
Project:	Hereford Transport Strategy Review		
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Subject:	Critical Friend - Summary of Findings		

Executive summary

Mott MacDonald (MM) has been appointed by Herefordshire Council (HC) to undertake the role of a 'critical friend', providing an independent study of the Hereford Transport Strategy Review (HTSR) currently being developed by the Council and its consultants WSP.

The Hereford Transport Strategy Review report presents the work undertaken in a clear way and summary graphics such as the radar diagrams in Chapters 7 and 8 help to draw out the conclusions of the technical work. Given the very limited time available the intention of this 'critical friend' support has not been to check any of the scoring or technical work which underpins the strategy. Instead, the focus has been a review that provides additional interpretation of the work, to review the clarity in presenting the strategy, and to pose questions on the way forward where appropriate.

The headline conclusions of the critical friend review relate to the following areas and are presented here by way of executive summary. A more detailed presentation of some of the issues addressed in the review follows in sections 1 and 2. There several themes identified which we feel would be worth further consideration before the authority progresses with adoption of the strategy:

1. The balance and clarity of reporting against objectives
2. The level of detail available for some options
3. The packaging of options
4. Induced traffic
5. Covid-19 response and future uncertainty

Balance and clarity of reporting against objectives

Within the Transport Strategy Review there is a large amount of detail on modelled percentage impacts upon the highway network as a result of the various options. This is all technically interesting detail however it detracts from what is required within a strategy, namely establishing the issues to be addressed, the objectives and what options perform most strongly in contributing to meeting the objectives. This information on the identification and assessment of objectives is all present, and includes information on a series of indicators across the 'balanced scorecard' of those objectives demonstrating the performance of packages in tackling the climate emergency, achieving Hereford's growth and economic ambitions, and in meeting broader targets for environmental sustainability and a fairer society.

The emphasis on modelling results risks focussing debate on a limited number of metrics, and on those options that bring the greatest congestion benefits, which the radar diagrams in Chapter 7 demonstrate are

not necessarily what is required for scoring positively against other outcomes relating to, for example, climate emergency and environment. There is a risk that the focus on such metrics from the modelled outputs 'hides' the benefits and disbenefits of some packages in achieving the adopted objectives. This needs to be kept in mind if these options are taken forward to the next stages of the Transport Appraisal Process. For example, given policy ambitions such as a 100% reduction in greenhouse gas emissions by 2050 it is likely that climate emergency and net zero will be key considerations for future transport infrastructure funding, as will considerations around social and distributional impacts.

There is also a point of clarity when examining some of the congestion metrics, as it is unclear within the strategy reporting exactly what some of these congestion data refer to, and where and when any decongestion benefits are likely to be seen.

Level of detail available for some options

Some options appear to have been developed and tested much more rigorously than others, which is understandable at a strategy development stage, and given the history of some proposals. For instance, given its long development history there is understandably far more detail available to support the western bypass. It is important that this doesn't result in an unconscious bias towards this option, compared with other options which could provide valid contributions towards the strategy objectives. It is important that the presentation of some of the less developed options allows for this nuance and ensures clarity in explaining the contributions to strategy objectives of some of these less well-developed options and packages.

Packaging of options

Clear presentation and explanation of how the package combinations have been tested would be helpful to the reader. For instance, Package A is shown in all packaging combinations due to its strong support from stakeholders and performance in terms of contribution towards strategy objectives, and it is important to emphasise that this is the case. In a similar way, Package C is included in all three road improvement options. There is the potential that without clear presentation of the rationale for the packaging, it could be perceived that active modes and demand management measures may be used to improve the performance of the road options, or at least present the perception that this is the case. It is also important that the packaging is presented in such a way that stakeholders and decision makers truly understand the contribution of specific packages to the achievement of objectives. The testing of combinations of packages that includes packages A and C within multiple tests has the potential to hide the impacts of some packages.

