Transport Vision 2050

- **Driving Prosperity**
- **Enhancing Places**
- **Supporting People**

Public consultation on a new
Local Transport Plan for Hertfordshire

Autumn 2016
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www.hertfordshire.gov.uk/ltp

Hertfordshire

Foreword

Hertfordshire County Council is planning how our transport system should develop over the next 35 years so that Hertfordshire can continue to prosper as our population and economy grow.

By 2050 forecasts predict that the population of Hertfordshire will have grown by around 400,000 to over 1.5m, having a huge impact on congestion and journey times, particularly during peak travel periods.

That is why Hertfordshire County Council is developing a new long-term transport strategy that sets out how we can manage this extra strain on our transport networks. This strategy will provide a framework to guide all our future transport planning and investment. Our goal is for Hertfordshire to remain an attractive place to live and work in. The agreed strategy will be in a new Local Transport Plan for Hertfordshire (LTP4).

The LTP requires that we highlight problems in our current transport network, identify major transport schemes required and consider a wide range of options to help support future growth. At this stage our proposals include enhancing walking and cycling provision; better public transport between towns; technology to better manage traffic on our key routes; and embracing modern technology to facilitate more shared transport schemes such as lift-share and car clubs. We also propose some additional highway capacity on the most congested parts of the network, where conditions would otherwise deteriorate due to the forecast population and traffic growth. However we cannot simply build our way out of trouble, and we must consider ways of reducing the ever increasing demand for road space.

This paper sets out our ideas, but before we come to any conclusions on what to include in our plan we'd like to hear the views of people in Hertfordshire. This consultation asks for your views on the challenges we face, the ideas we have identified for the future of transport in Hertfordshire and the strategies to meet those proposed objectives.

I hope that you will make your voice heard and join in the conversation by reading this document and responding to the consultation questions.

Derrick Ashley,
Cabinet Member for Transport,
Hertfordshire County Council

What is this consultation?

We want to hear your views on the future of transport in our county, in advance of preparing our full strategy in 2017. This strategy – called the Local Transport Plan or LTP – will set out our objectives and approach for improving transport in Hertfordshire. At this stage we are consulting on some of the possible content of this strategy, which includes some new policy options and major schemes. This will help define the 'big picture' direction of travel and transport in Hertfordshire. Following this consultation the full strategy will be developed and then consulted on.

Developing a new Transport Vision and Plan for Hertfordshire

Development of a new Local Transport Plan for Hertfordshire has progressed through a number of stages since work commenced in 2014.

Stage 1 defined what a positive future transport vision for Hertfordshire would be, and the challenges, issues and opportunities faced by the county now and in future years. Stage 2 provided a greater understanding of how transport can support local economic growth, and outlined some broad transport strategy options and packages of schemes to support this. It also considered the interaction of land use and transport planning during and beyond the current Local Plan period (up to 2031). Local stakeholders were engaged in the work as part of both of these stages.

This consultation marks the end of Stage 3 in the development of the new LTP. This stage has analysed evidence on each of the LTP objectives outlined on page 12, and developed options for new local transport policy. Stage 3 also identified a preferred package of major transport schemes that could form part of the new plan, and page 24 onwards provides more information on these and how they have been identified.

An important source of evidence during Stage 3 has been the development of a new countywide multimodal transport model (known as COMET). This has provided a better understanding of current and future travel patterns, transport conditions and the ability to test the impact and value of the proposed major transport schemes detailed later in this document.

Following this consultation the development of the new plan will enter its final phase, where the feedback received will shape the full draft plan and updated set of transport polices. This will then be subject to a further round of consultation in advance of its adoption by the County Council.

As well as taking into account national and local policy, the new plan will consider various reports regarding its impact on the county's communities, environment and natural habitats throughout its development. These reports are also available for comment during this public consultation, and will be updated during further development of the strategy.

A Vision for Hertfordshire

Hertfordshire is a thriving and prosperous county. Our strong and successful economy and our fair and inclusive communities are all built on the bedrock of an efficient and reliable transport network. We want to make sure a future Hertfordshire continues to be a county of opportunity.

Fig. 1: Hertfordshire Vision

The Current Transport System and Likely Improvements

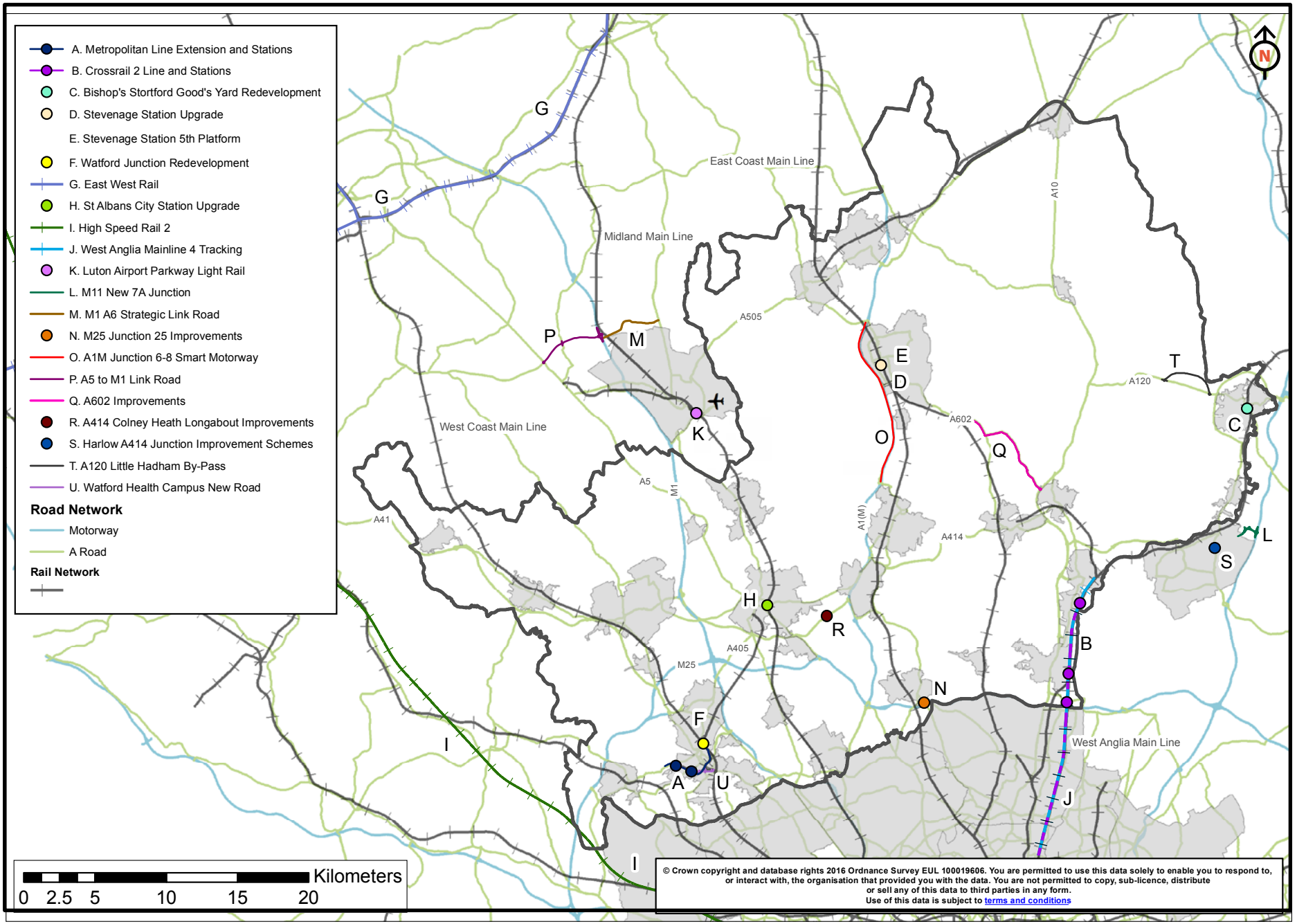
There are already a number of planned and proposed transport improvements that are likely to be delivered over the next 20 years. These are illustrated in Fig. 2. Collectively these will help tackle existing transport problems, and support the delivery of housing and employment growth. Some of these are being delivered by the county council or other local authorities outside of the county, whilst others are being delivered by national transport agencies such as Network Rail or Highways England.

The map includes schemes which are already being delivered such as the A5 to M1 link road, Harlow A414 junction improvement scheme and Watford Heath Campus New Road. It also includes schemes which have funding secured and so are very likely to be delivered such as St Albans City Station Upgrade, Metropolitan Line Extension in Watford, the M25 Junction 25 improvements, A1M Junction 6-8 Smart Motorway, A602 improvements, A120 Little Hadham Bypass and Stevenage Station Fifth Platform. Other schemes shown are at various stages of implementation, but are considered to have realistic prospect of being delivered.

The schemes will predominantly either enhance our rail network or our roads. Of the rail improvements, major schemes like the Metropolitan Line Extension, proposed Crossrail 2 and Stevenage Station upgrade schemes will serve as catalysts for regeneration, development and wider local transport improvements. The proposed High Speed 2, whilst not serving Hertfordshire, does pass through part of the county and will impact on the transport network during its construction phase.

It remains a priority for the county council to seek transport improvements which address traffic congestion on the A1(M) and A10 corridors. We strongly support the A1(M) Junction 6-8 Smart Motorway, Crossrail 2 and the West Anglia Mainline 4 Tracking schemes.

