

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Measures which shift journeys from private vehicles to sustainable modes will be better for biodiversity than current and especially projected private vehicle levels. However, bus improvement measures alone will not be enough to create a significant enough modal shift which contributes to protecting biodiversity.	In light of this, this package should go hand in hand with other packages which encourage, support and assist the use of sustainable travel modes and not just buses. This also includes behavioural change measures to ensure people are made aware of the changes/improvements being made to enable sustainable modes of transport to become a

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
			viable alternative to the private vehicle.
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	✓	Will improve access to leisure facilities and open space and to culture and the arts especially for transport disadvantaged people and those who do not have access to a car. Improving access will enhance opportunities for participation in physical activity. The permanence of effect will depend on the extent to which public transport journey experiences improve and are sustained above that of the car.	Such measures must go hand in hand with measures to promote behaviour change to maximise their potential of increasing usage. Publicise any physical improvements made as they are being made to provide people with clear evidence of the changes to help persuade people to re-try public transport. Utilise results from surveys, especially regards performance of public transport and any improvements following the implementation of measures to inform the public of their success.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Bus Improvement Measures Package</b>		
To reduce crime and create safe environments	<b>P+</b>	The more people that use buses the safer they should be because there will be more people about. Also if more people are using buses, there could be a decrease in the number of road traffic accidents.	Should go hand in hand with small-scale improvement measures particularly at public transport interchanges and with the implementation of CCTV and lighting for example to reduce the fear of crime and encourage bus usage further.
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	The implementation of further ITS measures and others such as the equipment needed to introduce an integrated ticketing scheme may not be from sustainable/recycled construction material.	Ensure, where possible the Use recycled and sustainable materials before raw materials. After their life expiry, ensure equipment is re-used or recycled where possible. Source equipment/materials locally.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	Materials used to implement bus improvement measures may not always be designed in such as way as to minimise construction waste, nor	Implement visual ITS measures only where considered necessary (for example, in areas where there is greater potential for increased bus use) to keep construction waste to a

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
		use recycled materials. Further, after the materials life expiry, the materials may not be re-used, re-cycled or recovered accordingly.	minimum especially after life expiry of equipment. Use recycled construction materials to implement bus improvement measures. After life expiry, ensure materials which can be re-used are, or recycled accordingly. For any unavoidable construction waste caused by the implementation of bus priority measures seek to re-use elsewhere or recycle. However, improvements should be designed in such a way to bring about minimal construction waste.
To ensure the efficient use of water, and safeguard water resources	O		
To reduce contamination and safeguard soil quality and quantity	X	New bus priority measures that require landtake will result in soil capping.	Any major projects will be subject to an EIA which would mitigate any negative impacts.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	Low emission buses will reduce emissions which cause pollution and climate change. Any measures which encourage a modal shift from private vehicle use to more sustainable modes of transport will contribute further to reducing emissions. However, light from ITS, be it quite small, could be regarded as light pollution particularly of a night time.	
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	Will be positive in addressing the public transport access to services particularly in rural areas, encouraging the use of vehicles in the most environmentally friendly manner and promoting the use of public transport.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Bus Improvement Measures Package</b>		
		Permanence of effect will depends upon how much journey experiences are improved and sustained.	
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	<b>P+</b>	Any new infrastructure will need to take into account sufficient drainage to accommodate an increase in rainfall in the future.	
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	<b>P+</b>	Improvement measures should increase bus use, including the transfer of some private vehicle journeys. They should also offset some of the projected future traffic growth. Further emission savings can be made through the increased use of low carbon buses and eventually electric buses.	Support local bus companies to buy low emission buses through incentives. Map where car usage is highest in the county and focus bus improvement measures in these areas. Or alternatively, survey areas to discover where potential lies the most for modal shift to sustainable modes and concentrate improvement measures here.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Bus Improvement Measures Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	Can be positive in applying the energy hierarchy, mitigating greenhouse gas emissions and encouraging the development of facilities for vehicles that use less or no fossil fuels. However, ITS will use extra energy.	Implement more solar panelled bus stops to fuel lighting at the stops. Support and work with bus companies to use lower emission buses. Turn off lights and ITS at bus interchanges after the last scheduled bus leaves.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Could be positive in respect of improving access to natural environment, maintaining tranquillity and air quality in rural areas. Depending upon design and implementation the measures will have an effect on protecting aspects of the natural and historic environment that contribute significantly to local	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
		character and whether the design of measures contribute to local character.	
To conserve and enhance the historic environment, heritage assets and their settings	O		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	✓	Will benefit in respect of improving access to health facilities and the quality of health facilities in rural and urban areas. It will also contribute to addressing social isolation and the lack of services for youth and the elderly.	
To empower all sections of the community to participate in decision making and local action	P+	Will take into account under-represented community groups (including people on low incomes).	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

