart of development • Protecting corridors for HS2 and Northern Powerhouse Rail
Active Travel	• Improving links to the town centre • Promotion of active lifestyles • Increase in cycling infrastructure

Table 18 - Summary of Transport Feedback from Local Plan Preferred Development Option Consultation

Warrington Transport Summits

Warrington Borough Council hosted a series of Transport Stakeholder Summits. These events sought the views of stakeholders to help inform the development of LTP4. The summits focused on the following topics:

- Travel issues within Warrington
- Active travel
- Passenger transport
- Highways management

The workshops provided an opportunity to capture what stakeholder's priorities were for future transport intervention. The key solutions put forward by transport summit stakeholders are summarised in Table 19.

Theme	Summary Of Stakeholder Views
Highways Management	• There were mixed views on increasing road capacity - with some delegates suggesting that road building encourages more car use, and others of the view that roads could be widened to reduce congestion • Re-routing of HGVs away from the A49 and A56 south of the Ship Canal • Improved maintenance of the swing bridges to reduce incidents • Better enforcement against anti-social driving and parking
Bus	• Buses should operate later into the evening • Improved facilities on buses (Wi-Fi) • Improved routing that is not dominated by radial routes • Better integration of bus and rail services • More buses and bus stops should be equipped for step-free access • Improved marketing to change perceptions of bus travel
Rail	• Protect Liverpool/Manchester services to/from smaller stations
New Passenger Transport Modes	• The introduction of new passenger transport modes to increase the quality of public transport. Guided buses, bus rapid transit, and trams were all suggested • Demand Responsive transport options should be considered
Suggested Funding Mechanisms for Transport Improvements	• A Workplace Parking Levy was identified as a potential funding mechanism • A Council Tax precept that is ring fenced for transport improvements • Funding from Public Health to deliver benefits to air quality and physical activity • Funding from central Government • Use parking revenue and fines from traffic infringements
Active Travel	• Active travel routes should run alongside new passenger transport corridors • Improved surfaces for cycle paths • Instalment of cycle paths at difficult/bus junctions • Bridges that are accessible for mobility scooters
Behaviour Change	• Use technology to target younger people when influencing travel choices • Target campaigns at specific groups such as travel to school • Work with businesses to encourage car sharing
Parking	• The location of parking sites is vital to the success of any park and ride facility • Reducing town centre parking availability could discourage car use

Theme	Summary Of Stakeholder Views
Changes to Transport Policy	• Cultural change is needed to put active travel at top of the agenda rather than fitting around an environment of driving • Sustainable travel should be more widely embedded into developments • Improved working partnership between Council and key transport stakeholders • Town centre regeneration should create a space that is attractive and accessible for all users and accommodates various transport modes • Clean air areas should be considered to improve health
Asset Management	• Town centre public realm should be a priority for maintenance to enhance the image of the town • Consider improvements to road safety as part of maintenance schemes • Vegetation should be managed to ensure it does not block walking routes

Table 19 - Summary of Comments at Stakeholder Events

Central 6 Regeneration Masterplan Feedback

The Warrington Central 6 Regeneration Masterplan has been commissioned by the Warrington Central Neighbourhood Renewal Board as a way to guide development and regeneration in the Central 6 Wards of the borough (Bewsey and Whitecross; Fairfield and Howley; Latchford East; Latchford West; Orford; and Poplars and Hume) over the course of the next 20 – 25 years.

Feedback from the stakeholder engagement process confirmed the importance of transport to the communities living in Central Warrington. Headline priorities relevant to LTP4 included:

- **Priority across all wards** was a better, cleaner environment – the feeling being that without creating this baseline quality of place, other improvements would be undermined.
- **Bewsey and Whitecross** – improved accessibility.
- **Fairfield and Howley** – localised parking issues caused by commuter parking or those looking to avoid town centre charges.
- **Latchford East** –desire for cycle ways and more footpath connectivity; tackling air pollution.
- **Latchford West** – creating better connections to town centre and community facilities through improved transport connections
- **Orford** – improving public transport through an improvement in quality, frequency and cost.
- **Poplars and Hulme** – quality of environment

The transport issues raised in response to the Central Area Masterplan consultation are shown in Table 20.