Fig. 2: The current transport system and likely future improvements

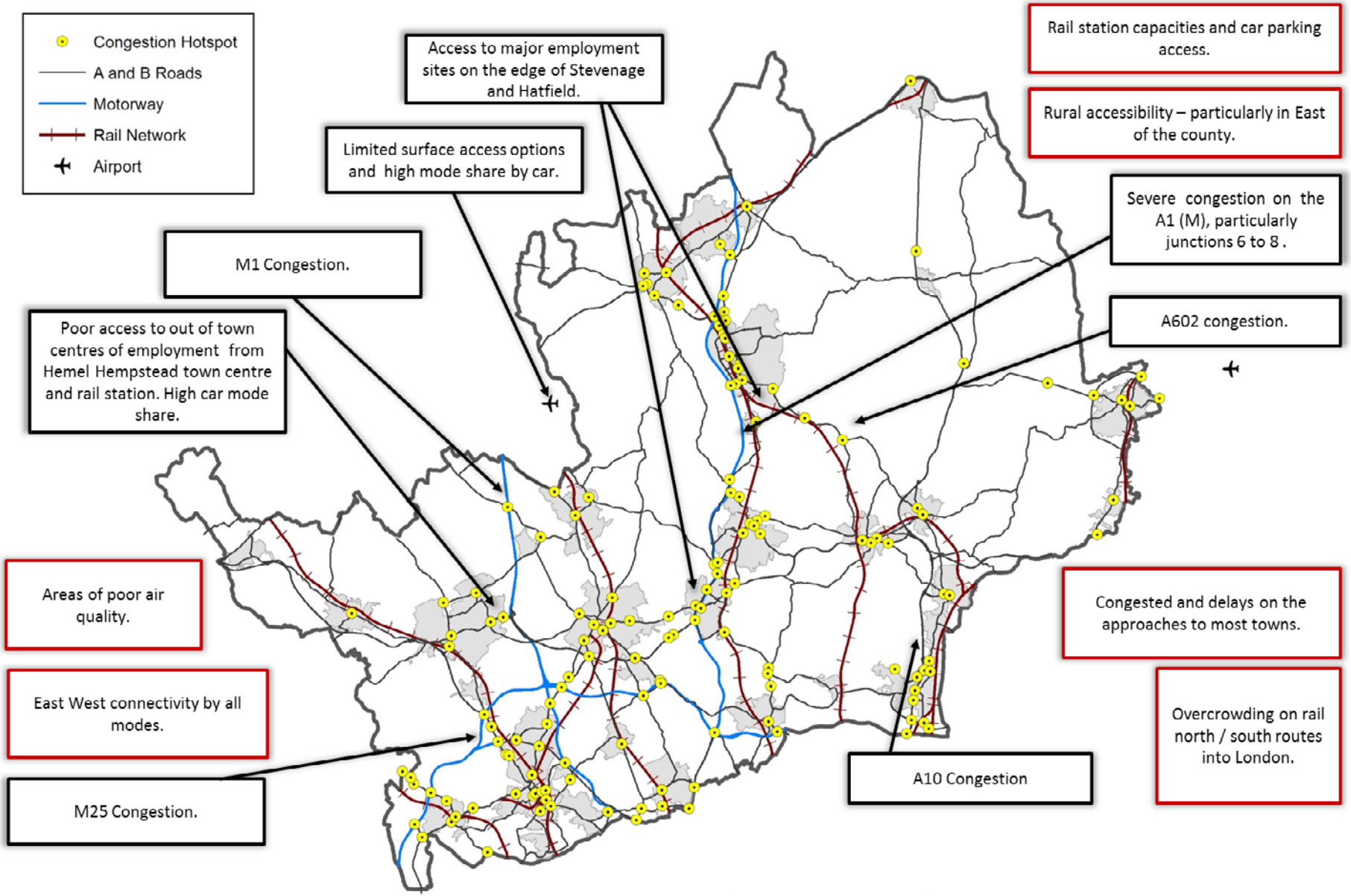


Challenges and Opportunities

Hertfordshire faces a range of challenges over the next 35 years that will place our transport system under increasing pressure as our population and economy grow. Our population is set to reach more than 1.5m by 2050 – an increase of about 400,000 residents - placing greater pressure on our roads and meaning more traffic congestion and longer journey times. In practical terms this means a journey that takes an hour now will take 15 minutes longer. We can't simply increase the capacity of our roads because of the costs both financial and to our natural environment.

The Transport Vision for Hertfordshire is all about how we react to these challenges as well as future 'drivers of change' such as technology, with approaches to transport that benefit people, places and enhance economic prosperity in the county. These high level transport challenges and opportunities will inform and guide the objectives and approaches to be set out in the new LTP 4 next year.

Fig. 3: Current transport network problems and issues



GROWTH IN POPULATION & TRAFFIC

15% increase

Current projections estimate the county **POPULATION** will grow by an additional **170,000**

18% increase

& **121,000** **EXTRA HOUSEHOLDS**

between **2016 & 2031**

(ONS 2012 based projections)

up to 15% More car trips made in **PEAK PERIODS** **by 2031**

(COMET)

PEAK PERIOD **JOURNEY TIMES** will on average **increase** **25%**

(COMET)

journey time in **2014** **1h 15 min** journey time in **2031**

In the last **15 YEARS** in the county..

there has been negligible **REDUCTIONS IN CAR USE**

and mode **SHIFT TO** bus, rail, walking, cycling

CAN NOT CONTINUE CURRENT APPROACH

A programme of **ROAD WIDENING AND BUILDING** to address this traffic growth and congestion will be

- £ **extremely expensive**
- **environmentally damaging**
- CO_2 **increase carbon emissions**

TRANSPORT REVENUE FUNDING (which funds **road safety**, **sustainable transport** and some **maintenance activities**) **has reduced by** £10.3m **(14%)** in the past **6 years**

POTENTIAL FOR MORE SUSTAINABLE TRAVEL BEHAVIOUR

In Hertfordshire **43%** of **JOURNEYS TO WORK** are **UNDER 10 MILES**

(census 2011)

In larger towns **CYCLING TO WORK RATES** among people who **live & work in the same town** is **no more than 6%**

(census 2011)

63% of **ALL TRIPS** in the county are estimatedto be **under 5 MILES**

(HCTS 2015)

Hertfordshire 3% — **national average** 7%

of people **USE BUS** to get to **WORK**

(census 2011)

ANALYSIS OF TRAVEL PATTERNS suggests there is scope to increase mode share by bus, rail, walking, cycling through better connections **within** and **between towns**

TRANSPORT SYSTEM MUST ADAPT TO CURRENT ISSUES

Hertfordshire has declared **30 AIR QUALITY MANAGEMENT AREAS**

and approx. **514 deaths / year** in the county are thought to be attributable to fine particulate **air pollution** (Public Health England)

7% of the **population DO NOT** find it easy to access **KEY SERVICES**

&

19% of people think **BUS SERVICE PROVISION** is a major issue

(HCC Environment Survey 2015)

OVERWEIGHT AND OBESITY costs the county an estimated **£404m** per year

(HWB Strategy 2013-2016)

In **2014** there were **3,690** **road collision casualties** with **391** classed as **killed** or **seriously injured**

(**34** of these were **fatalities**)

(DfT)

On average, road use by **each resident** produces **2.3kt** (kilotonnes) CO_2

which is **higher** than the **East of England Average**

(DECC 2010)

...AND FUTURE ISSUES

Forecasts to **2050** suggest the proportion of the **county population over 65** will go from **16%** to **23%**

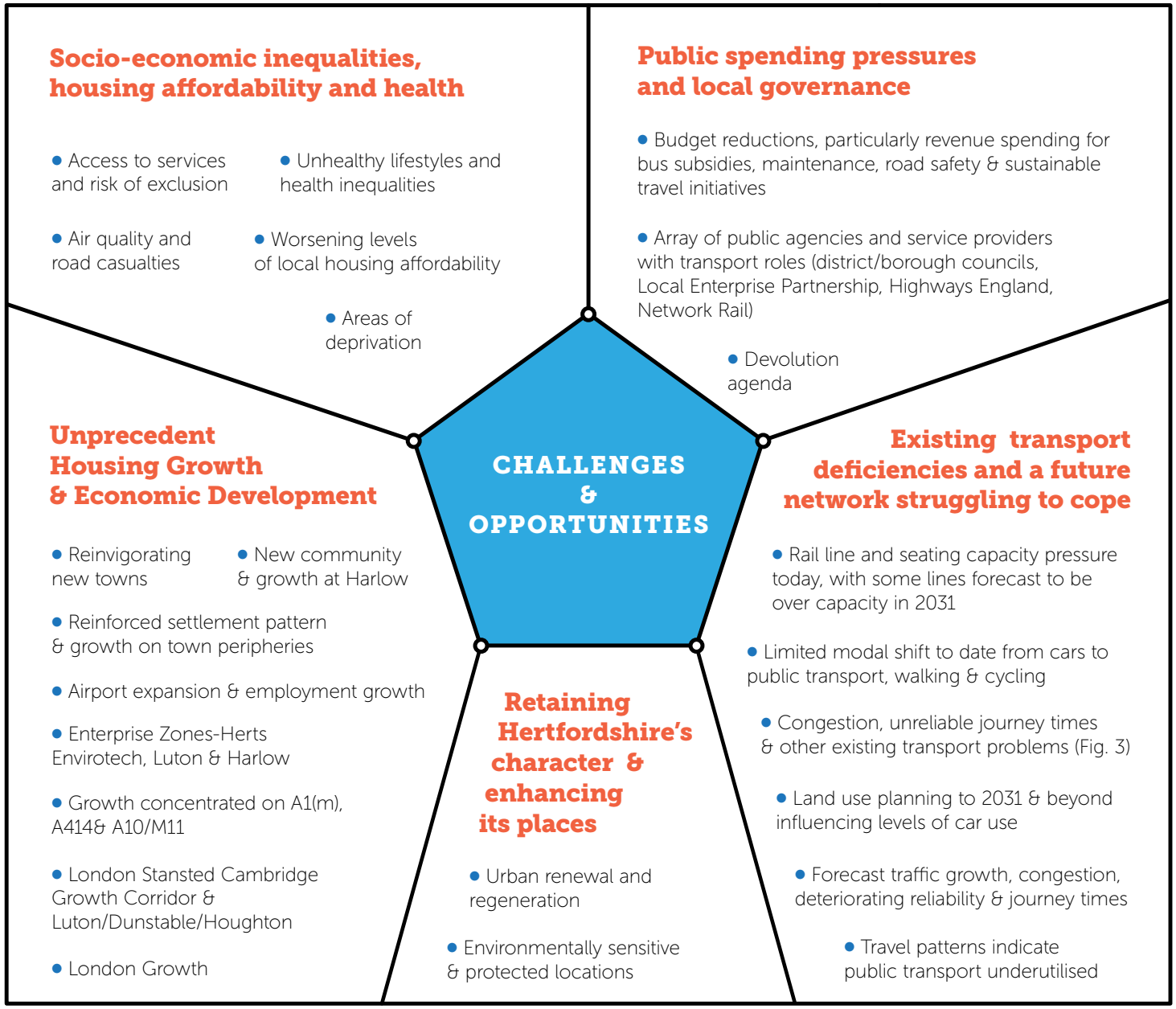
(NOMIS)