Induced traffic

Rationale for the use of the Hereford Transport Model (HTM) and the assumptions and prospective limitations are clearly laid out on p58. This page also explains the issue of induced traffic, where 'new' traffic appears once the capacity of the road network is increased. The strategy correctly notes that this may overestimate the congestion benefits identified within the road schemes, particularly over the longer term. Traffic could be induced from local or regional journeys. HTM is not able to reassign longer distance transfers which could be made as a result of any of the options and therefore it is not possible to conclusively estimate induced traffic from the data available.

The Impact of Road Projects in England Report¹ examined new schemes on the Strategic Road Network over a 20-year period using information within Highways England's Post Opening Project Evaluation (POPE) reports. The researchers found evidence that road schemes induce traffic, often far above background trends over the longer term and show little evidence of economic benefit to local economies.

¹ Transport for Quality of Life on behalf of CPRE (March 2017) <https://www.cpre.org.uk/wp-content/uploads/2019/11/TheZendZofZtheZroad.pdf>

While many schemes appeared to show improvements one year after opening, only one showed positive evidence of improved reliability in journey times five years after opening, when reliability improvements can be rapidly eroded by induced traffic.

In 2018 the Department for Transport commissioned an evidence review on induced travel demand². The work drew several tentative conclusions, of which the following is of most relevance to the Transport Strategy Review:

Induced demand is likely to be higher for capacity improvements in urban areas or on highly congested routes. There is little evidence that extreme levels of induced demand would occur on the Strategic Road Network although on highly congested parts of the network there may be a clear localised response.

One interpretation from this is that a highway capacity improvement scheme that delivers the highest congestion relief, especially if it is in an urban area, could be the most likely to induce additional demand.

Covid-19 response and future uncertainty

Page 90 of the Transport Strategy Review considers the impact of Covid-19 upon travel. A sensitivity test has been undertaken to see the impact of 20% less peak hour travel demand. This demonstrates a benefit in reducing peak hour congestion and journey times and the assumptions made appear reasonable.

Another approach to understanding the impact of Covid-19, which if nothing else has demonstrated the uncertainty of the future, even in the short term, would be to address the strategy by moving away from modelled forecast impacts. The current period of regime transition towards a new form of mobility system that supports a future society in which working, education, leisure, and consequent travel patterns have changed so dramatically in a short period of time suggests an alternative approach may be appropriate. Technological innovation, travel behaviour change, as well as the impact of the Covid-19 pandemic all lead to deep uncertainty around how we plan for transport in the future.

Traditional transport planning has been driven by adhering to trends and the nature of the world we have known. This has resulted in the forecast led paradigm commonly known as 'predict and provide'. Planning for the future by solely looking in the rear-view mirror is no longer adequate in the face of the opportunities, threats and uncertainties ahead. What is required is strong planning that is vision-led, and which negotiates uncertainty to achieve more resilient decision making. Data will still need to be used to differentiate approaches within a vision, however it is vital that overreliance on metrics which may no longer be appropriate do not cloud the aims of a strategy.

Scenario planning offers a technique which instead of forecasting a single future, develops scenarios by identifying key uncertainties which depict multiple plausible futures. One of the benefits of scenario planning is that it removes some of our biases and assumptions about what we think the future will be, by drawing our attention to the multiplicity of futures which could occur. Furthermore, the technique helps us to imagine the future we want to see, rather than an unsatisfactory future planned for using the common 'predict and provide' regime.

1. Introduction

1.1 Project context

The Transport Strategy for Hereford is currently being reviewed and alternative options are being considered in the context of the declared climate emergency. It is separate from a review of the Local Plan Core

² WSP and Rand Europe (May 2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/762976/latest-evidence-on-induced-travel-demand-an-evidence-review.pdf

Strategy or the Local Transport Plan, but the work could inform future reviews of these policies and plans. The geographical scope of the work is Hereford but naturally the strategy is required to recognise and account for travel patterns to and from the rest of the County and further afield which impact upon the city.

The emerging work by WSP considers current and future transport issues, sets new objectives, develops alternative transport options for Hereford, and includes an initial appraisal of these.

