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Integrated Sustainability Appraisal of Transport for the West Midlands Local Transport Plan 5

ISA Report

Transport for the West Midlands

February 2022

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Glossary

AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
CSA	Community Safety Assessment
DCLG	Department for Communities and Local Government
DfT	Department for Transport
DLUHC	Department for Levelling Up, Housing and Communities
EqIA	Equality Impact Assessment
ER	Environmental Report
EV	Electric Vehicle
GHG	Greenhouse Gas
GVA	Gross Value Added
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HRA	Habitats Regulation Assessment
ISA	Integrated Sustainability Appraisal
LTP	Local Transport Plan
NHS	National Health Service
NPPF	National Planning Policy Framework
MCHLG	Ministry of Housing Communities and Local Government
ODPM	Office of the Deputy Prime Minister
PCG	Protected Characteristic Group
PPPs	Plans, Policies and Programmes
PRoW	Public Right of Way
pSPA	Potential Special Protection Area
RIGS	Regional Importance Geological Sites
SAC	Special Area of Conservation
cSAC	Candidate Special Area of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
TAG	Transport Analysis Guidance
TfWM	Transport for West Midlands
ULEV	Ultra Low Emission Vehicle
WHS	World Heritage Site
WMCA	West Midlands Combined Authority

Forward

Atkins carried out an Integrated Sustainability Appraisal (ISA) of the fifth Local Transport Plan for the West Midlands (LTP5) Core Strategy. It is the purpose of this ISA to ensure that issues relating to sustainability in the West Midlands are considered at the very earliest stages of Plan development and therefore the Plan can be enacted in such a way which protects the environment, protects the health and quality of life of the people of the West Midlands and visitors to the region and allows as many different people as possible the same opportunities for accessing the facilities and services they require whilst promoting sustainable economic growth.

The ISA looked at all aspects of the LTP5 Core Strategy as it developed and made a series of recommendations as to how the sustainability of the Plan can be strengthened and these recommendations are then addressed by the Plan making team.

Overall, the ISA considered that the LTP5 Core Strategy represents a well-balanced approach in terms of sustainability. Of particular note are that there are likely to be clear beneficial effects in terms of reducing carbon and pollution emissions and improving air quality. Such reduction in emissions will be of benefit to the environment, but will also benefit the people of the West Midlands, helping to improve health and wellbeing. Health, wellbeing and safety will also be improved through a strong focus within the Plan on reducing traffic, enhancing public transport, making streets and neighbourhoods more people friendly as well as encouraging much more walking and cycling.

Nevertheless, there remains a requirement to ensure that the LTP is fully developed and enacted in such a way to ensure that it minimises negative effects on the people, environment and economy of the West Midlands and as the LTP is a Core Strategy only at this stage, more work is needed to further develop the Plan. More detailed policies and implementation proposals will now be developed in line with this Core Strategy. As such, many of the issues noted within this ISA, along with the recommendations made, will be explored in greater detail as the LTP is further developed.

The following is a detailed technical report on the Integrated Sustainability Appraisal. For those who have a general interest in the LTP5 and how it interacts with the environment and the people of the West Midlands, but who are not concerned with its detailed technical assessment, a Non-Technical Summary of this report has been produced and readers are directed to this separate document.

1. Introduction

1.1. Purpose of this Document

This is the Integrated Sustainability Appraisal (ISA) Report of the fifth Local Transport Plan (LTP5) for the West Midlands, which has been prepared by Atkins Limited on behalf of Transport for the West Midlands in respect of fulfilling the requirements of Sustainability Appraisal / Strategic Environmental Assessment (SA/SEA), Health Impact Assessment (HIA), Equality Impact Assessment (EqIA) and Community Safety Assessment (CSA). In addition, Habitats Regulation Assessment (HRA) has been undertaken as a parallel process to the ISA and is reported separately.

The ISA Report identifies the likely sustainability effects of implementing the LTP5 and reports on the process of developing the LTP5 from a sustainability perspective.

An overview of the LTP5 is presented in the following section.

1.2. The Background and need for LTP5

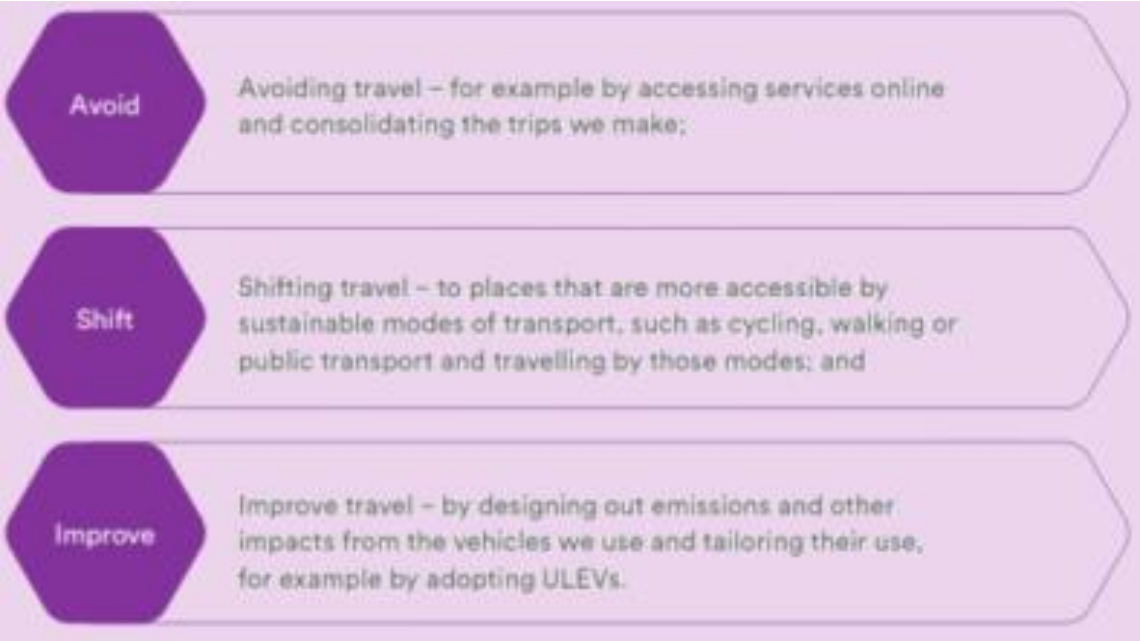
The West Midlands is one of the largest conurbations outside London, its central location puts it at the heart of the UK's transport networks and international connections. The region was one of the most prosperous areas of the UK until the 1970/80s and in the last 5 years it has been experiencing a resurgence of that power on the back of the growth in the business and professional services sector; technology driven manufacturing and city centre construction growth; thriving city centre based international business and professional services sector which was driving high levels of business tourism; a manufacturing base becoming more productive and an automotive sector responding to the challenge of a carbon neutral future; high exports, foreign direct investment and strong international links, and the biggest higher education cluster outside London. However, underlying this growth there were significant issues with inequality, poverty, youth unemployment, low skills, poor health and low school performance.

There have been a number of significant changes to the wider context within which transport policy needs to be framed since the WM LTP4 'Movement for Growth' was published in 2016. In particular the economic impact of the Covid-19 pandemic has been severe for West Midlands communities and its economy and economic forecasts consistently show the West Midlands to be one of the UK regions hit hardest by the economic crisis, with existing economic inequalities exposed and exacerbated by the pandemic. The West Midlands has also declared a climate emergency and has set an ambitious target for achieving net zero carbon by 2041. The response to the pandemic and the climate emergency present an opportunity to look differently at transport and ensure that we develop policy and strategy which helps deliver inclusive growth and rapid decarbonisation.

To help the region respond to these challenges TfWM have produced a new West Midlands Local Transport Plan. As part of producing this plan, TfWM developed 5 motives for change to help frame the outcomes required for the new Local Transport Plan.

These motives for change explain why change, although difficult in the short-term, is likely to be much better for all in the long-term. It is considered that following through with the changes to satisfy TfWM's Motives for Change will involve trade-offs between benefits, impacts and other aspects of transport that many value.

It is also recognised that there are a series of behaviour changes required to make progress against the Motives for Change and these are described by the 'avoid, shift, improve' framework.



2. Approach to the ISA

2.1. Introduction

In relation to this ISA, the umbrella process of SA/SEA has been followed to cover the requirement for HIA, EqIA and CSA to be undertaken. SA/SEA is a process which in the UK was originally primarily focused on assessment of plans in the land use sector, but which has become widely accepted as a way of covering environment, social and economic dimensions of sustainable development, rather than just environmental as in a traditional SEA, across a broad range of sectors.

It is important to note that this LTP, as of January 2022, is developed as a 'Core Strategy' only. This primarily intends to set out the overarching aims, vision, approach and framework for action for transport in the region. Further iteration of the LTP is to be undertaken and with more detailed policies and implementation proposals to be developed, aligned to this Core Strategy. Recommendations made by the ISA will continue to be considered during this process.

2.1.1. Sustainability Appraisal / Strategic Environmental Assessment

Due to the potential for the LTP to lead to schemes which will require an Environmental Impact Assessment, it is a statutory requirement that SEA is undertaken under the European Directive 2001/42/EC 'on the assessment of certain plans and programmes on the environment' (the 'SEA Directive').

Although the requirements to carry out SA and SEA are distinct, Department for Communities and Local Government (now known as DLUHC Department for Levelling up, Housing and Communities and formerly the Office of the Deputy Prime Minister) proposed that both can be satisfied through a single appraisal process. It has produced guidance (see Section 4 Methodology) to ensure SAs meet the requirements of the SEA Directive whilst widening the Directive's approach to include economic and social issues as well as environmental ones.

The EU Directive 2001/42/EC on assessment of effects of certain plans and programmes on the environment (the "SEA Directive") came into force in the UK through the Environmental Assessment of Plans and Programmes Regulations 2004 (the "SEA Regulations"). While the United Kingdom has now left the EU, these SEA Regulations still apply to a wide range of plans and programmes, including transport plans, and modifications to them.

These SEA Regulations still reflect the overarching objective of the SEA Directive which is:

"*To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans… with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans… which are likely to have significant effects on the environment*." (Article 1)

The main requirements introduced by the SEA Regulations are that:

- the findings of the SEA are published in an Environmental Report (ER), which sets out the significant effects of the draft plan;
- consultation is undertaken on the plan and the ER;
- the results of consultation are taken into account in decision-making relating to the adoption of the plan; and
- information on how the results of the SEA have been taken into account is made available to the public.

In this ISA process, the ISA Report incorporates the SEA requirement for an Environmental Report.

2.1.2. Health Impact Assessment (HIA)

While there is no statutory requirement to undertake an HIA in relation to the LTP5, in response to the health impact of the pandemic, it was recognised that it provides a way to identify and evidence the LTP's contribution to improve health of individuals and communities and help address health inequalities. In short, it was recognised that the LTP5 policies and proposals have the potential to impact on factors influencing the health of communities and individuals such as noise and air quality, access to key services and facilities, active travel behaviour change as well as the design of transport infrastructure. Undertaking an HIA/applying HEAT ensures that potential impacts of the LTP5 on health, prevention and equity and health inequalities have been

considered as advised in National Planning Policy Framework (NPPF) and as part of the WMCA's response to the Health of the Region Report 2020..

The incorporation of HIA is also in keeping with good practice. It is also the case that the Department for Transport (DfT) Transport Analysis guidance indicates that consideration of 'Human Health' is a legal requirement in a SEA and that an HIA is an integral part of an SEA to identify and inform health issues in Plans. Note that HIA or alternative assessment processes such as Health Equity Assessment Tool (HEAT)[1], can also be undertaken at a later stage in relation to individual scheme proposals and it is understood that WMCA is considering how to build this into its policy/decision making processes..

2.1.3. Equality Impact Assessment (EqIA)

An EqIA has been undertaken as it fulfils the statutory duties of public bodies to ensure the promotion of equalities under the Equality Act 2010 and subsequent Public Sector Equality Duty.

The purpose of an EqIA is to ensure plans and programmes do not discriminate against any individual or community and where possible promotes equality. An EqIA considers impacts on a variety of groups, mainly focussing upon the 'protected characteristic groups' (PCGs) established under the Act, namely:

- Age
- Disability
- Gender
- Gender reassignment
- Marriage
- Civil Partnership
- Pregnancy and maternity
- Religion or belief
- Race
- Sexual Orientation

The Act also makes explicit the concept of 'dual discrimination', where someone may be discriminated against or treated unfairly on the basis of a combination of two of the protected characteristics.

DfT Transport Analysis guidance 2009 requires an evidence-led EqIA to be completed to help inform the development of the transport plan, ensuring it addresses any equality issues identified and takes account any impacts the plan may have on the local communities. Although not defined in the Equality Act, it is also the case that the issue of 'low income' and the implications of this were considered in the assessment.

The EqIA process is fully reported in this ISA Report.

2.1.4. Community Safety Assessment (CSA)

A further key component fully considered and reported in the ISA is a Community Safety Assessment (CSA). The purpose of undertaking the CSA was to ensure that a scheme, strategy or policy does not have a detrimental impact on community safety (including crime and road safety) and where possible improves the existing situation.

This CSA was undertaken in accordance with the requirements of the Crime and Disorder Act 1998 and fulfils the requirement to carry out a review of safety in the area when developing a strategy or plan.

2.2. Reporting and consultation as part of the ISA process

Key consultation requirements are those set in the SEA Regulations which identify three organisations (in England) to act as statutory consultation authorities in the SEA process: Environment Agency, Natural England (formerly English Nature and the Countryside Agency) and Historic England (formerly English Heritage).

[1] Health Equity Assessment Tool (HEAT) developed by Public Health England – note that this can also be used to further explore issues relating to equalities.

Two consultation periods involving the statutory consultation authorities and, in the latter period, the public are also set in the SEA Regulations. The consultation periods relate to:

- Scoping. The responsible authority is required to send details of the plan or programme to each consultation authority so that they may form a view on the scope, level of detail and appropriate consultation period of the Environmental Report. The consultation authorities are required to give their views within five weeks.
- The Environmental Report. The responsible authority is required to invite the consultation authorities and the public to express their opinions on the Environmental Report and the plan or programme to which it relates.

Listed below are the key stakeholders that were consulted on the Scoping Report and the responses from this consultation have been used to inform the ISA and have helped refine the LTP5. The Scoping Report and the comments received, together with how these comments have been addressed in the preparation of this ISA Report, are set out in Appendix C to this report.

- Environment Agency
- Historic England
- Natural England
- Birmingham City Council
- City of Wolverhampton Council
- Coventry City Council
- Dudley Borough Council
- Sandwell Council
- Solihull Council
- Walsall Council
- Staffordshire County Council*
- Warwickshire County Council*
- Worcestershire County Council*

*Relevant Boroughs and Districts engaged via County Councils

Key reporting requirements are those set by the SEA Directive and SEA Regulations:

'An Environmental Report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.'

As already indicated, the SEA Report has been integrated in this ISA Report. Table 2-1 sets out the way the specific SEA requirements have been met in this report.

Table 2-1 - Schedule of SEA Requirements

Information to be included in the Environmental Report under the SEA Regulations (Regulation 12 and Schedule 2)		Where covered in the ISA Report
1	An outline of the contents, main objectives of the plan, and of its relationship with other relevant plans and programmes	Chapters 1 and 5
2	The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;	Chapter 6 and Chapter 8
3	The environmental characteristics of areas likely to be significantly affected	Chapter 6 and Appendices E and F
4	Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	Chapter 6
5	The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan and the	Chapter 5 and 6

	way those objectives and any environmental considerations have been taken into account during its preparation	
6	The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage including architectural and archaeological heritage; landscape; the interrelationship between the above factors	Chapters 8, 9, 10, 11, 12 and 13
7	The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan	Chapter 11
8	An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information	Chapter 8
9	A description of measures envisaged concerning monitoring in accordance with Regulation 17	Chapter 13
10	A non-technical summary of the information provided under paragraphs 1 to 9	Non-technical summary

The ISA Report is thus an important consultation document and likely to be of interest to a wide variety of readers including decision makers, other plan/programme practitioners, statutory consultees, NGOs and members of the public. It accompanies the draft LTP on public consultation.

2.3. Habitat Regulation Assessment (HRA)

Habitats Regulation Assessment (HRA) is required by the Conservation of Habitats and Species Regulations 2017 (SI No. 2017/1012, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579)) for all plans and projects which may have likely significant effects on a European site and are not directly connected with or necessary to the management of the European site. LTP5 itself is not directly connected with, or necessary to, the nature conservation management of any European sites.

European sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). As a matter of UK Government policy, potential SPAs (pSPA), possible SACs (pSAC), listed or proposed Wetlands of international importance (Ramsar sites) and sites identified, or required, as compensatory measures for adverse effects on European sites, pSPA, pSAC, and listed or proposed Ramsar sites, are included for the purposes of considering plans and projects which may affect them . Hereafter all of the above designated nature conservation sites are referred to as ‘European sites’.

There are four stages to the HRA process. These are summarised below:

- Stage 1 – Screening: To test whether a plan or project either alone or in combination with other plans and projects is likely to have a significant effect on a European site;
- Stage 2 – Appropriate Assessment: To determine whether, in view of a European site’s conservation objectives, the plan (either alone or in combination with other projects and plans) would have an adverse effect on the integrity of the site with respect to the site structure, function and conservation objectives. If adverse impacts are anticipated, potential mitigation measures to alleviate impacts should be proposed and assessed;
- Stage 3 – Assessment of alternative solutions: Where a plan is assessed as having an adverse impact (or risk of this) on the integrity of a European site, there should be an examination of alternatives (e.g. alternative locations and designs of development); and
- Stage 4 – Assessment where no alternative solutions remain and where adverse impacts remain: In exceptional circumstances where no alternative solutions remain and where adverse impacts remain (e.g. where there are imperative reasons of overriding public interest). Compensatory measures would usually be required to offset negative impacts.

HRA Stages 1 and 2 have been carried out for the LTP5 and the assessment results presented in a separate HRA Report.

All the international sites within the LTP5 area and up to 30km from its boundaries have been identified and are as follows (see also Figures in Appendix F, as well as the HRA Report):

Table 2-2 - Natura 2000 sites within the wider West Midlands region

Natura 2000 site name	Type	Location
Fens Pool	Special Area of Conservation	Dudley
Cannock Extension Canal	Special Area of Conservation	Walsall
Mottey Meadows	Special Area of Conservation	South Staffordshire
Pasturefields Salt Marsh	Special Area of Conservation	Stafford
Cannock Chase	Special Area of Conservation	Stafford
Lyppard Grange Ponds	Special Area of Conservation	Worcestershire
River Mease	Special Area of Conservation	Staffordshire
West Midlands Mosses	Special Area of Conservation	Staffordshire
Ensor's Pool	Special Area of Conservation	Nuneaton and Bedworth
Midland Meres & Mosses Phase 1	Ramsar	Staffordshire
Midland Meres & Mosses Phase 2	Ramsar	Staffordshire

As noted, HRA Stages 1 and 2 have been carried out for the LTP5 and the assessment results presented in a separate HRA Report, however, the main conclusion is noted here for clarity. In the absence of detailed project-specific information, a high-level assessment of the potential for actions within the LTP5 to have an adverse effect on the integrity of European Sites was undertaken.

Detailed information is not yet available about the nature and extent of any works or actions as part of schemes that are likely to arise out of the LTP5. However, it is considered reasonable to anticipate from the information available that developments / transport intervention could be delivered in a manner which avoids any adverse effects on the integrity of the European sites through the use of standard mitigation techniques which are set out here. Furthermore, it is predicted that adverse impacts can be avoided or 'designed out' and to facilitate this process early consultation with Natural England is strongly recommended, i.e. the screening and scoping stage of projects.

Taking into account the proposed mitigation measures, the robust wording in the LTP5 which commits to the protection of the European Sites, it can be concluded that the LTP5 will not have an adverse effect on the integrity of the European Sites alone or in combination with other plans and projects.

3. Scope of the Integrated Sustainability Appraisal

3.1. Introduction

The section describes the spatial, temporal and technical scope of the sustainability studies undertaken as part of the ISA.

3.2. Geographical and Temporal Scope of LTP5

The LTP will cover the period up to at least 2041 and will apply to the administrative boundary of the West Midlands Combined Authority area. This area is aligned with that of WMCA as defined as the Local Transport Authority for the West Midlands[2] and is made up of seven core local councils ('Met 7'):

- Birmingham City Council
- City of Wolverhampton Council
- Coventry City Council
- Dudley Metropolitan Borough Council
- Sandwell Metropolitan Borough Council
- Solihull Metropolitan Borough Council
- Walsall Council

This area is defined as the Local Transport Authority (LTA) area – see Figure 3-1.

The LTA area covers a series of distinct communities in both urban and rural areas. The area is multi-centred and based on the Black Country, Birmingham, Solihull and Coventry and is home to 3.0 million residents and 91,150 businesses which employ 1.3 million people and generate £70.3bn per annum in GVA. Between 2010 and 2018, output in the WMCA grew by 2.5% on average YoY (compared to the national average of 2.4%) and the age profile of the area is young, with a quarter of residents aged under 19, the highest share of young people of all UK metropolitan areas. The West Midlands is one of the fastest growing regions in the UK, with its population set to increase by 440,000 people by 2035, requiring 165,000 new homes[3].

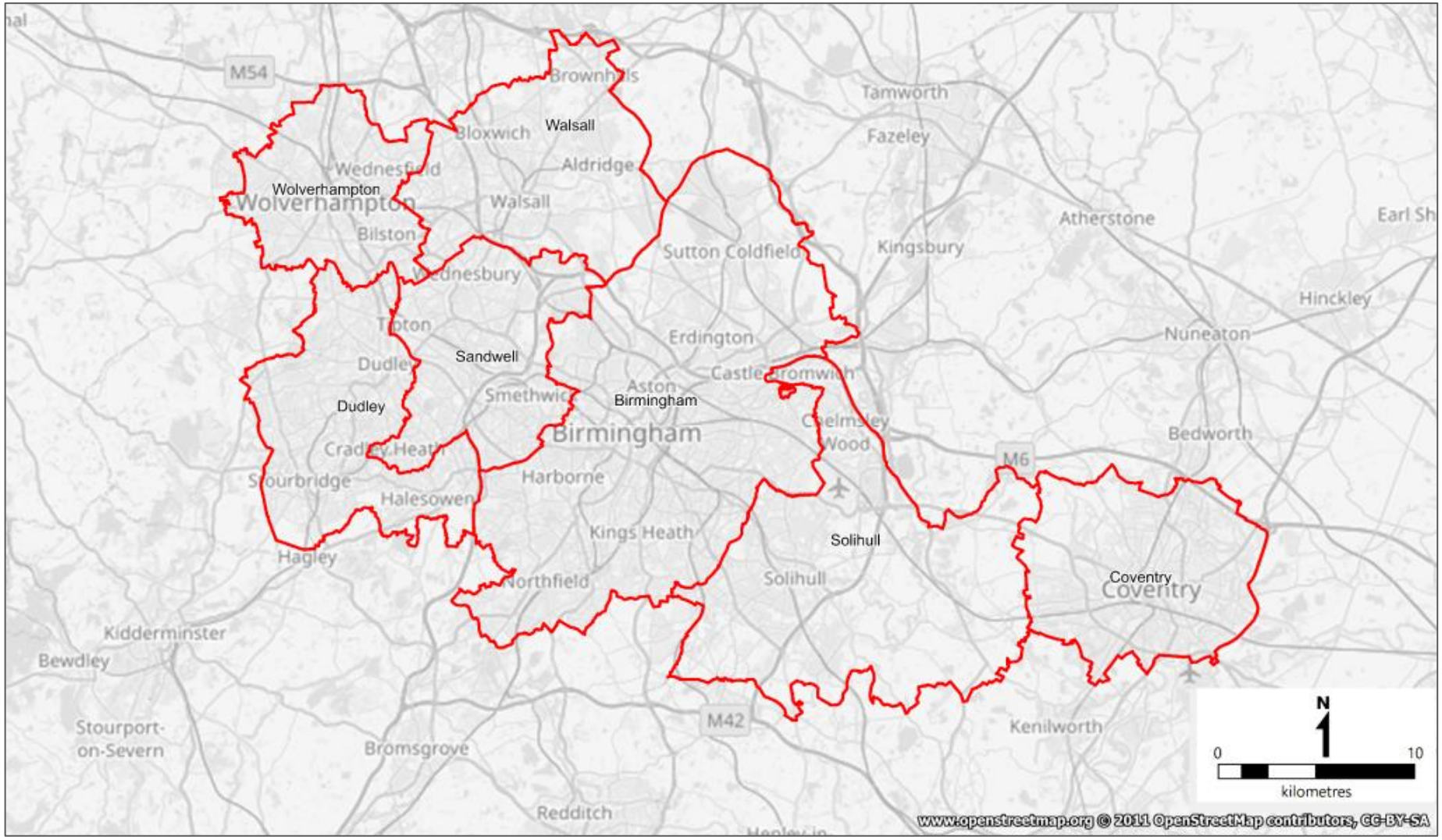
It is also important to recognise that the implementation of the LTP may have effects outside the immediate boundary of the LTA area. In this regard, the regions immediately adjacent to the LTA area will also be of focus. In addition to the 'Met 7' areas, there are potential implications for areas such as:

- Shropshire County Council
- Telford and Wrekin Council
- Staffordshire County Council
  - Cannock Chase District Council
  - Lichfield District Council
  - South Staffordshire
- Warwickshire County Council
  - Warwick District Council
  - North Warwickshire Borough Council
  - Nuneaton and Bedworth Borough Council
  - Stratford-on-Avon District Council
  - Rugby Borough Council

[2] https://www.legislation.gov.uk/uksi/2016/653/made/data.xht?view=snippet&wrap=true
[3] West Midlands City Region Sustainable Transport Settlement, September 2021

  - Tamworth Borough Council
- Worcestershire County Council
  - Redditch Borough Council
  - Bromsgrove
  - Wyre Forest

Figure 3-1 - The LTA area



3.3. Technical Scope

The ISA has a very wide remit and will consider the following topics associated with the various assessment processes it covers.

SA / SEA

The SEA Directive and the SEA regulations require that the likely significant effects on the environment are assessed, considering the following factors and interrelationship between them:

- Biodiversity;
- Population;
- Human health (covering noise issues among other effects on local communities and public health);
- Fauna and flora;
- Soil;
- Water;
- Air;
- Noise;
- Climatic factors;
- Material assets (covering infrastructure, waste and other assets);
- Cultural heritage including architectural and archaeological heritage; and
- Landscape.

SA guidance requires the consideration of socio-economic factors alongside the environmental factors identified above.

HIA

Department of Health & Social Care guidance recommends that the assessment of transport plans should consider the following topics:

- Transport to work, shops, schools and healthcare
- Walking and cycling
- Community severance
- Frequency and severity of crashes
- Collisions causing injury and fatal accidents
- Air pollution, noise and
- Ageing population and increasing disability

From an HIA perspective, in addition to the wider population as a whole (considered as residents / visitors and employees), there are vulnerable social groups that need special consideration in transport planning with regards to their health. These groups are likely to experience transport-related exclusion and / or be subject to negative externalities of transport and are as follows:

- Children and adolescents– who as non-drivers are reliant on others for motorised transport and who suffer the greatest impacts of transport policy on their health, particularly children in low-income families;
- Vulnerable travellers, including walking for work or health; cyclists, pedestrians and commuters – this would include consideration of those who are more likely not to own a car in some communities, exasperated by protected characteristics and find it harder to travel to shops, employment, healthcare and other services due to negative perception or experience in using transport
- Older people – who may feel vulnerable using public transport, who often need to seek health services and who are particularly vulnerable to road crash related injuries. Their continuing independence at home is often dependent upon reliable transport options;
- Disabled people and people with other physical and mental health conditions – who may not be able to access many forms of transport or need special arrangements to access those. They are more likely to find it difficult to walk and may also be disadvantaged by the cost of transport;

- Low income groups – who are likely to walk further because they cannot afford public transport or to own a car and whose lack of transport options may limit life opportunities. They suffer the most from injuries and poorer health outcomes compared to other groups, together with the effects of noise pollution and air pollution.

An overview of the baseline for the West Midlands as a whole, along with the review of relevant Plans and Policies has shown that all of the above vulnerable groups are present within the West Midlands and likely to utilise the transport network. As such, throughout this assessment process, consideration is made of how it is anticipated that the LTP will affect these groups. See also section 6.6 for further discussion on vulnerable groups and how these were identified.

EqIA

The EqIA process focuses on the consideration of the potential LTP effects on nine protected characteristic groups (PCGs) identified in the Equality Act 2010 that are relevant to the transport agenda:

- Age;
- Disability;
- Gender;
- Gender reassignment;
- Marriage and Civil Partnerships;
- Pregnancy and maternity;
- Race;
- Religion or belief; and
- Sexual orientation.

A degree of overlap between the HIA vulnerable social groups and the EqIA protected characteristics has been acknowledged by both HIA and EqIA processes. Consistency between the two assessments has been ensured, where appropriate, particularly in terms of assumptions, analysing techniques and findings.

An overview of the baseline for the West Midlands as a whole, along with the review of relevant Plans and Policies has shown that all of the above groups are present within the West Midlands and likely to utilise the transport network. As with those groups identified as being vulnerable in respect of health, throughout this assessment process, consideration is made of how it is anticipated that the LTP will affect these protected characteristic groups.

CSA

The approach to the CSA has considered the topics of community safety and crime and fear of crime.

4. ISA Methodology

4.1. Introduction

The ISA has been used as a tool for improving the sustainability performance of LTP5. Specifically, this has been achieved through allowing sustainability objectives to be considered throughout the plan's formulation process, with particular input to the development of policy areas.

As has already been stated, the ISA process fully integrates a range of assessment processes: SA/SEA, HIA, EqIA and CSA. HRA has been undertaken in parallel to the ISA and its results incorporated into the ISA as appropriate. Table 4-1 demonstrates how the integration has been planned and achieved throughout all the preparation stages of the ISA and LTP5.

4.2. Assessment Methodology

The ISA methodology adopted was developed broadly based on published guidance documents:

- Transport Analysis Guidance (TAG) 2.11 Strategic Environmental Assessment for Transport Plans and Programmes, Department for Transport, 'In Draft' Guidance, April 2009;
- Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents - Guidance for Regional Planning Bodies and Local Planning Authorities, by the ODPM, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment November 2005;
- A Practical Guide to the Strategic Environmental Assessment Directive, by the ODPM, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Department of the Environment, September 2005;
- Draft Guidance on Health in Strategic Environmental Assessment, Consultation Document, Department of Health, 2007; and
- National Planning Policy Framework, 2021 and associated Planning Practice Guidance (various dates from March 2014).

The work undertaken to-date involved the completion of SA/SEA stages A, B and C and associated tasks (see Table 4-1) together with HIA, EqIA, CSA and HRA (in parallel).

Table 4-1 - LTP5 preparation activities with the ISA and HRA processes

Transport Planning Stage	Sustainability Appraisal/ Strategic Environmental Assessment		Habitats Regulation Assessment	Health Impact Assessment	Equalities Impact Assessment	Community Safety Assessment
	Stage	Tasks	Tasks	Tasks	Tasks	
Determining the scope of the LTP clarifying goals; specifying the problems or challenges the authority wants to solve	**A. Setting the context and objectives, establishing the baseline and deciding on the scope**	Review and confirm plans/programmes and strategies at a National, Regional and Local Level		Confirm and identify Health related plans/programmes and strategies (as part of SA/SEA)	Review and confirm plans/programmes and strategies	Review and confirm plans/programmes and strategies
		Review and confirm Sustainability themes		Review and confirm health-related themes (as part of SA/SEA)	Review and confirm equality-related themes	Review and confirm community safety related themes
		Review and update Baseline data and likely future trends	Confirm identification of all international sites within and up to 20km around the Strategy area	Gather data relating to health (as part of SA/SEA).	Review and update Baseline evidence	Review and update Baseline evidence
		Review and confirm Key sustainability issues – update these if required	Confirm details of all international sites	Review and confirm health specific issues (as part of SA/SEA)	Review and confirm equalities specific issues	Review and confirm community safety specific issues
		Review objectives and decision-making questions (SA/SEA Framework) – update these if required	Liaise with SA/SEA team to ensure SA/SEA Framework covers international sites appropriately	Ensure inclusion of Health specific objectives in SA/SEA Framework	Ensure inclusion of Equalities specific objectives in SA/SEA Framework	Ensure inclusion of Community Safety specific objectives in SA/SEA Framework
		Prepare ISA Scoping Report to consult with relevant consultees	Input into ISA Scoping Report	Input into ISA Scoping Report	Input into ISA Scoping Report	Input into ISA Scoping Report
		Review consultation responses and update scoping information for ISA Report	Review consultation responses as part of SA/SEA for any aspects of note in relation to HRA	Review consultation responses and update scoping information for ISA Report	Review consultation responses and update scoping information for ISA Report	Review consultation responses and update scoping information for ISA Report
Generating options for the LTP to resolve these challenges; appraising the options and	**B. Developing, refining and appraising strategic options**	Review and confirm Assessment of Plan objectives against the updated SA/SEA Framework	Review proposals and considerations of likely impacts	Review and confirmation of Plan objectives and strategic options be undertaken within SA/SEA	Review and confirmation of Plan objectives and strategic options be undertaken within SA/SEA	Review and confirmation of Plan objectives and strategic options be undertaken within SA/SEA
		Review and confirm Appraisal of Plan strategic options	Identification and consideration of other plans and projects			

predicting their effects		Review and confirm Evaluation / selection of Plan preferred options.				
Selecting preferred options for the LTP and deciding priorities	**C. Assessing the effects of the draft LTP**	Predict and assess effects of new or revised options taken forward. Confirm findings in relation to previously assessed schemes.	HRA review of proposals in draft Strategic Transport Plan (screening and appropriate assessment)	*Predict and assess effects of new or revised preferred options to be undertaken within SA/SEA.*	*Predict and assess effects of new or revised preferred options to be undertaken within SA/SEA.*	*Predict and assess effects of new or revised preferred options to be undertaken within SA/SEA.*
		Review and confirm proposed mitigation measures – if required, new mitigation measures to be developed	Review and confirm and if required, propose mitigation measures	*Review and confirm and if required, propose mitigation measures within SA/SEA*	*Review and confirm and if required, propose mitigation measures within SA/SEA*	*Review and confirm and if required, propose mitigation measures within SA/SEA*
		Develop monitoring programme	*Monitoring as part of SA/SEA*	*Monitoring as part of SA/SEA*	*Monitoring as part of SA/SEA*	*Monitoring as part of SA/SEA*
Production of the draft LTP	**C. Prepare ISA Report**		Prepare HRA Report	*HIA fully documented in ISA Report (no separate output but HIA component properly identified)*	*EqIA fully documented in ISA Report (no separate output but EqIA component properly identified)*	*CSA fully documented in ISA Report (no separate output but Community Safety component properly identified)*
Consultation on draft LTP (TfWM to undertake)	**D. Consulting on ISA Report**		**HRA Report sent to Natural England for agreement on findings**	*HIA Consultation included in ISA Report consultation*	*EqIA Consultation included in ISA Report consultation*	*CSA Consultation included in ISA Report consultation*
Production of final Local Transport Plan	***D. Assess significant changes***		*Assess significant changes*	*HIA assessment of significant changes undertaken as part of SA/SEA*	*EqIA assessment of significant changes undertaken as part of SA/SEA*	*CSA assessment of significant changes undertaken as part of SA/SEA*
Adoption of Local Transport Plan	***D. Post Adoption Statement***		*Prepare updated HRA Report*	*Relevant results reported in Post Adoption Statement*	*Relevant results reported in Post Adoption Statement*	*Relevant results reported in Post Adoption Statement*

SA / SEA

Stage A - Setting the Context and Establishing the Baseline

Other Relevant Legislation, Plans and Programmes

The LTP5 will both influence and be influenced by other plans, policies and programmes (PPPs) produced by local and combined authorities, by statutory agencies and other bodies with plan making responsibilities. Legislation is a further driver that sets the framework for the LTP, both directly and indirectly. Relevant legislation, plans and programmes have been identified and considered to inform the preparation of this ISA Report (see Chapter 5 and Appendix D).

Baseline information and Key Sustainability Issues

To predict accurately how potential LTP5 proposals will affect the current baseline, it is first important to understand its current state and then examine the likely evolution of the environment without the implementation of the plan. Baseline information provides the basis for understanding existing local environmental, economic and social issues, in particular in respect of health and equality, and alternative ways of dealing with them; formulating objectives to address these issues and predicting and monitoring sustainability effects.

Key sustainability issues in general, and those pertaining to health and equality in particular, across Surrey have been identified as a result of the analysis of the baseline data and the review of other plans and programmes. The identification of these issues helped focus the ISA processes on the aspects that really matter. Implications to LTP5 development and opportunities for how the LTP5 could assist in addressing these issues were also identified.

Information on key baseline and sustainability issues is presented in Chapter 6 of this report.

Developing the ISA Framework

A set of ISA Objectives has been developed, against which the policies and proposals in LTP5 could be assessed.

For each objective, assessment aid questions were set out to form the ISA framework. The assessment aid questions provided a clarification of the intended interpretation of each objective to support direction of change sought through the implementation of LTP5. The questions have guided the LTP5 assessment process.

The ISA Objectives and assessment aid questions were refined through the consultation on the Scoping Report and are presented in Chapter 7 of this report.

Stage B – Developing alternatives

Testing LTP5 Objectives against the ISA Objectives

A compatibility assessment of LTP5 objectives in its initial stages of preparation against the ISA objectives was carried out, as part of the iterative process to assess the sustainability of LTP5 objectives. This assessment ensured that consideration of the ISA Objectives informed the development and refinement of the LTP5 Objectives and provided a suitable framework for developing alternatives (see Chapter 9 of this report).

Developing, refining and appraising Strategic Alternatives

Consideration of alternative strategies for LTP5 is an integral part of the plan development. Strategic alternatives were identified by TfWM and have been assessed as part of the ISA process.

This task comprised the prediction of changes arising from the LTP's alternative strategies. While carrying out this evaluation, each alternative was considered in the context of whether it would have a likely significant effect in relation to each of the ISA objectives. The results are presented in Chapter 8 of this report.

Assessing the effects of the draft LTP5

Assessing the significance of predicted effects is essentially a matter of judgement. There are a number of factors that will determine the significance of an effect, e.g. its scale and permanence and the nature and

sensitivity of the receptor. It is very important that judgements of significance are systematically documented, in terms of the particular characteristics of the effect which are deemed to make it significant and whether and what uncertainty and assumptions are associated with the judgement. The assessment of significance also includes information on how the effect may be avoided or its severity reduced.

