LANCASTER

Lancaster City Centre Movement and Public Realm Strategy

Route Options Report

SEPTEMBER 2020

Lancashire County Council

LANCASTER CITY COUNCIL
Promoting City, Coast & Countryside

Contents

Illustrative design work carried out by Planit-IE design practice on behalf of Lancashire County Council.

Executive Summary

This Lancaster City Centre Movement and Public Realm Strategy Route Options Report has been prepared by Lancashire County Council with the support of Lancaster City Council.

The aim of the strategy is to build upon and realise the vision for Lancaster city centre as outlined in the District of Lancaster Highways and Transport Masterplan (2016) and meet the requirement set out in the Bay Gateway Development Consent Order (DCO) to implement an

"Action plan [that] must aim to prevent road traffic growth within the central Lancaster area increasing to predicted "do minimum" levels between the opening and design years of the link road (thereby negating planned relief)"

Since the publication of District of Lancaster Highways and Transport Masterplan progress has been considerable, with the opening of the Bay Gateway and a major expansion of housing and employment proposed as part of Lancaster City Council's recently adopted Local Plan. As part of this expansion, Bailrigg to the south of Lancaster was allocated Garden Village status with an expectation of delivering over 3,500 dwellings.

As part of the March 2020 budget, the Government announced the prospect for substantial funding through the Housing Infrastructure Fund (HIF) to implement a number of sustainable transport measures linking the new settlement to the city centre. Further to this, during this period there has been considerable residential growth within and on the periphery of the city centre. Most recently Lancaster City Council has declared a Climate Change Emergency with the intention of the district being carbon neutral by 2030 and in recent months restrictions imposed as part of the COVID-19 pandemic are leading to a revaluation of how transport and, indeed, cities themselves will function in the post-lockdown era. Collectively these elements provide a once in a generation opportunity to begin the process of reimagining a city centre for the future, one that places sustainable transport at the heart of the city.

To achieve this, this strategy will be guided by the vision outlined in the District of Lancaster Highways and Transport Masterplan.

1.1 The Vision

In 2031 Lancaster city centre is a vibrant and successful core to the district, where earlier issues of poor air quality and congestion have been tackled. Pedestrians and cyclists can move around easily and freely, through safe and attractive public spaces. This is because the centre is largely free of traffic. There is much less through traffic and most of the vehicles that do need to be there are ultra-low emission. The city has become an attractive destination for visitors from near and far.

1.2 The Strategy

This report adopts a qualitative approach in an attempt to initiate a direction of travel to determine what type of city centre we want to see in Lancaster in the years ahead.

In doing so it adopts a framework set out by the Chartered Institution of Highways and Transportation (CIHT) as part of its 'Creating Better Streets: Inclusive and Accessible Places', report. This framework provides an assessment of the current situation using the following 5 themes:

- Inclusive Environment
- Ease of Movement
- Quality of Place (Public Realm)
- Safety and Public Health
- Economic Benefit

After using this framework for an assessment of the current situation it develops objectives for an appraisal framework for 8 different route options for the city centre.

1.3 Baseline Assessment

The baseline assessment process started with a review of previous studies and policy documents that had been undertaken by or for the two authorities in recent years. This was followed by an audit of existing traffic arrangements and quality of public realm across the city centre. Partner engagement was a key part of progressing the study with officers from the two authorities meeting and collaborating on a regular basis. The following draws out the key points revealed through the evidence.

Inclusive Environment

- The gyratory creates a significant barrier between residential areas and the city centre core; this is compounded for those who are mobility or visually impaired.
- Elements of the western arm of the gyratory are not fit for purpose regarding pedestrian movements.
- Current crossings of the gyratory do not reflect pedestrian desire lines.
- Access from the railway station into the city centre is poor with a lack of priority for pedestrians leading to congestion at the King Street/Meeting House Lane Junction.
- To access the residential and industrial areas to the west of the gyratory (including tourism hubs such as Lancaster Castle and sustainable transport hubs like the Railway Station), a journey around the majority of the gyratory network is often the outcome.

Ease of Movement

- Access to the city centre on foot is restricted and key crossings into the retail core do not prioritise pedestrians.
- Cycle provision in the city centre is poor and this hampers longer journeys between housing and key employment sites.
- Whilst access to the city centre is good for vehicular traffic and pedestrian circulation is good within the core city centre area, the gyratory forms a physical barrier with high levels of severance limiting movements to the south, east and west of the city centre.

Quality of Place (Public Realm)

- Lancaster city centre has a rich history with an abundance of heritage assets. However, despite this, it is hard for residents and visitors to appreciate them due to the quality of the public realm and the impact of traffic.
- A number of key public spaces are not used to their full effect due to severance and the proximity of substantial amounts of traffic.
- In addition to the impact on key public spaces, the dominance of private vehicular traffic throughout the city centre prevents effective strategies for the creation of new areas of public space being pursued.

Safety and Public Health

- The district as a whole has the worst accident record in Lancashire with a significant number clustered within the city centre and in particular the gyratory.
- Lancaster city centre gyratory is a declared Air Quality Management Area. Without significant intervention to limit engine-based traffic within the city centre there will be little opportunity to reverse this and provide good air quality for residents.

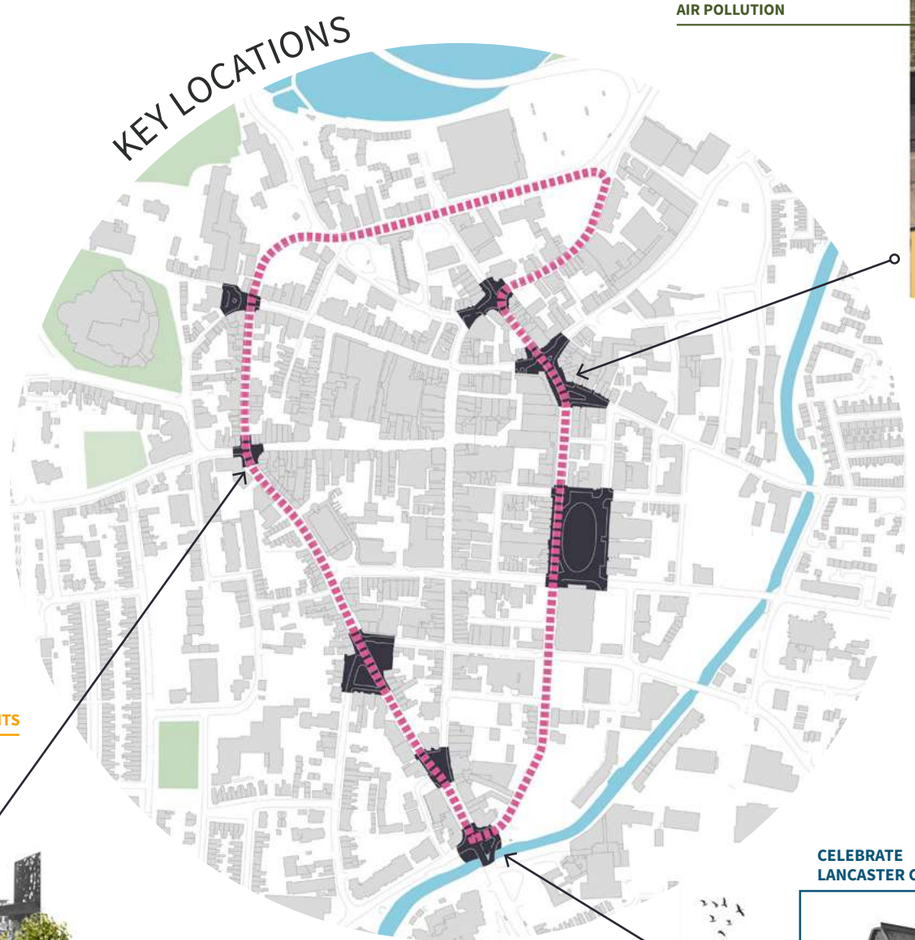
Economic Benefit

- Although Lancaster has a relatively strong retail offer and in recent years has started to make better use of its historic assets and public space for economic effect, these are unprecedented times for the high street.
- Current levels of parking provision in the city centre are counterproductive to any effort to encourage modal shift.
- Deliveries within the city centre have an impact in terms of congestion, air quality and safety because there is no coherent, integrated Delivery Strategy for the city.
- Taxis play an important role in the mobility needs of all residents but especially those without access to a vehicle.
- HGV access is problematic especially to key industrial sites to the west of the gyratory.

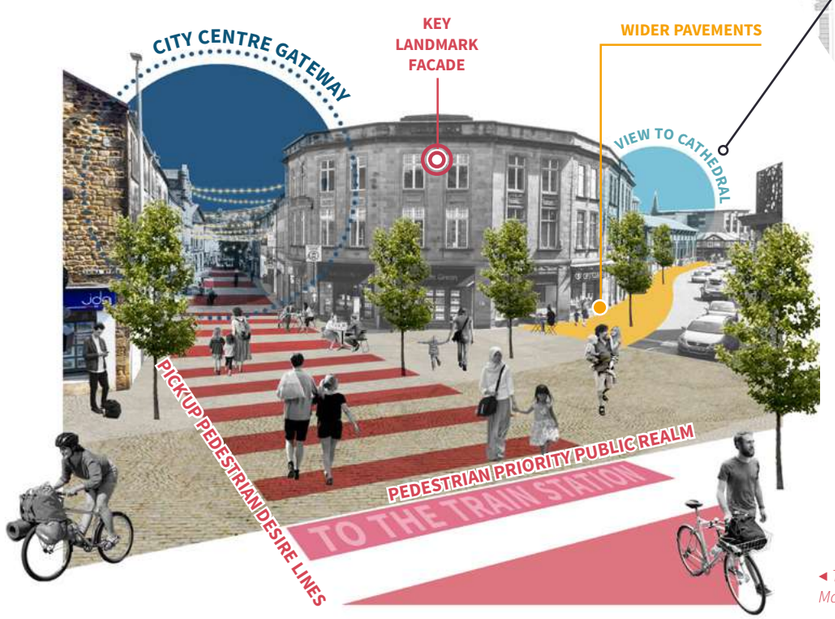
1.4 The Opportunities

To deal with the issues outlined in the baseline assessment and to begin the process of meeting our vision for 2031 we need to start thinking about how we can reimagine the city centre as a place that prioritises people, sustainable travel and quality of place.

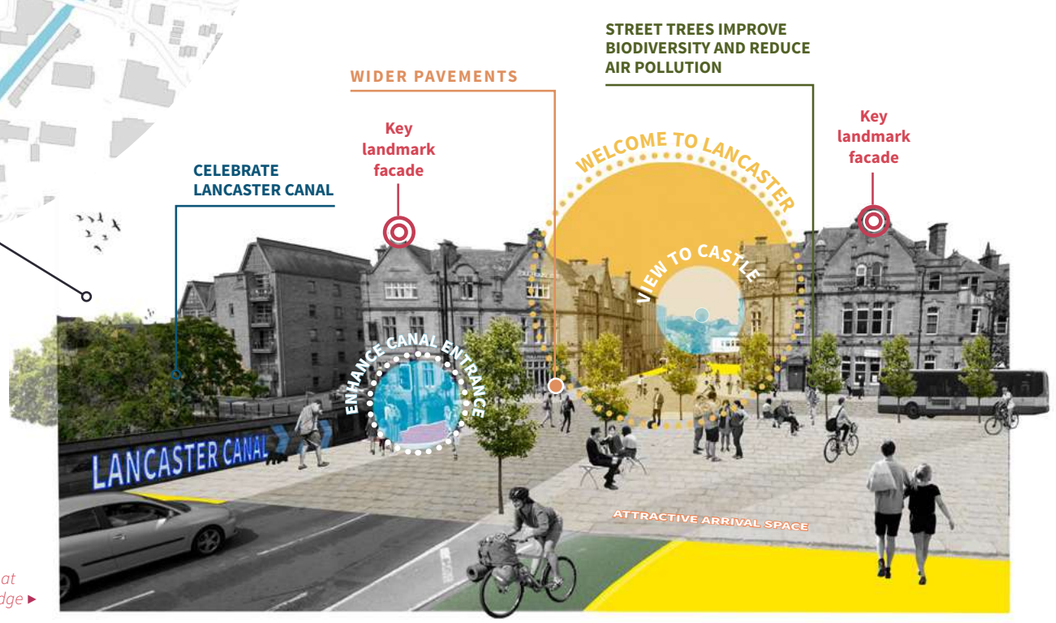
The images shown here represent the type of opportunities that are possible within the city centre area with a reconfigured gyratory.



The opportunity at Stonewell / Moor Lane ►



◄ The opportunity at King Street/ Market Street



The opportunity at Penny Street Bridge ►

1.5 Appraisal Route Options

To realise such opportunities partners met to decide upon a variety of route options that could be tested against the appraisal framework. The following eight options were agreed and now form part of this consultation. On completion of this exercise, further analysis will support a narrowing of these options towards a preferred option which shall be presented for further community engagement.

1 Existing One Way Gyratory

Do minimum. To include changes to the Pointer Roundabout through funds already received through the Safer Roads Fund. The one-way gyratory system that is currently in place remains predominantly unaltered in form.

2 Two Way Gyratory

Proposes altering the gyratory away from its current one-way system, to allow two-way traffic for all modes. This would result in a shift away from two lanes of one-way traffic to two-way traffic on both arms of the gyratory.

3 One way gyratory for vehicular traffic with second lane dedicated to sustainable travel

A reconfiguration of the gyratory that maintains the current one-way direction, but reduced to one lane for general traffic with the second lane dedicated to buses, cyclists and emergency vehicles (also one-way).

4 Sustainable Travel Corridor East

Two-way traffic for all vehicular traffic on the western arm of the gyratory, with the eastern arm prioritised for buses, cyclists and emergency vehicles only.

5 Sustainable Travel Corridor West

Two-way traffic for all vehicular traffic on the eastern arm of the gyratory, with the western arm prioritised for buses, cyclists and emergency vehicles only.

6 No through city centre traffic

Limit through traffic in the city centre. The western arm of the gyratory would be two-way and would be closed to all traffic on King Street. King Street would be fully pedestrianised. The entire eastern arm of the gyratory would become two-way for buses, cyclists and emergency vehicles only.

7 Gyratory closed to through traffic except for exemptions

No part of the gyratory would be available for private vehicles for onward travel in any direction for an 11 hour period between 7.30am and 6.30pm six days per week (Monday-Saturday). Travel to the city centre and west Lancaster neighbourhoods would be permissible but travel through the city centre would not.

8 City Centre Clean Air Zone

The western arm of the gyratory (King St, China St, Bridge Lane, Cable St) would be subject to a £12 charge (monitored by automatic number plate recognition (ANPR)). The entire arm of eastern arm would become two-way for buses, cyclists and emergency vehicles only.

Introduction

This is an opportune moment to start thinking about the type of city centre we want for Lancaster.

The recently adopted Lancaster Local Plan acknowledges the need for a substantial increase in housing across the district. As residents and visitors to the area are fully aware, travel and transport options within the city centre are far from ideal due to an already constrained road network and the absence of direct sustainable transport routeing through the city. Without intervention, a significant increase in housing within close proximity to the city centre would undoubtedly place increased pressure on an already congested network. As such, led by Lancashire County Council with the support of Lancaster City Council, a bid to Government was made through the Housing Infrastructure Fund (HIF) which proposed a number of significant sustainable transport interventions and a reconfigured Junction 33 of the M6 to support housing growth in south Lancaster. However the prospect for these developments to generate funding, and the prospect that these could attract funding from other sources including the Housing Infrastructure Fund (HIF,) towards a number of significant sustainable transport interventions and reconfigured Junction 33 of the M6 to support housing growth in south Lancaster, provides an ideal opportunity to begin reimagining a city centre for the future.

2.1 Geographic Scope

The broad scope of this study is Lancaster city centre as shown on Figure 1 to the right. The study is mindful of developments outside this area but focuses on measures that will improve movement and the public realm in the historic and economic core of the city. As such, while it is recognised that there will be vehicular implications across the wider city these will be considered at later stage in the development of the strategy. Where necessary, however, recommendations are made for places in the wider study area and beyond if they are directly relevant to the aims of the strategy.'

Scope of the Strategy – A Qualitative Assessment

Reconfiguring the transport network within the city centre is complex and has lots of related consequences and interdependencies. Because of this, this strategy adopts a distinctly qualitative approach, that is it seeks views and comments relating to the overarching principle of the route options provided in the baseline assessment in Section 4. Based on this, we will be able to reduce the number of options and provide more detailed analysis of prospective changes to the centre and its surrounds. This will consist of detailed transport modelling that takes into account the implications for air quality as well as the transport measures proposed as part of the HIF submission. This will give a more detailed understanding of the likely impact of the chosen route options. Details of subsequent stages of this process are provided in Section 7: Next Steps.

◂ Figure 1
Geographic scope

◂ KEY
Wider Study Area
Core Study Area

2.2 Lancaster's key issues and challenges

Historically, overall movement patterns within the city centre are constrained by the structure of the city, the road network and the River Lune. Of these, the main barrier to ease of movement across all modes is the gyratory system that forms the heart of the City of Lancaster's road network. The gyratory system has major implications for congestion, air quality and severance.

Most one-way systems are a product of their time. In most cases they were implemented in the 1960s and 1970s as a solution to the increasing numbers of cars on the roads. The principal aim was to facilitate what then seemed like large increasing volumes of motor traffic around urban areas at the greatest possible speed convenience, often to the exclusion of pedestrians and cyclists. In Lancaster, various road schemes were envisaged to accommodate traffic growth, including a proposed widening of Skerton Bridge and the construction of an Eastern Relief Road around the perimeter of the city centre. However for various reasons these schemes were not delivered. The pedestrianisation of the core of the city centre and the opening of Greyhound Bridge to traffic in 1972 created the conditions for the gyratory system that we know today. The historic legacy of this is that highway interventions in the prevailing years have concentrated on traffic management rather than any consideration of the concept of place and the improvement of the physical environment.

◄ A cyclist navigates the busy gyratory at Queen Square.

◄◄ HGVs dominate the historic streets creating noise and pollution along Rosemary Lane.

◄ Narrow pavements create a challenging environment for pedestrians along King Street.

2.3 Traffic congestion, air quality, severance and climate change

Lancaster's gyratory feels noisy, polluted and an unpleasant place to be in at times and this creates a vicious circle where people feel compelled to drive because cycling and walking are perceived to be too dangerous in such a hostile environment. This compounds the problem as traffic volumes then reach levels the system was never designed to cope with and so congestion spirals.

Whilst the opening of the Bay Gateway in 2016 has improved air quality in other areas of the district it has had little impact in the city centre. Since 2004 Lancaster city centre gyratory has been designated as an Air Quality Management Area (AQMA). This means that Lancaster City Council has a responsibility under Local Air Quality Management legislation to review air quality and identify where levels exceed national objectives. As traffic is the single biggest contributor to poor air quality, it is vital that both Lancaster City Council and Lancashire County Council work together to improve the air quality in the city centre.

The current configuration of the road system in the city centre has implications for public transport too. Buses become less attractive if they are also caught up in congestion and their timetables are no longer reliable. Lancaster's gyratory system is effectively throttling the city centre, impacting significantly on ease of movement. The A6 rings the main shopping area, making access difficult for everyone and potentially dangerous for pedestrians and cyclists. Natural connections between the railway station and the castle to the west and the canal and public buildings to the east have been severed; there is no longer any clear way to navigate the city, particularly for visitors, which is a major drawback in a city with such a wealth of historic interest.

In January 2019, Lancaster City Council declared a Climate Change Emergency with the intention of being carbon neutral by 2030.

As part this declaration Lancaster City Council committed itself to:

- Set up a Climate Change Cabinet Liaison Group, involving councillors, residents, young citizens and experts from the city's two universities.
- Convene a People's Jury to help identify how city council activities can be made net-zero carbon by 2030.
- Proactively include young citizens in the process.
- Introduce climate change impact assessments, including carbon emission appraisals, in reports to Cabinet and Council.
- Support Lancashire’s Air Quality Champions network and request a city councillor to attend meetings.
- Commission a report from our pension funds and investments on levels of investment in the fossil fuel industry.
- Call upon local MPs to ensure government provides the powers, resources and funding to make this possible.

It is important that this strategy identifies and puts in place measures that can contribute to achieving this challenging target.

Finally, the COVID-19 pandemic has led to a re-evaluation in terms of how we travel, interact and work. The immediate and indeed long-term future may be somewhat different to what we have grown accustomed to. It is important that elements of this strategy can contribute towards a vision and future that allows safe movement and travel in these uncertain times.

2.4

Managing rapid growth sustainably

In its recently adopted Local Plan, Lancaster City Council outlines proposals for over 12,000 new homes and 9,500 new jobs. Lancaster already has a congested road network and these proposals will inevitably place more pressure on the transport network if travel behaviour continues as present levels. There has already been an increase in vehicular movement within the city centre.

In recent years there has been an increase in housing in the St Georges Quay area and a rapid rise in student accommodation both within and on the edge of the city centre. These developments have and will continue to have an impact on an already congested network. There are also proposals for major residential and a substantial visitor destination offers across the district, that if realised will have an impact on city centre movements.

Canal Quarter

The Canal Quarter development aims to redevelop a derelict and under-used site to the east of the city centre with the intention of unlocking significant and wide-ranging economic benefits to the city and wider district. Although still in the early stages of master planning, the City Council's Canal Quarter Strategic Regeneration Framework will form the basis for a new Supplementary Planning Document, which will be used to guide and influence future development proposals. The approach adopted by the City Council accepts far less reliance on retail development, with a focus instead towards mixed uses, including housing and business, arts, leisure and culture.

Lancaster High Street Heritage Action Zone

Lancaster has been chosen by Historic England to be one of a number of High Streets Heritage Action Zones (HSHAZ). A £2.875M programme has been developed to unlock the economic potential of an area in the north-east of the city around North Road, Lower Church Street and St Leonards Gate. The money will be used to help restore and enhance the historic character of the area, creating an attractive, engaging and vibrant place for people to live, work, trade and play through investment in buildings, spaces and activities. It is recognised that the area is currently physically disconnected from the core city area and this project aims to address this. It also complements wider aspirations to improve the public realm and the cultural offer in this part of the city, as well as contributing to the plans that are emerging for the Canal Quarter.

Lancaster Castle, Priory and St Georges Quay

Lancaster is widely recognised as a city with exceptional cultural heritage with its historic buildings and streetscape attracting large numbers of visitors each year. The Castle, Priory and the surrounding quay area are at the heart of this heritage, providing a focus for visitors and residents keen to explore the historic past of the city.

Until recently these assets were under-appreciated, with the castle in use as a prison and closed off to the public. Indeed the surrounding quay area is poorly integrated with the rest of the city offering little to the visitor economy. Lancaster City Council is keen to address this, encouraging proposals that seek to rejuvenate the historic core of the city and strengthen its position as a quality destination for both visitors and residents of the district.

In addition to this, in recent years the quay area has witnessed significant growth in housing numbers, both residential and student. With its location on the periphery of the city centre, it is important that both established and proposed developments in this area are considered as part of any movements to and within the city centre core area.

Eden Project North

Proposals for the Eden Project North located on the seafront at Morecambe are advancing at speed. The project follows on from the successful Eden Project in Cornwall and offers a major reimagining for the seaside resort for the twenty-first century. The project aims to be a major national visitor attraction and Morecambe's location in the country places it within relatively easy reach for a large number of people.

The planning process for the site began in June 2019 through the submission of the Environmental Impact Assessment Scoping Report. A full planning application for the project is due to be submitted in 2021 with the aim of opening in 2023/2024 following a two-year construction period.

A development of this scale needs to work in unison with wider travel demand and to ensure that movement within the city centre and to the site in Morecambe is fully aligned with the Eden Project North's aspirations for sustainability.

Bailrigg Garden Village

In 2017, proposals for a major new settlement at Bailrigg to the south of the city near Lancaster University were granted 'garden village status' by the government. This will be a major mixed-use development which focuses on the delivery of over 3,500 dwellings alongside employment and economic growth opportunities. A key principle for the Garden Village is to make the settlement as sustainable as possible by providing opportunities for modal shift in local transport movements between the Garden Village, including Lancaster University Campus and Lancaster city centre. To enable such development requires the delivery of a number transport interventions. These underpinned the successful bid to the government's Housing Infrastructure Fund. This funding, together with masterplanning design work and a Lancaster South Area Action Plan will unlock new high quality development for the district.

Housing Infrastructure Fund (HIF) to support development in south Lancaster

The Housing Infrastructure Fund is a government programme managed by Homes England on behalf of the Ministry of Housing, Communities and Local Government. Its purpose is to unlock the building of new homes where the key barrier to development is the lack of strategic infrastructure.

In March 2019 Lancashire County Council submitted a business case for a number of transport interventions to support the proposals in South Lancaster and in March 2020 the Government announced the prospect for the HIF to provide a funding mechanism for delivering measures outlined in this strategy.

2.5

A Transport Vision for the City Centre

In 2016 the District of Lancaster Highways and Transport Masterplan was adopted.

Prior to adoption, the masterplan underwent considerable consultation with the public, stakeholders, politicians and the wider business community. A core element of the masterplan was a vision for the city centre that aimed to reduce through traffic, increase active and sustainable travel and improve the public realm. The consultation showed that there was broad support for this vision with 61% of respondents agreeing with the intention to remove traffic from the city centre to make it a more attractive and healthier place to be. This strategy aims to build upon this. To do this it adopts the original vision for the city centre from the Lancaster Highways and Transport Masterplan.

District of Lancaster Highways and Transport Masterplan Vision for the City Centre

In 2031 Lancaster city centre is a vibrant and successful core to the district, where earlier issues of poor air quality and congestion have been tackled. Pedestrians and cyclists can move around easily and freely, through safe and attractive public spaces. This is because the centre is largely free of traffic. There is much less through traffic and most of the vehicles that do need to be there are ultra-low emission. The city has become an attractive destination for visitors from near and far.

Structure of the report

Following this introduction, the report is structured as follows:

- Section 3 provides a policy context.
- Section 4 introduces the baseline assessment, the appraisal framework methodology and an assessment of the current situation.
- Section 5 demonstrates the opportunities that would be possible within the city centre area with a reconfigured gyratory.
- Section 6 describes the partner workshop and the development of objectives to assess the different options.
- Section 7 details the different options and scores them according to the appraisal framework.
- Section 8 gives details of the next steps.

Policy Context

District of Lancaster Highways and Transport Masterplan

The masterplan set out a range of strategic and local transport interventions to address existing transport issues within the district. These included improvements to both the road network and improving opportunities to access more sustainable forms of public transport, cycling and walking. It also made a commitment to develop and implement a Lancaster City Centre Movement Strategy. The masterplan was formally adopted in 2016 after an extensive consultation exercise. Key findings from the consultation included:

- 61% of respondents to the questionnaire agreed with proposals set out in the masterplan to remove traffic from the city centre to make it a more attractive and healthier place to be.
- 87% of respondents to the questionnaire agreed that it is important to make sure that traffic doesn't rat run through residential areas.
- 67% of respondents to the questionnaire agreed that Junction 33 of the M6 should be relocated to north of Galgate to enable the removal of through traffic from the city centre and make sustainable modes of travel viable.
- 68% of respondents to the questionnaire agreed with the proposal for a South Lancaster Park and Ride/ Cycle facility at the relocated Junction 33.
- 74% of respondents to the questionnaire agreed with the proposal for a rapid transit service between Heysham and South Lancaster.
- 81% of respondents to the questionnaire agreed with the proposal for an integrated multi-use/cycling network for the district.

These important aspects are built upon within this strategy.

The Lancashire County Council (Torrisholme to the M6 Link (A683 Completion of Heysham to M6 Link Road) [Now known as the Bay Gateway] Development Consent Order 2013

A Development Consent Order (DCO) is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects. As part of the DCO for the Bay Gateway a number of complementary measures were required to either be in place prior to the opening of the road or within a specified timeframe. A key requirement of the DCO was the need to implement an

"action plan [that] must aim to prevent road traffic growth within the central Lancaster area increasing to predicted “do minimum” levels between the opening and design years of the link road (thereby negating planned relief) and contain a timetable for implementation of the measures to be carried out."

The District of Lancaster Highways and Transport masterplan began this process. However, this strategy begins to offer some detail in terms of how we could go about preventing traffic growth in central Lancaster.

Additional requirements of the DCO and how and when we will meet them are provided in the table below.

DCO Measure	How we have or will meet the DCO Measure
A review of the City Centre gyratory systems	Lancaster City Centre Movement and Public Realm Strategy
An investigation into the extension of the proposed Park and Ride network beyond the site at Junction 34 of the M6 Motorway	Draft District of Lancaster Highways and Transport masterplan 2016
A detailed feasibility study for a rapid transit route from Lancaster city centre, rail station and bus station to Morecambe and Heysham	Lancaster Bus Rapid Transit Feasibility Study 1 Options report 2016 and Lancaster Bus Rapid Transit: Study 2 Scheme Development 2018
Completed statutory consultation upon a proposal to make a traffic regulation order prohibiting Heavy Goods Vehicles (HGVs) from roads forming part of the A6 in central Lancaster and along A589 Morecambe Road east of the link road, except for access	Draft HGV Movement Strategy for Lancaster 2017

Lancaster South Action Plan Development Plan Document

Work has begun by Lancaster City Council to develop an area action plan for South Lancaster. Core ambitions for this are to help sustain and grow Lancaster University and bring forward the development of the Bailrigg Garden Village.

A significant new settlement delivering over 3,500 dwellings, the Village must meet the fullest range of housing needs over a generation with affordable housing, homes for sale, and rent and housing suitable for all life stages. The Village must also offer new opportunities for business creation and growth. The ambition is to create cohesive, balanced communities in South Lancaster that will benefit from necessary infrastructure to achieve sustainable growth in the right place, at the right time. The Village will help drive the increasing attraction of Lancaster District as a place to live, work and do business and support the full delivery of the regionally-significant Lancaster University Health Innovation Campus and any future expansion of Lancaster University.

Working together, the county and the city council will plan a village characterised by exemplary place making and high quality urban design and public realm that is capable of integrating into the countryside fabric in this urban fringe location. It will also ensure that the Garden Village, and wider growth in South Lancaster connects well with the city and surrounding settlements including Galgate and the University Campus and without detriment to either of these. It will deliver a Village where travel on foot, on cycles and buses is advantaged but car use less so, as part of a sustainably-responsible settlement that benefits from a distinct sense of place.

The city council has engaged successively with local communities, people and organisations to understand aspirations and help shape ideas for the Village. Most important it has supported the county council in its submission for substantial funding through the HIF award for transport and other key infrastructure essential to make the Village possible. Full master planning should commence this autumn which shall inform the area action plan and a distinctive design code for the village. A development start on the Village is anticipated from 2022.

A Local Plan for Lancaster District 2011-2031

Lancaster City Council submitted its draft Local Plan in May 2018. The Examination in Public was held in 2019 and in June 2020 the Plan was deemed sound and finally adopted in July 2020.. The plan will guide development in the Lancaster District until at least 2031 and proposes 12,000 new homes across the district, new housing and employment sites and the potential to create 9,500 new jobs. Transport aspects within the Local Plan have been guided by the District of Lancaster Highways and Transport Masterplan which is explicit in its encouragement for sustainable travel as a means of improving the area's local transport network. The plan identifies the core principles underpinning broad growth in South Lancaster which shall be further developed through an Area Action Plan.

Lancaster City Council Climate Emergency Declaration

In 2019 Lancaster City Council declared a Climate Emergency, the goal being to be carbon zero by 2030 regarding the city council's direct emissions. Over the next two years the City Council aims to expand its use of renewable technologies, electrification of its vehicle fleet and promote sustainable travel to staff and councillors. Whilst external aspects such as travel and transport are outside of the control of the City Council, it is the intention that aspects within this strategy will contribute to the 2030 timeframe. In addition, the recently adopted Local Plan will be immediately reviewed to ensure that policies are given further consideration in relation to addressing the impacts of climate change.

Air Quality Action Plan for Lancaster

The Air Quality Action (AQA) Plan for Lancaster is currently scheduled for production during 2020. It is the aim that the AQA Plan will closely link to this strategy, particularly for measures that will affect the Galgate and Lancaster Air Quality Management Areas. Air quality impacts were already a key consideration and we expect this to increase in response to the Covid-19 crisis as walking and cycling become ever more desirable.

Baseline Assessment

4.1 Overview of the assessment process

To inform the movement strategy a baseline assessment was carried out to review a number of previous documents both from external organisations and those that had been undertaken by both authorities. This was then followed by an analysis of existing traffic arrangements and public realm across the city centre.