TECHNOLOGY is having a significant impact on **TRANSPORT** such as

- **electric vehicles**
- **traffic management systems**
- **real-time travel information apps**

On the horizon are developments in **driverless cars** which could revolutionise travel

Fig. 4: Challenges and Opportunities



DRIVER OF CHANGE:

Society

- Ageing Population

DRIVER OF CHANGE:

Technology

- Alternative forms of energy (fuel types, more local generation)
- Internet, Broadband & Smartphones
- 3D printing
- Vehicle Technology
- Autonomous Vehicles

DRIVER OF CHANGE:

Environmental

- Demand for Green Infrastructure & greener forms of travel
- Climate Change & Carbon Emissions
- Pressure to reduce waste generation

DRIVER OF CHANGE:

Politics

- Social media encouraging political engagement & citizen involvement
- Factors (such as economic change and technology) driving social inclusion & exclusion
- Political agendas, priorities & legislation

Question: Are there any other challenges and opportunities we should take into account in our future plans?

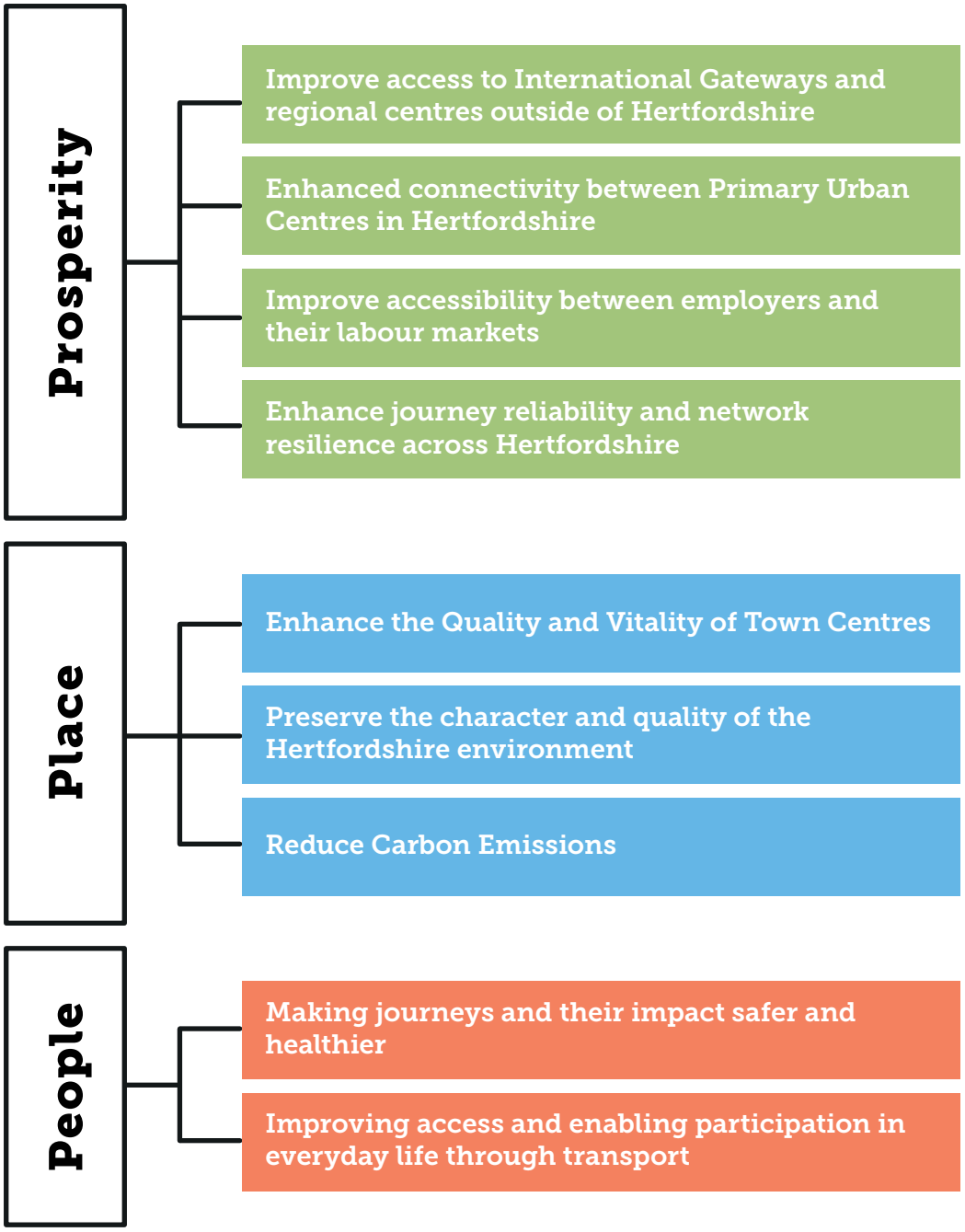


Fig. 5: LTP Vision and Objectives

LTP Objectives and Principles

Our Vision for Hertfordshire focuses on how our future transport policy can protect and enhance three key aspects of life in the county over the coming years:

- We want to enable increased prosperity
- We want to contribute to vibrant, attractive and sustainable places
- We want to support people to live safe, healthy and fulfilling lives

*Primary Urban Centres within the county are defined as Hatfield, Hemel Hempstead, St Albans, Stevenage, Watford and Welwyn Garden City. Outside the county Luton is identified as a Primary Urban Centre. This is based on a consideration of population, agglomeration potential, current economic/ employment importance, future housing growth and existing travel patterns.

In addition to the themes and objectives, there are four principles which guide the strategy for delivering these objectives. In delivering the LTP objectives it is important that our strategies can demonstrate the following:

Application & Adoption of New Technology

Technology already plays an important role in how we travel and how the transport system is managed and maintained. The scale of technological change could be substantial in future years, and it is vital transport planning embraces the potential and can adapt to new forms of mobility.

Cost Effective Delivery & Maintenance

We remain in a period of reduced public service spending, where levels of future spending on transport services is uncertain. It is therefore imperative that improvements are delivered cost effectively, mindful of future maintenance costs and liabilities.

Modal Shift & Encouraging Active Travel

Achieving a modal shift in future years away from car use to more sustainable modes such as public transport, walking and cycling will greatly support delivery of the LTP objectives. The potential public health benefits of increased levels of active travel indicate this should be a high priority, and a key feature of the future transport system we are planning for.

Integration of Land Use & Transport Planning

Changes in land use (such as new homes and employment areas) impacts greatly on the transport system. Improvements in transport provision can also support and facilitate new land use opportunities. More joined up planning of transport and land uses, whilst a challenge because of the various agencies involved in land use planning and transport service provision, is key to creating efficient, effective and sustainable transport systems.

Question: Do you agree with the LTP Objectives and Principles identified?

Fig. 6: LTP Vision Principles

What should the new Strategy include?

Much of what the council already does to maintain, enhance and support the operation of the transport system in the county contributes to our objectives, and so many of the policies in the existing LTP3 policy document will remain. However, there are some areas of activity which could play a stronger role in future years because without them the LTP Objectives and Vision are unlikely to be realised. In particular there will need to be an increased emphasis on policies which support modal shift and manage the demand for road space, rather than just supplying the extra capacity to meet this demand.

Suggested policy options and major schemes for inclusion in a new LTP Strategy are set out in this section. They contribute strongly to the transport objectives (see Fig. 14 at the end of this section) and the delivery of the vision. We hope that in combination they offer a possible strategic response to the challenges, opportunities and objectives identified. This public consultation seeks to ascertain whether this is the right approach for Hertfordshire and whether it has local support.

Feedback from the Stage 2 Transport Vision Report suggested the combined approach, comprising a mix of highway, public transport, walking and cycling improvements offered the best way to address to the growth levels forecast and the current travel patterns in the county. We know that simply increasing highways capacity will prove unsustainable in terms of financial cost and environmental impact, and will not sufficiently support the delivery of the Hertfordshire vision and objectives. So, instead of focusing primarily on improving highways capacity, the strategy must comprise some carefully planned highway improvements to cater for forecast growth, alongside a series of other initiatives that will provide a platform for modal shift and improved sustainable transport options.

Policy Options

There are six policy options outlined in this consultation, which could all feature together in a new LTP Strategy. They each represent a significant change in policy direction from the current LTP3 and so the county council wants to hear your views on the following.