In the current practice of IA (influenced by SEA), the broad-brush qualitative prediction and evaluation of effects can be often based on a qualitative seven point scale in easily understood terms. In general, this assessment has adopted the scale shown in Table 4-2 to assess the significance of effects of the schemes and proposals in the LTP5.

Table 4-2 - Assessment scale

Terms		Effects					Assessment	
		Mag	Scale	Dur	T/P	Cert	Scale	Category
Mag	Magnitude	✓✓	Local	ST-MT	Temp	Low	**+++**	Large beneficial
Scale	Geographic Extent	✓	Local-Reg	ST-LT	Perm	Med	**++**	Moderate beneficial
Dur	Duration	-	Reg/Nat	MT-LT		High	**+**	Slight beneficial
T/P	Temporary / Permanent	**?**		ST			**0**	Neutral
Cert	Certainty	✗		MT			**-**	Slight adverse
ST	Short Term	✗✗		LT			**--**	Moderate adverse
MT	Medium Term						**---**	Strong adverse
LT	Long Term						**?**	Uncertain
Sm	Summary assessment						**+/-**	Combination of beneficial and adverse

Moderate and strong beneficial and adverse effects (and combination of this type of effect) have been considered of significance, whereas no effect and slight beneficial and adverse effects (and combination of this type of effect) have been considered non-significant.

Assessments have been undertaken for proposals contained in the Draft LTP5 Core Strategy. The results are discussed in Chapter 10.

As part of the assessment of the Draft LTP5, a number of mitigation measures (recommendations) are set out in Chapter 10 and 11. TfWM has given careful consideration to these recommendations and has addressed these as appropriate in the preparation of the Draft LTP5 Core Strategy for public consultation, though note that a number of the recommendations are intended to be addressed via detailed Policy or intervention development, which will take place via a further development of the 'Big Move' strategies and Area Strategies and as such are not addressed at this point. See the LTP for information on the further development of these aspects.

The term mitigation encompasses any approach that is aimed at preventing, reducing or offsetting significant adverse environmental effects that have been identified. A range of measures applying one or more of these approaches has been considered in mitigating any significant adverse effects predicted as a result of implementing the LTP. In addition, measures aimed at enhancing positive effects have also been considered. All such measures are generally referred to as mitigation measures.

However, the emphasis of the assessments has been in the first instance on proactive avoidance of adverse effects. Only once alternative options or approaches to avoiding an effect have been examined, then ways of reducing the scale/importance of the effect have been examined and proposed.

Mitigation can take a wide range of forms, including:

- Refining intervention measures in order to improve the likelihood of positive effects and to minimise adverse effects;
- Technical measures (such as setting guidelines) to be applied during the implementation stage;
- Identifying issues to be addressed in project environmental impact assessments for certain projects or types of projects;
- Proposals for changing other plans and programmes.

The assessment also considered cumulative, indirect (secondary) and synergistic effects of the Draft LTP5 as outlined in the following section.

Secondary and Cumulative Effects Assessment

Annex I of the SEA Directive requires that the assessment of effects include secondary, cumulative and synergistic effects.

Secondary or indirect effects are effects that are not a direct result of the plan but occur away from the original effect or as a result of the complex pathway e.g. a development that changes a water table and thus affects the ecology of a nearby wetland. These effects are not cumulative and have been identified and assessed primarily through the examination of the relationship between various objectives during the Assessment of Effects.

Cumulative effects arise where several proposals individually may or may not have a significant effect, but in-combination have a significant effect due to spatial crowding or temporal overlap between plans, proposals and actions and repeated removal or addition of resources due to proposals and actions. Cumulative effects can be:

- Additive - the simple sum of all the effects;
- Neutralising - where effects counteract each other to reduce the overall effect;
- Synergistic - is the effect of two or more effects acting together which is greater than the simple sum of the effects when acting alone. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all.

Many sustainability problems result from cumulative effects. These effects are very hard to deal with on a project by project basis through Environmental Impact Assessment. It is at the strategic level that they are most effectively identified and addressed.

Cumulative effects assessment is a systematic procedure for identifying and evaluating the significance of effects from multiple activities. The analysis of the causes, pathways and consequences of these effects is an essential part of the process.

Cumulative (including additive, neutralising and synergistic) effects have been considered throughout the entire ISA process, as described below:

- Identification of key sustainability (including detailed health and equality) issues as part of the review of relevant strategies, plans and programmes and baseline data analysis.
- Establishing the nature of likely cumulative effects, causes and receptors.
- Identifying key receptors in the process of collecting baseline information and information on how these have changed with time, and how they are likely to change without the implementation of the LTP.
- The development of ISA objectives and assessment aid questions has been influenced by cumulative effects identified through the process above and ISA objectives that consider cumulative effects have been identified.
- Cumulative effects of LTP policy areas have been assessed – no transport interventions have been identified at this stage of LTP development (Core Strategy).

The results are presented in Chapter 12 of this report.

Monitoring the effects of the LTP implementation

The ISA has indicated a series of possible monitoring indicators that will be implemented through the LTP delivery and linked to wide programme delivery. The Core Strategy notes that '*the LTP will be dynamic allowing TfWM to make different choices over time and in different place according to monitoring and evaluation of local transport policy delivery and impacts*'.

It is anticipated that the monitoring programme will cover significant social, environmental and economic effects and which will involve measuring indicators that will enable the establishment of a causal link between the implementation of the LTP and the likely significant effects (both positive and negative) being monitored. This will allow identification at an early stage of unforeseen adverse effects and allow appropriate remedial action to be undertaken.

The monitoring indicators are presented in Chapter 13 of this report.

Stage C – Preparing the ISA Report

This ISA Report has been prepared to accompany the draft LTP on consultation.

Stage D - Consulting on the Draft Revised LTP and ISA Report

Assessing significant changes

The ISA Report will be published for formal consultation with the Draft LTP. The results of the formal public consultation exercise may well result in changes to the Draft LTP and these will have implications for the ISA Report. In addition, the consultation exercise may result in direct changes to the contents of the ISA Report. These will be reported in the Post Adoption Statement.

Post Adoption Statement

Following completion of the public consultation and adoption of the Final LTP document, a statement (separate document) will be prepared setting out the following:

- How sustainability considerations have been integrated into the plan, for example any changes to or deletions from the plan in response to the information in the ISA Report.
- How the ISA Report has been taken into account.
- How the opinions and consultation responses have been considered and addressed. The summary should be sufficiently detailed to show how the plan was changed to take account of issues raised, or why no changes were made.
- The reasons for choosing the plan as adopted in the light of other reasonable alternatives dealt with.
- The measures that are to be taken to monitor the significant environmental effects of implementation of the LTP.

HIA

In order to ensure that potential impacts of the LTP on health equity and health inequalities have been considered and to fulfil the requirements of health legislation, an HIA has been undertaken at this stage in a fully integrated fashion with the SA/SEA process as set out in Table 4-1. The need for HIA arises from the recognition that the LTP proposals may impact on the factors influencing the health of communities and individuals, including such factors as noise and air quality, accessibility to key services and facilities and the design of transport infrastructure. Consideration of such issues will continue through development of the LTP and then into any scheme development, though other assessment techniques such as Health Equity Assessment Tool (HEAT) could also be used at that stage and is being considered by WMCA.

Approach to HIA

The HIA objectives that have been considered have been developed in the light of HIA guidance and identified health issues, as well as the consultation that has taken place. The approach to the HIA has ensured that all relevant topics have been considered throughout the assessment process from establishing the baseline and building up the area's population profile in terms of health, identifying the key issues, developing the ISA Framework, assessing the LTP, mitigation and monitoring.

The HIA has identified policy approaches that can enhance positive effects and reduce or eliminate negative effects of the LTP, with respect to health and health inequalities.

HIA consultation

Consultation to inform the HIA has been undertaken as part of the overall SA/SEA process. Consultation responses have been analysed to inform the HIA (see reporting and consultation as part of the ISA process).

EqIA

In order to ensure that potential impacts of the LTP on equality have been considered and to fulfil legislative requirements, an EqIA has been undertaken in a fully integrated manner with the SA/SEA process.

Approach to EqIA

The EqIA objectives that have been considered have been developed in the light of EqIA guidance and identified equalities issues, as well as the consultation that has taken place. The approach to the EqIA has ensured that all relevant topics have been considered throughout the assessment process from establishing the

baseline and building up the area's population profile in terms of equalities, identifying the key issues, developing the ISA Framework, assessing the LTP, mitigation and monitoring.

EqIA consultation

Consultation to inform the EqIA has been undertaken as part of the overall SA/SEA process. Consultation responses have been analysed to inform the EqIA (see reporting and consultation as part of the ISA process).

CSA

To ensure that potential impacts of the LTP on community safety have been considered, and to fulfil legislative requirements, a CSA has been undertaken in a fully integrated manner with the SA/SEA process.

Approach to CSA

The CSA objectives that have been considered have been developed in the light of CSA guidance and identified safety issues, as well as the consultation that has taken place. The approach to the CSA has ensured that all relevant topics have been considered throughout the assessment process from establishing the baseline and building up the area's population profile in terms of crime and safety, identifying the key issues, developing the ISA Framework, assessing the LTP, mitigation and monitoring.

CSA consultation

Consultation to inform the CSA has been undertaken as part of the overall SA/SEA process. Consultation responses have been analysed to inform the CSA (see reporting and consultation as part of the ISA process).

5. Review of relevant Legislation and other Plans and Programmes

5.1. Introduction

The first task of the ISA is the identification of other relevant plans, policies, programmes and legislation. This helps to identify relevant environmental and wider sustainability themes, baseline information and key issues. The LTP must be prepared to take these PPPs into account as it may influence and be influenced by them.

The SEA Regulations specifically states that information should be provided on:

"*The relationship [of the plan or programme] with other relevant plans and programmes*"

"*The environmental protection objectives, established at international, [European] Community or [national] level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation*"

In addition to this, the PPPs related to wider sustainability, HIA, EqIA and CSA have also been considered.

5.2. Methodology

Both the LTP and the ISA Report should be set in the context of international, national, regional and local objectives along with environmental, strategic planning, transport, health, social, economic and equality policies.

Relevant plans and programmes include those at different levels (international, national, regional and local) which influence the Transport Plan, or those in other sectors which contribute, together with the Transport Plan, to sustainability conditions of the area to which they apply.

Appendix D lists the documents reviewed to identify environmental, social (health and equality) and economic themes. A series of key generic themes which have emerged from the review are presented below.

5.3. Environmental Themes

The review of PPPs revealed a large number of common themes in terms of their objectives relating to sustainability within the context of transport planning. These are listed below:

Air Quality

- Reduce emissions of NO2
- Reduce emissions from road transport in particular
- Reduce emissions from other forms of transport
- Increase use of low emission / zero emission at point of use vehicles
- Reduce emissions of PM10 and PM2.5

Greenhouse gas (GHG) Emissions

- Reduce GHG emissions, particularly CO2
- Maximise the use of renewable energy
- Increase energy efficiency and make use of new technology
- Minimise use of fossil fuels
- Contribute to the achievement of Net Zero Carbon

Adaptation to a Changing Climate and Flooding

- Prepare for extreme weather events and sea level rise
- Minimise the risk and impact of flooding
- Avoid development in floodplains when possible
- Help meet objectives of Flood Risk Management Plans allowing for climate change

Biodiversity, Fauna and Flora

- Protection of sites designated for nature conservation purposes
- Protect and enhance endangered or important species and habitats
- Contribute to the delivery of biodiversity strategies and plans
- Increase important habitat
- Protect, maintain and where possible enhance natural habitat networks and green infrastructure, to avoid fragmentation and isolation of networks
- Contribute to the achievement of Biodiversity Net Gain

Cultural Heritage

- Conserve and protect historic assets (designated and undesignated) and those of cultural note, including archaeology and historic landscapes
- Improve access to historic assets, including buildings and landscapes of value where appropriate.
- Sympathetic design and use of vernacular architecture when appropriate to enhance the local character and 'sense of place'

Water Resources

- Protect and improve the quality of ground and surface water
- Help to meet objectives of the Water Framework Directive (WFD)
- Make use of Sustainable Drainage Systems (SuDS)

Land Use, Soil and Agriculture

- Prioritise development on brownfield sites
- Seek to reclaim derelict and contaminated land
- Protect farmland and soils
- Change agricultural land use to forestry

Landscapes and Townscapes

- Protect and enhance landscape and townscape character and local distinctiveness
- Protect tranquillity from the impacts of noise and light pollution

Natural Resources and Waste

- Ensure efficient resource use and minimise resource footprint
- Use secondary and recycled materials
- Consider opportunities to maximise on-site re-use of materials
- Employ waste reduction methods to minimise construction and maintenance waste
- Reduce the amount of waste disposed of at landfill
- Promote circular economy
- Avoid the sterilisation of mineral resources

5.4. Economic Themes

- Improve physical accessibility to jobs through the location of employment sites and transport links close to areas of high unemployment
- Widen the number and range of accessible employment opportunities and support growth in employment and labour productivity
- Make the area more attractive for inward investment
- Improve rail and road journey reliability for business users
- Support local businesses

- Support enhancement of local economy and overall prosperity
- Support development of the skills base
- Support development of EV charging network

5.5. Health Themes

- Tackle poor health by improving the health of everyone, and of the worst off in particular
- Reduce health inequalities among different groups in the community (e.g. children and young people, pregnant women, black and minority ethnic people; older people, people with disabilities; people with a health condition and low income households)
- Reduce impact of transport on wellbeing by reducing noise, light and odour pollution
- Support the public to make healthier and more informed choices with regard to their health and improve physical and mental wellbeing such as by adopting physically active lifestyles
- Address pockets of deprivation
- Provide physical access and mobility for disabled people
- Provide or improve access to local health and social care services
- Provide opportunities for increased exercise, thus reducing obesity, particularly in children, and illnesses such as coronary heart disease
- Provide for an ageing population
- Promote healthy lifestyles through exercise, access to green and open space, physically active travel and access to good quality and affordable food, which can assist in reducing both physical and mental illnesses.

5.6. Equality Themes

- Protect human rights (e.g. the right to liberty and security of person) and fundamental freedoms (e.g. a right to freedom of thought, conscience and religion, freedom of expression, etc.)
- Prohibit discrimination, harassment and victimisation on such grounds as sex, race, language and religion
- Promote equality of opportunity in the way services are planned, promoted and delivered;
- Treat everyone with dignity and respect
- Recognise people's different needs, situations and goals and remove the barriers that limit what people can do and can be
- Create sustainable communities which are active, inclusive, safe, fair, tolerant and cohesive
- Create sustainable communities which are fair for everyone - including those in other communities, now and in the future
- Improve economic, social and environmental conditions particularly in the most deprived areas or on low incomes
- Ensure fair access to and distribution of resources across the community, including rural areas
- Assess and address the impacts upon diverse communities including cultural, racial, economic, generational, social (including disabilities) and religious mixes
- Create a sense of belonging and wellbeing for all members of the community
- Provide physical access for people with disabilities and those with a health condition
- Minimise isolation for vulnerable people

5.7. Community Safety Themes

- Create communities which are safe, inclusive, fair, tolerant and cohesive
- Prevent violence against Women and Girls and promote safety streets and places
- Maintain reductions in crime and anti-social behaviour across our transport networks and streets
- Improve perceptions that the communities are safe places to work, live and visit
- Reduce speeding and improve road safety

6. Baseline Information and key sustainability issues

6.1. Introduction

In order to assess the potential sustainability effects of the LTP on the West Midlands and surrounding areas, it is necessary to establish a baseline against which predicted effects can be assessed, and then to identify issues and trends that are related to each of the environmental, social and economic interests that may be affected by, or affect, the proposed plan. This is in keeping with the SEA Regulations which state that the Environmental Report should provide information on:

"*The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme*" and "*The environmental characteristics of areas likely to be significantly affected*" (Schedule 2)

and

"*Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC on the conservation of wild birds and the Habitats Directive* " (Schedule 2).

To accurately predict how LTP proposals will affect the environmental characteristics, it is important to understand the current state of the environment and then examine the likely evolution of the environment without the implementation of the plan. In this report, given its remit is broader than environmental sustainability, the current state regarding wider sustainability (environment, social and economic) has been characterised.

6.2. Data Collection Methodology

Existing baseline information provides the basis for the prediction and monitoring of the effects of the implementation of LTP5 and helps identify sustainability issues and alternative ways of dealing with them (implications and opportunities).

As ISA is an iterative process, subsequent stages in its preparation and assessment might identify other issues and priorities that require the sourcing of additional data and/or information and identification of monitoring strategies. This makes the ISA process flexible, adaptable and responsive to changes in the baseline conditions and enables trends to be analysed over time.

The most efficient way to collate relevant baseline data is through the use of indicators whenever possible (see below). This ensures that the data collation is both focused and effective. The identification of relevant data has taken place alongside the review of other relevant legislation, plans, policies and programmes (Chapter 5 and Appendix D), the identification of sustainability issues (this section) and developing the ISA framework (Chapter 7).

6.3. Data Analysis

Data have been collated and analysed for the following indicators (as detailed in Appendix E):

Environmental Data

- CO2 emissions
- Climate change
- Local air quality
- Noise / Light pollution ('Tranquillity')
- Biodiversity, fauna and flora (including designated sites)
- Landscape and townscape
- National Character Areas

- Heritage assets
- Green space
- Soil / land classification
- Water quality
- Flooding
- Waste and resources

Economic Data

- Employment
- Long term trends in GVA
- Long term trends in population
- Economic sectors, including those related to rural output
- Performance gap and sub-regional performance
- Identification of economic centres

Social Data (including Health, Equalities and Community Safety)

- Population and diversity
- General health statistics
- Accessibility
- Road safety and accidents
- Crime data
- Physical activity in children and adults
- Equality target groups
- Multiple deprivation

The baseline data provide an overview of the sustainability characteristics of the LTP area. This overview, together with contextual information, is presented in Appendix E. The analysis of the baseline has highlighted a number of key issues across the West Midlands. These, together with implications and opportunities arising for the LTP, have been summarised in Table 6-1.

6.4. Data Limitations

It is believed that the data sets available provide a comprehensive overview of the sustainability situation across the West Midlands.

6.5. Key Sustainability Issues

The following sections provide a description of key baseline data and associated sustainability issues together with a discussion on the implications/opportunities of such issues to LTP5. The analysis of baseline data and sustainability issues has influenced the development of the ISA Framework (see Chapter 6 and 7) in terms of formulating sustainability objectives and assessment aid questions. Note that this section has been updated with information received as part of consultation responses made to the ISA Scoping Report (see Appendix C) and the identification of further relevant information during the assessment process.

It should be noted that, because HIA, EqIA and CSA are also being undertaken, the approach involved the identification of generic HIA, EqIA and CSA key sustainability issues, implications and opportunities and objectives. These have been further developed to ensure a more in-depth level of coverage of issues to satisfy specific HIA and EqIA requirements leading to the development of HIA and EqIA sub-objectives (see Chapter 7).

Table 6-1 - Key Issues, Implications and Opportunities for the LTP

Key Sustainability Issue	Implications / Opportunities for the LTP	ISA Objective
Air Quality Air pollution impacts on public health, the natural environment and the economy. Air quality has improved in the UK over the last sixty years as a result of the switch from coal to gas and electricity for heating of domestic and industrial premises, stricter controls on industrial emissions, higher standards for the composition of fuel and tighter regulations on emissions from motor vehicles. However, poor air quality, particularly due to emissions from motor vehicles, remains a significant issue for community health for the population as a whole but particularly for certain vulnerable or protected characteristic groups such as the elderly, children, those with existing health conditions, those who are pregnant and those living in areas of deprivation. Poor air quality also has significant implications for biodiversity e.g. due to pollutant deposition, especially in/downwind of urban areas and major transport networks. Poor air quality is generally associated with urban/industrial areas and major road infrastructure and this is reflected in the typical location for Air Quality Management Areas (AQMA), many of which have been designated due to high NO2 and PM10 levels. Within the West Midlands Met 7 area, a total of 6 AQMA's have been declared and it is to be noted that these cover the whole of the relevant local authority area. It is also to be noted that within the West Midlands, Clean Air Zones are recognised as a possible tool for improving local air quality and significant work is being undertaken in area such as Birmingham in this regard. The UK Government has noted that addressing road transport emissions presents the most significant opportunity to tackle this specific exceedance problem (NO2 pollution). However, it is important to note that there are other elements which also need to be addressed in addition to road vehicles and this includes reducing emissions from other forms of transport such as rail and aviation. Likely evolution of the baseline Improving - At the national level air quality is generally improving as industrial practices, energy sources and tighter environmental legislation have contributed to reductions in pollutants. Nevertheless, it remains a significant issue in many discrete areas and has significant ongoing issues in respect of health.	The LTP should aim to protect and improve air quality, with a particular focus on those areas where there are existing air quality issues or where it may impact on particular vulnerable receptors. It should seek to ensure that reducing NO2 and particulate emissions is a fundamental principle of the Plan, though it is important to recognise the full range of pollutants associated with transport such as tyre and brake degradation, road salt, ground level ozone and so on. The LTP should also aim to meet Government targets for air quality and be reflective of appropriate legislation and should consider ecological receptors alongside human receptors when dealing with air quality. Examples of how this could be addressed include development and promotion of sustainable modes of transport including active modes, encouraging uptake of EVs or alternatively fuelled vehicles (e.g. through developing greater EV infrastructure, or by helping to develop alternative fuels such as hydrogen), smarter travel management such as workplace, residential and school travel plans, creation of inter-modal interchanges, sustainable freight movements and traffic management interventions. Of particular note, reducing the need for travel, as well as reducing the length of journeys would act to reduce emissions. There is also a potential that Green Infrastructure or features such as green walls can be implemented in such a way as to act as a	Protect and improve air quality

	barrier to dispersion of pollutants including for example from tyres and brakes.	
Greenhouse gas emissions and a changing climate The release into the atmosphere of greenhouse gases (e.g. CO2, CH4, N2O, O3) resulting from fossil fuel usage, agriculture, land use change and other human activities has been linked with atmospheric warming and global climate change. Changes in temperature and rainfall patterns, along with more frequent extreme weather events, create the situation where a greater degree of resilience will have to be incorporated into plans and proposals. As noted by the Committee for Climate Change, domestic transport emissions of road transport account for around a quarter of UK greenhouse gas emissions, with the use of cars being the single greatest user of fuel. Emissions associated with Metropolitan 7 area's transport sector currently amount to 36% of the area's total amount (2018). At present, fossil fuel dependency remains high and is likely to remain so for some time (even with a marked, albeit potentially temporary, decline due to Covid-19), though in recent years there have been improvements in vehicle efficiency and an increasing uptake of and provision for, electric vehicles (EV). As with most areas of England, The West Midlands Region is considered to have challenges in respect of the provision of EV charging points. However, Birmingham, Coventry and Wolverhampton have all received funding from OLEV and intend to install a full range of charge points in off street, on street, hubs in public car parks, arterial routes and within local communities. Efforts in relation to addressing climate change have been bolstered by a '#WM2041 Actions to meet the climate crisis with inclusivity, prosperity and fairness' report which aims to deliver key actions such as active travel and cleaner transport, tree planting, investment to support re-skilling and employment and energy devolution in a system-wide approach to make a change. Critically this strategy, along with the declaration of a climate emergency, commits the Met 7 area to becoming 'Net Zero Carbon' by 2041 at the latest. Nevertheless, some degree of climate change will occur, with the UK's Climate Projections showing that the UK as a whole is likely to experience hotter, drier summers, warmer, wetter winters and rising sea levels. This is likely to have a significant effect on a range of environmental conditions, including the water environment. Likely evolution of the baseline Declining - Interventions at the local and regional level have started to reduce the rate of greenhouse gas emissions; and actions outside the LTP are contributing to a reduction	The LTP should seek to ensure that reducing CO2 emissions and achieving Net Zero carbon is a core component of all implementation plan elements and works to achieve the target of Net Zero Carbon by 2041. Although it should also be realistic that projected levels of traffic growth mean emissions will likely remain an issue and that removals will therefore be required. The LTP should also seek to ensure that new transport interventions consider the potential for nature based solutions and maximise the opportunity for increasing tree / vegetation cover, where practical, in order to absorb increased amounts of CO2 from the atmosphere, e.g. through the use of street trees or planting in other areas of transport infrastructure. Consideration could also be given to the restoration of peat bogs if applicable. As with air quality, other examples of how CO2 emissions could be addressed include development and promotion of sustainable modes of transport including active modes, encouraging uptake of EVs or alternatively fuelled vehicles (e.g. through developing greater EV or hydrogen infrastructure), smarter travel management such as workplace, residential and school travel plans, creation of inter-modal interchanges, sustainable freight movements and traffic management interventions. Of particular note, reducing the need for travel, as well as reducing the length of journeys would act to reduce emissions.	Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting Net Zero carbon target

in emissions. However, the underlying trend points towards a slowing of emissions rather than reversal of trends. Climate change is recognised as a global concern with the UK anticipated to experience hotter, drier summers; warmer, wetter winters; and rising sea levels and it is anticipated that extreme weather events will increasingly impact transport networks as well as wider society. These trends are anticipated to continue irrespective of interventions from outside the LTP.		
Biodiversity, Fauna and Flora & Geodiversity Within West Midlands Combined Authority, there are a wide range of sites designated for nature conservation. However, within the Metropolitan 7 area there is limited number of designated sites. Of note, there are two Special Area of Conservation (SAC) sites, comprising of the Cannock Extension Canal and Fens Pool. No areas of nature conservation in the Met 7 areas are designated Ramsar sites or Special Protection Areas. 25 Sites of Special Scientific Interest (SSSIs) are distributed across the plan area, the majority in favourable or favourable recovering condition. Of these, 11 are designated for their biological interest, 9 are designated for their geological interest, and 5 designated for a combination of biodiversity and biological interest. Three NNRs are found within the Metropolitan 7 area, comprising Sutton Park (open heathland and woodlands), Wren's Nest (lowland heath) and Saltwells (lowland heathland). In addition there are a range of sites designated at the local level in the Met 7 area including 83 Local Nature Reserves (LNRs) and more than 700 Sites of Nature Conservation Importance (SNCIs). Key pressures and risks in respect of biodiversity and nature conservation that are particularly relevant have been identified from air pollution and climate change, which can change distribution of species and habitats. The Birmingham and Black Country Local Nature Partnership (LNP) has identified and provided guidance in respect of the value of natural environment in local policy and decisions for the benefit of nature, people and the economy. The LNP provides guidance for developers on the features and characteristics of key habitats, and advice on the measures that could be incorporated into development proposals to deliver biodiversity enhancements that are appropriate to the area affected. Areas of Ancient Woodland, i.e. those areas that have been continuously wooded since at least 1600AD are scattered across the Met 7 area. Across the West Midlands region, there are 20,535 hectares of green space, some of which is legally protected. West Midlands residents have on average to travel 968m to	The LTP area should aim to protect and enhance all sites of biodiversity importance and should place a particular emphasis on protecting sites designated for nature conservation and geodiversity purposes. This could be achieved by ensuring that planning / design of transport interventions avoid sensitive areas and through the adoption of best practice wildlife friendly designs into transport interventions. Where this is not possible, there should be mitigation and compensation for losses. Consideration should also be made of protected and priority species and their habitats. In addition, consideration should be given to those sites designated for their geodiversity. Opportunities for new habitat creation and enhancement associated with transport developments should be explored, e.g. implementing green infrastructure through the use of appropriate locally native species in landscaping / public realm plans, through creation of new road verges and enhancement of the existing road verge network. The potential for biodiversity creation in brownfield sites should be also taken into account. There should therefore be achievement of Biodiversity Net Gain in areas not formally designated, with guidance on the appropriate form of biodiversity enhancement taken from the relevant Biodiversity Opportunity Area (BOA) guidance.	Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain. Protect and enhance sites designated internationally for nature conservation purposes Protect, enhance and promote geodiversity

get to a park or public garden, compared with an average of 987m for England. In addition, around 90% of addresses in the West Midlands have access to private outdoor space compared with an average of 88% in England. New transport interventions have the potential to impact on the sites of ecological or geological value and more generally on the network of linked multi-functional green spaces, comprising the local green infrastructure, through direct land take for infrastructure (which may contribute to fragmentation) and construction and operational disturbance (noise, vibration, light pollution, etc.) and emissions / contamination (air, water and soil), though they may also provide opportunities for enhancement. Increased accessibility to designated sites also has the potential to adversely impact on them. Direct road kill can also impact on some species. On the other hand, transport infrastructure can provide opportunities for increased biodiversity, or to aid certain species such as the range of policies developed by Defra and the Highways Agency (now Highways England) relating to pollinators. The 'Black Country' also contains a UNESCO Geopark, which recognises the significant geological, historical and cultural heritage of the area. It also has a strong network of partnerships committed to conserving, managing and promoting this legacy. The Geopark encompasses sites in Dudley, Wolverhampton, Sandwell and Walsall and becomes the UK's eighth Unesco geopark. Likely evolution of the baseline Uncertain - The designated elements of West Midlands Metropolitan 7, biodiversity resource are afforded some protection from the pressures of development, outside the LTP. However, much of the green infrastructure network is not designated. Climate change will likely result in decline of some habitats and species, though may afford opportunities for other species, including invasive species.	Other opportunities for the LTP include the following: • avoid the fragmentation of green infrastructure, which contributes to protecting natural habitats and biodiversity; • the need for cohesive habitat networks to help habitats and species adapt to the consequences of climate change; • enhancement of the green infrastructure through, for example, footpaths, cycle lanes and other public rights of ways. Increased accessibility to appropriately designed multi-functional green infrastructure can play a significant role in diverting access pressure away from more sensitive sites, such as those designated for wildlife and geological conservation. In parallel with the ISA of the LTP, HRA is being undertaken which will identify the internationally designated nature conservation areas to avoid, or where this is not possible, appropriate mitigation measures to identify very early on in the development of the LTP.	
Water Resources There are considerable pressures on water resources with resulting major impacts on many of the waterbodies across the UK. For the purposes of taking a holistic approach to management of water resources and to address the pressures on the water environment, under the Water Framework Directive (WFD), the UK has been divided into a series of River Basin Districts (RBD). Those of relevance to the Met 7 area are: • Severn	The LTP should seek to prevent pollution of water bodies (including groundwater) both during the construction and operation of any transport intervention. This could be achieved via the appropriate use of SuDS or other appropriate measures and new approaches in road drainage design / transport interventions to enhance water quality and reduce pollution and	Protect and enhance the water environment

• Humber As with most water bodies in England, there are a range of significant water management issues manifested in these RBD, with pollution from towns, cities and transport noted as being an issue for 16% of water bodies in the Humber RBD and 12% of those within the Severn RBD. Groundwater provides a third of drinking water in England, and it also maintains the flow in many rivers. Protecting these sources will help ensure that water is safe to drink. In order to help protect sources, Source Protection Zones (SPZs) for groundwater sources such as wells, boreholes and springs used for public drinking water supply have been defined. West Midlands Metropolitan 7 has a range of SPZ that need to be protected. Likely evolution of the baseline Improving - Surface and ground water quality is predicted to increase, though significant challenges remain as noted in the River Basin Management Plan.	flood risk. It is noted that SuDS are not always appropriate in all circumstances e.g. may not be appropriate for areas which are contaminated. Risk to all types of water bodies (not just main rivers) is to be considered during any scheme design. Recognition of the objectives of the WFD should be made and all opportunities to help meet the objectives of the WFD should be taken when possible. Green-blue Infrastructure should be considered in the LTP in the context of the aims of the WFD and how this can realise these, as well as other wider, benefits and objectives.	
Adaptation to a changing climate and flooding Significant proportions of the UK population are at risk from flooding, although the degree of risk varies, with a range of factors affecting potential risk. The Flood Directive (2007/60/EC) was transposed into English law in the form of the Flood and Water Management Act 2010 (England & Wales). The Directive requires the production of flood hazard maps and flood management plans. In relation to the LTP, there is a flood management plan in place to cover the Humber river basin. The Humber flood management plan is at river basin level, but at the local authority level Strategic Flood Risk Assessments are being completed. The flood risk plans introduce a series of measures / actions to be undertaken to prevent flood risk and reduce the likelihood of flooding affecting people and property in certain locations. For example, measures in the Humber river basin district to prevent flood risk include: • Working with local planning authorities to ensure new housing development takes place in the areas with the lowest risk of flooding. • Maintaining existing flood defences so that they continue to protect properties in the future. • Carry out regular reviews on System Asset Management Plans ensuring finding requirements, asset condition and maintenance.	LTP should seek to ensure that transport infrastructure minimises any negative effects arising from flooding and avoids where possible areas of highest flood risk. Flood risk should be considered in any design and the implementation of SuDS and other similar appropriate measures or new approaches should be considered and encouraged where feasible. Consideration should also be made of the need for ongoing maintenance. LTP should ensure that where transport interventions require a land take from the floodplain there are appropriate compensatory measures put in place. LTP should seek to explore the possibilities for creating blue infrastructure which can both help to manage localised flood risk and simultaneously create new habitats. LTP should recognise the challenges that a changing climate will bring and aim to reduce the impacts. More frequent and extreme weather	Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding

- Carrying out a prioritised programme of mapping and modelling to ensure flood risk information remains up to date and fit for purpose.

Measures to prepare for risk include:

- As well as reducing flood risk by schemes and maintenance, risk management authorities will continue to work with communities to help them understand their risk and how to prepare effectively.
- It is still a priority for all risk management authorities to warn and inform communities and businesses about flooding, and to work together to improve emergency response. The Environment Agency will continue to invest in improving real-time rainfall and river level data to provide a quality flood warning service.

Flood risk presents a significant planning issue in the development of major infrastructure projects, both in terms of potential direct impacts on the project itself and indirect impacts associated with works (such as increased run-off). In relation to transport infrastructure, there is a direct flood risk to the infrastructure itself, e.g. roads, rail lines, or development of other transport infrastructure can aggravate existing flood risk in a wide range of ways, for example by requiring land take from flood plains, or by changing the drainage regime, etc.

Expected climate change impacts to transport infrastructure include increased risk of extreme flooding (from more frequent “heavy precipitation events”) and more extreme weather events from higher temperatures and increased wind and rain in winter months. This is likely to result in:

- Direct impacts of flooding on transport infrastructure, now and into the future.
- Secondary impacts of flooding such as flood damage to bridges, embankments, surfaces etc.

Other climate change impacts to transport infrastructure could include:

- Impacts from extreme temperatures such as rail buckling and passenger discomfort
- Increased disruption to operations, e.g. lift of aircraft reduced through higher temperature

Likely evolution of the baseline

events should be considered in any infrastructure design and maintenance procedures / regime.

Declining - Climate change is recognised as a global concern with the UK anticipated to experience hotter, drier summers; warmer, wetter winters; and rising sea levels. These trends are anticipated to continue irrespective of interventions from outside the LTP.		
Land use, soil and contaminated land There are a mix of land uses across the West Midlands Metropolitan 7 area, ranging from rural areas of open countryside or arable farmland and pasture to extensive heavily urbanised and concentrated on the urban centre of Birmingham, Wolverhampton, Sandwell, Dudley and Coventry. There are also areas of suburban and urban fringe associated with the main towns and distinct pockets of 'isolated' urban development in the form of villages and small towns. Soils in England are already, and continue to be, degraded by human activity including intensive agriculture, historic levels of industrial pollution and urban development (including transportation networks), making them vulnerable to erosion (by wind and water), compaction and loss of organic matter. Many areas of land in the UK have been contaminated by past industrial and other human activities, including former factories, storage depots and landfills. This is a significant issue in the West Midlands due to the historic level of industrialisation across this region. Transportation infrastructure is also a frequent source of land contamination. Land at the full range of potentially contaminated sites could be contaminated by a wide range of harmful substances such as oils and tars, heavy metals, asbestos and chemicals. While four Special Sites of contamination have been noted for the West Midlands, by its nature, it is often very difficult to know where land has been contaminated previously or is currently suffering ongoing contamination. As such the number of known sites of contamination is likely to be only a very small fraction of the overall number of potentially contaminated sites. Given the present and historic levels of industrial, commercial and transportation activity in the West Midlands Metropolitan 7 area, as well as the wide range of activities undertaken, it is considered that the number of areas of contaminated land could be considerable. The West Midlands Metro 7 area has a geology that presents opportunities for the working of a range of mineral resources, including aggregate minerals (e.g. sands, gravels), industrial minerals (e.g. silica sands, brick clay) and hydrocarbons. Likely evolution of the baseline Declining - it is likely that greenfield sites will experience increasing pressure for development in preference to the complexities of redeveloping previously developed and potentially contaminated sites. This could reduce available high quality soil resources	LTP should seek to make best use of areas that are already urbanised and provide an opportunity for regeneration / improvements to land quality. Where use of agricultural land is unavoidable, measures should be taken to avoid those areas of the highest quality and aim to protect soil and agricultural holdings through avoidance of impacts such as contamination or severance. LTP must protect soils where possible as they are essential for achieving a range of important ecosystem services and functions. Dealing with the past pollution / contamination legacy (including from transport infrastructure) is a major issue across the West Midlands and should be addressed at all opportunities due to its ongoing environmental impact. LTP should seek to avoid land that is covered by Mineral Safeguarding Area designations, to prevent the sterilisation of key mineral resources.	Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources

and fail to realise the potential of existing capacity within existing urban and previously developed areas. Remediation of contamination is likely to remain sporadic and reflective of individual site requirements.		
Cultural Heritage Of premium note are the TWO World Heritage Sites within the plan area OF Pontcysyllte Aqueduct and Canal and Ironbridge Gorge, but there are of course a wide range of other historic and cultural heritage features located across the region and which span the full range of human settlement, from the prehistoric to the present. These include Scheduled Monuments, Registered Parks and Gardens and Listed Buildings. Numbers of sites within the Metropolitan 7 area are as follows: • Listed Buildings – 3215 • Registered Parks and Gardens – 30 • Scheduled Monuments – 63 It is important to note that the nature of cultural heritage features means that not all are known at present; in particular, buried archaeological remains. Likely evolution of the baseline Stable / Declining - Designated heritage assets benefit from protection that will continue without the LTP. However, there is a risk or uncoordinated and piecemeal development resulting in the successive erosion of the quantum and integrity of the region's cultural heritage resource.	LTP should aim to protect and preserve designated and non-designated heritage assets and their contexts and settings. Transport related development / infrastructure should be sensitively designed to be sympathetic to its existing character and quality and opportunities for improving settings should be examined. Better accessibility to the historic environment should also be an aim for LTP, where appropriate. Where schemes would involve physical development that could affect previously undiscovered archaeological assets the design of the scheme and site selection should be informed by early investigation of the potential archaeological interest of the affected land.	Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings
Landscapes and townscapes The West Midlands Metropolitan 7 area has a great variety of landcover due to its varied geology, landform and soils. The Met 7 plan area contains the following National Character Areas: Canncok Chase and Cank Wood, Mid Severn Sandstone Plateau, Dunsmore and Feldon and Arden. Natural England published National Character Area profiles which provides more detailed definition of the broad character areas identified by the NCA. The Mid Severn Sandstone Plateau is predominantly rural and important regionally for food production, with large arable fields in the central and eastern areas, and remnant areas of characteristic lowland heathland. The current landscape of Cannock Chase and Cank wood is extremely varied, including extensive areas of urban development predominantly in the south of the NCA and extensive conifer plantations and heathlands in the north interspersed with farmland. Arden NCA drops down to open landscape of the	The LTP should seek to preserve and enhance the character of the region's landscape and townscape by ensuring that its integrity and valuable natural open space is not lost. Design should note the local vernacular architecture when possible. The LTP should also aim to ensure that transport interventions avoid sensitive areas and respect particular landscape or townscape settings, with consideration made of design quality in both an urban and rural setting. Opportunities for landscape enhancement should be explored, e.g. through sympathetic design and enhancements to existing landscape	Protect and enhance the character and quality of landscapes and townscapes and visual amenity

Mease/Sence Lowlands and the eastern part of the NCA abuts and surrounds Coventry, with the fringes of Warwick and Stratford-upon-Avon to the south. This NCA has higher ground to the west, the Clent and Lickey Hills and to the east, the Nuneaton ridge. The landscape of the lower lying central area is gently rolling with small fragmented semi-natural and ancient woodlands.