Background Information reviewed:

- A Local Plan for Lancaster District 2011-2031 - Cycling and Walking Planning Advisory Note December 2019
- Canal Quarter Strategic Regeneration Framework 2020
- Creating better streets: Inclusive and accessible places, Reviewing shared space (2018) The Chartered Institution of Highways & Transportation (CIHT)
- Cycling and Walking Investment Strategy "Gear Change: A bold new vision for cycling and walking."
- Decarbonising transport: setting the challenge (Department for Transport) 2020
- District of Lancaster Highways and Transport Masterplan 2016
- District of Lancaster Highways and Transport Masterplan 2016: Consultation Report
- Footfall in Lancaster City Centre: Lancaster Bid / Lancaster City Council 2020
- Future of Mobility: Foresight report looking at the important future trends, challenges and opportunities for the UK transport system (Department for Transport) 2019
- Heysham to M6 Link Road Complementary Measures (DCO) 2013
- HGV Movement Strategy for Lancaster (draft) 2017
- Housing Infrastructure Fund Bid for 'South Lancaster Growth Catalyst' 2018
- Lancaster Air Quality Strategy – Clearing the Air 2013
- Lancaster City Council Air Quality Action Planning Update - Lancaster Air Quality Management Area 2018
- Lancaster Rapid Transit Feasibility Study 1 Options report 2016
- Lancaster Bus Rapid Transit: Study 2 Scheme Development 2018
- Lancaster City Council Climate Emergency Declaration 2019
- Lancaster Local Cycling and Walking Implementation Plan submitted draft 2020
- Lancaster Parking Strategy (emerging draft) 2020
- Lancaster Vision Transport Strategy 2006
- Lancashire Cycling and Walking Strategy 2018
- Local Transport Note 1/20 "Cycle Infrastructure Design"
- Walking and cycling: the economic benefits. Transport for London

A link to these documents, where available, is provided in the bibliography at the end of this document.

In addition to the core background data and previous studies, numerous site visits were undertaken by officers from both Lancashire County Council and Lancaster City Council to review and discuss issues relating to movement within the city centre.

4.2 Appraisal Framework

The appraisal methodology consists of five important themes.

These themes were recommended in a recent publication of the Chartered Institution of Highways and Transportation (CIHT), 'Creating better streets: Inclusive and accessible places', on the basis that they encompass most of the typical objectives of street improvements in urban centres. The aims of the five themes are summarised in the following table, together with a range of potential outcomes that might be expected and that can be measured to assess how successful a scheme has been.

These themes were suggested at the first partner workshop and received thorough support. More details are provided in Section 6.

Inclusive Environment

Perception of safety, comfort and navigating (all users), presence of vulnerable users (older people, children, disabled people).

Ease of Movement

Levels of walking, cycling and public transport use, motor traffic congestion and/or flow, number and ease of pedestrian crossing movements, level of delay to all users, pedestrian crowding.

Quality of Place (Public Realm)

Motor vehicle speed, number and severity of collisions and casualties, noise levels, air quality and other public health measures, security measures, crime and fear of crime.

Safety and Public Health

Space available for place activity, attractiveness (e.g. paving materials, planting, public art), suitability of materials over lifetime of scheme, amount of useful street furniture, amount of street clutter, quality of maintenance and cleansing.

Economic Benefit

Pedestrian footfall, number and prosperity of businesses (e.g. reduced vacancies, increased rental values etc.), car parking occupancy, cycle parking occupancy, benefit and cost assessment, frequency and type of special events (e.g. markets, performances).

4.3 Review of the existing situation

The following section summarises our analysis of the existing situation in the study area against the five appraisal themes.

Inclusive Environment

Recent improvements that have aimed to increase the inclusive environment of the city centre area can be attributed to the Lancaster Square Routes project. The first phases of the Square Routes project took place in 2011 and 2012 in Market Square and Ffrances Passage. Key elements of this work involved the removal of the fountain in Market Square, extensive resurfacing and improved lighting. The second phase of the Square Routes project took place in 2013 and 2014 and delivered a new centrepiece for Market Square, further resurfacing in the wider pedestrian zone, alongside improved street furniture and signage. The Square Routes ambitions extend further but to date haven't been implemented.

Whilst the Square Routes project has been successful in rejuvenating the inclusive environment of the city centre core, on the edge of this area and in particular where the gyratory intersects with the city centre, footways are narrow and volumes of traffic do not make walking a particularly pleasant experience. The area of King Street opposite the Assembly Market is very poor with narrow footways, further compounded by protective barriers making it all but impossible to walk along in anything other than single file. This is particularly problematic for anybody who is visually or mobility impaired.

Further problems in terms of providing an inclusive environment are also apparent at the King Street/ Penny Street Bridge junction. This is a particularly confusing environment for pedestrians, cyclists and other vulnerable road users as priority is given to vehicles, making crossing Penny Street to King Street a particularly unpleasant experience.

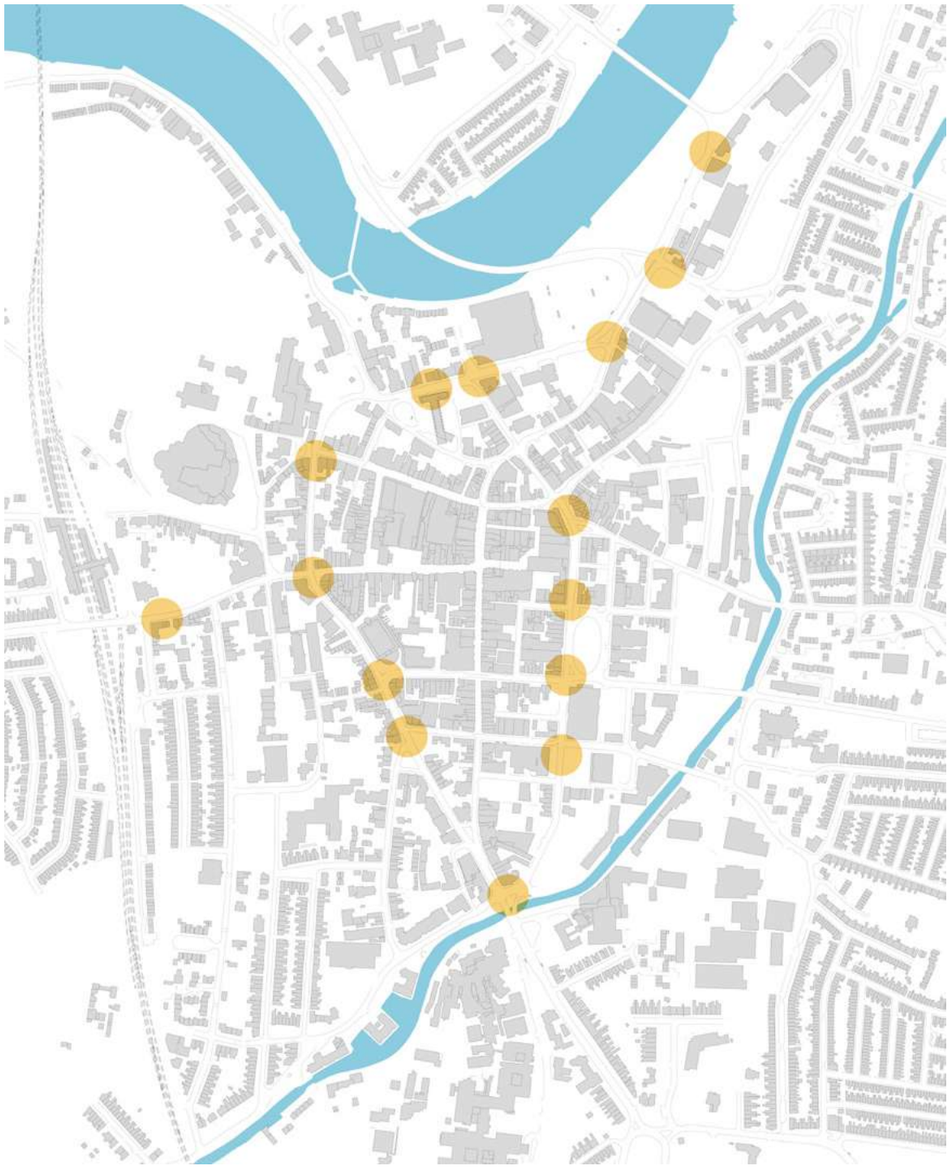
This is further compounded as vehicles accessing the gyratory from the west of the city at Penny Bridge often weave lanes to access Penny Street to loop around the gyratory to head south. The gap between Penny Street and King Street is relatively wide with considerable parking and a taxi rank adding to the confusion and presenting significant problems crossing the space for onward movements along King Street. To cross King Street in the same location is also difficult due to the large gap between crossings. This is increasingly a problem as a large student accommodation block and retail unit have opened in recent years on the western side of King Street, adding increased footfall to this part of the city.

Crossing the gyratory is problematic. Whilst there are a number of crossings these do not always meet desire lines and often crossings are a considerable distance apart. Fig 2 shows the location of pedestrian crossings on the gyratory.

Whilst the core area of the city centre is pedestrianised, a high volume of servicing and deliveries within this area presents problems for all pedestrians, but especially those who are mobility or visually impaired. Within the pedestrianised area, a Traffic Regulation Order permits access at any time for Blue Badge holders to Market Street and Upper Church Street where they can use the marked bays behind the museum, along New Street and Church Street. Exemptions also exist for Royal Mail, bullion drivers and emergency services.

◄◄ Multiple lanes and a taxi rank create a confusing environment at King Street/ Penny Street.

◄ Narrow pavements along King Street opposite the Assembly Markets



◄ Figure 2
Pedestrian and Cycle Crossings

COVID Cycle Lane on South Road ►

COVID-19

The COVID-19 outbreak is leading to a re-evaluation in terms of how cities allocate space to pedestrians, cyclists and vehicles and this has implications for how we need to think about a city centre that enables a truly inclusive environment. The current need for social distancing is placing pressure on current infrastructure that was not put in place with such requirements in mind. The majority of pavements do not allow enough space for pedestrians to pass without using road space. Likely restrictions on numbers of people allowed on public transport will also have implications in terms of how people travel to and from cities and town centres. We do not want car use to replace public transport journeys; so there needs to be a shift towards either walking or cycling for those relatively short journeys. However, for this to work, good quality infrastructure that encourages new users to shift modes needs to be in place to present cycling and walking as the preferred option.

The Government is keen to implement infrastructure that offers the opportunity of both dealing with the challenges that the current phase of the pandemic is bringing as well as set a precedent for change in terms of local mobility for the future. To support this, the Government recently announced a fund of £250 million as part of the emergency Active Travel Fund. The purpose of the fund is to support local authorities to make significant changes to their road layouts to give more space to cyclists and pedestrians. To support this, Lancashire County Council was allocated £3.5 million to support the delivery of active travel measures across Lancashire. £700k was set aside for immediate temporary infrastructure, with the remaining funds to be spend on permanent long term measures. Lancaster was one of the first districts in the county to benefit from the funding, with a temporary cycling lane segregated by bollards installed on South Road.

As well as providing a safer environment during the pandemic, temporary measures also offer the benefit of providing an environment to increase and encourage greater uptake in active travel. This places greater importance on providing improved permanent measures to support and increase further uptake. Many of the aspects highlighted within this strategy are in complete alignment to the proposals set out in the emergency active travel fund. Further to this they also fully aligned to recently published De-carbonising Transport: setting the challenge from the Department for Transport which is explicit in its support towards a shift away from vehicles to sustainable travel, for example “Public transport and active travel will be the natural first choice for our daily activities. We will use our cars less and be able to rely on a convenient, cost-effective and coherent public transport network”.

It is important that any future measures build upon the goodwill and support established as part of the temporary measures already implemented and genuinely offer sustainable travel as the natural and preferred option for travel in the city centre area.

◄ Lancaster Bus Station

Bus Station

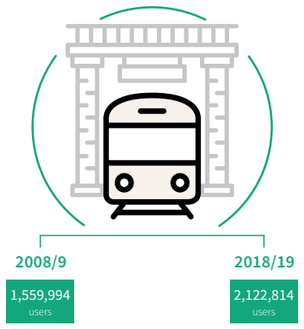
A key aspect of an inclusive environment is one where public transport is available and serves the needs of the most vulnerable. Lancaster Bus Station is situated on the western arm of the gyratory on Cable Street. The station was re-built and opened in 2001, is staffed full-time, completely covered and consists of 20 stands, a travel centre, a refreshment kiosk, on site toilet facilities and an electronic passenger information board. Directly outside the bus station is Lancaster's main taxi rank.

The bus station acts a central hub for the district and provides services to areas around Lancaster, Morecambe, Heysham and Carnforth. It also serves longer journeys to Preston, Blackpool, Knott End, the Yorkshire Dales and the Lake District via the popular 555 service.

Whilst the bus station is located within the city centre, it does not occupy a central position (unlike for example, Common Garden Street) and its usefulness as an interchange for the city centre is slightly diminished as a consequence. In recent years the area around the bus station has suffered, most notably from the flooding that occurred as part of Storm Desmond in December 2015. As a result of this, the area has a high number of vacant and derelict properties. Desire lines between the bus station and the retail area are not met and it is a considerable distance for those with mobility needs to access the other areas of the city centre. The core centre of the retail area is best served by the bus stops on Common Garden Street.

Due to their respective locations, interconnectivity between the railway station and the bus station is poor with the two stations situated over a half a mile apart with some relatively steep gradients in between. As a result it is very unlikely that passengers with any form of mobility issue or those carrying luggage would transfer between the two stations.

Lancaster Railway Station ►



Lancaster Railway Station

Lancaster railway station is located to west of the city centre in the immediate vicinity of the castle and within 5 minutes walking distance of the core retail area. Due to high levels of traffic along Meeting House Lane and the crossing of the gyratory at King Street and China Street, this is not a particularly pleasant experience for pedestrians and cyclists. There is potential to reroute visitors to the town to access the retail area via the castle district, although this does involve a relatively steep gradient and may not be suitable for those with mobility issues.

Passenger usage at Lancaster railway station has risen steadily over the years, with figures of 1,559,994 in 2008/9 rising to 2,122,814 in 2018/19. Lancaster is on the West Coast Main Line and as a result has excellent strategic rail connectivity, with both London and Glasgow or Edinburgh within well under 3 hours. Regional connectivity is also good with the Bentham Line providing connectivity to Leeds and the rural hinterland between. Services also serve Barrow and the Cumbrian coast and the station also serves the immediate district with an hourly service to Morecambe and Bare Lane.

Cycling provision at the station is relatively good with a significant amount of cycle storage. Unfortunately, secure cycle lockers that were provided as part of Lancaster's involvement in the Cycling Demonstration Town project were recently removed and replaced with vertical cycle storage. Given the number of cyclists using the railway station, it should be feasible for some form of cycling hub similar to that in Preston to be incorporated within the station. Whilst the station buildings are in reasonable condition, there is a surplus of underused space which could be repurposed to provide such a function.

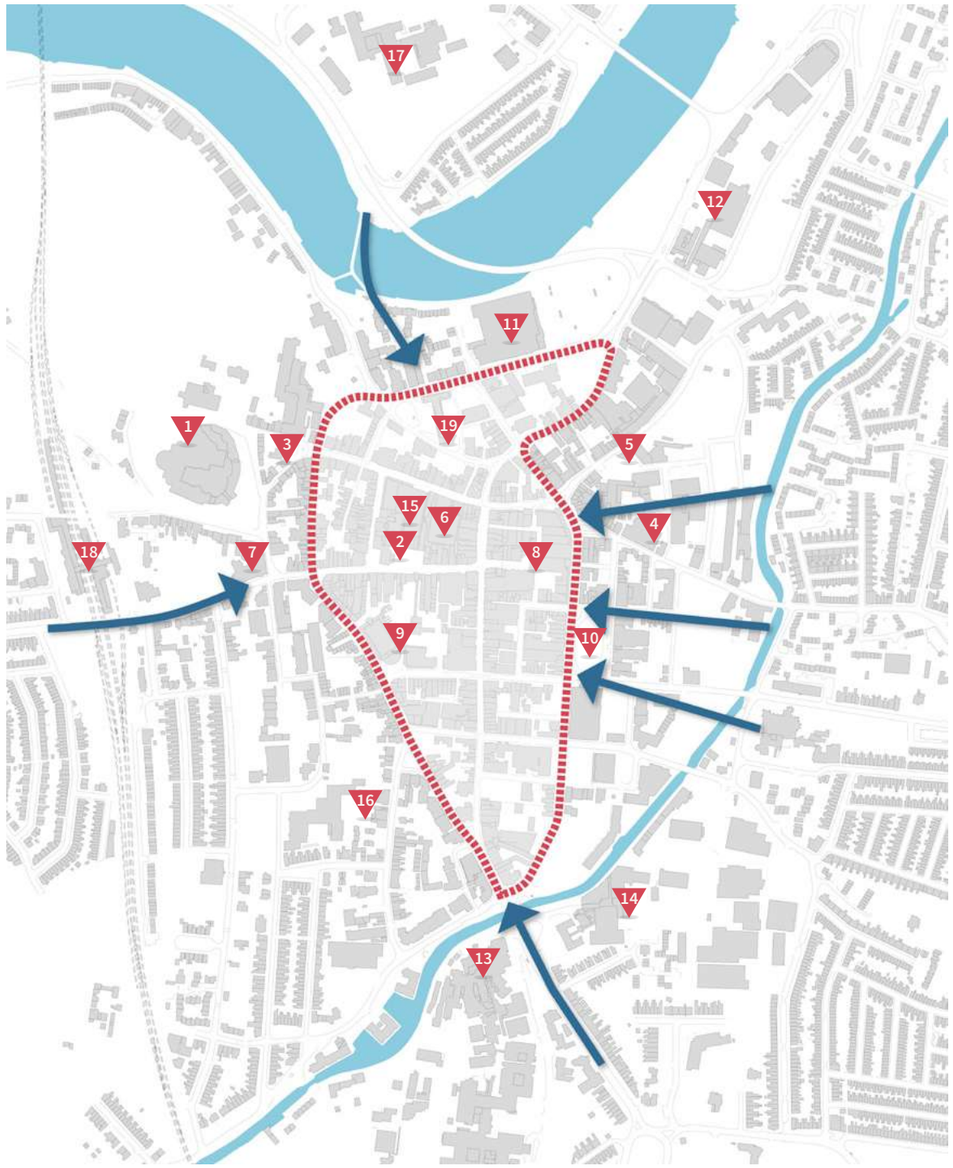
Whilst the station has ready access to a traffic free cycle route that leads towards the River Lune and Millennium Bridge, with onward cycle routes to Morecambe and the Lune Valley, this has recently been locked due to security concerns, so now cyclists must access the station with all other users. From the western exit, signage is poor in terms of linking up to the nearby traffic free route and not a particularly good experience for cyclists visiting the area. This is unfortunate as the station is a key hub for cycle tourists visiting the area to ride the Way of the Roses coast to coast cycle route.

Implications for city centre movement and public realm strategy

- The gyratory creates a significant barrier between residential areas and the city centre core; this is compounded for those who are mobility or visually impaired.
- Elements of the western arm of the gyratory are not fit for purpose regarding pedestrian movements.
- Current crossings of the gyratory do not meet desire lines.
- HGV access and blue badge parking present problems of movement for vulnerable pedestrians within the city centre.
- Short term Covid-19 active travel measures offer an opportunity to establish behaviour change and modal shift for journeys into and through the city centre.
- The bus station does not serve the city centre well and the distance to the railway station limits any transfer between modes.
- Access from the railway station into the city centre is poor with a lack of priority for pedestrians leading to congestion at King Street/Meeting House Lane Junction.
- To access the residential and industrial areas to the west of the gyratory (including tourism hubs such as Lancaster Castle and sustainable transport hubs like the Railway Station), a journey around the majority of the gyratory network is often the outcome.

◂◂ A large HGV turns a tight corner onto Meeting House Lane at a key pedestrian gateway into the city.

◂ A cluttered and car-dominant gateway at Penny Street Bridge.



◂ Figure 3 *Pedestrian Movements*

Ease of Movement

Overall movement patterns within the city have been dictated by historical decisions that have prioritised vehicular traffic, often to the detriment to the quality of place. The main movement corridors into the city centre by vehicular traffic are the A6 (north and south), A588 where it meets Pointer Roundabout, A589 from the west and the A683 from the north. In the city centre all routes merge into the A6 which then splits around the city centre area forming the Lancaster gyratory.

Walking Key Gateways

There are a number of principal pedestrian gateways into the city centre. From the south, the key gateway is from South Road to the Penny Street Bridge Junction and then on to Penny Street. Whilst significant work has been carried out at this junction in recent years, its primary function is to facilitate movement of vehicles. Because of this key natural assets of the city such as the canal are severed. The current configuration, whilst offering reasonable pedestrian movements north and south, is particularly poor for west to east movements due to a lack of crossings. Ease of movement is further restricted by street clutter such as signage and crash barriers signifying the binary division between vehicle and pedestrian with priority very much set towards vehicles.

From the west, the key gateway is via Meeting House Lane, Market Street and crossing King Street. For such a significant gateway into the city linking the retail core with the castle and railway station, the junction between Market Street and King Street provides a very poor pedestrian environment. This is due to HGVs turning left off the A6 into Meeting House Lane to access the Lune Road Industrial Estate. Often larger HGVs need to straddle both lanes to create enough of a turning circle to make the turn into Meeting House Lane (but still occasionally overrun the pavement).

This is further compounded through the current pedestrian crossing arrangement which offers little prioritisation, with pedestrians having to cross on the southern side of Meeting House Lane. This poor junction prioritises motorised traffic at the expense of people at what is one of the most significant pedestrian gateways into the city.

From the east, the key gateways are from East Road, Moor Lane and the crossing at the Stonewell Nose. These represent the key crossing points for residents and visitors entering the city from the east. It is also significant as a link to the key cultural assets of the Dukes Playhouse and The Grand Theatre. It would also be the key crossing point to serve the emerging Canal Quarter aspirations. A significant amount of space is dedicated to highway and this presents problems with parking on Moor Lane. Whilst the bottom of Moor Lane is atheistically pleasing it does not represent a particularly pleasant environment for pedestrians or cyclists. The link over to Church Street is also confusing with the allocation of cycle space particularly problematic and creating potential conflict between pedestrians and cyclists. Church Street is also the entry point to the St Nics' Shopping Centre car park and again conflicts with pedestrians and cyclists on the key route into the retail core.

The gyratory forms a significant barrier between the city centre and the emerging Canal Quarter development site ►

A confusing and dangerous environment for pedestrians at the southern end of Chapel Street ►►

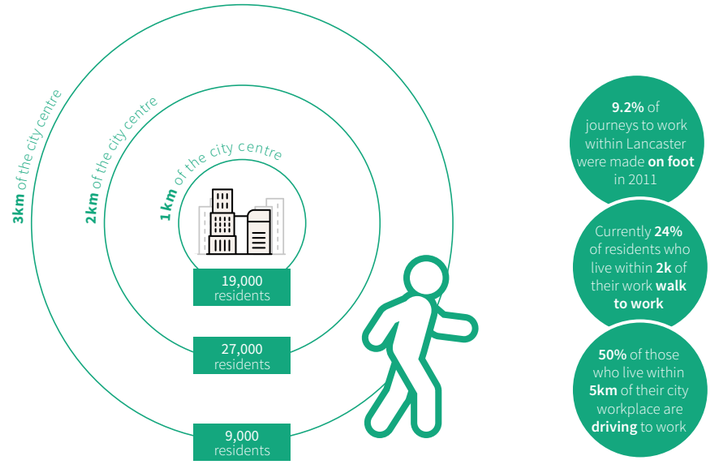
Further south along the gyratory is Dalton Square. The Square occupies an important position within the city, fronting the impressive Lancaster Town Hall and providing pedestrian and vehicular access from the east of the city via East Road. It also provides the city with one of the few public spaces within the centre, which has been used to its full potential in recent years during the Christmas period to provide ice skating ('Lancaster on Ice') and ancillary attractions. As well as being one of the main public spaces in the city centre, it is also a main crossing point to access the core retail area via Brock Street (to the south) and via Gage Street (to the north), both of which are accessed via crossings. Due to the amount of space allocated to pedestrians and the open environment of the square this is one of the more pleasant environments on the gyratory. However the gyratory still severs this key area, which in many respects is an underused asset of the city.

From St Georges Quay area, the main crossing is at Cable Street adjacent to the bus station. However, the desire line between St Georges Quay and the city centre is via the area known as Fleet Square where the taxi rank is located. The current crossing provision does not meet desire lines with pedestrians often crossing at the junction of Bridge Lane and Damside Street, which has safety issues due to the gradient and speed of cars on the gyratory. Whilst there is a large amount of pedestrian space on the western side of the gyratory, this is poorly designed with an underpass limiting use.

From the north the Millennium Bridge provides excellent pedestrian access with the main route into the city centre via Water Street, crossing Cable Street then on to Chapel Street. The southern end of Chapel Street is particularly poor for pedestrians with right hand bus turns accessing the bus station blocking desire lines. The entire street has a feeling of severance from both the retail core at Cheapside and the Millennium Bridge.

However, work is underway to mitigate against this. Through their recent successful bid, Lancaster City Council have deemed this area as a High Streets Heritage Action Zone (HSHAZ) which aims to revive the key historic assets in the areas of North Road, Lower Church Street and St Leonards Gate. It also looks to address severance and tackle the disconnection of the area from both the core retail area and the cultural assets of the Grand Theatre and Dukes Playhouse as well as contribute towards wider aspirations at the Canal Quarter.

The key pedestrian gateways are illustrated in Figure 3 on the previous page.



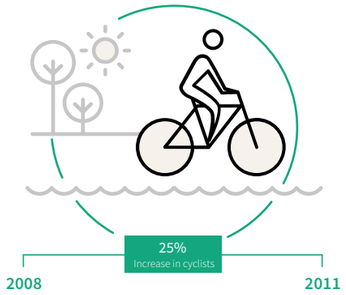
Walking as an active travel mode in Lancaster City Centre

Despite the restrictions the gyratory places on pedestrian movements, Lancaster city centre has a walkable human scale and is generally flat. Nearly all journeys to and in the city centre involve some walking and the city's heritage and environment is best enjoyed in this way. The 2011 census shows that 9.2% of journeys to work within Lancaster were made on foot, against a national average of 6.9%.

This is in part due to the compact nature Lancaster and in particular numerous residential areas on the periphery of the city centre. For example, figures from the Office for National Statistics workplace dataset (2011) show that, 19,000 residents live within 1km of the city centre, a further 27,000 within 2km of the city centre and a further 9,000 within 3km of the city centre. This means that over half of the entire district, 55,000 residents, live within 3km of the city centre.

Of those residents who work in the city centre (13,773 residents) 35% live within 2km of their workplace and 22% within 2- 5km of their workplace. Of those, currently 24% walk to work. 50% of those who live within 5km of their workplace in the city centre are driving to work.

Whilst there is undoubtedly a base to build upon in terms of making walking the preferred option for short journeys and accessing the city centre for those in relatively close proximity, the current configuration prioritises vehicles over people. Because of this, key interfaces between the city centre and the main pedestrian gateways are currently restrained and don't offer a sense of prioritisation for pedestrians. As a result of this even short journeys by foot are not seen as an attractive option.



During this period, accidents to cyclists **declined by 25%**

Only **2.5%** of residents are currently **cycling to work**

For those who live and work within **5km** of the city centre only **4% cycle to work**

Cycling

Lancaster district has seen an increase in cycling since 2008, the main driver being the City of Lancaster and Morecambe's status as a Cycling Demonstration Town (CDT) between 2008 and 2011. During this period, cycle use across the district rose by 25% whilst accidents involving cyclists declined by 25%. Unfortunately, cycle rates across the district peaked in 2015/16 and since then there has been a significant decrease.

Due to the self-contained nature of the Lancaster labour market and its compact nature, cycling should be the preferred option for relatively short journeys. However only 2.5% of residents are currently cycling to work. For those who live and work within 5km of the city centre only 4% cycle to work.

Whilst cycling infrastructure is good especially to the north of the city, it is inadequate within the city centre area. The main access route for cyclists from the north is via Water Street, crossing Cable Street then on to Chapel Street. Whilst there are restrictions on traffic accessing Chapel Street, this is not enforced and is a recognised problem with rat running. Whilst some prioritisation has been put in place it isn't a particularly pleasant environment for cyclists. At the northern end of Chapel Street cyclists must cross the gyratory to access the Millennium Bridge. The southern end of Chapel Street is very poor for cyclists as the main route into the bus station crosses cyclist desire lines. This is disappointing as it should be the principal gateway for cyclists entering the city centre from the north and for those from the south accessing the high quality traffic free infrastructure by the river.

Access to and from the west of the city and the railway station is also problematic with the majority of journeys requiring some interaction with the gyratory. Although a good desire line exists between Middle Street, Fenton Street and Dallas Road to access the railway station this is not fully utilised. Middle Street is two-way for cyclists although this is not a particularly pleasant environment for cyclists in part due to rat running. Similarly, cyclists heading east via Middle Street have no other option than to use the gyratory.

Access for cyclists from the south is also poor. Access is via South Road and then onto the gyratory at the Penny Bridge Junction. Whilst the recent addition of cycle lanes along South Road as a result of the Covid-19 offer some level of priority, from Penny Bridge cyclists must use the gyratory. Although some measures are in place such as on-road cycle lanes and advanced stopping areas at traffic lights this is far from ideal and is unlikely to be used by anyone but the most committed and experienced cyclists. Any journey that involves any interaction with the gyratory is unlikely to make any less experienced cyclists even contemplate modal shift.

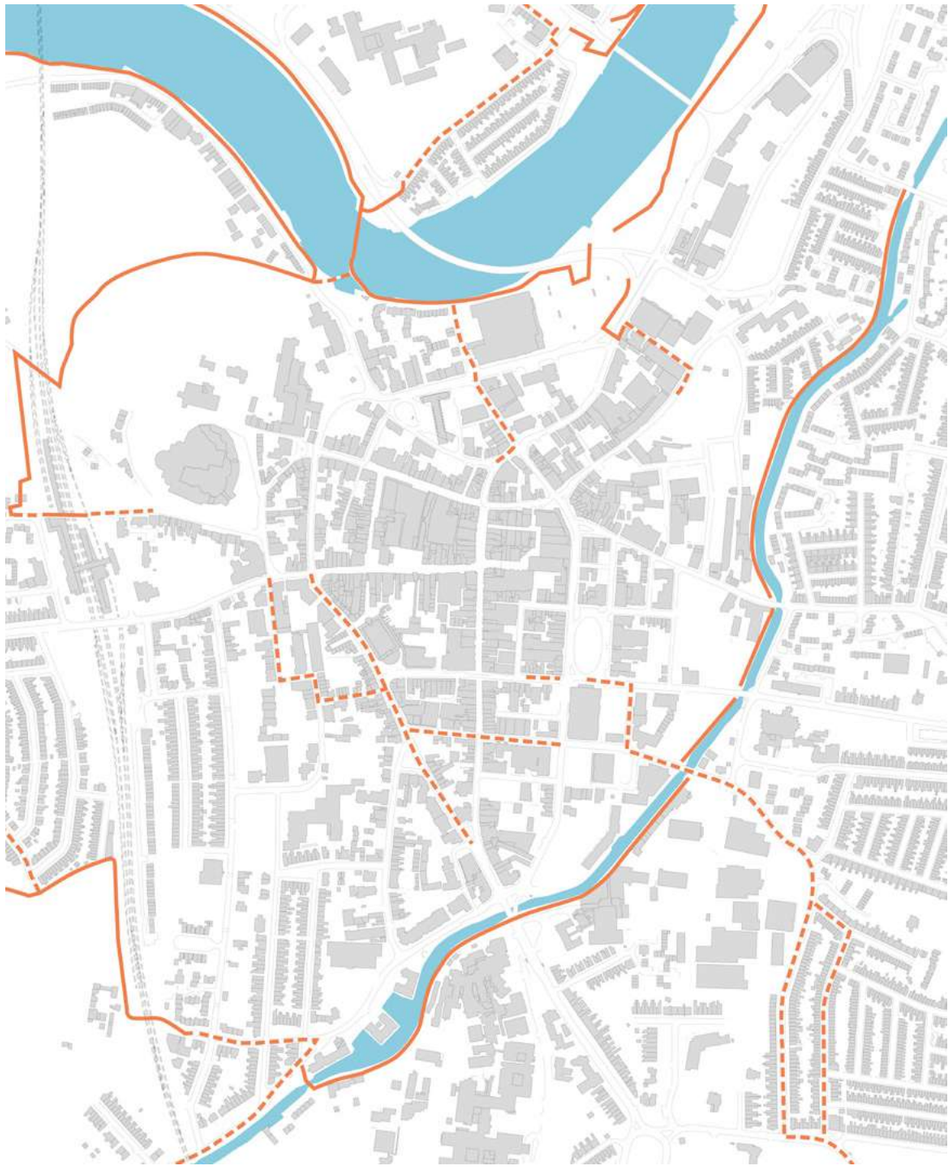
Similar issues exist for cyclists in the east of the city. To head north is problematic with very little option other than following the gyratory and its one-way routeing. Although there are some limited priority measures they offer little incentive for the cyclist. There is some provision around the St Leonards Gate area to access the River Lune cycle path, but this is relatively piecemeal and offers very little in terms of prioritisation.

The route options outlined in Section 6 provide a variety of options for improving through journeys in the city centre for cyclists.