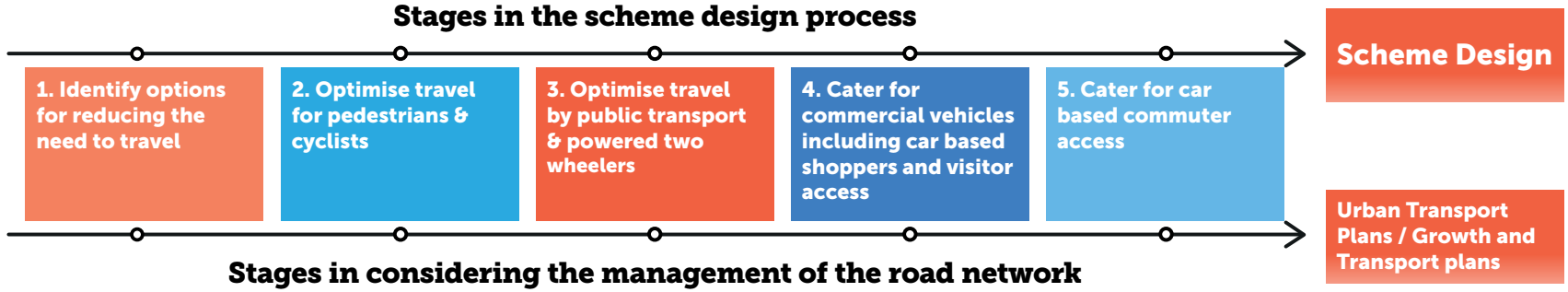
P01 Adoption of a 'Transport User Hierarchy' Policy

Justification

Roads and urban areas have largely been designed to prioritise vehicle movement in the last 60 years, to the detriment of other modes of transport (walking, cycling, public transport) making them relatively less attractive than travel by car, and encouraging high levels of car use, traffic and congestion. By changing the priority afforded to various modes in the design of urban areas and the transport system in future we can begin evolving travel in the county so it supports improved streets and places, sustainable modes of transport, reliable car journeys, reduced congestion and vehicle emissions.

Implications

The hierarchy would be most applicable to urban areas where population densities and more localised travel habits increase the potential for reduced car use, but could have a role in the design process for non-urban transport infrastructure too. Application of the hierarchy in the formulation of land use and transport plans and schemes would entail the following steps in the design process:



Decisions, plans and strategies should demonstrate how they have considered the needs of user groups in the hierarchy order. The needs and requirements of car users, while significant, should not supersede the needs of other users. These road users should be considered first, so that their needs are not compromised and sustainable travel discouraged. According to this approach, the needs of walkers and cyclists would be considered first, but this would not automatically result in priority given to them in every location.

Car-based commuter needs are given a lower priority in the process because of the contribution they make to congestion at peak times, and because of the urban space taken up by long stay car parking. By making sustainable travel options more inviting, those commuters who have no alternative to their car will benefit from reduced urban congestion and more reliable journey times.

Question: Do you support the adoption of a Transport User Hierarchy Policy?

P02 Delivering a Step Change in Cycling in Larger Urban Areas

Justification

Cycling levels in Hertfordshire are very low even for short trips. With over half of trips by all modes in the county less than 5 miles in length, there is great potential to increase levels of cycling. Improved conditions for cyclists often contribute to better walking environments too, and together these modes can increase rates of physical activity, support improved health and reduce health inequalities.

By making cycling a natural and attractive travel choice, broadening the range of people who cycle and increasing overall cycling rates, levels of car use, traffic growth and congestion can be reduced. This will benefit other road users, improve air quality, reduce carbon emissions and enhance the urban environment.

There is evidence to suggest greater rates of cycling in urban areas has an economic benefit, and by making longer distance trips easier to make by bike, access to local key services can be enhanced.

The Government draft Cycling and Walking Investment Strategy aims to make cycling safer and double cycling activity by 2025.

Implications

A focus on improving routes for cyclists in larger urban areas offers the greatest potential to significantly increase cycling levels. Where possible we will also look at creating better cycle links between our towns. Creating safer and more attractive cycling environments in urban areas may mean a shift in highway space away from general traffic to cyclists. However, it is only by segregating cyclists from faster moving traffic that the population will see cycling as a natural choice.

A significant increase in current local funding levels for cycling will be required. Supportive car parking policies and cycling promotion and marketing activity will be required to encourage greater use of the enhanced cycling infrastructure provided.

Question: Do you support the adoption of a policy to deliver a step change in cycling in larger urban areas?

P03 Greater Facilitation and Support for Shared Mobility (car clubs, lift share, bike share)

Justification

Over the last decade, the growth of social networks and technology has made it much easier for people to share mobility through measures such as car clubs, bike hire, car pooling and lift sharing. This change in the way we live our lives offers the potential to reduce congestion, benefit the environment and make services more accessible. Local transport policies should recognise and take advantage of the way technology will continue to make shared mobility easier.

There are few examples locally of shared mobility options, but they are becoming widespread in other areas, particularly in cities. As more people choose to live in Hertfordshire but commute to London where shared mobility options are familiar, demand for such services locally could increase. By facilitating this demand being met, the council could encourage reduced levels of car ownership and use.

Implications

The council should develop a mobility sharing strategy to understand its potential locally and do more to support its realisation. Support could be in the form of infrastructure (car club parking spaces and bike share stations) or through other means such as promotion, marketing, travel planning and engagement with local employers. District and borough land use planning policies can support initiatives like car club provision in new developments

Question: Do you support the adoption of a policy to do more to facilitate and support shared mobility (car clubs, lift share, bike share)?

P04 Enhanced Public Transport Connectivity Between Towns, Through Bus Priority Measures

Justification

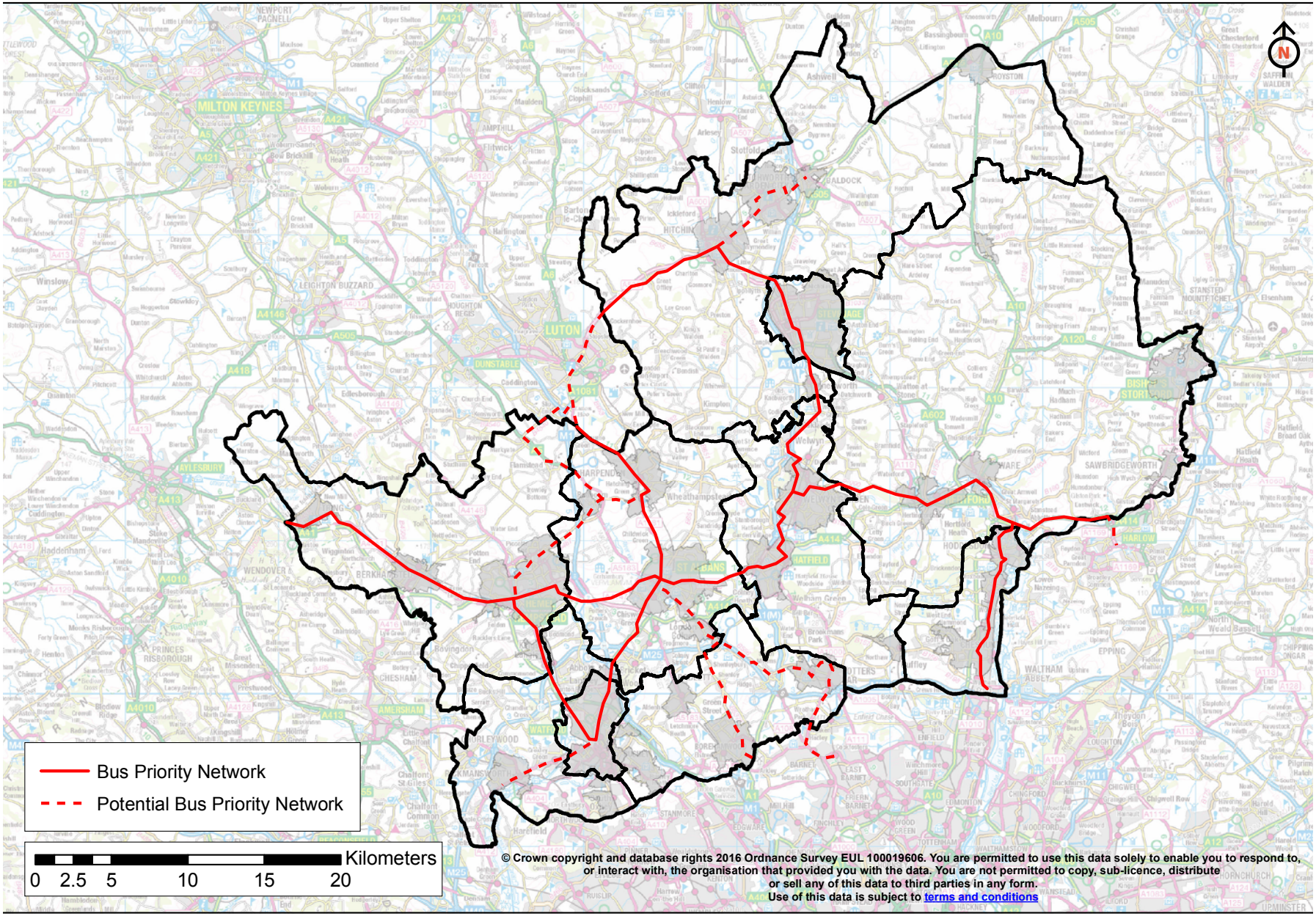
Levels of bus use in Hertfordshire are very low. As a result we have high levels of local traffic, congestion and pollution. There are a number of reasons for this including slow, indirect public transport journeys. In the long term, a bus rapid transit scheme (see major scheme section) could play a role, however in the short to medium term the focus should be to make travel by public transport more attractive with shorter journey times and improved services. Without increased levels of bus priority, worsening road congestion will reduce the attraction of bus travel, further undermining viability and service levels. There is currently very little provision in the county.

Implications

This policy would define a priority bus network (see Fig. 7) where measures such as bus lanes, priority at signals and bus only access would be considered. The network needs to be further developed in partnership with bus operators, but would help identify where supportive bus infrastructure should be focussed to deliver an effective core bus network. On the network where bus priority is deemed necessary, there may need to be some reallocation of road space away from general traffic and/or additional land may be required.

Fig. 7 shows how a possible priority bus network could look, based on an understanding of existing travel patterns and commercial bus routes. This would be subject to further investigation and refinement after discussions with bus operators and highways managers, and in cooperation with Hertfordshire's district and borough councils during the development of local transport strategies (see Growth and Transport plans on page 22).