There are a range of pressures on landscape, many of which are altering landscapes in a direction which could be regarded as inconsistent with the traditional landscape vernacular of the area. These changes are a reflection of the fact that the landscape of the UK has changed over many years due to a range of issues such as urbanisation, changes to agriculture, reduced tranquillity, loss of habitats and forests, etc. In an effort to preserve the best landscapes a series of National Parks and Area of Outstanding Natural Beauty (AONBs) were designated. Within the Met 7 area there are no areas designated as AONBs. However, within the West Midlands region there are 4 AONB's: Cannock Chase, Shropshire Hills, Malvern Hills and Cotswolds.

There are more than 127 Conservation Areas designated within the area covered by West Midlands, covering a range of building characters and reflecting a diverse array of architectural styles.

Each of the local authorities within the West Midlands Metropolitan 7 have undertaken townscape or urban character studies as part of the work to inform the development of their Local Plans. In a number of cases that work has been captured in supplementary guidance, which provides advice on the standards that should be observed in the design of new development within different character areas.

Parks and Green space are important to all groups in society and are a valuable resource in terms of for example providing space for meeting friends, childrens activities and sports. These spaces play a key role in reducing inequalities, including health, in the region.

Increased urbanisation (including transport) and light pollution have also led to a loss of tranquillity across the plan area. As would be expected, the least tranquil areas are those closest to urban centres and major transport routes.

Likely evolution of the baseline

Stable - Many of the region's most exceptional landscape and townscapes benefit from protection through designations that will persist in the absence of the LTP. In general terms, modern design / landscaping principles and interested parties expectations are promoting a renewed focus on the quality of scheme design and this trend is likely to continue, though risks from increased urbanisation and infrastructure development remain.

improvement areas, new planting opportunities associated with transport development.

Where a scheme would involve physical development in within a Conservation Area or a wider area for which a townscape/urban character appraisal has been undertaken, the design of the scheme should take account of relevant guidance for the Conservation Area / townscape character area.

Waste Management and Resource Efficiency

The transport sector can impact on and interact with a wide range of resources such as through energy (fuel) use, use of construction materials (aggregate, concrete, etc.), waste generation and disposal, etc.

New transport interventions' construction contributes to increase the levels of waste generated, if building materials are not efficiently used / reused. With more waste being produced, trip kilometres to transport such waste is likely to increase, thus generating more traffic.

Transport is the largest energy consuming sector in the UK, representing 40% of total energy consumption in 2015 which increased by 559 thousand tonnes of oil equivalent (ktoe) (1.4%) to 40,521 ktoe in 2015, with the majority of the increase due to road transport.

Energy use by road vehicles showed steady growth between 1970 and 1990, increasing by an average of 2.8% per annum. Growth then remained fairly stable until it peaked at 29,622 ktoe in 2007, the year prior to the 2008 recession. Growth in consumption turned positive again in 2014, the latest year for which figures are available. It is to be noted that while individual vehicles became more energy efficient, overall numbers of vehicles increased substantially.

In 2015, air transport increased by 154 ktoe (1.2%) whilst rail and water transport both fell by 17 ktoe (1.6%) and 12 ktoe (1.8%) respectively.

Energy consumption in rail transport decreased by 1.6% from 2014 to 1,049 ktoe in 2015 despite a 2.6% increase in passenger kilometres. Freight moved (in tonne kilometres) fell by 13% from 2014 to 2015. It is important to note that rail transport accounted for 1.9% of energy consumption in the transport sector. There are now more than 1,537 publicly accessible charging points for electric vehicles at locations all across the West Midlands. The majority of these off street, on street, hubs in public car parks, arterial routes and within local communities. The West Midlands is currently 8th out of 12 UK regions in rankings of publicly available charge points. It is anticipated that uptake of EV will increase across the UK.

Likely evolution of the baseline

Uncertain - Continued growth within the region will contribute towards a trend of increased waste and resource use. While new approaches are helping to shift towards greater efficiencies in resource use and adherence to the waste hierarchy, underlying waste generation volumes are anticipated to increase cumulatively. Energy usage within transport is falling and there will be an increase in the uptake of EVs (particularly when

The LTP should seek to reduce consumption of resources such as construction materials, e.g. through encouraging the use of recycled or secondary materials. This will also reduce the need to transport these materials and transport the waste by-products.

The LTP can also help reduce the consumption of fuel by promoting a shift to more sustainable forms of transport such as active modes like cycling and walking, as well as LZEV's.

Appropriate management and maintenance of transport infrastructure can meet waste and resource goals as well as a range of other objectives.

Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated

the EV charging network fully develops) alongside increased decarbonisation of electricity supply.		
Economy, Employment and Skills The West Midlands was the birthplace of the industrial revolution and has a long history in manufacturing. The West Midlands once was one of the most prosperous regions in the country but has experienced decades of underinvestment and rapid population growth but in recent times the region is bouncing back from adversity through economic restructuring. However, due to the economic impact of COVID-19 in the Met 7 area presents some issues in relation to employment and the economy. The West Midlands may face the largest economic decline of all regions at 9% (fall in GDP), however it may also see the largest growth in 2021 at 8%. The 'Recharge the West Midlands' economic recovery plan from July 2020 set out a £3.2 billion package to create or safeguard 135,800 jobs for residents, support 154,400 young people and workers, and build 35,000 new homes. At just over £171 billion, the West Midlands economy amounts to 7.3% of the UK total. However, the rate of growth has been slowing down. The West Midlands proportion of residents at working age (61.7%) in 2020 and the percentage reported was lower than the figure for the UK (62.4%). The unemployment rate is 5.5% compared to 4% for the UK, a net increase of 4,200. Additionally, in the West Midlands as a whole, 2.6% of 16/17 year olds are known to be not in education, employment or training (NEET), which is lower than the England average of 2.8%, though it is important to note there are inter-regional variations within the West Midlands with this figure varying – for example with Solihull having the highest percentage at 3.6% and Walsall the lowest at 1.3%. The number of jobs in the region is forecast to grow by 135,800 by 2030. More than 1 in 3 of the local population aged 16+ are educated to NVQ4+ (equivalent to Degree level or above). In 2020, 34.6% of the population aged 16-64 were educated to NVQ4+ which compares to 37.1% for the West Midlands Region and 43.1% for England Despite offering excellent transport connectivity for WMCA businesses, it is estimated that road congestion and associated delays on the West Midlands roads cost the local economy £2billion each year. By 2030 the Met 7 residents will earn 13% above the UK average. The number of people qualified to NVQ4 or above will have increased to 36%, matching the national average and the number with no qualifications will have fallen to 9% to which will match and then	The LTP should improve transport links within and between employment (commercial and industrial) centres and improve connectivity to support business-to-business markets and access to wider and highly skilled labour markets. Improved connectivity should be achieved by sustainable and affordable modes of transport and/or improved digital connectivity. Reliability and resilience of transport links should be improved to enhance further the productivity and competitiveness of the West Midlands economy. The LTP should seek to reduce road congestion (therefore reducing the time to commute and transport goods). The LTP should consider that high quality green and blue infrastructure can play an important role in enhancing the visual appeal of transport infrastructure and help to encourage new inward investment, as well as help to retain high skilled labour.	Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all

better exceed the national average. Unemployment rates will be steadily decline and fall below the national average. The impact of Covid-19 and an increase in working from home, along with greater online commerce, will likely require a greater digital connectivity, which will help to reduce transport need – it is noted that there are schemes in place which are helping to ensure digital connectivity across the Region. An important consideration in relation to the economy and productivity are rates of sickness / work absenteeism and over the last two years Covid-19 has played a significant role in such issues and it is unclear what implications this (along with 'long Covid') may continue to have in coming months and years. Other main reasons for sickness absence in the UK include minor illnesses and general conditions (coughs, colds, flu, nausea etc.), musculoskeletal problems and mental health conditions. Pre-Covid (2018), rates of sickness absence in the West Midlands were in line with the United Kingdom as a whole, but worse than England as a whole. Likely evolution of the baseline Uncertain – while the West Midlands will likely remain an attractive location for business, with a highly skilled workforce, it is not immune to uncertainties relating to the outcome of the Covid-19 pandemic and wider macro-economic uncertainties such as that related to 'Brexit'.		
Patterns of land use and transport infrastructure The West Midlands region is considered one of the most densely populated areas in the UK, with the top 4 densely populated cities being within those of the Met 7 area, overall a polycentric region, with an extensive road and rail network. There is a mix of land use types across the study area, e.g. heavily urbanised, suburban, urban fringe and rural locations. The area also contains a range of settlement sizes, with approximately 84% of the population live in towns or cities. Birmingham is the largest and most significant urban settlement with a population of 1,085,810. Coventry, situated to the north-east of the Met 7 area, is the second largest settlement with a population of approximately 325,949. Wolverhampton, located to the north of the area, is the third largest settlement with a population of around 210,319. Solihull, located to the south of the region, is the fourth largest settlement with a population of around 123,187 (2011). It has been established that the West Midlands needs urgently to increase its capacity to bring forward sites for housing development and employment. In relation to housing, there would need to be a 60% increase on the current annual level of completions to meet anticipated population growth with a large increase in employment land also needed. There are extensive areas of former industrial and commercial land across the West	The LTP should support a co-ordinated approach to land use (including development of housing) and transport planning across the region and prioritise investment in this regard, ensuring that new developments are well served by active and sustainable transport modes. A growing EV charging network will have both implications for the energy supply sector and transport sector.	Support the wider coordination of land use, energy sector planning and transport planning across the West Midlands.

Midlands, though there are also significant measures being taken to re-use such brownfield sites, one example being the ongoing transformation of the Longbridge West Works, which is anticipated to result in 4000 homes, along with two million square feet of commercial development. Despite such developments, as with other parts of the UK, there are also significant pressures in respect of greenfield development, with such locations often favoured for development. There are now more than 1,537 publicly accessible charging points for electric vehicles across the West Midlands region, ranging from 3kW to 50kW rapid charge. The majority of these are off-street urban locations such as rail stations, shopping centres and car parks. The West Midlands has the second worse ratio of people to charge point and the worst ratio of vehicles to charge point, presenting a short-term risk of EV charging infrastructure undersupply. As EV uptake increases around the UK, so will the demand for electricity from the energy network will also increase. Likely evolution of the baseline Stable / Uncertain - Met 7 area will remain a densely populated, polycentric region, with patterns of land use reflective of proximity to London. There is uncertainty how this may change over time though due to a likely rise in homeworking and e-commerce and a consequent change in commuting patterns.		
Population and Health The population of the WMCA is approximately 4 million, with significant population centres in Birmingham, Wolverhampton, Solihull, Coventry. Health outcomes are varied across the region and this is reflected in indicators such as life expectancy (which is lower than the England average), but also the start that people make in life – the West Midlands as a whole has lower attainment scores at aged 8 than England a whole, though this masks variations within the region, such as the Solihull performing significantly better than England as a whole. People also live longest in Solihull, while life expectancies are shortest in Sandwell and Wolverhampton, reflecting patterns of socioeconomic deprivation. Healthy life expectancy for WMCA as a whole is worse than the England average. As with other health indicators, within the WMCA this varies (generally reflecting patterns of deprivation) but local authorities predominately preform worse than the England average. Walsall has the shortest healthy life expectancy for both men and women (with Sandwell and Wolverhampton also performing badly), and Solihull has the longest.	The LTP should seek to provide accessible and affordable transport, enabling good access to education, employment, fresh food, friends and family, leisure and health services and facilities. Indirectly, health levels could be improved through secondary effects of policies to reduce air pollution; decreasing noise pollution as well as traffic congestion. Improving walking and cycling facilities for both purposeful and recreational trips and encouraging behaviour change from using cars to walking and cycling including using public transport as this can positive impact physical and mental wellbeing by activating the infrastructure. Improving access to and mobility to health and care services as well as employments and	Improve health and well-being for all citizens and reduce inequalities in health (HIA specific objective)

In the West Midlands, 1.5% of the population were claiming Job Seeker's allowance in 2016, while 0.7% of the population were claiming Disability Living Allowance.

In the West Midlands Metropolitan area 19.2% of the population has a limiting or long-term illness or disability, which is higher than England as a whole.

Walsall and Wolverhampton have a higher recorded prevalence of depression, and a higher proportion of people claiming ESA for mental and behavioural problems.

The excess under 75 mortality rate in adults with serious mental illness in the WMCA; rates are highest in Birmingham and Wolverhampton and lowest in Sandwell and Solihull.

The West Midlands region is generally more obese and overweight compared to the National average. The percentage of adults (aged 18 and over) classified as overweight or obese in the West Midlands region of England (2019/20) is 66.8%, which is higher than the England average of 62.8%.

Prevalence of obesity in Year 6 children in the West Midlands (2019/20) is 23.9% and again this is higher than the England average of 21.0%.

The West Midlands Region also has a higher mortality rate from cancer in under 75-year olds and cardiovascular diseases compared to the national average. The under 75 mortality rate from cancer (2017-2019) in the West Midlands is 135 per 100,000 people, compared to 129.2 per 100,000 in England as a whole.

The under 75 mortality rate from cardiovascular diseases (2017-2019) in the West Midlands is 77.0 per 100,000 people, while in England as a whole this figure is significantly lower at 70.4 per 100,000.

It is important to note that COVID-19 has impacted different groups within the population in different ways. For example, there is clear evidence hat the coronavirus pandemic has both exposed and exacerbated longstanding inequalities affecting black and minority ethnic (BAME) groups[4].

Likely evolution of the baseline

Stable / Uncertain – while population levels are likely to continue to rise, there is uncertainty over migration levels due to a lack of clarity on issues such as 'Brexit'. Population profiles are also likely to continue to get older – this will likely result in changes to overall health outcomes with an increased number of long-term conditions.

provision of greenspace and improving the physical environment in general may increase both informal and formal physical activity levels, as well as create a general sense of wellbeing.

LTP should give consideration on how its delivery can contribute to addressing the health inequalities and equity such as the prevalence of mental ill health e.g. loneliness and fear in using public transport.

[4] WMCA Health of the Region 2020

Population and Equalities West Midlands Met 7 is a densely populated region, with a growing and ageing population, not markedly different from England as a whole. Under 15 year olds make up approximately 20% of the population, whilst 16 to 64 year olds make up approximately 62%. Older people (those aged 65 years and over), make up 19% of the West Midlands Met 7 population. The differences between West Midlands Met 7 age profile and that of England is the average age of people between 0-15 is 21.5%, compared to 19.2% in England, working age population is 63.1%, compared to 62.2% and those aged 65+ is 15.5%, compared to 18.2% (based on 2018 mid-year estimates). In England 51% of the population are female, and the remaining 49% are male. The gender split for the West Midlands Region and the Metropolitan 7 area, mirrors the English proportions. Across the English regions and Wales, London was the most ethnically diverse area, with the West Midlands coming in as second most diverse with White ethnic group at 79.2%. It is to be noted that within the West Midlands there are inter-regional variations in diversity – for example, the percentage in the White ethnic group varies significantly with Dudley having the highest figure at 90% and Birmingham the lowest at 57.9%. Of course, ethnic diversity is also varied within these sub-regions of the West Midlands, with differences discernible at Ward level, or even at individual street level. In the West Midlands Met 7 area an estimated 31% of the population is from Black Asian and Minority Ethnic (BAME) groups compared to 14% in England and 17% across the West Midland region. The West Midlands Region has a higher than average percentage of minority ethnic groups: Pakistani at 4.1%, Indian at 3.9% and Caribbean at 1.5%. The Region also has a lower than average White ethnic group at 82.7% and White British at 79.2% compared with 79.8% in England. The West Midlands also displayed significant changes across the ethnic groups: White British decreased by 7% points and Any Other White, and Caribbean increased by 1.3% points. In the Met 7 area 17% of the population were born outside of UK, compared to 14% for England, with 6% of households not having English as a first language, compared to 4% in England. People in the West Midlands region have a greater level of religious affiliation than in England. London is still considered the most diverse region in terms of religious affiliation, it had the highest proportion of Muslims at 12.4%, followed by the West Midlands which was under 7%. In the West Midlands majority of the population are Christian 60%, compared to 59% for England and 22% declared that they have no	The LTP should aim for all citizens the opportunity to access transport and related services that come with this. The Equalities Act 2010 provides a legislative framework to protect the rights of individuals and advance equality of opportunity for all. When considering approaches to community engagement, it is important to understand the diversity of the populations and their needs and experiences as individuals. This requires examining the different issues, barriers and priorities for women and men and meeting any identified requirements. This may include, for example, not discriminating against employees because of their gender, ensuring both men and women have the same access to educational facilities, and considering safety and security issues for travelling, as research has shown that women experience more perceived safety issues when travelling alone than men.	Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society (EqIA specific objective)

religion compared with 25% in England. However, the largest proportion reporting to be Sikh is within the West Midlands, which compared to 2001 has increase by 0.4%. Most areas in the WMCA have a greater level of socioeconomic deprivation than the national average, with approximately a quarter of children living in low income households Gross Disposal Household Income (GDHI) per person in 2017 was £16,479 compared with £19,514 in the UK as a whole. However, while overall deprivation is high within the West Midlands Met 7 area, there are pockets of more affluent areas in both urban and rural areas. Nevertheless, the proportion of LSOA's within the top 20% and top 10% most deprived areas in England stands at 34.5% and 19.2% respectively whilst compared to 33.4% and 18.9% in 2015. Use of foodbanks is increasing and it is to be expected that issues related to Covid-19 and other recent economic uncertainties (as of October 2021) have weakened this situation. Likely evolution of the baseline Uncertain – it is unclear how economic uncertainties will impact on the diversity of the plan area, though it is considered that the area will likely remain more diverse than the UK as a whole. It is also unclear how economic uncertainties (relating to Covid-19 and Brexit as well as other global issues as of October 2021) will be reflected in deprivation across the area – it is anticipated that on the whole, Metropolitan 7 areas will improve in terms of wealth in relation to the rest of the UK, but increased deprivation could be manifested in pockets.		
Population and Community Safety The West Midlands Met 7 Region has a higher crime rate than England, with 89.9 crimes recorded per 1,000 people in comparison to England which has 87.9 crimes per 1,000 people. The most common type of victim-based crime in England is theft offences (32.1 per 1,000 people) followed by violence against the person (29.5 per 1,000 people). During the Covid-19 nation-wide lockdown, crime numbers have fallen by 28%. The West Midlands police figures show a drop in burglaries by 25%, robberies by 21% and knife crime by 13%. However, there has been a overall shift it crime offences, which seen stalking and harassment increase drastically by 47% over the last year. In the Met 7 area first time entrants to the youth justice system and first-time offences are significantly higher than that of the National average. Rates of children and first-time entrants to the youth justice system, first time and repeat offences, and violent and sexual crimes are consistently lower in Solihull and Dudley, and consistently higher in Birmingham and Wolverhampton.	The LTP should consider interventions that engender a sense of safety and reduce crime and fear of crime through indirect measures via incorporation of design features such as additional lighting, CCTV and rapid response by police / security on transport, active street frontages, development reaching 'secured by design' standards). Interventions that discourage incidences of anti-social behaviour and opportunistic crime, often attributed to 'boredom' or a 'lack of things to do', through increasing accessibility to community facilities, especially open and green space and leisure facilities.	Promote community safety and reduce crime and fear of crime for all citizens (CSA specific objective)

The British Crime Survey reports that only 43% of violence is reported to the police, which highlights the importance of developing ways to identify those at risk.

There is also much attention currently being paid to preventing violence against women and girls on transport networks. Since the pandemic, incidents involving women and girls has grown significantly and there needs to be more done to prevent this and ensure everyone feels safer across all diverse sectors of the region.

The Police and Crime Commissioner and West Midlands Police are rolling out cadet units, who will aim to support young people, in the most diverse and challenging areas, focusing on those who need the most support.

Likely evolution of the baseline

Stable / Uncertain – crime is closely linked to economic outcomes and it is unclear how economic uncertainties (relating to Covid-19 and Brexit as well as other global issues as of October 2021) will be reflected in crime statistics. It is noted, for example, that reports of sexual harassment on public transport have jumped 63% across Britain, comparative to pre-COVID 19. Overall, it is anticipated that West Midlands Met 7 will continue to have a higher crime rate relative to other parts of England.

Consideration should be made of recommendations such as those within ‘Safer by Design’ guidance.

6.6. Population and Health

As set out in Section 3, Health Impact Assessment (HIA) is a practical approach used to judge the potential health effects of a policy, programme or project on a population, particularly on vulnerable or disadvantaged groups.

From a review of the population and human health baseline (presented in Appendix E) for the West Midlands, it has been possible to identify a number of groups who, along with the population as a whole (wider groups) could be considered sensitive or vulnerable in terms of their health and wellbeing. These groups and the rationale for their identification is outlined in Table 6-2 below.

Table 6-2 – Identified sensitive / vulnerable groups

Groups	Relevant receptor / medium	Explanation	Are these groups present within the West Midlands?
Wider Groups – adults / working people	Residents living in houses, operators and users of community land and facilities, business owners and users, users of open space, recreation and leisure activities, Non-motorised Users (NMU), public transport users and vehicle travellers	The key challenge to the physical health, mental and social wellbeing of the local resident population arise is working towards health equity addressing health inequalities and preventing ill health. The WMCA Health of the Region that the WM is above national average in many physical and mental wellbeing indicators. There are many factors that influence this, transport has a fundamental role in delivering positive behaviour change improving access, improving air quality, making places safer and accessible and getting more people walking and cycling. Residents of properties in the wider study area, employees and customers at the retail, commercial and industrial businesses interspersed throughout the area, walkers and cyclists using recreation routes and the local footpath and cycleway network, visitors to nearby visitor attractions, green space and employment and public transport users are likely to be most exposed to health impacts.	Yes – the West Midlands is one of the largest Regions in England with an estimated population of 5,934,037 in 2019. Males make up 2,941,29 and females 2,992,746. As would be anticipated, the population profile covers all age groups. Birmingham has a population of 1,141,816, with 733,627 aged 16-64 (64.3%), Coventry a population of 371,521, with 249,005 aged 16-64 (67%), Dudley a population of 321,596, with 193,637 aged 16-64 (60.3%), Sandwell a population of 328,450, with 204,575 aged 16-64 (62.3%), Solihull a population of 216,374, with 128,180 aged 16-64 (59.2%), Walsall a population of 285,478, with 173,316 aged 16-64 (60.7%), Wolverhampton a population of 263,357, with 162,992 aged 16-64 (61.9%). Compared to England with a population of 56,286,961 with 35,116,566 aged 16-64 (62.4%).
Sensitive Group -	Residential houses, community services	Children and adolescents constitute a sensitive population	Yes – within the population of West

Families with children and adolescents, (pregnant women, babies, children and adolescents)	and facilities, open space, greenspace and recreational facilities, PRoW, local footpaths and cycleways, Schools nurseries, day care centres, residential houses	group due partly to their need to be able to move around freely to and from school, open space, greenspace and recreational activities, whilst they lack the experience and judgement displayed by adults when moving around in traffic and public spaces[5] and when using public transport and related infrastructure. Hence, children and adolescents as pedestrians[6] and cyclists are at elevated risk from danger distributed by motorised transport. Furthermore, children are more sensitive than adults to air pollution[7], noise[8], odour[9] and other environmental factors and their bodies and minds are less able to deal with them. Particularly susceptible children are those from low-income[10] and/or black and minority ethnic (BME) backgrounds[11] and/or living in deprived areas.	Midlands children between the ages of 0-15 make up 243,850 of the population. Birmingham makes up 22.6% of children aged between 0-15, Coventry makes up 19.4%, Dudley 19.4%, Sandwell 22.7%, Solihull 19.7%, Walsall 21.7% and Wolverhampton 21.5% compared to 19.3% for England. Child Poverty is considered significantly worse in Birmingham at 27.6%, Coventry 21.8%, Dudley 20.6%, Sandwell 26.3%, Walsall 26.1% and Wolverhampton 27.1% compared to the Child Poverty rate of 17.1% for England. Solihull Child Poverty rate is significantly better at 14.8%.
Sensitive Group – People who are physically or mentally disadvantaged (elderly people, people with physical disabilities, people with	Residential houses, retirement / Care homes, community services and facilities (including health centres / clinics and hospitals), open space, PRoW and local footpaths	Elderly people constitute a sensitive group as they are more sensitive than young and middle-aged adults. Generally, the older people are, the slower their movement and reactions and the poorer their hearing[12]. They can be more at risk from injury and may fear falls, steps or lack of suitable footpaths, lack of safe crossing points and short crossing times at safe crossing points and other aspects of the	Yes – the population within the West Midlands in the age range 65+ years is currently 1,105,362 of the population. Birmingham makes up 13.1% of people aged 65+, Coventry makes up 13.5%, Dudley 20.4%, Sandwell 15%, Solihull 21.1%, Walsall

[5] World Health Organisation (2018, December) Adolescents: health risks and solutions (https://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions)
[6] Child Accident Prevention Trust (2013) Child death from road traffic accidents (http://makingthelink.net/child-deaths-road-traffic-accidents)
[7] World Health Organisation (2018) Air pollution and child health: prescribing clean air (https://www.who.int/ceh/publications/air-pollution-child-health/en/)
[8] World Health Organisation Data and statistics (http://www.euro.who.int/en/health-topics/environment-and-health/noise/data-and-statistics)
[9] Agency for Toxic Substances and Disease Registry (2015, October) (https://www.atsdr.cdc.gov/odors/faqs.html)
[10] British Medical Journals, Wickham. S, Anwar. E, Barr.B, Law. C, Taylor-Robinson.D (2016, July) Poverty and child health in the UK: using evidence for action (https://adc.bmj.com/content/101/8/759)
[11] Parliamentary Office of Science and Technology (2007, January) (https://www.parliament.uk/documents/post/postpn276.pdf)
[12] Transport for London (2013, April) Older Pedestrians and Road Safety, Research Debrief (http://content.tfl.gov.uk/older-pedestrians-research-report.pdf)

other health problems or impairments)		surrounding built environment[13]. This can deter them from outdoor activity, especially walking, whereas walking is critical for muscle strength and reduces the risk of falls amongst other benefits. Elderly people can also feel more sensitive when using public transport[14,15]. They also often need to seek health services. Their continuing independence at home is often dependent on having available a range of transport mode and route options. In general, for the purposes of assessment, people who are disabled and/or with physical and/or mental illnesses or impairments can be considered a sensitive group as they may not be able to access many forms of transport or need special arrangements and/or support to access these[16]. They are more likely to find it difficult to walk or travel independently and can also be disadvantaged by the cost of transport. Any changes in access, such as greater travel distances, diversions or replacement services during construction would have particular impacts on this group. Chronically ill persons, for example, people with impaired lung function, can be more adversely affected by air pollution[17]. The same is true of hypersensitive individuals such as asthmatics[18]. Noise can cause hypertension and cardio-vascular problems[19]. Those who already have these conditions can be more troubled by noise than others.	17.6% and Wolverhampton 16.7% compared to 18.4% for England. Birmingham makes up 18.4% of persons that are considered to have a limiting long term illness or disability, Coventry makes up 17.7%, Dudley 20.3%, Sandwell 20.9%, Solihull 17.9%, Walsall 20.8% and Wolverhampton 20.5% compared to 17.6% for England. Each of these local areas, except Coventry are considered significantly worse in terms of limiting long-term illness or disability compared to England. Deaths from respiratory diseases, for all ages, is significantly worse in Birmingham, Sandwell, Walsall and Wolverhampton with the Standardised Mortality Ratios all above 100, which is the standard rate for England. Coventry and Dudley show no significant difference and Solihull is considered to be significantly better.

[13] Asher. L, Aresu. M, Falaschetti. E, Minell. J (2012) Most older pedestrians are unable to cross the road in time: a cross-sectional study (http://ageing.oxfordjournals.org/content/41/5/690.full.pdf+html?sid=4b5142fa-92a1-4cd5-80b1-4eb35701432e)
[14] Shrestha.B.P, Millonig.A, Hounsell.N.B, McDonald.M (2017) Review of Public Transport Needs of Older People in European Context (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5656732/)
[15] https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/active-communities/rb_june15_the_future_of_transport_in_an_ageing_society.pdf (page 10)
[16] House of Commons Briefing Paper (2018, October) Access to transport for disabled people, Number CBP 601 (https://researchbriefings.files.parliament.uk/documents/SN00601/SN00601.pdf)
[17] DEFRA UK AIR, Air Information Resource, Effects of air pollution (https://uk-air.defra.gov.uk/air-pollution/effects)
[18] Asthma UK (https://www.asthma.org.uk/advice/triggers/pollution/)
[19] Munzel T, Schmidt FP, Steven S, Herzog J, Daiber A, Sorensen M. Environmental Noise and the Cardiovascular System. J Am Coll Cardiol. 2018;71(6):688-97 (Extract from Journal of the American College of Cardiology 2018; http://www.intuition-physician.com/wp-content/uploads/2018/05/Evironmental-Noise-and-Cardiovascular-Health.pdf)

		People with existing physical and mental illnesses, including sleep disturbance, anxiety and depression, are likely to be more sensitive to changes to their local environment.	
Sensitive Group - People who are materially disadvantaged	Residential houses, community services and facilities, local businesses, open space, greenspace and recreational facilities, PRoW, local footpaths and cycleways, public transport, bus stops	People on low incomes (living in deprived areas is a proxy measure for low income) and people without access to a car constitute a sensitive group as they are likely to walk further because they cannot afford public transport or to own a car, and their lack of transport options may limit life and work opportunities. Those on low incomes may be less able to adapt to changes in access, such as greater travel distance or alternative transport provision. People living in deprived areas tend to suffer the most from road traffic incidents (deaths and injuries), noise and air pollution, as they tend to be characterised by high traffic volume, as well as other environmental burdens such as industrial facilities. This group is generally more likely to already have reduced access to health and social care as well as reduced access to other services and amenities. This group may have increased stress levels due to the factors above. In addition, this group is more sensitive to food insecurity, which has an access dimension.	Birmingham makes up 22.2% of persons that are considered to be in Income Deprivation and 27.6% of children considered to live in Child Poverty, Coventry makes up 15.4% and 21.8%, Dudley 15.6% and 20.6%, Sandwell 21.5% and 26.3%, Solihull 10.8% and 14.8%, Walsall 20% and 26.1% and Wolverhampton 21.1% and 27.1% compared to 12.9% and 17.1% for England. Each of these local areas, except Solihull are considered significantly worse in terms of Income Deprivation and of Child Poverty compared to England, based on 2019 figures. Solihull is considered to be significantly better than England. Birmingham makes up 12.4% of houses that are considered overcrowded, Coventry makes up 9.5%, Dudley 5.4%, Sandwell 8.7%, Solihull 4.5%, Walsall 6.5% and Wolverhampton 8.1% compared to 8.7% for England. Majority of these areas are considered significantly better than England in terms of overcrowded housing, however Birmingham and Coventry are both considered significantly worse.

Sensitive Group – People from black and minority ethnic backgrounds	Residents living in houses, operators and users of community land and facilities, users of open space, recreation and leisure activities, Non-motorised Users (NMU), public transport users and vehicle travellers	There is a general consensus that inequalities exist in the health and healthcare experiences of ethnic minority groups in England[20]. Access to primary health services is generally equitable for ethnic minority groups, but this is less consistently so across other health services. People from the gypsy or Irish traveller, Bangladeshi and Pakistani communities have the poorest health outcomes across a range of indicators and compared to white populations, disability-free life expectancy is estimated to be lower among several ethnic minority groups. While the incidence of cancer is highest in the white population, rates of infant mortality, cardiovascular disease (CVD) and diabetes are higher among black and south Asian groups. CVD and diabetes cause significant morbidity among these groups, much of which can be prevented by public health measures aimed at tackling risk factors such as obesity, poor diet, inadequate physical activity and smoking[21].	Yes – 42.1% of the Birmingham population fall within the Black and Minority Ethnic Population with 4.6% of the population who cannot speak English well or at all. In Coventry the figures are 26.2% and 3%, Dudley 10% and 0.9%, Sandwell 30.1% and 4.3%, Solihull 10.9% and 0.5%, Walsall 21.1% and 2.4% and Wolverhampton 32% and 3.4% compared to 14.6% and 1.7% for England.

6.7. Population and Equalities

As discussed in Section 3, in accordance with the Equality Act (2010) Act, EqIA considers there to be nine relevant 'protected characteristics' as follows:

- Age;
- Disability;
- Gender;
- Gender reassignment;
- Marriage and Civil Partnership;
- Pregnancy and maternity;
- Religion or belief;
- Race; and
- Sexual Orientation.

The local Government Equality Duty (as set out in the Equality Act 2010) sets out a clear expectation that each year data on the nine protected character groups is collected by local authorities and published. An overview of key indicators relating to Protected Characteristics in the West Midlands is provided in Table 6-3 below.

Table 6-3 – Overview of Protected Characteristics in West Midlands

Protected Characteristic	West Midlands presence

[20] BME_needs_assessment_final.pdf (derbyshire.gov.uk)
[21] The health of people from ethnic minority groups in England | The King's Fund

Age	**Birmingham** Population aged 0 – 4 years: 7.1% (English average 5.9%) Population aged 5 – 15 years: 15.5% (English average 13.4%) Population aged 16 – 24 years: 14.9% (English average 10.6%) Population aged 25 – 64 years: 49.4% (English average 51.8%) Population aged 65 years and over: 13.1% (English average 18.4%)[22] **Coventry** Population aged 0 – 4 years: 6.1% (English average 5.9%) Population aged 5 – 15 years: 13.3% (English average 13.4%) Population aged 16 – 24 years: 16.3% (English average 10.6%) Population aged 25 – 64 years: 50.7% (English average 51.8%) Population aged 65 years and over: 13.5% (English average 18.4%) **Dudley** Population aged 0 – 4 years: 5.8% (English average 5.9%) Population aged 5 – 15 years: 13.6% (English average 13.4%) Population aged 16 – 24 years: 9.7% (English average 10.6%) Population aged 25 – 64 years: 50.6% (English average 51.8%) Population aged 65 years and over: 20.4% (English average 18.4%) **Sandwell** Population aged 0 – 4 years: 7.1% (English average 5.9%) Population aged 5 – 15 years: 15.6% (English average 13.4%) Population aged 16 – 24 years: 10.5% (English average 10.6%) Population aged 25 – 64 years: 51.8% (English average 51.8%) Population aged 65 years and over: 15.0% (English average 18.4%) **Solihull** Population aged 0 – 4 years: 5.7% (English average 5.9%) Population aged 5 – 15 years: 14.0% (English average 13.4%) Population aged 16 – 24 years: 9.3% (English average 10.6%) Population aged 25 – 64 years: 49.9% (English average 51.8%) Population aged 65 years and over: 21.1% (English average 18.4%) **Walsall** Population aged 0 – 4 years: 6.8% (English average 5.9%) Population aged 5 – 15 years: 14.9% (English average 13.4%) Population aged 16 – 24 years: 10.4% (English average 10.6%) Population aged 25 – 64 years: 50.3% (English average 51.8%) Population aged 65 years and over: 17.6% (English average 18.4%) **Wolverhampton** Population aged 0 – 4 years: 6.8% (English average 5.9%) Population aged 5 – 15 years: 14.7% (English average 13.4%) Population aged 16 – 24 years: 10.3% (English average 10.6%) Population aged 25 – 64 years: 51.6% (English average 51.8%) Population aged 65 years and over: 16.7% (English average 18.4%)

[22] Local Health - Public Health England - Indicators: maps, data and charts

Disability	More than 10 million people are limited by their daily activities in England and Wales in the UK in 2011.The 2011 Census asked a question about whether day-to-day activities were limited by a health problem or disability which has lasted or is expected to last 12 months or more. A higher proportion of people living in the West Midlands Metropolitan 7 area (19.2%) identify as having a limiting or long-term illness or disability, which is higher than England & Wales as a whole (17.9%).
Gender	Based on ONS Mid-2020 Population Estimates, the West Midlands ratio of males (49.6%) and females (50.4%) of all ages is moving towards one of equality, which is similar to the national picture (males 49.5% and females 50.5%). • Birmingham ratio of males (49.6%) and females (50.4%) of all ages • Coventry ratio of males (50.9%) and females (49.1%) of all ages • Dudley ratio of males (49.0%) and females (51.0%) of all ages • Sandwell ratio of males (49.8%) and females (50.2%) of all ages • Solihull ratio of males (48.7%) and females (51.3%) of all ages • Walsall ratio of males (49.2%) and females (50.8%) of all ages • Wolverhampton ratio of males (49.8%) and females (50.2%) of all ages In the West Midlands Metropolitan 7, males outnumber females for each year of age from 0 to 32, age 35 and from ages 44 to 47, females outnumber males in each year of age from 33, 34, 36 to 43 and from 48 upwards. This is similar to England as a whole where males outnumber females each year from 0 to 31 and females outnumber males from age 32 upwards.
Gender reassignment	Transgender status applies to people “whose gender identity and/or gender expression differs from their birth sex”. Gender Identity Research and Education Society (GIRES) is a UK wide organisation whose purpose is to improve the lives of trans and gender non-conforming people of all ages, including those who are non-binary and non-gender. They work in collaboration to empower and give a voice to trans and gender non-conforming individuals and their families. GIRES estimate 1% (650,000) of the UK population experience some degree of gender non-conformity. On the Isle of Wight this would approximate to 1,400 individuals experiencing some degree of gender non-conformity. GIRES also charts the growth rates of those seeking medical support in relation to transitioning. This has increased by 20% per annum among adults (who currently account for the majority cases) and 50% per annum among young people with about 26,000 individuals seeking medical care across the UK.
Marriage and Civil Partnership	Nationally, the most recent data currently available is from 2015. There were 239,020 marriages between opposite sex couples in 2015, a decrease of 3.4% from 2014; and 0.8% lower than in 2013. There were 6,493 marriages between same sex couples; 56% of these were female couples and 44% male couples. Just 44 of these ceremonies were religious ceremonies. Nationally, marriage rates for opposite-sex couples are now at their lowest level on record following a gradual long-term decline since the early 1970s.
Pregnancy and maternity	Data for 2015-19 shows that the live births (per 1,000 women aged 15-44 years) is significantly worse in 5 of the 7 West Midlands Metropolitan areas, 1 area significantly better and 1 that is not significantly different. Birmingham has a rate of 65.2%, Coventry 54.1%, Dudley 64.0%, Sandwell 72.2%, Solihull 61.6%, Walsall 70.9% and Wolverhampton 67.9%, this compares to a rate of 60.0% in England. In 2016 the West Midlands Metropolitan 7 has a higher proportion of younger mothers than England – 17.9 mothers aged under 20 years old per 1,000 females of that age. Birmingham has a rate of 15.0, Coventry 15.4, Dudley 17.8, Sandwell 23.2, Solihull 12.0, Walsall 28.2 and Wolverhampton 23.2, this compares to a rate of 13.5 in England. Young mothers can often lack access to key sources of information such as antenatal classes and peer support programmes, friends with children, family and other support networks which enable breastfeeding. In the West Midlands Region, the percentage of mothers who are breastfeeding at initiation (within 48 hours) is 68.9% which compared to

	England is lower, however the regional and national trend is gradually increasing. 74.5%. The percentage of mothers who are breastfeeding at initiation in Birmingham is 71.1% (no trend results), Coventry 78.3% (trend - increasing and getting better), Dudley 55.3 (no significant change), Sandwell 62.0% (no trend results), Solihull 70.4% (no significant change), Walsall 65.5% (increasing and getting better) and Wolverhampton 66.8% (no significant change) compared to 74.5 for England.
Religion or belief	From the Annual Population survey 2018, approximately 2,884,008 West Midlands Metropolitan 7 residents gave an indication of their religious faith. There was a rise in the population reporting as 'Christian' from 21.2% in 2011 to 33.9% in 2018, which represents an increase of 12.7 percentage points. This was mainly due to a decline in religious affiliation as those residents responding with 'no religion' decreased by 13.3 percentage points to 44.1%, from 57.4%. The number of residents reporting as Buddhist is 0.2%, Hindu 2.3%, Muslim 14.9%, Sikh 3.7% and any other religion 0.9%.
Race	The overwhelming majority of the West Midlands Metropolitan 7 areas in 2016 identified themselves as White-British 1,846,000 although there are significant numbers of other ethnic groups.
Sexual Orientation	This relates to whether a person's sexual attraction is towards their own gender, the opposite gender, or to both genders. Currently there is no best source of information on the numbers of Lesbian, Gay or Bisexual (LGB) people living in the local population. The 2011 Census offered a picture of the number of couples living in same sex civil partnerships households, but this is an incomplete picture with only 3,489 people registered for the West Midlands Met County and is perhaps a reflection of the Civil Partnership Act coming into force only six years prior in 2005. It is anticipated that this number is much higher in 2021. Public Health England published updated modelling estimates for LGB population estimates based on age, gender and ethnicity in February 2017.