The fragmented and piecemeal nature of cycling provision, particularly in the core study, is indicated in figure 4.

◂◂ The Millennium Bridge offers excellent cycle connectivity between the north of the city and the national cycle network.

◂ The underutilised cycle lane along Middle Street.



◂ Figure 4
Cycling Provision

Lancaster Cycling Hub

In order to support and encourage modal shift Lancaster City Council are looking at the feasibility of establishing a cycle hub within the city centre. Cycle hubs commonly feature secure cycle parking but can also provide changing facilities and are often co-located with cycle shops offering repairs and/or cafes. Significant redevelopment opportunities are coming forward within the Canal Quarter, where a cycle hub could be co-located as part of a wider redevelopment. Cycle hubs commonly form part of established transport nodes and Lancaster railway station could potentially extend its existing provision (currently limited to cycle rack parking) to include more secure and accessible parking facilities. Facilities at Preston station provide a successful model. Cycle hubs usually include membership fees that can contribute to maintenance costs with initial establishment costs often provided by DfT funding with Local Authority support. In the first instance the City Council intends to carry out feasibility work to consider locations and potential delivery and management options.

National Cycling and Walking Investment Strategy

In 2020 the government published their Cycling and Walking Investment Strategy "Gear Change: A bold new vision for cycling and walking." The strategy presents the recent Covid-19 restrictions as a catalyst for change, representing the change to work patterns and travel behaviour as a once in a generation chance to accelerate active travel. It outlines the benefits of active travel as a route to improving air quality, combatting climate change, improving health and wellbeing, addressing inequalities and tackling congestion on roads. A key aspect in achieving this change is the recognition for good well designed infrastructure. To achieve this the government published supplementary Local Transport Note 1/20 "Cycle Infrastructure Design" in July 2020. The purpose of the note is to provide guidance and good practice for the design of cycle infrastructure, in support of the Cycling and Walking Investment Strategy. It is important that any new cycling infrastructure implemented conforms to the guidance set out in this note.

Lancaster Local Cycling and Walking and Implementation Plan (LCWIP)

LCWIPs, as set out in the Government's Cycling and Walking Investment Strategy, are a new strategic approach to identifying cycling and walking improvements required at the local level. They enable a long-term approach to developing local cycling and walking networks, ideally over a 10-year period, and form a vital part of the Government's strategy to increase the number of trips made on foot or by cycle.

With their more strategic intention, LCWIPs can be seen as a response to the relatively poor levels and integration of cycling infrastructure implemented in recent years. Previously cycle infrastructure was implemented as part of planning obligations for large developments. Unfortunately these were often piecemeal with insufficient consideration to wider strategic movements and no consideration to linking already established or proposed cycling infrastructure.

Lancaster is one of the first districts in Lancashire to benefit from a LCWIP, although still currently in draft form it provides the following:

- A prioritised programme of infrastructure improvements for future investment
- A report which sets out the underlying analysis carried out and provides a narrative which supports the identified improvements and network
- Identifies cycling and walking infrastructure improvements for future investment in the short, medium and long term
- Ensures that consideration is given to cycling and walking within both local planning and transport policies and strategies
- Make the case for future funding for walking and cycling infrastructure.

Analysis within the LCWIP has provided a list of interventions across the district, recommending the following new cycling provision along the A6:

- At city centre gyratory to Pointer Roundabout
- At junctions at Pointer Roundabout to Hala Road junction
- At junctions at Hala Road junction to University

The interventions above are an important factor in developing new cycling infrastructure that serves key areas of the city. This was a key finding from the consultation carried as part of the District of Lancaster Transport and Highways Masterplan where 81% of respondents to the questionnaire agreed with the proposal for an integrated multi-use/cycling network for the district.

Cycle Superhighway

Aspects within the HIF submission support a route to delivering the measures outlined above in the LCWIP. The interventions form the basis of a proposed cycle superhighway that would be part of a wider sustainable travel corridor that would link the South Lancaster Growth Area and Lancaster University with the city centre. The principle behind a cycle superhighway is to prioritise cyclists through good infrastructure that enables quicker journeys and increases safety and perceptions of safety. Typical measures incorporated as part of cycle superhighways include the separation from traffic through segregate cycle lanes with key infrastructure prioritising cyclists at major interchanges. Key infrastructure like this would provide the basis for active travel journeys between Lancaster University, the Garden Village and the city centre.

Bus Services

Bus services within the Lancaster district are extensive, with a single operator responsible for the majority of services (Stagecoach Northwest). Of people working in the city centre, currently 12% travel to work by bus. Buses operating between the city centre and university campus are already running at capacity at peak times during term times. Demand is likely to increase significantly as major developments in student accommodation within and on the periphery of the city centre open.

Whilst provision is deemed good, routeing within the city centre is time consuming with buses forced to make multiple loops on the city centre gyratory to serve both the bus station, which is located between Damside Street and Cable Street, and the major stops serving the retail core of the city at Common Garden Street and George Street. Similarly there is very little in terms bus priority within the city centre making journey times and reliability a considerable issue in light of the acknowledged lack of resilience to the gyratory system. These issues all impact on the attractiveness of bus use to patrons, add to congestion in the city centre and impact on air quality and quality of place. Figure 6 shows current bus movements within the city centre.

The Bay Gateway Development Consent Order mandated Lancashire County Council to open a Park and Ride service at Junction 34 of the M6. The Park and Ride site offers 650 free parking spaces and adult return bus fares of £1.60 with significant reductions for group and weekly tickets. The service currently offers a frequency of every 30 minutes between 7am until 7.30pm on weekdays. Despite growing patronage since its opening, the service struggles due to both a lack of frequency and the high amount of relatively cheap parking provision in the city centre.

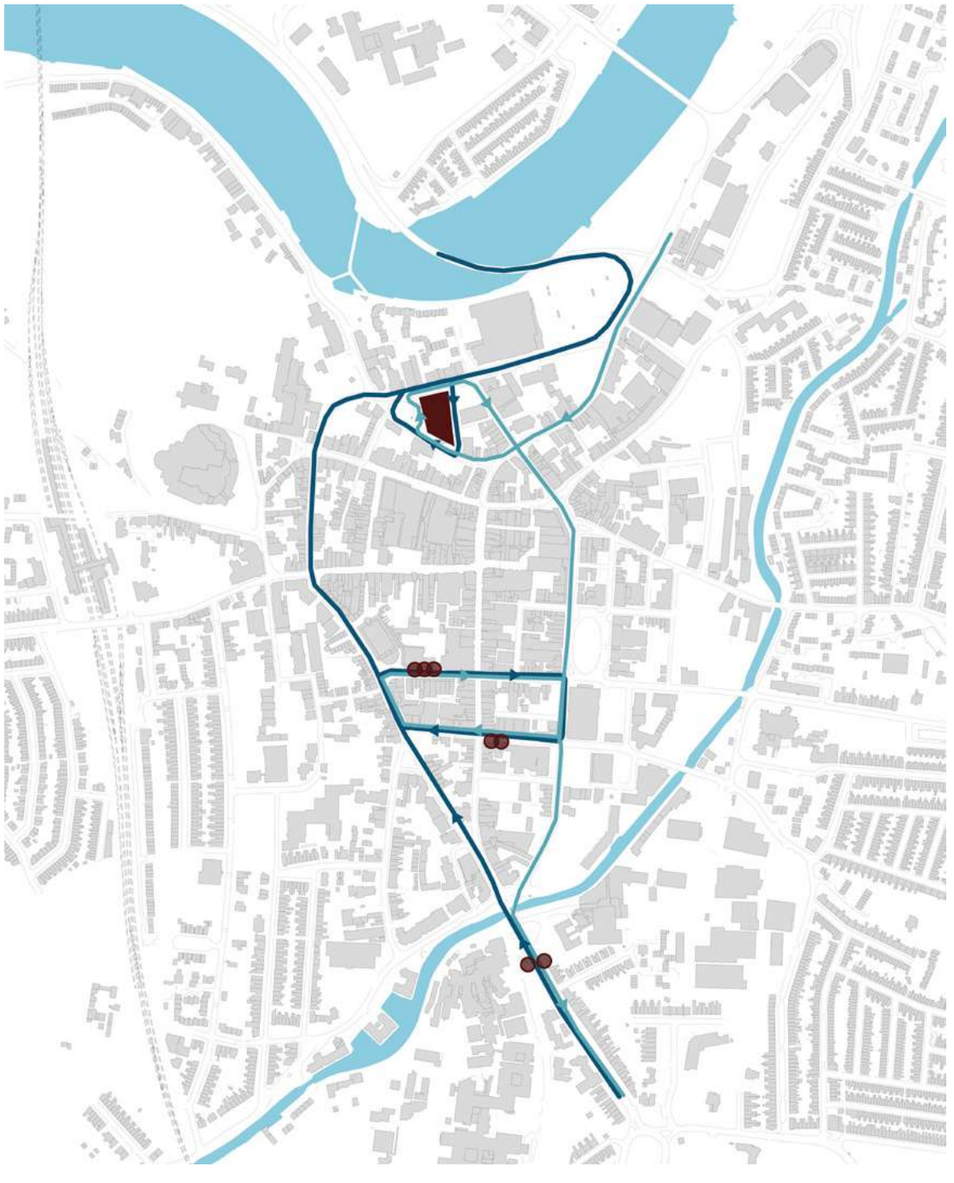
Lancashire County Council and Lancaster City Council are working together with external partners such as the NHS to encourage staff use and increase service frequency.

Bus Rapid Transit System

A further key aspect of the Bay Gateway Development Consent Order was a requirement for a detailed Feasibility Study for a rapid transit route from Lancaster city centre, rail station and bus station to Morecambe and Heysham. Recommendations for a rapid transit service were included as part of the District of Lancaster Highways and Transport Masterplan consultation with 74% of respondents to the questionnaire agreeing with the proposals for a service between Heysham and South Lancaster. In line with the measures within the masterplan, this was extended to take in the A6 corridor to Lancaster University and the Park and Ride at Junction 34. A feasibility study was completed in 2016 that concluded that a Bus Rapid Transit (BRT) system would be the optimal solution to provide improvements to public transport provision in the district and in particular along the A6 corridor. Following on from the feasibility study, a second study looked at potential route options throughout the district. The study identified that more direct and dedicated bus provision would be optimal to strengthen existing use patterns and support future developments but recognised that options for the city centre are complex and need to be tested in a comprehensive movement strategy for the area. The recent HIF submission provides a delivery mechanism to take these aspirations further.

◂◂ Lancaster Bus Station

◂ Bus Stop on Queen Square



◂ Figure 6 *Current Bus Movements*

Motor Traffic

Due to the gyratory system that surrounds the city centre, motor traffic has a significant effect. As the gyratory is the A6, it forms a key route through the city centre. Many vehicles travelling through the city do not want to be there, they are merely using the road for onward journeys, often through the city or to access the western side of the gyratory. To facilitate this onward travel, the gyratory enables numerous shorter loops, whilst this shortens journeys for vehicles it means that it impinges on key areas within the city centre, again prioritising vehicular movements. In addition to this, the majority of residents to the west of the city centre need to access the gyratory to travel for any journey. Again this adds to traffic on an already significantly congested network. Figure 5 illustrates current vehicular movements on the gyratory.

The opening of the Bay Gateway in 2016 has led to a reduction of flows on the majority of routes on the periphery of the city centre, however traffic has increased within the city centre. The amount of traffic in the city centre detracts from the quality of place and impacts on how people utilise the available space. Currently there is a significant binary division between places for people and places for traffic; the current situation is to the detriment of people and therefore in turn detrimental to the perception of Lancaster as an attractive and pleasant place to visit.

The prevention of the growth of traffic in the city centre was a requirement of the Bay Gateway DCO and as a result this was a key aspect of the District of Lancaster Highways and Transport Masterplan. As part of the consultation process carried out as part of the masterplan we found that 61% of respondents agreed with our intention to remove traffic from the city centre to make it a more attractive and healthier place to be. To reduce city centre traffic the masterplan proposed that Junction 33 of the M6 should be relocated to north of Galgate. As part of the consultation 67% of respondents to the questionnaire agreed with the proposal. A relocated junction offers the potential to reduce journeys through the city centre, particularly for residents in south Lancaster looking for onward journeys via the M6. Currently, the majority of south Lancaster residents use Junction 34 for north bound journeys on the M6. The HIF submission offers a delivery mechanism to achieving a relocated Junction 33.

Electric Vehicle Charging

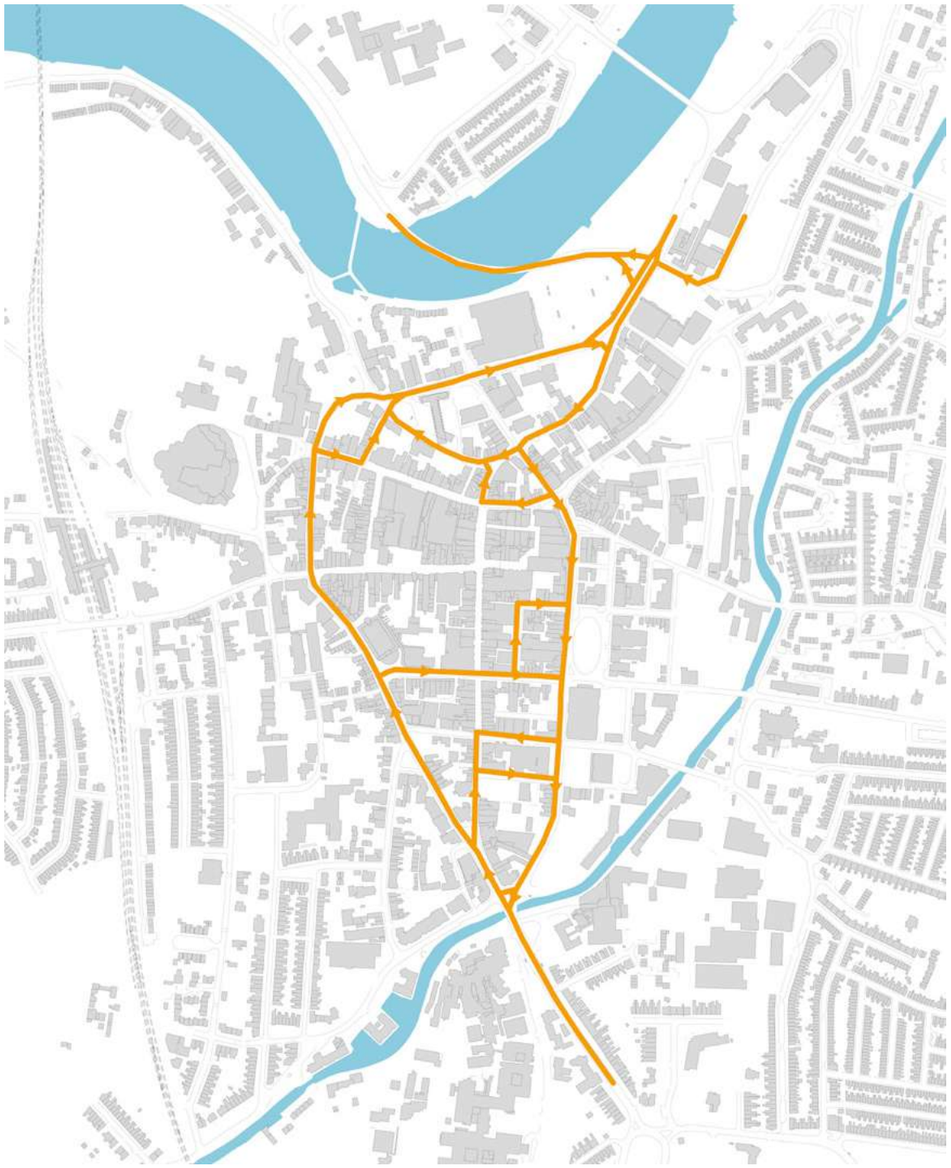
A steady roll out of electric vehicle charging points is currently underway throughout the Lancaster district. Both Lancashire County Council and Lancaster City Council are installing a variety a different charging facilities that can offer either a full recharge in under one hour to others that take 2 hours and longer. Lancashire County Council is providing charging facilities at an initial 150 parking bays, either at the side of the road or in car parks. They have also installed 12 charging points, including 6 rapid chargers, at Junction 34 Park & Ride. In addition to this Lancaster City Council offer charging points within the city centre at Upper St Leonardgate Car Park, Charter House Car Park and the Auction Mart Car Park. Four charging points are also in the process of being installed specifically for taxis in the district.

Pointer Roundabout

In 2018 Lancashire County Council was successful in securing £7.9 million in funding from the DfT's Safer Roads Funding scheme. Of the allocated funds, £750K has been allocated for measures to improve safety on the Pointer Roundabout. The objective of the measures for Pointer Roundabout are to take a proactive stance to reduce future collisions for all users and to implement actions and infrastructure that can lead to a reduction to the high number of accidents involving cyclists. Due to its location as a key gateway for travel to and from the city centre, it is important that potential measures conform to the recommendations of this strategy and are in line with the variety of measures proposed in the HIF submission such as the Bus Rapid Transit (BRT) and the Cycle Superhighway. These measures together with the infrastructure and services proposed as part of the HIF submission would provide a safer environment along the A6 and pave the way for an opportunity to transform it into a key sustainable travel corridor between the city, university and Garden Village.

◂◂ Congestion at King Street/Penny Street.

◂ Congestion at Queen Square.



◂ Figure 5
Current Vehicle Routes

◂ KEY

Existing routes for all traffic

256
Listed Buildings

Quality of Place (Public Realm)

A consortium of 13 cities in England have formed a partnership of destinations known as 'England's Historic Cities'. Lancaster is one of those cities. The purpose of the partnership includes a desire to raise the profile of England's heritage product and to facilitate joint activity, with the intention of maximising the potential of the cities' visitor economies. Lancaster's rich and varied character includes Roman occupation and its development has left an enviable legacy of buildings such as Lancaster Castle, Lancaster Priory (formerly the Priory Church of St Mary), and the Judges' Lodgings. Despite this, there is a recognition that the city does not utilise its historic and architectural assets as fully as some of the other 13 Historic Cities (such as York and Chester) do. In many respects this is due to the gyratory creating a physical barrier between the city centre area and the outstanding public realm and urban form that exists on the centre's periphery.

Heritage

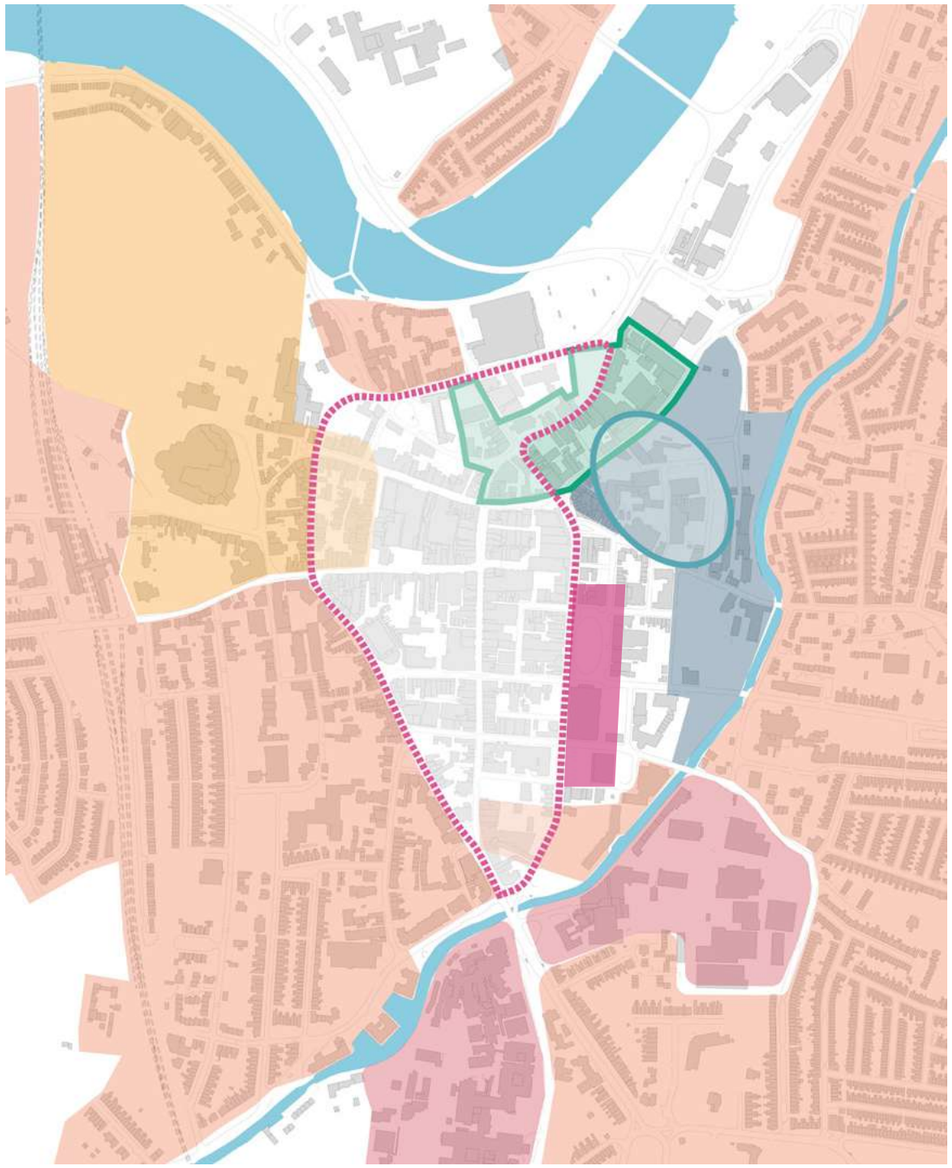
Lancaster city centre has a well-regarded and varied historic environment. The whole of the city centre is a designated conservation area and there are 256 Listed Buildings. Of these, 3 are Grade I (the Castle, Judges' Lodgings and the Priory), 18 are Grade II* and 235 are Grade II, and Skerton Bridge and the area around the castle are Scheduled Monuments. These heritage assets provide Lancaster with a distinctive identity that gives the city centre its acknowledged character. Unfortunately, despite its wealth of heritage assets, poor movement conditions on key streets and the amount of traffic on the gyratory means that they are often overlooked, not appreciated or simply missed. By better utilising these assets Lancaster has a unique opportunity for place-making which has the potential of initiating significant foundations to stimulate regeneration.

Implications for city centre movement and public realm strategy

- A large proportion of the population live within walkable distance to the city centre.
- Access to the city centre is severed and key crossings into the retail core do not prioritise pedestrians.
- A culture of cycling had been established across the district, however this is now in decline.
- The gyratory acts as a major barrier to any potential through journeys for all but the most committed of cyclists.
- Whilst access to the city centre is good for vehicular traffic and pedestrian circulation is good within the core city centre area, the gyratory forms a physical barrier with high levels of severance limiting movements to the south, east and west of the city centre.
- Although the opening of the Bay Gateway has reduced vehicular traffic on the periphery of the city centre, it has increased in the core city centre cordon.
- Currently through movement of traffic is the primary aim of the gyratory system. This has major implications in terms of poor air quality, severance and limiting sustainable travel opportunities.
- Bus use is high especially between the city centre and Lancaster University, however city centre movements are not efficient and offer little resilience.

Land Use and City Quarters

Land use and city quarters are illustrated in Figure 8. This shows that the city has a clearly defined retail core, although like other UK cities the types of uses accommodated within the centre have diversified over the last decade. Whilst much of this area is pedestrianised and offers a welcoming environment, outside of this area the city has major problems with severance. With the gyratory acting as a significant barrier, two lanes of traffic at peak levels throughout the day sever key areas from the city centre. To the west of the city centre, key heritage areas such as the Castle, the Priory and St Georges Quay are hidden behind a barrier of traffic. Similarly to the east, areas such as Dalton Square and key cultural assets such as the Grand Theatre and the Dukes Playhouse are again severed as the gyratory makes its presence felt. In recent years there has been a significant increase in student numbers with major developments taking place within and on the periphery of the core city centre area. Further to this, Lancaster City Council has major plans for regeneration to the east of the city centre through its Canal Quarter initiative. This expansion within the city centre has implications in terms of how future movement within the area needs to be facilitated. To the south, the Royal Lancaster Infirmary and White Cross Business Park are major employment sites. Within very close proximity to the city centre are major residential areas.



◂ Figure 8
Key Areas

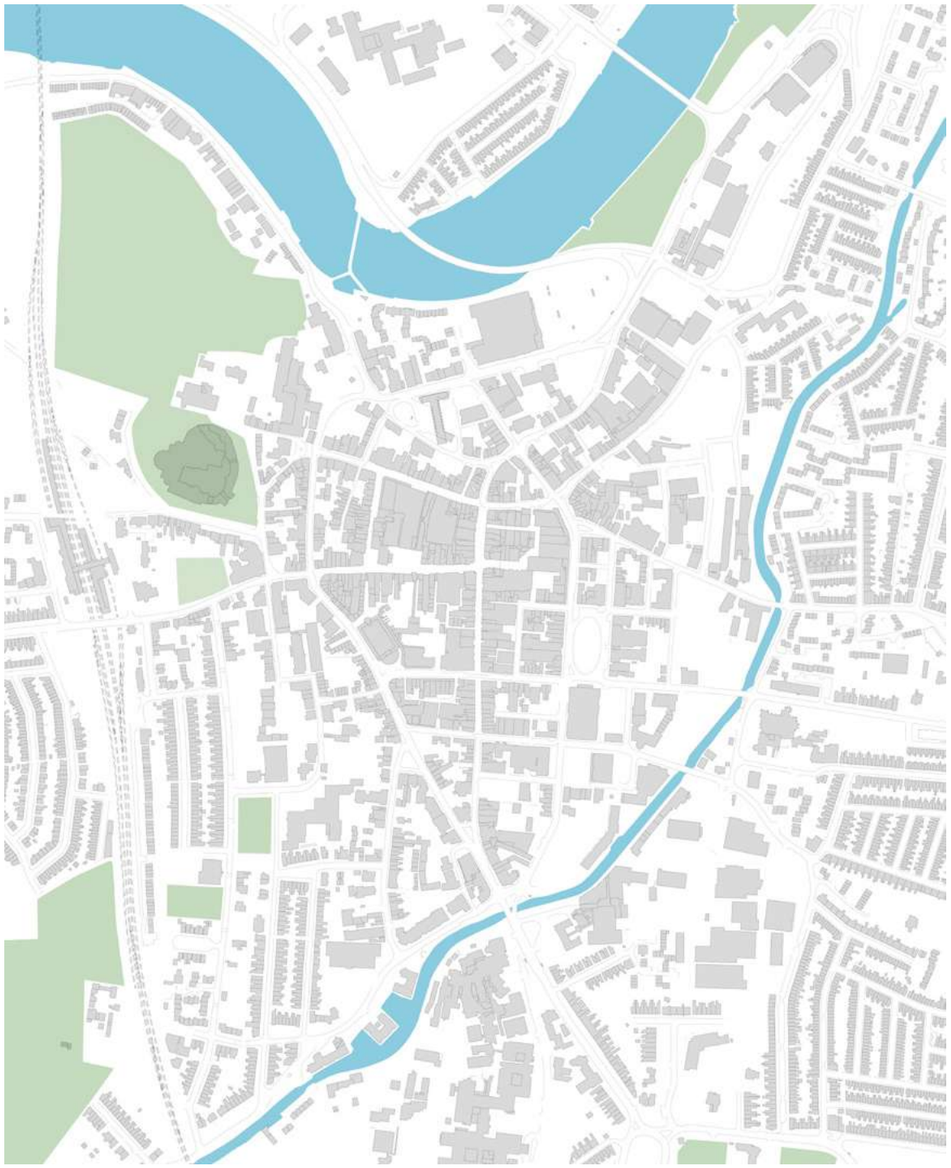
Green Space

Whilst the core city centre has little in the way of green space, by the castle and Priory there is a significant amount, particularly to the rear at Vicarage Fields and Quay Meadow. Unfortunately the space lacks definition of its role and is not currently well used beyond very local use. For such an amount of green space mixed with a wealth of heritage assets more can be made to integrate this space as a key destination for visitors, residents and those who live and work in the city centre area. The Beyond the Castle project recognises the importance of strengthening such pedestrian connectivity..

The Lancaster Canal is an important green asset and is in very close proximity to the city centre. However, as with the green space around the castle and Priory, this is a relatively hidden asset and at many key interfaces the gyratory and its approach roads sever and limit access significantly, most notably at the Penny Street Bridge junction.

◂◂ Castle area green space

◂ Canal access at Penny Street Bridge



◂ Figure 9
Green Space

Key Public Spaces

Lancaster's public spaces are intrinsic elements of the city's historic fabric. Until relatively recently few of the public spaces were of such a quality that people wanted to linger and use them for places of rest, recreation and social interaction. This has meant that over time the centre has deteriorated to a situation where the condition of the streets is poor and cluttered and does not do enough to showcase its important historical heritage.

The improvements in recent years have been principally down to the Lancaster Square Routes project, which has sought to establish and rejuvenate Lancaster City Centre and strengthen its position as a major destination for both visitors and residents of the district. However, although the entire retail area represents a welcoming environment for public interaction, there are relatively few well defined key public spaces. Through its historic legacy Lancaster does have a number of squares within the core city centre area.

Market Square

Market Square is at the epicentre of the retail core with attractive heritage assets in the form of the City Museum and public library forming the centrepiece of a relatively wide public square, though still small by comparison with other cities The square provides the setting for events, activities and general seating and as a consequence of changes to the traffic regulations in recent years which removed parking from the square, traffic is limited to deliveries outside of core hours. Along with the rest of the pedestrian zone however, outside of core hours these regulations are frequently ignored by a small number of vehicles.

Queen Square

Queen Square is a particularly underused asset within the city centre. Its location directly adjacent to King Street and Queen Street means that the space is completely overwhelmed by high levels of traffic.

Dalton Square

Dalton Square represents one of the very few open civic spaces within the city centre area. The Victoria Monument, gardens and cobbled streets are overlooked by the grade II listed Town Hall and surrounded by impressive Georgian architecture and the area provides a pleasant environment to spend time. Unfortunately due to the gyratory the space is effectively severed from the city centre area.

In recent years efforts have be made with considerable success to more fully integrate this key asset into the city. Since 2018, Dalton Square has been closed to all traffic and transformed over the Christmas period with a large part of the square dedicated to an ice skating rink and associated food and drink offer. This highlights the opportunity that the creative use of public realm can play in providing economic benefit to the city. More recently, to abide by social distancing regulations brought in as a response to Covid-19 the charter market has moved to Dalton Square, with the area now fully closed to traffic on Wednesdays and Saturdays. Temporary closure is full-time and not just for the market.

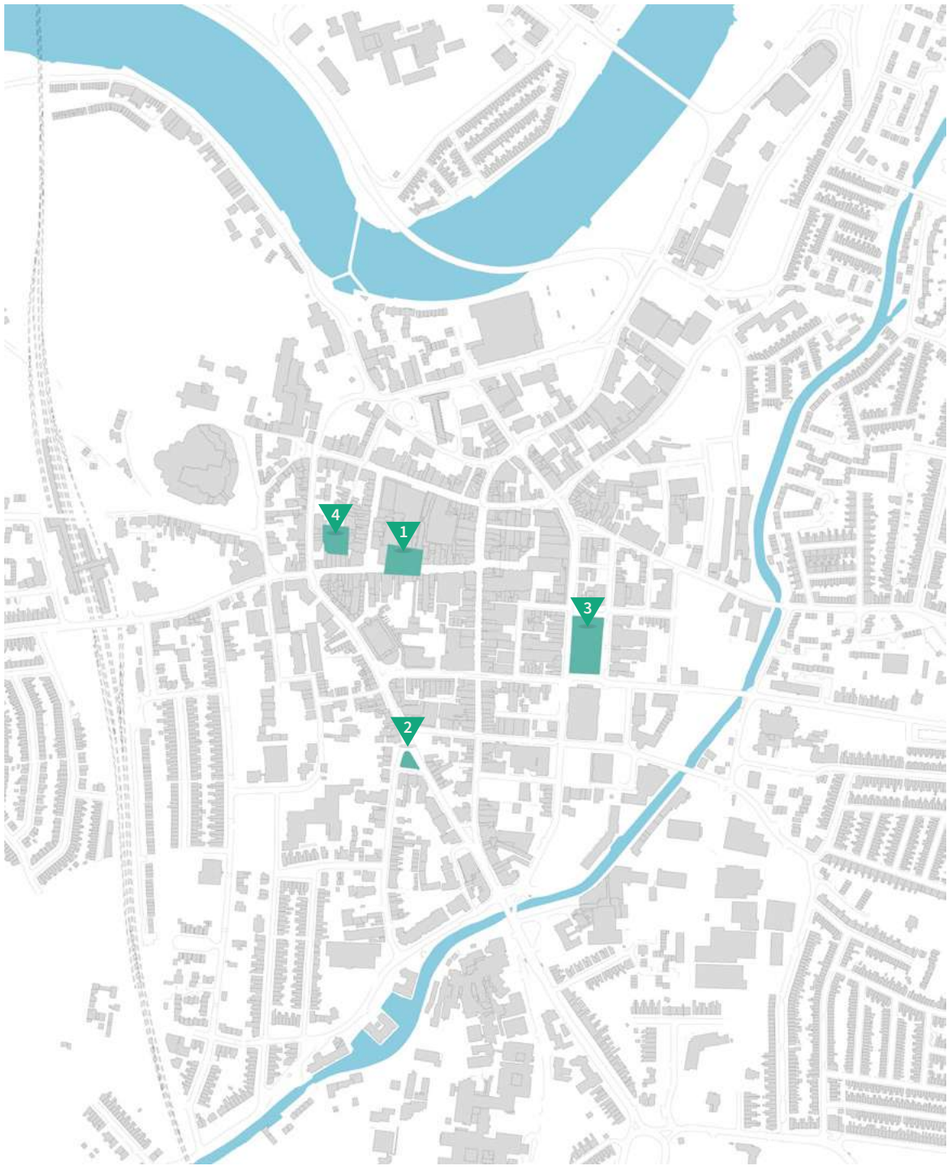
Sun Square

Sun Square is a hidden asset, known mainly to locals. Historically it was once gardens serving an elaborate summer house built in the 1730s, now known as the Music Room. Its hidden nature in the city centre offers a peaceful environment, however it would benefit from substantial public realm improvements and addressing the impact of surrounding vehicles to fully utilise the underused historic asset.