SEA Analysis Table	Bus Improvement Measures Package		
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Will support local and community businesses by enhancing access to potential local employees. The measures will further address unemployment among ethnic minorities and other disadvantaged groups, improving equality of opportunity in the labour market.	
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	Measures will provide access to employment especially for those who do not have access to a car or cannot drive thus creating more opportunities for economic growth to be spread to more area.	Development should be encouraged in socially disadvantaged areas. However, they need to know that the skills base can be accessed through various transport modes to increase the number of employment opportunities. Therefore investigate disadvantaged areas where there is opportunity to locate business and concentrate measures within these areas.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE

SEA Analysis Table	Bus Improvement Measures Package		
To maintain the vitality and viability of existing centres	P+	Measures will support the role of market towns in serving rural areas.	

### Significant Positive Effects:

This option has a number of significant positive effects on human health, reducing health inequalities as well as tackling the causes of poverty and social exclusion.

### Significant Negative Effects:

New bus priority measures that require landtake will result in soil capping.

**Timescale:** short to medium term. This measure does not involve planning decisions and therefore can be implemented comparatively quickly if it were a preferred scheme.

**Temporary or Permanent:** Impacts from any new bus priority infrastructure would be permanent but positive impacts from modal shift to bus use could be temporary, as this is dependent on travel behaviour.

### Likelihood of effects or impacts identified occurring:

Provided the measures were enough to make a real difference to the journey experience, and a benefit could be seen by the public to transfer some or all of their car journeys to passenger transport, then it is fairly likely the effects or impacts would occur.

### Recommendation for mitigation for adverse effects and/or enhancement or positive effects:

- Publicise any physical improvements made as they are being made to provide people with clear evidence of the changes to help persuade people to retry public transport. Utilise results from surveys, especially regards performance of public transport and any improvements following the implementation of measures to inform the public of their success.
- Small-scale improvement measures particularly at public transport interchanges and with the implementation of CCTV and lighting for example to reduce the fear of crime and encourage bus usage further.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE

- Ensure, where possible the Use recycled and sustainable materials before raw materials. After their life expiry, ensure equipment is re-used or recycled where possible. Source equipment/materials locally.
- Support local bus companies to buy low emission buses through incentives.
- Map where car usage is highest in the county and focus bus improvement measures in these areas. Or alternatively, survey areas to discover where potential lies the most for modal shift to sustainable modes and concentrate improvement measures here.
- Implement more solar panelled bus stops to fuel lighting at the stops. Support and work with bus companies to use lower emission buses. Turn off lights and ITS at bus interchanges after the last scheduled bus leaves.

### **Data Issues:**

As long as bus patronage baseline data starts after the start up concessionary fares then a good comparison can be made before and after the measures are implemented. However it must be borne in mind that concessionary fares will start to be restricted inline with pension availability soon, therefore it may be difficult to compare like with like.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUS IMPROVEMENT MEASURES PACKAGE**

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

SEA Analysis Table	Business Potential Package		
<p><b>SEA Objective</b></p>	<p><b>Assessment of Effect</b>                      ✓ Positive impact                      P+ Potentially positive impact                      O No relationship/link                      U Uncertain/ Depends on implementation                      P- Potentially negative impact                      X Negative impact</p>	<p><b>Justification:</b></p> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<p><b>Recommendations</b>                      (including mitigating negative effects and improving positive effects)</p>
<p><b>SEA Topic – Biodiversity, fauna and flora</b></p>			
<p>To protect and enhance biodiversity</p>	<p style="text-align: center;"><b>U</b></p>	<p>Depends on implementation. If business plans and car sharing/ shuttle buses etc are given high priority, there is potential for reduction of road transport impacts on biodiversity.</p>	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