7. ISA Framework

7.1. Introduction

In order to follow good practice in sustainability appraisal, a number of bespoke sustainability objectives have been developed for the ISA. These ISA objectives reflect the sustainability objectives the LTP5 should be aiming to achieve and the areas of sustainability that the LTP5 is expected to impact upon or have an influence on. The expectation is that even though some objectives may not be within the LTP5's direct remit, the LTP5 should be able to influence the direction of change through setting out clear policies and approaches which could inform the work of TfWM's partners.

7.2. Assessment Framework

The ISA Framework is a key component in completing the ISA, through providing a set of ISA objectives against which the performance of the LTP5 can be predicted and evaluated.

The ISA objectives for the LTP5 have been worded so that they reflect one single desired direction of change for the theme concerned and do not overlap with other objectives. They include both externally imposed social, environmental and economic objectives as well as others devised specifically in relation to the context of the LTP5. It should be noted that, from an assessment perspective, all ISA objectives are considered equally important to be achieved by the LTP5 and that there is no inherent prioritisation of objectives. The ultimate aim is for the LTP5 to achieve net benefits across the three dimensions of sustainability (environmental, social and economic dimensions).

In order to assess how each aspect of the LTP5 performs against each of the ISA objectives, a series of decision-making criteria have been developed. The decision-making criteria are a way of guiding the assessment. They are not the only considerations to be taken into account when determining likely effects arising from the LTP5, as it is unlikely that every relevant question can be known at this stage. But they do provide a useful starting point and a transparent structure to help demonstrate how the assessment of the effects arising from the implementation of the LTP5 have been undertaken. As the ISA progressed, they also helped in the development of a set of indicators to be included in the monitoring programme at a later stage of the assessment process.

An ISA Framework of 16 objectives and associated decision-making questions has been drawn up, developed through the analysis of baseline information and identification of key sustainability issues and opportunities, as well as the review of relevant plans, policies and legislation. In addition, decision making questions have been identified to substantiate the proposed ISA Objectives and HIA and EqIA sub-objectives.

The proposed ISA objectives and associated Assessment Aid Questions are presented in Table 7-1. Table 7-2 to Table 7-4 show proposed EqIA, HIA and CSA sub-objectives and decision-making questions, respectively. Note that the application of the Framework in relation to HIA, CSA and EqIA Sub-Objectives will be considered ‘in the round’ and a judgement made as to how well that aspect of the LTP5 being considered performs. This will result in a summary score that will be reported in the main ISA Framework Assessment against the related ISA objective, with appropriate commentary – see below for detail of the application of the ISA Framework.

It is also to be noted that there is a certain degree of cross-over of Assessment Aid Questions within the ISA Framework i.e., the same question is asked across a number of Objectives. The rationale for this is that while the question may be the same, it is considered from a differing viewpoint and within a different context. This is the role of the Assessment Aid Questions i.e. to help consider all aspects of an Objective in arriving at an assessment of the performance.

Table 7-1 - ISA Objectives

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
Environment			
1.	Protect and improve air quality	*Will the LTP:* • Reduce emissions of pollutants from transport? • Improve air quality within AQMAs? • Promote the use of low emission or zero emissions vehicles, including through promotion of associated infrastructure? • Reduce traffic growth and congestion and promote safer and more sustainable transport patterns across the West Midlands? • Enable walking and cycling and improve infrastructure and its safety and accessibility for these forms of travel? • Promote enhancements to green infrastructure networks to facilitate increased absorption and dissipation of nitrogen dioxide and other pollutants? • Contribute to the National Air Quality Objectives or other local air quality initiatives and avoid the need for new AQMA's in either the West Midlands or the surrounding areas?	Air Quality; Biodiversity; (Health ISA Objective 14; Equalities ISA Objective 15 and sub-objectives)
2.	Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets	*Will the LTP:* • Reduce the need to travel? • Promote and enable the use of sustainable forms of transport and reduce car use? • Promote better coordination and integration of different transport modes? • Encourage greater carbon efficiency in the movement of goods and people? • Encourage use of new low or zero carbon transport technologies (EV, hydrogen)? • Encourage use of the transport estate for low carbon energy generation? • Contribute to necessary removal of residual carbon emissions from the atmosphere? • Identify opportunities to enhance carbon removal through promoting new and enhancing existing green infrastructure?	Climatic Factors; Biodiversity; Air Quality

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Identify initiatives aiming to reduce traffic speed in residential areas without increasing carbon dioxide emissions? • Encourage greater and more robust digital connectivity to allow increased uptake of home working, home schooling, online commerce and online health services? • Support provision of delivery consolidation centres and encourage goods delivery mode-shift? • Reduce embodied and operational carbon through the design of new transport infrastructure?	
3	Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	*Will the LTP…* • Minimise the risk of flooding through design and implementation of SuDS and upstream storage NFM when possible? • Minimise the risk of flooding by avoiding areas of flood risk / flood plain when possible? • Ensure provision of appropriate compensatory measures are in place when there is no other option to landtake from areas of flood plain? • Lead to development that is flood resilient over its lifetime, taking into account the effects of climate change, without increasing the flood risk elsewhere and identifying opportunities to reduce the risk overall? • Encourage design for successful adaptation (including through green and blue infrastructure) to the predicted changes in weather conditions and frequency of extreme events (freezing, heat waves, intense storms), from a changing climate?	Climatic Factors; Water; Material Assets
4	Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain	*Will the LTP…* • Lead to the direct physical loss of valued habitat and populations of protected/scarce species? • Avoid indirect damage or disturbance to valued habitat and populations of protected/scarce species • Protect the integrity of designated sites including enhancement for, SSSIs, Local Wildlife Sites and National Nature Reserves, including those of potential or candidate designation?	Biodiversity; Climatic Factors; Air Quality

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Manage highway operational and maintenance pressures on designated sites and valued habitat and populations of protected/scarce species on locally designated sites, including Key Wildlife Sites and Local Nature Reserves? • Provide opportunities to improve / enhance and where possible connect sites designated for nature conservation? • Protect the integrity of Ancient and mature Woodlands / aged or veteran trees? • Protect and enhance the West Midland's ecological networks (the Nature Recovery Network)? • Protect and enhance priority habitats, and the habitat of priority species? • Protect areas designated as Natural Greenspace? • Protect and enhance green infrastructure and avoid severance of habitats links? • Minimise habitat fragmentation and severance of species migration and commuter routes? • Promote new habitat creation or restoration and linkages with existing habitats?	
5	Protect and enhance sites designated internationally for nature conservation purposes	*Will the LTP…* • Protect (directly or indirectly) European sites (SAC, SPA, Ramsar, including those of potential candidate designation) identified as part of the HRA screening process? • Take on board the HRA findings and recommendations? • Support continued improvements to the status of the internationally designated nature conservation sites (and potential candidate sites) present?	Biodiversity; Climatic Factors; Air Quality
6	Protect, enhance and promote geodiversity	*Will the LTP…* • Protect or enhance SSSIs designated for their geological interest? • Promote or enhance accessibility to the region's designated sites of geological interest? • Seek to avoid the degradation and removal wherever possible of Regionally Important Geological and Geomorphological Sites (RIGS)? • Seek to protect and avoid degradation of the Black Country Geopark?	Landscape

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
7	Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings	*Will the LTP…* • Affect the integrity of designated heritage assets and their settings (such as Scheduled Monuments, Listed Buildings and structures, Registered Parks and Gardens, Registered Battlefields and Conservation Areas)? • Affect the significance of non-designated heritage assets (e.g. locally important buildings and archaeological remains, including newly discovered heritage assets) and their settings? • Lead to harm to the significance of heritage assets, for example from the generation of noise, pollutants and visual intrusion? • Maintain or improve access to heritage assets? • Promote transport schemes which tackle traffic congestion in the regions historic villages, towns and cities? • Maintain or allow opportunities to be taken to improve the interpretation, understanding and appreciation of the significance of heritage assets?	Cultural Heritage; Landscape / Townscape
8	Protect and enhance the character and quality of landscapes, townscapes and visual amenity	*Will the LTP…* • Protect or enhance nationally and locally designated landscapes and townscapes and their settings? • Conserve, protect and enhance natural environmental assets (e.g. parks and green spaces, common land, woodland / forests etc)? • Be consistent with the management plans, objectives and other guidance of relevant AONBs and nearby National Parks? • Promote / protect Public Rights of Way (PRoW)? • Affect the intrinsic character or setting of local landscapes or townscapes through changes to views or indirectly through changes to tranquility, light pollution and traffic?	Landscape / Townscape; Biodiversity; (Health ISA Objective 14; Equalities ISA Objective 15 and sub-objectives)
9	Protect and enhance the water environment	*Will the LTP…* • Protect ground and surface water quality in line with Water Framework Directive (WFD) requirements? • Safeguard the availability of water resources (surface and groundwater)?	Water; Biodiversity

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Protect and enhance green infrastructure contributing to improvements in the quality of surface water run-off? • Promote where possible the minimisation of the use of impermeable hard surfacing and promote the use of SuDS and upstream storage (Natural Flood Management - NFM)? • Provide opportunities to improve Green / blue infrastructure? • Provide opportunities to improve WFD water body status? • Promote use of SuDS in appropriate places, recognising that these may not be suitable for areas that are contaminated?	
10	Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	*Will the LTP…* • Assist in facilitating the re-use of previously developed land? • Seek to remediate contaminated land? • Avoid permanent (irreversible) loss of the most highly productive agricultural soils? • Avoid transport-related infrastructure development upon the best and most versatile agricultural land? • Ensure the protection of soil resources and reduce soil quality degradation during transport-related infrastructure construction activities? • Avoid the sterilization of viable mineral resources?	Landscape, Soils
11	Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated	*Will the LTP…* • Seek to reduce the consumption of primary, natural resources through encouraging the use of recycled and / or secondary materials with transport-related infrastructure projects? • Encourage resource efficiency during the whole project life cycle of transport-related infrastructure projects i.e. from concept through design and operation to decommissioning? • Seek to reduce fuel use through fuel efficiency measures and a shift towards more sustainable forms of transport in the delivery of transport-related infrastructure projects; • Improve accessibility to the Combined Authority's waste management infrastructure, particularly those facilities that support recycling, composting and material recovery;	Material Assets

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Promote the use of local suppliers that use sustainably-sourced and locally produced materials with transport-related infrastructure projects? • Promote increasingly more sustainable waste management practices with transport-related infrastructure projects in line with the waste hierarchy? • Support the delivery of a network of sustainable waste management facilities and mineral infrastructure needed to deliver growth? • Promote a Circular Economy?	
Economic			
12	Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all	*Will the LTP…* • Support economic activities in areas of high growth pressures? • Support economic activities in rural areas? • Support improved availability and accessibility to good quality education, training and employment opportunities, particularly in high unemployment areas? • Contribute to establishing an effective transport network that increases investment? • Reduce congestion and improve / enhance journey time reliability on the highways and rail network? • Support the development of transport solutions which integrate with digitally smart networks and promote access to these networks?	Population; (Health ISA Objective 14; Equalities ISA Objective 15 and sub-objectives)
13	Support the wider coordination of land use, energy planning and transport planning across the West Midlands	*Will the LTP…* • Support the development of EV charging networks and integrate these with new developments? • Support the development of new compact, higher density mixed use development that reduces the need to travel by private car, coordinated with public transport and active travel / walking and cycling infrastructure and results in shortened trip distances, particularly for employment and education purposes? • Support digital integration to optimise use of energy systems and provide integrated real time transport information to inform decisions	Population

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Support housing and employment development in areas that are or will be served by rail transport or other forms of public transport? • Support the development of electric transport solutions which integrate with local virtual energy networks? • Minimise cumulative and synergistic effects resulting from the in-combination effects of transport proposals and new development areas?	
Social			
14	Improve health and well-being for all citizens and reduce inequalities in health *(HIA specific objective)*	*Will the LTP...* • Promote health and well-being, including of vulnerable groups (children and young people; older people; disabled people and people with long term health conditions; low-income groups and communities with high levels of deprivation; minority ethnic groups; cyclists, pedestrians, commuters by public transport, drivers) and of the wider population (residents, workers, commuters, tourists and visitors)?	Human Health (See also sub-objectives)
15	Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society *(EqIA specific objective)*	*Will the LTP...* • Promote greater equality of opportunity to the varying age groups of residents (such as the older population and younger travellers), disabled people, different nationalities and ethnic groups, different religious groups, low income and unemployed people, different sex and sexual orientation groups?	Population (See also sub-objectives)
16	Promote community safety and reduce crime and fear of crime for all citizens *(CSA specific objective)*	*Will the LTP...* • Improve safety of the transport network? • Improve personal security on public transport accessing key services, facilities and amenities? • Lead to a reduced crime rate and a reduction in anti-social behaviour? • Reduce the risk of being injured or killed on the road? • Promote initiatives that enhance safety and personal security for all, without fear or hindrance from crime and disorder? • Promote the application of 'Secured by Design' principles aimed at designing out crime and reducing the fear or perception of crime in transport development schemes?	Population (See also Safety sub-objectives)

No.	ISA Objective	Assessment aid questions	SEA topic (relevance to HIA, EqIA, CSA and HRA shown in brackets)
		• Contribute to improvements to levels of natural surveillance in the public realm to create a more welcoming environment for travel, physical activity, and accessing key services, facilities and amenities?	

Table 7-2 - HIA Objectives

HIA Objective	HIA sub-objectives	Assessment aid questions
Improve health and well-being for all citizens and reduce inequalities in health	Improve accessibility to health and leisure services and facilities and amenities for all	*Will the LTP...* • Ensure that (new and existing) developments are accessible (particularly on foot, by cycling or public transport) to health and care services, education, employment and other essential services, particularly for the most vulnerable groups? • Promote and enable measures to help all residents to adopt healthy lifestyles (e.g. active travel through walking and cycling)? • Promote accessibility (particularly on foot or by cycling or public transport) to open space and recreational activities (e.g. playing fields, sports facilities, footpaths etc), particularly for vulnerable groups? • Protect and enhance green infrastructure, a network of linked, multifunctional green spaces in and around the area's towns and cities, thus creating new or improved public green space? • Support publicity or awareness-raising campaigns and/or education and practical offers to promote active modes of transport or physical activity? • Provide overall accessibility improvements that improve the quality of life of users and therefore benefits health of residents?
	Improve affordability of transport	*Will the LTP...* • Provide affordable transport options to ensure accessibility to vital health services, work, education, training and skills as well as social / leisure activities?

	• Provide affordable transport options to ensure accessibility to key facilities such as open spaces, employment locations etc including the WorkWise. scheme • Promote use of technology to reduce transport costs for users i.e. MaaS, integrated ticketing and smart cards? • Provide transport services that provide appropriate and/or statutory fare structures (i.e. concessionary fares on public transport services) to ensure the most vulnerable groups in terms of health (children, older), can afford to use transport options to access healthcare and other key facilities?
Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents	*Will the LTP...* • Provide initiatives that enhance road safety and therefore reduce the number of accidents, particularly for vulnerable users– children, older people, disabled people, and those in deprived areas?
Reduce severance	*Will the LTP...* • Improve access to essential facilities such as healthcare services to reduce any existing severance issues? • Reduce the physical and perceived impact of the transport system on the local environment? (particularly for the most vulnerable population in terms of severance and health – including older and disabled people)
Improve connections between and within communities	*Will the LTP...* • Provide opportunities to travel within and between communities? • Provide increased opportunities to improve social interactions?
Reduce air, noise, odour and light pollution from transport	*Will the LTP...* • Aim to minimise air, noise, odour and light pollution during construction and operation? • Reduce transport impact on air quality and noise, particularly around vulnerable users such as children, older people and deprived areas? • Promote practices, equipment and materials which reduce vibration and air, noise, odour and light pollution to assist in improving health levels?
Improve access to active travel modes?	*Will the LTP...* • Increase opportunities to access active travel modes that may help to improve health outcomes?

	Improve access to public transport	*Will the LTP...* • Increase opportunities for all members of society to access public transport options, particularly those more vulnerable or isolated members of the community, as well as those who may have difficulty using active travel modes?

Table 7-3 - EqIA Objectives

EqIA Objective	EqIA sub-objectives	Assessment aid questions
Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Improve accessibility to services, facilities and amenities for all, in particular by active travel modes	*Will the LTP...* • Improve access to essential facilities, including employment, healthcare and education, particularly for those in the most deprived areas (20% most deprived nationally), older and disabled people? • Improve public realm and overall environment including green infrastructure in the most deprived areas (20% most deprived nationally)? • Improve walking, cycling and public transport measures in the most deprived areas (20% most deprived nationally)? • Provide transport services/ initiatives that are accessible and affordable for all, including those with a physical or learning disability and those with limited mobility? (this includes physical access to services and provision of accessible information on transport service) • Provide transport services that are welcoming for all groups of society to increase availability of travel options? • Provide initiatives that improve perceptions of transport, and therefore increase range of travel options available? • Take due regard of requirements for travel by disabled and mobility impaired people? • Provide initiatives to encourage access to and uptake of Public Transport for those whose first language may not be English?
	Improve affordability of transport	*Will the LTP...*

	• Provide transport services that are financially accessible for all, specifically those in the most income deprived areas nationally or those on limited incomes? • Provide transport services or initiatives that improve the affordability of travel options in the area, specifically the most deprived areas and vulnerable users? • Provide transport services that provide appropriate and/or statutory fare structures for vulnerable users (i.e. concessionary fares on public transport services)? • Promote use of technology to reduce transport costs for users i.e. MaaS, integrated ticketing and smart cards?
Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents	*Will the LTP...* • Ensure safe paths for walking and cycling? • Ensure initiatives aiming to reduce traffic speeds in residential areas and promote safer driving? • Promote road safety awareness for all, with particular emphasis on more vulnerable members of society such as children and young people and those with disabilities? • Reduce the total killed and seriously injured in traffic accidents, particularly for vulnerable users in terms of accidents - children, young males, older people and those from deprived areas? • Reduce the total slight casualties? • Improve the safety of vulnerable road users such as pedestrians, motorcyclists and cyclists?
Improve provision of public transport in rural areas or to those areas experiencing constraint in public transport provision	*Will the LTP...* • Increase provision of public transport (including frequency of service and extent of routes) in areas which have been more constrained in level of provision?
Reduce severance	*Will the LTP...* • Improve access to essential facilities to reduce any existing severance issues? • Improve accessibility between and within communities? • Improve access to information for all users to promote a range of travel options, including active travel, available for all? • Reduce the physical and perceived impact of the transport system on the local environment? (particularly for the most vulnerable population in terms of severance – including older children and disabled people)

	Reduce air, noise, odour and light pollution from transport	*Will the LTP...* • Improve impact of transport on the local environment to create more welcoming areas for travel? • Provide transport options that improve / do not worsen air and noise pollution levels, particularly for the most vulnerable groups • Reduce traffic levels and congestion and promote more sustainable transport patterns across the area, particularly focusing on areas with low air quality (e.g. AQMAs)? • Promote sustainable travel to reduce the environmental impact of transport for vulnerable groups?

Table 7-4 - CSA Objectives

CSA Objective	CSA sub-objectives	Assessment aid questions
Promote community safety and reduce crime and fear of crime for all citizens	Improve safety on the transport network (including roads) and reduce the number of accidents and other incidents	*Will the LTP...* • Provide initiatives that enhance safety on the transport network (including road safety) and therefore reduce the number of accidents, particularly for vulnerable users– children, older people, disabled people, and those in deprived areas?
	Improve actual and perceived safety and security issues	*Will the LTP...* • Promote the application of 'Secured by Design' in transport development schemes? • Contribute to improvements of public realm and levels of natural surveillance to create a more welcoming environment for travel, physical activity, and accessing key facilities? • Support improved personal security on public transport and at its facilities to improve accessibility to key facilities?

8. Assessment of Alternatives

8.1. Introduction

The Environmental Assessment of Plans and Programmes Regulations 2004 ("the SEA Regulations") require that when an environmental report on a proposed plan or programme is prepared, it must identify, describe and evaluate the likely significant effects of implementing reasonable alternatives to the plan or programme which it assesses, as well as the likely significant effects of the plan or programme itself. The analysis of reasonable alternatives is to take into account "the objectives and the geographical scope of the plan".

In order to deliver the LTP outcomes and improve access with fewer negative impacts, it was recognised that significant changes to the transport system itself are required alongside changes to land use systems and digital connectivity. To understand the potential impact of the new LTP on the Motives for Change, three possible LTP scenarios were developed. It was the intention of the scenarios to allow for exploration of the opportunities to achieve (or threats that could undermine) the Motives for Change, by reflecting differing levels of appetite for interventions to meet different targets relating to the climate emergency. This would then allow policymakers to make informed decisions about the policy direction for the future LTP.

The three scenarios were as follows:

1. Conventional: what the world might look like with continuation of 'business as usual' development of policy to shape a Conventional LTP.
2. National Policy Aligned: an LTP designed to achieve Net Zero by 2050 (UK government target) in line with CCC Balanced Net-Zero Pathway recommendations.
3. Transformational: an LTP providing a transformational change for the region, delivering against WMCA carbon budget and net-zero target of 2041.

The following sets out key elements of the three scenarios:

8.2. Conventional Scenario Overview

The Conventional Scenario outlines a 'business as usual' development of policy, but assuming a very large increase in capital investment from historic trends. This would assume £15 billion of funding over the next 20 years, based on an assumption that 1% of GDP in the West Midlands is invested in the transport system.

This scenario includes, but is not limited to:

- Upgrades to the strategic cycle network.
- Major public realm improvements in Coventry, the Black County and Birmingham.
- Community cycling hubs and tow path upgrades.
- Bus priority upgrades, bus station and interchange improvements and new SPRINT routes.
- Very Light Rail and Metro network extensions.
- Rail upgrades including HS2, Midlands Rail Hub, electrification of lines and new stations/station upgrades.
- New road links, park and ride investment and capacity improvements.

This approach is familiar to policymakers. It has a strong focus on improvements to public transport and cycle infrastructure, which would be intended to support the outcomes of the Motives, providing more transport choices for the people of the West Midlands and, in doing so, improving the local economy and making access fairer for all. The focus on investment and improving transport choices would be likely to support relatively high levels of political and public acceptability across the region.

This approach would require large-scale investment in improving the transport system. However, this approach will have limited impact because it will not fully address the factors influencing travel demand and travel behaviours. It will therefore only have relatively modest impacts on the Motives for change, and it will not provide the required reductions in transport emissions.

8.3. National Policy Aligned Scenario Overview

In contrast with the Conventional scenario, the National Policy Aligned (NPA) scenario is focused on the policy interventions needed to take the West Midlands on the 'balanced pathway' to achieve Net Zero by 2050, in line

with the UK government target and in line with the Committee on Climate Change's Balanced Net-Zero Pathway recommendations. To reach Net Zero by 2050, multi-faceted action is required to achieve a 20% reduction in passenger transport emissions by 2031, over and above the impacts of national action to promote the uptake of zero emission vehicles.

The NPA scenario also assumes that £15 billion funding would be available for the region. However, in contrast with the Conventional Scenario, additionally the NPA scenario also focuses on the policy interventions needed to decarbonise the transport system, by changing travel behaviours and supporting a shift to zero emissions vehicles. These changes cannot be achieved solely through building infrastructure, and would require action to reduce the need to travel (through digital technologies and land use changes) and influence travel choices. Whilst the climate emergency is a key driver for change, this scenario also has the potential to deliver real progress against all five of the Motives for Change, although the impacts on creating a fairer society would be more uncertain and further work and engagement with communities will be required to understand potential impacts.

8.4. Transformational Scenario Overview

The Transformational LTP scenario would be a significant step change for the region. Building on the NPA scenario, the Transformational scenario seeks to deliver change more quickly by focusing on the policy interventions needed to take the region on an ambitious pathway to decarbonise the transport system in line with the West Midlands Net Zero Target of 2041. To reach Net Zero by 2041, multi-faceted action is required to achieve a 70% reduction in passenger transport emissions by 2031, over and above the impacts of national action to promote the uptake of zero emission vehicles.

The scenario has been developed using the same principles as the NPA scenario by improving travel choices, investing in active travel and rebalancing travel costs between different modes. In order to accelerate decarbonisation under this scenario for Net Zero to be achieved by 2041 (in comparison to 2050 in the NPA scenario), the scenario introduces measures to rebalance the generalised costs of travel between different modes through the introduction of measures to restrain car use (the measures could be physical, financial or regulatory, or a combination of all three).

As in both the Conventional and NPA scenarios, this scenario is intentionally ambitious – the most ambitious of all. The focus for ambition remains on reducing carbon emissions, rather than building new infrastructure and stimulating economic growth.

The scenario has a broadly positive impact on the Motives for Change, notably for tacking the climate emergency, working towards a Net Zero target of 2041, nine years prior to the national Net Zero target. Further work will be needed to understand and mitigate against any possible negative impacts on creating a fairer society, notably, the impact of demand management on less affluent communities who are car dependent.

8.5. Assessing the alternatives

The 'conventional', 'national policy aligned' and 'transformational' scenarios have been assessed against the ISA Framework. Note that this is a high level comparative assessment of the three alternative scenarios only, with the purpose of identifying a preferred alternative scenario in sustainability terms – the detailed policy approach to LTP5 is appraised in detail using the ISA Framework set out in Chapter 7.

As such, in consideration of the three alternative scenarios, the assessment is undertaken in comparison of anticipated likely sustainability performance relative to each other and in order to draw comparison between alternative scenarios on a broad level, the following scale has been used:

Scale	Description
Large Positive	A significantly positive outcome is anticipated
Positive	Minor positive outcome is anticipated
Neutral	This alternative is anticipated to have the same outcome
Negative	Minor adverse outcome is anticipated
Large Negative	A significantly adverse outcome is anticipated

The assessment has been undertaken by grouping ISA Objectives that are impacted in the same way by particular proposals.

- **Protect and improve air quality**
- **Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets**

Scenario 1 – Conventional approach

At a national level, interventions have started to reduce the rate of greenhouse gas emissions and air quality is generally improving as industrial practices, energy sources and tighter environmental legislation have contributed to reductions in pollutants. However, poor air quality remains in local hotspots particularly in urban areas and along roads. Within the West Midlands Met 7 area, a total of 6 AQMA's have been declared and it is to be noted that these cover the whole of the relevant local authority area.

It is anticipated that local instances of poor air quality could become more severe, though it is noted that there are measures being introduced to address these. For example, within the West Midlands, Clean Air Zones are recognised as a possible tool for improving local air quality and significant work is being undertaken in area such as Birmingham in this regard. These will be in addition to measures proposed at a National level, as the UK has adopted ambitious, legally-binding targets to reduce significantly emissions of NOx and four other damaging air pollutants.

The conventional approach also does include elements such as upgrades to the strategic cycle network that would allow for more opportunities for zero emission (pollution or carbon) travel. Similarly, there would be improvements to bus, very light rail and metro services. These would help to attract people to utilise more sustainable modes, though uptake of such modes would likely be similar to at present. It is also the case that it is anticipated that there would be a steady and ongoing uptake of low or zero emission vehicles., which will help to improve air quality and slow / reduce the increase in carbon emissions from the transport sector.

Nevertheless, it is anticipated that under this conventional approach, there would still be a focus on private car travel as shown by the noted emphasis on new road links and there is recognition that this approach will have limited impact because it will not fully address the factors influencing travel demand and travel behaviours. As such, it is anticipated that congestion and slow moving traffic will continue to be experienced across the region and could potentially become more acute and more frequent. This would likely result in higher levels of vehicle emissions localised concentrations and potential issues with local air quality, especially when including the likely diversion of traffic due to congestion onto less appropriate roads with adjacent housing.

As such, it is anticipated that while this scenario will have a small impact on emissions in the West Midlands, this is likely to be negligible as traffic flows increase, as the scenario does not do enough to facilitate modal shift or reduce car journeys.

Scenario 2 – National policy aligned approach

As noted, in contrast with the Conventional scenario, the National Policy Aligned (NPA) scenario is focused on the policy interventions needed to take the West Midlands on the 'balanced pathway' to achieve Net Zero by 2050, in line with the UK government target and in line with the Committee on Climate Change's Balanced Net-Zero Pathway recommendations. It is recognised that to reach Net Zero by 2050, multi-faceted action is required to achieve a 20% reduction in passenger transport emissions by 2031, over and above the impacts of national action to promote the uptake of zero emission vehicles.

In contrast with the Conventional Scenario, additionally the NPA scenario also focuses on the policy interventions needed to decarbonise the transport system, by changing travel behaviours and supporting a shift to zero emissions vehicles. These changes cannot be achieved solely through building infrastructure, and would require action to reduce the need to travel (through digital technologies and land use changes) and influence travel choices.

As such, this scenario will result in a significant reduction in emissions to each a Net -Zero target by 2050. Such measures would also likely result in significant reductions in pollution emissions and would act to improve air quality across the region.

Scenario 3 – Transformational approach

The Transformational LTP scenario would be a significant step change for the region. Building on the NPA scenario, the Transformational scenario seeks to deliver change more quickly by focusing on the policy interventions needed to take the region on an ambitious pathway to decarbonise the transport system in line

with the West Midlands Net Zero Target of 2041. To reach Net Zero by 2041, multi-faceted action is required to achieve a 70% reduction in passenger transport emissions by 2031, over and above the impacts of national action to promote the uptake of zero emission vehicles.

The scenario has been developed using the same principles as the NPA scenario by improving travel choices, investing in active travel and rebalancing travel costs between different modes. In order to accelerate decarbonisation under this scenario for Net Zero to be achieved by 2041 (in comparison to 2050 in the NPA scenario), the scenario introduces measures to rebalance the generalised costs of travel between different modes through the introduction of measures to restrain car use (the measures could be physical, financial or regulatory, or a combination of all three).

As in both the Conventional and NPA scenarios, this scenario is intentionally ambitious – the most ambitious of all. The focus for ambition remains on reducing carbon emissions, rather than building new infrastructure and stimulating economic growth.

The scenario has a broadly positive impact on the Motives for Change, notably for tacking the climate emergency, working towards a Net Zero target of 2041, nine years prior to the national Net Zero target.

This scenario will result in a significant reduction in emissions to reach a Net Zero target by 2041. Demand management will help bridge the gap in emission reductions from the National Policy Aligned scenario. This scenario would also likely result in significant reductions in pollution emissions and would act to improve air quality across the region. These improvements would be in a significantly shorter timeframe that under other scenarios.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Improve air quality Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets	Negative	Positive	Large Positive

- **Protect and enhance the water environment**
- **Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources**

Scenario 1 – Conventional approach

Under present conditions, the water environment is generally improving, though significant challenges remain as noted in the River Basin Management Plans. Transport is also recognised across the UK as being a key source of water pollution e.g. through accidental spillage, as well as contaminated road runoff and this would be anticipated to continue under the conventional approach, which includes for example a focus on new roads and capacity increases. Similarly, pollution through accidental spillage or construction works can impact on soil resources, leading to contamination. Soil and agricultural resources can also be lost due to infrastructure development, including that related to the transport network.

Scenario 2 – National policy aligned approach

As with continuing under the conventional approach, new development promoted or enabled through a national policy aligned approach could have implications for the water environment, soil and agricultural resources as well as flood risk and the threat of a changing climate. However, greater emphasis is placed on reducing the need to travel (through digital technologies and land use changes), as well as promoting EV's and more sustainable modes of travel etc. This would reduce the need for new infrastructure such as roads and therefore result in less loss of agricultural land / soil resources, as well as also reduce the rate of polluted runoff or other pollution incidents that could lead to soil contamination. As such, it is considered that implementing of a national policy aligned approach will have a positive effect on the protection of the water environment, soil and agricultural resources in comparison to continuing under a conventional approach.

Scenario 3 – Transformational approach

For the most part, effects of this scenario would be the same for the national policy aligned approach, though improvements / benefits would be realised in a shorter timeframe.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Protect and enhance the water environment Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	Neutral or Negative depending on the environmental asset under consideration	Positive	Positive

- **Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain**
- **Protect and enhance sites designated internationally for nature conservation purposes**
- **Protect, enhance and promote geodiversity**

Scenario 1 – Conventional approach

Across the West Midlands there are a range of areas of biodiversity value, including those designated at the highest levels for nature conservation. In addition there are also areas known for their geodiversity – reflected by the designation of a 'Geopark' in the region.

In addition to constant pressures from general development (direct and indirect), climate change, invasive alien species and inappropriate management practices, new transport interventions (such as new roads which would be promoted under this Scenario) have the potential to impact on the sites of ecological or geodiversity value and the status and distribution of priority habitats and species as well as more generally on the network of linked multi-functional green spaces, comprising the local green infrastructure, through direct land take for infrastructure (which may contribute to fragmentation) and construction and operational disturbance (noise, vibration, light pollution, etc.) and emissions / contamination (air, water and soil), though they may also provide opportunities for enhancement. Increased accessibility to designated sites also has the potential to adversely impact on them. Direct road kill can also impact on some species. On the other hand, transport infrastructure can provide opportunities for increased biodiversity, or to aid certain species such as the range of policies developed by Defra and the Highways Agency (now Highways England) relating to pollinators.

It is also the case that there are existing and clear mechanisms to protect designated sites (through for example the Habitats Regulations Assessment process), as well as local level initiatives such as Biodiversity Action Plans. It is anticipated that these would continue under the Conventional Scenario (in the absence of LTP5) and provide some protection from the pressures of development and the transport network, though it is to be recognised that most elements of biodiversity are not designated. Climate change will provide a constant and ongoing challenge to biodiversity.

Scenario 2 – National policy aligned approach

, Implementing a national policy aligned approach would provide for a clear shift in focus away from cars and onto more active and sustainable modes in comparison to a conventional approach. This will reduce disturbance to designated sites and habitats and reduce the potential for direct strike / road kill. Improvements in air quality likely through the implementation of this national policy aligned approach (in comparison to a conventional approach) may also reduce pollution deposition on designated sites. Less emphasis on large scale interventions such as new road building (compared to the conventional approach) would also reduce the potential for direct impacts on designated sites or habitats, while the emphasis on walking and cycling routes would provide better opportunities to incorporate green infrastructure, as well as access to the countryside.

As such, it is considered that implementing a national policy aligned approach will have a positive effect on biodiversity and the protection of designated sites, habitats, sites, species, valuable ecological networks in comparison to continuing under a conventional approach.