Image credit: Our Lancaster Story

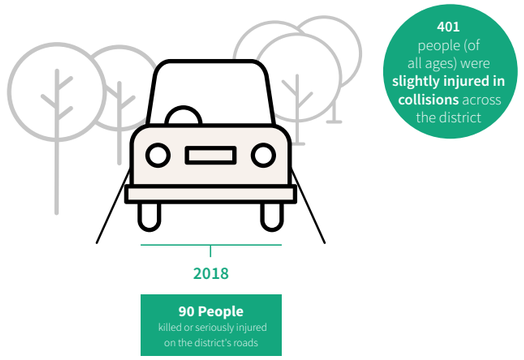
◂◂ The plinth on Market Square

◂ The Music Room Cafe on Sun Square



◂ KEY

- Public Space
- 1 Market Square
- 2 Queen Square
- 3 Dalton Square
- 4 Sun Square



Safety and Public Health

Safety

Latest data for 2018 shows that the Lancaster district had the highest number of killed or seriously injured casualties in Lancashire with 90 casualties, 11 of whom were children. In addition to this 401 people (of all ages) were slightly injured in collisions across the district." Lancaster district had the highest number of pedal cyclists killed or seriously injured in Lancashire with 20 such casualties in 2018. In addition Lancaster ranks second for all pedal cyclist casualties in the 16-25 year age range in 2018. Lancaster also had the highest number of killed or seriously injured casualties of all types for people aged 65+ in Lancashire.

Of particular concern in Lancaster are the relatively high casualty numbers for vulnerable road users are consistent between 2014 and 2018:

- Lancaster had the highest number of pedal cyclists killed or seriously injured for all ages in Lancashire
- Lancaster had the highest number of powered two-wheeler casualties killed or seriously injured for all ages in Lancashire
- Lancaster had the highest number of killed or seriously injured casualties for 65+ year old pedestrians in Lancashire and the second highest number for all ages of pedestrians
- 80% of children killed or seriously injured on the roads in Lancaster were either walking or cycling.

Figure 11 shows the locations of slight injury collisions, severe injury collisions and fatal collisions in the study area between 2014-2018 with significant clusters on the gyratory system.' (assuming dates).

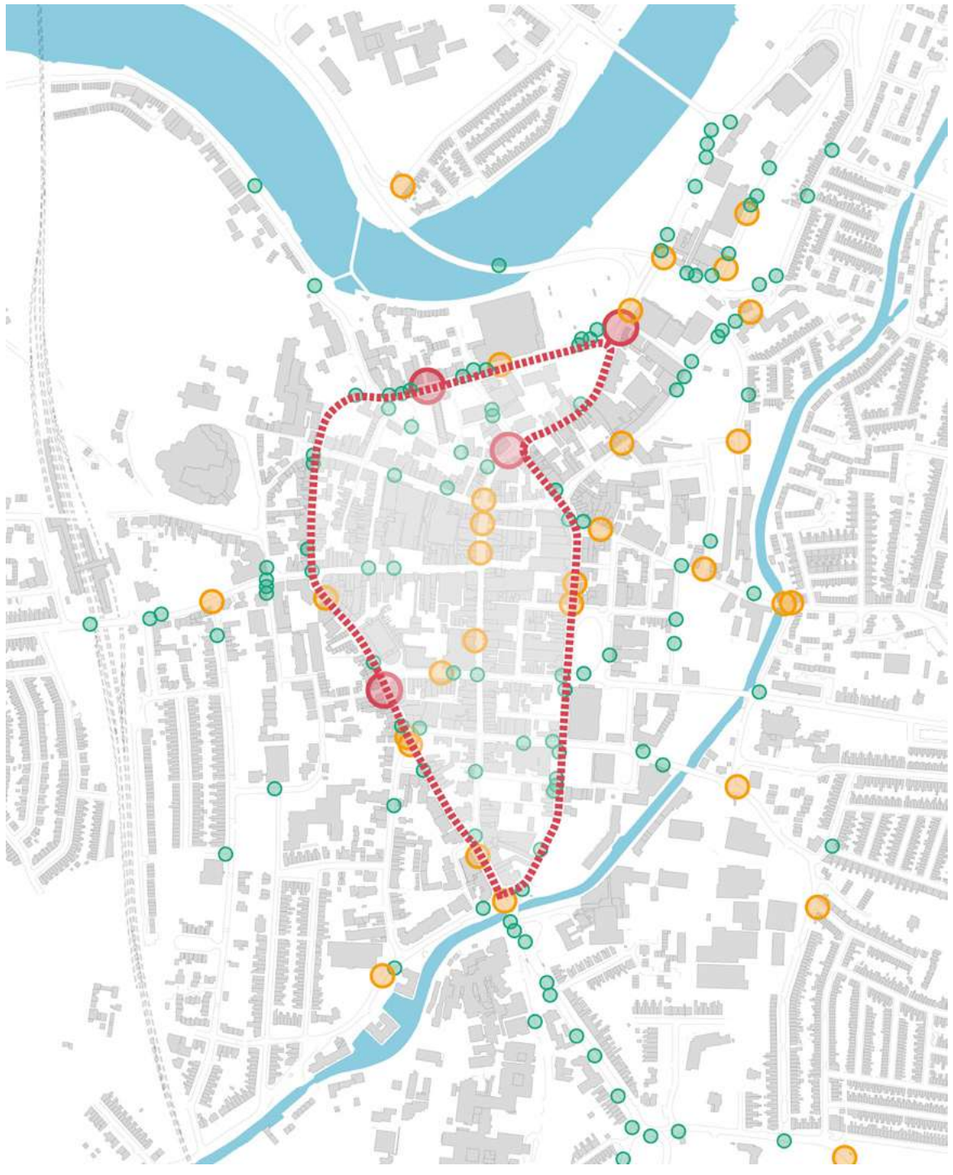
Implications for city centre movement and public realm strategy

- Lancaster city centre has a rich history with an abundance of heritage assets. However, despite this, it is hard for residents and visitors to appreciate due to the quality of the public realm and the impact of traffic.
- Whilst the pedestrian area is a welcoming environment, there is a lack of well-designed and purposed public space across the city centre where people can simply enjoy the time they spend in Lancaster. There are few resting places for pedestrians and limited provision of seating, both private and public.
- A number of key public spaces are not used to their full effect due to severance and the proximity of substantial amounts of traffic.
- In addition to the impact on key public spaces, the dominance of private vehicular traffic throughout the city centre prevents effective strategies for the creation of new areas of public space.

Figure 11 ▶
Collision Location

KEY ▶

- Fatal Collision
- Severe Injury Collision
- Slight Injury Collision
- Core Retail Area



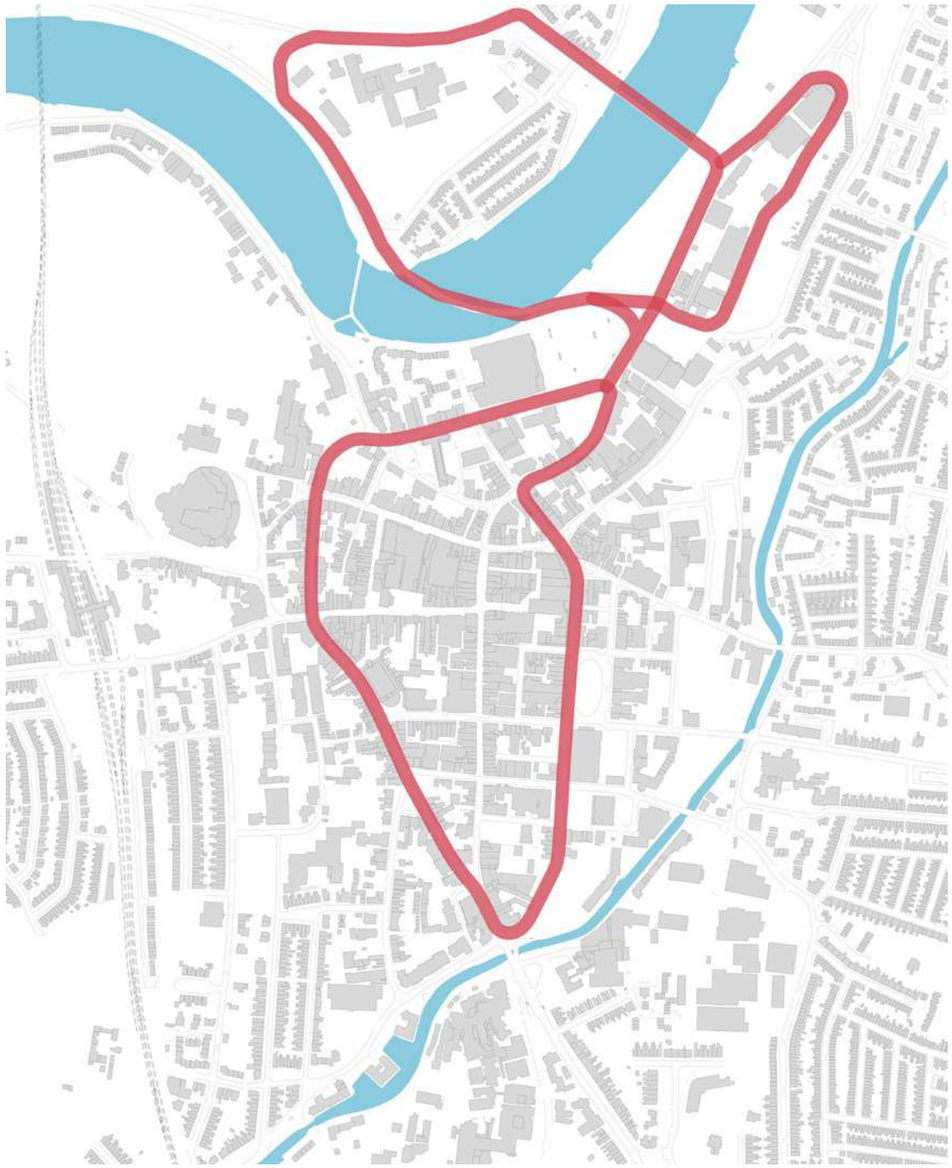
Air Quality

Lancaster city centre gyratory is a declared Air Quality Management Area (AQMA). This means Lancaster City Council, working in collaboration with Lancashire County Council, must put in place measures to reduce emissions and report these in a local Air Quality Action Plan. The AQMA in the city centre was declared in 2004 and has remained in place ever since.

In 2019 the air quality monitoring locations at Dalton Square, Thurnham Street, King Street and China Street, which historically have shown the highest monitored levels of nitrogen dioxide levels, saw reductions with pollution levels (annual mean nitrogen dioxide) generally showing a declining trend since around 2014. Despite these marked reductions some monitored locations still exceed pollution standards, and pollution levels (nitrogen dioxide and PM2.5/PM10 levels) are generally high compared to most other parts of the district and the UK generally (with the exception of central London).

Despite this improvement the city centre area is still exceeding air quality standards and still therefore remains an AQMA. The Government is currently considering (through the Environment Bill) the introduction of new standards or targets for particulate air pollution (PM2.5) which may reflect current World Health Organisation (WHO) standards. Particulate levels currently monitored in Lancaster indicate that exceedance of WHO standards at positions around the gyratory continues to be likely without interventions. Particulate pollution is generally considered to be of greater health impacting importance, and therefore to protect health, plans and strategies should particularly seek to minimise particulate emissions/pollution levels.

Figure 12 ►
AQMA



Implications for city centre movement and public realm strategy

- The district as a whole has the worst accident record in Lancashire with a significant amount within the city centre with particular clusters on the gyratory system.
- Lancaster city centre is a declared Air Quality Management Area. Without significant intervention to restrict or control engine-based traffic within the city centre there will be little or no opportunity to correct this or to provide a solution that provides progressive air quality improvement.
- Improvement in air quality beyond current national objective thresholds will result in health benefits.

Economy

Retail

Lancaster is the principal shopping centre for the district and also acts as the main retail location for smaller towns to the north and east of the city. The main focus of retailing is along the pedestrianised areas of Cheapside, Market Street and Penny Street. These are designated as being Primary Retail Frontages within the publication version of the Development Management DPD (October 2013), with the Secondary Retail Frontages including parts of King Street, Brock Street and Church Street. The covered St Nicholas Arcade and Market Gate shopping centres act as the key anchor destinations for shoppers to Lancaster. Whilst Lancaster accommodates a number of national operators, it is also well known for its increasing number of small and local businesses that differentiate it from many other similar sized cities.

Lancaster city centre has a very clearly defined retail core which radiates out from Market Square. Much of the retail core area is pedestrianised creating a safe and welcoming environment for visitors and residents alike. In addition to this the creation of a Lancaster Business Improvement District has established a number of temporary and long-term initiatives that have promoted the city centre core retail area.

Despite this, figures from 2014 showed that retail vacancies rates in Lancaster city centre were 11.7%. Figures for 2019 show that the Lancaster Business Improvement District (BID) area received 8,726,701 visitors. Since 2016 visitors to the BID area have declined by 5.67%. This isn't surprising considering the changing nature of the high street in recent years with figures indicating that 8% of shops in town centres in England and Wales have closed since 2013.

This sea change comes from a variety of sources such as stagnant wages and relatively high levels of inflation forcing difficult spending decisions to cut costs. At the same time online shopping has grown exponentially, now accounting for over 20% of all retail sales. Coupling those two scenarios together it is no surprise that the high street is undergoing such difficult times. However to survive, in many areas the high street is changing. There has been a considerable rise in some city centres towards the growing 'experience economy' where the purchase of experiences is replacing the purchasing of physical goods. Pubs, bars and restaurants have seen massive growth in city centres over the same period with areas such as Liverpool, Leeds and Manchester all of which have large student populations quickly developing reputations for their thriving experience economy.

Businesses in Lancaster have been quick to adapt to this changing landscape. Through the utilisation of key heritage assets and public space, footfall into the city centre has increased over the Christmas period compared to previous years, most notably as a result of the temporary measures instigated at Dalton Square. This led to a boost to the local economy in a period of significant challenge for the high street. During this period, in Lancaster city centre there was an increase in footfall of 12.4% compared to a national decline of 2.3%. The weekend of 14th/ 15th December 2019 was the busiest December weekend in the city centre for three years with Saturday 14th showing an almost unprecedented increase in footfall of 25.4%.

These measures indicate that there is demand in Lancaster for experience-themed economic activity. Prior to the Covid-19 pandemic, it could be predicted with some confidence that such trends were probably likely to continue. Clearly the impacts of social distancing will have a continuing effect on human interaction and behaviour, and towns and cities will be closely monitoring the Government's advice regarding public gatherings in the later part of 2020 and into 2021. Whilst the prospects for a return to 'normal' are uncertain at the time of writing, local authorities have to plan ahead to predict how the high street will function in a post pandemic environment. Those that are charged with delivering improved and healthier places for people will seek to create a public realm that aids health and wellbeing, but can also stimulate economic and social recovery.

◂ Dalton Square at Christmas

Image credit: Our Lancaster Story

◂ Outdoor Market on Market Street

Parking

Currently there are 1,725 off-street parking spaces in the city centre of which some 484 (28%) of spaces are in privately operated car parks and 1,241 (72%) are in city council car parks. Some 473 (38%) of the council's spaces are in the Canal Quarter regeneration area immediately to the north east of the centre and these account for just over a quarter (27%) of the city centre total. Eleven of the council's car parks have fewer than 100 spaces and seven have fewer than 50 spaces. The main privately operated public parking in the centre is at Marketgate and Parksafe. Lancashire County Council is responsible for all on street parking and offers charged spaces to the public on a first come first served basis in addition to parking reserved for residents. Figure 13 shows the locations of car parks in the study area.

The amount, management and cost of parking plays a key role in determining travel choices when accessing the city centre. If parking is plentiful and relatively cheap then there is very little incentive to travel by means other than private car. This has consequences for the number of cars using the gyratory on a daily basis. The city centre has a wealth of parking, with a mixture of small and large car parks located in various locations and accessed from the gyratory. This has implications in terms of vehicles travelling on the gyratory seeking parking, often making multiple loops of the city centre to search out parking as close as possible to their primary destination. This adds to traffic on the gyratory and has implications in terms of congestion, air quality, carbon emissions and safety.

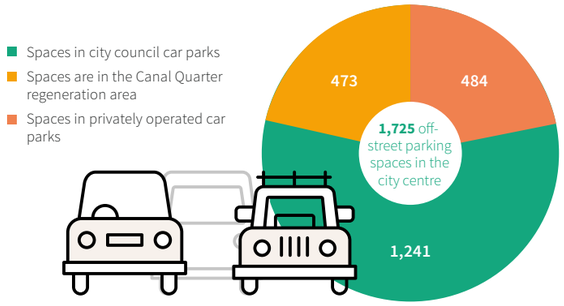
Parking is, and always will be, a contentious matter. Historically it has been linked to the economic vitality of a town centre and in addition to this it has always been an important revenue stream for local authorities. These assumptions are being increasingly challenged; the high street is changing and the notion of people driving into a town centre to visit and purchase items at multiple stores is outdated. Research carried out by Transport for London that looked at the economic benefits of accessing the high street by active transport found that:

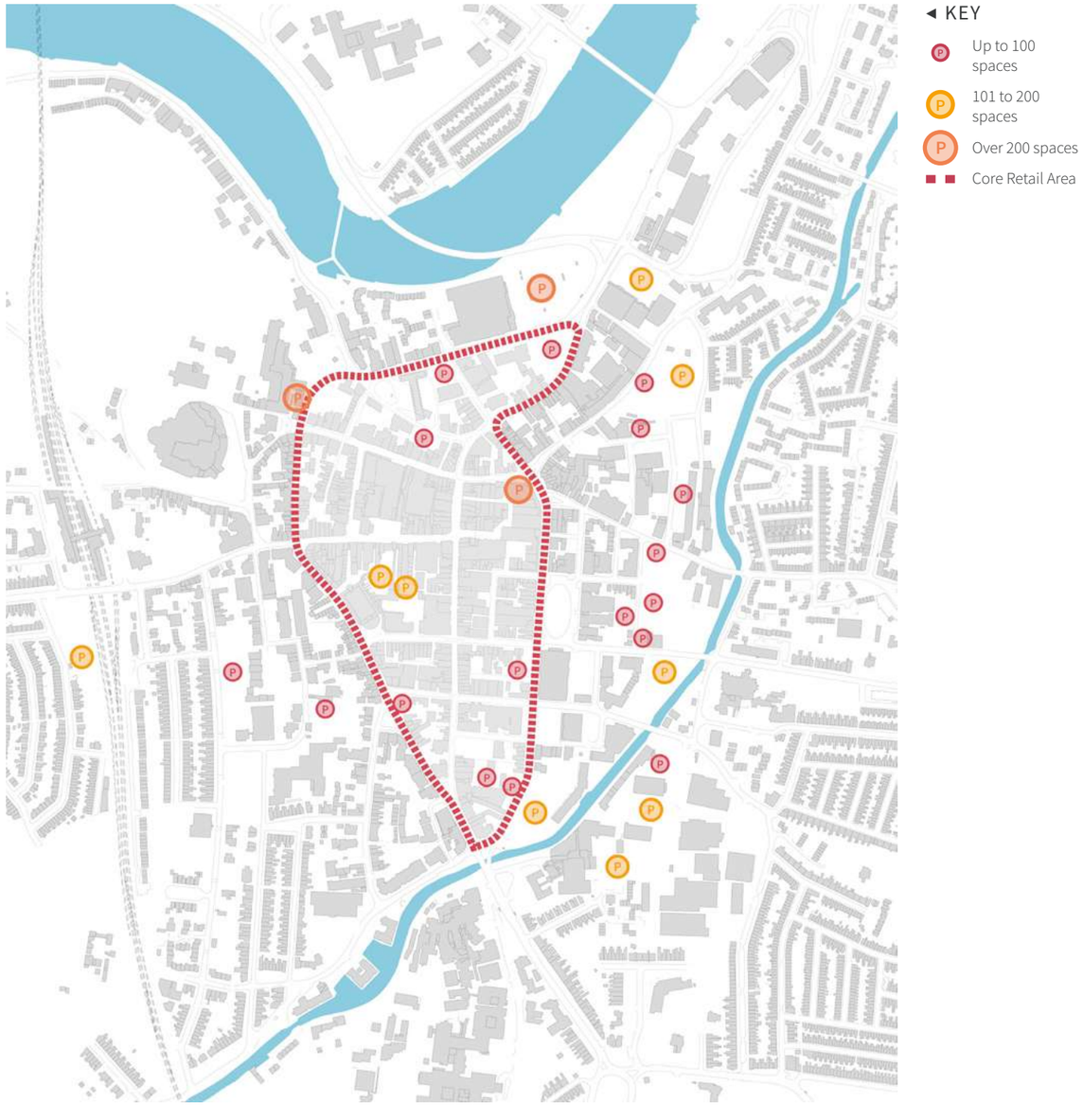
- High street walking, cycling and public realm improvements can increase retail sales by up to 30%.
- People who walk and cycle take more trips into the high street over the course of a month (those who walk average 16 visits, cyclists 12 visits, car 8 visits).
- Over a month, people who walk to the high street spend up to 40% more than people who drive to the high street.

As the quantity of retail space declines and is replaced by food and drink, leisure/recreation uses and experience themed businesses in our town centres; in such an environment is the provision of parking within the centre itself such a key requirement, or is the space currently provided for car parking disproportionate and could be used instead for uses that would further enhance and diversify the city centre?

Extension of Park and Ride sites

A requirement of the Bay Gateway Development Consent Order was to further investigate the potential of extending Park and Ride facilities across the district. Consultation carried out as part of the District for Lancaster Highways and Transport Masterplan found that 68% of respondents to the questionnaire agreed with the proposal for a South Lancaster Park and Ride/Cycle facility at the relocated Junction 33 of the M6. This was explored further as part of the BRT feasibility and route options report. Such a provision can build upon the facility at Junction 34 and, combined with a frequent and quick service into the city centre as proposed as part of a BRT, offers real potential to reduce vehicular traffic into the city area. The HIF submission provides a delivery mechanism to take these aspirations further.





Deliveries

The opening of the Bay Gateway has led to a reduction in HGVs travelling through the city centre. Previously the city centre was used by HGVs as a route to Morecambe and Heysham. Access to Heysham and Morecambe is now signed from the M6 Junction 34 to utilise the Bay Gateway.

Despite this reduction, HGV movements within the city centre still present significant problems. This is primarily due to HGVs servicing industrial estates to the west of the city. The only HGV access to the west is via King Street due to the low bridge over St Georges Quay which forms part of the cycleway linking the railway station and west of the city with the Millennium Bridge. The turn from King Street into Meeting House Lane is particularly problematic as larger HGVs often have to position themselves in the right hand land to provide suitable space to turn. This does not provide a pleasant environment and has major implications for pedestrian movements between the city centre and the railway station and castle.

Re-routeing opportunities highlighted in Section 6 provide a basis to alleviate turning at this junction. With a two-way gyratory on the western arm, there is potential to route all HGV traffic along St Georges Quay. Currently this route is restricted due to the low cycle route bridge that crosses Damside Street. Raising the bridge to a suitable height would enable HGV traffic to access and egress the industrial estates at the far end of St Georges Quay.

Within the city centre is a designated "Pedestrian Zone", which is in actual fact a traffic restricted area. Within this area, deliveries are permitted after 5pm and before 10am. Whilst the intention is to provide access to goods vehicles only, a number of independent and market operations make this very difficult to enforce. Additionally local evidence indicates that it is not just delivery vehicles that flout the timed restrictions. There are examples of private cars driving along the pedestrianised centre (especially upper Market Street, New Street and Church Street) to access facilities such as cashpoints and for general parking outside core hours, both of which are unpermitted.

Deliveries in the city centre are problematic due to the lack of dedicated servicing areas. Within the city centre there are loading areas at Church Street, King Street, Mary Street, Gage Street, Brock Street, Common Garden Street, Marketgate, George Street and Penny Street. A large proportion of the retail area is serviced from the front and this has implications for conflict between pedestrians and vehicles. An example is Sun Street which provides the key linkage between the city's retail core and historical assets. Although a defined pedestrianised area, it suffers from vehicular access and parking issues throughout the day with large HGVs and vans delivering to business in the centre make it an unpleasant experience for pedestrians, and especially presents problems for visually and mobility impaired people.

A HGV movement strategy for Lancaster was consulted on in 2017 as part of the DCO for the Bay Gateway. The strategy highlighted key areas where traffic regulation orders (TROs) could be applied to restrict HGV movements. Fortunately, the Bay Gateway has been successful in moving HGV vehicles away from the city centre especially in terms of movements to Morecambe and Heysham. However, there are still aspects that need to be addressed in relation to deliveries. At the time, the issue of restricted delivery hours within the city centre was deemed outside of the scope of the study, however in light of the changing landscape and proposals highlighted within this strategy there would be significant merit in updating the strategy to take this into account.

The last mile of freight – the movement of goods from a transport hub to its final destination, usually small urban retailers or consumers – is labour intensive, accounting for 30-50% of supply chain costs; it also generates the most CO2 per tonne moved. This is because, compared with long-haul and regional freight, last-mile delivery involves smaller loads, more stops and tighter time windows, resulting in complex routeing and incomplete loading of vehicles. These add to the costs and CO2 emissions per tonne. But last-mile delivery is becoming increasingly important, not least because the demand for home deliveries is rising and customers are putting pressure on the freight industry to deliver goods more quickly. Also, increasing traffic congestion threatens the reliability of deliveries (around 13-14% of home deliveries 'fail') and contributes to the loss of kerbside parking space for deliveries. There is an increasing number of retailers offering customers free home delivery, which raises demand and competition, and there is rising demand within peak periods. Overall, consumers' demands for faster, more frequent and more precisely timed deliveries – all at ever lower costs – will have environmental and economic consequences. Emerging technologies, such as autonomous deliveries, transfer to more sustainable modes (incorporating electrification of the freight fleet) and the increasing connectivity of businesses and customers is enabling new business models within the 'sharing economy' which have the potential to aid this transition in the coming years.

Taxis

The taxi economy plays an important role in the mobility needs of the district, due in part to the fact that almost a quarter of households in the district have no access to a car (Census 2011).

There are four official taxi rank locations for licenced Hackney carriages in the city centre: Damside Street Bus Station, Penny Street (KFC), Common Garden Street and North Road. There is also a rank at the railway station. In addition to this there are night time rank locations at Gage Street, North Road, Penny Street, Brock Street, Sun Hotel and Lower St Leonardgate Car Park. Licenced private hire vehicles are not permitted to use the ranks or pick up passengers on street. In all other respects both types of taxi operate similarly and are exempt from access restrictions on parts of the gyratory. Whilst intrinsic to the local economy, currently taxis produce carbon emissions of around 3,800 tCO2e, which is more than Lancaster City Council's entire emissions. Fortunately Lancaster City Council is in a position to mitigate against this as they are the licensing authority for local taxi permits. Opportunities to incentive a shift towards electric vehicles will be a priority for the city council and to support this, Lancaster City Council were recently successful in a joint bid with other local authorities in securing £630k to support ultra-low emission taxis in Lancashire. This will see the installation of 4 charging points for taxis in the district.

Future Transport Trends

In 2019 the government published its Future of Mobility report. The report sets out a number of scenarios of how transport is likely to change over the next 20 years, especially in relation to aspects such as electrification, data and connectivity, and automation.

The electrification of transport offers significant environmental benefits most notably in terms of improved air quality due to the lack of tailpipe emissions. It will not however, make any difference in terms of how vehicles interact within an urban context and the long standing problems that mass vehicular ownership brings such as congestion, severance and safety.

However, with the high number of car journeys for relatively short journeys taking place, the electrification of sustainable modes offers a real opportunity for a major transition away from the car to other forms of transport such as e-bikes, e-scooters and mobility vehicles. For this to work, good infrastructure needs to be in place; it is no good expecting modal shift if people are facing the same issues of perceptions of safety and lack of quality routes linking key destinations that currently exist. Any infrastructure implemented in the short term is essentially paving the way for a network where demand may be significantly higher than in the coming years.

In recent years there has been a huge growth in the collection and application of data, much of which has been driven by growing connectivity. The opening up and application of this data offers huge potential as a form of infrastructure and public good to produce wider social benefits. One of the key leaders in the UK is Transport for London (TfL) which collects a significant amount of data relating to travel, transport and mobility across all modes.

TfL have made this data publicly and freely available, as a result of this over 600 travel apps in the UK are powered by this data and used by over 42% of all Londoners. The freeing up of data for transport use offers a wealth of opportunity for residents and visitors alike to make informed decisions based on current transport conditions. Transport authorities, district councils and transport providers should actively engage in partnership working to bring the significant benefits of open data and its application to the local area.

In travel and transport there are different levels of automation, from some form of assistance such as cruise control right through to full automation. Whilst automation has been championed for a number of years as a solution to growing mobility particularly within dense urban areas, there is no consensus on the impact that autonomous vehicles could have on congestion, indeed some studies have found that the projected increase in overall car traffic will worsen congestion. Additional journeys by empty self-driving vehicles are predicted to be a key contributor to congestion at peak times, for example when empty vehicles leave town centres to return to their collection points. This means that it is more vital than ever that transport is integrated and joined up so that congestion could be mitigated by car sharing and an increase in cycling and walking to complement autonomous vehicle travel.

In many respects the opportunities afforded by new mobility come at a timely moment. As we have already seen, in light of the Covid-19 pandemic and government policy to move towards a decarbonised transport system, there is a requirement to shift away from engine based vehicles. New technology provides a basis for more sustainable forms of mobility, especially in terms of the relatively short journeys that make up a high proportion of movements within the city centre.

Implications for city centre movement and public realm strategy

- Although Lancaster has a relatively strong retail offer and in recent years has started to make better use of its historic assets and public space for economic effect, these are unprecedented times for the high street.
- Currently there is an excess of parking, an underused Park and Ride scheme and insufficient forward thinking in terms of the future role parking plays for residents and visitors accessing the city centre.
- Current levels of parking in the city centre are counterproductive in any effort to encourage modal shift.
- Opportunities exist for a new Park and Ride site as part of reconfiguration of Junction 33 of the M6.
- Deliveries within the city centre have an implication in terms of congestion, air quality and safety because there is no coherent, integrated delivery strategy for the city.
- HGV access is problematic especially to key industrial sites to the west of the gyratory.
- Taxis play an important role in the mobility needs of all residents, but a shift towards electric vehicles is needed.
- Future transport trends need to be acknowledged, however providing good infrastructure for sustainable modes is the best way to future proof the transport network.