1.2 Outputs

Independent 'critical friend' support provided by Mott MacDonald is not intended to be a detailed technical review to establish compliance with TAG³; the work is a more informal independent logic check, to help with interpretation of the outputs, and to question the emerging strategy work where appropriate. The work is in no way intended to be a check or audit of modelling or other technical outputs. This 'critical friend' review examines the key issues within the draft strategy and provides commentary where there may be alternative options or where the outputs may be subject to different interpretations.

The project has the following stages and deliverables:

- **Initial discussion** (with HC and WSP) to understand the brief for the HTSR and the approach being taken. This was held on 21/08/20.
- **Discussion** (with HC Cabinet Member for Infrastructure and Highways) took place on 16/09/20. The following key issues were identified, and they have helped to inform the initial direction of travel during this critical friend support:
 - A review of strategy objectives and packaging
 - A review of road elements and congestion benefits
 - Whether there is unconscious bias towards the western bypass, given its technical evidence base is much further progressed than the other options
 - Future uncertainty and alternative scenarios.
 - Where do the benefits come from and how soon will they be realised?
- **Investigation of issues within the Transport Strategy and reporting.** This Technical Note constitutes this project deliverable.

1.3 Documents provided

The following documents have been provided by HC:

- Hereford Transport Strategy Review (dated 18/09/20, received 21/09/20)
- Draft Package Assessment Framework (received 26/08/20).

2. Critical friend review

2.1 Introduction and approach

The critical friend team has undertaken a rapid review of the Hereford Transport Strategy Review report, with emphasis on the following areas:

- Consideration of the relationship of the strategy with existing and emerging policy
- Appreciation of the suitability of the objectives

³ <https://www.gov.uk/guidance/transport-analysis-guidance-webtag>

- Examination of the proposed options
- Review of how the packages have been derived (e.g. scoring and consultation).

The critical friend review commentary follows the sections within the HTSR report, namely:

- Chapter 2 – Hereford’s Major Challenges
- Chapter 3 – Hereford’s Transport Fact File
- Chapter 4 – Strategy Objectives
- Chapter 5 – Option Development
- Chapter 6 – Option Assessment
- Chapter 7 – Recommendations

The earlier ‘executive summary’ section of this Technical Note provides a summary of Mott MacDonald’s findings.

2.2 Chapter 2 – Hereford’s Major Challenges

2.2.1 Chapter summary

This sets the scene for the strategy, providing data, analysis and policy context relating to the climate emergency, economy, environment and society. Legal and funding context is provided; this is useful as it is important that any strategy is realistic and is framed within an appropriate and realistic context and demonstrates awareness of how its vision can be delivered. The Chapter also outlines the stakeholder engagement undertaken to inform the strategy.

2.2.2 Review comments

2.2.2.1 Climate emergency, economy, environment and society

Key issues are set out providing structure for objectives and outcomes later in the transport strategy. Relevant reference is made to each of the four key areas, linking Hereford’s challenges to broader regional, national and international policies. The emphasis of these key challenges highlights the need for transport investment initiatives to encompass a wholly sustainable approach, thus achieving Hereford’s growth and economic ambitions, while meeting broader targets for environmental sustainability and improved connectivity.

Reference is made to the fact that “*the majority of journeys in Hereford involve little or no physical activity*” (p17), however the analysis of travel modes and distances suggests that 25% of trips within Hereford are made by active modes, with 38% of commuter trips being less than 2km. There is little mention to the benefits of public transport in achieving objectives around the climate emergency, economy, environment and society. This section draws reference to the historical bias of transport schemes towards the investment in road schemes, but not how future investments can be used to shape a vision for Hereford, by meeting objectives and improving the transport offering.

The benefits of walking and cycling are briefly discussed, referencing that these schemes “generate ‘very high’ value for money when assessed against the Treasury criteria” and the potential health benefits of more active lifestyles. Additional information on further benefits of active modes could be included in this section, not least an increase in economic activity as a result of increased footfall in high-street environments, and the positive impacts pedestrianisation can have not just on the environment, but also for the local economy.