Scenario 3 – Transformational approach

For the most part, effects of this scenario would be the same for the national policy aligned approach, though air quality improvements would be realised sooner and as such, there is the potential for more timely beneficial effects on biodiversity, such as the reduction in pollution deposition on habitats.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain Protect and enhance sites designated internationally for nature conservation purposes Protect, enhance and promote geodiversity	Neutral or Negative depending on the environmental asset under consideration	Positive	Positive

- **Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings**
- **Protect and enhance the character and quality of landscapes, townscapes and visual amenity**

Scenario 1 – Conventional approach

There are a wide range of historic and cultural heritage features located across the West Midlands, which span the full range of human settlement, from the prehistoric to the present day. As with across the United Kingdom, there is an ongoing risk of uncoordinated and piecemeal development resulting in successive erosion of the quantum and integrity of the regions cultural heritage resource. While these assets (and their settings) could be affected by transport interventions, such as those set out within this Scenario (including new road, very light rail and metro extensions), it is anticipated that under the conventional approach protection will continue to be provided to these cultural heritage features (for example through protection afforded to Scheduled Monuments) and it is likely that new sites will join the list, e.g. through archaeological discovery, or new interpretations of existing sites.

Similarly, many of the West Midlands landscapes benefit from protection through recognition of their character in relevant plans and policies and it is anticipated this would continue under a conventional approach. However, under this conventional approach, new interventions such as roads would also introduce new features into the landscape. In some instances this new infrastructure could provide an opportunity to improve landscape or townscape. In general terms, modern design / landscaping principles and interested parties expectations are promoting a renewed focus on the quality of scheme design and this trend is likely to continue, though risks from increased urbanisation and infrastructure development remain. It is also likely that under a conventional approach, current congestion and focus on car use will persist and this will also result in continuation of issues within townscapes relating to parking.

Scenario 2 – National policy aligned approach

While this scenario will result in the development of transport interventions, there is a much greater emphasis placed on policy interventions that would decarbonise the transport system by changing travel behaviours and supporting a shift to zero emission vehicles. This, alongside reductions in the number of journeys (through for

example better digital connection), would provide opportunities to improve the setting of cultural heritage assets such as scheduled sites, historic townscapes etc. through, for example, a reduction in noise and pollution. A reduction in pollution could also have benefits to individual sites / features through a reduction in pollution deposition.

This scenario would also result in the introduction of new infrastructure into the landscape and townscape though it is anticipated that on the whole, the focus will be on smaller scale interventions such as walking and cycling routes. A reduced focus on cars, along with a greater uptake of LZEV, could also allow for higher levels of tranquility in some areas (particularly adjacent to roads) than that experienced at present. Visual amenity could also be improved through a reduction in congestion.

It is considered that implementing a national policy aligned scenario will have a positive effect on cultural heritage assets as well as the protection and enhancement of the character and quality of landscapes and townscapes and visual amenity in comparison to continuing with a conventional approach.

Scenario 3 – Transformational approach

This scenario would have the same beneficial effects as outlined in respect of scenario 2, though with beneficial effects realised within a shorter timeframe.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings Protect and enhance the character and quality of landscapes, townscapes and visual amenity	Neutral or Negative depending on the environmental asset under consideration	Positive	Positive

- **Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated**

Scenario 1 – Conventional approach

Continued economic growth in the West Midlands, alongside a conventional approach will contribute towards a trend of increased waste and resource use. While new approaches are helping to shift towards greater efficiencies in resource use and adherence to the waste hierarchy, underlying waste generation volumes are anticipated to increase cumulatively. This would be further contributed to by the ongoing development of the transport network as set out in the conventional approach scenario. However, energy usage within transport is falling and there will be a gradual increase in the uptake of EVs (particularly when the EV charging network fully develops) which will contribute to further falls in the use of hydrocarbons.

Scenario 2 – National policy aligned approach

A reduced emphasis on large scale engineered solutions such as roads, as well as the clear emphasis on digital connectivity and reduced volumes of traffic (as outlined under this national aligned policy approach) would result in less requirement for the use of natural resources, including hydrocarbons. As such, it is considered that implementing the national policy aligned approach will have a positive effect on the promotion and prudent use of finite natural resources, as well as reducing the level of waste generated in comparison to continuing under the conventional approach scenario.

Scenario 3 – Transformational approach

This scenario would have the same beneficial effects as outlined in respect of scenario 2, though with beneficial effects realised within a shorter timeframe.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated	Neutral	Positive	Positive

- **Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding**

Scenario 1 – Conventional approach

By promoting more physical transport infrastructure, this scenario is more likely to result in a transport system that is less resilient to flooding, heat waves, fires etc. affecting that infrastructure.

Increased amounts of infrastructure and other development, including that directly related to the transport network as set out in this scenario, could increase the risk of flooding (by leading to greater areas of impermeability) and could also be vulnerable to a changing climate. This scenario also does not deal directly with adaptation to the unavoidable effects of climate change by the transport system, though it is to be recognised that there are a range of ongoing flood alleviation / flood protection measures and projects across the West Midlands which would likely continue under this conventional approach.

Scenario 2 – National policy aligned approach

With the focus on behaviour change, demand management, greater digital connection and less physical infrastructure, this national policy aligned approach will have an increased level of resilience compared to scenario 1. It is anticipated that measures taken to reduce emissions under this scenario will reduce the need for resilience to inevitable climate change and there will be more resilience within how the transport network will operate. For example, there will be less of a requirement to travel, with measures such as greater digital connectivity reducing travel overall. There will also be increased opportunities for trips to be shorter and more local, using more active travel modes.

Scenario 3 – Transformational approach

This scenario would have the same effects as outlined in respect of scenario 2, though it is considered these would be to a greater degree.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Large Negative	Positive	Positive

- **Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all**

Scenario 1 – Conventional approach

The West Midlands has a highly skilled workforce with a range of specialist industries related to transport and continues to play an important and strategic role in the economic output of the United Kingdom. However, the existing transport network acts to constrain this, for example through congestion and delays. It is also to be noted that there are significant areas of deprivation , poorer economic performance and economic uncertainty across the region. In addition, as with the rest of the United Kingdom, the West Midlands is not immune to uncertainties relating to the outcome of the Covid-19 pandemic and wider macro-economic uncertainties such as that related to 'Brexit'.

Under the conventional approach scenario, there is a strong focus on improvements to public transport and cycle infrastructure, which would be intended to support the outcomes of the Motives for Change, providing more transport choices for the people of the West Midlands and, in doing so, improving the local economy and with better access to services, job opportunities and training for all.

Scenario 2 – National policy aligned approach

Under this scenario, there is a greater focus on behaviour change, demand management, greater digital connection and less physical infrastructure in comparison to scenario 1 (conventional approach) and it is anticipated that this would provide a better range of economic opportunities. For example, provision of a greater number and wider range of digital services and opportunities online will remove the need for some people to travel to access the opportunities provided. This will help to improve social mobility by overcoming barriers to accessing opportunities, including an individual's physical mobility levels and the affordability of travel costs, especially where car use is needed, though it is to be recognised that some people may not be able to access digital connections to the extent that others can and there would be some uncertainty of outcome. It is also the case that measures to reduce congestion etc. as outlined under this scenario, would make the region more attractive for living and doing business in.

On the whole, it is considered that this scenario builds upon the positive aspects of scenario 1 and as such would be more favourable to the conventional approach.

Scenario 3 – Transformational approach

This scenario would have the same effects as outlined in respect of scenario 2, though with beneficial effects such as a reduction in congestion being realised in a shorter timeframe.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Promote economic growth and job creation, and improve access and connectivity to jobs and skills for	Positive	Positive	Positive

- **Support the wider coordination of land use, energy planning and transport planning across the West Midlands**

Scenario 1 – Conventional approach

A conventional approach to transport planning is unlikely to support wider coordination between land use, energy planning and transport planning as such an approach's focus would be on the delivery of transport schemes to meet identified demand rather than attempting to fundamentally change the way we move and transport goods about.

Scenario 2 – National policy aligned approach

The national policy aligned approach scenario would be reliant on a wider coordination with land use and energy planning to be achieved. For example, the uptake of zero emissions vehicles in particular EVs is requires sufficient electricity available for EVs in the electricity grid and any charging points together planned with other present and future land uses either at individual property or charging station level.

Scenario 3 – Transformational approach

Through achieving net zero objectives earlier than the national policy aligned approach, this scenario would be heavily reliant on strong coordination across sectors and would require truly joined up approaches across sectors to be delivered.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Support the wider coordination of land use, energy planning and transport planning across the West Midlands	Negative	Positive	Large Positive

- **Improve health and well-being for all citizens and reduce inequalities in health (HIA specific objective)**
- **Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society (EqIA specific objective)**
- **Promote community safety and reduce crime and fear of crime for all citizens (CSA specific objective)**

Scenario 1 – Conventional approach

The West Midlands is a highly urbanised and densely populated region, with variations in health outcomes in different parts (often linked to deprivation) and it is recognised that high levels of traffic and congestion can also have negative effects on people's health through for example respiratory illness, asthma and premature death from related conditions. Inactivity is also a significant health factor and this is linked to health issues such as obesity and frequently a reduced sense of wellbeing. Similarly, noise is an important factor in wellbeing. The West Midlands is also a very diverse region in terms of its population and transport can have implications for individuals and different population groups in different ways.

It is to be noted that the conventional approach has a strong focus on improvements to public transport and cycle infrastructure, which would be intended to support the outcomes of the Motives, providing more transport choices for the people of the West Midlands and, in doing so making access fairer for all. However, this approach will have limited impact because it will not fully address the factors influencing travel demand and travel behaviours. It will therefore only have relatively modest impacts on the Motives for change, and it will not provide the required reductions in transport emissions. This would likely result in continued negative effects on different vulnerable health groups (such as children, those with certain health conditions, those in deprived areas and the elderly) due to continued high level of pollution emissions. Similarly, those impacted by noise such as those who life in close proximity to major roads (which are also frequently more deprived areas), would continue to do so. There is a potential that such adverse effects could increase under this scenario.

Scenario 2 – National policy aligned approach

Under this scenario, there is a greater focus on behaviour change, demand management, greater digital connection and less physical infrastructure in comparison to scenario 1 (conventional approach) and it is anticipated that this would result in better air quality (through a reduction in emissions). This will be of benefit to all people but in particular a range of vulnerable groups such as children etc. Health outcomes are also likely to improve due to the increased focus on aspects such as walking and cycling under this scenario. This could help to address, for example, issues such as obesity. A greater focus on EV's under this national policy aligned approach would also reduce noise and help to improve wellbeing, as could a general decrease in congestion. A reduction in vehicles on the roads as is likely under this approach could also help to improve safety.

However, it is recognised within this scenario, that although there are clear benefits, the impacts on creating a fairer society would be more uncertain and further work and engagement with communities will be required to understand potential impacts.

Scenario 3 – Transformational approach

This scenario would have the same effects as outlined in respect of scenario 2, though with beneficial effects such as a reduction in pollution and congestion being realised in a shorter timeframe.
However, it is recognised within this approach that further work will be needed to understand and mitigate against any possible negative impacts on creating a fairer society, notably, the impact of demand management on less affluent communities who are car dependent.

ISA Objective	Scenario 1 – Conventional approach	Scenario 2 – National Policy Aligned approach	Scenario 3 – Transformational approach
Improve health and well-being for all citizens and reduce inequalities in health (HIA specific objective) Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society (EqIA specific objective) Promote community safety and reduce crime and fear of crime for all citizens (CSA specific objective)	Negative	Positive	Large Positive

8.6. Conclusions on Alternatives

From comparison of the three scenarios, it is clear that the national policy approach and the transformational approach provide a more favoured outcome in respect of the ISA Objectives, compared to undertaking a conventional approach. Of particular note are that scenario 2 and 3 both offer a clear approach to reducing pollution and carbon emissions and will be more focused on reducing or managing demand, as well as improving digital connections and facilitating more sustainable modes, rather than building new infrastructure. It is the nature of these aspects that they cut across a number of ISA Objectives – for example, a reduction in pollution emissions will have clear benefits in terms of health to all people within the West Midlands, but particularly to a range of vulnerable groups such as children, those with certain ailments, the elderly etc. This ‘cross cutting’ is reflected in the comparison of the scenarios.

In comparing the national policy aligned approach to the transformational approach, it is considered that the main area of difference is that benefits will be realised within a shorter timeframe under scenario 3. However, it should be borne in mind that the requirements of this transformational approach could have implications for different groups and this is recognised – for example, it is noted that further work will be needed to understand and mitigate against any possible negative impacts on creating a fairer society.

Whilst it is noted that these scenarios present positive outcomes it is acknowledged that the changes to behaviour across society and the economy would be significant and as such there is not consensus on all of the changes required, the scale and pace at which they could or should be introduced (locally or nationally) or the types of measures which would be required to drive the necessary level of change. This is recognised by the approach set out in the draft Core Strategy which presents a dynamic approach to move forward. Progress across the region may vary across a range between the 3 scenarios over the life of the plan and will be heavily influenced by a number of factors including political and public appetite for changes to policy locally/regionally and the national policy context which could make more transformational change more likely e.g. through the introduction of national Road User Charging.

9. Compatibility between the LTP Objectives and the ISA Objectives

9.1. Introduction

To help ensure that the draft vision, Motives for Change and Outcome Objectives of the Local Transport Plan 5 (LTP5) are as closely aligned with the Integrated Sustainability Appraisal (ISA) objectives as possible, a test of their compatibility has been undertaken. This test helps to identify potential synergies and inconsistencies, as well as assisting in refining the elements of the LTP5 and identifying alternatives.

The vision, Motives for Change and Outcome Objectives of the LTP5 that have been subject to this Compatibility Assessment were contained within the November 2021 version of the LTP and are outlined as follows:

9.1.1. Vision

The following text sets out the Vision of the LTP – note that in addition to this text, there were a series of Vision Graphics as depicted in Core Strategy and this included graphics relating to a Vision for Places.

"*Using the big ideas of the people and businesses of the West Midlands, we will show the world how we reimagined and decarbonised our transport system."*

Our choices will create safe, reliable and affordable connections for everyone that are healthy, sustainable and efficient. This will create great places where generations will thrive."

Within the lifespan of this plan it is not envisioned that people will stop using cars, but a key aim is to reduce distances and trips made by car, and the more we do this, the better we address our aims. However popular the car is, there are significant barriers to gaining access to one, including the costs of ownership, maintenance, insurance and gaining a driving licence. Similar issues apply to motorcycles. Whilst we expect private motor vehicles to play an important role in our future transport system, we still envision a system where everyone can thrive without a driving license and the need to own an expensive vehicle – a system that better caters for the 1 in 4 households in the West Midlands who do not have access to a car.

We have conceptualised what this could look like with our vision for 15 minute neighbourhoods within a 45 minute region. The vision is based on a combination of walking, wheeling and riding - travel options that require neither an expensive private vehicle or a full driving license.

It means that a good range of services in our neighbourhoods can be accessed by "walking or wheeling" in a round trip of no more than 15 minutes, and a good range of places across our region to undertake work, leisure and socialising can be accessed by "ride" modes within a 45 minute trip.

These modes will be supported by options to access cars and vans without owning a vehicle and underpinned by mobility hubs that bring transport services together to create transport interchanges with greater amenity.

By creating well-designed walkable and wheelable neighbourhoods with appropriate mixes of land uses, connected through high quality public transport, we can create more healthy, liveable communities.

This vision is not meant to be prescriptive; we recognise that everyone travels for different reasons, to different places and using different modes, and places themselves are different meaning that what works in one neighbourhood might not work in another. But it does represent something to aim for where everyone will have decent options to access what they need".

9.1.2. Motives for Change & associated LTP Objectives

The following five Motives for Change have been set out in the LTP. These Motives for Change are underpinned by eight Objectives that will provide a focus for the LTP and help to ensure investment outcomes are realised to deliver tangible benefits to the people of the West Midlands:

MOTIVE 1: SUSTAINING ECONOMIC SUCCESS

The West Midland has experienced strong economic growth and investment in recent years; we want to leverage transport to sustain this success and to ensure everyone can benefit and participate.

LTP Objective 1: Inclusive economy - We will inclusively grow our economy by reducing travel barriers in a way that reduces the economic costs of transport's externalities and maintaining the network, improves the

reliability of the network, improves the health of the workforce and levels up access to opportunities for those who are less mobile to enable a greater proportion in the economy.

LTP Objective 2: Mobility market transformation - We will support industrial transformation of the mobility sector to position West Midlands as a global leader in future transport creating a local transport market that enables innovation, development and deployment of transport products and services that best support Inclusive Growth

MOTIVE 2: CREATING A FAIRER SOCIETY

The way our urban environment has been retrofitted and developed to suit car-centric lifestyles has resulted in significant disparities in access. Those without access to a car have fundamentally less access than those who can access a car. There are particular groups who are much less likely to have access to a car, including younger people, women, those who are on lower incomes and those from ethnic minority backgrounds.

LTP Objective 3: Fair access - We will improve social mobility by improving equity of access to opportunity by ensuring everyone, regardless of personal circumstance, has safe, usable and affordable travel choices that enable them to prosper.

LTP Objective 4: Fair impacts - We will reduce the negative external effects of transport on people's health and wellbeing by improving road safety, reducing air pollution, and reducing noise.

MOTIVE 3: SUPPORTING LOCAL COMMUNITIES AND PLACES

As traffic and car ownership have increased, motor vehicles have increasingly taken over the function of streets and the space available on them. This has harmed the quality of places and limited opportunities to use streets for wider functions that deliver greater social and economic value to communities.

LTP Objective 5: Local access - We will strengthen local communities and economies by improving local sustainable travel connectivity and removing severance within and between neighbourhoods by sustainable means to provide better access to local opportunities

LTP Objective 6: Streets for communities - We will strengthen communities by reducing the dominance of motorised transport in local neighbourhoods to enable repurposing of streets.

MOTIVE 4: BECOMING MORE ACTIVE

Making our region more safe and convenient for walking and cycling by shifting shorter journeys (and making more local trips) is an opportunity to sustain healthier habits and support local economies. This will require providing a street environment where people feel safe with direct and convenient routes for travel without a car.

LTP Objective 7: Physically active - Enable safe, convenient and accessible walking and cycling opportunities, to increase active travel for whole journeys and as part of journeys, improving the health, wellbeing and productivity of people today as well as leaving a healthy legacy for future generations.

MOTIVE 5: TACKLING THE CLIMATE EMERGENCY

The Paris Agreement commits the UK to achieving net-zero carbon emissions by 2050. There is evidence that suggests we need to act quicker to avert climate change, so the West Midlands and many local authorities have set more ambitious targets. WMCA has adopted an ambition for the region to be net zero by 2041. Transport accounts for a large proportion of greenhouse gas emission across the region, and therefore successfully reducing emissions from this sector will be imperative. A lot of work is needed to change the way we travel and push towards greater electrification of our transport sector. Given the time that this will take, early momentum and action will be key to helping WMCA reach its net zero target.

LTP Objective 8: Transport Decarbonisation: We will protect the future of our own community as well as communities around the world from the effects of climate change by rapidly reducing transport carbon emissions at a rate consistent with WM2041.

The LTP also sets out that in order to meet the above Objectives, there is a requirement to achieve the following three transport system outcomes:

- Reduction in the number of vehicle kilometres travelled
- Reduction in the carbon emissions of each vehicle kilometre
- Improvements to accessibility (triple access planning)

All of the above elements have been tested for Compatibility with the following ISA Objectives:

1. Protect and Improve air quality
2. Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain
5. Protect and enhance sites designated internationally for nature conservation purposes
6. Protect, enhance and promote geodiversity
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity
9. Protect and enhance the water environment
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources
11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated
12. Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands
14. Improve health and well-being for all citizens and reduce inequalities in health
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society
16. Promote community safety and reduce crime and fear of crime for all citizens

9.2. Compatibility Assessment findings

In this compatibility assessment, the following scoring scheme is used to summarise compatibility:

√	Broadly Compatible
X	Potential Conflict
?	No sufficient detail provided to ascertain compatibility
NR	Not Relevant / No Relationship

The results of the assessment are summarised in the following table, and a discussion of the results then follows. Full assessment tables are provided in Appendix A to this Technical Note.

Table 9-1 - Compatibility Assessment Overview

	Elements of LTP4 subject to Compatibility Assessment	ISA Objectives: Protect and Improve air quality	Reduce carbon dioxide (CO_2) emissions from transport and contribute to meeting net zero carbon targets	Increase resilience of the transport network to the effects of a changing climate, including through reducing the	Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and	Protect and enhance sites designated internationally for nature conservation purposes	Protect, enhance and promote geodiversity	Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains	Protect and enhance the character and quality of landscapes, townscapes and visual amenity	Protect and enhance the water environment	Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil	Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and	Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all	Support the wider coordination of land use, energy planning and transport planning across the West Midlands	Improve health and well-being for all citizens and reduce inequalities in health	Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Promote community safety and reduce crime and fear of crime for all citizens
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Vision	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	Sustaining Economic Success	?	?	?	?	?	?	?	?	?	?	?	✓	?	✓	✓	?
2	Creating a fairer society	✓	✓	NR	✓	NR	NR	NR	NR	NR	NR	?	✓	?	✓	✓	✓
3	Supporting local communities and places	✓	✓	?	?	?	?	?	?	?	?	?	✓	?	✓	✓	✓
4	Becoming more active	✓	✓	?	✓	✓	?	?	?	?	?	✓	✓	?	✓	✓	✓
5	Tackling the climate emergency	✓	✓	✓	✓	✓	✓	✓	NR	✓	NR	✓	NR	✓	✓	NR	✓

✓	Broadly Compatible
X	Potential Conflict
?	Dependant upon nature of implementation measures
NR	Not relevant / No relationship

Overall, the results of the assessment indicate that there is a good degree of compatibility in a number of key elements.

Vision

The Vision is broadly compatible with ISA Objectives 1 to 5 and 7 to 16.

MOTIVE 1: SUSTAINING ECONOMIC SUCCESS

This Motive and its related Objectives are broadly compatible with ISA Objectives 12, 14 and 15.

MOTIVE 2: CREATING A FAIRER SOCIETY

This Motive and its related Objectives are broadly compatible with ISA Objectives 1, 2, 4, 12, 14, 15 and 16.

MOTIVE 3: SUPPORTING LOCAL COMMUNITIES AND PLACES

This Motive and its related Objectives are broadly compatible with ISA Objectives 1, 2, 12, 14, 15 and 16.

MOTIVE 4: BECOMING MORE ACTIVE

This Motive and its related Objectives are broadly compatible with ISA Objectives 1, 2, 4, 5, 11, 12, 14, 15 and 16.

MOTIVE 5: TACKLING THE CLIMATE EMERGENCY

This Motive and its related Objectives are broadly compatible with ISA Objectives 1, 2, 3, 4, 5, 6, 7, 9, 11, 13, 14 and 16.

No areas of potential conflict have been identified in any of the examined elements of LTP5, though it should be noted that the nature of LTP5 may result in development of transport infrastructure. This type of development will have clear implications for the spatial and environmental context in which it takes place and LTP5 needs to clarify how potential impacts can be addressed, across the full range of sustainability (economy, environment and society). This clarity should be provided as part of LTP5 further development as appropriate.

The assessment also found that there were a number of areas with a degree of uncertainty as to the compatibility of the elements of the LTP5 and the ISA Objectives. These areas offer the potential to be compatible, but further development of the LTP5 content, including Vison and Motives for change and related Objectives as policies is required to ensure compatibility is attained.

Table 9-2 - Identified potential areas of uncertainty

LTP5 element	ISA Objectives for which compatibility is dependent upon further development of LTP5 content
Vision	Not applicable
Motive 1: Sustaining economic success	ISA Objective 1 Protect and enhance air quality ISA Objective 2 Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets ISA Objective 3 Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding ISA Objective 4 Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain ISA Objective 5 Protect and enhance sites designated internationally for nature conservation purposes ISA Objective 6 Protect, enhance and promote geodiversity ISA Objective 7 Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings ISA Objective 8 Protect and enhance the character and quality of landscapes, townscapes and visual amenity

	ISA Objective 9 Protect and enhance the water environment ISA Objective 10 Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources ISA Objective 11 Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated ISA Objective 13 Support the wider coordination of land use, energy planning and transport planning across the West Midlands ISA Objective 16 Promote community safety and reduce crime and fear of crime for all citizens
Motive 2: Creating a fairer society	ISA Objective 11 Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated ISA Objective 13 Support the wider coordination of land use, energy planning and transport planning across the West Midlands
Motive 3: Supporting local communities and places	ISA Objective 3 Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding ISA Objective 4 Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain ISA Objective 5 Protect and enhance sites designated internationally for nature conservation purposes ISA Objective 6 Protect, enhance and promote geodiversity ISA Objective 7 Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings ISA Objective 8 Protect and enhance the character and quality of landscapes, townscapes and visual amenity ISA Objective 9 Protect and enhance the water environment ISA Objective 10 Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources ISA Objective 11 Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated ISA Objective 13 Support the wider coordination of land use, energy planning and transport planning across the West Midlands
Motive 4: Becoming more active	ISA Objective 3 Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding ISA Objective 6 Protect, enhance and promote geodiversity ISA Objective 7 Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings ISA Objective 8 Protect and enhance the character and quality of landscapes, townscapes and visual amenity ISA Objective 9 Protect and enhance the water environment ISA Objective 10 Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources

	ISA Objective 13 Support the wider coordination of land use, energy planning and transport planning across the West Midlands
Motive 5: Tackling the climate emergency	No areas of uncertainty identified

Note that in relation to the Vision, no relationship with ISA Objective 6 was identified.

Note that in relation to Motive for Change 2 and LTP Objectives 3 and 4, no relationship with ISA Objectives 3, 5, 6, 7, 8, 9 and 10 was identified. This is due to this Motive for Change and its related Objectives being concerned with 'Creating a fairer Society' and no relationship to a range of ISA Objectives focused on environmental issues was identified and there are no expectations for this objective in that regard.

In relation to Motive for Change 5 and LTP Objective 8, no relationship with ISA Objectives 8, 10, 12, and 15 was identified. No expectations are made for those ISA Objectives were no relationship was identified, as this motive is concerned with 'tackling the climate emergency'.

In many cases, the uncertainty of outcome is driven by the nature of the LTP5 itself. It is likely, and to be expected, that the nature of LTP5 and its Motives for Change and their associated Objectives will potentially ultimately result in heavy engineering and construction, or schemes with a large footprint, along with the spatial and planning context in which these will take place. These types of activities have the potential for both negative and positive outcomes. In general areas of uncertainty of compatibility relate for the most part to the environmental issues as follows:

- resilience of the transport network to a changing climate;
- biodiversity and geodiversity, as well as sites designated for nature conservation;
- landscapes and townscapes;
- cultural heritage and its settings;
- the water environment;
- soil, agricultural resource and contaminated land;
- the use of natural resources, maximising recycling and use of secondary materials and reducing waste.

Outcomes to these areas will depend upon the Policy framework and approach to mitigation that the LTP5 sets for implementation and a number of recommendations were made to ensure more 'complete coverage' of ISA Objectives: For the most part, it was considered that additional elements could be added to the Motives for Change and associated Objectives to address the full range of sustainability – this would help ensure that considerations of sustainability are fully embedded in all aspects of the LTP. However, it was also considered that the LTP and the understanding of how it interacts with Sustainability could also benefit from a specific section and detailed text relating to Sustainability as a whole, but in particular those environmental aspects where there is clear uncertainty of outcome at present.

9.3. Compatibility Assessment Conclusion (November 2021 version)

In conclusion, the results of the compatibility assessment indicated that the LTP5 Vision and Motives for Change and their associated Objectives provided a generally firm underpinning to help ensure that the sustainability performance of the plan could be maximised. However, some areas of potential uncertainty remained, in particular relating to the environment. However, it was considered that incorporating to the developing LTP5 greater clarity on how these issues will be addressed would ensure that these elements are in alignment with the requirement to ensure sustainability is fully incorporated to the LTP.

9.4. Compatibility Assessment (January 2022 version)

Further consideration was made of the Vision and the LTP Motives for Change and associated LTP Objective contained within the January 2022 version of the LTP to ensure that these elements remained broadly as assessed. This further consideration was undertaken in order to note how recommendations made as part of the Compatibility Assessment were addressed within the fully developed Core Strategy.

9.4.1. Vision

Only minor amendments relating mainly to presentation have been made to the Vision in order to aid understanding. As such, it is considered that the results of the Compatibility Assessment in respect of the Vision remain applicable.

9.4.2. Motives for Change and associated LTP Objectives

No amendments have been identified to the Motives for Change or associated LTP Objectives from those considered through the Compatibility Assessment. All recommendations made have been addressed through further development of LTP policy as follows:

Table 9-3 - Compatibility recommendations and how addressed

LTP element	Overview and Recommendations	How were recommendation addressed?
General Outcomes	Provide greater, yet succinct, clarity on how LTP5 can interact across the three elements of sustainability (economy, environment and society). Ideally this would be throughout the LTP, so that it is understood that all elements are to be undertaken within a wider sustainability framework.	While aspects relating to the three elements of sustainability are addressed throughout the LTP Core Strategy, clear note is made within a specific section that sustainability will be a key element throughout plan implementation. This notes that where intervention takes place, measures will be subject appropriate levels of assessment, including HIA, EqIA, HRA and EIA etc. Close working partnerships will also be made with relevant organisations etc. These elements provide confidence of ongoing consideration of sustainability.
Vision	The Vision provides reference to the need for healthy and sustainable connections in general terms and notes elements relating to safety and ensuring that there is a transport system that will allow everyone without a driving licence to thrive. No recommendations were made.	Not applicable – it is considered that the need to protect and enhance the built and natural environment, as well as health and wellbeing is inherent in this vision.
Motive 1: Sustaining economic success	It is clear that this Motive for Change and associated Objectives are clearly linked to the economic aspects of sustainability and it is anticipated that these could lead to an increase in traffic volumes and a need for new infrastructure, with corresponding implications for the ISA Objectives related to the environment and society. These outcomes are dependent upon the nature of implementation measures taken. Specific recommendations relate to ensuring that the LTP notes the need to protect and enhance air quality, Biodiversity, geodiversity, the historic environment, landscape and townscape, the water environment, soil and agricultural resources, remediate contaminated land, minimise resource use and	Within the specific section relating to how sustainability will be a key element throughout plan implementation, it is made clear that environmental, social and economic assets must be protected and improved. Issues to consider are included under the headings of Pollution, resilience, Historic and Cultural Assets, Natural resources and social issues. Note is also made of the need for appropriate levels of assessment to be undertaken such as HIA, EqIA, HRA and EIA, with additional guidance provided by HM Treasury Green Book and DfT Transport Appraisal Guidance. Specific note is made that Environmental Management Plans (EMPs) will be prepared and implemented for all construction, refurbishment and maintenance contracts and will include the findings and suggested mitigation from any assessment made. The EMPs will consider material resource use, energy use, and other environmental issues relevant to the scheme, and will explain how risks and impacts will be mitigated, managed and addressed. Specific note is also made that there will be a presumption in favour of working with partners to

	note the need for wider coordination in respect of planning.	make net improvements to the local environment wherever possible and, as a minimum, TfWM will always follow the policies set out in this LTP to take every opportunity to protect and enhance the environment.
Motive 2: Creating a fairer society	This Motive for Change and associated Objectives is clearly linked to the social aspects of sustainability and performs broadly well where a relationship to the ISA Objectives has been identified. No specific additional recommendations were made as it is anticipated that these aspects will be thoroughly addressed within the LTP.	Not applicable
Motive 3: Supporting local communities and places	This Motive for Change and associated Objectives is also clearly linked to the social aspects of sustainability, though it is anticipated that implementation of these would lead to the need for new infrastructure, with corresponding uncertainty in respect of environmental aspects. Specific recommendations relate to ensuring that the LTP notes the need for climate resilience in the transport network. In addition, it was recommended that the LTP note that design of all transport infrastructure should consider biodiversity and sites designated for nature conservation and geodiversity, as well as the historic environment, the water environment, soil and agricultural resources, remediation of contaminated land and prudent use of resources.	Within the specific section relating to how sustainability will be a key element throughout plan implementation, specific note is made that scheme design will proactively consider environmental protection from the earliest stage. In addition, it is made clear that all of those issues will be considered at each step of the decision making process i.e. through plan making, optioneering and selection, design and material choices, procurement and construction, through to operation, maintenance and decommissioning. Specific note is also made of the need to consider resilience, including in respect of flooding and drainage and climate change adaptation.
Motive 4: Becoming more active	As with Motive for Change 3, this Motive for Change and associated Objectives is also clearly linked to the social aspects of sustainability, though it is anticipated that implementation of these would lead to the need for new infrastructure, with corresponding uncertainty in respect of environmental aspects. Specific recommendations relate to ensuring that the LTP notes the need for climate resilience in the transport network. In addition, it was recommended that the LTP note that design of all transport infrastructure should consider geodiversity, as well as the historic environment, landscape and townscape, the water environment, soil and agricultural resources, remediation of	Within the specific section relating to how sustainability will be a key element throughout plan implementation, specific note is made that scheme design will proactively consider environmental protection from the earliest stage. In addition, it is made clear that all of those issues will be considered at each step of the decision making process i.e. through plan making, optioneering and selection, design and material choices, procurement and construction, through to operation, maintenance and decommissioning. Specific note is also made of the need to consider resilience, including in respect of flooding and drainage and climate change adaptation.

	contaminated land and prudent use of resources.	
Motive 5: Tackling the climate emergency	It is considered that this Motive for Change and associated Objective is of limited scope (specifically to the climate emergency), though the nature of a changing climate has clear implications for many aspects of sustainability – particularly environmental and social. While it is considered that this Motive for Change and associated Objective are broadly compatible, it was considered that the LTP could be strengthened in terms of how it references the need for the transport network to be resilient to a changing climate and extreme weather events, including flooding – it is to be recognised that such issues will remain, despite reducing emissions as a certain degree of climate change is inevitable.	Specific note is made within the section relating to how sustainability will be a key element throughout plan implementation of the need to consider resilience, including in respect of flooding and drainage and climate change adaptation.

9.5. Compatibility Assessment conclusion (January 2022 version)

The review of the January 2022 version of the LTP Core Strategy confirmed that the conclusions drawn in respect of the November 2021 version remain. This compatibility assessment showed that the LTP5 Vision and Motives for Change and their associated Objectives provide a generally firm underpinning to help ensure that the sustainability performance of the plan can be maximised. Through addressing the recommendations made, specifically by including a new section on 'sustainability throughout plan implementation', clear linkages are made between the Motives for Change and associated LTP objectives and provides detail, context and confidence on how sustainability will be implemented throughout the lifespan of the LTP.

10. Assessment of LTP

10.1. Introduction

This section predicts and evaluates likely significant effects arising from the policy proposals in the LTP (drafts November and December 2021), notes recommendations in order to address shortfalls identified during the assessment and then considers the amendments made by SCC to address the recommendations (publication draft January 2022).

Contained within the LTP are a series of policies (denoted as Actions entitled 'Big Moves') which aim to ensure that the Vision and LTP Objectives that have been set out are achieved within the LTP Framework of 'Avoid, Shift and Improve'. The policies were considered as set out in Table 10-1, which also contains a brief overview of the Policy.

10.2. LTP Policy Areas

As noted in the LTP, policy areas have been identified in terms of the main categories of 'Avoid, Shift and Improve':

Avoid

- Making Behaviour Change happen
- Supporting inclusive growth of new developments

Shift

- Connecting our places via public transport and shared mobility
- Healthy streets and places to walk, cycle, ride and scoot

Improve

- Creating resilient networks
- Delivering a green revolution

Table 10-1 - LTP Policy Areas Overview

'Big Move' Policy Area	Overview
Making Behaviour Change happen	It is considered that Behaviour change should be at the heart of the LTP – it is essential to help deliver against carbon reduction targets but also to help make progress against wider motives for change and objectives. All of the interventions being set out in the LTP are aimed at improving the transport network and ultimately supporting behaviour change but these in isolation won't be enough. Critical elements include providing people with informed transport choices, as well as managing demand, both in terms of placemaking and traffic management. There is also a recognised need for engagement with stakeholders.
Supporting inclusive growth of new developments	Creating good, sustainable access to opportunities is critical to help deliver inclusive growth. Significant amounts of new housing and employment development is required in the metropolitan area and surrounding areas to accommodate the growth currently forecast. Transport investment will be a key catalyst for growth and regeneration. Critical considerations will include digital connectivity, promoting sustainable and accessible development, as well as supporting development with transport infrastructure.
Connecting our places via public transport and shared mobility	A safe, convenient, affordable and accessible public transport system is essential for enabling people to travel beyond their local neighbourhood without a car. This policy area addresses these issues through consideration of better public transport services, new shared mobility services and 'One Network', which sets out to show that A public transport network can offer more to citizens than the sum of its component parts

	where services are better planned and citizens do not face penalties for moving between services and operators.
Healthy streets and places to walk, cycle, ride and scoot	TfWM want to deliver a step change in the way people travel, to encourage a greater proportion of trips to be made by walking, cycling, riding or scooting. This is because active modes and micro-mobility provide significant benefits to people and their local streets and communities and are the most sustainable forms of transport. This policy area sets out how the LTP will enable people to cycle, ride and scoot. This policy area also sets out the approach to having quiet and safe local streets, as well as delivering the Starley Network (network of cycling and walking routes).
Creating resilient networks	It is recognised that streets and roads are the most important piece of transport infrastructure we have. Most trips take place on them whether it is by foot, bike, wheeling, micromobility, public transport or by car. Our streets and roads are also places, from local neighbourhood roads to busy high streets, they play different roles in the lives of people and businesses. The Key Route Network is of particular importance. This policy area sets out the approach to 'keeping things moving', 'maintaining our network' and 'developing the network'.
Delivering a green revolution	Delivering a green revolution through the LTP means partnership working between the public and private sector to leverage the transport system to enhance the built and natural environment, in a way that stimulates local industry to produce the products and services that support inclusive growth. This policy area sets out the approach to assisting the switch to zero emission vehicles, working with businesses to innovate and export future mobility solutions and using the transport system to enhance and protect the environment.