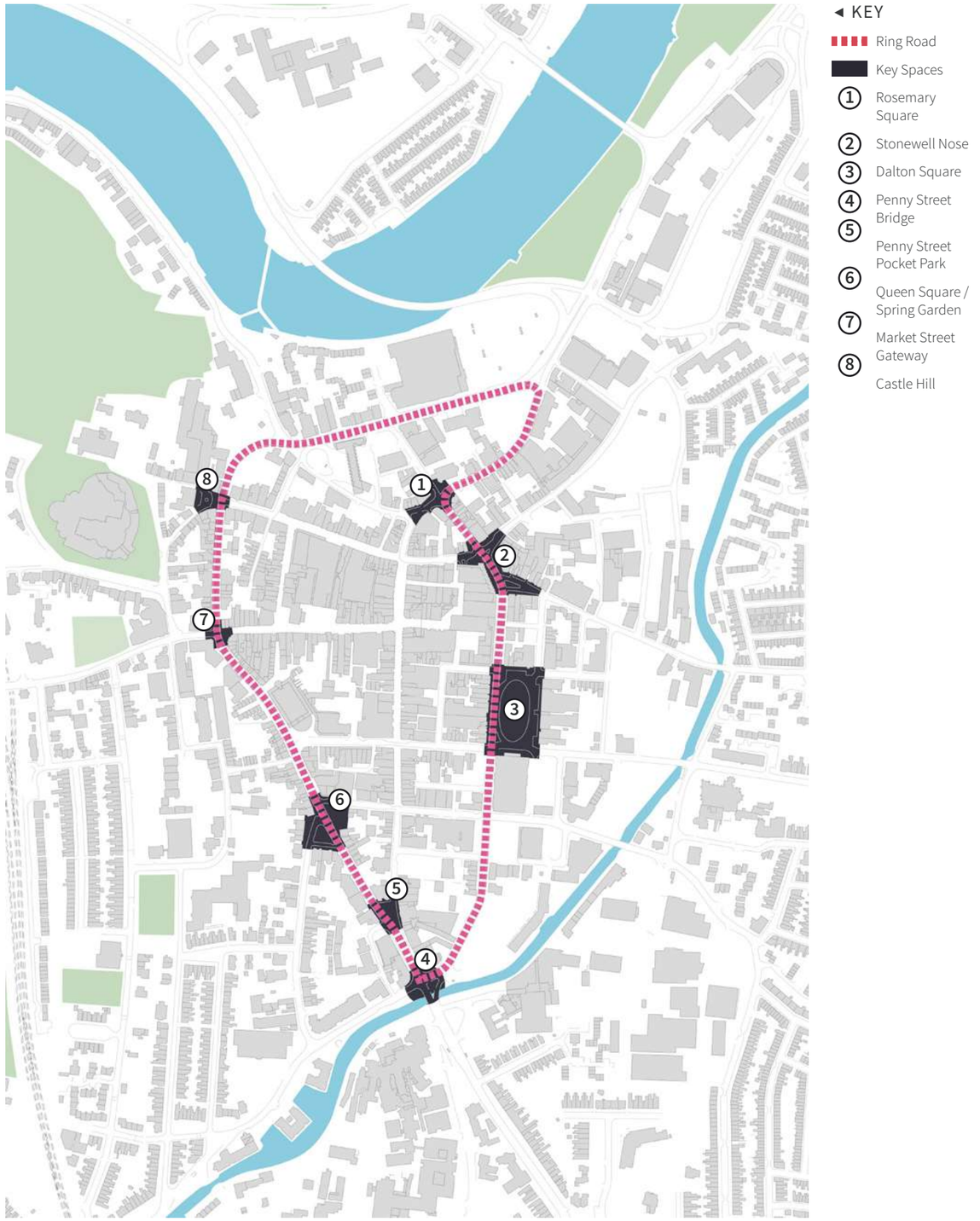
The Opportunities

5.1 The vision for Lancaster City Centre

To deal with the issues outlined in the baseline assessment and to begin the process of meeting our vision for 2031 we need to start thinking about how we can reimagine the city centre as a place that prioritises people, sustainable travel and quality of place.

To do this we have prioritised 8 key locations that provide major opportunities to reimagine a city centre that facilitates and prioritises movement for people and sustainable travel. In doing so they provide a basis to improve key areas of public realm and the city centre's quality of place.

The degree and location of interventions is dependent upon which of the route options in section 7 are taken forward.

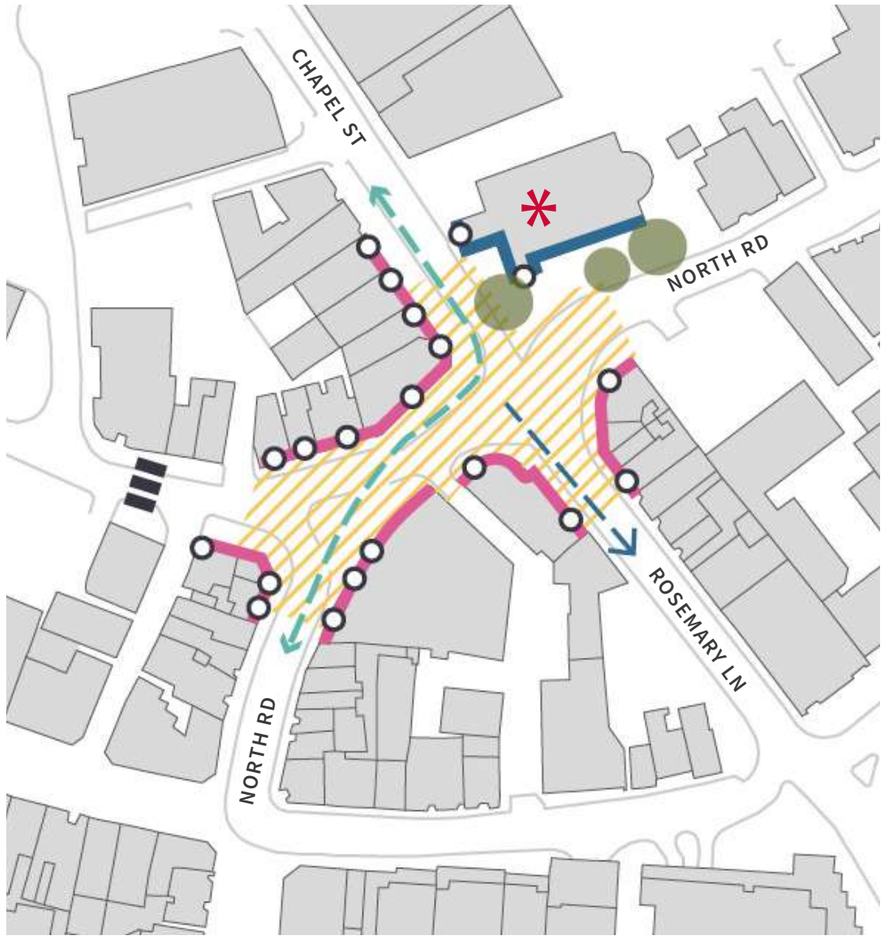


5.2 Rosemary Square

Currently part of North Road, situated at the intersection with Rosemary Lane, Chapel Street and Damside, this area has the potential to be transformed into a new public space for the city.

- Car dominated environment with wide roads and narrow pavements.
- Convergence of roads creates a particularly confusing and unsafe environment for pedestrians. This is exacerbated by a lack of pedestrian crossing points.
- Confusing cycle lanes with blind bend at Chapel Street/North Road junction. Pedestrians often walking in cycle lane - creates conflict between users.
- The Chapel Street/North Road junction is a dangerous collision hot spot, with additional clusters on adjacent streets.
- Minimal space for spill-out.
- Lack of trees / green infrastructure.
- St John's Church is a Grade II* listed heritage asset, however it is tucked away and compromised by the tangle of roads that surround it.
- Surrounding buildings vary from 2-4 storeys, with variation and interest added via surrounding changes in topography and views of church spires and the Cathedral in the far distance.
- The organic street network creates interesting views and provides a satisfying complexity and sense of intrigue to the urban form.
- Opportunity to reconfigure the road network and create an attractive new public space at this location, providing additional tree planting and seating within a setting that honours and celebrates St John's Church whilst significantly improving the legibility and safety of the area.

Existing Situation

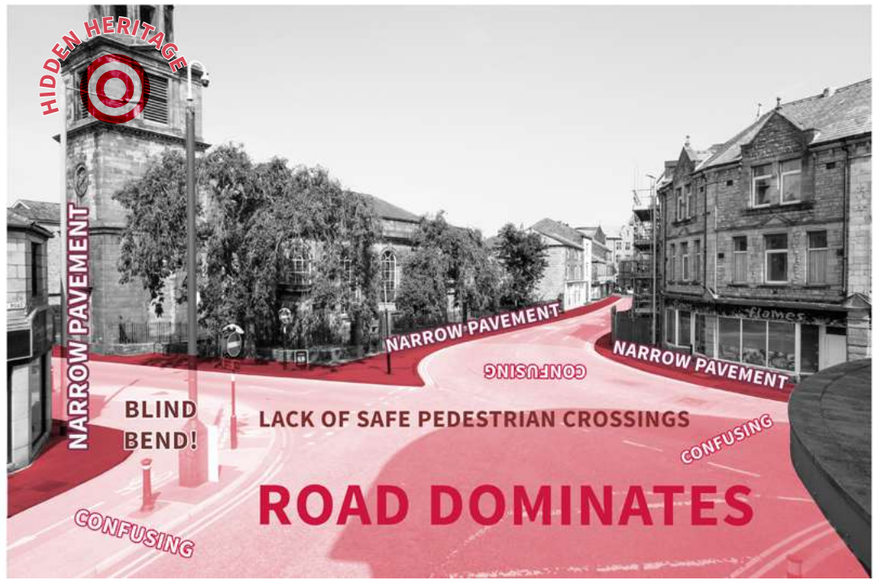


Pedestrians attempt to cross the confusing and vehicular-dominated road network ►

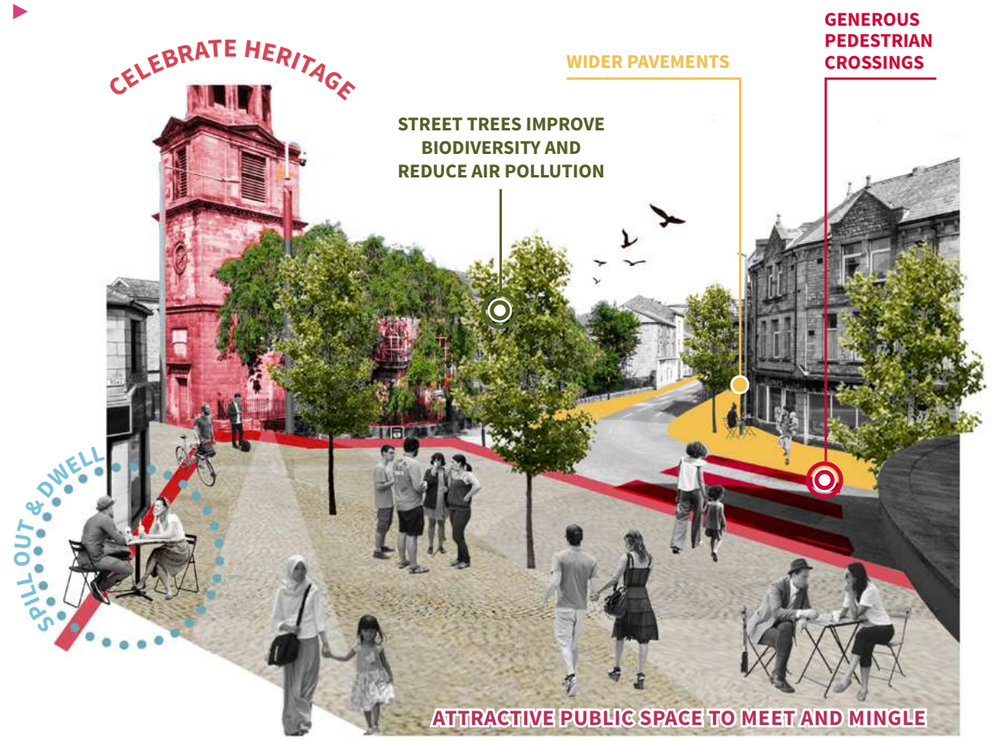
◄◄ Pedestrians walking in the cycle lane at this blind bend at the bottom of Chapel Street.

◄ A confusing environment at the intersection of North Road and Damside.

Before ►



After ►



Precedents

◄◄ The public realm surrounding Blackburn Cathedral forms a clutter-free setting that honours and celebrates the historic building.

◄Strategically placed trees and a sinuous paving design lead pedestrians through this attractive space in Liverpool.

◄ Historic architecture and contemporary landscape work in harmony at this public space in Dublin.

Before ▲

▲ After

5.3 Stonewell Nose

Stonewell Nose is a significant space for Lancaster as it forms the gateway to the proposed Canal Quarter development site. The transformation of this space will be key to the success of the Canal Quarter and its integration with the city centre.

- Gyratory currently forms a significant barrier to pedestrian movement between the city centre and the Canal Quarter.
- Convergence of roads creates confusion and congestion.
- Continuous frontage forms a 'shell' around the Canal Quarter, creating the distinctive 'nose' announcing arrival to the Canal Quarter.
- Glimpsed views through narrow openings / passages into warren of courtyards beyond; sense of intrigue and discovery.
- Aspiration of the Canal Quarter to create a 'delta' of movement through the nose (utilising existing ginnels and passages to retain existing character)
- Dramatic view along Moor Lane to the Ashton Memorial in Williamson Park.
- Tight-knit, fine grain, human-scale, feeling of cosiness.
- Pedestrian crossing doesn't follow desire line.
- The Friary is a historic gem but is currently compromised by the dominant road network and narrow pavements that surround it.
- Opportunity to redesign the space to prioritise pedestrian movement and facilitate connectivity between the city centre and the Canal Quarter.
- Opportunity to enhance public space at Moor Lane, creating an attractive arrival space and utilising views to reinforce sense of place.

Existing Situation

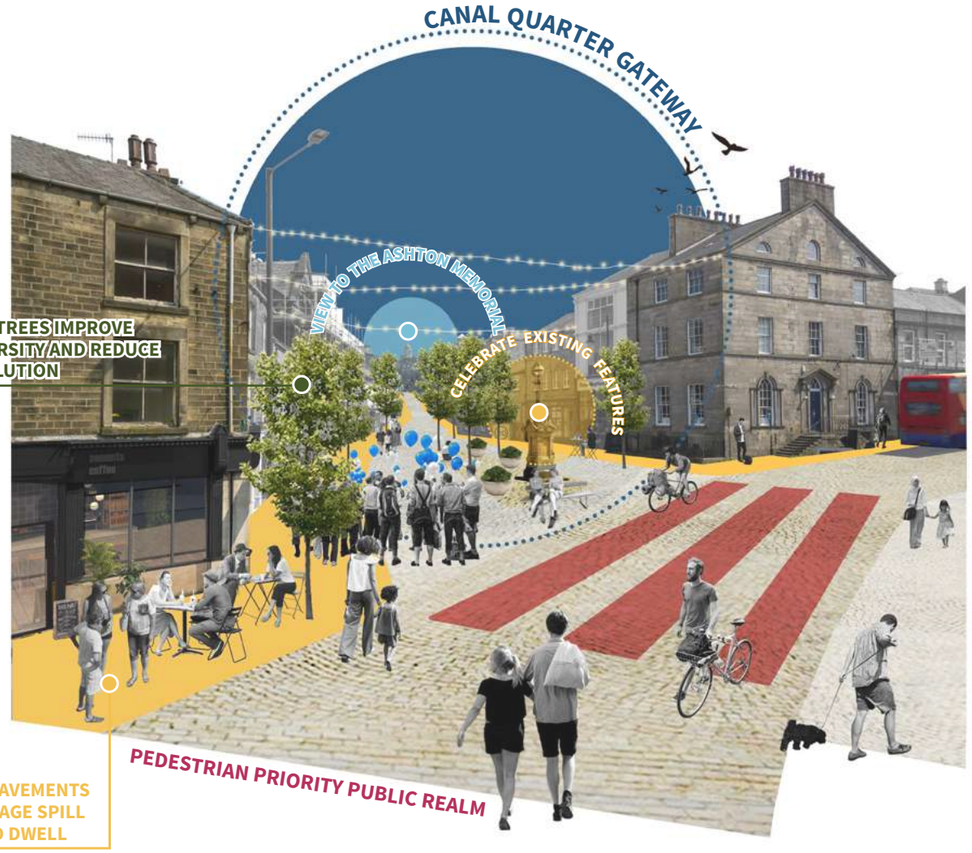
The road network severs the Canal Quarter from the city centre and compromises the Grade II Listed Friary ►

◄◄ Continuous frontage forms a distinctive shell around the Stonewell Nose.

◄ Dramatic view along Moor Lane towards the Ashton Memorial.

Before ►

After ►



Precedents

◄◄ Generous pedestrian crossings create a balanced streetscape in Poynton.

◄ A water fountain provides a focal point, whilst trees create an attractive place to sit within this Square in Sheffield.

◄ Plenty of spill-out space, bespoke seating and attractive lighting create a lively little public space full of character in Altrincham.

Before ▲

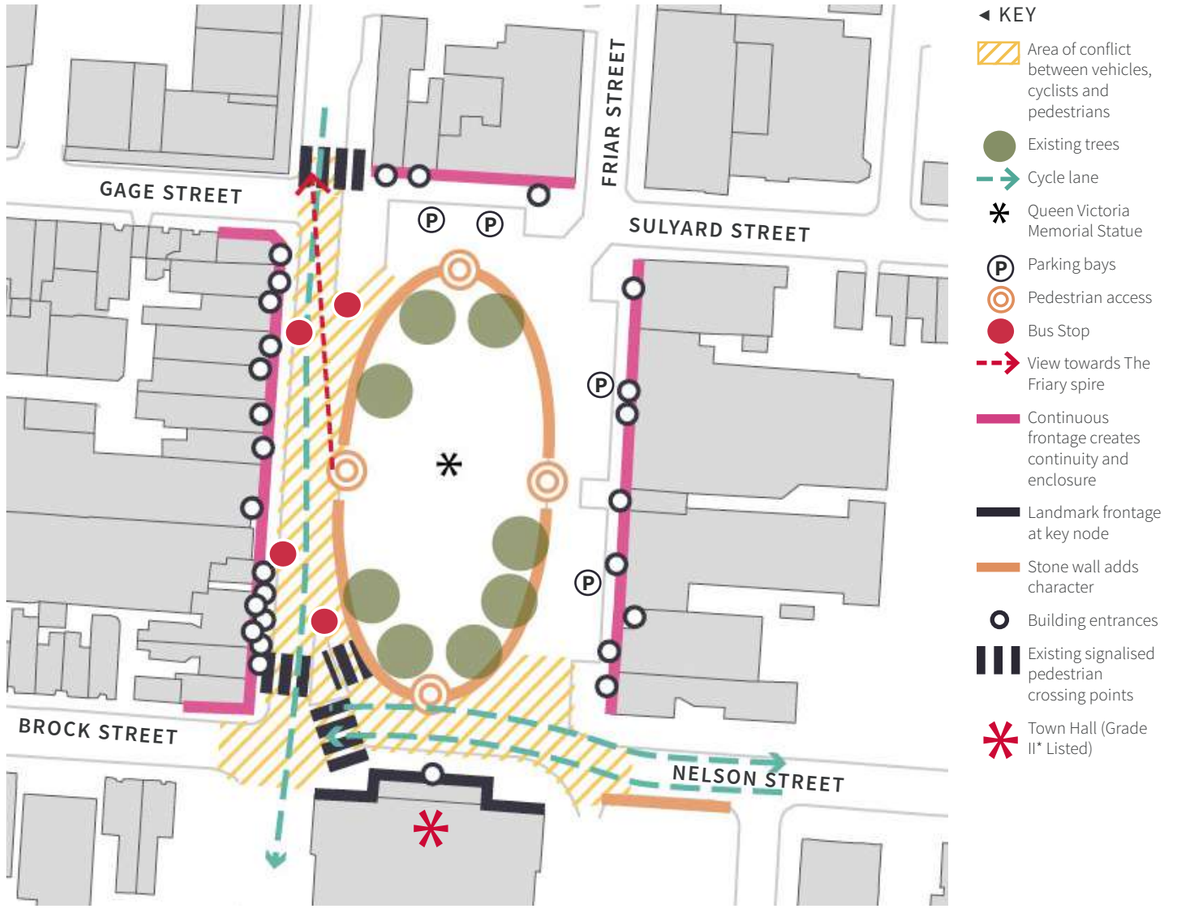
▲ After

5.4 Dalton Square

Dalton Square forms the civic heart of Lancaster. It is the largest and most significant public space within the city centre. Currently severed by the ring road along its western boundary, Dalton Square has the potential to be significantly enhanced and celebrated as a key destination within the city.

- Attractive historic square lined by significant buildings of heritage value including the Town Hall (Grade II* listed) and multiple other Grade II listed buildings.
- Large mature trees.
- Queen Victoria Memorial (Grade II* listed) forms focal point of the square.
- Already hosts numerous events for the city but could be significantly improved as an event space.
- Gyratory currently severs the space creating a barrier along the western edge and a disconnect between the buildings and the square.
- Arrival to the Town Hall is compromised by roadway in front, disconnecting the Town Hall from the square.
- Dominance of gyratory deters spill-out along western edge.
- Cars take priority with pedestrian movement limited to signalised crossing points to the north and south.
- Opportunity to extend the square to its edges, creating a more holistic space in which people have priority over cars.
- Opportunity to celebrate and honour the history and architecture of the space, reinforcing it as key destination within the city.

Existing Situation

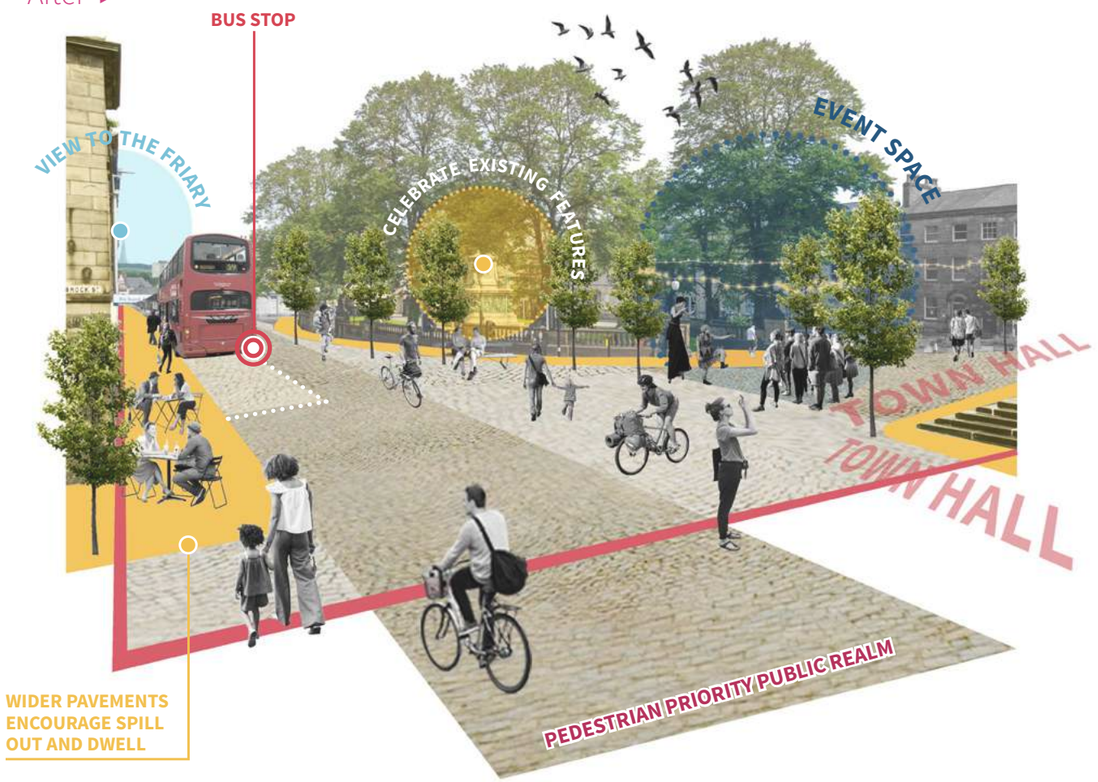


Queen Victoria memorial statue stands at the heart of Dalton Square, surrounded by mature trees ►

◄ Parking bays along the eastern edge of Dalton Square

Before ►

After ►



Precedents

◄◄ Cafes and restaurants are encouraged to spill-out into the public realm to activate the edges of this space in London.

◄ Albert Square in Manchester hosts the International Festival in front of the Town Hall.

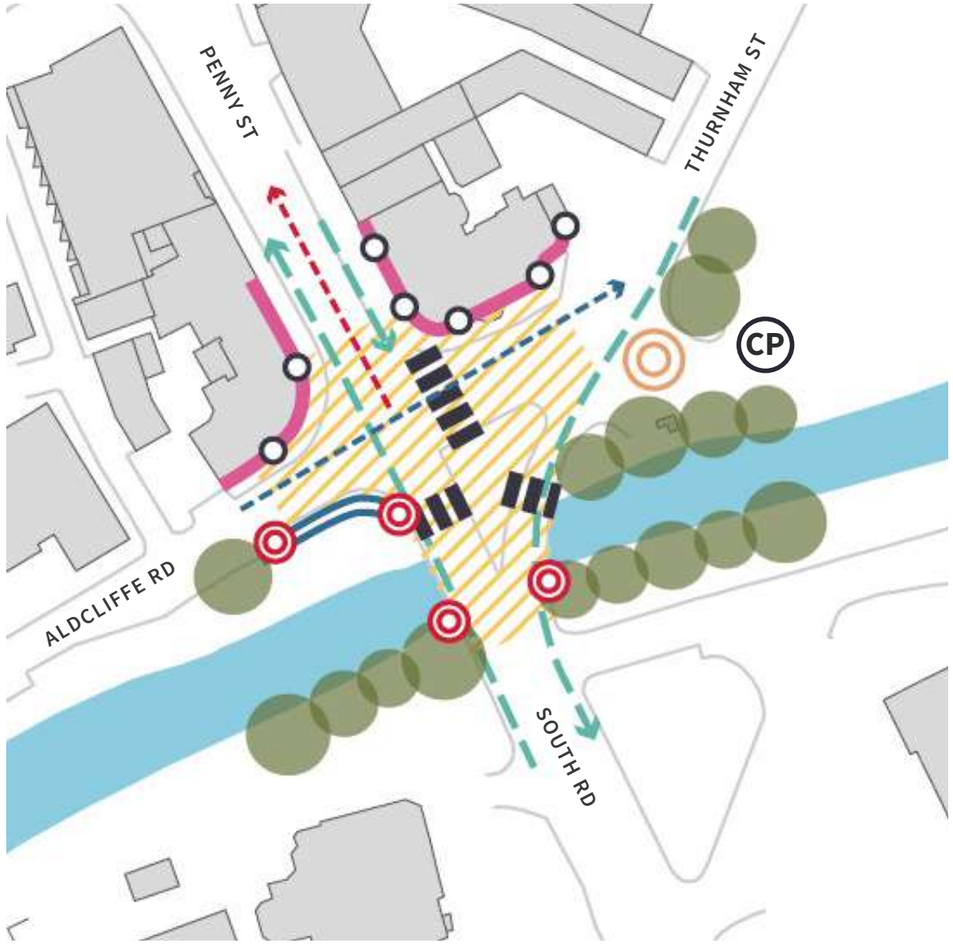
◄ Generous public realm allows for pop-up events and informal meetings against a backdrop of heritage architecture at Brunswick Park in Manchester.

5.5 Penny Street Bridge

Penny Street Bridge forms an important gateway for Lancaster as it marks the arrival to the city centre. There is an opportunity to enhance this area to create an attractive arrival space for the city.

- Large scale junction - arrival experience is dominated by roads and traffic.
- Wide roads (3 lanes), narrow pavements and a traffic island create a hard and cluttered environment.
- Mature trees indicate presence of the canal, however the canal entrances are poor.
- Lack of interface with canal. Missed opportunity to create meaningful connection to canal along Aldcliffe Road.
- Poor pedestrian crossings do not follow desire lines and can take a long time to cross creating a frustrating environment for pedestrians.
- Two Grade II listed buildings mark the gateway to the city centre and frame a view towards the castle in the distance.
- Opportunity to create an attractive gateway space which announces arrival into the city.
- Opportunity to tighten the road network and create a more pedestrian friendly environment.
- Opportunity to celebrate and enhance the canal as an important historic and biodiverse corridor for the city.

Existing Situation



A cluttered and car-dominated environment ►

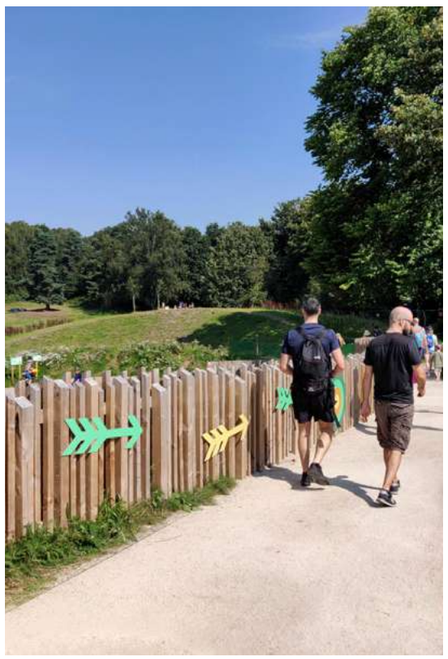
◄ Unattractive and unwelcoming access to the canal.

Before ►

After ►

Precedents

◄ A change in surface treatment and a bespoke totem announce arrival into Altrincham



◄◄ Contemporary signage contrasts with historic architecture to welcome people to The Good Life Experience in Hawarden

◄ Colourful graphics lead people in the right direction at Sherwood Forest Country Park

5.6 Penny Street Pocket Park

Located at the intersection of Penny Street and King Street, this space has the potential to become a key gateway into the heart of the city centre.

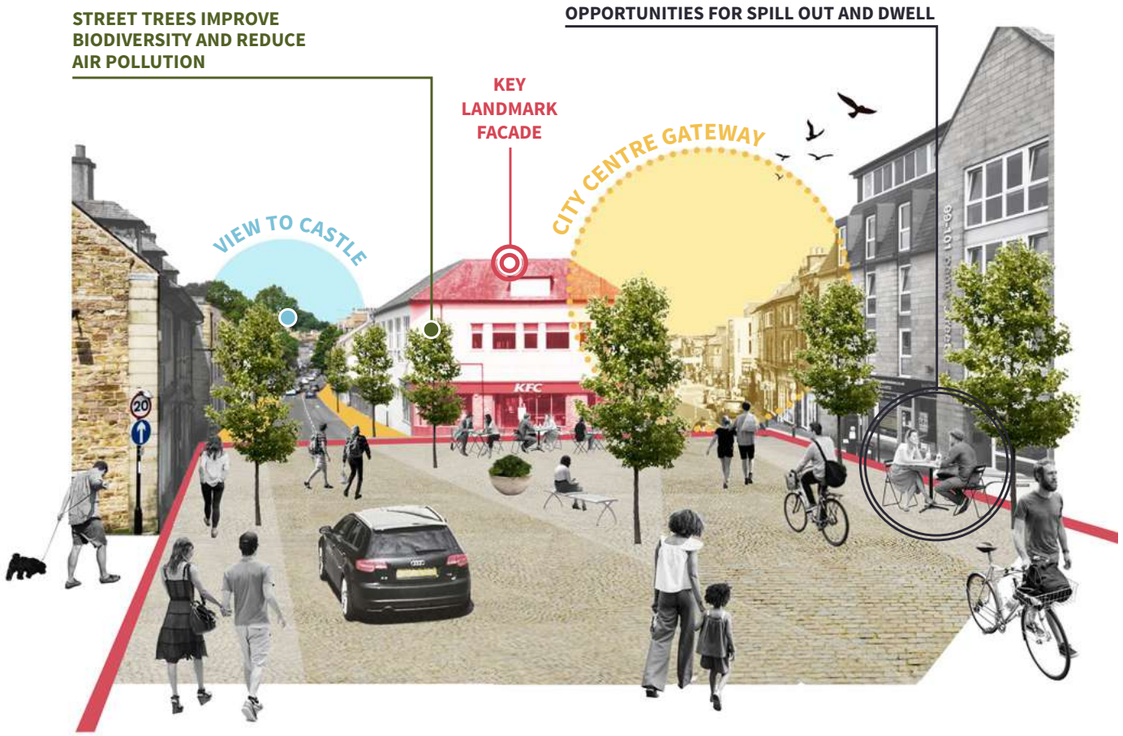
- Currently dominated by cars due to the convergence of King Street and Penny Street, forming three lanes of traffic.
- Wide gap between Penny Street and King Street with considerable parking and a taxi rank, adding to the mass of vehicles and dominance of asphalt.
- Unpleasant and confusing for pedestrians, cyclists and other vulnerable road users.
- No clear pedestrian crossing point across the space. Nearest signalised crossing points are a considerable distance away. This is increasingly a problem as a large student accommodation block and retail unit have opened on the western side of King Street, adding increased footfall to this part of the city.
- Buildings vary in height, from three to five storeys, creating a comfortable human scale.
- Predominant land uses surrounding the space include residential (including significant student accommodation), retail and food and beverage.
- Opportunity to optimise the space for the benefit of these surrounding uses by providing space for outdoor dining, meeting and relaxing within an attractive pocket park setting.
- The fork in the road and the subsequent splay in the building frontages creates an attractive and legible urban form, with views towards the castle along King Street and a clear route leading into the heart of the city centre via Penny Street.
- This splay in the built form creates interesting geometries for the space, adding character and identity.
- The building at the intersection of the two streets (currently KFC) forms an important landmark at this key node within the city.
- Opportunity to create an attractive new pocket park, announcing the gateway to the city centre and celebrating the unique qualities of this space. By flipping the hierarchy of the space, to one in which pedestrians take priority, Penny Street Pocket Park could become an attractive new public space for the city.