Fig. 7: Possible Priority Bus Network



Question: Do you support the adoption of a policy to enhance public transport connectivity between towns, through bus priority measures?

P05 A Priority Traffic Management Network

Justification

Our growing population over the next 15 years is set to place great demand on our roads, resulting in more traffic congestion.

The greatest pressure will be felt on the motorway network and the main A-roads in the county. Worsening congestion will result in longer and more unreliable journey times. Pressure on the motorway and A-road network will mean unplanned events such as road closures due to accidents, which divert traffic onto alternative local routes, will have a greater impact. Overall the network will become less resilient and reliable, potentially damaging our local economy and reducing quality of life for Hertfordshire residents and road users.

We cannot build our way out of trouble with a widespread programme of constructing more roads or expanding the capacity of existing routes as this would be unaffordable, very environmentally damaging and not address the need for more people to use sustainable modes of transport. The potential of new technologies, such as driverless cars, makes it difficult to predict what journeys in the county will look like beyond the next 15-20 years. During this time we will continue to upgrade the county's roads, making best use of the routes and links already in place. In particular, we need to address the impact of new housing and business developments in areas that are already congested.

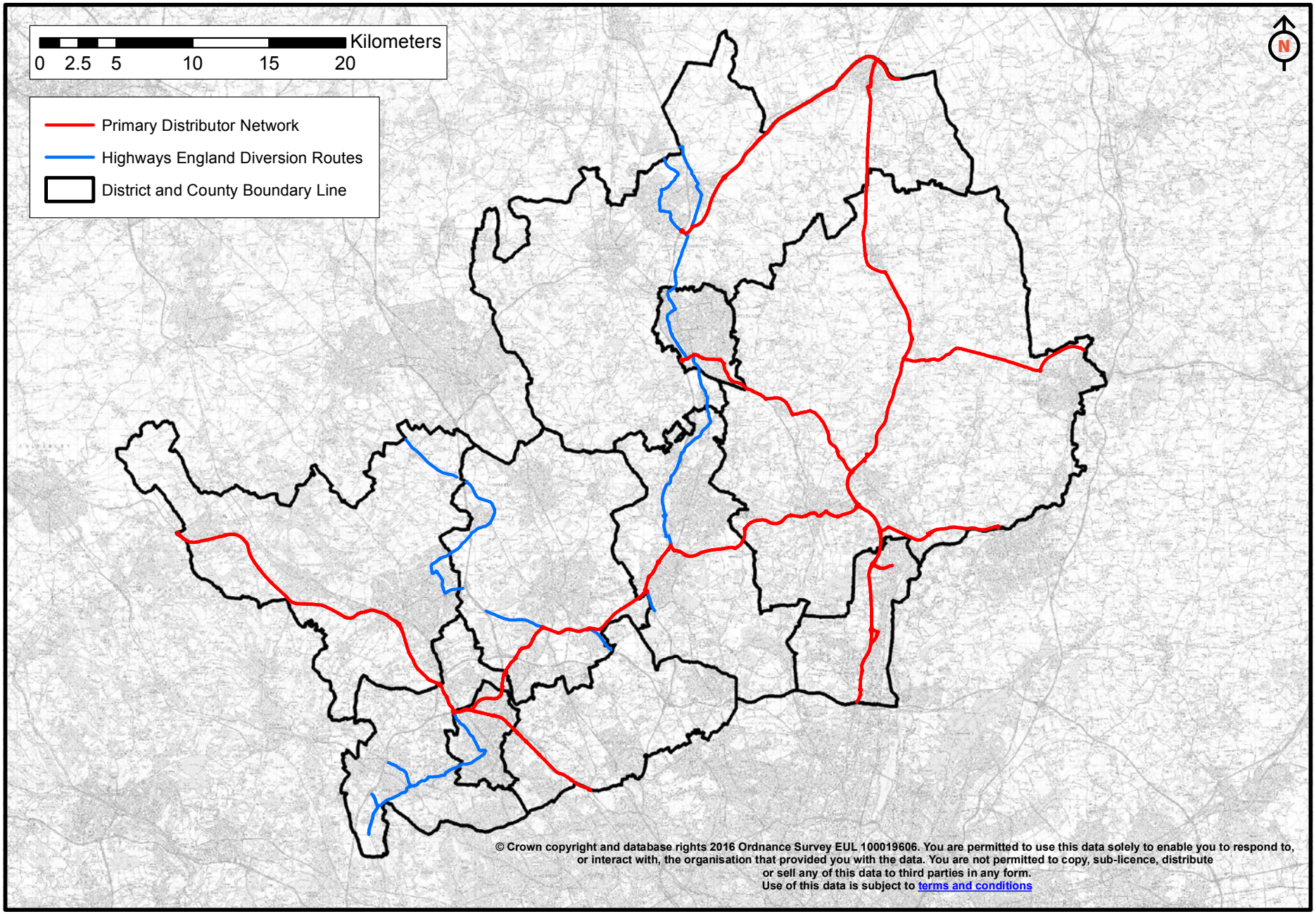
Implications

The county council already has technology in place to help manage the flow of traffic through the county. The Integrated Transport Control Centre, based at County Hall in Hertford, monitors the county's highways and allows traffic signals to be controlled to respond to problems on the roads and tackle congestion. This policy would mean greater investment in intelligent technologies, such as traffic signals and cameras at junctions and variable message signs allowing us to alert drivers to problems on the roads, focused on routes linking major towns that are under the greatest pressure. The council would work jointly with partner authorities, including Highways England, who are in charge of the motorway and trunk road network.

The overarching aim would be to make us better equipped to respond when unplanned events or incidents occur and make journeys by road more reliable

Fig. 8 shows a possible priority traffic management network for the county based on the existing main routes across Hertfordshire and the diversion routes used by Highways England when a problem occurs on the motorway and trunk road network. This network would be subject to further consideration as part of the development of the LTP Intelligent Transport Systems Strategy.

Fig. 8: Possible Traffic Management Network



Question: Do you support the adoption of a policy to adopt a Priority Traffic Management Network?

P06 Growth and Transport Plans

Justification

Growth and Transport Plans will consider how proposed LTP objectives can be delivered at a local level. These plans will cover areas of the county, rather than specific towns, recognising that Hertfordshire is made up of a number of groups of towns that are connected by transport corridors, unlike other counties that are dominated by a particular large town or city. By working with Hertfordshire's district and borough councils and using their local knowledge, these plans will look to identify where transport schemes are required and what local funding is available to pay for them.

Implications

The Growth and Transport plans will form part of the new Transport Plan (LTP4). The plan for South West Hertfordshire is expected to be delivered first with other areas of the county to follow in future years. Some areas with lower levels of growth will continue to be covered by existing Urban Transport Plans.

Alongside the Growth and Transport Plans being developed there are a number of studies being delivered that are analysing local evidence and growth proposals to identify areas where transport improvements are required to support new housing and employment, as well as regeneration. As with the Growth and Transport Plans these studies may recommend additional major schemes, as well as packages of smaller schemes. Stevenage town centre and the A10 at Broxbourne are the subject of two such current studies.

Question: Do you support the policy to develop a series of local Growth and Transport Plans?

Major Schemes

The new LTP will include a number of new major strategic projects comparable to those delivered in previous LTPs including the Little Hadham Bypass and the Metropolitan Line Extension in Watford.

The schemes have been developed using Department for Transport guidance on transport scheme appraisal and business case development. The Transport Vision evidence base provides more detail on this process and the technical work undertaken as part of it, however a simplified overview of the process is shown in Fig. 9. The starting point was a long list of possible major projects to address existing and forecast issues.

Fig. 9: Major scheme identification process

Throughout this process the options have been appraised against a range of criteria, such as how they contribute to the proposed LTP objectives, their scale of impact, feasibility, and deliverability.

The result of this is a set of major schemes for implementation over the short, medium and long term (i.e. beyond 2031). As with the policy options outlined in previous pages the major scheme package reflects the stakeholder steer for a combined approach comprising a mix of highway, public transport, walking and cycling improvements. The preferred package seeks to support the current patterns of growth and travel behaviour in the county, whilst also encouraging the development of a more sustainable transport system less reliant on car use in the future.

The preferred package is not a complete list of all the major schemes required to address the county's transport challenges. More schemes will be identified in the next few years, which will address other areas and issues facing Hertfordshire. These will arise from further studies into how the impacts of major developments will be addressed, and from work undertaken by other agencies responsible for the transport network in the county such as Highways England and Network Rail.

Major Schemes

All the schemes outlined in this section are at an early stage and will typically take many years to deliver due to their scale. It is important therefore that before the county council commits further resource to their development, local transport users and stakeholders are given the opportunity to share their views on the schemes and whether they should be included in the new transport strategy.

Scheme development will include further consideration of likely costs and funding sources. All the schemes are likely to be delivered using a mix of public and private funding, with the bulk of public funding being required from central government.