SEA Analysis Table	Business Potential Package		
<b>SEA Topic – Population and human health</b>			
<p>To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities</p>	<p><b>P+</b></p>	<p>Business travel plans will encourage walking and cycling to improve health.</p>	<p>Ensure all new developments, no matter their size have a travel plan or include a travel statement as part of their planning agreements.                      Monitor travel plans more and set penalties should targets not be met.                      Work with businesses to implement personalised travel planning for employees.                      Emphasise the benefits of a healthy workforce for the business.</p>
<p>To reduce crime and create safe environments</p>	<p><b>U</b></p>	<p>Depends on implementation. If business plans and car sharing/ shuttle buses etc are given high priority, there is potential for reduction of road accidents caused by vehicles because there would be fewer cars on the road.</p>	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

<b>SEA Analysis Table</b>	<b>Business Potential Package</b>		
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	○		
To move away from waste disposal to minimisation, reuse, recycling and recovery	○		
To ensure the efficient use of water, and safeguard water resources	○		
To reduce contamination and safeguard soil quality and quantity	○		
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	✓	Schemes such as business travel plans and car sharing would address the causes of air pollution, and will minimise noise pollution especially in the peak hours and will contribute to mitigating the production of greenhouse gas emissions.	Targets, enforcements and monitoring for Travel Plans. Require information on business/operational travel within travel plans and set further targets such as number of people working at home, number of meetings being made by teleconferencing etc (where appropriate).
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	This package will promote the use of more sustainable modes of transport, will increase the number of businesses having travel plans and will encourage the use of vehicles in the	Targets and monitoring for Travel Plans should be strictly adhered to, this must be dealt with when drawing up legal contracts with developers. There should be personal travel planning to

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

SEA Analysis Table	Business Potential Package		
		most environmentally friendly manner.	employees of new businesses in particular upon occupation of site, also as part of the induction process and to work with businesses to offer incentives for success.
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	O		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	P+	A by-product of less private vehicle use will be less greenhouse gas emissions when compared to today's figures. Any measures which aim to reduce the use of the private vehicle will contribute towards this.	Although climate change does concern people, overemphasising the environmental benefits of less car use will perhaps work against the objective in the long run. It would be more beneficial to concentrate on the personal benefits of less private vehicle use and how this will improve their quality of life. This can be done through personal travel planning for employees.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

<b>SEA Analysis Table</b>	<b>Business Potential Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	Measures which mitigate greenhouse gas emissions will conserve energy from non-renewable sources.	For new developments, require a number of parking spaces to have electric vehicle charging points. This could be incorporated into Parking Standards for each district. If businesses have fleets or pool cars, require at least one to be electric or hybrid.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>P+</b>	The fewer vehicles are used, the fewer by-products there will be. By-products can contribute to harming the character of the landscape in terms of processes which affect the being of components.	
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE**

<b>SEA Analysis Table</b>	<b>Business Potential Package</b>		
<b>SEA Topic – Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Travel Plans and car sharing will open up opportunities for people in disadvantaged areas and social groups to access work more easily. Private shuttle buses will further enhance this.	Offer incentives for businesses to locate in socially disadvantaged areas.
To empower all sections of the community to participate in decision making and local action	<b>O</b>		
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Travel Plans can help to create a flexible business environment to support business change, development and expansion. Consolidation centres will improve delivery practices thus boosting economic performance. Driver training and policies to manage fleets will reduce accidents and therefore the economic costs associated with this.	If targets are set and enforced for number of employees walking and cycling etc, this will encourage businesses to employ locally in order to reach targets, thus providing local employment opportunities. Target segmentation as a tool has been shown to have an effect (cf research undertaken by Dr J Annable), this means that resources are not wasted on people who are less likely to change behaviour.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE

SEA Analysis Table	Business Potential Package		
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	Can help in encouraging development which recycles income and wealth within local communities and encouraging business development in disadvantaged areas.	Set travel plan targets which encourage businesses to employ people locally, especially those which are located near enough to accommodate disadvantaged areas. Combine with measures which involve planning of new developments.
To maintain the vitality and viability of existing centres	<b>P+</b>	Business travel plans, consolidating deliveries, and dealing with work related road safety issues all contribute to increasing the vitality and viability of a town centre by making it a more attractive place to visit.	