A car dominated environment which is unpleasant and confusing for pedestrians ►

Existing Situation

Before ►

After ►



Precedents

◄◄ Wide pavements accommodate spill-out space and cafe culture in Altrincham.

◄ This colourful co-working space in Dublin demonstrates how a building frontage can be transformed into a key landmark facade.

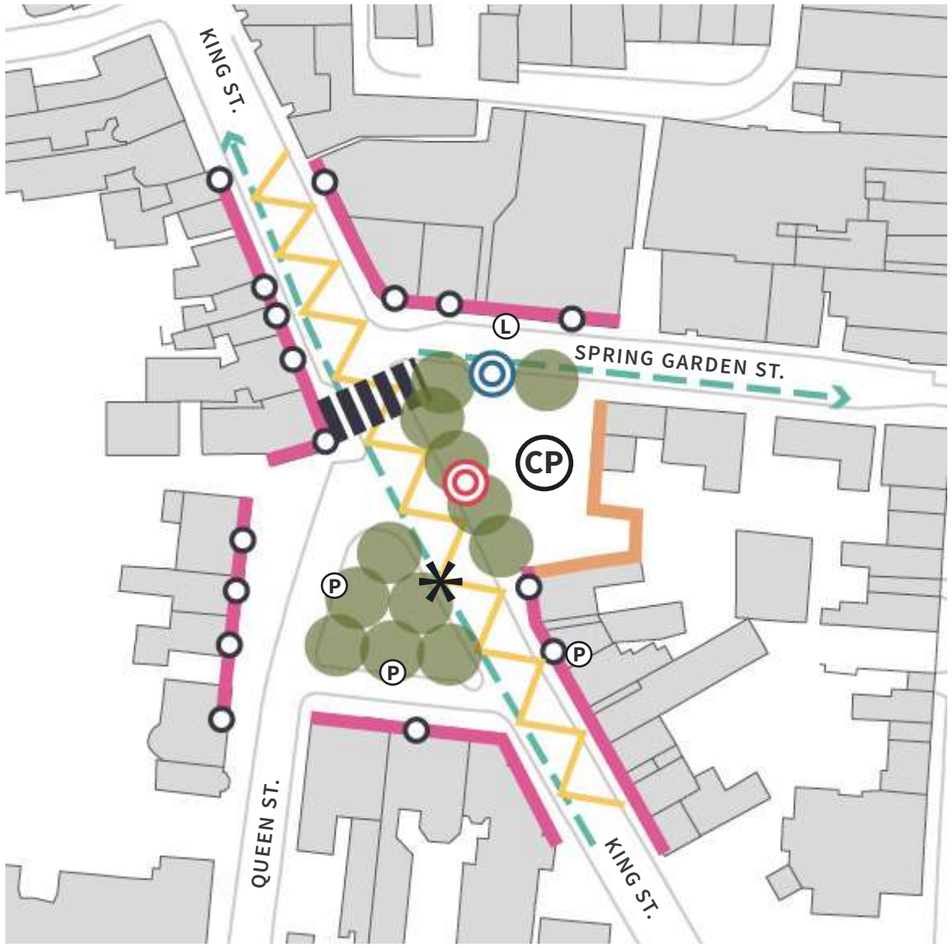
◄ Trees and bespoke seating create an attractive, pedestrian-friendly environment at Goose Green in Altrincham.

5.7 Queen Square / Spring Gardens

Queen Square is an under utilised public space within the city. Together with the adjacent land at Spring Gardens, there is an opportunity to create an attractive new public park for the city.

- Queen Square is an attractive and characterful space with mature trees, cobbled surfacing and beautiful historic buildings framing its edges. However, it is currently an unappealing place to spend time due to the noise, pollution and congestion caused by the adjacent road.
- Completely overwhelmed by traffic due to proximity of King Street and Queen Street.
- Pedestrian movement across the street is limited to one signalised crossing point.
- Spring Gardens car park adds to the congestion and dominance of the car.
- Convergence of roads and volume of traffic creates conflict between road users and frequent collisions.
- Narrow pavements.
- Surrounded by predominantly 2-3 storey buildings, with one 5 storey building on the corner of Spring Garden Street and King Street.
- Attractive triangular geometries create a comfortable, human scale space.
- Stone wall forms backdrop to Spring Gardens car park - a characterful and typically Lancastrian feature which adds warmth and texture to the space.
- Opportunity to create a new public park, incorporating the existing trees and providing comfortable, pedestrian focussed spaces in which to meet, relax and play.
- Opportunity to honour the beautiful historic buildings which define the edges of the space by creating an equally beautiful public park within it.

Existing Situation



◄ KEY

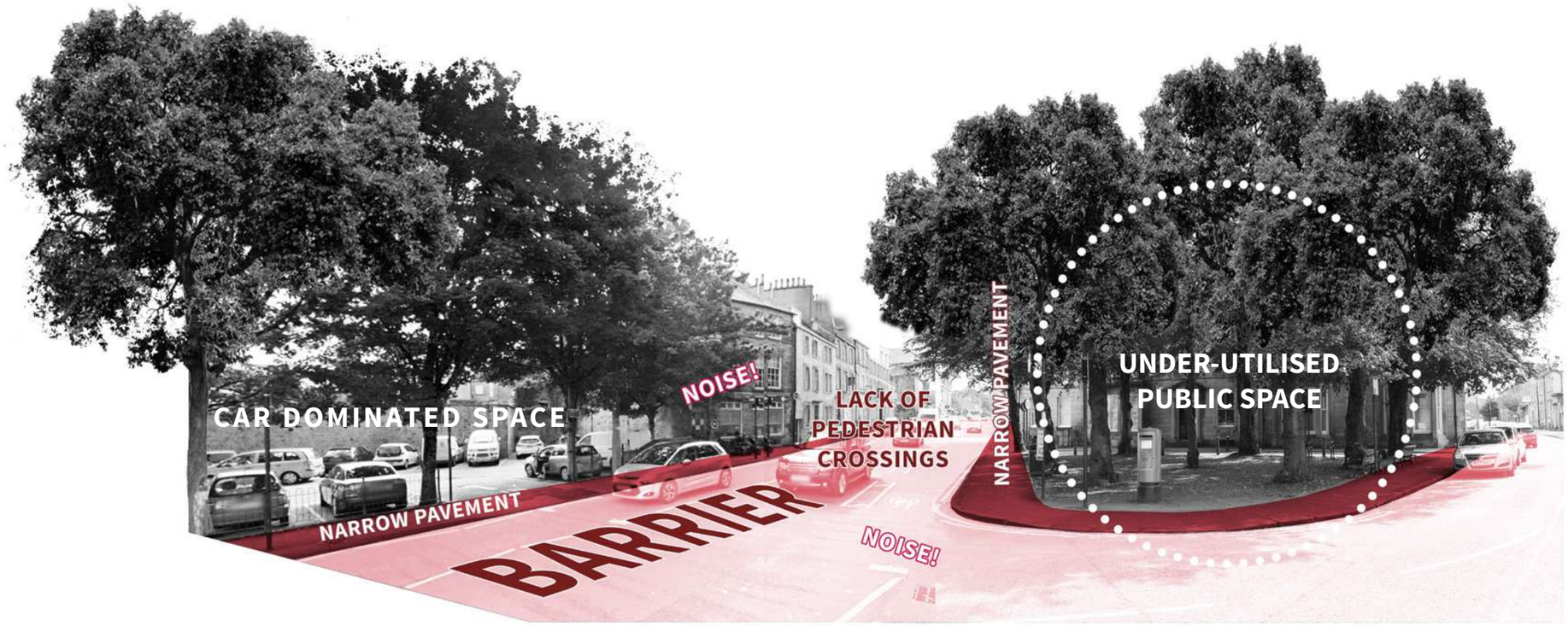
- Ring road creates barrier, congestion, noise and air pollution
- Cycle lane
- Bus stop
- Car park
- Parking bays
- Loading bays
- Car park entrance
- Car park exit
- Existing trees
- Continuous frontage creates continuity and enclosure
- Stone wall adds character
- Building entrances
- Existing signalised pedestrian crossing points

Queen Square: a beautiful but under-utilised public space ►

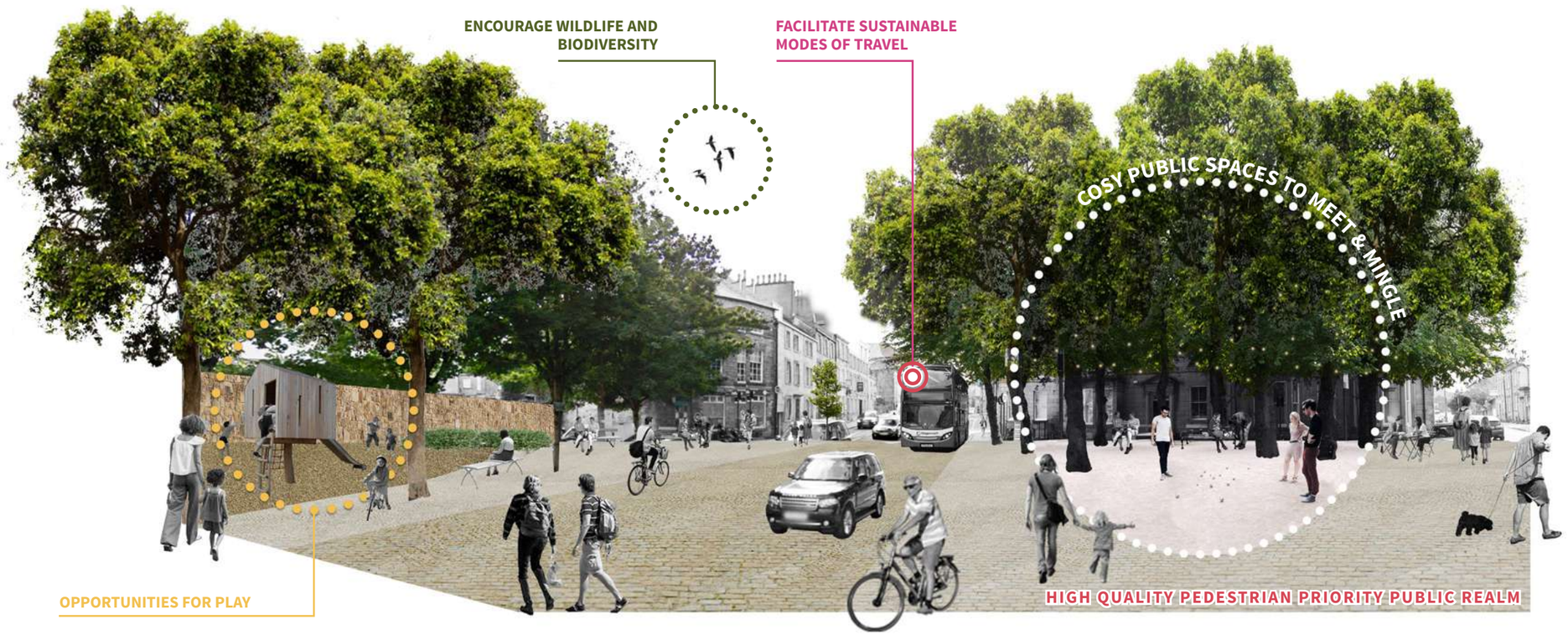
◄◄ The space is hindered by the constant traffic along King Street.

◄ Spring Garden car park

Before ►



After ►



Precedents

Opportunities for play within a family-friendly environment in Copenhagen

A pleasant place to sit beneath the trees in Granary Square, London

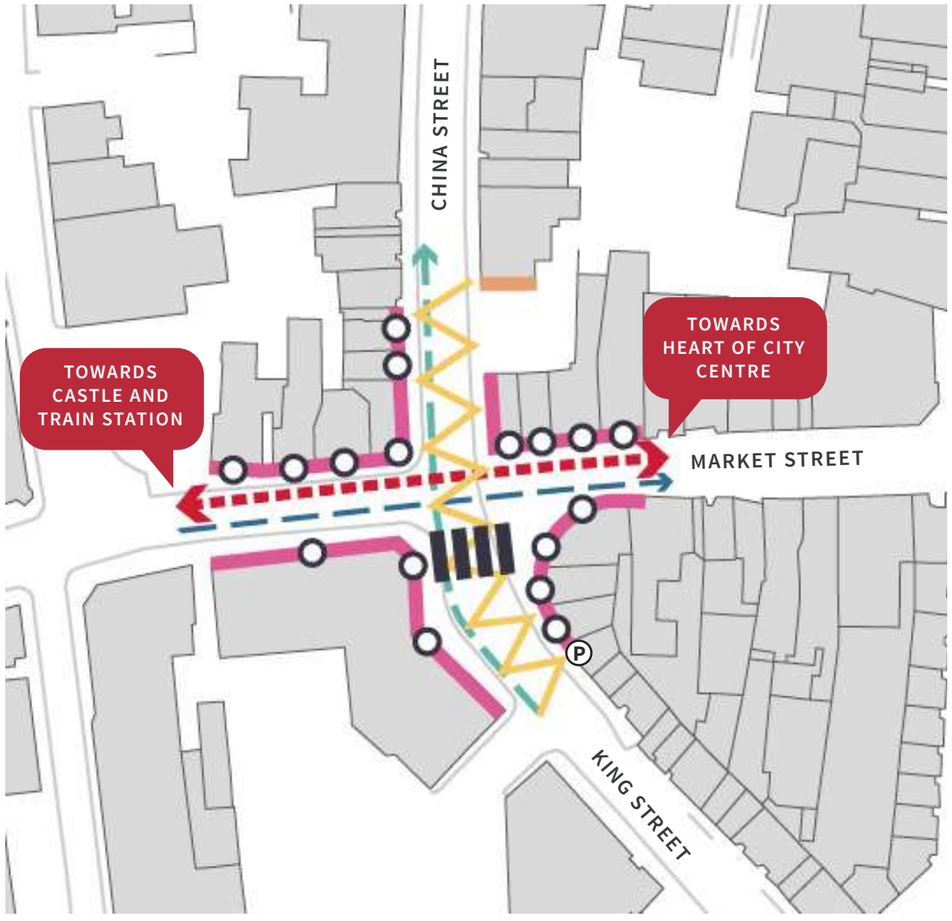
Informal games provide opportunities for meeting, adding life to the public realm in Dusseldorf

5.8 Market Street Gateway

Market Street Gateway forms an important node for the city, marking the arrival to the city centre from key destination points such as the Castle and the train station.

- King Street and China Street form a barrier to pedestrian movement across a key pedestrian movement route between the Castle/train station and the heart of the city centre.
- Signalised pedestrian crossing point to one side of the street only.
- Tight junction with large vehicles turning creates a particularly hostile environment for pedestrians.
- Lots of active frontages and proximity to Market Street results in a busy pedestrian environment.
- Narrow pavements with minimal space for spill-out.
- Lack of trees / green infrastructure.
- Attractive historic buildings between 3-5 storeys define the edges of the space. The curved facade of the building on the corner of Market Street and King Street forms a particularly notable landmark.
- Attractive views along Market Street and a glimpsed view of the Cathedral in the distance add character and legibility to the setting.
- Opportunity to flip the hierarchy of the space to create a clear and attractive pedestrian movement corridor between the train station and the city centre.

Existing Situation



◄ KEY

- Ring road creates barrier to key pedestrian desire line
- Key pedestrian desire line
- Cycle lane
- View along Market Street into heart of city centre
- Continuous frontage creates continuity and enclosure
- Feature wall with mural adds character
- Building entrances
- Existing signalised pedestrian crossing

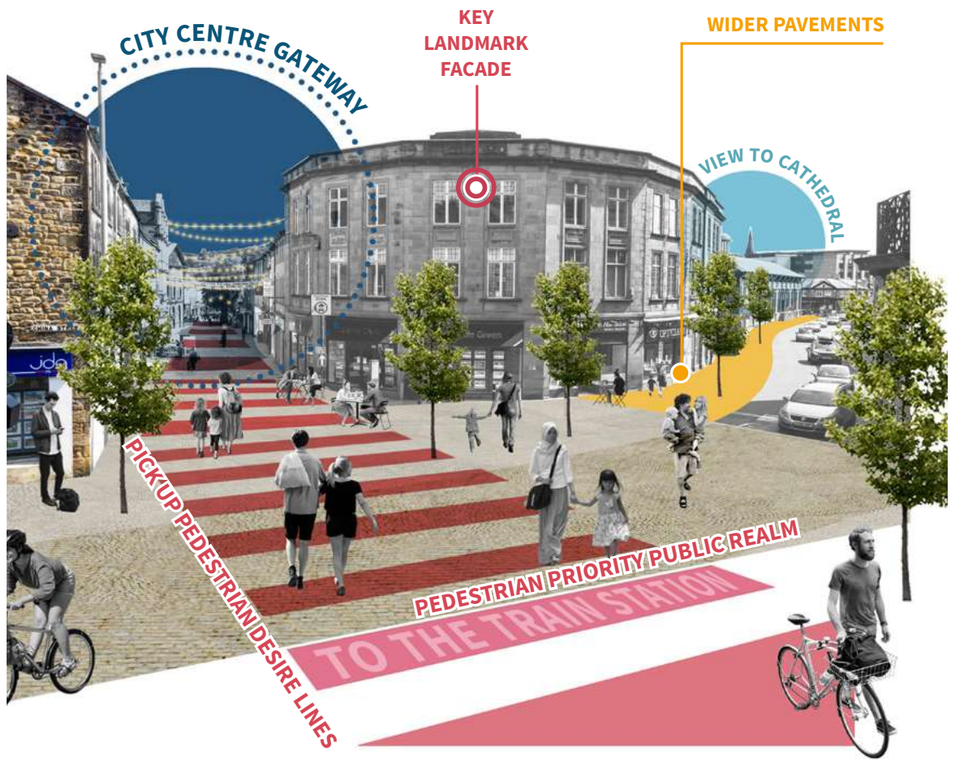
The gyratory severs the link to market street at this key city centre gateway ►

◄◄ A large HGV turns the tight corner onto Meeting House Lane.

◄ Narrow pavements create a challenging environment for pedestrians.

Before ►

After ►



Precedents

◄◄ A change in surface materials creates a clear pedestrian priority environment in Brittany, France.

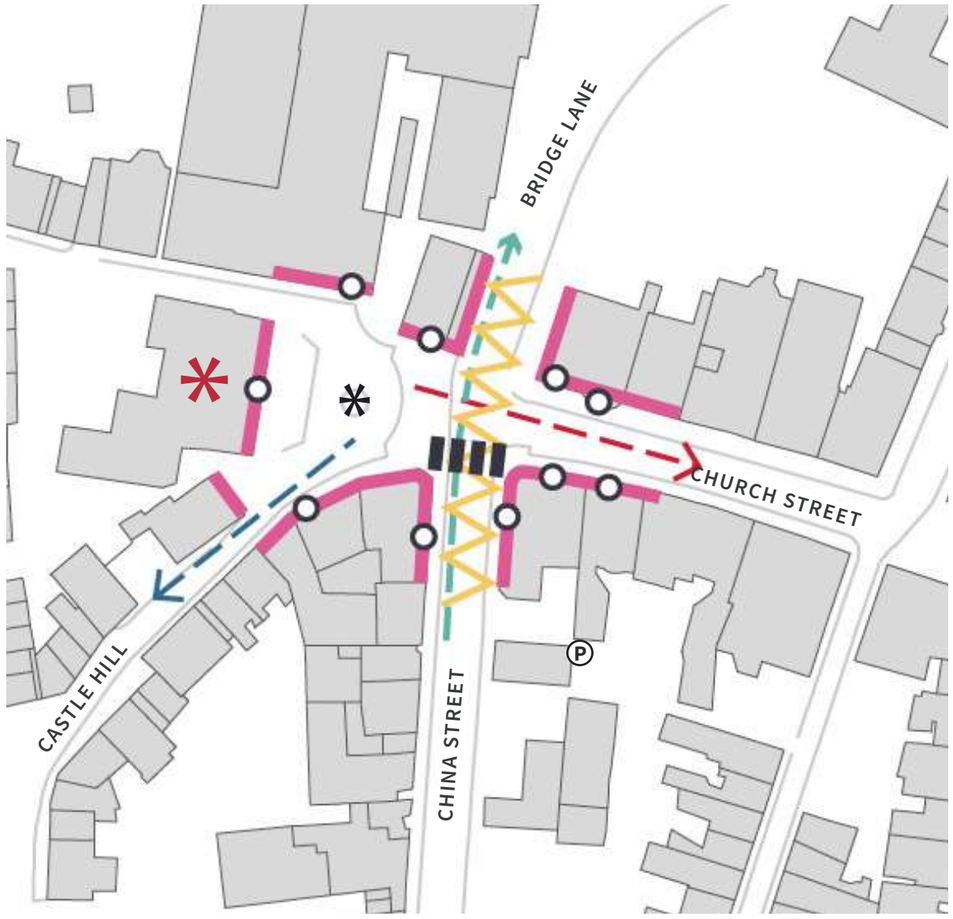
◄ Catenary Lighting clearly highlights the linear route, drawing people through whilst creating a cosy atmosphere in London.

5.9 Castle Hill Place

Castle Hill Place is situated at the northern base of Castle Hill, immediately in front of the Judges' Lodgings Museum. It is currently an attractive but underutilised public space with the potential to become a key destination within the city.

- Attractive space surrounded by historic buildings including the Grade I Listed Judges' Lodgings Museum.
- The Judges' Lodgings Museum is a key destination within the city, however, connectivity between the museum and the heart of the city centre is severed by the ring road.
- Lack of trees / green infrastructure.
- Materiality gives warmth and character to the space.
- Rise in topography along Castle Hill reveals a glimpsed view of the castle behind the space and results in an attractive layering to the urban form.
- Arrangement of buildings along with variation in height and roof form creates interesting geometries and adds a sense of mystery and intrigue to the urban form.
- Opportunity to expand the public space across the road to create a better connection between the museum and Church Street/the city centre, reinforcing the Judges' Lodgings as a key destination within the city.
- Opportunity to introduce trees to soften the space and utilise the change in level as a design feature to create an attractive public space in which to dwell.

Existing Situation

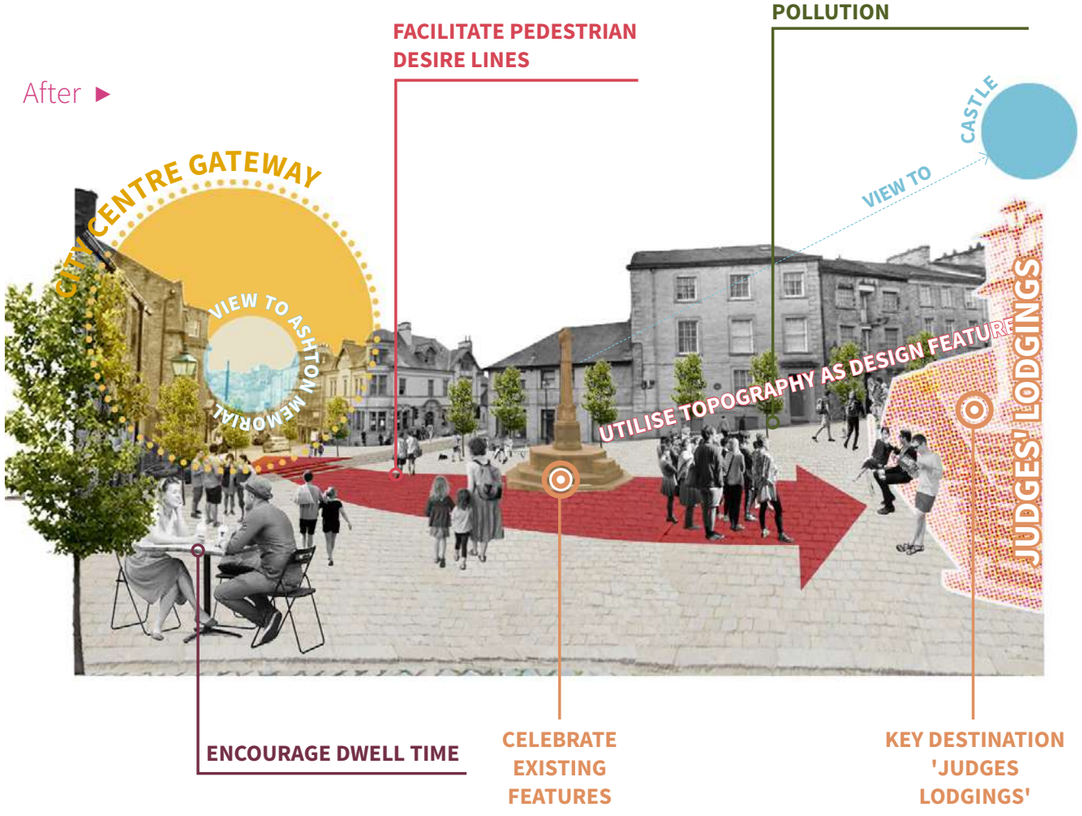


Glimpsed view towards the castle beyond ►

◄ View along Church Street into the heart of the city centre.

Before ►

After ►



Precedents

◄◄ Seating provides a place to rest and enjoy the sun whilst the paving pattern creates a subtle focal point at this public space in Dublin.

◄ The level change is utilised as an integral design feature at Kings Cross in London.

◄ Trees add contrast and greenery to this historic setting in Dusseldorf.

Local Authority Workshop

6.1 Summary of workshop outcomes

Lancashire County Council and Lancaster City Council have been jointly working to pro-actively plan for the district's transport needs for many years. Towards this Strategy, numerous discussions have taken place culminating in a workshop between key county and city officers to establish a way forward based on the current situation in the city centre. Key areas for the discussion were:

Key areas for the discussion were:

- Suitability of the suggested appraisal framework
- Develop a set of key objectives for the appraisal framework
- Suggest a variety of route options for the city centre

There was broad agreement that the five themes recommended by the CIHT would provide a sound basis for forming an appraisal framework.

It was also agreed that the District of Lancaster Highways and Transport masterplan formed a suitable vision to formulate objectives for the study. As part of the workshop the following 10 objectives were agreed (in no particular order).

- Lessen the impact which motorised transport and the congestion it creates has on the public realm and city centre environment.
- Ensure travel is, and feels, safe and secure for users of all modes.
- Alleviate air quality issues within the city centre.
- Improve the reliability of journeys made by cyclists, pedestrians and public transport which pass through the city centre.
- Increase the amount of active travel for access to the city centre, improving health and quality of life for the population.
- Reduce carbon emissions from transport within the city centre.
- Reduce severance across the city centre between key public transport nodes.
- Provide an environment that is able to adapt to future mobility trends; e.g. electric vehicles, intra urban mobility (electric bikes, scooters), autonomous vehicles.
- Ensure parking and deliveries are managed effectively in a way that supports the sustainability of Lancaster city centre.
- Increase footfall and support city centre functions.

The Evaluation Matrix below presents these key objectives in terms of their appraisal theme.

Key Objectives

Inclusive Environment

- Reduce severance across the city centre between key public transport nodes.

Ease of Movement

- Improve the reliability of journeys made by cyclists, pedestrians and public transport which pass through the city centre.

Quality of Place (Public Realm)

- Lessen the impact which engine based transport and the congestion it creates has on the public realm and city centre environment.

Safety and Public Health

- Ensure travel is, and feels safe for users of all modes.
- Alleviate air quality issues and minimise air pollution within the city centre.
- Increase the amount of active travel for access to the city centre, improving health and quality of life for the population.
- Reduce carbon emissions from transport within the city centre.

Economic Benefit

- Ensure parking and deliveries are managed effectively in a way that supports the sustainability of Lancaster city centre.
- Increase footfall and support city centre functions.
- Provide an environment that is able to adapt to future mobility trends; e.g. electric vehicles, intra urban mobility (electric bikes, scooters), autonomous vehicles.

Route Options

In light of the evidence presented within this strategy and the potential for major infrastructure delivery as part of major new development planned for the area, there is a real opportunity to look at radical interventions that would centremeet the aspirations of the Highways and Transport Masterplan and satisfy the requirements of the Bay Gateway Development Consent Order.

A reconfigured Junction 33 of the M6, potentially including a new Park and Ride, supported by a sustainable travel corridor along the A6 through a cycle superhighway and BRT, offers a real opportunity to reduce traffic in the city centre.

With this in mind, officers from both local authorities discussed which city centre route options could meet these aspirations. The group agreed on the following longlist of 8 options which were scored in relation to the appraisal framework:

- Option 1: Existing one-way gyratory
- Option 2: Two-way gyratory
- Option 3: One lane and one-way gyratory for vehicular traffic with second lane dedicated to sustainable travel
- Option 4: Sustainable travel corridor east
- Option 5: Sustainable travel corridor west
- Option 6: Principle of no through city centre traffic
- Option 7: Principle of gyratory closed to through traffic except for exemptions
- Option 8: Principle of city centre clean air zone

Each option is presented as a dashboard. Firstly there is a description of the proposed changes. This is then illustrated through a map highlighting interventions and routing along the gyratory system. A qualitative assessment of the likely travel and transport implications is then provided. Finally a scoring matrix is provided to illustrate the impacts as measured against the study objectives. Options which displace traffic will require supportive measures (HIF related or otherwise) to be taken inside and outside the city centre area to address these consequential impacts. These measures will be considered in more detail for the shortlisted options arising from this consultation.

7.1 Option One

Maintain the Existing One Way Network

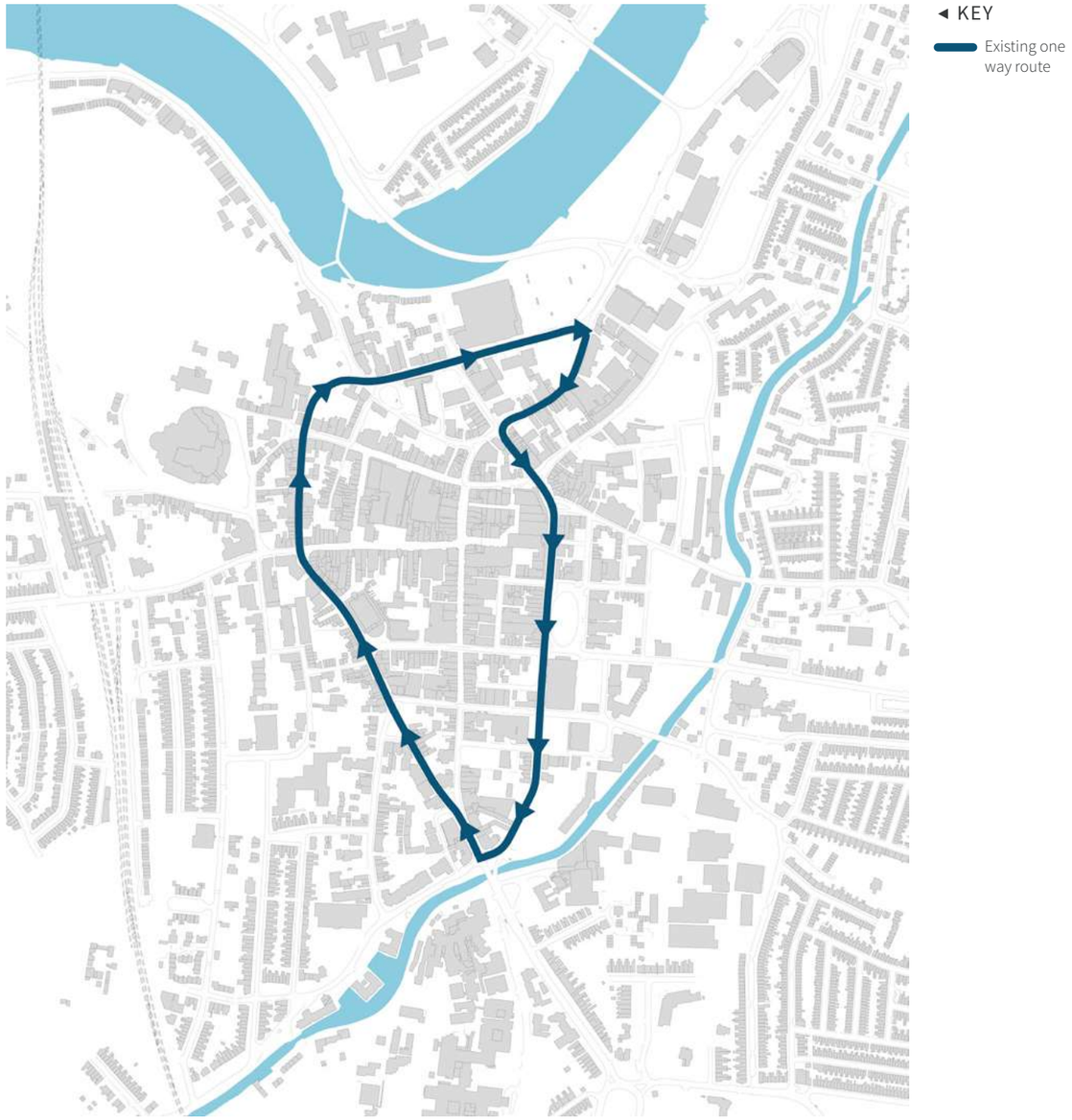
Option 1: Maintaining the existing one-way route is the option of least intervention. It envisages no change to the direction of the one-way gyratory system currently in place and does not reallocate road space to sustainable modes of transport.