Theme	Issues

Theme	Issues

Transport and movement	• Congestion is a primary issue
	• Pedestrian first approach
	• Bus service improvements
	  ○ Improved reliability and frequency
	  ○ Some routes should start earlier and finish later to match shift patterns/facilitate access to employment
	  ○ Routes all run to centre, meaning for many places two buses are necessary to get places
	  ○ More unified bus payment system – such as a single card for all buses.
	• Speed enforcement and traffic calming in residential areas
	• Create additional Dallam junction to give this community more access
	• More and better cycle paths:
	• Improved footpaths and walking routes
	• Safe crossings
	• Resident only parking schemes
	• Hospital parking needs to be improved

Health	• Atmospheric pollution monitoring • Health benefits of access to green space
Housing	• Concern that putting more housing into the area will put additional pressure onto roads that are congested
Maintenance	• Road and path maintenance • Footpath upkeep including keeping foliage cut back for access and safety
Open and Green Space	• Connect all the green spaces around Warrington town centre via linear parks/green routes. Use these routes for active travel.
Safety	• Pedestrian and cycle safety including -road speed and crossing points need to be addressed • Improved lighting in street, alleys, public places and parks

Table 20 - Transport Issues from Central Area Masterplan Feedback

Appendix 2
Paper Questionnaire

WARRINGTON
Borough Council

Warrington Draft Local Transport Plan 4 Feedback Questionnaire

What type of respondent are you? Please select all that apply.		
1	A local resident who lives in Warrington	
2	A person who works in Warrington	
3	Local Borough, Town or Parish Councillor	
4	Local Business owner/Manager	
5	An agent responding on behalf of an individual, group or organisation	
6	A group or organisation	
7	Visitor to Warrington	
8	Other (please specify):	

Please tell us your postcode: For example WA1 2NH, WA13 TGH. We are asking you this as this will enable us to analyse the data by geographical areas to see if views differ.We comply with all legislation governing the protection of personal information, including the Data Protection Act 2018 and the General Data Protection Regulation (GDPR).We will only use your postcode for the purpose for which it has been given. You cannot be identified by proving your postcode.Please write in the space below.

LTP Part A - Vision

To what extent do you agree or disagree with Warrington's vision for Transport? Please select one option.		
1	Strongly agree	
2	Agree	
3	Neither agree or disagree	
4	Disagree	
5	Strongly disagree	
If you have any additional comments about the vision then please write in the space below		

The Draft LTP4 proposes 10 objectives to support the vision. To what extent do you agree or disagree with the following objectives? Please select one option in each row.					
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**
1. Provide people with a choice about how they travel for each journey					
2. Encourage a culture change that reduces the need for people to travel by car					
3. Improve access to the town centre for all sustainable modes					
4. Develop a resilient and efficient transport network that supports the town's growth					
5. Reduce traffic congestion					
6. Reduce emissions from transport					
7. Maintain and improve all transport infrastructure					
8. Encourage healthier lifestyles by increasing day-to-day activity					
9. Improve safety for all highway users					
10. Make Warrington a more disabled friendly place					

Do you think there are any changes needed to the objectives? Please select one option.		
1	Yes	
2	No	

If yes please let us know what these changes are. Please be specific as to which objective (s) your comment (s) refers to.

If you have any further comments about the objectives then please write in the space below.

To what extent do you agree or disagree with our proposal to 'Go Dutch' and develop a high quality walking and cycling network to help benefit people's health, improve our local environment, and reduce congestion? Please select one option.		
1	Strongly agree	
2	Agree	
3	Neither agree or disagree	
4	Disagree	
5	Strongly disagree	

If you have any additional comments about Active Travel then please write in the space below.

To what extent do you agree or disagree with improvements to the highway network to support existing bus services, helping them to run more reliably and to improve the quality of bus stops and information? Please select one option.		
1	Strongly agree	
2	Agree	
3	Neither agree or disagree	
4	Disagree	
5	Strongly disagree	

Do you think we should be investigating the long term potential for a mass transit network for Warrington (Pages 53-54) that would provide people with a transformed public transport network with quicker and more frequent high quality services along key corridors around the town - for instance a high quality guided-bus or light rail network?Please select one option.		
1	Yes	

Do you think we should be investigating the long term potential for a mass transit network for Warrington (Pages 53-54) that would provide people with a transformed public transport network with quicker and more frequent high quality services along key corridors around the town - for instance a high quality guided-bus or light rail network?Please select one option.		
2	No	
3	Not sure/Don't know	

If you have any further comments about Local Public Transport then please write in the space below.