10.3. Assessment of policies

The policies have been assessed against the ISA Objectives using the following significance scale:

Terms		Effects					Assessment	
		Mag	Scale	Dur	T/P	Cert	Scale	Category
Mag	Magnitude	✓✓	Local	ST-MT	Temp	Low	**+++**	Large beneficial
Scale	Geographic Extent	✓	Local-Reg	ST-LT	Perm	Med	**++**	Moderate beneficial
Dur	Duration	-	Reg/Nat	MT-LT		High	**+**	Slight beneficial
T/P	Temporary / Permanent	?		ST			**0**	Neutral
Cert	Certainty	×		MT			**-**	Slight adverse
ST	Short Term	××		LT			**--**	Moderate adverse
MT	Medium Term						**---**	Strong adverse
LT	Long Term						**?**	Uncertain
Sm	Summary assessment						**+/-**	Combination of beneficial and adverse

The Policies have been assessed against the following ISA Objectives:

1. Protect and improve air quality
2. Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon targets
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain
5. Protect and enhance sites designated internationally for nature conservation purposes
6. Protect, enhance and promote geodiversity
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity
9. Protect and enhance the water environment
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources

11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated
12. Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands
14. Improve health and well-being for all citizens and reduce inequalities in health (HIA specific objective)
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society (EqIA specific objective)
16. Promote community safety and reduce crime and fear of crime for all citizens (CSA specific objective)

Consideration was also made of the series of safety, health and equalities sub-objectives:

Health

- Improve accessibility to health and leisure services and facilities and amenities for all
- Improve affordability of transport
- Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents
- Reduce severance
- Improve connections between and within communities
- Reduce air, noise, odour and light pollution from transport
- Improve access to active travel modes?
- Improve access to public transport

Equalities

- Improve accessibility to services, facilities and amenities for all, in particular by active travel modes
- Improve affordability of transport
- Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents
- Improve provision of public transport in rural areas or to those areas experiencing constraint in public transport provision
- Reduce severance
- Reduce air, noise, odour and light pollution from transport

Safety

- Improve safety on the transport network (including roads) and reduce the number of accidents and other incidents
- Improve actual and perceived safety and security issues

10.4. Assessment of draft policies (November – December 2021)

The following table provides an overview of assessment results. Full details are provided in Appendix A.

Table 10-2 - Overview of assessment results - December 2021

Core Strategy Element	ISA Objective															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
'Avoid' Policies																
Making Behaviour Change Happen	++	++	+/-	+	+	0	+/-	+	+	+	+	+	+	+	+	+
Supporting Inclusive Growth of new development	++	++	+/-	+/-	+/-	+	+/-	+/-	+/-	++	+/-	++	++	++	++	+
'Shift' Policies																

Core Strategy Element	ISA Objective															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Connecting Our Places	++ -	++ -	+/-	+/-	+/-	+/-	+/-	+/-	++ -	+/-	++ -	+++	+	++	++	?
Healthy Streets and Places	+++	+++	+/-	+/-	+/-	+/-	++	++	+	+/-	+/-	+	+	++	++	+
'Improve Policies'																
Creating Resilient Networks	++	++	+/-	+	+	+	++	++	+	+/-	+	++	+	++	++	+

It is to be noted that the policy area in respect of 'delivering a green revolution' was not assessed at this time as it was not fully developed.

Note should also be made that each policy area is assessed in 'its own right', via the ISA Objectives covering the sustainability elements of environment, health, equalities and safety. Due to the nature of these policy areas and how they are manifested in these areas of sustainability, the approach of assessing each component of the Plan means there is a certain amount of repetition in reporting of anticipated effects.

10.4.1. Making Behaviour Change Happen

The purpose of this policy area is to change behaviours and it notes how this may be done, as well as the difficulties involved. While no specific note is made of air quality or air pollution, it does note that behavioural change is at the heart of the strategy which will help deliver against carbon reduction targets, noting that an ever-growing demand for car travel is simply not sustainable. Note is also made that wider behaviour change will be required to ensure that transport emissions are reduced. Despite the political challenge, schemes such as the introduction or increase of parking charges at key destinations and in busy locations (and this could include Workplace Parking Levies or charges to encourage the use of cleaner vehicles e.g. permits or Clean Air Zones) were mentioned. In addition, campaigns to drive travel behaviours and choices, including the promotion of shared mobility options and switching to zero emission vehicles, were noted. In addition, it was further noted that this Big Move is at the heart of the LTP and will help make progress against the wider motives for change and objectives. This includes tackling the climate emergency with an objective of reducing transport carbon emissions at a rate consistent with WM2041. As such, it was considered that this policy area would provide a sound basis for beneficial effects in terms of improving air quality and the need to reduce pollution and carbon emissions. Reduction in pollution emissions and a general removal of cars from roads (through by example noted parking charges), with a shift to sustainable modes (shared mobility options and zero emission vehicles) would also likely have beneficial effects in terms of biodiversity (habitats and species, as well as sites designated for nature conservation purposes) through reduced pollution and disturbance. Reduced car usage etc. could also lead to beneficial effects on the water environment through reducing polluted runoff (including from tyre degradation) and reducing the chance of accidents from which water pollution could occur.

Delivery of this policy area would also result in some small scale public realm improvements. These could provide opportunities for biodiversity enhancements, as well as opportunities to implement SuDS / permeable drainage in local places. Similarly, there could be opportunities to provide planting that would enhance shade or reduce the effects of wind, to make temperature more comfortable. Improvements to Public Realm could also provide opportunities to remediate contaminated land, or help to facilitate the re-use of previously developed land. However, public realm improvements could also result in an increase in impermeable area and this could add to flood risk.

This policy area, with its approach to reducing car usage, increase public transport usage, increased active travel, parking control and providing public realm improvements, are anticipated to result in benefits to townscape by reducing congestion and improve the setting of cultural heritage assets, townscapes and landscapes. However, it is to be noted that there are also plans for new transport infrastructure, including for example the roll out of ZEV charging and fuelling infrastructure which have the potential to look incongruous in historic streetscapes or areas designated for townscape such as Conservation Areas. Nevertheless, managing demand effectively could also result in less requirement for large scale transport infrastructure such as roads which would be of benefit on a landscape scale. Reduction in large scale transport infrastructure requirements would also be of benefit in terms of conserving soil and agricultural resources. Though it is to be recognised that there is uncertainty over the scale to which demand management would reduce the need for large scale infrastructure.

Reduction in car usage and overall car numbers (for example through encouraging the use of Public transport and shared mobility and the use of ZEV's and discouraging the use of the car by introducing parking charges/levies) will reduce the use of hydrocarbons. Demand management may also reduce demand for new cars, resulting in less resource use and less waste.

It is noted that information is critical to helping people make the right decision. TfWM have pledged to develop stronger, more effective campaigns to drive public awareness of travel behaviours and choices using tools such as their traveller segmentation, online community engagement and further research to help create more targeted and impactful information. This will include more traditional information on public transport options but also start to promote the role of shared mobility options, switching to zero emission vehicles, improving driver behaviour and about alternatives to travel and accessing services and mobility options differently e.g. through mobility hubs. TfWM will continue to build on their Travel Demand Management programme to help more businesses better plan their use of the transport networks. All of these schemes are anticipated to improve access and connectivity within and across the region, as well as to neighbouring areas. This will help drive economic growth through for example, making it easier and potentially cheaper for staff to get to work or for customers to get to businesses.

This policy area notes that there will be discussions with other bodies such as the National Government, Midlands Connect and the National Infrastructure Commission, as well as Local Authorities through the Area Strategies. There will also be engagement with the public and other stakeholders as an essential part of the design and delivery of transport interventions (measures).

Health

It is anticipated that this policy area will help to deliver a mode shift to more sustainable modes and will help in changing habits to shop and live more locally, use online services more, cycle or walk more, use public transport through encouraging a more active lifestyle. Though it is noted that a variety of approaches to growing public awareness/ effective communications will be required to influence different sectors of the community. This improved awareness and accessibility would have benefits for all groups, but would be of less benefit to the elderly and those with certain disabilities.

No specific note is made to the need for affordability within this policy area, though it is noted that measures which affect or influence the cost of different forms of transport are an important part of the policy toolbox. Note is also made of a national Road User Charging (RUC) scheme being introduced which aims to change driving behaviour – this may have implications in terms of affordability, particularly for low income groups.

The policy area also points to charging schemes (parking charges, workplace parking levies etc) which can be used to deter the public from certain transport choices – these could have particular adverse effects on those who can least afford the charges. However, it is noted that these schemes in turn generate an income which can be used to support more improvements to sustainable modes of transport and this could potentially include elements for making transport more affordable.

A key element of this policy area is to help deliver an overall reduction in the number of cars on the road. In addition, it aims to increase the use of the public transport system which will also reduce congestion on the roads and will mean more journeys undertaken with the use of professional drivers. These elements will likely improve safety and reduce accidents.

Severance from facilities related to health, education and economic opportunities etc. will be reduced for all groups through the increased use of an enhanced Public Transport and general demand management across the region, which this policy area aims to help deliver. Reduced congestion would also potentially reduce the severance caused by large / busy roads and would be particularly beneficial to the young and the elderly, as well as those with certain disabilities.

The likely reduced congestion would also likely improve connections across the region. It will help both rural and urban areas, though benefits are most likely in local urban areas. Promotion will also be made of EVs (through increasing the charging network). This will likely result in reduced air, noise and odour pollution. Children and those with certain ailments would likely benefit most.

While it is considered that this policy area will result in health benefits, there are remaining concerns regarding affordability of transport due to the measures required. The policy area does recognise that not all of the "behaviour change we need will be the same for everyone. Some people can and should change their behaviours more and we will use our traveller segmentation and online communities to identify and develop effective comms and engagement approaches to help us to reach the right people in the right way".

Equalities

It is anticipated that this policy area will help to deliver a mode shift to more sustainable modes and will help in changing habits to shop and live more locally, use online services more, anticipated cycle or walk more, use public transport etc. Though it is noted that a variety of approaches to growing public awareness/ effective communications will be required to influence different sectors of the community. This improved awareness and accessibility would have benefits for all groups, but sustainable modes (anticipated to include active modes) would be of less benefit to the elderly and those with certain disabilities, or those who are heavily pregnant.

No specific note is made to the need for affordability within this 'Big Move', though it is noted that measures which affect or influence the cost of different forms of transport are an important part of the policy toolbox.

Note is also made of a national Road User Charging (RUC) scheme being introduced which aims to change driving behaviour – this may have implications in terms of affordability, particularly for low income groups. BAME groups and some people with disabilities would typically have lower incomes than the general population as a whole and as such may particularly experience adverse effects.

The policy area also points to charging schemes (parking charges, workplace parking levies etc) which can be used to deter the public from certain transport choices – these could have particular adverse effects on those who can least afford the charges. However, it is noted that these schemes in turn generate an income which can be used to support more improvements to sustainable modes of transport and this could include elements for making transport more affordable.

Improved information on public transport options will be provided and general information awareness raised and this will have benefits across the region, though it is unlikely that rural areas or those areas constrained in public transport provision will benefit in particular. Income derived from charging schemes could potentially be used to increase service provision but this is not made clear in this policy area.

Severance from facilities related to health, education and economic opportunities etc. will be reduced for all groups through the increased use of an enhanced Public Transport and demand management across the region, which this policy area aims to help deliver. Reduced congestion would also potentially reduce the severance caused by big roads and would be particularly beneficial to the young and the elderly, as well as those with certain disabilities.

No specific note is made to reducing air, noise, odour or light pollution from transport in this policy area. However, it does aim to help deliver through the changing behaviours that will likely lead to a reduction in congestion and overall vehicle use. Promotion will also be made of EVs (through increasing the charging network). This will likely result in reduced air, noise and odour pollution. Children and those with certain ailments would likely benefit most.

Safety

No specific mention is made to the need for a safe public transport system within this policy area. However, the policy area strives to help deliver an overall reduction in the number of cars on the road. In addition, it aims to increase the use of the public transport system which will also reduce congestion on the roads and will mean more journeys undertaken with the use of professional drivers. These elements will likely improve safety and reduce accidents

Reallocation of road space will also increase perception of safety, though consideration needs to be made that this might lull the unwary, particularly children into a false sense of security.

10.4.2. Making Behaviour Change Happen - recommendations

It is considered that the following recommendations for additional text / amendments to text will act to strengthen this policy area further, or provide greater clarity and understanding of implications for sustainability. Note that policy recommendations in relation to a particular objective may have benefits in relation to other objectives, or be best addressed through other policy areas, but the repetition is made here for clarity.

Table 10-3 - Making Behaviour Change Happen - Recommendations

ISA Objectives	Recommendations
1. Protect and improve air quality	No recommendations made.
2. Reduce carbon dioxide (CO2) emissions from transport and	No recommendations made.

contribute to meeting net zero carbon target	
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Note within detailed Policy that there is a requirement for any upgrade to Public realm to take opportunities to incorporate SuDS. Any planting in Public Realm should be of species native to the West Midlands and be resistant to changing climate conditions.
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain	Note within detailed Policy that there is a requirement for any upgrade to Public realm to take opportunities to increase Biodiversity e.g. through the planting of native pollinators.
5. Protect and enhance sites designated internationally for nature conservation purposes	No recommendations made.
6. Protect, enhance and promote geodiversity	N/A
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings	Within detailed policy, note should be made of the need for the roll out of the ZEV charging and fuelling infrastructure to ensure careful consideration of design and location for the ZEV network and any electronic signage required. Reference should also be made within detailed Policy that through working with Partners and other statutory bodies, such Historic England, TfWM will aim to minimise the impact of transport, including urban realm schemes, on heritage assets and protect and enhance the quality environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings and ensure that due regard is given to the need to undertake archaeological investigations.
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity	Within detailed Policy, note should be made of the need for detailed consideration of location and design of any new infrastructure or urban realm schemes. This could include consideration of materials and styles which are reflective of the vernacular architecture of the West Midlands. Opportunities to ensure that existing infrastructure is better integrated with its local visual environment should be taken where possible.
9. Protect and enhance the water environment	No recommendations made.
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	Note should be made in detailed Policy of the need to take opportunities to remediate contaminated land when improving Public Realm.
11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated	No recommendations made.
12. Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all	No recommendations made.
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands	No recommendations made.
14. Improve health and well-being for all citizens and reduce inequalities in health	Within detailed policy it is recommended that further consideration is made in relation to affordability. Note is already made on the introduction of road charges/parking levies etc to discourage certain behaviours and it is essential that careful consideration is given to ensuring that this does not impact on vulnerable

	groups such as those on a low income in a disproportionate fashion. Similarly, very careful consideration should be given to precise locations where measures such as parking charges are levied.
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Further exploration of issues relating to affordability should be made within detailed Policy to ensure that effects are equitably distributed. Similarly, further consideration should be given to ensure that people within rural areas and those areas with low levels of public transport provision are not subject to inequitable effects.
16. Promote community safety and reduce crime and fear of crime for all citizens	Specific note should be made within this 'Big Move' in relation to security and how it is being addressed this will be communicated to the public.

10.4.3. Supporting Inclusive Growth of new development

This policy area notes a number of areas which should lead to the protection and improvement of air quality, as well as a reduction in carbon emissions. For example, note is made of sustainable travel such as walking and cycling, as well as public transport and it is anticipated that an uptake of these modes should reduce reliance on private cars and as such reduce air pollution and carbon emissions. Note is also made of digital connectivity and how this can reduce the need to travel for work and it is anticipated reduce the need to travel for shopping etc and therefore reduce overall demand on the transport network and potentially reduce emissions.

Similarly, a reduction in car usage and a greater focus on walking and cycling and digital connectivity will reduce disturbance and pollution emissions (which could lead to a reduction in deposition), as well as direct road kill. This could directly and indirectly benefit individual species and habitats, as well as those wider areas designated for nature conservation. There may also be benefits to the water environment through a reduction in polluted runoff, as well as a reduced potential for spillage of hydrocarbons through accidents or during refuelling. However, there is also a potential that the transport investment that aims to be a catalyst for growth and regeneration could also result in adverse effects (direct and indirect) on habitats and species etc.as well as those sites designated for nature conservation. This could be through the potential for direct loss through encroachment, or through increased disturbance. There could also be an increase in pollution runoff.

A focus on brownfield land as the first priority in development could provide opportunities to implement SuDS (including permeable paving etc). This could potentially reduce overall site runoff, though it is to be recognised that there is also likely to be an increase in hardstanding / impermeable surfaces in other areas through providing transport infrastructure, or indirectly by supporting other general development. Concentrating on those areas where disturbance has taken place previously (through the promotion of a brownfield land first policy) would also potentially reduce the amount of greenfield land that is developed. This could have benefits for sites designated for geodiversity and will act to conserve soil and agricultural resources through reducing the need to develop on such areas / resources (though it is recognised within this policy area that there are questions regarding the quantum of development and the ability of that to be met by brownfield land. However, no note is made of the need to remediate contaminated land (though it is anticipated that this would be a requirement for development of many brownfield sites).

The setting of cultural heritage assets could also be enhanced through reduction in disturbance due to the brownfield land first approach, as well as the general reduction in car use and a greater focus on walking and cycling and digital connectivity. Reduced pollution overall may also help to protect historic monuments etc. Similarly, this policy approach (including its focus on digital connectivity) would likely reduce pressures on greenfield sites and provide opportunities to refurbish and regenerate existing assets and areas and this could potentially benefit landscapes and townscapes. However, there is also a potential that the transport investment that aims to be a catalyst for growth and regeneration could also result in adverse effects on the historic environment, archaeological remains, settings of monuments etc. as well as landscapes or townscapes.

The focus within this policy area of helping to enable development (transport investment will be a key catalyst for growth and regeneration) could have implications in terms of the use of finite natural resources. Similarly note is made of transport hubs and active travel which could require the use of natural resources to develop, or result in the generation of waste. However, clear note is also made of sustainable modes such as public transport and active travel and it is anticipated this would result in a reduction in the use of fuel. Opportunities could also be provided for the use of recycled or secondary materials.

There are clear linkages between this policy area and the need to help enable new housing and employment development. Note is made of targeted investment to act as a catalyst for growth and regeneration. Recognition is also made of some of the risks of getting this wrong. Emphasis is placed on digital connectivity and it is

recognised that there is a need to support communities and businesses in the West Midlands and it is also recognised that ways of doing business are changing. Access to employment and training opportunities will be enhanced through the recognised need for public transport and sustainable modes to service development areas. Access will also be provided by greater digital connectivity and cross reference is made to a Digital Roadmap to help achieve this – this roadmap recognises the potential of digital technology to transform the regional economy and build economic resilience.

Clear recognition is also made within this policy area of the importance of the planning process (and the need for complimentary land use Policy) to reduce the impacts of transport on communities and the environment. Note is made that guidance will be provided to developers, local planning authorities and communities with information to assist developers in implementing transport infrastructure and services and this will also set out how they can work with TfWM and Local Authorities to ensure the transport network is able to provide the support needed for developments to flourish and meet the wider needs of the West Midlands. A key element will be to encourage well-designed new developments which support mixed and sustainable communities with high levels of public transport usage as well as cycling and walking. Note is made within this policy area of the need to improve how new development is planned, designed and delivered (in a coordinated way alongside wider transport policy) to help minimise transport impacts and maximise the attractiveness and success of sustainable modes.

Health

Note is made within this policy area that active travel is a key element to be considered within new developments. Supporting Public Transport, in addition to walking and cycling will also be emphasised through careful design of developments. Increased support and opportunities for undertaking journeys using these modes would benefit all groups, though some groups such as the elderly, as well as those with certain disabilities may not be able to benefit as much as others.

Greater digital connectivity can remove the need to undertake some physical journeys and as such offers new ways of connecting with health e.g. virtual GP appointments and could bring benefits to members of all groups in terms of improving access to health services etc., or to undertake some shopping or to access other services. However, there are of course costs related to equipment and to use broadband services and it is vital to recognise that some individuals, perhaps particularly those from older groups, or those with hearing, sight or learning difficulties, those with limited English language skills and those from low-income groups may find such services more difficult to access or more difficult to fully realise the benefits that these can offer. Recognition that some households could become ore excluded and isolated is made within this policy area.

Provision of cycling and walking opportunities in new developments will allow for less reliance on private cars and would represent increased opportunities for more affordable journeys – particularly on a local level. Cyclists and pedestrians would benefit most, though the elderly and those with certain disabilities likely less so.

Clear note is made within this policy area that TfWM will seek to ensure that the cost of public transport, along with poor accessibility and availability are not prohibiting factors which prevents people moving into the region – this is anticipated to also benefit those within the area already and would likely particularly benefit those on low incomes.

Note is made within this policy area of the need to provide for safe transport choices, High levels of public transport, together with walking and cycling would provide opportunities to reduce volumes of traffic. Note is made of the need for well designed developments and it is anticipated this would include the separation of active travel routes from roads, or at the least, dedicated lanes. Digital connection would also help to reduce the number of journeys made. Together, these elements would likely help to improve safety by removing private cars from the road, with benefits across all groups. Children, cyclists and pedestrians would likely benefit most.

Good designed developments with high levels of public transport provision and opportunities for active travel modes would have improved connections between and within communities. The further roll out of digital connectivity would also help to improve connections across the region and beyond and allow for a greater (or more reliable level of services to be accessed online. Benefits would be experienced across all groups.

Such developments with high levels of public transport provision and opportunities for active travel modes, alongside greater digital connectivity would also likely result in improved air, noise and odour conditions for all groups. Children and those with certain ailments / disabilities would likely benefit most. There is a potential that light pollution may not improve, or may get worse in particular locations e.g. due to development of new infrastructure.

Clear note is made within this policy area of the need to encourage well-designed new developments which support mixed and sustainable communities with high levels of public transport. This will provide all groups within those new developments with improved access.

Equality

Note is made within this policy area that active travel is a key element to be considered within new developments. Supporting Public Transport, in addition to walking and cycling will also be emphasised through careful design of developments. Increased support and opportunities for undertaking journeys using these modes would benefit all groups, though some groups such as the elderly, those with certain disabilities may not be able to benefit as much as others.

Greater digital connectivity offers new ways of connecting with service providers and could bring benefits to members of all groups in terms of improving access to the required range of services and commercial opportunities. However, there are costs related to equipment and to use broadband services and it is vital to recognise that some individuals., perhaps particularly those from older groups, or those with hearing, sight or learning difficulties, those with limited English language skills and those from low-income groups may find such services more difficult to access or more difficult to fully realise the benefits that these can offer. Recognition that some households could become more excluded and isolated is made within this policy area.

Provision of cycling and walking opportunities in new developments will allow for less reliance on private cars and would represent increased opportunities for more affordable journeys – particularly on a local level.

Clear note is made within this policy area that TfWM will seek to ensure that the cost of public transport, along with poor accessibility and availability are not prohibiting factors which prevents people moving into the region – this is anticipated to also benefit those within the area already and would likely particularly benefit those on low incomes.

Note is made within this policy area of the need to provide for safe transport choices, High levels of public transport, together with walking and cycling would provide opportunities to reduce volumes of traffic. Note is made of the need for well designed developments and it is anticipated this would include the separation of active travel routes from roads, or at the least, dedicated lanes. Digital connection would also help to reduce the number of journeys made. Together, these elements would likely help to improve safety by removing private cars from the road, with benefits across all groups.

There is a clear focus on ensuring developments have high levels of public transport (plus guidance on this to developers will be provided), though this will be less applicable to rural areas.

This policy area will result in the provision of walking and cycling along with public transport and this will provide opportunities to reduce severance. For example, a focus on ensuring that cost of public transport and poor accessibility will act to reduce severance for a greater range of people. It is also anticipated that reducing severance would be a key consideration in the design of new developments. Severance will also be reduced via greater digital connectivity, allowing people better opportunities to access services online. It is to be noted (and is recognised within the policy area) that not all will be able to take full advantage of this e.g. through lack of digital skills or access to equipment and there is a risk that inequalities could widen.

Good designed developments with high levels of public transport provision and opportunities for active travel modes, alongside greater digital connectivity would likely result in improved air, noise and odour conditions for all groups. Children and those with certain ailments / disabilities would likely benefit most. There is a potential that light pollution may not improve, or may get worse in particular locations e.g. through development of new infrastructure.

Safety

Note is made within this policy area of the need to provide for safe transport choices, high levels of public transport, together with walking and cycling and these would provide opportunities to reduce volumes of traffic. Note is made of the need for well designed developments and it is anticipated this would include the separation of active travel routes from roads, or at the least, dedicated lanes. Digital connection would also help to reduce the number of journeys made. Together, these elements would likely help to improve safety by removing private cars from the road, with benefits across all groups.

Greater digital connectivity will reduce the need for physical journey's to access services, though there is a potential that people may become more vulnerable to fraud. This would be a risk across all groups though those with less digital skills may prove to be more vulnerable, though this aspect is largely outside the scope of the LTP.

10.4.4. Supporting Inclusive Growth of new development – recommendations

It is considered that the following recommendations for additional text / amendments to text will act to strengthen this policy area further, or provide greater clarity and understanding of implications for sustainability. Note that policy recommendations in relation to a particular objective may have benefits in relation to other objectives, or be best addressed through other policy areas, but the repetition is made here for clarity.

Table 10-4 - Supporting inclusive growth of new development - Recommendations

ISA Objectives	Recommendations
1. Protect and improve air quality	No recommendations made.
2. Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon target	No recommendations made.
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Note should be made in detailed Policy that design of transport infrastructure e.g. of public transport hubs should incorporate SuDS as well as green infrastructure and natural flood management. Design should also include for planting of native species that will provide shade, or help act as windbreaks.
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain	Note within detailed Policy of the need to protect and enhance habitats and species etc., as well as encourage the use of native species in any planting, in addition to taking opportunities for Biodiversity gain, for example through planting wildflowers that can act as pollinators.
5. Protect and enhance sites designated internationally for nature conservation purposes	Habitats Regulation Assessment should be carried out in light of precise details of any transport intervention, including consideration of its location. This approach should be set out within detailed Policy.
6. Protect, enhance and promote geodiversity	N/A
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings	Note should be made in detailed Policy that design should recognise and reflect the historic setting of areas or individual assets, as well as the need to protect archaeological remains etc. Opportunities should be taken to reuse or rejuvenate historic buildings if appropriate.
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity	Note should be made in detailed Policy that design should recognise and reflect the need to protect landscapes, townscapes and visual amenity. Where possible, design e.g. of public transport hubs should recognise the vernacular architecture of the West Midlands where appropriate and be in accordance with local design guides.
9. Protect and enhance the water environment	Note should be made within the detailed Policy of the need to protect and enhance the water environment from the effects of transport. This should include the use of SuDS where possible and the need to comply with the aims and Objectives of the Water Framework Directive.
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	Ensure that detailed Policy notes the need to take opportunities to remediate contaminated land (including the removal of invasive species etc.). This detailed Policy should also note that if any new areas of soil or agricultural areas are required to be developed (which is likely given the need for development land), that measures will be taken to protect soils where possible, particularly those areas which are considered to be Best and Most Versatile.
11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated	Note in detailed Policy that the development of all transport infrastructure, including design of public transport hubs should consider use of recycled materials and reduced waste generation.

12. Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all	No recommendations made.
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands	No recommendations made.
14. Improve health and well-being for all citizens and reduce inequalities in health	No recommendations made.
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	No recommendations made.
16. Promote community safety and reduce crime and fear of crime for all citizens	Note should be made within the detailed Policy that the aspect to upskill people in digital skills should include consideration of online security.

10.4.5. Connecting our places

This policy area provides a clear focus on a safe, convenient, affordable and accessible public transport system and it is intended that there will be more frequent, quicker and reliable services. Greater priority will be given to buses on highways. There will also be better integration of services, with better interchange facilities, alongside improved ticketing offers. As such, this will help to attract people out of their cars and onto public transport. This alongside measures such as shared mobility services such as car clubs, escooters and bike share, along with EV charging points located at mobility hubs, are anticipated to reduce the numbers of cars on the roads and as such reduce air pollution and carbon emissions and likely lead to an improvement in air quality and contribute to meeting net zero targets.

It is noted that there may be a need for investment in new road capacity in highways and rail infrastructure, as well as the development of mobility hubs and new rail stations – this could potentially lead to an increase in impermeable area that would lead to greater amounts of runoff and therefore increase flood risk. However, this may also provide an opportunity to introduce SuDS and provide opportunities to increase permeable areas. Reduction in car usage and overall car numbers (for example through encouraging the use of Public transport and the use of EV's) will reduce the potential for polluted runoff (including from tyre degradation) as well as reduce potential for spillage of hydrocarbons through accidents or during refuelling. While the development of new infrastructure would potentially result in pollution during construction and operation, the implementation of SuDS (particularly at as early a stage in project implementation as possible) could also help to address such issues.

Increased infrastructure could also lead to encroachment onto areas of soil or agricultural resources, in addition to habitats and result in increased disturbance to species or habitats, as well as those areas designated for nature conservation (depending upon location). However, improvements in air quality may provide general benefits (through reduced pollution deposition for example) and a general reduction in road traffic noise (through the general reduction in traffic volumes) could reduce disturbance to habitats and designated areas.

While encroachment of new infrastructure could impact sites designated for geodiversity (depending upon location), connecting places via public transport (the aspiration behind this policy area) may also provide opportunities to promote geodiversity e.g. by providing opportunities to people to visit the Black Country Geopark.

Reduced levels of traffic through a better concentration on public transport, alongside the uptake of EVs (facilitated by an improved charging network), would be expected to reduce road traffic noise and reduce congestion. This could act to improve the setting of cultural heritage assets, townscapes and landscapes and improve visual amenity. However, there are also noted plans for the roll out of the EV charging network and these facilities have the potential to look incongruous in historic streetscapes or areas designated for townscape such as Conservation Areas. Investment in new infrastructure such as mobility hubs or stations, within a landscape or townscape could impinge on visual amenity, though careful location and design could

address such issues. This policy area will also provide opportunities to redevelop existing infrastructure and provide an updated or enhanced design, as well as address areas of contamination or invasive species. Greater use of EV may also help to prevent future contamination events by removing hydrocarbons.

Reduction in car usage and overall car numbers (for example through encouraging the use of public transport and the use of EV's) will reduce the use of hydrocarbons. Supporting and growing the use of shared mobility car clubs and micro-mobility options may also reduce demand for new cars, resulting in less resource use and less waste. However, it is noted that investment in highway and rail infrastructure could take place. This would require resource use and likely result in some wastage, though it would also provide opportunities to replace existing facilities with more energy efficient facilities.

As noted in the LTP, a safe, convenient, affordable and accessible public transport system is essential for enabling people to travel beyond their local neighbourhood without a car. Investment in better Public Transport Services, new shared mobility services, better and more integrated ticketing options, micro-mobility options to allow better last mile solutions and providing for those in more rural regions will all help to provide better connectivity within and across the region, as well as to neighbouring areas. This will help drive economic growth through for example, making it easier and potentially cheaper for staff to get to work or for customers to get to businesses. There would also be more transport options for people to access jobs and skills. Better and more efficient infrastructure may also make doing business easier e.g. by reducing congestion and will potentially help to attract inward investment.

This 'Big Move' notes the need to improve integration of public transport by investing in better interchange facilities, as well as exploring how governance changes could enable TfWM to better influence service planning and network design. This will also involve consideration of the EV network and how this is best provided such as through locating EV charging at interchanges.

Health

Increased access to public transport and enhanced services will improve access to health and leisure facilities for a greater range of people. Note is made that this would include subsidies for the most socially necessary public transport services. Access to bike share schemes will also provide health benefits, as well as help to increase access, though this would be of less benefit to the elderly and those with certain disabilities. However, note is made of the 'Ring and Ride' service for those who need extra help.

Clear note is made within this policy area of the need for affordability. Note is made of ensuring subsidies for the most socially necessary public transport services and this will likely mean that transport in those areas will be cheaper than it otherwise might be. Bike and car share schemes, along with best value ticketing offers and encouraging people to move away from private car ownership can also reduce costs and make travel more affordable to a greater range of people.

The need for a safe public transport system is noted within this policy area. The use of public transport and measures to encourage and ensure safer conditions for walking and cycling will also help to reduce congestion on the roads and will mean more journeys undertaken with the use of professional drivers (such as bus and taxi drivers). These elements will likely help to reduce traffic, improve safety and reduce accidents. However, there is a clear focus on the use of micro-mobility such as bikes and e-scooters and these could potentially lead to conflict with other transport network users (pedestrians as well as car drivers). Children and adolescents may be particularly vulnerable in terms of bike and scooter use. Those members of the community who are already used to using bikes will benefit most.

Severance from facilities related to health, education and economic opportunities etc. will be reduced for all groups through the provision of enhanced public transport and micro-mobility connections across the region. Reduced congestion would also potentially reduce the severance caused by busy roads and would be particularly beneficial to the young and the elderly, as well as those with certain disabilities. However, note that the issue of severance would need to be considered in the design of any new transport infrastructure. Opportunities could be taken within any upgrading of facilities to reduce severance.

This policy area will result in enhanced public transport and micro-mobility connections across the region. It will help both rural and urban areas. Investment in both road and rail will also increase connectivity, to the benefit of all, including those for whom a private car will remain essential.

This policy area will result in enhanced public transport and micro-mobility connections that will likely lead to a reduction in congestion and overall vehicle use. Promotion will also be made of EVs (through increasing the charging network). This will likely result in reduced air, noise and odour pollution. New infrastructure though could lead to increased levels of light pollution, though it would also provide opportunities to address all these pollution types through improved / refurbished facilities.

This policy area will result in enhanced micro-mobility connections such as bikes and this would improve access to active travel modes. Opportunities for further promotion of such modes could be made at new Mobility Hubs / Interchange facilities.

Equality

Increased access to public transport and more shared mobility services will improve access to health and leisure facilities for a greater range of people. Note is made that this would include subsidies for the most socially necessary public transport services. Access to bike share schemes will also provide health benefits, as well as help to increase access, though this would be of less benefit to the elderly and those with certain disabilities, or those who are heavily pregnant. However, note is made of the 'Ring and Ride' service for those who need extra help.

Clear note is made within this policy area of the need for affordability. Note is made of ensuring subsidies for the most socially necessary public transport services and this will likely mean that transport in those areas will be cheaper than it otherwise might be. Bike and car share schemes, along with best value ticketing offers and encouraging people to move away from private car ownership can also reduce costs and make travel more affordable to a greater range of people.

The need for a safe Public Transport system is noted within this policy area. The use of public transport will also reduce congestion on the roads and will mean more journeys undertaken with the use of professional drivers. These elements will likely improve safety and reduce accidents. However, there is a clear focus on the use of micro-mobility such as bikes and e-scooters and these could potentially lead to conflict with other transport network users (pedestrians as well as car drivers). Children and adolescents may be particularly vulnerable to accidents.

Clear note is made within this policy area of the need to subsidise the most socially necessary public transport services where these services cannot be sustained by commercial demand and it is anticipated this would include rural areas, or areas experiencing constraint in public transport provision. Note is also made of providing options for those in more rural regions through car share facilities.

Severance from facilities related to health, education and economic opportunities etc. will be reduced for all groups through the provision of enhanced public transport and micro-mobility connections across the region. Reduced congestion would also potentially reduce the severance caused by busy roads and would be particularly beneficial to the young and the elderly, as well as those with certain disabilities. However, note that the issue of severance would need to be considered in the design of any new transport infrastructure. Opportunities could be taken within any upgrading of facilities to reduce severance.

Safety

The need for a safe public transport system is noted within this policy area. The use of public transport will also reduce congestion on the roads and will mean more journeys undertaken with the use of professional drivers such as bus and taxi drivers. These elements will likely improve safety and reduce accidents. However, there is a clear focus on the use of micro-mobility such as bikes and e-scooters and these could potentially lead to conflict with other transport network users (pedestrians as well as car drivers). Children and adolescents may be particularly vulnerable in terms of bike and scooter use, as well as theft of such items.

Provision of better interchange facilities would provide opportunities to enhance security at such facilities. Enhanced security measures could also be incorporated at new stations. However, security risks / concerns surrounding public transport and related facilities are not specifically noted in this policy area and it is unclear what the outcome would be for different groups within society.

10.4.6. Connecting our places – recommendations

It is considered that the following recommendations for additional text / amendments to text will act to strengthen this policy area further, or provide greater clarity and understanding of implications for sustainability. Note that policy recommendations in relation to a particular objective may have benefits in relation to other objectives, or be best addressed through other policy areas, but the repetition is made here for clarity.

Table 10-5 - Connecting our places - recommendations

ISA Objective	Recommendations
1. Protect and improve air quality	No recommendations made.

2. Reduce carbon dioxide (CO_2) emissions from transport and contribute to meeting net zero carbon target	Within detailed Policy, note should be made of the need to minimise carbon emissions and embedded carbon within any design. This should include consideration of 'whole life' carbon i.e. through to the decommissioning phase.
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Within detailed Policy, note the need for any new road and rail infrastructure to implement SuDS where possible and for opportunities to increase permeable area to be taken. Within detailed Policy, note that when working with its Partners, other statutory bodies, such as the Environment Agency and Natural England, TfWM will work with natural processes to promote greater flood resilience to the transport network, ensuring SuDS and Natural Flood Management are incorporated to reduce flood risk when possible.
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain	Within detailed Policy, note should be made that design of any road or transport infrastructure (including mobility hubs and new rail stations) should consider green infrastructure and potential for installing measures that could add to Biodiversity. This should include the planting of species that are native to the West Midlands and could take place at the site of new infrastructure or elsewhere if appropriate. Note should also be made within detailed Policy that through working with its Partners, other statutory bodies, such as the Environment Agency and Natural England, TfWM will realise opportunities for green infrastructure enhancement and the delivery of green infrastructure-based natural solutions to aid mitigation requirements. The latter includes carbon reduction, clean air, flood risk management and increased resilience to climate change, as well as other place-making and visitor economy objectives. TfWM will also maximise the opportunities to contribute towards major new initiatives, including Nature Recovery Networks and large-scale woodland creation and work to help ensure that within or adjacent to the rail network and Major Road Network, green infrastructure can deliver biodiversity gains, ecological connectivity and ecosystem services.
5. Protect and enhance sites designated internationally for nature conservation purposes	Reference to be made within the Core Strategy and within detailed Policy for the need to consider HRA in relation to design and route / site selection considering potential locational issues.
6. Protect, enhance and promote geodiversity	No recommendations made.
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings	Within detailed policy, note should be made of the need for the roll out of the EV charging network to ensure careful consideration of design and location for the EV network and any electronic signage required. Reference should also be made within detailed Policy that through working with Partners and other statutory bodies, such Historic England, TfWM will aim to minimise the impact of transport on heritage assets and protect and enhance the quality environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings and ensure that due regard is given to the need to undertake archaeological investigations. The detailed Policy should also note that opportunities will be taken to improve physical access and/or interpretation, understanding and appreciation of the significance of heritage assets as part of transport development where appropriate.
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity	Within detailed Policy, note should be made of the need for detailed consideration of location and design of any new infrastructure. This could include consideration of materials and styles which are reflective of the vernacular architecture of the West Midlands. Opportunities to ensure that existing infrastructure is better integrated with its local visual environment should be taken where possible.
9. Protect and enhance the water environment	Within detailed Policy, note should be made that transport interventions that have unacceptable adverse impact on water availability or quality or fail to achieve the targets of the Water Framework Directive will not be considered.
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	Within detailed Policy, that route / site location should avoid areas of best soils and opportunities taken to remediate contamination.
11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative,	Note should be made within detailed Policy of the need for any new road / highway infrastructure scheme to be designed with sustainability principles in mind. Reference should also be made to the 'Circular Economy'.

secondary and recycled materials, reduce the level of waste generated	Note should also be made of promotion of more sustainable waste management practices with transport-related infrastructure projects in line with the waste hierarchy.
12. Promote economic growth and job creation, and improve access and connectivity to jobs and skills for all	No recommendations made.
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands	No recommendations made.
14. Improve health and well-being for all citizens and reduce inequalities in health	No recommendations made.
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Note should be made in detailed Policy of the issue of Severance and how this is to be addressed via design etc. Opportunities to reduce severance should also be taken as part of any upgrade to existing infrastructure.
16. Promote community safety and reduce crime and fear of crime for all citizens	Specific note should be made within this 'Big Move' in relation to security and how this will be addressed e.g. through 'Secure by Design' practices. This should note that measures should be taken to prevent crime, as well as measures to reduce the fear or perception of crime and security risk – this will help to remove barriers to use of Public Transport. These issues should also be explored in further detail within any detailed Policy.