2.2.2.2 Legal and funding context

Midlands Connect has an important regional role in transport strategy, funding and delivery. Documents published by Midlands Connect are referred to in Chapter 3, but they are not mentioned on p14 under the role of other organisations.

Gear Change: A bold vision for cycling and walking⁴ (DfT, July 2020) is referred to in Chapter 3 under key policy documents. Its importance relating to funding context (p15, Hereford Transport Strategy Review) should also be emphasised:

*"Active Travel England's assessment of an authority's performance on active travel will influence the funding it receives for other forms of transport. Since active and sustainable travel will be at the heart of our policy, Active Travel England's assessment of **an authority's performance with respect to sustainable travel outcomes, particularly cycling and walking, will be taken into account when considering funding allocations for local transport schemes**. We will consult on introducing new criteria to measure local highway authorities' performance in respect of sustainable travel outcomes, particularly cycling and walking, when considering funding allocations for local transport schemes."*

2.2.2.3 Consultation responses

Consultation responses are summarised for questions regarding important outcomes and effective interventions.

The most popular public responses were 'reduce congestion, improve traffic flow', 'quicker/more reliable journey times', 'reduce carbon emissions and improve air quality' and 'offer a realistic alternative to the car'.

The most popular public responses for interventions were 'invest in bus network - electric buses, reduce fares', 'increase capacity – new roads, new river crossing' and 'support sustainable school travel/safer routes to school'.

Part of a scheme promoter's role is to establish whether these outcomes could all be achieved and how much the interventions suggested could contribute to these. Some of the desirable outcomes may not be compatible with each other, for example if traffic flow is improved what is the 'stick' to bolden the incentive to use realistic alternatives to the car? Whilst reducing congestion could result in marginal improvements to carbon emissions and air quality at source there is a risk of more traffic being induced which would mean more emissions overall within Hereford. For balance it should be noted that when solutions were consulted upon (p66), the road options were the least popular with Members and the stakeholder reference panel.

2.3 Chapter 3 – Hereford's Transport Fact file

2.3.1 Chapter summary

This chapter uses data to summarise existing travel patterns in the city and its key issues. Future trends and technology are also considered.

2.3.2 Review comments

2.3.2.1 Baseline information

Baseline data offers a broad overview of the transport network and usage within Hereford, with direct comparisons made through local, regional and national datasets. This section references Herefordshire

⁴ <https://www.gov.uk/government/publications/cycling-and-walking-plan-for-england>

Council's membership of Midlands Connect and the strategic importance of the key roads running through the city itself.

While it's appreciated that data is readily available for motorised modes of transport, there is significantly greater detail in this analysis than for other modes. Active modes, for instance, could possibly be expanded on, with the inclusion of wider cycling data from the Propensity to Cycle tool, or even data from Strava which could offer further insights into the key walking routes, as well as cycling. Further baselining data could strengthen the arguments for investment for the preferred scheme/package.

The diagram on p22 is missing data for the link between zones 1 & 4 (the alignment between zones representing the connection made by the western bypass link). Given that highway investment on this alignment is the focus of one of the package options later in the strategy, it would be helpful to have the context of existing trips between these zones.

2.3.2.2 Evidence from other policies and strategies

In addition to the Future of Mobility: Urban Strategy⁵ (DfT, March 2019), WSP is currently developing the Future of Rural Mobility Study on behalf of Midlands Connect, which we understand may inform DfT thinking on national rural mobility. Given Hereford's rural surroundings this emerging work may also be of relevance to the strategy's development in due course, including for mobility hubs identified in package A of the strategy.