The Preferred Package

The map in fig. 10 shows the preferred package of major schemes

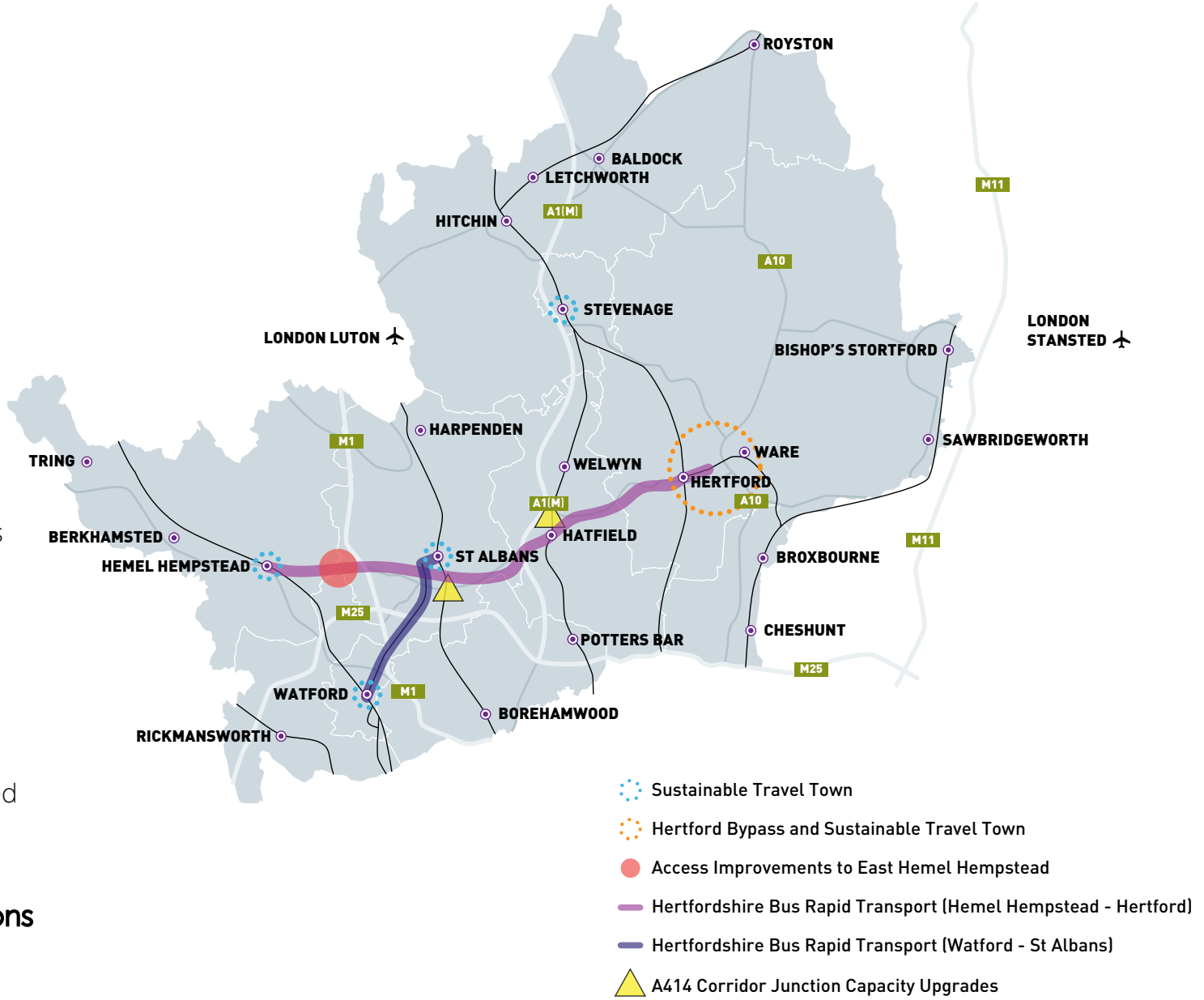


Fig. 10: Map of major schemes options

Major schemes are focussed on the county's larger settlements and the east-west corridor in the centre of the county. There are various reasons for this, including:

- scale of future growth planned in and around these locations
- size and proximity to each other of the settlements and their potential to encourage more sustainable transport use
- scale of transport challenges faced in these locations and their strategic and economic importance to the county.

MS1: Sustainable Travel Towns

This represents four separate major projects, for Hemel Hempstead, Watford, Stevenage and the city of St Albans. It focusses on reducing the need to travel overall and increasing the proportion of journeys made by sustainable modes (on foot, by bicycle, by public transport, or via schemes such as cycle hire and car clubs). A package of initiatives would be identified, tailored to the circumstances of each town/city. The initiatives could include in various combinations:

- Walking, cycling, public transport and shared mobility (car clubs, bike clubs etc) infrastructure and service enhancements
- Travel information provision, marketing and promotions
- Travel behaviour change initiatives such as workplace, school and personalised travel planning

Previous LTPs encouraged uptake of sustainable modes through a variety of means, however these projects would represent a step change and seek to encourage this at a greater scale and intensity than in the past. In these four urban areas it is likely some highway capacity would need to be reallocated for use by pedestrians, cyclist and bus users. Without this it may be impossible to provide a sufficiently attractive environment to encourage greater sustainable mode use.

On-street and off-street parking provision and costs may also need to play a role in supporting this scheme. This could reduce demand for road space in some urban areas, meaning more space could be assigned to sustainable modes, as well as encourage modal shift from car to these modes. These measures would also help to reduce congestion.

The scheme would contribute significantly to the LTP objectives under the People and Place themes, with specific benefits including:

- Reduction in private vehicle use for shorter trips within towns, with associated improvements in local air quality.
- Enhanced public realm in town centres.
- Increased proportion of shorter trips made on foot, by bicycle or by public transport, with associated benefits to public health through increased levels of physical activity.
- Improved connectivity between key destinations within towns – more pleasant, more reliable journeys.

Timescale for implementation	Funding dependent but could be delivered in the short term, before 2021
Cost	£5-10 million for each town as a minimum

MS2: Access Improvements to East Hemel Hempstead

Hemel Hempstead is the focus for housing development in the Dacorum Borough (8,800 new homes planned in the town to 2031- 1,000 of these in East Hemel). In addition, St Albans District Council is planning for up to 2,500 dwellings as part of two mixed-use developments to the east of the town to 2031. Maylands Business Park - Part of the Envirotech Enterprise Zone - is being regenerated and expanded, bringing significant employment growth.

The area around Maylands Business Park, particularly along the A414 suffers from congestion already, which will worsen with further local growth. This will reduce access to Hemel Hempstead town, Maylands employment area and the M1, impacting on local economic growth and quality of life. Some form of major transport intervention is required in this location.

A single major upgrade of the A414 junction with Green Lane has been assessed. This contributes significantly to LTP objectives under the prosperity theme, by improving connectivity, access to employment and improving journey time reliability. Specifically the junction scheme tested has been found to:

- Successfully alleviate forecast peak hour congestion issues in Hemel Hempstead, with moderate improvements to journey times and journey time reliability.
- Provide additional capacity to cater for forecast additional traffic generated by Maylands and East Hemel Hempstead growth.

However, this solution provides limited highway capacity for further growth beyond 2031, after which other junctions, including M1 junction 8 will require upgrading. More substantial and comprehensive alternative options for improving highway access to the East of Hemel Hempstead are also being considered. This could include an alternative access to Maylands and the east of the town from the M1, but this would require support from Highways England.

Timescale for implementation	2021-2031 for the A414/Green Lane junction upgrade. Potentially beyond 2031 for a more comprehensive highway solution.
Cost	£50-70 million for the A414/Green Lane junction upgrade. A more comprehensive highway solution could cost substantially more than this.

MS3: Hertford Bypass and Sustainable Travel Town

Traffic and congestion on the A414 through Hertford is constraining the level of housing growth that can be delivered in the area without a severe deterioration in journey times and reliability.

There is already evidence of rat running on lower classifications of roads in the area by traffic avoiding the A414 through the town, and severe problems occur whenever incidents on the M25 cause traffic to reroute onto the A414. Traffic levels on the A414 cause air quality problems, severance issues between the town centre and the south of the town, and blight the public realm. A large proportion of the traffic on the A414 in peak periods is passing through the town (in the AM peak around 40% of westbound and 36% of eastbound traffic).

Alternative options to a bypass have been considered, but it is unlikely that a viable option could be delivered that adequately addressed the levels of traffic and congestion in the town and the problems this causes. Because of the extent of rat running, solutions that could encourage modal shift from car to more sustainable modes would not reduce traffic and congestion in the town because rat running traffic would return to the A414. A town the size of Hertford is unlikely to be able to sustain an effective park and ride system. Also changes to car parking supply and charges at a scale that would deliver sufficient reductions in traffic, are likely to harm the local economy and be unpopular with local residents.

This major scheme would deliver a dual carriageway bypass linking a junction on the A414 west of the town with the A10 to the east. The route for this could be to the north or south of the town- although the costs and benefits presented here are based on a southern option. Intermediate junctions may be included along the bypass to link with additional local roads.

By freeing capacity on the existing A414 through Hertford, a carriageway lane in each direction could be reassigned for use by other modes (walking, cycling, public transport) or for improved public realm. This could not only transform sustainable travel in the town, but also the quality of the local environment and ensure traffic is encouraged onto the bypass and away from urban roads.

The combination of a bypass and sustainable travel town approach would ensure the scheme contributed to most of the LTP objectives. Specific benefits include:

- Alleviation of peak hour traffic congestion, with moderate improvements to journey times (5-10 minutes compared to the route through Hertford) and journey time reliability.
- Provision of additional capacity to cater for forecast growth in travel demand.
- More shorter trips made on foot, by bicycle or by public transport, with associated benefits to public health through increased levels of physical activity.

- Significant traffic removed from the A414 through Hertford, a reduction in private vehicle use for shorter trips with sustainable mode improvements, and improvements in local air quality.
- Enhanced public realm in the town.

While every effort would be made to mitigate the impact of the scheme, a bypass to the north or south of the town is likely to have a major impact on the local environment.