Funding identified through the Housing Infrastructure Fund would not be eligible to support this option. Under this option any future measures will need to be funded by any development contributions that may be secured or any future and isolated funding programmes that may become available. This would not support a holistic approach to transport and movement planning for the city.

One example that this option will deliver, however, includes changes to the Pointer Roundabout which have already secured funding as part of the Safer Roads Fund programme. This is primarily a safety scheme to improve the environment for all users at the roundabout. As a result this will have little impact on the gyratory system or the travel choices of those who use it and needs to be delivered regardless of the wider route optioning.

Assessment of travel, transport and public realm implications

With no changes proposed to the transport system around the city centre would remain the same.



Strengths

- Safety improvements at Pointer Roundabout

Weaknesses

- Does very little to improve the city centre environment for pedestrians and cyclists.
- Does not provide potential improvement in air quality.
- Does not reduce carbon emissions from the city centre.
- Does not reduce severance at key locations in the city centre.
- Does not increase reliability for public transport.
- Does not provide a safer environment for users of all modes.
- Dose not provide a basis for any of the opportunities highlighted in section 5.1 to be considered

Appraisal

	Red	Amber	Green	Greener
Inclusive Environment • Reduce severance across the city centre between key public transport nodes.				
Ease of Movement • Improve the reliability of journeys made by cyclists, pedestrians and public transport which pass through the city centre.				
Quality of Place (Public Realm) • Lessen the impact which engine based transport and the congestion it creates has on the public realm and city centre environment.				
Safety and Public Health • Ensure travel is, and feels safe for users of all modes.				
• Alleviate air quality issues and minimise air pollution within the city centre.				
• Increase the amount of active travel for access to the city centre, improving health and quality of life for the population.				
• Reduce carbon emissions from transport within the city centre.				
Economic Benefit • Ensure parking and deliveries are managed effectively in a way that supports the sustainability of Lancaster city centre.				
• Increase footfall and support city centre functions.				
• Provide an environment that is able to adapt to future mobility trends; e.g. electric vehicles, intra urban mobility (electric bikes, scooters), autonomous vehicles.				

7.2 Option Two

Two way Gyratory

Option 2 proposes altering the gyratory away from its current one-way system to allow two-way traffic for all modes. This would result in a shift away from two lanes of one-way traffic to provide a single lane in both directions on both of the arms of the gyratory.

Assessment of travel, transport and public realm implications

Sustainable Travel

This option would offer no additional benefits for cyclists. It may offer some benefits in terms of journey time savings for bus routeing as it reduces the need for multiple loops of the inner gyratory.

Public Realm/Severance

It would offer no improvement in terms of dealing with issues of severance and better public realm. The city centre area would be surrounded by traffic and aspects of severance between open space, cultural assets and transport interchanges would remain the same.

Temporary reallocation of road space for public events would be more easily facilitated with this option than the no-change and other one-way scenarios. Roads required for any proposed events could be closed off more easily than with the current configuration as the remaining open roads would already be set up for two-way travel.

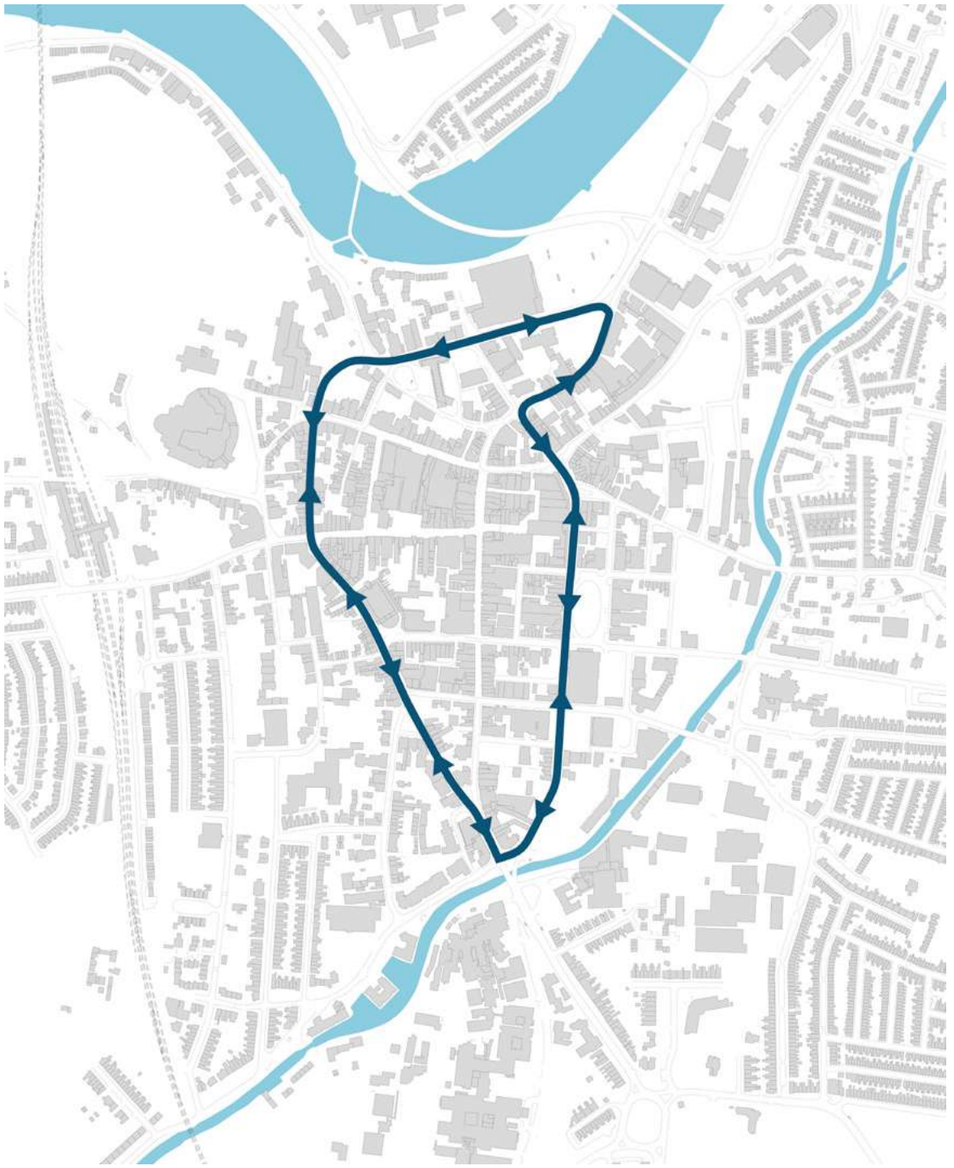
Air Quality

Air Quality likely to worsen as two-way traffic tends to lead to lower speeds and more stopping and starting.

Vehicle Movements

In terms of vehicular movements, there would be some potential benefits for residents in the east and west of the city who could make onward north and south bound journeys without having to fully circumnavigate the full gyratory system.

Congestion may worsen overall as stopping buses and vehicles waiting to turn right will cause more disruption to traffic flow than the existing scenario, where an additional lane is available to bypass obstacles. Particularly likely to cause disruption if more frequent buses are proposed.



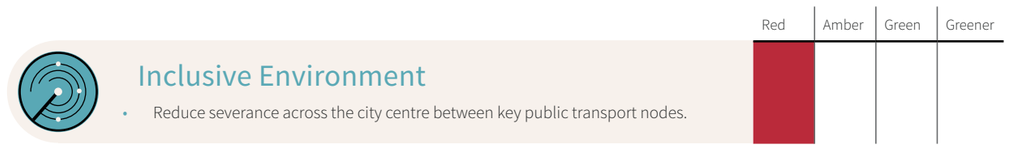
Strengths

- Lessens vehicular journey time on the gyratory especially for west Lancaster residents.

Weaknesses

- Does not improve the city centre environment for pedestrians and cyclists.
- Air quality likely to worsen.
- Does not reduce carbon emissions from the city centre.
- Does not reduce severance at key locations in the city centre.
- Does not increase reliability for public transport.
- Does not provide a safer environment for users of all modes.
- Dose not provide a basis for any of the opportunities highlighted in section 5.1 to be considered

Appraisal



7.3 Option Three

One lane and one way gyratory for vehicular traffic with second lane dedicated to sustainable travel

Option 3 proposes a reconfiguration of the gyratory that maintains the current one-way direction, however this will be reduced to one lane for general traffic, with the second lane dedicated to sustainable travel (e.g. buses and cycles) also one-way.

Assessment of travel, transport and public realm implications

Sustainable Travel

This option would offer journey time savings for buses and increase their reliability and resilience. It would offer improvements for cyclists, although highway space would be shared with buses and the one-way nature of the gyratory would not lead to direct journeys for cyclists.

Access to the railway station would be improved.

Public Realm/Severance

It would offer no improvement in terms of dealing with issues of severance and better public realm. The city centre area would be surrounded by traffic and aspects of severance between open space, cultural assets and transport interchanges would remain the same.

Air Quality

Air quality likely to improve at peak times due to reduction in vehicle capacity, however there is the potential for decreased air quality along rat run route without wider mitigation measures.

Vehicle Movements

Without mitigation, this option effectively reduces capacity for road vehicles by 50% and still operates as a one-way system. This would mean that residents within the west of the city would still need to access the gyratory for onward travel, but this would be down to one lane rather than two. This is likely to lead to these residents avoiding the gyratory as a through route, increasing rat running in residential areas in the west such as Aldcliffe, Fairfield and Marsh. Similarly to the east of the city, residential areas such as Freehold and Ridge would be more likely to suffer from increased rat running.

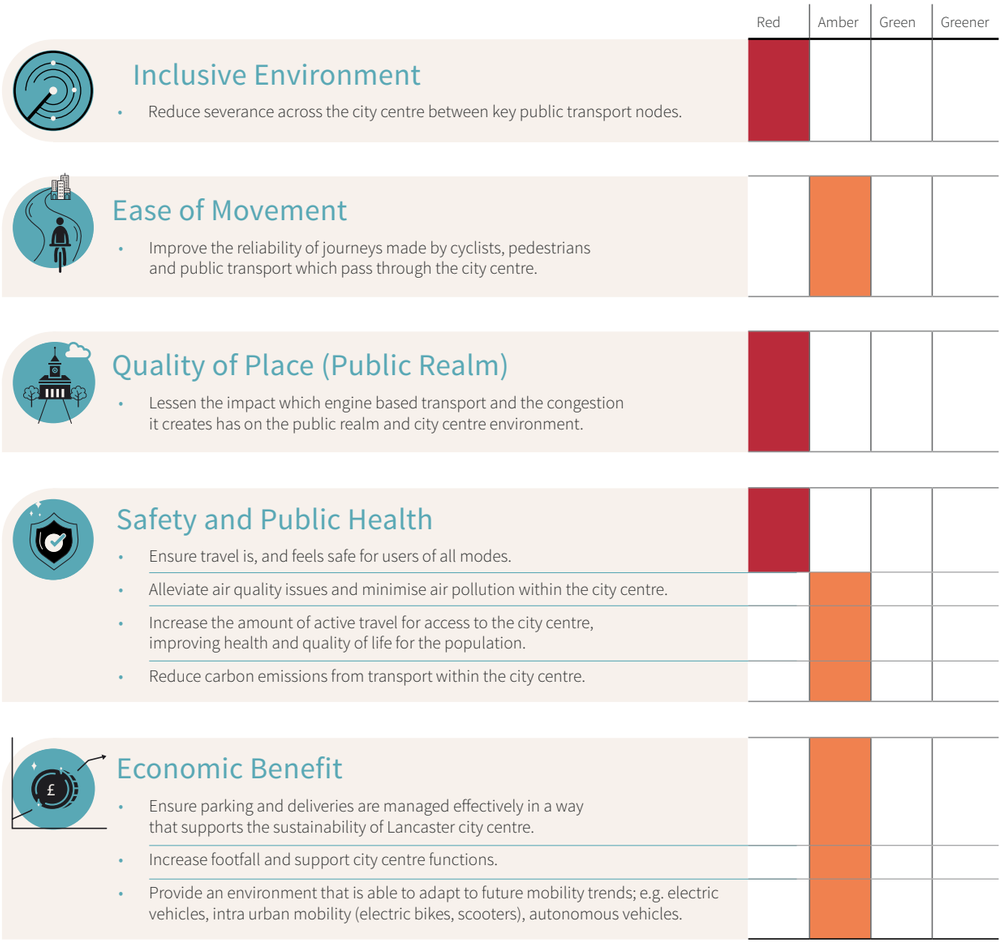
Strengths

- Due to decrease in road space for motorised traffic, offers potential improvement in air quality and reduction of carbon emissions.
- Decrease in traffic provides some improvement in the city centre environment for pedestrians and cyclists.
- Improves reliability for public transport.
- Improves air quality in parts of the city centre.

Weaknesses

- Does not reduce severance at key locations in the city centre.
- Does not reduce road safety significantly.
- Reduction in highway capacity for motorised traffic has implications for rat running if not mitigated.
- Acceptance (Public, Business, Political).
- Does not provide a basis for any of the opportunities highlighted in section 5.1 to be considered

Appraisal



7.4 Option Four

Sustainable Travel Corridor East

This option would split the gyratory in two; two way traffic for all vehicular traffic would be allowed on the western arm of the gyratory, with the eastern arm prioritised for sustainable travel only, although service vehicles and some limited local access would be provided.

The entire arm of eastern arm would become two-way for sustainable travel only, with gates enabling bus only access between Nelson Street at the south end of Dalton Square and Moor Lane to the north of the city. Access for other vehicular traffic would be allowed at either end of the bus gates at Thurnham Street to the south and the A6 to the north to facilitate access and highly localised movements. The western arm of the gyratory would be the available for all vehicular travel commencing at King Street to the south, through to China Street, Bridge Lane and Cable Street. Provision to be made for HGVs to access industrial sites to west of the city via Damside Street and St Georges Quay.

Assessment of travel, transport and public realm implications

Sustainable Travel

The separation of the gyratory into a two-way vehicular arm and a two sustainable travel arm offers significant benefit to sustainable and active travel users. The sustainable travel corridor to the east provides the quickest route through the city centre for bus movements and provides a significant opportunity for cyclists to access the Millennium Bridge via Chapel Street and then excellent cycling infrastructure especially to the east along the Lune Valley and to the west to Morecambe and Heysham.

Direct access to the railway station will not be improved for cyclists, though the more reliable bus times would improve the viability of travelling to the railway station by bus as a part of a multi-stage journey.

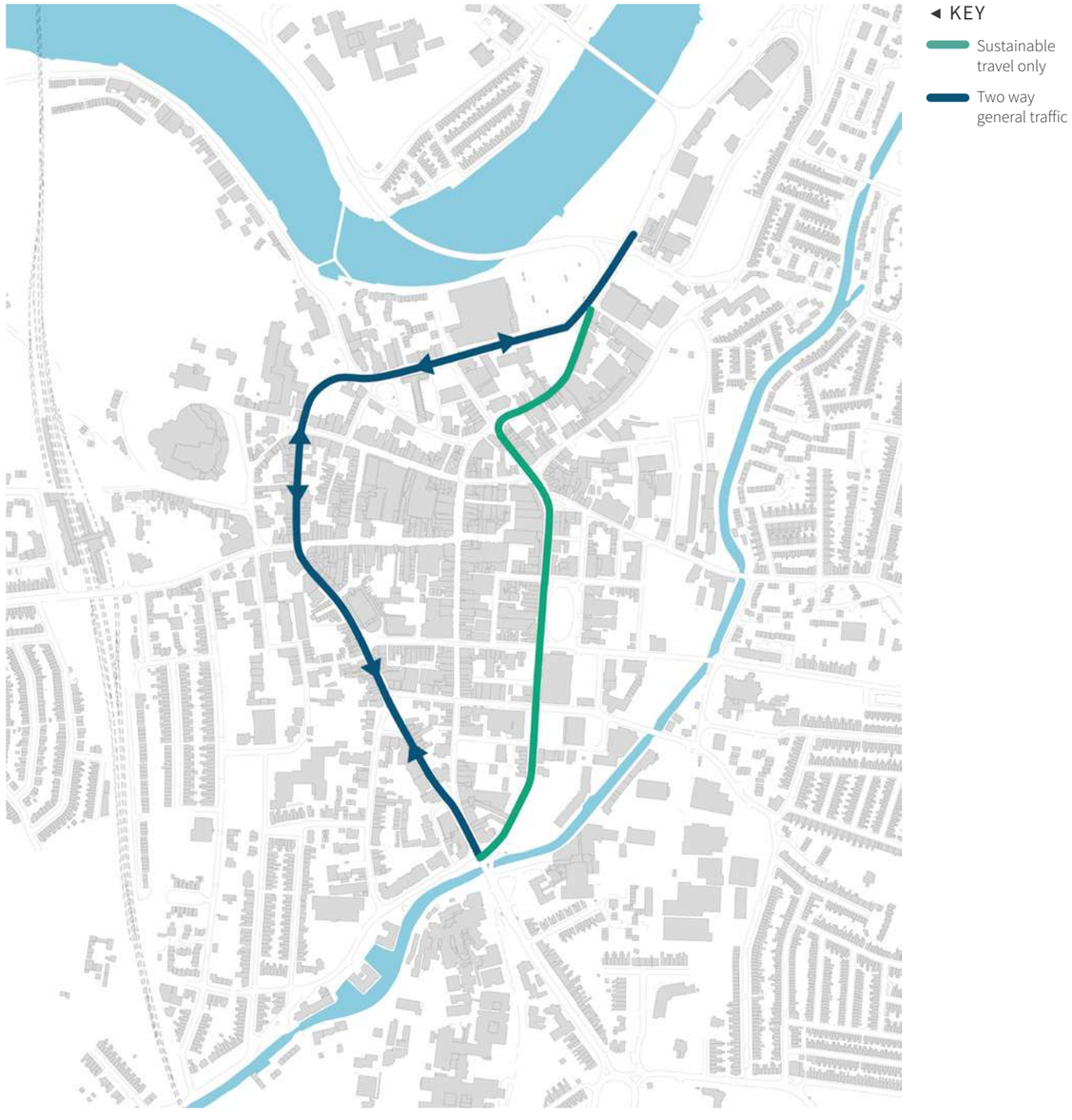
Accessing the core shopping area involves less interaction with general motor traffic, improving safety for cyclists.

Public Realm/Severance

The reduction in vehicular traffic on the eastern arm of the gyratory significantly decreases severance between areas such as the proposed Canal Quarter and cultural assets such as the Grand Theatre and Dukes Playhouse, and greatly opens up public space and key historical assets such as Dalton Square and the Town Hall. It also greatly improves pedestrian movements into the core retail area for residents and visitors from the east. However, the continuation of vehicular traffic on the western arm does not alleviate severance for residents in the west and arrival from the train station and the key historic castle area is still problematic.

Air Quality

Traffic will continue to be directed along the worst street 'canyons' which are located on the western side (China Street) and without mitigation there is the potential for decreased air quality along rat run routes. On the sustainable travel corridor air quality would improve substantially and overall exposure to polluted areas would be reduced.



Vehicle Movements

For vehicular traffic, capacity on the gyratory is reduced by 50%. Two-way traffic on the western arm of the gyratory provides improved access for residents in the west of the city to make onward north or south bound journeys without having to fully circumnavigate the full gyratory. However, without mitigation, reduced highway capacity may result in rat running through residential areas of Marsh, Fairfield, Aldcliffe and the vicinity of Dallas Road.

Without mitigation, accessing the western arm of the gyratory from the east is likely to see increased rat running in residential areas towards the Pointer Roundabout. Similarly rat running may increase in the east of the city following already established routes through the Freehold and Ridge residential areas as a means of avoiding the gyratory.

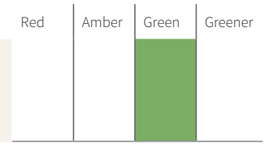
Strengths

- Reduces the impact of motorised traffic on the eastern arm of the gyratory.
- Provides a safer environment to travel for all uses on the eastern arm of the gyratory.
- Improves air quality on the eastern arm of gyratory.
- Provides a safer environment for cyclists from the south and the east of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Decrease in road space for motorised traffic offers potential reductions in air quality and carbon emissions.
- Reduces severance to the east of the city.
- Improves connectivity into Canal Quarter and High Street Heritage Action Zone developments.
- Provides a basis for the opportunities on the eastern arm of the gyratory highlighted in section 5.1 to be considered

Weaknesses

- Does not reduce severance to the west of the city, particularly between the city centre, railway station and castle.
- Does not provide a safer environment for cyclists from the west of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Reduction in highway capacity for motorised traffic has implications for rat running if not mitigated.
- Without mitigation may lead to a worsening of air quality on the western arm of the gyratory and displace traffic emissions elsewhere.
- Acceptance (Public, Business, Political).
- Does not provide a basis for the opportunities on the western arm of the gyratory highlighted in section 5.1 to be considered

Appraisal



Inclusive Environment

- Reduce severance across the city centre between key public transport nodes.

Ease of Movement

- Improve the reliability of journeys made by cyclists, pedestrians and public transport which pass through the city centre.

Quality of Place (Public Realm)

- Lessen the impact which engine based transport and the congestion it creates has on the public realm and city centre environment.

Safety and Public Health

- Ensure travel is, and feels safe for users of all modes.
- Alleviate air quality issues and minimise air pollution within the city centre.
- Increase the amount of active travel for access to the city centre, improving health and quality of life for the population.
- Reduce carbon emissions from transport within the city centre.

Economic Benefit

- Ensure parking and deliveries are managed effectively in a way that supports the sustainability of Lancaster city centre.
- Increase footfall and support city centre functions.
- Provide an environment that is able to adapt to future mobility trends; e.g. electric vehicles, intra urban mobility (electric bikes, scooters), autonomous vehicles.

7.5 Option Five

Sustainable Travel Corridor West

This option would effectively be the reverse of Option 4. Option 5 would allow two-way traffic for all vehicular traffic on the eastern arm of the gyratory, with the western arm prioritised for sustainable travel only, although service vehicles and some limited local access would be provided .

The western arm of the gyratory would be closed to motorised traffic, with access for sustainable travel modes only at King Street to the south, through to China Street, Bridge Lane and Cable Street. Access for other vehicular traffic would be allowed on Aldcliffe Road and areas to the west, and on Parliament Street at the northern entrance to the city centre.

Assessment of travel, transport and public realm implications

Sustainable Travel

As with the previous option, the separation of the gyratory into a two-way vehicular arm and a two-way sustainable travel arm offers significant benefit to sustainable and active travel users. Reversing the option so that the western arm of the gyratory is a sustainable travel corridor means a slightly longer journey through the city centre for bus movements. For cyclists it provides a significant opportunity to access the Millennium Bridge via Damside Street and then excellent cycling infrastructure especially to the east along the Lune Valley and to the west to Morecambe and Heysham. However for southbound cyclists, the gradient from the bottom of the junction with Damside Street and up towards China Street may present problems.

Cyclists will have easier access to the railway station.

The more reliable bus times would improve the viability of travelling to the railway station by bus as a part of a multi-stage journey.

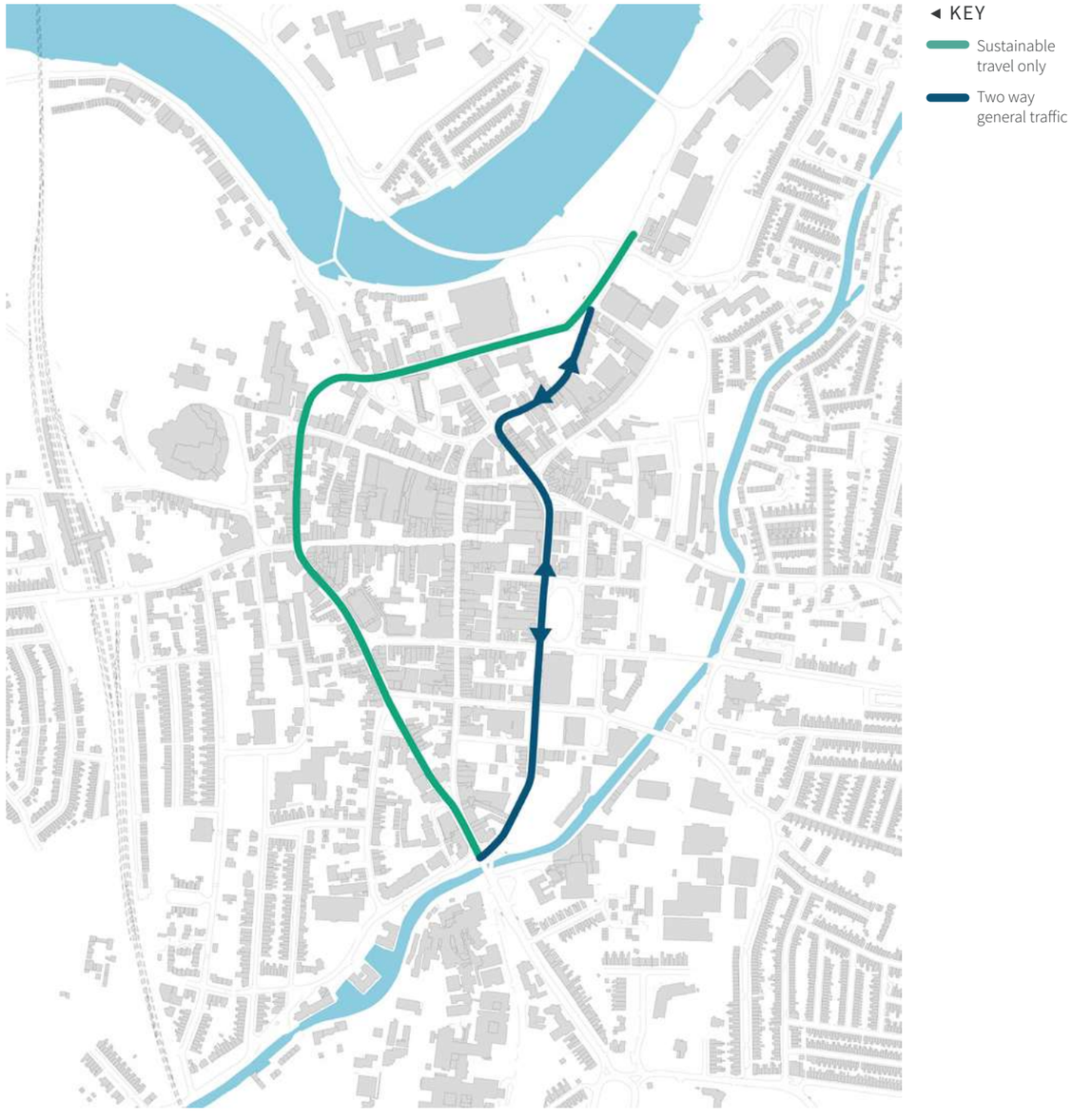
Accessing the core shopping area involves less interaction with general motor traffic, improving safety for cyclists.

Public Realm/Severance

The reduction in vehicular traffic on the western arm of the gyratory significantly limits severance between areas such as the castle and the railway station. It also greatly improves the acknowledged problems with severance and pedestrian congestion at the junction of King Street and Meeting House Lane and allows easy pedestrian access into the core retail area for residents and visitors from the west. However, the continuation of vehicular traffic on the eastern arm does not alleviate severance for residents and visitors from the east which would be problematic.

Air Quality

On the sustainable travel corridor, air quality would improve substantially and overall exposure to polluted areas would be reduced. More motor vehicle stops and starts on the trafficked side may result in a slight deterioration on that route. Fewer street canyons on the eastern side means exceedances are likely to be less severe.



Vehicle Movements

For vehicular traffic, capacity on the gyratory is reduced by 50%. Two-way traffic on the eastern arm of the gyratory provides improved access for residents in the east of the city to make onward north or south bound journeys without having to fully circumnavigate the gyratory. Without mitigation however, reduced highway capacity may result in rat running through residential areas of Freehold and Ridge.

For journeys from the west of the city, the sustainable travel arm presents some issues. Residents in the west would need to avoid the sustainable travel corridor meaning that traffic flows would increase in western neighbourhoods such as Aldcliffe, Fairfield and Marsh. Alternatively, exemptions could be made for residents in the west to use the sustainable travel corridor for access reasons but this would obviously impact upon the quality and nature of the route for busses and cyclists.

HGV access would be needed to serve industrial sites to the west of the city and this would impinge on the sustainable travel corridor. This could be mitigated against by raising the cycle bridge that crosses Damside Street to a suitable height. This would enable HGV traffic to access and egress the industrial estates via Damside Street and St George's Quay.

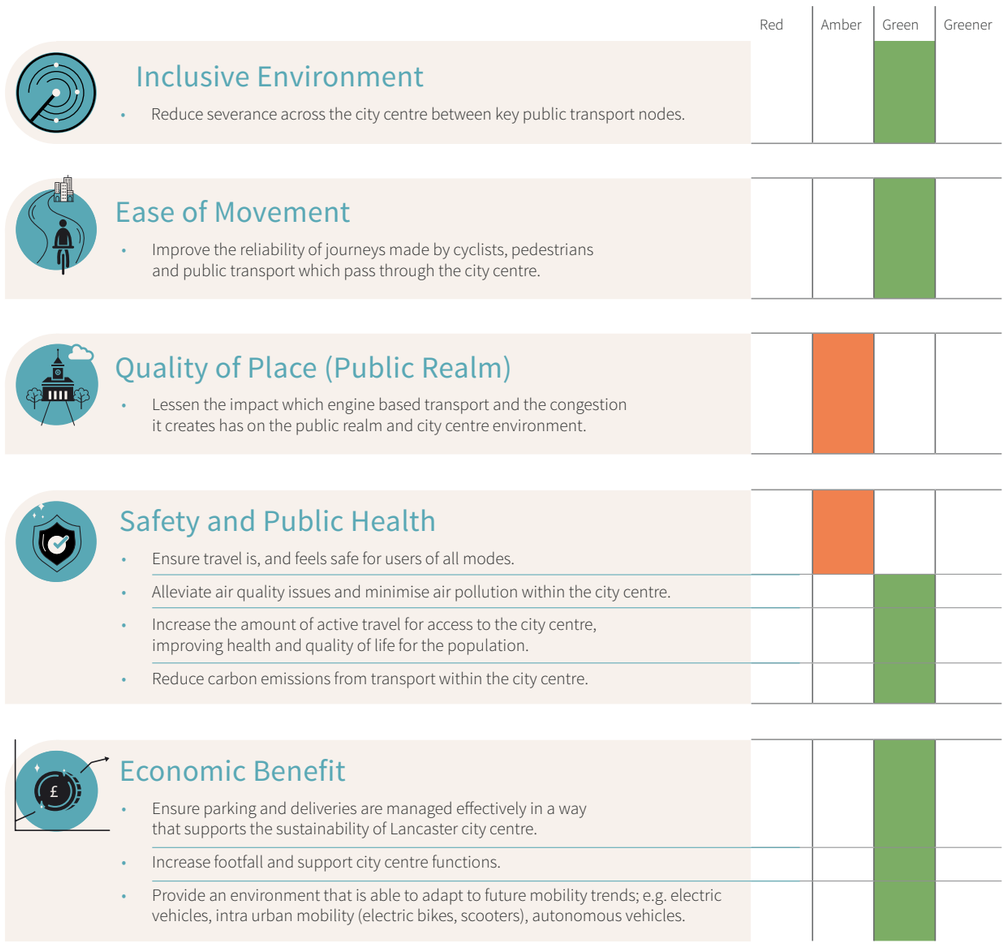
Strengths

- Reduces the impact of motorised traffic on the western arm of the gyratory.
- Provides a safer environment to travel for all users on the western arm of the gyratory.
- Improves air quality in parts of the city centre.
- Provides a basis for the opportunities on the western arm of the gyratory highlighted in section 5.1 to be considered
- Provides a safer environment for cyclists from the south and the east of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Decrease in road space for motorised traffic offers potential reductions in air quality and carbon emissions.
- Reduces severance to the west of the city, particularly between the city centre, railway station, castle and quay area.

Weaknesses

- Does not reduce severance to the east of the city
- Gradient of western arm, particularly between Damside Street and Sun Street may deter cyclists heading south.
- Does not provide a safer environment for cyclists from the east of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Without mitigation, may lead to a worsening of air quality on the eastern arm of the gyratory and displace traffic emissions elsewhere.
- HGV access would be needed to serve industrial sites to the west of the city and this would impinge on the sustainable travel corridor without mitigation measures.
- Reduction in highway capacity for motorised traffic has implications for rat running if not mitigated.
- Does not improve connectivity into Canal Quarter and High Street Heritage Action Zone developments.
- Acceptance (Public, Business, Political).
- Does not provide a basis for the opportunities on the eastern arm of the gyratory highlighted in section 5.1 to be considered

Appraisal



7.6 Option Six

Principle of No through City Centre Traffic

This option would limit through traffic using the city centre. Either the western or eastern arm of the gyratory would be two-way with a section at either China Street or Dalton Square fully pedestrianised.