2.4 Chapter 4 – Strategy Objectives

2.4.1 Chapter summary

This chapter explains the strategy objectives, outcomes and indicators. The four objectives are:

- **Climate Emergency:** Reducing carbon emissions from the transport sector to meet the 2030 target of zero emissions
- **Economy:** Creating a resilient transport system which allows reliable and efficient movement of people and goods and which supports sustainable development and a thriving local economy
- **Environment:** Reducing air pollutants to create attractive and high-quality places to live, work and visit whilst also protecting, conserving and enhancing the natural environment and Herefordshire's built environment and
- **Society:** Providing an affordable, safe and secure transport system for all sectors of society which facilitates improved public health and has limited adverse impacts on communities.

There are 16 outcomes and 35 indicators which options are assessed against to identify their contribution towards the four objectives.

2.4.2 Review comments

Fundamentally, the objectives and outcomes of the transport strategy link back to the four key issues outlined in Chapter 2, namely:

- Climate Emergency
- Economy
- Environment
- Society

⁵ <https://www.gov.uk/government/publications/future-of-mobility-urban-strategy>

Four outcomes are listed for each of the issues, with a total of 35 indicators outlining contributors to achieving each outcome.

The outcomes themselves are relevant and applicable to both the strategy and the respective issues, however they are not 'SMART' objectives which would strengthen the strategy by offering viable and attainable measures of success to a specified timescale. In order to meet the chapter title (Setting the Strategy Objectives) a SMART approach could improve this section.

2.5 Chapter 5 – Option Development

2.5.1 Chapter summary

Chapter 5 provides a longlist of 18 options, which have been developed from a combination of previous studies, stakeholder and member inputs, as well as new thinking to contribute to addressing issues such as the declared climate emergency.

Figure 2.1: Long list of options

Option 1: Enhanced Travel Promotional Campaign	Option 2: Improved Cycling and Walking Infrastructure	Option 3: Safer routes to school	Option 4: Improved school bus service	Option 5: Electric Hopper Bus	Option 6: Bus priority
Option 7: Ultra Light Rail System (ULR)	Option 8: Demand responsive public transport (DRT)	Option 9: Shared mobility	Option 10: First Mile/Last Mile and Mobility Hub Interchange	Option 11: Demand management	Option 12: Intelligent Transport System (ITS)
Option 13: Traffic signal removal on the A49	Option 14: Western Bypass	Option 15a: Full Eastern Bypass (with Southern Link Road)	Option 15b: Full Eastern Bypass (without Southern Link Road)	Option 15c: Eastern Link	Option 15d: Eastern River Crossing

Source: Hereford Transport Strategy Review, p39

2.5.2 Review comments

The options are summarised within the strategy document and there is much more technical detail behind the options identified not included here. However, several options appear to be presented in much less detail than some others. Also, some options presented for Hereford have little in common with the context of the city than others, and some example studies may not be the best exemplars for Hereford. This is perhaps not unreasonable at this stage, but should more nuanced approaches be presented with some of the options?

Estimated capital and revenue costs provide useful context for the scale of intervention, particularly in the case of options which appear earlier within their feasibility cycle, where the quantum of measures is less well defined.

It has been noted that the Covid-19 pandemic has a huge short and medium impact on public transport and all movement patterns in general. This serves to illustrate the uncertainty around planning for future transport in Hereford, and more widely.

In the bottom right corner of each option slide there is a summary of opportunities and challenges. It is unfortunate that all options are presented as having more challenges than opportunities, with the majority being presented as having a single positive opportunity. We do not believe this is because the options are in the main deficient or not worth pursuing, however, we would recommend that prior to publication of the final

strategy more positive opportunities for each option are emphasised to highlight the strategic case for each potential intervention and to provide a more balanced summary of the options.

2.6 Chapter 6 – Option Assessment

2.6.1 Chapter summary

47 indicators across climate emergency, economic, social, environmental, acceptability, deliverability and affordability criteria have been used to assess the long list of options. Climate emergency, economic, social and environmental impacts have been assessed using the five-point scoring criteria similar to a TAG Appraisal Summary Table (large adverse, adverse, neutral, beneficial, large beneficial). The other themes and indicators have been assessed using bespoke scoring criteria, all of which are logical.