Timescale for implementation	2021-2031
Cost	£155-£175 million

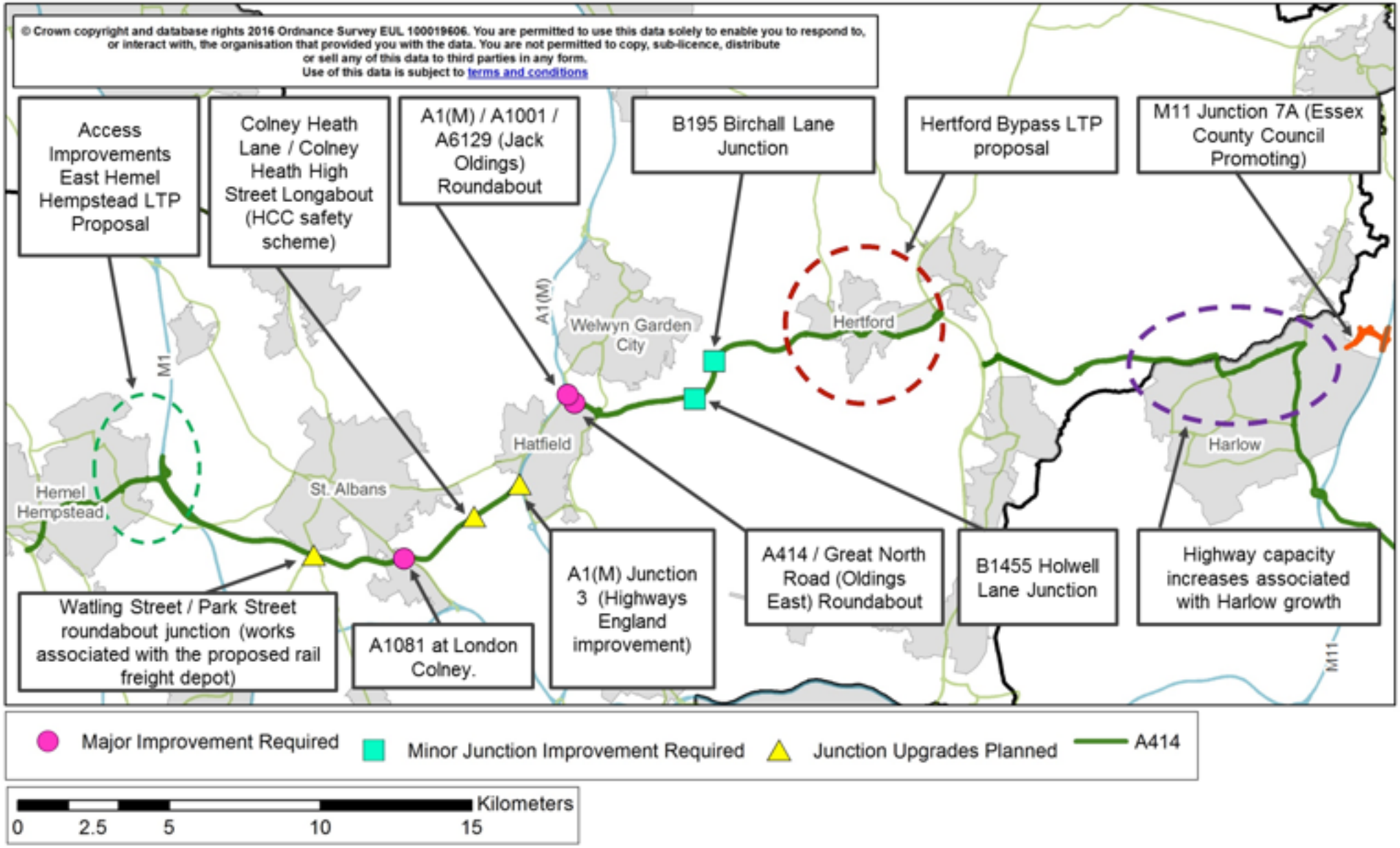
MS4: A414 Corridor Junction Capacity Upgrades

Of the 80,000 new dwellings currently being planned for Hertfordshire to 2031, some 50,000 are expected to be located within five miles of the A414 corridor. This includes developments around Hemel Hempstead, Welwyn / Hatfield and in East Hertfordshire to the north of Harlow. Accommodating this growth with Hertfordshire's existing high levels of car ownership and use is going to require increases in highway capacity. The lack of attractive public transport options east-west in the county further underlines why we must plan for increased traffic levels along the A414.

A bypass at Hertford will draw some traffic, which currently uses lower category roads, back onto the A414. The scale of growth at Harlow will also result in highway capacity upgrades to the A414 north of the town, and as part of this a new junction (7a) on the M11 is being promoted by Essex County Council with work ongoing to identify further capacity enhancements required. Again this will attract more traffic onto the A414. The combined impact of housing and employment growth along the A414 corridor, coupled with highway capacity improvements at Hertford and Harlow, will mean significantly more traffic on the A414 in future, putting pressure on junctions along the route.

This major scheme concerns those junctions along the A414 where there are currently no planned improvements, but which traffic modelling (COMET) indicates major improvements will be required in the next 15 years. The diagram below provides details on those junctions where improvements are already planned, and identifies three additional locations where future major improvement will be required.

Fig. 11: A414 future corridor improvements



A viable solution for the junction with the A1(m) Junction 4 and A1001/A6129 (Jack Oldings roundabout) is yet to be identified, and will be required to avoid traffic rerouting onto local roads to avoid the forecast delays at this junction in future. Existing land uses, the local topography and the interaction of local traffic with strategic traffic on the A1(m) mean there is no straightforward solution and any option is likely to be very expensive.

At the A1081 at London Colney a 'hamburger' style junction design has been identified as an effective solution, where the A414 traffic will pass through the middle of the junction (see Fig. 12).

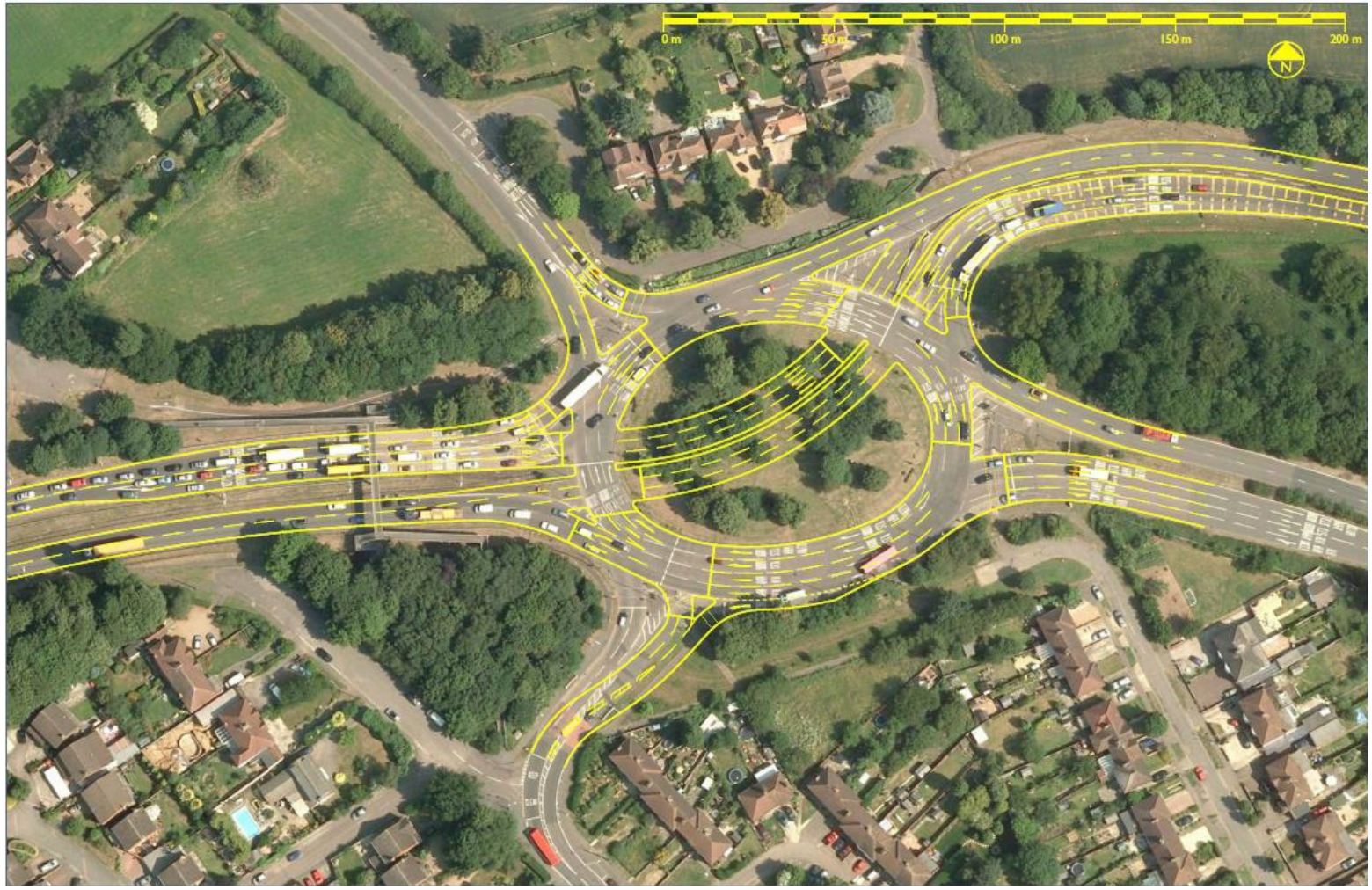


Fig. 12: Possible London Colney A1081/A414 junction upgrade

At the junction north of Hatfield with the Great North Road (Oldings East roundabout) a solution has been found which would reconfigure the junction to provide two west bound lanes on the A414 approaching this junction, where currently there is only one.

These two junction improvements, alongside improvements at Jack Oldings roundabout and the planned junction improvements elsewhere along the A414 will:

- Alleviate forecast peak hour traffic congestion, with moderate improvements to journey times and journey time reliability.
- Provide additional capacity required to cater for forecast growth in trips.

Timescale for implementation	2021-2031
Cost	£7.5 – £10 million for combined schemes at A1081 and Great North Road junctions In excess of £250 million for A1(M)/A1001/ A16129 junction (Jack Oldings)

MS5: Hertfordshire Bus Rapid Transit Network

This scheme addresses some of the east west connectivity deficiencies in the county, and supports growth coming forward in the local plans period to 2031 and beyond. It would result in a bus rapid transit network comprising two lines. One route would link Hemel Hempstead to Hertford, serving St Albans, Hatfield and Welwyn Garden City, while the other would connect Watford town centre with St Albans.