### Significant Positive Effects:

Past evidence (e.g. Sustainable Travel Demonstration Towns) has shown that softer measures such as travel planning leads to a small percentage people changing their transport mode from car use to walking, cycling and passenger transport. This could lead to less traffic on the road and therefore less air and noise pollution, as well as less road traffic accidents and less carbon dioxide emissions.

### Significant Negative Effects:

None

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, BUSINESS POTENTIAL PACKAGE

**Timescale:** short to medium term. Although it would not take long to organise travel planning, car sharing, business incentives etc permanent behavioural change may take some time to take effect.

**Temporary or Permanent:** Impacts could be temporary, as all measures proposed are reliant on travel behaviour.

**Likelihood of effects or impacts identified occurring:**

Medium likelihood - Past evidence from Individualised travel planning interventions has shown that journey planning can have a not insignificant effect on people's travel behaviours, particularly if market segmentation is used as a tool to target those who are more likely to change their travel behaviour.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Travel planning offers a lot of scope as a sub-package, however any monitoring in the form of targets or indicators must be set out in a contract at the start of the development process, otherwise there could be less 'buy-in' to travel planning and it becomes a pointless exercise. Market segmentation tools also offer a lot of potential in travel planning.
- Ensure all new developments, no matter their size have a travel plan or include a travel statement as part of their planning agreements. Monitor travel plans more and set penalties should targets not be met. Work with businesses to implement personalised travel planning for employees. Emphasise the benefits of a healthy workforce for the business.
- Require information on business/operational travel within travel plans and set further targets such as number of people working at home, number of meetings being made by teleconferencing etc (where appropriate).
- Although climate change does concern people, overemphasising the environmental benefits of less car use will perhaps work against the objective in the long run. It would be more beneficial to concentrate on the personal benefits of less private vehicle use and how this will improve their quality of life. This can be done through personal travel planning for employees.
- For new developments, require a number of parking spaces to have electric vehicle charging points. This could be incorporated into Parking Standards for each district. If businesses have fleets or pool cars, require at least one to be electric or hybrid.
- Offer incentives for businesses to locate in socially disadvantaged areas.