2.6.2 Review comments

Rationale for the use of the Hereford Transport Model (HTM) and the assumptions and prospective limitations are clearly laid out on p58. This page also explains the issue of induced traffic, where 'new' traffic appears once the capacity of the road network is increased. The strategy properly notes that this may overestimate the congestion benefits identified within the road schemes, particularly over the longer term. Traffic could be induced from local or regional journeys. HTM is not able to reassign longer distance transfers which could be made as a result of any of the options and therefore it is not possible to conclusively estimate induced traffic from the data available. More discussion on induced traffic is provided in the preceding executive summary of this Technical Note.

It isn't possible to tell from the strategy whether the western and eastern bypass options are expected to induce the same level of longer distance transfers.

In terms of engagement walking and cycling infrastructure and safer routes to school scored highly with both Members and the stakeholder panel. The stakeholder group also scored bus and demand management options highly. Road options, particularly the eastern route variants scored poorly with both groups, but public consultation considered that increasing road capacity was one of the most popular interventions alongside investing in the bus network and supporting sustainable and safe routes to school.

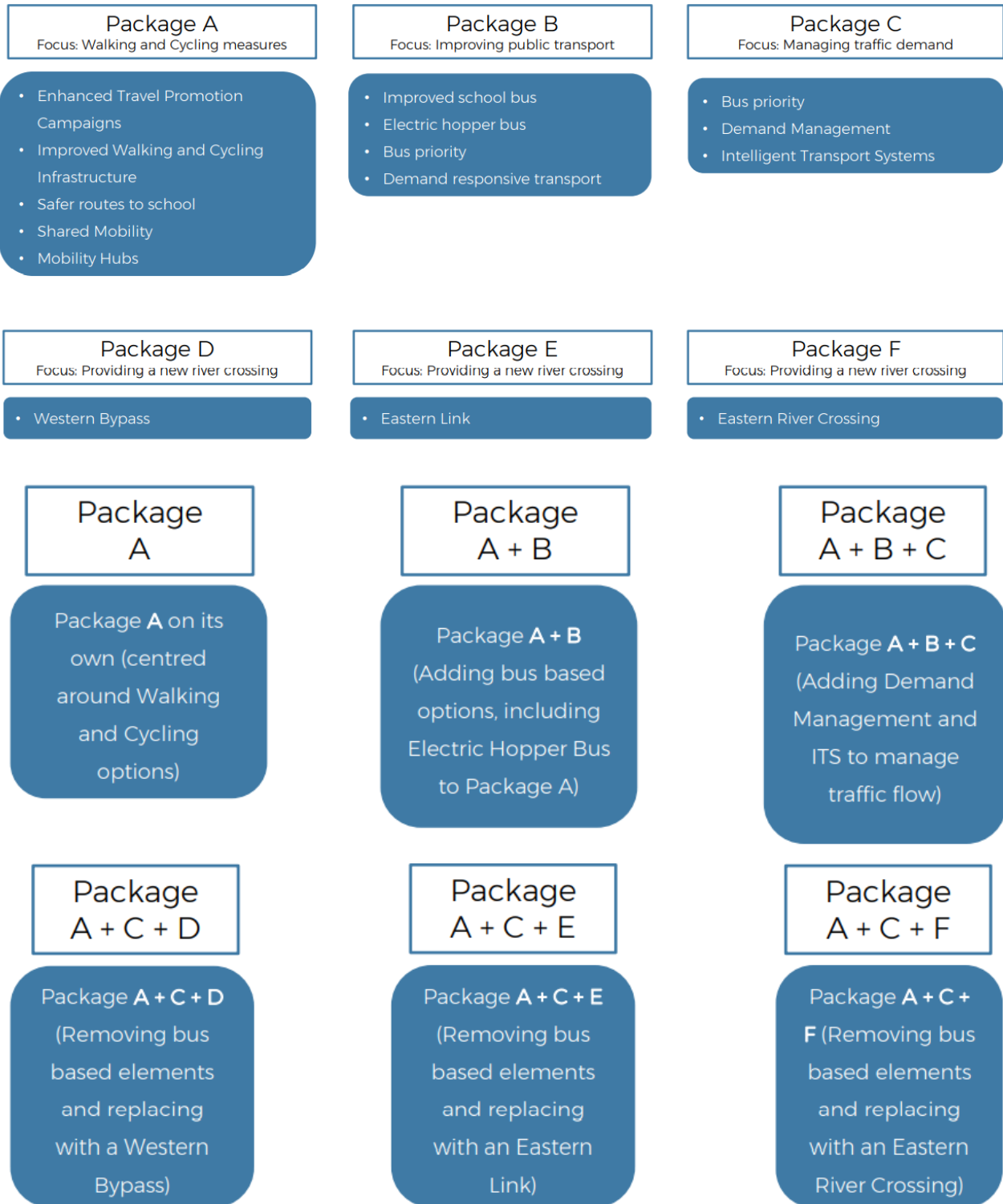
2.7 Chapter 7 – Packaging the options

2.7.1 Chapter summary

At the end of Chapter 6, several poorly performing options were discarded following an initial sift in line with the Transport Appraisal Process, which was supplemented by stakeholder comments. These were ultra-light rail, traffic signal removal and the full eastern bypass.

The options were then grouped into six packages as shown below, before being tested in combination.

Figure 2.2: Packages and package combinations for testing



Source: Hereford Transport Strategy Review, p69 & p70

2.7.2 Review comments

Packages A to C have a logic in their groupings. There could be a case to provide variants of these packages with greater or lesser ambition. Packages D to F all have the focus of providing a new highway option for the river crossing. They would contribute towards the economy objective by creating a resilient transport system.

The rationale for how the package combinations have been identified for testing comes across much less clearly than grouping of interventions within the individual packages. It would be helpful to provide more introductory text to assist the reader and provide clarity around the rationale for packaging and testing.