Do you think a Workplace Parking Levy (WPL) such as in that used in Nottingham (pages 53-54), is an option that should be investigated further? Please select one option.		
1	Yes	
2	No	
3	Not sure / Don’t know	

If you have any further comments about Revenue Funding then please write in the space below:

To what extent do you agree or disagree that there is a need to improve...Please select one option in each row.					
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**
...access to the town centre for people to walk, cycle, and use public transport, particularly for the last mile of					

To what extent do you agree or disagree that there is a need to improve...Please select one option in each row.					
	Strongly agree	**Agree**	**Neither agree or disagree**	**Disagree**	**Strongly disagree**
their journey					
...access for people to walk, cycle and use public transport to other destinations such as business parks, district centres and villages					
If you have any further comments about Access to Key Centres then please write in the space below					

LTP4 Part B - Policies

How do you think we should be allocating our resources to deliver LTP4? Please let us know by telling us how important you think each of the themes below is. Please select one option in each row.				
	Very Important	**Important**	**Not Important**	**Don't know**
Active Travel				
Sustainable Travel Choices				
Passenger Transport				
Safer Travel				
Cleaner Fuels				
Asset Management				
Network Management				
Freight Management				

Please write in the space below to comment on Active Travel policies (Pages 64 - 75) or the Draft Local Cycling and Walking Infrastructure Plan (Appendix A).

Please write in the space below to comment on Sustainable Travel Choices policies? (Pages 76 - 91)

Please write in the space below to comment on Safer Travel policies? (Pages 112 - 131)

Please write in the space below to comment on Cleaner Fuels policies? (Pages 132 - 137)

Please write in the space below to comment on Asset Management policies? (Pages 138 - 147)

Please write in the space below to comment on Network Management policies? (Pages 148)

Please write in the space below to comment on Freight Management policies? (Pages 164 - 176)
If you have any additional comments on our transport proposals for making Warrington a better place then please write in the space below.

Please return completed questionnaires to:

LTP4 Consultation, Transport Planning, Transport for Warrington, Third Floor, New Town House, Buttermarket Street, Warrington, WA1 2NH

Customer 'About You' Questionnaire

Age		
1	Below 16	
2	16-24	
3	25-34	
4	35-44	
5	45-54	
6	55-64	
7	65-74	
8	75-84	
9	85 or over	
10	Prefer not to say	

Gender		
1	Male	
2	Female	
3	Other	
4	Prefer not to say	

Is your gender identity the same as you were assigned at birth? Please select one option.		
1	Yes	
2	No	
3	Prefer not to say	

What is your relationship status? Please select one option.		
7	In a same sex marriage	
8	In a same sex civil partnership	
9	Prefer not to say	

How would you describe your ethnic origin? Please select one option			
WHITE - English / Welsh / Scottish / Northern Irish / British		BLACK/AFRICAN/CARIBBEAN – Other	
WHITE - Irish		ASIAN / ASIAN BRITISH – Indian	
WHITE - Gypsy or Irish Traveller		ASIAN / ASIAN BRITISH - Pakistani	
WHITE – Other		ASIAN / ASIAN BRITISH - Bangladeshi	
MIXED / MULTIPLE ETHNIC GROUPS - White and Black Caribbean		ASIAN / ASIAN BRITISH - Chinese	
MIXED / MULTIPLE ETHNIC GROUPS -White and Black African		ASIAN / ASIAN BRITISH – Other	
MIXED / MULTIPLE ETHNIC GROUPS - White and Asian		OTHER ETHNIC GROUP – Arab	
MIXED / MULTIPLE ETHNIC GROUPS – Other		OTHER ETHNIC GROUP – Other	
BLACK/AFRICAN/CARIBBEAN - Caribbean African		PREFER NOT TO SAY	

How would you describe yourself? Please select one option.		
1	Heterosexual/straight	
2	Lesbian/Gay woman	
3	Gay man	

4	Bisexual	
5	Other	
6	Prefer not to say	

Your religion or belief. Which group below do you most identify with? Please select one option.		
1	No religion or belief	
2	Christian	
3	Buddhist	
4	Muslim	
5	Hindu	
6	Sikh	
7	Jewish	
8	Prefer not to say	

Are your day-to-day activities limited because of a health problem or disability which has lasted, or is expected to last, at least 12 months? Please select one option.		
1	Yes a little	
2	Yes a lot	

Are you currently pregnant or have you been pregnant in the last year? Please select one option.		
1	Yes	
2	No	
3	Prefer not to say	

3	No (do not answer the next question)	
4	Prefer not to say (do not answer the next question)	

33. If you answered 'yes' to the question above, please state the type of impairment. If you have more than one please tick all that apply.		
1	Physical Impairment	
2	Sensory Impairment	
3	Learning Disability/Difficulty	
4	Long-standing illness	

33. If you answered 'yes' to the question above, please state the type of impairment. If you have more than one please tick all that apply.		
5	Mental Health condition	
6	Autistic Spectrum	
7	Other Developmental Condition	
8	Other (please state):	

Transport Planning and Development Control
Warrington Borough Council
New Town House
Buttermarket Street
Warrington
WA1 2NH
Email: ltp@warrington.gov.uk

WARRINGTON
Borough Council