The scheme would comprise sections of dedicated bus lane segregated from general traffic, with bus priority measures elsewhere along the route to deliver improved journey times and reliability for public transport users.

The scheme contributes strongly to all the LTP objective themes providing enhanced connectivity and accessibility, as well as modal shift and traffic reduction leading to better air quality and public realm. Improved walking and cycling provision could be provided alongside the scheme. Specific scheme benefits include:

- Improved east-west connectivity between towns.
- Improved connectivity between Watford town centre and St Albans city centre and St Albans stations.
- A new connection between five rail lines (West Coast Main Line at Watford Junction and Hemel Hempstead, Midland Main Line at St Albans City, East Coast Main Line including the Hertford Loop at Welwyn Hatfield and Hertford North, and West Anglia Mainline at Hertford East) meaning users can interchange without the need to travel into central London.
- Reduction in private car use for trips within towns and between destinations on these corridors.
- Improved local air quality through reductions in private car use.

Bus Rapid Transit BRT would offer much more than regular bus service provision in terms of journey times, reliability, frequency, comfort and convenience. It would be expected to encourage greater levels of public transport use and

facilitate housing and employment growth along its route. In comparison to heavy or light rail, BRT is more affordable, but is also much more flexible both in terms of how it can be delivered and operated. Elements of the scheme could be delivered incrementally and used by existing bus service in advance of a full link between two towns or the entire network. Once in place, it would be far easier to reroute or change BRT services if the need arose (i.e. to better serve new developments) than rail options.

The scheme would create high quality public transport routes into and through the towns it serves. Viability of the scheme would be strengthened by higher densities of development along its route, and it would also benefit from and support future park and ride interchanges, if these were to feature in future urban transport strategies.

Timescale for implementation	A fully operational scheme is unlikely to be realised until after 2031, but elements of the scheme could be delivered earlier.
Cost	£3-7m per km Watford-St Albans approximately 13km so as much as £90m Hemel Hempstead-Hertford: approximately 35km so as much as £240m

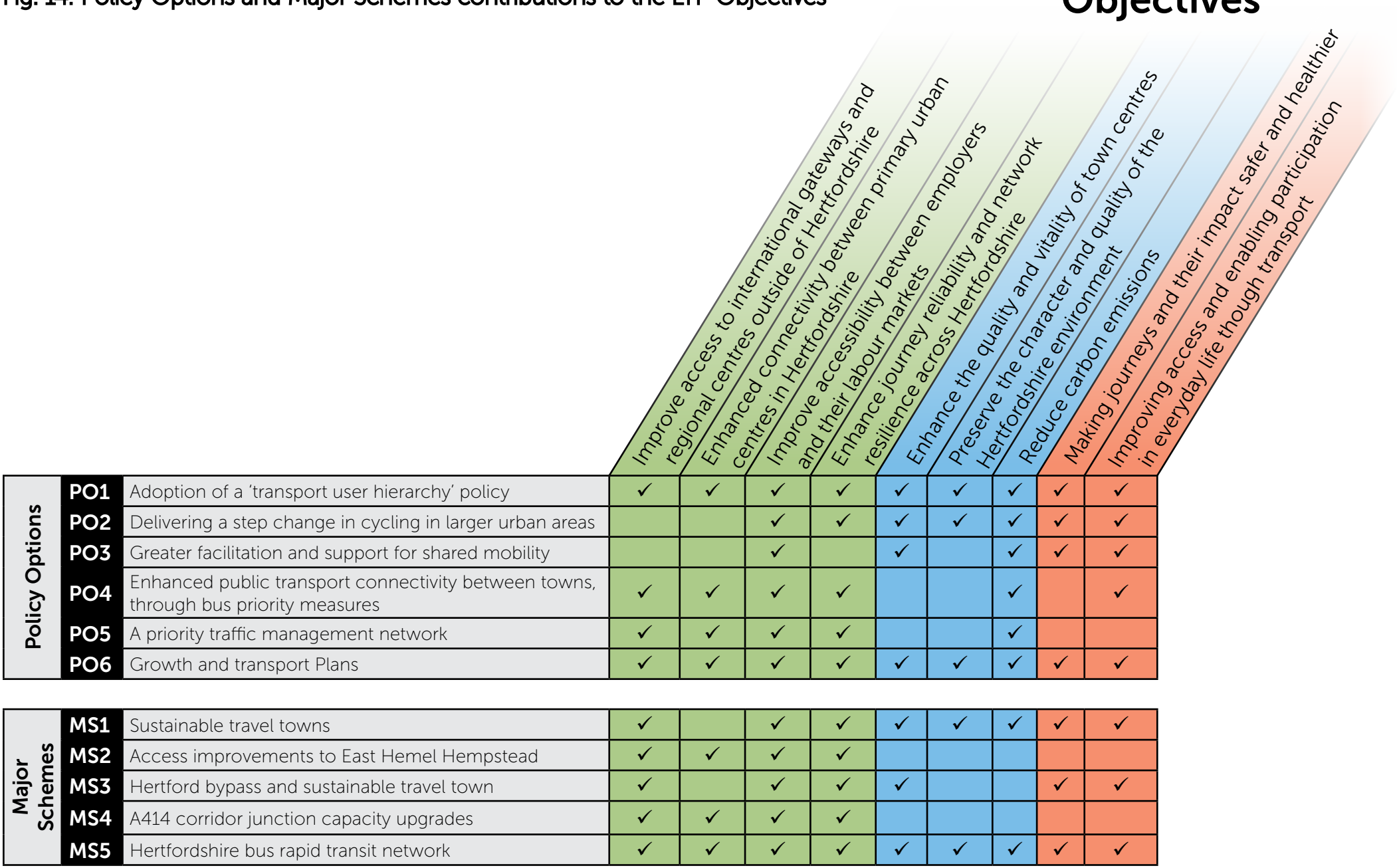
Fig. 13: Bus Rapid Transit concept – Vehicles benefit from being able to operate on segregated guided tracks as well as on roads, therefore offering greater route choice and flexibility than heavy or light rail options.

Question: For each of the major schemes please state whether you agree or disagree with their inclusion in the new strategy in principle.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Sustainable Travel Towns (Watford, Stevenage, St Albans, Hemel H)					
Access Improvements to East Hemel Hempstead					
Hertford Bypass & Sustainable Travel Town					
A414 Corridor Junction Capacity Upgrades					
Hertfordshire Bus Rapid Transit Network					

Please explain your response or share with us any other views on the package of major scheme options outlined.

Fig. 14: Policy Options and Major Schemes contributions to the LTP Objectives



			Improve access to international gateways and regional centres outside of Hertfordshire	Enhanced connectivity between primary urban centres in Hertfordshire	Improve accessibility between employers and their labour markets	Enhance journey reliability and network resilience across Hertfordshire	Enhance the quality and vitality of town centres	Preserve the character and quality of the Hertfordshire environment	Reduce carbon emissions	Making journeys and their impact safer and healthier	Improving access and enabling participation in everyday life though transport
Policy Options	PO1	Adoption of a 'transport user hierarchy' policy	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PO2	Delivering a step change in cycling in larger urban areas			✓	✓	✓	✓	✓	✓	✓
	PO3	Greater facilitation and support for shared mobility			✓		✓		✓	✓	✓
	PO4	Enhanced public transport connectivity between towns, through bus priority measures	✓	✓	✓	✓			✓		✓
	PO5	A priority traffic management network	✓	✓	✓	✓			✓		
	PO6	Growth and transport Plans	✓	✓	✓	✓	✓	✓	✓	✓	✓
Major Schemes	MS1	Sustainable travel towns	✓		✓	✓	✓	✓	✓	✓	✓
	MS2	Access improvements to East Hemel Hempstead	✓	✓	✓	✓					
	MS3	Hertford bypass and sustainable travel town	✓		✓	✓	✓			✓	✓
	MS4	A414 corridor junction capacity upgrades	✓	✓	✓	✓					
	MS5	Hertfordshire bus rapid transit network	✓	✓	✓	✓	✓	✓	✓	✓	✓

Delivering the Strategy and Achieving Modal Shift

Building our way out of trouble by addressing future traffic growth and congestion with a widespread programme of new and expanded roads and junctions is not an affordable, effective or, desirable long term strategy.

Funding the major schemes and policy options outlined in this report will be very challenging unless new sources of funding can be found.

We will continue to look to developers to play a role in financing new transport infrastructure and services. However, this funding is not enough on its own to sustain the investment in sustainable transport provision required to avoid forecast high levels of traffic growth and congestion.

The last 15 years have shown us that it is not enough to simply invest in sustainable transport infrastructure, as despite the short distances of many local journeys we have not seen a noticeable shift from car use to walking, cycling and public transport.

There are numerous national examples where policies have been adopted which nudge people to reconsider their level of car use, whilst at the same time achieving an enhancement of walking, cycling and public transport modes. In Hertfordshire such policies could encourage people who make shorter journeys to leave their car at home. This would help reduce traffic levels and congestion for those car users with no realistic alternative and have a positive effect on levels of air pollution and carbon emissions, as well as improve the quality of our urban spaces and streets.

Congestion charging has operated in London since 2003 where motorists are charged for entering a specified cordon. Nottingham has operated a workplace parking levy scheme since 2012, where employers pay an annual charge for each staff parking space provided which can then be passed onto their employees who travel by car. Many cities, notably Oxford and Cambridge, restrict car parking spaces in their urban centres and keep parking costs relatively high to reduce traffic levels and encourage access by more sustainable modes.

Question: Limiting future levels of traffic growth and improving walking, cycling and public transport provision will be very hard to achieve without policies which encourage less car use and help to enhance provision of and investment in more sustainable modes. What policies should Hertfordshire consider adopting to achieve this? (please explain your response).

Next steps & how to take part

We are interested in your views on the Local Transport Plan Summary document. To take part in this consultation, please visit www.hertfordshire.gov.uk/your-council/consult

This consultation is open until
Wednesday 14th December 2016.