10.4.7. Healthy Streets and Places

This policy area details a range of aspects that are anticipated to reduce air pollution and carbon emissions. A key element relates to active travel by enabling people to cycle, ride and scoot. The approach to making active travel more attractive will include accessible, reliable information on available routes, as well as incentives and rewards for reaching certain levels of walking and cycling activity. This will also take place in streets that are quieter and safer, through a reduction in traffic levels and speeds. Provision will also be made for a network of cycling and walking trails and walking zones. Note is also made of provision of charging facilities and it is anticipated this would include for all types of EV (Cars, bikes and Scooters) – this will further help to reduce pollution and carbon emissions.

Reductions in pollution emissions and removal of cars from the road, with a shift to sustainable modes are anticipated to be beneficial to habitats and species, as well as sites designated for nature conservation, by reducing pollution and disturbance. Reduced road traffic may also result in a reduction in 'road kill'. There is a potential that development of some active travel routes or other associated facilities (particularly in non urban areas) could impact on habitats and species and sites designated for nature conservation (through loss or disturbance), though it would also provide opportunities for green infrastructure to be developed. Encroachment could also take place into areas noted for geodiversity, or result in the loss of soil and agricultural resources.

Development of new active travel routes which may result in an increase in impermeable surfacing, with a consequent increase in risk of flooding. However, these new routes would also provide an increase in resilience to the local transport network to help ensure access is maintained – a variety of routes will be available should one be blocked by flooding for example. There are also potential benefits to the water environment through a reduction in polluted runoff from roads (tyre degradation etc.). There would also be a reduction in pollution from accidents / accidental spillage of hydrocarbons.

Heritage assets and the wider historic environment could benefit from Low Traffic Neighbourhoods as well as wider reduction in cars, management of car parking and reduction in speed. This (along with noted Public Realm improvements) could improve the setting for assets such as Conservation Areas, Listed buildings and individual monuments etc. New cycle and walking lanes could provide opportunities to enhance access to historic assets. In addition, wider landscapes and townscapes, as well as visual amenity could benefit from the reduction in cars such as in low traffic neighbourhoods and management of on street parking, as well as noted Public Realm improvements. Tranquility can be enhanced through reductions in speed limits and a greater focus on EVs.

This policy area will allow for the development of active travel routes and this may help facilitate the re-use of previously developed land – particularly those routes within the strategic centres. Opportunities may also be provided to remediate areas of contamination. Development of the new active travel routes and improvements to Public Realm will require the use of natural resources to construct, though use could be made of recycled or secondary materials. This 'Big Move' will help to reduce overall vehicle usage / increase sustainable modes and this would result in reduced fuel usage.

This policy area will result in increased opportunities for people to access jobs and the services they need. This will include increased opportunities for commercial / business interactions, as well as making areas more pleasant to do business or shop in e.g. Low traffic areas. This policy area will also result in reduced congestion and will therefore help to make business more efficient and will also provide businesses with new (and potentially cheaper) ways to connect with consumers. Clear note is also made within this policy area of the need to work with local authorities to provide a package of measures. It is anticipated this will include the development of Low Traffic Neighbourhoods and note is also made of providing facilities such as charging facilities. It is anticipated that this will require coordination of land use, energy and transport planning across the West Midlands.

Health

Ensuring delivery of the Starley Network and its associated active travel routes will provide greater accessibility to a range of services and facilities. Low Traffic Neighbourhoods (LTN's) with reduced speeds etc will mean that the option of active travel is safer for a greater range of people, though more active members of the community will benefit most (though this may improve in the longer term as new and emerging forms of micro-mobility for those with impaired mobility become available). It is to be noted that LTN's still allow for access by car for those members of society who depend on this form of transport.

Greater opportunities for active travel and better opportunities for micro-mobility such as bike hire schemes will help to make transport more affordable. Careful consideration will need to be made in relation to the precise location where facilities are to be provided to ensure that all Groups can benefit as much as possible – for example provision should be made in areas of deprivation to ensure low income groups can maximise opportunities of use.

A key element of this policy area is to have quieter and safer local streets. This will include reducing speed and managing on-street parking, which will act to improve safety particularly in those discrete parts of the transport network. A sense of wellbeing is also likely to improve. Separating active travel routes from those routes used by other modes will also improve safety, as will a general reduction in traffic across the network. Caution needs to be maintained to ensure that the Low Traffic Neighbourhoods do not result in increased traffic volumes in other parts of the network.

Ensuring delivery of the Starley Network and its associated active travel routes will also provide greater connectivity within and between communities. This will be of particular benefit to those more active groups (though this may improve in the longer term as new and emerging forms of micro-mobility for those with impaired mobility become available)..

The provision of Low Traffic Neighbourhoods will reduce air, noise, odour and light pollution in those areas and will be of benefit to all groups. Caution needs to be maintained to ensure that the Low Traffic Neighbourhoods do not result in increased traffic volumes in other parts of the network. Particular consideration should be given to providing LTN's in those areas with highest levels of deprivation as these areas often have poor air quality and generally poorer health outcomes relative to the wider population.

In addition, ensuring delivery of the Starley Network and its associated active travel routes will provide greater accessibility to a range active travel modes and will mean that the option of active travel is safer for a greater range of people. Greater access to active travel can help to improve health and wellbeing across all groups, though more active members of the community will benefit most (though this may improve in the longer term as new and emerging forms of micro-mobility for those with impaired mobility become available). Encouragement for the uptake of micro-mobility and safe routes upon which this can take place will be useful to 'fill the gap' between homes and public transport routes / facilities, though this is not a noted aim of this policy area.

Equality

Ensuring delivery of the Starley Network and its associated active travel routes will provide greater accessibility to a range of services and facilities. This could be of particular benefit by providing further travel options to those from BAME or LGBTQ groups who may feel unsafe using public transport. Those with mobility issues such as those with certain disabilities, elderly, the very young, heavily pregnant women may benefit less from this active travel provision than other groups.

Provision of active travel opportunities and options (including bike hire schemes) would likely improve affordability of travel for all groups. Those within BAME communities are twice more likely to live in a household with no car and hence experience higher transport costs and as such provision of active travel routes may be of particular benefit. Benefits for all groups are likely to be mostly experienced at the local level. Careful consideration will need to be made in relation to the precise location where facilities are to be provided to ensure that all Groups can benefit as much as possible – for example provision should be made in areas of deprivation or those areas with a high proportion of BAME groups to ensure such groups can maximise opportunities of use.

A key element of this policy area is to make local streets more attractive by making them quieter and safer. This will include through reducing speeds and managing on-street parking. This will be of benefit to all groups, but particularly children, those with certain disabilities or illnesses and those with mobility issues (including those heavily pregnant). Benefits will be particularly experienced at a local level in urban areas and consideration needs to be made to ensure that traffic is not directed elsewhere.

This policy area will have limited implications for the provision of public transport in rural areas, though there may be some opportunity for micro-mobility in certain areas. There are likely to be greater opportunities for micro-mobility within urban centres and this could include those areas experiencing constraint in public transport provision. Further consideration of these issues could be made at detailed Policy stage.

Ensuring delivery of the Starley Network and its associated active travel routes will provide greater connectivity within and between communities and help to reduce severance. This will be of particular benefit to those more active groups (though this may improve in the longer term as new and emerging forms of micro-mobility for those with impaired mobility become available). Quieter streets with reduced speed limits will also reduce severance caused by busy roads. This will be of benefit to all groups, but particularly children, those with certain disabilities or illnesses and those with mobility issues (including those heavily pregnant). Benefits will be particularly experienced at a local level in urban areas and consideration needs to be made to ensure that traffic is not directed elsewhere.

The provision of Low Traffic Neighbourhoods will reduce air, noise, odour and light pollution in those areas and will be of benefit to all groups, with particular benefits to those with underlying respiratory ailments, younger children and the elderly. Caution needs to be maintained to ensure that the Low Traffic Neighbourhoods do not result in increased traffic volumes in other parts of the network. Particular consideration should be given to providing LTN's in those areas with highest levels of deprivation (particularly those in urban areas) as these areas often have poor air quality and generally poorer health outcomes relative to the wider population. BAME groups would also benefit as these groups would generally be over represented in deprived areas.

Safety

A key element of this policy area is to make local streets more attractive by making them quieter and safer. This will include through reducing speeds and managing on-street parking. This will be of benefit to all groups, but particularly children, those with certain disabilities or illnesses and those with mobility issues (including those heavily pregnant). Benefits will be particularly experienced at a local level in urban areas and consideration needs to be made to ensure that traffic is not directed elsewhere. Note is made within this policy area that training will be provided to equip people with the skills to undertake more active travel – this will help improve safety for all groups, though careful consideration will need to be given to ensure that this provision is effectively provided for 'hard to reach' groups such as those from BAME communities who may have language difficulties.

While provision of active travel routes and facilities and micro-mobility options may help to improve safety, there may be issues relating to crime that could arise. For example, bike hire facilities may be exposed to theft or vandalism or routes could allow for anti-social behaviour to take place in unobserved or quiet areas.

10.4.8. Healthy Streets and Places - recommendations

It is considered that the following recommendations for additional text / amendments to text will act to strengthen this policy area further, or provide greater clarity and understanding of implications for sustainability. Note that policy recommendations in relation to a particular objective may have benefits in relation to other objectives, or be best addressed through other policy areas, but the repetition is made here for clarity.

Table 10-6 - Healthy Streets and Places - recommendations

ISA Objectives	Recommendations

1. Protect and improve air quality	No recommendations made.
2. Reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon target	No recommendations made.
3. Increase resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Note should be made in detailed Policy that design for any new active travel route or Public Realm improvement should include use of SuDS. Note should also be made that through working with its Partners, other statutory bodies, such as the Environment Agency and Natural England, TfWM will work with natural processes to promote greater flood resilience to the transport network, ensuring SuDS and Natural Flood Management are incorporated to reduce flood risk when possible
4. Protect and enhance protected habitats, sites, species, valuable ecological networks and promote ecosystem resilience and functionality and deliver Biodiversity Net Gain	Note should be made in detailed Policy that design of any active travel route (or public realm improvement) should consider green infrastructure and potential for installing measures that could add to Biodiversity. This should include the planting of species that are native to the West Midlands and could take place at site of new infrastructure. Note should also be made that through working with its Partners, other statutory bodies, such as the Environment Agency and Natural England, TfWM will realise opportunities for green infrastructure enhancement and the delivery of green infrastructure-based natural solutions to aid mitigation requirements. The latter includes carbon reduction, clean air, flood risk management and increased resilience to climate change, as well as other place-making and visitor economy objectives.
5. Protect and enhance sites designated internationally for nature conservation purposes	Reference to be made in detailed Policy in relation to design and route / site selection considering potential locational issues.
6. Protect, enhance and promote geodiversity	Reference to be made in detailed Policy in relation to design and route / site selection considering potential locational issues.
7. Conserve and enhance heritage assets and the wider historic environment including buildings, structures, landscapes, townscapes and archaeological remains and their settings	No recommendations made.
8. Protect and enhance the character and quality of landscapes, townscapes and visual amenity	No recommendations made.
9. Protect and enhance the water environment	Note in detailed Policy that design for any new active travel route or associated facilities and Public Realm should include use of SuDS Reference should also be made in detailed Policy that transport interventions that have unacceptable adverse impact on water availability or quality or fail to achieve the targets of the Water Framework Directive will not be considered.
10. Seek to remediate contaminated land, facilitate the re-use of previously developed land, as well as conserve soil and agricultural resources	Note to be made in detailed Policy that route / site location should avoid areas of best soils and opportunities taken to remediate contamination.
11. Promote prudent use of finite natural resources from primary sources, maximise the use of alternative, secondary and recycled materials, reduce the level of waste generated	Note should be made in detailed Policy that design for any new active travel routes and associated facilities, as well as Public Realm, should include use of recycled / secondary materials etc. Note should also be made in detailed Policy of promotion of more sustainable waste management practices with transport-related infrastructure projects in line with the waste hierarchy. Opportunities for enhancing the Circular Economy should also be considered.
12. Promote economic growth and job creation, and improve	No recommendations made.

access and connectivity to jobs and skills for all	
13. Support the wider coordination of land use, energy planning and transport planning across the West Midlands	No recommendations made.
14. Improve health and well-being for all citizens and reduce inequalities in health	Note within this 'Big Move' that micro-mobility can be useful in bridging gaps between households and businesses and public transport provision, though it is to be recognised that not all groups may be able to benefit from such provision. Note should also be made in detailed Policy that particular consideration should be given to providing LTN's in those areas with highest levels of deprivation as these areas often have poor air quality and generally poorer health outcomes relative to the wider population, though final decision on provision would be in light of local needs / conditions.
15. Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society	Particular consideration should be given to providing LTN's in those areas with highest levels of deprivation (particularly those in urban areas) as these areas often have poor air quality and generally poorer health outcomes relative to the wider population. Careful consideration will need to be made in relation to the precise location where facilities are to be provided to ensure that all Groups can benefit as much as possible.
16. Promote community safety and reduce crime and fear of crime for all citizens	Consideration of crime and security should be made through detailed Policy and in the design of any schemes.

10.4.9. Creating resilient networks

This policy area makes it a priority to support the delivery of active travel, public transport and behavioural change initiatives. This includes the promotion of multi-modal corridors, low traffic neighbourhoods and targeted road space re-allocation to support active travel and public transport. Such interventions are anticipated to reduce the number of cars on public roads, encouraging a modal shift towards active and public transport and therefore improving air quality. This policy area further aims to address key pinch points and efficiency issues on the road network through interventions including installation of sensors and communications technology. In doing so this should improve traffic flow and reduce idle periods which consequential benefits in terms of reducing air pollution and carbon emissions. It is to be noted though that some interventions could lead to localised deterioration in air quality or an increase in carbon emissions during construction (such as construction of multi-modal corridors).

Development of such interventions could also lead to an increase in impermeable area that would lead to greater amounts of runoff and therefore increased flood risk. Conversely, such interventions may also provide opportunities to introduce SuDS and increase permeable areas. Addressing key pinch points may also change the amount of permeable and impermeable areas depending on the nature of the intervention. Low traffic neighbourhoods alongside the encouragement of strategies for active travel and a general modal shift away from the private car will also reduce the potential for polluted runoff (including from tyre degradation) as well as reduce potential for spillage of hydrocarbons through accidents or during refuelling.

Although effects are anticipated to be limited, reduced levels of traffic through an encouraged modal shift towards public and active travel, would be expected to reduce road traffic noise and therefore potentially disturbance to species or habitats, as well as sites designated for nature conservation. While it is recognised that some interventions (installation of sensors, and multi-modal corridors) could lead to increased pressures on protected habitats, sites species and valuable ecological networks through, for example, increased noise during construction.

While no specific mention of geodiversity is made with respect to this policy area, it does however encourage strategies for active travel which may present opportunities to promote geodiversity in the region e.g. by providing opportunities for people to visit the Black Country Geopark through connection with existing or new active travel networks.

Reducing levels of traffic through encouraging uptake of public and active travel modes would be expected to reduce road traffic noise and reduce congestion. This is strengthened by aims to address key pinch points in

the network and create low traffic neighbourhoods. Such interventions could act to improve the setting of cultural heritage assets, townscapes, landscapes and visual amenity.

Bringing forward a series of multi-modal corridors and strategies for active travel has the potential to result in encroachment onto areas of soil or agricultural resource, depending on their location. However, this may also provide an opportunity to utilise and regenerate land that has been previously developed, address land contamination, or the removal of invasive species. Greater uptake of active travel and public transport also help to prevent future contamination events by removing hydrocarbons. Reduced hydrocarbon requirements would also represent a reduction in use of finite natural resources, though overall resource use would be expected to increase during any construction of new infrastructure.

This policy area notes it will support programmes essential for improving accessibility to local services and public transport, provide safer and more efficient roads and strengthen key bus based rapid transit corridors. In doing so it is anticipated that this will improve connectivity within and across the region which in turn will help drive economic growth. Improving and making more efficient transport options opens opportunities to access jobs and skills. Reducing congestion at key pinch points may also allow for quicker commuting and help attract inward investment by making the area more efficient for business.

In addition, this policy area makes clear reference to the influence of supporting strategies pertinent to the transport sector including active travel, public transport and delivering behavioural change. This policy area seeks to work closely with external stakeholders to achieve safer roads.

Health

Improving accessibility to local services, public transport and making local trips by walking, cycling and other emerging mobility solutions safe and attractive will improve health directly as well as improve accessibility to health, leisure services and facilities and amenities for all.

Encouraging active travel alongside interventions to strengthen and improve accessibility to public transport is anticipated to increase affordability of transport to all by improving connectivity via low cost modes of transport. This will be particularly beneficial to those with low incomes, as well as cyclists and pedestrians.

This policy area makes clear its ambition to reduce the number of people killed or seriously injured on roads – a target in line with the 'Towards Zero' aim of 50% reduction by 2030 is provided. Further reference to the improved safety and efficiency of the road network as well as aims to make trips by walking, cycling and other emerging mobility solutions safe and attractive is made. While it is recognised that some users such as children and adolescents may be particularly vulnerable in terms of bike and scooter use, efforts to deliver targeted road space re-allocation and low traffic neighbourhoods will act to improve safety for all.

This policy area notes it will support programmes essential for improving accessibility to local services and public transport, provide safer and more efficient roads and strengthen key bus based rapid transit corridors. In doing so it is anticipated that this will improve connectivity within and across the region, with benefits for all groups – particularly those who are comfortable to undertake active travel.

This policy area makes it a priority to support the delivery of active travel, public transport and behavioural change initiatives. This includes the promotion of multi-modal corridors, low traffic neighbourhoods and targeted road space re-allocation to support active travel and public transport. Such interventions are anticipated to reduce the number of cars on public roads, encouraging a modal shift towards active and public transport and therefore improve air quality, reduce noise and light pollution, with wellbeing benefits for all. New schemes though may increase these elements in particular areas, particularly during construction. Effects are dependent on location, so consideration should be given to vulnerable receptors such as health facilities, schools, care homes etc.

Equality

This policy area notes it will support programmes essential for improving active travel, accessibility to local services and public transport, provide safer and more efficient roads, creating low traffic neighbourhoods and strengthen key bus based rapid transit corridors. In doing so it is anticipated that this will improve accessibility within and across the region for all, though care will need to be taken in the development of any scheme to ensure that all groups can take full advantage.

Encouraging active travel alongside interventions to strengthen and improve accessibility to public transport is anticipated to increase affordability of transport by improving connectivity via low cost modes of transport. Those that remain reliant on private car (for example those with certain disabilities) are anticipated to be less susceptible to benefit. Similarly, other groups who may have mobility issues (such as heavily pregnant women),

or issues with using Public transport such as some people from BAME or LGBTQ communities, or lone travellers, may benefit less.

This policy area makes clear its ambition to reduce the number of people killed or seriously injured on roads and a target is provided. Further reference to the improved safety and efficiency of the road network as well as aims to make trips by walking, cycling and other emerging mobility solutions safe and attractive is made. While it is recognised that some users such as children and adolescents may be particularly vulnerable in terms of bike and scooter use, efforts to deliver targeted road space re-allocation and low traffic neighbourhoods will act to improve safety for these groups.

This policy area notes it will support programmes essential for improving accessibility to local services and public transport as well as provide safer and more efficient roads and strengthen key bus based rapid transit corridors. It is anticipated that to some extent this will include improved provision of services and connectivity in rural areas, or areas experiencing constraint in public transport provision, though it is more likely to be more populated urban areas that particularly benefit.

In addition, it is anticipated that this policy area will reduce severance and improve connectivity within and across the region. Making roads safer and Low Traffic Neighbourhoods will also help to reduce the severance effect that roads can have and will be particularly beneficial at a local level.

This policy area is also anticipated to reduce the number of cars on public roads, encouraging a modal shift towards active and public transport and therefore improve air quality and reduce noise and light pollution. New schemes though may increase these elements in particular areas, particularly during construction.

Safety

This policy area makes clear its ambition to reduce the number of people killed or seriously injured on roads – a target of a reduction of 50% by 2030 is provided. Further reference to the improved safety and efficiency of the road network as well as aims to make trips by walking, cycling and other emerging mobility solutions safe and attractive is made. While it is recognised that some users such as children and adolescents may be particularly vulnerable in terms of bike and scooter use efforts to deliver targeted road space re-allocation and low traffic neighbourhoods will act to improve safety for these groups.

This policy area makes clear its ambition to reduce the number of people killed or seriously injured on roads. Further reference to the improved safety and efficiency of the road network as well as aims to make trips by walking, cycling and other emerging mobility solutions safe and attractive is made. There is a clear focus on providing more opportunities for accessing Public Transport, as well as active modes, but clearer note and consideration could be made of how issues such as safety of lone or vulnerable travellers utilising such modes or routes could be made.

10.5. Policy Assessment and addressing recommendations (January 2022)

Following the assessment of draft policies undertaken in November and December 2021, along with the recommendations made, it was recognised that the LTP would benefit from further consideration of a range of issues, in addition to greater clarity on how the policy areas would be implemented. In some instances, rather than addressing recommendations made within each Policy area, it was considered more appropriate to add further detail and clarity throughout the LTP, as well as including a more robust ‘Delivering a Green Revolution’ policy area and providing a specific section on ‘sustainability through plan implementation’. Tables showing how recommendations were addressed are provided in Appendix B.

An overview of the assessment of the ‘Green revolution’ policy area, as well as ‘sustainability through plan implementation’ are as follows:

10.5.1. Delivering a green revolution

This policy area notes a number of aspects which will protect and improve air quality and reduce carbon emissions. Of particular note is the measures that will be taken to decarbonise the West Midland’s private and public fleets by moving away from conventional and hybrid fossil fuel vehicles to zero emission alternatives. It is noted this will be critical to reducing emissions associated with transport and as well as carbon emissions it is anticipated this will help to improve local air quality through reducing pollution emissions generated by burning of fossil fuels. Note is made of enhancing biodiversity on the transport estate and this may provide opportunities

for planting that can help to improve air quality. An example is provided of 'Green Bus Shelters' which could help to improve air quality (through trapping fine particles), though this particular example of scheme would be small scale and have very local benefits only. It is noted that there will be a short term role for low carbon fuels and as such beneficial effects on air quality will not be fully realised until the medium to longer term. It is also to be noted that other aspects of transport can also still result in air pollution issues such as through tyre and brake degradation. Note is also made of sustainable energy generation, with an examples given at mobility hubs and bus shelters and this will help to reduce emissions for electricity generation.

It is noted within this policy area that the transport system will be used to enhance and protect the environment and specific note is made of implementing Sustainable Drainage Systems (SuDS). This will act to reduce the risk of flooding and help to increase the resilience of the transport network. Resilience could also be enhanced through the provision of green spaces and the noted opportunities for enhancing biodiversity which would allow for planting of species that would provide shade or reduce wind speeds in local areas. It is also to be noted that SuDS have an important role to play in addressing water pollution (though it is to be noted that SUDS are not always appropriate for all circumstances – for example contaminated areas). The uptake of electric vehicles promoted by this policy area would also reduce the potential for hydrocarbon pollution either from refuelling or from accidents.

Specific note is also made of enhancing biodiversity and providing green spaces. It is also anticipated that the noted measures to reduce air pollution will result in less pollution deposition on habitats. The greater provision and use of electric vehicles will reduce noise and this would lead to a reduction in disturbance to species and habitats, though it could also result in greater levels of road kill. Benefits are also likely to be experienced on those sites designated for nature conservation.

It is also anticipated that this policy area would result in benefits to cultural heritage assets and their settings. A reduction in air pollution emissions (through the uptake of EV's) would reduce deposition of pollutants and this could help to protect scheduled monuments etc. Note is also made that TfWM will help local authorities to plan and enable appropriate charging and fuelling infrastructure to be implemented, that is appropriate to the needs and characteristics of different places and avoids street clutter – this will help to protect historic townscapes, or areas such as Conservation areas. Similarly, specific note is made of providing green spaces and enhancing biodiversity, with provision of these aspects providing opportunities to enhance visual amenity, townscapes and landscapes. Townscapes would be protected through the noted implementation of the EV charging network to reflect characteristics of different places and avoids street clutter.

The provision of green space, as noted in this policy area, would allow for the re-use of previously developed land and could represent one potential way of dealing with areas of contamination (if conditions allowed). It could also allow for protection of soil resources, though this would likely be small in scale. Use of transport land for sustainable energy generation could also allow for effective re-use of previously developed land.

Modern infrastructure construction techniques are noted within this policy area and it is likely that these would allow for more prudent use of resources, as well as the use of alternative, secondary and recycled materials, in addition to reducing the level of waste generated. The increased uptake of EV's would allow for a reduction in hydrocarbon use. Utilising innovation within the local economy (including the automotive industry) would also provide opportunities for more sustainable supply to the local (West Midlands) market, though this could be more in the long term.

It is a clear aim of this policy area that 'delivering a green revolution' through the LTP means partnership working between the public and private sector to leverage the transport system to enhance the built and natural environment, in a way that stimulates local industry to produce the products and services that support inclusive growth. Note is also made that the West Midlands economy is strong in certain transport related sectors (in addition to car making) such as public transport, connected and autonomous vehicles, 5G, Mobility as a Service and modern infrastructure construction techniques. Note is made of how this could be done and it is noted that TfWM will work with partners, including local authorities and businesses across the region to understand how innovation in the mobility sector can support aims, and to support the development and trialling of new solutions by providing access to public assets (including transport infrastructure, organisational expertise, match funding and publicly owned data).

It is anticipated that effects will be beneficial in the short term, but become more beneficial as partnerships develop and the results of innovation come to fruition, though it is to be recognised that certainty of outcome is low due to the nature of innovative businesses.

Clear note is also made of working with partners, including local authorities and businesses across the region in relation to innovation etc. Note is also made of working with partners etc across the region to ensure that the public and private vehicle fleets move to zero emission vehicles as quickly as possible. TfWM also note that they will help local authorities to plan and enable appropriate charging and fuelling infrastructure to be

implemented, that is appropriate to the needs and characteristics of different places and avoids street clutter. This will also include working with bus operators etc to support them with particular need for electric charging en-route where charging in depots is insufficient.

Health

A greater focus on EV's could have implications in respect of affordability as these vehicles could be more expensive (at least in the short term) and costs could be incurred by people directly e.g. through purchase of an EV or indirectly e.g. as costs get passed on to travellers. Those on low incomes may be particularly vulnerable to variations in cost, particularly in the short term (prior to any lower running costs for public transport providers being realised). Note is made though within this policy area that strategic planning will take place to ensure easy access to greener modes of transport such as car clubs. This could provide opportunities for those within low income groups to avail of EV's, which might not otherwise be feasible. There may also be other opportunities for people to save costs and an example is given of where people will be able to charge mobile phones for free at bus stops – this would have benefits for all groups, though would be of slight benefit only.

While the switch to electric vehicles will not, of itself, improve safety, note is made within this 'Big Move' of the provision of green space and this could potentially allow for safer areas for children to play, or for the wider population to socialise and relax in a traffic free environment, with consequent benefits for wellbeing.

Note is made that strategic planning will take place to ensure easy access to greener modes of transport such as car clubs. It is anticipated this would allow for a greater range of connections between and within communities. Provision of an enhanced charging network would remove any anxiety regarding range of EVs and the provision of en-route charging for buses will allow for the easier maintenance of schedules / timetables and the provision of a more robust service to connect communities. All groups should benefit.

Moving to an electric fleet (both public and private) can be anticipated to result in better air quality, reduced noise and odour pollution. This will be of benefit to all groups (with those such as children and those with certain disabilities / health issues) likely to benefit most. Benefits will be to both health and wellbeing. Benefits to the health and wellbeing of all groups could also be experienced through the provision of Green Spaces, as well as the general enhancement of Biodiversity.

Clear note is made of strategic planning will take place to ensure easy access to greener modes of transport and it is anticipated this would include active modes. This would benefit all groups, but particularly those more active members such as pedestrians and cyclists. In addition, it is anticipated this would include public transport e.g. accessed from mobility hubs. This would be of benefit to all groups.

Equality

A greater focus on EV's could have implications in respect of affordability as these vehicles could be more expensive (at least in the short term) and costs could be incurred by people directly e.g. through purchase of an EV or indirectly e.g. as costs get passed on to travellers. Those on low incomes may be particularly vulnerable to variations in cost, particularly in the short term (prior to any lower running costs for public transport providers being realised). Low income groups could include for example those from BAME communities, those with certain disabilities, those in the older and youngest groups, those with reduced income such as through maternity leave. Note is made though that strategic planning will take place to ensure easy access to greener modes of transport such as car clubs. This could provide opportunities for those within low income groups to avail of EV's, which might not otherwise be feasible. There may also be other opportunities for people to save costs and an example is given of where people will be able to charge mobile phones for free at bus stops – this would have benefits for all groups, though would be of slight benefit only.

While the switch to electric vehicles will not, of itself, improve safety, note is made within this policy area of the provision of green space and this could potentially allow for safer areas for children to play, or for the wider population to socialise and relax in a traffic free environment. .

It is considered that the switch to electric vehicles will not, of itself, improve provision of public transport in rural areas, though it is anticipated that it will not get worse as clear note is made of issues such as en-route charging provision, which would remove any range anxiety's and help maintain the robustness of service.

It is considered that the switch to electric vehicles will also not, of itself, reduce severance. However, provision of a wider charging network would also remove any anxiety relating to range to access services etc. and allow for connections across wider areas.

Moving to an electric fleet (both public and private) can be anticipated to result in better air quality, reduced noise and odour pollution. This will be of benefit to all groups (with those such as children and those with certain disabilities / health issues) likely to benefit most. Benefits to all groups could also be experienced

through the provision of Green Spaces, as well as the general enhancement of Biodiversity, though careful consideration would need to be given to the location of such spaces to ensure all can benefit.

Safety

While the switch to electric vehicles will not, of itself, improve safety, note is made within this policy area of the provision of green space and this could potentially allow for safer areas for children to play, or for the wider population to socialise and relax in a traffic free and safe environment.

It is considered that the switch to electric vehicles will not, of itself, improve actual and perceived safety and security issues.

10.5.2. Sustainability throughout plan implementation

Recognition is made through this policy area that there is a potential to impact the environment and specific reference is made to a wide range of issues that cover areas such as pollution, resilience, historic and cultural assets, natural resources and social issues. This policy area sets out that consideration will be made of such issues from the very earliest plan making stage, through optioneering and site selection, to design and material choices, procurement and construction, operation and maintenance and on through to decommissioning. Note is made that where an intervention takes place, measures will be subject to the appropriate level of assessment by the relevant authority, adhere to the relevant legal framework and be reflective of the scale and nature of the project. It is the intention that this will ensure that potential impacts are understood and how these can be best avoided, mitigated or beneficial aspects enhanced. Note is made that EIA (and other assessments including Health Impact Assessment, Equalities Impact Assessment, alongside HM Treasury Green Book and DfT Transport Appraisal) will be carried out where required and Environmental Management Plans implemented. In relation to sites designated for nature conservation purposes, it is specifically noted that TfWM will assess any potential direct or indirect impact that may arise over the life span of the LTP. They also state that they will mitigate and / or compensate for any impacts, in line with existing best practice and relevant legislation. This will include undertaking a Habitats Regulation Assessment (or equivalent) when necessary.

This policy area also sets out a process that will allow for full consideration of requirements in Local Plans and required statutory processes. Note is also made that TfWM will work closely with partner organisations, including the local authorities. It is also to be noted within the Implementation section that commitment is made that WMCA, TfWM and the seven metropolitan borough authorities will continue to work together with local partners such as transport operators, with neighbouring local authority partners, with regional partners such as West Midlands Rail Executive and Midlands Connect, and with national partners such as Government and the national agencies responsible for transport functions to develop and deliver the LTP. It is anticipated this will result in wider coordination of land use and transport planning across the West Midlands

At this stage, it is not possible to say with any large degree of certainty how effects from any transport intervention will transpire as that is dependent upon the nature of the intervention and its precise location. However, the clear commitment within this policy area of a presumption in favour of working with partners to make net improvements to the local environment wherever possible and, as a minimum, that TfWM will always follow the policies set out in this LTP to take every opportunity to protect and enhance the environment, alongside the clear assessment process and commitment to working with partner organisations mean that it is anticipated that adverse effects can be minimised and beneficial effects maximised. This should result in beneficial effects across all the ISA Objectives (though it is noted neutral effects on the ISA Objective relating to the economy are anticipated).

Health

It is noted that recognition is made through this policy area that there is a potential to impact local communities and visitors to the area and among the issues noted are a range of social issues and that consideration of health issues would take place at as early an opportunity as possible. Assessment could include Health Impact Assessment where required. It is anticipated that HIA would consider all aspects relevant to health and wellbeing and reducing inequalities in health.

It is anticipated that effects would be beneficial from the short through to the long term, though there is a low level of certainty as this will depend on the nature of any proposed scheme and its precise location – however, the process and assessments noted within this policy area should ensure that adverse effects can be minimised and beneficial effects maximised.

Equalities

As with health, recognition is made through this policy area that there is a potential to impact local communities and visitors to the area and among the issues noted are a range of social issues and that consideration of equality issues would take place at as early an opportunity as possible. Assessment could include Equalities Impact Assessment where required.

Further clarification is provided in the LTP in relation to ensuring a 'just transition' and this notes that equity is at the heart of the LTP and this should help to ensure promotion of equality of opportunity and help to achieve a fairer society.

It is anticipated that effects would be beneficial from the short through to the long term, though there is a low level of certainty as this will depend on the nature of any proposed scheme and its precise location – however, the process and assessments noted within this policy area should ensure that adverse effects can be minimised and beneficial effects maximised. These assessment processes should also ensure that no group is unfairly disadvantaged.

Safety

It is noted that recognition is made through this policy area that there is a potential to impact local communities and visitors to the area and among the issues noted are a range of social issues and these include community safety, as well as crime and anti-social behaviour and it is anticipated that these issues will be addressed through the noted assessment processes. It is anticipated that effects would be beneficial from the short through to the long term, though there is a low level of certainty as this will depend on the nature of any proposed scheme and its precise location – however, the process and assessments noted within this policy area should ensure that adverse effects can be minimised and beneficial effects maximised.

10.5.3. Amendments to policy areas (January 2022)

As noted, a series of recommendations were made following the assessment of policy areas in November – December 2022 and this resulted in some amendments to policy text. The noted amendments to policy areas and their implications for the assessed significance of effect are set out as follows. Note that only larger areas of change are addressed here – some minor amendments to the originally assessed policies were made in order to improve 'readability' and layout. While minor amendments were not re-assessed, consideration has been made of the new Policy text to ensure it remains in line with that assessed.

It is also to be noted that the LTP, as of January 2022, is a Core Strategy only and primarily sets out he overarching aims, vision and approach as well as a framework for action on transport. More detailed policies and implementation proposals will be identified aligned to this Core Strategy. As such, many of the recommendations made within the ISA, will be explored in further detail as the LTP is developed throughout the life of the plan.

Behaviour Change

Within the 'Behaviour Change' policy area, a small number of additional amendments were made to provide additional clarity to the LTP. Among the amendment was a section relating to 'Mobility credits' and it was noted that cost is often a significant barrier to people changing their travel behaviour and that mobility credits can offer an effective solution to overcome this. This scheme will provide a financial incentive to people to scrap older more polluting vehicles and allow them to use alternative forms of transport. The introduction of this policy element would have particular beneficial effects in terms of air quality (ISA Objective 1) and reducing carbon emissions (ISA Objective 2). It is also likely that low income groups could particularly benefit from this type of scheme, with beneficial effects in respect of health and wellbeing (ISA Objective 14) and equalities (ISA Objective 15). While these additional beneficial effects are noted, it is not considered that the significance of effect would change from that noted in the previous iteration of the LTP.

Additional note is made within this policy area in respect of working with Local Authorities to identify how and where further measures could be introduced to help deliver behaviour change across the region. This provides clarity to and will be of benefit to ISA Objective 13, though it is not anticipated to change the noted significance of effect.

Greater note is made of Controlled Parking Zones in this iteration of the LTP, along with parking charges etc. Note was made of parking issues within the assessment of this policy area (across a range of ISA Objectives) and it was noted that there is a potential for these issues to impact on vulnerable groups e.g. those on a low income or those who may need ready access to a private vehicle for disability reasons in a disproportionate

fashion. It was recommended that this issue is explored further through more detailed policy development and the noted significance of effect therefore remains unchanged.

Supporting inclusive growth

Within the 'supporting inclusive growth' policy area, the text has been amended to improve readability but also provide additional clarity on a number of aspects. This includes text that reflects the fact that '90% of the built environment will substantially be the same at the end of the plan period and whilst better land use planning and delivery will not fix the legacy challenge of over 50 years of planning geared around the car on its own, it is critical to help us avoid perpetuating the problem'. This would be of particular note in relation to ISA Objective 13, but does not result in a change to the assessed significance of effect.

Additional text is also provided in relation to supporting higher density land uses as well as delivering improved urban environments and protecting and re-energising local centres. This is of particular note to ISA Objective 8 (in respect of townscape), ISA Objective 10 (in respect of facilitating the re-use of previously developed land), ISA Objective 11 (in respect of resource use and reducing the level of waste), ISA Objective 12 (in respect of economic growth and access to jobs) and ISA 13, supporting wider coordination of land use. This additional clarity is welcome and would likely lead to beneficial effects across the noted ISA Objectives, though it is considered that it does not change the noted significance of effects for these ISA Objectives.