Package A is included in all combinations for testing given its strong support and performance in terms of expected benefits to cost. There is also a rationale for adding the bus and in turn the demand management packages to active travel to explain the cumulative impact of these options, though there is no clarity from the tests run of the impact of these packages in isolation.

Package C (demand management measures, which focus on parking management in the centre of Hereford) is also included in tests for all three road options. Is it a prerequisite that demand management is required for all road options? Presentation of the impact of the packages in isolation would be useful, as would clarity around the rationale for the complementarity of the demand management packages to the highway improvement packages presented.

The inclusion of packages A and C in tests for the highway improvement packages could present a perception that the active modes and travel demand measures are used to enhance the benefits associated with the three road scheme options.

2.8 Chapter 8 – Package comparison

2.8.1 Chapter summary

The positives and negatives of each package are summarised and compared against the other packages. Respective contributions to strategy objectives are also noted.

2.8.2 Review comments

Society benefits are generated from package A. Given this is included in all tests, contributions towards this metric are not differentiated within the other five combined packages tested.

This section shows changes in carbon emissions and congestion for package A and the three packages with road elements included. Given the current uncertainty in traffic demand forecasting (see earlier comments) there is a risk that too much emphasis could be placed on the quoted percentages at this early stage within the prospective development of these packages. Whilst the supporting modelling work will indicate this, a strategy document is not detailed enough to go in to exactly what the reductions actually mean, for example *'greater reductions in congestion across the city (29%) and within the city centre (19%) than the other packages'* in the case of package A + C + D (p87). Is this on particular links, all links or particular junctions, for example? What is the difference from this to the 23% congestion relief in the east option in real terms? It feels incredibly precise for a strategy and risks distracting from ensuring decisions are made on the basis of how options meet the strategy objectives, in the same way calculation of outline BCRs could do at this very early stage in the scheme development process. The congestion savings need to be put in perspective against the respective contribution towards the climate emergency, environmental and society objectives, as well as the much higher capital costs of the road schemes.