Then either the eastern or the western arm of the gyratory would be for sustainable travel only as indicated in options 4 and 5. Option 6a shows this permutation for a sustainable travel corridor to the east and pedestrianised area to the west. Option 6b shows a sustainable travel corridor to the west and pedestrianised area to the east.

Assessment of travel, transport and public realm implications

Sustainable Travel

For option 6a – see Sustainable Travel assessment of option 4.

For option 6b – see Sustainable Travel assessment for option 5.

Public Realm/Severance

For option 6a – Public Realm/Severance see assessment of option 4.

For option 6b – Public Realm/Severance see assessment for option 5.

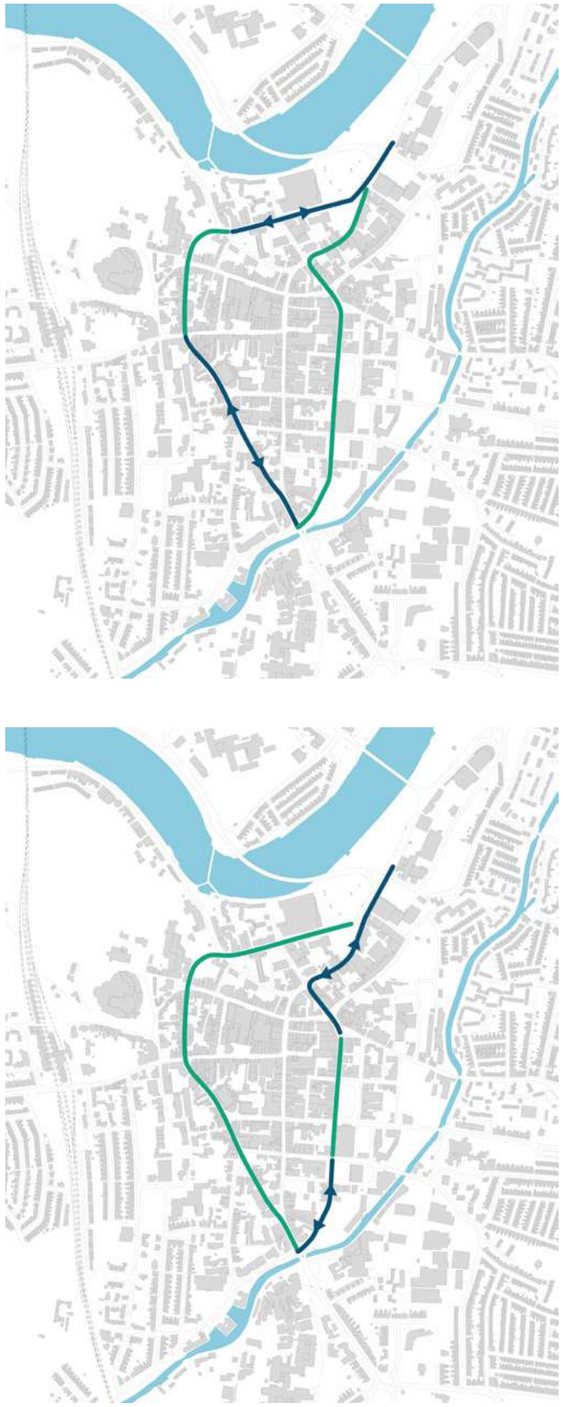
Air Quality

On the sustainable travel corridors air quality would improve substantially and overall exposure to polluted areas in the centre would be reduced, however the unrestricted funnelling of all through-traffic along certain residential routes may result in a mere redistribution of the problem if not mitigated.

Vehicle Movements

For option 6a – see Vehicle Movements assessment of option 4.

For option 6b – see Vehicle Movements assessment for option 5.



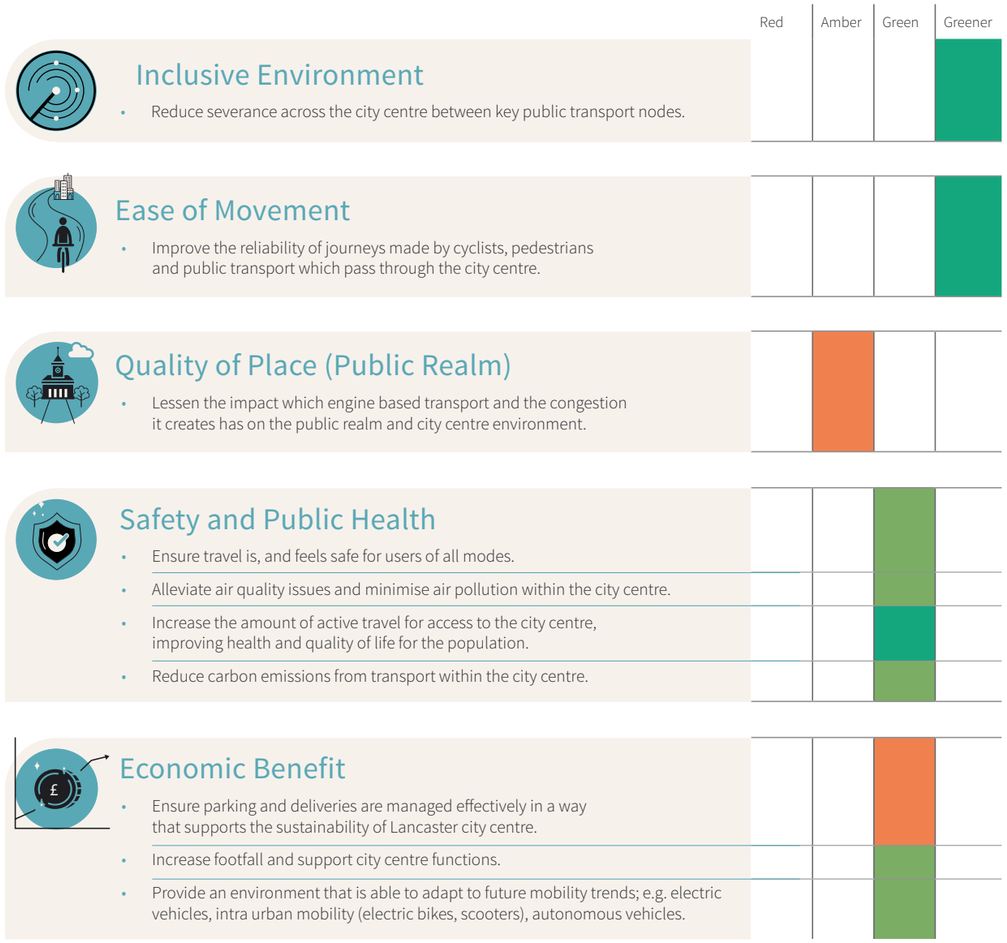
Strengths

- Lessens the impact of motorised traffic on the core city centre area.
- Provides a safer environment to travel for sustainable travel users.
- Improves air quality in parts of the city centre.
- Provides a safer environment for cyclists from all areas of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Improves air quality in parts of the city centre.
- Decrease in road space for motorised traffic offers potential reductions in air quality and carbon emissions.
- Reduces severance to key areas in the city centre.
- Pedestrianisation of either China Street or Dalton Square area extends east west axis of city centre and links key heritage assets with the rest of the city centre area.
- Option 6a improves connectivity into Canal Quarter and High Street Heritage Action Zone developments.
- Option 6b improves connectivity between Lancaster Castle, Railway Station and St Georges Quay.
- Allows the majority of opportunities highlighted in section 5.1 to be considered.

Weaknesses

- Implications for providing through movements for vehicular travel in case of motorway closure.
- HGV access would be needed to serve industrial sites to the west of the city and this would impinge on the sustainable travel corridor of option 6a without mitigation measures.
- Shifting of motorised traffic, unless addressed by other measures, is likely to move air quality implications into more residential area if mitigated.
- Reduction in highway capacity for motorised traffic has implications for rat running.
- Without mitigation, may lead to a worsening of air quality and displacement of traffic emissions elsewhere on the local network.
- Acceptance (Public, Business, Political).

Appraisal



7.7 Option Seven

Principle of Gyratory Closed to Through Traffic Except for Exemptions

No part of the gyratory would be available for private vehicles for onward traffic in any direction for an 11 hour period between 7.30am and 6.30pm six days per week (Monday-Saturday).

Travel to the city centre and west Lancaster neighbourhoods is permissible but travel through the city centre is not. Controlled by ANPR Access Gates. Any vehicle can enter and gain access from the north or the south but cannot complete a through journey within two hours of driving past the ANPR gate (they can shop, visit services etc. and then travel through if not returning).

Exemptions

- All police and emergency vehicles for any purpose at any time.
- Pure Electric Vehicles (Zero C02) until 2030.
- Commercial vehicles delivering or collecting items from businesses within zone and carrying on to other destinations.
- Any vehicles carrying RLI hospital staff to and from work or patients with appointments or people visiting patients at the RLI.
- Blue Badge Holders and residents with mobility issues/hospital appointments being collected or dropped off as part of journey which includes onward travel for the driver after drop off/ collection.
- Taxis, with the condition that all taxis must be Pure Electric Vehicles by 2030.
- When used as M6 diversionary route (or at the discretion of Police/highway authority when circumstances demand).
- Residential Permit Holders to the west of the restricted area.

As with option 6 the western arm could be used for vehicular traffic with the eastern arm used as a sustainable travel corridor. Alternatively the eastern arm could be for vehicular travel with the western arm acting as a sustainable travel corridor.

Option 7a shows this permutation for a sustainable travel corridor to the east with permitted traffic to the west. Option 7b shows a sustainable travel corridor to the west and pedestrianised area to the east.

Assessment of travel, transport and public realm implications

Sustainable Travel

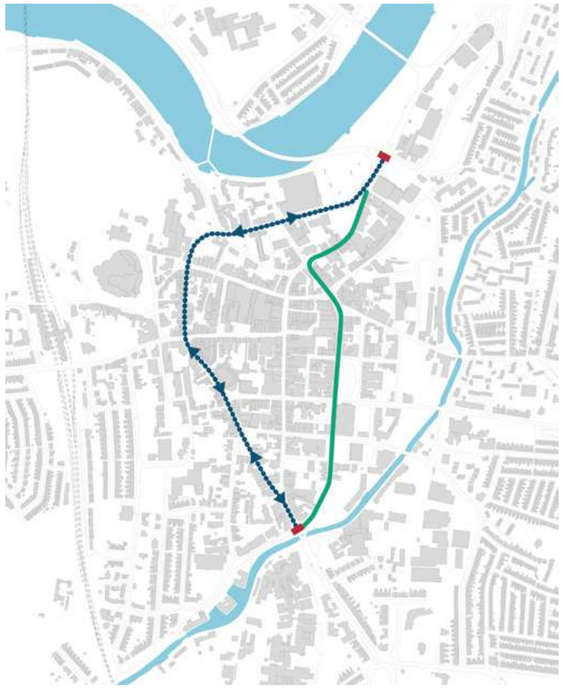
For option 7a – see Sustainable Travel assessment of option 4.

For option 7b – see Sustainable Travel assessment for option 5.

Public Realm/Severance

For option 7a – Public Realm/Severance see assessment of option 4.

For option 7b – Public Realm/Severance see assessment for option 5.



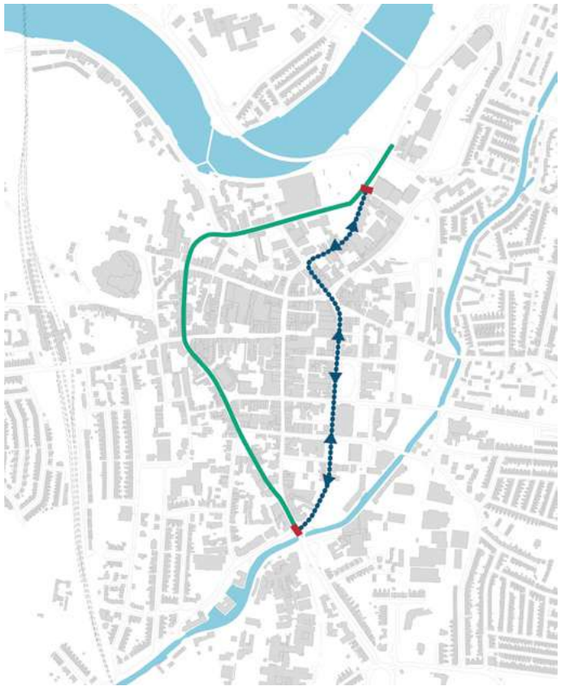
◄ KEY

Sustainable travel only

Access subject to conditions

ANPR Location

◄ Option 7a



◄ Option 7b

Air Quality

On the sustainable travel corridors air quality would improve substantially and overall exposure to polluted areas in the centre would be reduced, however the unrestricted funnelling of all through-traffic along certain residential routes may result in a mere redistribution of the problem if not mitigated.

Vehicle Movements

For option 7a – see Vehicle Movements assessment of option 4.

For option 7b – see Vehicle Movements assessment for option 5.

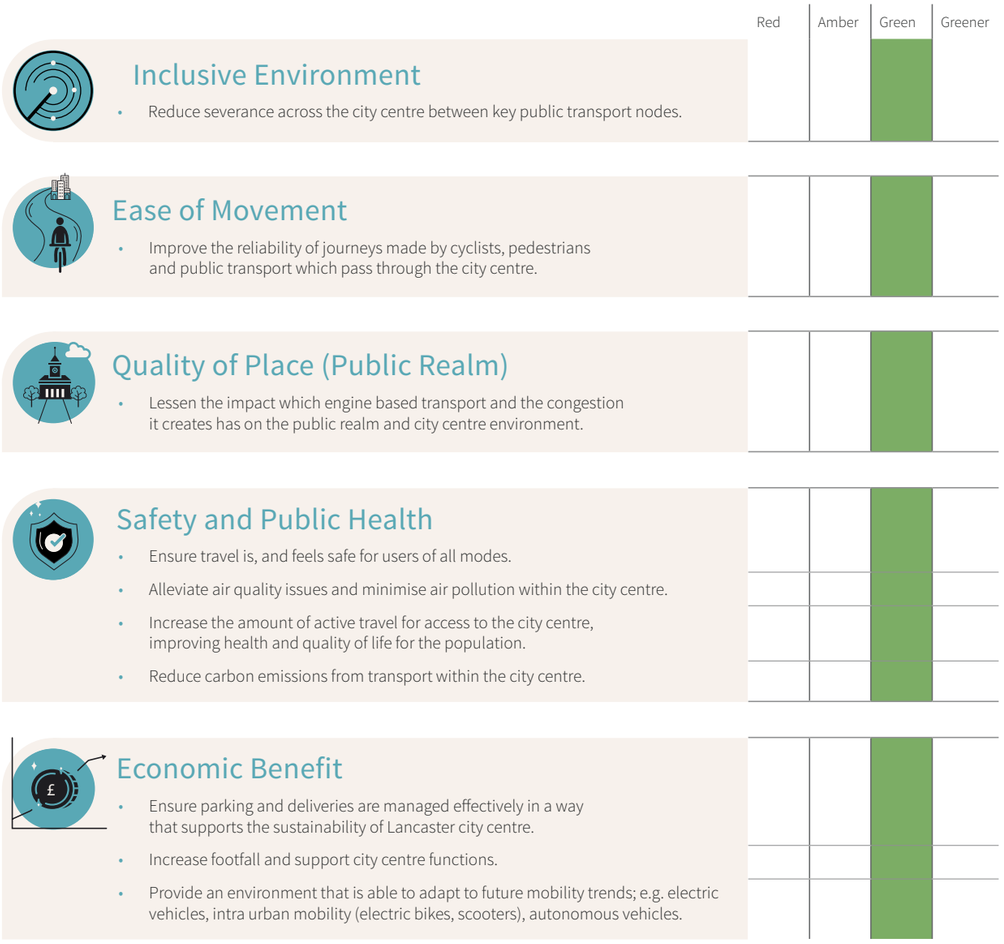
Strengths

- Lessens the impact of motorised traffic on the core city centre area.
- Provides a safer environment to travel for sustainable travel users.
- Improves air quality in parts of the city centre.
- Provides a safer environment for cyclists from all areas of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Decrease in road space for motorised traffic offers potential reductions in air quality and carbon emissions.
- Reduces severance to core areas of the city centre.
- Reduction of motorised traffic extends east-west axis of city centre and links key heritage assets with the rest of the city centre area.
- Option 7a improves connectivity into Canal Quarter and High Street Heritage Action Zone developments.
- Option 7b improves connectivity between Lancaster Castle, Railway Station and St Georges Quay.
- Allows the majority of opportunities highlighted in section 5.1 to be considered

Weaknesses

- Implications for providing through movements for vehicular travel in case of motorway closure.
- Shifting of motorised traffic moves air quality implications into more residential areas' with 'May lead to a worsening of air quality and displacement of traffic emissions elsewhere on the local network if not mitigated.
- HGV access would be needed to serve industrial sites to the west of the city and this would impinge on the sustainable travel corridor of option 7b without mitigation measures.
- Reduction in highway capacity for non-compliant motorised traffic has implications for rat running if not mitigated.
- Acceptance (Public, Business, Political).
- Needs integrated parking solution to limit vehicle flows searching for suitable parking.
- Difficulty and cost of implementation.

Appraisal



7.8 Option Eight

Principle of City Centre Clean Air Zone

The city centre would become a Clean Air Zone (CAZ). All traffic travelling through the city centre would be subject to a £12 charge except for the following exemptions.

Exemptions

- All police and emergency vehicles for any purpose at any time.
- Residential Permit Holders to the west of the CAZ.
- Pure-Electric Vehicles (Zero CO2) until 2030 (subject to review).
- Commercial vehicles delivering or collecting items from businesses within the zone and carrying onto other destinations.
- Any vehicles carrying RLI hospital staff to and from work or patients with appointments or people visiting patients at RLI.
- Blue Badge Holders and residents with mobility issues/hospital appointments being collected or dropped off as part of journey which includes onward travel for the driver after drop off/ collection.
- Taxis, with condition that all taxis must be Pure Electric Vehicles by 2030.
- When used as M6 diversionary route (or at the discretion of police/highway authority when circumstances demand).

As with option 6 and 7 the western arm could be used for vehicular traffic utilising the clean air zone with the eastern arm used as a sustainable travel corridor. Alternatively the eastern arm could be for vehicular travel utilising the clean air zone with the western arm acting as a sustainable travel corridor.

Option 8a shows this permutation for a sustainable travel corridor to the east with the western arm of the gyratory operating as a clean air zone. Option 8b shows a sustainable travel corridor to the west and the eastern arm of the gyratory operating as a clean air zone.

Assessment of travel, transport and public realm implications

Sustainable Travel

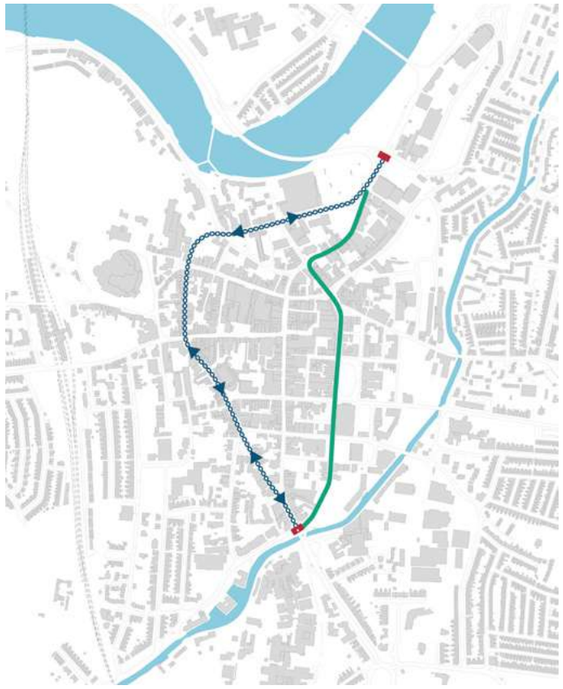
For option 8a – see Sustainable Travel assessment of option 4.

For option 8b – see Sustainable Travel assessment for option 5.

Public Realm/Severance

For option 8a – Public Realm/Severance see assessment of option 4.

For option 8b – Public Realm/Severance see assessment for option 5.



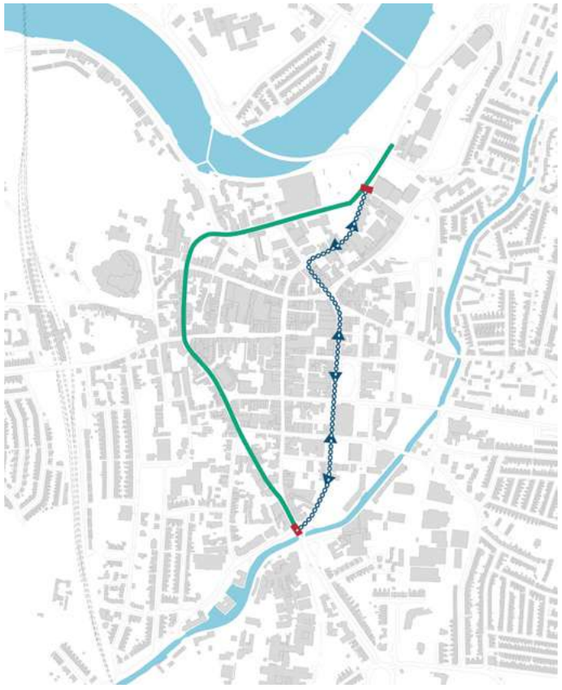
◄ KEY

Sustainable travel only

Access subject to charge

ANPR Location

◄ Option 8a



◄ Option 8b

Air Quality

On the sustainable travel corridors air quality would improve substantially and overall exposure to polluted areas in the centre would be reduced, however the unrestricted funnelling of all through-traffic along certain residential routes may result in a mere redistribution of the problem if not mitigated.

Vehicle Movements

For option 8a – see Vehicle Movements assessment of option 4

For option 8b – see Vehicle Movements assessment for option 5

Additional too!

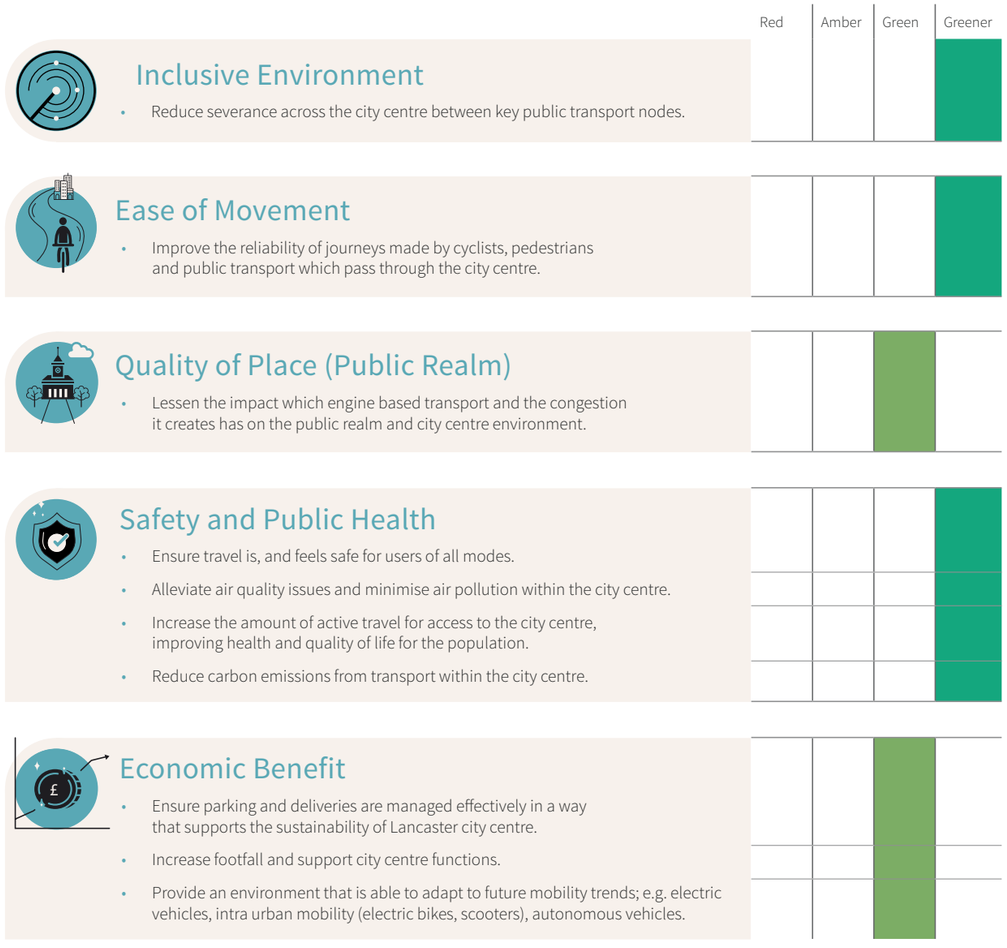
Strengths

- Lessens the impact of motorised traffic on the core city centre area.
- Provides a safer environment to travel for sustainable travel users.
- Improves air quality in parts of the city centre.
- Provides a safer environment for cyclists from all areas of the city to access city centre and onward traffic free routes by the river to Morecambe and the Lune Valley.
- Decrease in road space for motorised traffic offers potential reductions in air quality and carbon emissions.
- Reduces severance to core areas of the city centre.
- Reduction of motorised traffic extends east-west axis of city centre and links key heritage assets with the rest of the city centre area.
- Option 8a improves connectivity into Canal Quarter and High Street Heritage Action Zone developments.
- Option 8b improves connectivity between Lancaster Castle, Railway Station and St Georges Quay.
- Allows the majority of opportunities highlighted in section 5.1 to be considered.

Weaknesses

- Implications for providing through movements for vehicular travel in case of motorway closure.
- Shifting of motorised traffic moves air quality implications into more residential areas' with 'May lead to a worsening of air quality and displacement of traffic emissions elsewhere on the local network if not mitigated.
- Reduction in highway capacity for non-compliant motorised traffic has implications for rat running if not mitigated.
- HGV access would be needed to serve industrial sites to the west of the city and this would impinge on the sustainable travel corridor of option 8b without mitigation measures.
- Acceptance (Public, Business, Political).
- Difficulty and cost of implementation.

Appraisal



Next Steps

The analysis identified in section 4 suggests there is much scope to enhance movement in Lancaster and a focus on the central gyratory system is at the core of this.

It is recognised that the potential implications are far-reaching and these need to be identified and understood. None of the options presented are without issues and we welcome your thoughts and ideas as to how to deliver the changes required. On completion of this consultation a full analysis of views and comments will be considered. As a result of this process, the options presented in section 5 will then be narrowed down so that further detailed analysis can take place alongside ideas for further improvements and mitigation. This will include transport modelling that will take into account the measures proposed as part of the HIF Submission and the impacts upon the wider Lancaster highway network. The assessment will also consider the air quality implications of the options modelled. Once this assessment has been completed we will engage with the wider community to present our preferred option.

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Glossary

Active Travel means making journeys by physically active means, like walking or cycling.

Air Quality refers to the condition of the air around us. Pollution is often a cause of poor air quality.

Air Quality Management Area is a location where pollutants in the air exceed those stated within the National Air Quality Strategy for England and Wales.

Bailrigg Garden Village In 2017, proposals for a major new settlement at Bailrigg to the south of the city near Lancaster University were granted 'garden village status' by the government. This will be a major mixed-use development which focuses on the delivery of over 3,500 dwellings alongside employment and economic growth opportunities.'

Bus Gate refers to short section of street in which only buses and other authorised vehicles can go through. Often there are warning signs of the bus gate restriction ahead, and again, at the point where the restriction starts.

Bus Rapid Transit (BRT) is a high-quality bus-based transit system that delivers fast, comfortable, and cost-effective services. It does this through the provision of dedicated lanes, off-board fare collection, and fast and frequent operations.

Carbon Emissions is carbon dioxide (CO2) and carbon monoxide (CO) produced by vehicles and industrial processes.

The Chartered Institution of Highways & Transportation (CIHT) is a charity, learned society and membership body with 12 UK regions and a number of international groups. CIHT represents and qualifies professionals who plan, design, build, manage and operate transport and infrastructure. CIHT is the leading voice of the highways and transport infrastructure profession

Climate Change Emergency is a response to climate change where a specific area has set a target to make their actions be carbon-neutral by 2030. This is the target Lancaster City Council have adopted.

Congestion the definition of congestion used in this document is shown in the table below and is based on the comparison of observed average peak hour speeds (Monday to Thursday during term time) and off-peak (00:00 to 05:00) free flow speeds.

Peak hour speed <30% of free flow speed - ***Severe congestion***

Peak hour speed between 30 and 60% of free flow speed- ***Congestion***

Peak hour speeds >60% of free flow speed- ***No congestion***

Development Consent Order (DCO) is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects. As part of the DCO for the Bay Gateway a number of complimentary measures were required. One component was a review of the gyratory systems in Lancaster. This aspect is dealt with as part of this study

Development Plan Documents (DPD) - these are the suite of documents that form a Local Plan and set out the spatial planning and development policies for specific local authority areas. A DPD for Lancaster South is currently in preparation (the Lancaster South Area Action Plan).

Future Mobility is a collection of potential future mobility trends ranging from the electrification of the road system through a major uptake in electric vehicles such as cars, scooter and bikes to fully autonomous vehicles.

Gyratory Systems are road junctions or traffic systems requiring the circular movement of traffic, larger or more complex than an ordinary roundabout. Traditionally a gyratory system was seen as the best method for facilitating large amounts of traffic.

Heritage is a broad concept and includes the natural as well as the cultural environment. It encompasses landscapes, historic places, sites and built environments, as well as bio-diversity, collections, past and continuing cultural practices, knowledge and living experiences

Heritage Assets include aspects such as a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions.. Heritage assets includes designated heritage assets and assets identified by the local planning authority

Heritage Action Zone (HAZ) High Streets Heritage Action Zones (HAZ) are an initiative led by Historic England to create economic growth and improve quality of life in places by breathing new life into old places that are rich in heritage and full of promise - unlocking their potential and making them more attractive to residents, businesses, tourists and investors. Lancaster City Council has been successful in acquiring a HAZ for the north-east of the city centre.

Local Plan - The key compulsory local development document specified in United Kingdom planning law. It sets out the vision, objectives, strategy and policies that will manage development and use of land in an area. Lancaster City Council have recently had their Local Plan adopted, the plan covers the period 2011 – 2031

Highway Authority is an organisation legally responsible for looking after the highway network (roads, footways and cycle ways) in an area and which has certain legal powers as a result. In Lancashire, the County Council is the highways authority for most roads in the county.

Housing Infrastructure Fund (HIF) is a competitive national government fund that awards areas with the greatest housing need, to support infrastructure projects that will unlock major housing development. In March 2020, the Government announced the prospect for the HIF to provide a funding mechanism for delivering measures to support the delivery of the Bailrigg Garden Village

Infrastructure - the basic facilities needed for society to function, such as roads, railways, communications systems, electricity, gas and water supplies, and public buildings including schools.

Park and Ride is a system for reducing urban traffic congestion in which drivers leave their cars in parking areas on the outskirts of a town or city and travel to the city centre on public transport.

Public Realm is commonly defined as any space that is free and open to everyone such as the space between and within buildings that is publicly accessible, including streets, squares, forecourts, parks and open spaces.

Safer Roads Fund was established to treat the 50 highest risk local A road sections in England with remedial road safety engineering interventions. Lancashire County Council secured £7.9 million with £750k allocated for Pointer Roundabout

Severance is the impact on traffic and transport infrastructure that limits people's mobility, instead of facilitating it. Railways, motorways, and roads with high traffic levels or speeds, create physical and psychological barriers that separate communities, with effects on walking and cycling mobility and possible negative effects on individual health and social cohesion.

Strategic Regeneration Framework is an early stage planning document which aims to provide a route map to development. It clearly defines plans for future development and investment by providing an evidence base, sound principles and strategic direction to enable future regeneration

Sustainable in this document means something that 'meets the needs of the present without comprising the ability of future generations to meet their own needs' plans, policies and schemes sustainable means balancing environmental, social and economic issues.

Sustainable Transport / Travel refers to the broad area of transport that is sustainable in the senses of social, environmental and climate impacts. This includes public transport as well as active transport such as walking and cycling

Lancashire Transport and Highways Masterplans - the suite of masterplans for Lancashire sets out a cohesive highways and transport strategy for the whole county, linking economic development, spatial planning and public health priorities to the wider policy objectives of the County Council. 5 masterplans cover Lancashire:

- Central Lancashire, covering Preston, South Ribble and Chorley, approved in March 2013;
- East Lancashire, produced in cooperation with Blackburn with Darwen Council and covering Blackburn with Darwen, Burnley, Hyndburn, Pendle, Rossendale and Ribble Valley, approved in February 2014;
- West Lancashire, approved in October 2014;
- Fylde Coast, produced in cooperation with Blackpool Council and covering Blackpool, Fylde and Wyre, approved in July 2015;
- Lancaster, approved in October 2016.

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