Within this policy area, note is now made of the need to be creative in how provision is made for more space for innovative solutions such as mobility hubs, car club facilities and ultra-rapid charging and residential on-street charging infrastructure. These elements are relevant to air quality (ISA Objective 1), Carbon emissions (ISA Objective 2), with beneficial effects anticipated (though it is considered that significance of effect remains as assessed). Adverse effects may be experienced in relation to landscape and townscape, as well as cultural heritage assets (ISA Objectives 7 and 8), though adverse effects are already recognised in the assessment and significance of effect remains as assessed.

Healthy streets and places

No amendments to the text previously assessed in November – December 2021 are noted. As such, the assessment of this policy area remains unchanged.

Connecting our places

Additional text has been added to this policy area to note that through a combination of walking and wheeling and public transport connected by seamless interchange, everyone will be able to explore the places across the region. This is of particular note to ISA Objective 15 (Equalities) by providing additional context to the need for services for everyone. No amendment to the significance of effect is considered to be required.

Note is made within the policy area that due to the pace at which wide scale improvements to bus services can be made in comparison to rail and metro, rapid and early behaviour change in the LTP period would need to be supported by an increased role for and improvement of bus services. This additional clarity is welcome, but it is considered does not amend any anticipated significance of effect.

Further clarification has also been made in respect of shared mobility services and how these will be particularly important as last mile solutions to travel where other options are not viable. In relation to ISA Objectives 14 and 15, there may be implications in terms of these options potentially not being appropriate for all groups e.g. the disabled or those with young children. These aspects are already recognised within the assessment and as such, no amendment to significance of effect is required.

Additional Text is also provided in respect of cooperation with bus operators. This is welcomed in relation to ISA Objective 13 (coordination of planning) but is not considered to amend the significance of effect.

Creating resilient networks

In relation to this policy area, additional text has been provided to recognise the importance of the West Midlands Key Route Network (KRN). Recognition is also made of the importance of Local Authorities and the role they play and how they work closely with TfWM. Further clarification has been provided in respect of developing a framework to help monitor the performance of the KRN and help meet LTP Objectives. This additional clarity is welcome, but it is considered does not amend any anticipated significance of effect.

Additional text has also been added to recognise that ensuring that the transport network is of as good quality and condition as it can be will help to ensure the safety and security of users. This is of importance in relation to health, equalities and safety (ISA Objectives 14, 15 and 16) but it is not considered to amend the assessed significance of effect.

There has been a slight amendment to text relating to coordinating schemes to avoid disruption to networks. While this additional clarity is welcome and its outcome would likely provide beneficial effects in terms of reducing traveller stress and enhancing wellbeing, it is not considered necessary to amend the significance of effect.

The following table sets out the assessment results of the LTP5 issued for consultation. Full details of assessments are provided in Appendix A, with how recommendations were addressed contained in Appendix B. While none of the noted amendments were considered to change the significance of effect 'scoring', it is considered that these do act to increase clarity and understanding of the policies, as well as enhance the sustainability performance of the policy areas. As can be seen the addition of a new cross cutting policy area 'sustainability through plan implementation', also acts to bolster sustainability across all ISA Objectives (with the exception of ISA Objective 12 which is considered neutral). It is now shown within the LTP that there is a clear process for when a transport intervention takes place to ensure that measures will be subject to the appropriate level of assessment by the relevant authority, adhere to the relevant legal framework and be reflective of the scale and nature of the project. Clear note is made that dependent on the scheme, assessment will include Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are undertaken they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance.

Table 10-7 - Overview of assessment results - January 2022

Core Strategy Element	ISA Objective															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
'Avoid' Policies																
Making Behaviour Change Happen	++	++	+/-	+	+	0	+/-	+	+	+	+	+	+	+	+	+
Supporting Inclusive Growth of new development	++	++	+/-	+/-	+/-	+	+/-	+/-	+/-	++	+/-	++	++	++	++	+
'Shift' Policies																
Connecting Our Places	++ / -	++ / -	+/-	+/-	+/-	+/-	+/-	+/-	++ / -	+/-	++ / -	+++	+	++	++	?
Healthy Streets and Places	+++	+++	+/-	+/-	+/-	+/-	++	++	+	+/-	+/-	+	+	++	++	+
'Improve Policies'																
Creating Resilient Networks	++	++	+/-	+	+	+	++	++	+	+/-	+	++	+	++	++	+
Delivering a 'Green Revolution'	+++	+++	+	+	+	0	+	+	++	+	+	++	++	+	+	+
Cross cutting policy area																
Sustainability through plan implementation	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+

10.6. Summary and conclusions to the assessment of LTP policies

It is inherent in the nature of a transport plan that it could result in a series of interventions that will have implications for sustainability. For example, the LTP notes that there could be investment in road or rail infrastructure, mobility hubs or stations and EV charging network. These interventions could require varying levels of civil engineering works, although it is anticipated that through this LTP, such works will be localised for the most part and there is a clear focus on reducing traffic across the region and enabling a switch to public transport or more active modes. Nevertheless, it is in the nature of these works that there will be environmental implications in particular. For example, new infrastructure could involve a direct loss of habitat, or could have an

adverse effect on the water environment through pollution incidents during construction, or through polluted runoff during operation, and would also result in a new feature in the landscape and these adverse effects are reflected in the assessment scores for certain ISA Objectives such as those relating to issues such as biodiversity, cultural heritage, landscape and townscape. However, it is also recognised that key elements of the LTP could bring benefits across those Objectives and again this is recognised in the assessment. As such, the nature of the LTP means that there could be a mix of beneficial and adverse effects across many ISA Objectives, particularly as a result of those policy areas of 'Supporting inclusive growth', 'Connecting our Places', 'Healthy streets and places' and 'Creating resilient networks'.

The clear focus within the LTP of improving accessibility, alongside reducing the need to travel, reducing traffic across the region and enabling a switch to public transport or more active modes in addition to encouraging an uptake in electric vehicles and digital connectivity etc., is reflected in the strong performance in terms of ISA Objective 1 (protect and improve air quality) and ISA Objective 2 (reduce carbon dioxide (CO2) emissions from transport and contribute to meeting net zero carbon target). Some slight adverse effects are noted for these Objectives, relating to the recognition that there will still be emissions from public transport and the enhanced rail services noted and it is noted that there will be investment in highway and rail infrastructure – this could lead to emissions both in construction and operation.

Other areas of strong environmental performance relate to ISA Objective 7 (conserve and enhance heritage assets) and ISA Objective 8 (protect and enhance landscape and townscape) and these reflects elements of the LTP such as the commitment to Low Traffic Neighbourhoods, management of on street parking, developments of open spaces and enhancements to public realm. Key elements of the LTP such as the reduction in traffic, reduction in speeds and reduction in noise, are anticipated to result in improvements to tranquility, townscape, the setting of cultural heritage assets and so on.

Greater facilitation of the uptake of electric vehicles, along with an increase in active travel and the associated reduction in noise and pollution deposition will also have benefits to biodiversity. In addition, it is anticipated this will reduce the amount of hydrocarbons used, reduce the potential for pollution incidents to watercourses (through accidental spillage or through polluted runoff).

The further development through the LTP and its policy areas of a safe, convenient, affordable and accessible public transport system is essential for enabling people to travel beyond their local neighbourhood without a car. Investment in better Public Transport Services, new shared mobility services, better and more integrated ticketing options, micro-mobility options to allow better last mile solutions and providing for those in more rural regions will all help to provide better connectivity within and across the region, as well as to neighbouring areas. This will help drive economic growth through for example, making it easier and potentially cheaper for staff to get to work or for customers to get to businesses. There would also be more transport options for people to access jobs and skills. Better and more efficient infrastructure may also make doing business easier e.g. by reducing congestion and will potentially help to attract inward investment. As such, overall, it is considered that the LTP performs well in respect of ISA Objective 12 (promote economic growth and job creation, and improve access and connectivity to jobs and skills for all).

Achieving this outcome will be facilitated and enabled by cooperation between TfWM, partner organisations and other stakeholders. The need for strong linkages across organisations is reflected throughout the LTP and is recognised in respect of ISA Objective 13 (support the wider coordination of land use, energy planning and transport planning across the West Midlands).

Health and Equalities

It is also considered that the LTP performs strongly in respect of ISA Objective 14 (improve health and well-being for all citizens and reduce inequalities in health) and ISA Objective 15 (promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society). In terms of health, the focus on improving air quality / reducing pollution will have clear direct health benefits for all groups, but could be particularly important to young children and those with certain medical conditions. Active travel modes will provide greater opportunities to undertake exercise in day to day life for all groups, with anticipated direct health benefits, but also improvements in wellbeing. Such improvements in health and wellbeing will also be enabled by better public realm, increased access to open spaces, Low Traffic Neighbourhoods, reduced congestion, reduced traffic speeds, reduced pollution and so on. All of these elements will be enhanced or enabled by the policy areas outlined within the LTP.

Similarly, the focus on increased access to Public Transport and enhanced services will improve access to health, leisure, educational, training and employment facilities and services for a greater range of people. People will also be better able to connect with friends and family across the region and this can improve wellbeing.

However, while the LTP is generally considered significantly beneficial in terms of health, it is to be recognised that there are potential problems in ensuring that health inequalities are not increased. For example, a focus on active travel may not be as effectively beneficial for certain vulnerable groups such as the elderly, those with young children or those with certain disabilities. Similarly, provision of Low Traffic Neighbourhoods will reduce air, noise, odour and light pollution in those areas and will be of benefit to all groups, with particular benefits to those with underlying respiratory ailments, younger children and the elderly, however caution also needs to be maintained to ensure that the Low Traffic Neighbourhoods do not result in increased traffic volumes in other parts of the network. Particular consideration should be given to providing LTN's in those areas with highest levels of deprivation as these areas often have poor air quality and generally poorer health outcomes relative to the wider population. Similarly, greater digital connectivity provides opportunities for people to access certain health services online such as GP appointments, but this may not be appropriate or a viable option for all groups, with the elderly and those on low incomes potentially finding such services more difficult to access.

Similar findings are made in terms of equalities. On the whole, it is found that the LTP is generally beneficial in terms of providing greater equity in allowing people to access the services and facilities they require. For example, providing active travel routes will provide greater accessibility to a range of services and facilities for all. This could be of particular benefit by providing further travel options to people such as those from BAME or LGBTQ groups, or individuals such as lone travellers, who may feel unsafe using public transport. Provision of active travel opportunities and options (including bike hire schemes) would likely improve affordability of travel for all groups. Those within BAME communities are twice more likely to live in a household with no car and hence experience higher transport costs and as such provision of active travel routes may be of particular benefit. However, those with mobility issues such as those with certain disabilities, elderly, the very young, or heavily pregnant women may benefit less from this active travel provision than other groups. For both health and equalities, such issues will be explored within the further policy development to be undertaken in respect of 'Big Moves' and 'Area Strategies'.

Clear note though is made within this LTP of the need for affordable connections. Note is made of ensuring subsidies for the most socially necessary public transport services and this will likely mean that transport in those areas will be cheaper than it otherwise might be. As well as those on low incomes, this could be of particular benefit to those in rural areas. Bike and car share schemes, along with best value ticketing offers and encouraging people to move away from private car ownership can also reduce costs and make travel more affordable to a greater range of people. Nevertheless, it still remains that some groups may continue to experience pressures in terms of transport affordability and this issue needs to be explored further and likely continuously monitored – particularly in light of ever changing factors that contribute to general 'cost of living'.

A key element of this LTP is to make local streets more attractive by making them quieter and safer. This will include through reducing speeds and managing on-street parking. This will be of benefit to all groups, but particularly children, those with certain disabilities or illnesses and those with mobility issues (including those heavily pregnant). Benefits will be particularly experienced at a local level in urban areas and consideration needs to be made to ensure that traffic is not directed elsewhere.

The LTP recognises that the process of change can result in inequities, with on occasion communities that might stand to receive the greatest benefits can also face the biggest barriers in adapting. The pace of change is also an important consideration. The LTP notes that there will be a focus on ensuring a just transition by

- Distributing the burden of change so those who face lesser barriers and who's behaviours have the greatest inequitable impacts make bigger changes;
- Targeting support towards those facing the greatest barriers with least capacity to overcome them themselves to help them adapt as we transition;
- Setting a pace of change that gives us the momentum we need but at a pace that enables people to adapt; and
- Adopting an innovative spirit to find new ways of accessing what we need that might better help particular groups and places overcome their barriers

Environment, Health, Equalities, Safety - Sustainability through plan implementation

Acting across all policy areas is the cross cutting policy area of 'sustainability through plan implementation'. This policy area shows there is a clear process for when a transport intervention takes place to ensure that measures will be subject to the appropriate level of assessment by the relevant authority, adhere to the relevant legal framework and be reflective of the scale and nature of the project. Clear note is made that dependent on the scheme, assessment will include Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are

undertaken they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance. It is anticipated that this further assessment process will ensure that adverse effects can be minimised and beneficial effects maximised.

It is also to be recognised that the LTP, as of January 2022, is a Core Strategy only and primarily sets out the overarching aims, vision and approach as well as a framework for action on transport. More detailed policies and implementation proposals will be identified aligned to this Core Strategy. As such, many of the issues noted within this ISA, along with the recommendations made in respect of those areas of weakness, will be explored in further detail as the LTP is developed throughout the life of the plan.

11. Mitigation

11.1. Introduction

The term mitigation encompasses any approach that is aimed at preventing, reducing or offsetting any significant adverse environmental effects that have been identified. In practice, a range of measures applying one or more of these approaches is likely to be considered in mitigating any significant adverse effects predicted as a result of implementing the LTP. In addition, it is also important to consider measures aimed at enhancing positive effects. All such measures are generally referred to as mitigation measures.

However, the emphasis should be in the first instance on proactive avoidance of adverse effects. Only once alternative options or approaches to avoiding an effect have been examined, should mitigation then examine ways of reducing the scale / importance of the effect.

Mitigation can take a wide range of forms, including:

- Refining Intervention measures in order to improve the likelihood of positive effects and to minimise adverse effects;
- Technical measures (such as setting guidelines) to be applied during the implementation phase;
- Identifying issues to be addressed in project assessment (including but not limited to WebTAG,
- Environmental Impact Assessment and the development of Environmental Management Plans) for certain projects or types of project;
- Proposals for changing other plans and programmes; and
- Contingency arrangements for dealing with possible adverse effects.

11.2. Mitigation approaches applied through ISA

A number of mitigation approaches have been used through development of the LTP in order to mitigate potential adverse effects. These have included the following:

Table 11-1 - How mitigation has been incorporated into the LTP

Mitigation approach	How has this been incorporated into the LTP
Refining Policies in order to better reflect the ISA Objectives and improve the likelihood of positive effects and to minimise adverse effects	Assessment was made of a draft LTP5 and recommendations were made in relation to clarifying and bolstering aspects of sustainability. Amendments were made across a number of the policy areas, along with other elements of the LTP. How these recommendations were addressed is detailed in Chapter 10 and Appendix B. It is also to be noted that as of January 2022, the LTP is developed as a Core Strategy and primarily sets out he overarching aims, vision and approach as well as a framework for action on transport. More detailed policies and implementation proposals will be identified aligned to this Core Strategy. As such, many of the recommendations made within the ISA, will be explored in further detail as the LTP is developed throughout the life of the plan.
Refining Interventions / Measures in order to improve the likelihood of positive effects and to minimise adverse effects	No interventions have been set out at this stage of LTP5 development (Core Strategy). As noted in the LTP '*more detailed policies and implementation proposals will be identified aligned to the core strategy. These will be set out in 6 strategies relating to our 6 Big Moves – focussed on regionwide principles and proposals for each Big Move – and 4 Area Strategies – focussed on the planning of implementation proposals across our neighbourhoods, centres and corridors. The Big Moves and Area Strategies will be developed in tandem. The Area Strategies will be particularly important for resolving how implementation proposals across the 6 Big Moves will be delivered alongside each other in particular places, and for accounting for the land use and development proposals within Local Development Plans.*

	There are always more implementation proposals than resources allow for. The Implementation Plan will set out our priorities for implementation proposals, how funding sources will be used to deliver these, and timescales for development and delivery. The implementation plan will also set out plans for further policy and scheme development where concepts require further maturation'. It is to be noted that any intervention arising from the LTP will be subject to assessment that will include (as appropriate) Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are undertaken they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance. In addition, Environmental Management Plans will be developed and implemented for all construction, refurbishment and maintenance contracts and will include the findings and suggested mitigation from any assessment made. The EMPs will consider material resource use, energy use, and other environmental issues relevant to the scheme, and will explain how risks and impacts will be mitigated, managed and addressed.
Technical measures (such as setting guidelines) to be applied during the implementation phase	As above.
Identifying issues to be addressed in Scheme / Intervention assessment (i.e. at Project level), including but not limited to WebTAG, Environmental Impact Assessment and the development of Environmental Management Plans, for certain projects types of project	The ISA made a clear recommendation within the Assessment of policies to ensure that the LTP5 sets out clearly a process of how sustainability issues will be considered in future scheme development. The LTP5 Core Strategy sets out that dependent on the scheme, assessment will include as required, Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are undertaken, they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance (or equivalents prevailing at the time) throughout the life of the LTP.
Proposals for changing other plans and programmes	No proposals have been made to change other plans and programmes as the LTP will act in accordance with a range of other Plans and Programmes e.g. local development plans and there are clear commitments made within the LTP for TfWM to work with a range of partner organisations and stakeholders. For examples, within the section of the Core Strategy relating to 'Working together' note is made that the successful delivery of the LTP will require other partners to deliver the policies and implementation proposals within it, reflecting them in their own plans. There are a number of delivery partners who are critical for delivering this LTP: • The seven metropolitan borough authorities as highway, traffic and planning authorities. • Local public transport operators who are responsible for running the buses, trams and trains our citizens use every day. • National Highways, Network Rail and HS2 who are responsible for managing and developing the strategic road network and railways in the West Midlands.
Contingency arrangements for dealing with possible adverse effects	The ISA has indicated a series of possible monitoring indicators that will be implemented through the LTP delivery and linked to wide programme delivery. The Core Strategy notes that '*the LTP will be dynamic allowing TfWM to make different choices over time and in different place according to monitoring and evaluation of local transport policy delivery and impacts*'. It is anticipated that the monitoring programme will cover significant social, environmental and economic effects and which will involve measuring

indicators that will enable the establishment of a causal link between the implementation of the LTP and the likely significant effects (both positive and negative) being monitored. This will allow identification at an early stage of unforeseen adverse effects and allow appropriate remedial action to be undertaken.

12. Cumulative, Synergistic and Indirect Effects

12.1. Introduction

As noted in the SEA Directive, there is a requirement to consider cumulative, synergistic and indirect effects of implementation of the LTP. Secondary and indirect effects are effects that are not a direct result of the LTP, but which occur away from the original effect or as the result of a complex pathway. Cumulative effects arise where several proposals or elements individually may or may not have significant effect but in-combination have a significant effect due to spatial crowding or temporal overlap. Synergistic effects are when two or more effects act together to create an effect greater than the simple sum of the effects when acting alone.

12.2. Likely cumulative effects

ISA Objectives which have the potential for cumulative effects have been identified (as required by the SEA Directive) from the analysis of plans and programmes, the baseline data, consultation responses and an examination of the identified key issues and cumulative, synergistic and indirect effects have also been considered during the ISA. These relate to air quality, carbon emissions, biodiversity, landscapes and townscapes, flooding, soil, agricultural resources and contaminated land, economic growth and health and well-being and equalities.

12.3. In-plan cumulative effects

The results of the direct effects of the LTP proposals are discussed in Chapter 10. It is considered that the proposals can interact cumulatively across sustainability issues as shown in Table 12-1. The identification of these effects already takes into account the fact that TfWM have taken on board earlier recommendations to improve the sustainability performance of the LTP.

Table 12-1 - In-Plan cumulative effects

Effects	Causes	Significance
Air pollution emissions	It is considered that the LTP will have an overall cumulative beneficial effect on air quality. This beneficial effect will be derived from a clear focus on reducing traffic across the region and enabling a switch to public transport or more active modes, as well as encouraging an uptake in electric vehicles and digital connectivity.	Anticipated short to long term moderate beneficial effects – benefits may be reduced if an outcome is continued reliance on the road network and a low uptake / provision for net zero vehicles as opposed to more sustainable modes of transport.
Reducing carbon emissions	It is considered that the LTP will have an overall cumulative beneficial effect on reducing carbon emissions. This beneficial effect will be derived from a clear focus on reducing traffic across the region and enabling a switch to public transport or more active modes, as well as encouraging an uptake in electric vehicles and digital connectivity.	Anticipated short to long term moderate beneficial effects – benefits may be reduced if an outcome is continued reliance on the road network and a low uptake / provision for net zero vehicles as opposed to more sustainable modes of transport.
Flooding	It is considered that the LTP could have overall mixed beneficial and adverse effects in terms of flooding. Development of infrastructure could lead to an increase in impermeable area and contribute to increased flood risk by increasing runoff. However, opportunities will be provided for increasing permeable areas such as through the development of open green space or the	Overall mix of slight beneficial and slight adverse over the medium to long term as the LTP is implemented.

	implementation of SuDS. It is considered that effects (beneficial or adverse) will be slight on a regional scale.	
Biodiversity	It is anticipated that there will be a mix of beneficial and adverse effects on biodiversity from implementation of the LTP. For example, development of transport infrastructure could lead to direct loss of habitat or both direct and indirect disturbance on species and habitats. However, elements of the LTP such as the provision of open green space and improved public realm could provide opportunities for planting and biodiversity enhancement / net gain. The clear focus within the LTP on improving air quality and reducing traffic volumes / encourage uptake of active travel modes and EV's would also likely result in less pollution deposition and less disturbance as well as potentially less direct road kill. There is also a potential for sites designated for nature conservation to benefit from less pollution deposition and less disturbance.	Adverse effects are considered most likely in the short term (particularly during construction of any infrastructure), with beneficial effects more likely to be experienced in the medium to long term as the uptake of active travel modes and EVs continues and pollution and noise levels decline.
Landscapes and townscapes	It is anticipated that there will be a mix of beneficial and adverse effects on landscapes and townscapes from implementation of the LTP. For example, adverse effects could be derived from the development of transport infrastructure introducing new features in the landscape. On the other hand, elements of the LTP such as public realm improvements, new open and green spaces, Low Traffic Neighbourhoods etc., along with a general reduction in traffic volumes and congestion provide opportunities for enhancement.	Adverse effects are considered most likely in the short term (particularly during construction of any infrastructure), with beneficial effects more likely to be experienced in the medium to long term.
Soil, agricultural resources and contaminated land	It is anticipated that there will be a mix of beneficial and adverse effects on soil, agricultural resources and contaminated land from implementation of the LTP. For example, the development of transport infrastructure could lead to loss of soil and agricultural resources through encroachment, while opportunities may also be provided for remediating areas of contamination.	Adverse effects are considered most likely in the short term (particularly during construction of any infrastructure), with beneficial effects more likely to be experienced in the medium to long term.
Economic growth	It is anticipated that the LTP, through its focus on reducing congestion and providing new travel options will help drive economic growth through for example, making it easier and potentially cheaper for staff to get to work or for customers to get to businesses. There would also be more transport options for people to access jobs and skills. Better and more efficient infrastructure may also make doing business easier e.g. by reducing congestion and will potentially help to attract inward investment.	Anticipated major beneficial effects over the medium to long term as schemes are implemented.
Health, wellbeing and equalities	It is anticipated that the LTP will act to promote health and well-being and equalities through providing greater access to services and employment opportunities, as well as greater opportunities for active travel. There is also a clear emphasis on low traffic neighbourhoods, reducing vehicle numbers and vehicle speeds. Improvements to air quality and a reduction in noise levels will also benefit health. Some parts of the population though may not be able to take full advantage e.g. the elderly, or those with certain disabilities in terms of active travel and there also remains uncertainty the cost of digital connectivity	Anticipated moderate beneficial effects over the medium to long term as schemes are implemented, though with some uncertainty of effect on elements of the population.

which may be an issue for some groups. The LTP sets out how affordability can be addressed for public transport.

12.4. In-combination cumulative effects with other plans and projects

The ISA has also considered other plans and projects that might lead to cumulative effects when combined with the LTP.

Table 12-2 - Cumulative effects with other plans and projects

Plan	Overview	Potential for cumulative effects with LTP5
Range of other transport related Plans and Policies as noted within the LTP	As noted within the LTP, whilst TfWM does have statutory responsibility to set the Local Transport Plan for the area, it does not have direct responsibility for managing and operating most aspects of the transport system. As such, there are a range of transport related plans and policies that can influence, or be influenced by the LTP.	There is a potential for a range of cumulative effects (beneficial or adverse) in respect of how the wide range of other plans and policies interact with LTP5. However, clear note is made within the LTP of the requirement for involving many partners in transport delivery. The LTP notes that WMCA, TfWM and the seven metropolitan borough authorities will continue to work together with local partners such as transport operators, with our neighbouring local authority partners, with our regional partners such as West Midlands Rail Executive and Midlands Connect, and with national partners such as Government and the national agencies responsible for transport functions. The successful delivery of the LTP will require other partners to deliver the policies and implementation proposals within it, reflecting them in their own plans. Note is also made within the LTP of the delivery partners who are critical to delivering the LTP and this covers the full range of transport providers and enablers. As such, it is considered that cumulative effects can be managed to ensure beneficial effects are maximised while adverse are minimised.
There are a range of major developments or infrastructure projects underway or expected to commence within the West Midlands. Noted examples include (but are not limited to): West Midlands Gigafactory; the Battery Innovation Centre and other infrastructure projects to support development of EV charging etc.; HS2; West Midlands Interchange; M54 to M6 Link Road; Redditch Branch Enhancement Scheme; M42 Junction 6	Each of the noted schemes (along with other developments not noted) will require significant construction activities.	While locationally spread across the West Midlands and likely to be constructed at varying periods, such schemes have the potential to interact with Schemes derived from the LTP and have a cumulative effect on sustainability (beneficial or adverse). At this stage (LTP Core Strategy) it is not possible to ascertain where such LTP schemes may be located, their nature or scale. Nevertheless, it is anticipated that due to the approach set out in the LTP for further ongoing assessment e.g. EIA and Environmental Management Plans, mitigation measures can be taken to minimise adverse effects and maximise beneficial effects. This approach will be alongside the approach noted within the LTP to minimise redundant work, seeking to “dig once” where possible and otherwise ensuring schemes include future planning to minimise disruption and costs when further schemes are progressed. Note is also made that TfWM will coordinate schemes either to avoid excessive disruption to networks

		or to capitalise on opportunities to reduce costs where multiple schemes can be delivered simultaneously nearby (without excessive disruption). In addition, it is to be expected that all major infrastructure such as that noted will be developed within the Planning framework and will itself be subject to measures to ensure cumulative effects are addressed.

13. Monitoring

13.1. Introduction

The SEA Regulations state that '*shall monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action' (Part 4 Post Adoption Procedures Regulation 17). In addition, the Environmental Report should provide information on a 'description of the measures envisaged concerning monitoring' (Schedule 2 Information for Environmental Reports).*

In line with the SEA Regulations, ISA monitoring will cover significant social, environmental and economic effects and it will involve measuring indicators that will enable the establishment of a causal link between the implementation of the LTP and the likely significant effects (both positive and negative) being monitored.

13.2. Monitoring programme

A detailed performance management plan will be developed alongside the next phase of the LTP5s development. At this time information is awaited from national Government in terms of guidance on the development of Local Transport Plans alongside guidance how reporting on transport in terms of the Government's recently published Levelling Up White Paper. A further consideration is also likely to be the Monitoring & Evaluation requirements of the City Region Sustainable Transport Settlement funding. Therefore it is not considered to be appropriate to present a definitive set of metrics at this stage.

The LTP highlights a series of strategic outcomes and transport system level impacts which are necessary to deliver the behaviour change required. As such it is considered that the performance metrics which could be included are:

- Journey time reliability for different modes including freight
- Access to centres, employment and services (including assessment of 45 minute region and 15 minute neighbourhoods)
- Highway maintenance
- Total levels road traffic
- Public transport patronage
- Active travel use
- Health indicators
- Public transport trips by trip/purpose
- Transport affordability
- Travel to school
- Economic indicators
- CO2 emissions from transport
- Air quality
- Road accidents and casualties
- Safety and security on public transport
- Digital Connectivity / Accessibility
- Spatial planning indicators

14. Summary and Conclusions

The ISA process carried out throughout the development of the LTP5 Core Strategy has been thorough and comprehensive. Iterations of the draft LTP Core Strategy have been subject to review by the ISA team and continuous dialogue has taken place with the LTP development team. It is considered that this has resulted in an enhanced incorporation of sustainability considerations as the draft LTP5 Core Strategy evolved up to and including the current draft consultation version, particularly in terms of clarity and content of proposed approach to sustainability.

Based on the findings of the ISA, it is possible to draw a number of key considerations with regards to the LTP and its 'sustainability performance'. These are outlined as follows.

In the first instance, comparison was made of the three potential scenarios to undertaking further development of transport in the West Midlands. From this comparison, it is clear that the national policy approach and the transformational approach provide a more favoured outcome in respect of the ISA Objectives, compared to undertaking a conventional approach. Of particular note are that the national policy aligned approach and the transformational approach both offer clear benefits in terms of reducing pollution and carbon emissions largely as these are more focused on reducing or managing demand, as well as improving digital connections and facilitating more sustainable modes, rather than building new infrastructure. The positive aspects of the national policy aligned and transformational approaches cut across a number of ISA Objectives – for example, a reduction in pollution emissions will have clear benefits in terms of health to all people within the West Midlands, but particularly to a range of vulnerable groups such as children, those with certain ailments, the elderly etc. This 'cross cutting' is reflected in the comparison of the scenarios.

In comparing the national policy aligned approach to the transformational approach, it is considered that the main area of difference is that benefits will be realised within a shorter timeframe under the transformational approach. However, it should be borne in mind that the requirements of this transformational approach could have implications for different groups and this is recognised – for example, it is noted that further work will be needed to understand and mitigate against any possible negative impacts on creating a fairer society.

Set out within the LTP Core Strategy are the Vision and Motives for Change and Outcome Objectives and these were shown to provide a generally firm underpinning to help ensure that the sustainability performance of the plan could be maximised. Through addressing the recommendations made, specifically by including a new section on 'sustainability throughout plan implementation', clear linkages are made between the Motives for Change and associated LTP objectives and this provides detail, context and confidence on how sustainability will be implemented throughout the lifespan of the LTP.

The LTP Core Strategy sets out particularly through a series of 'Big Moves' policy areas, as well as a 'sustainability through plan implementation' area, the approach to be taken to achieve the goals and objectives of the Plan. The ISA found that across a number of areas of sustainability, the LTP performs quite strongly. For example, in respect of both air quality and carbon emissions, it was found that the clear focus within the LTP of reducing traffic across the region and enabling a switch to public transport or more active modes as well as encouraging an uptake in electric vehicles and digital connectivity, should lead to air quality improvements and a reduction of carbon emissions. It is recognised though that there will still be emissions from public transport and enhanced rail services and it is noted that there will be investment in highway and rail infrastructure – this could lead to emissions both in construction and operation.

Other areas of strong environmental performance relate to heritage assets, landscape and townscape and these reflect elements of the LTP such as the commitment to Low Traffic Neighbourhoods, management of on street parking, developments of open spaces and enhancements to public realm. Key elements of the LTP such as the reduction in traffic, reduction in speeds and reduction in noise, are anticipated to result in improvements to tranquility, townscape, the setting of cultural heritage assets and so on.

Greater facilitation of the uptake of electric vehicles, along with an increase in active travel and the associated reduction in noise and pollution deposition will also have benefits to biodiversity. In addition, it is anticipated this will reduce the amount of hydrocarbons used, as well as reduce the potential for pollution incidents to watercourses (through accidental spillage or through polluted runoff).

The further development through the LTP and its policy areas of a safe, convenient, affordable and accessible public transport system is considered essential for enabling people to travel beyond their local neighbourhood without a car. Investment in better Public Transport Services, new shared mobility services, better and more integrated ticketing options, micro-mobility options to allow better last mile solutions and providing for those in more rural regions will all help to provide better connectivity within and across the region, as well as to neighbouring areas. This will help drive economic growth through, for example, making it easier and potentially

cheaper for staff to get to work or for customers to get to businesses. There would also be more transport options for people (including young people) to access jobs and skills. Better and more efficient infrastructure may also make doing business easier e.g. by reducing congestion and will potentially help to attract inward investment. As such, overall, it is considered that the LTP performs well in respect of promoting economic growth and job creation, and improve access and connectivity to jobs and skills for all.

A general reduction in traffic through for example the noted promotion of active travel routes, enhanced and extended public transport services, development of green spaces and enhanced public realm as well as Low Traffic Neighbourhoods and a policy focus within the LTP on improving road safety will also reduce the risk of accidents, with particular benefits for children and the elderly.

Achieving this outcome will be facilitated and enabled by cooperation between TfWM, partner organisations and other stakeholders. The need for strong linkages across organisations is reflected throughout the LTP.

Health and Equalities

It is also considered that the LTP performs strongly in respect of health and equalities, though there is a requirement (recognised within the LTP) for ongoing and more detailed consideration of many issues. In terms of health, the focus on improving air quality / reducing pollution will have clear direct health benefits for all groups, but could be particularly important to young children and those with certain medical conditions. Active travel modes will provide greater opportunities to undertake exercise in day to day life for all groups, with anticipated direct health benefits, but also improvements in wellbeing. Such improvements in health and wellbeing will also be enabled by better public realm, increased access to open spaces, Low Traffic Neighbourhoods, reduced congestion, reduced traffic speeds, reduced pollution and so on. Likewise, provision of enhanced public transport and active travel could provide for more equitable opportunities across a number of groups to access the health, leisure, educational or training services and facilities, alongside employment opportunities that they need.

However, in both health and equality terms, it is important to recognise that not all groups may benefit to the same extent from measures outlined in the LTP. For example, those with certain disabilities or the elderly may not be able to avail of active travel as much as others, while in respect of parking charges, those on low incomes could be disproportionally affected. The need for affordable connections is an important consideration of the LTP. For example, note is made of ensuring subsidies for the most socially necessary public transport services and this will likely mean that transport in those areas will be cheaper than it otherwise might be. As well as those on low incomes, this could be of particular benefit to those in rural areas. Bike and car share schemes, along with best value ticketing offers and encouraging people to move away from private car ownership can also reduce costs and make travel more affordable to a greater range of people. Nevertheless, it still remains that some groups may continue to experience pressures in terms of transport affordability and this issue needs to be explored further and likely continuously monitored – particularly in light of ever changing factors that contribute to general ‘cost of living’.

The LTP recognises such issues and sets out how these may be addressed. For example, the LTP recognises that the process of change can result in inequities, noting that on occasion communities that might stand to receive the greatest benefits can also face the biggest barriers in adapting. The pace of change is also an important consideration. The LTP notes that there will be a focus on ensuring a just transition by

- Distributing the burden of change so those who face lesser barriers and who’s behaviours have the greatest inequitable impacts make bigger changes;
- Targeting support towards those facing the greatest barriers with least capacity to overcome them themselves to help them adapt as we transition;
- Setting a pace of change that gives us the momentum we need but at a pace that enables people to adapt; and
- Adopting an innovative spirit to find new ways of accessing what we need that might better help particular groups and places overcome their barriers

To ensure a just transition and achieve the above noted points, it is the case that further considerations are still to be made as part of LTP5 development. As outlined in the recommendations of this ISA, there is a requirement that further more detailed Policy areas are developed in respect of ‘Big Moves’ and ‘Area Strategies’ and it is necessary that this consideration of health and equalities will continue through to LTP Scheme implementation. Of particular note for areas of further consideration is the need to ensure that provision of transport services, facilities, or infrastructure does not compound health or equality disadvantage for any groups in society that currently experience adverse issues using (or are adversely affected by) the transport network but rather actually improves outcomes for such groups.

Environment, Health, Equalities, Safety - Sustainability through plan implementation

To ensure ongoing consideration of issues relating to the environment, health, equalities and safety, a key outcome of the ISA process was to ensure that acting across all policy areas is the cross cutting policy area of 'sustainability through plan implementation'. This policy area shows there is a clear process for when a transport intervention takes place to ensure that measures will be subject to the appropriate level of assessment by the relevant authority, adhere to the relevant legal framework and be reflective of the scale and nature of the project. Clear note is made that dependent on the scheme, assessment will include Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are undertaken they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance. It is anticipated that this further assessment process will ensure that adverse effects can be minimised and beneficial effects maximised. This process will ensure detailed and ongoing consideration is given to the environment, as well as those protected characteristic groups or those considered vulnerable in terms of health outcomes noted in this ISA.

It is recognised that LTP5 will not act or be delivered in isolation and will influence and be influenced by, other Plans and Policies or developments across and beyond the West Midlands. On the whole, considering the nature of the policies, it is considered that many of the effects will be beneficial, though with significant beneficial effects more likely to be realised over the medium to long term in relation to issues such as air quality, carbon emissions, economy health, wellbeing and equalities. It is also to be acknowledged that there will likely be some cumulative adverse effects, though no significant adverse cumulative effects were identified.

It is important that TfWM understand the effect of the implementation of their LTP and the ISA sets out a potential series of monitoring indicators / performance metrics that will be considered and finalised alongside further development of the LTP. It is the intention that monitoring will involve measuring indicators that will enable the establishment of a causal link between the implementation of the LTP and the likely significant effects (both positive and negative) being monitored. The Core Strategy notes that '*the LTP will be dynamic allowing TfWM to make different choices over time and in different place according to monitoring and evaluation of local transport policy delivery and impacts*'. As such, this will be of particular benefit to those involved with the further iterations of the LTP and if required, will allow early remediation to be undertaken of any identified adverse effects.

It is also to be emphasised that the LTP, as of January 2022, is a Core Strategy only and primarily sets out the overarching aims, vision and approach as well as a framework for action on transport. More detailed policies and implementation proposals will be identified aligned to this Core Strategy. As noted, many of the issues set out within this ISA, along with the recommendations made, will be explored in further detail as the LTP is developed throughout the life of the plan.

Overall, it is considered that the LTP5 represents a well-balanced approach in terms of sustainability performance across the full range of potential key effects delineated in the ISA Framework, and should help ensure that the vision, Motives for Change and Outcome Objectives for the West Midlands can be achieved in a sustainable and integrated fashion.

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