**Data Issues:**

Business travel plans could be used to monitor how many employees have changed travel behaviour, however many of these plans are not routinely updated. There needs to be enforcement of travel planning as part of the Section 106 agreement.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
<b>SEA Objective</b>	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Development on brownfield sites which are located and designed in such a way to reduce the need to travel by private vehicle or promote sustainable travel will reduce the by-products of transport that can affect biodiversity.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Design &amp; Location of New Developments Package</b>		
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	✓	Development which is within easy access of leisure facilities and which encourages sustainable travel through restrictions in parking etc, will improve the overall health benefits.	Encourage mixed use developments to further reduce the need to travel by car as it enables linked trips especially if they are close together and support a large residential catchment.
To reduce crime and create safe environments	✓	There is a massive opportunity to ensure new developments are designed in such a way to improve safety and gaining S106 monies to enhance this also. Investment in deprived areas can reverse culture of crime.	Negotiate more S106 money for infrastructure for sustainable modes and safety in terms of CCTV and lighting etc. Encourage development in deprived areas by providing businesses with the incentives to locate there in terms of transport accessibility.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	Electric vehicle infrastructure implementation will use raw materials.	Support and encourage the development and implementation of electric vehicle infrastructure made from recycled material. Promote the use of sustainable and where possible recycled materials for any transport improvements which support the development.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	Transport improvements as a result of new developments will use raw materials and produce construction waste.	Use recycled materials where possible, encourage development which minimises waste, or re-uses it elsewhere. Recycle any unwanted waste appropriately.
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		
To reduce contamination and safeguard soil quality and quantity	<b>P-</b>	Any contaminated soil would be cleaned for any new development but development would result in soil capping.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
SEA Topic – Air			
To protect and enhance air quality and minimise noise pollution	P+	Development which is located and designed to encourage sustainable travel will protect air quality more than those that are not. Restricting private vehicle travel to and from the development will address the causes of polluting air in particular and mitigate the production of greenhouse gases whilst still permitting development to continue. Developments with electric vehicle infrastructure will promote this further especially when renewable energy technologies materialise.	Introduce car-free developments in areas where public transport and cycling/walking facilities are high. Pilot such developments and carry out before and after studies into their success. Package should go hand in hand with measures to promote the uptake of electric vehicles.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Design &amp; Location of New Developments Package</b>		
<p>To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car</p>	<p>✓</p>	<p>The package will:</p> <ul style="list-style-type: none"> <li>• Support patterns of settlement and economic development that reduces the dependence on the car;</li> <li>• Promote cycling, walking and the use of public transport;</li> <li>• Seeking developer contributions to public transport provision;</li> <li>• Support the development of new footpaths and cycle ways and road layouts that give greater priority to cyclists and pedestrians;</li> <li>• Encourage the use of vehicles in</li> </ul>	<p>Introduce car-free developments. Require all new developments, no matter their size to submit travel plans as part of the planning process. Measures to go hand in hand with behaviour change and publicity/education measures.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
		the most environmentally friendly manner.	
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	O		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	✓	Development which is located so it reduces the need to travel or encourages sustainable travel will ensure development can continue sustainably with minimal impact in terms of vehicular emissions.	
To ensure the sustainable supply and use of energy	P+	Positive in mitigating greenhouse gas emissions and development which provides facilities for vehicles that use less or no fossil fuels.	New developments to have a certain number of parking spaces fitted with electric vehicle charging points as specified in parking standards.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>P+</b>	Development on brownfield land will protect open spaces. Developer contributions can improve access to the natural environment. Planning will encourage mixed use development to create local identity.	Encourage development which incorporates green spaces in new developments. Resist development on greenbelt land. Ensure design contributes to local character through the EIA process and any others available. Resist development in areas which are over subscribed to certain classes of use (for example leisure) to promote mixed use development.
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

SEA Analysis Table	Design & Location of New Developments Package		
<b>SEA Topic – Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Potentially positive in respect of supporting the implementation of health and leisure facilities to improve opportunities of access. This can also address social isolation and the lack of services for the youth and elderly. It can also enhance human health through design which encourages the use of sustainable modes of transport and increases access to the natural environment.	Investigate deprived areas and the facilities/services required and encourage the implementation of these.
To empower all sections of the community to participate in decision making and local action	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Design &amp; Location of New Developments Package</b>		
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	✓	Can promote diversity in the local community and promote the knowledge economy. Has the potential to create a variety of job opportunities and address unemployment among ethnic minorities and other disadvantaged groups.	
To spread economic growth more evenly to benefit deprived areas	✓	Can encourage development that recycles income and wealth within local communities and business and social development in disadvantaged areas. Will also help to support regeneration in the County's main towns.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Design &amp; Location of New Developments Package</b>		
To maintain the vitality and viability of existing centres	✓	Will encourage mixed development in centres and discourage retail development outside existing centres. Will seek funding from developers for town centre enhancements. Further, the package will encourage small scale retail developments to meet the daily needs of the local population.	

**Significant Positive Effects:**

Provided new developments are designed with sustainable transport as their central theme, there are significant positive impacts on human health, reducing greenhouse gases, and economic development.

**Significant Negative Effects:**

None.

**Timescale:** medium term.

**Temporary or Permanent:** Impacts could be temporary, as many measures are dependent on travel behaviour/choices.

**Likelihood of effects or impacts identified occurring:**

Medium likelihood.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Provided new developments are built on brownfield sites and recycled materials are used wherever feasible.
- New developments must have sustainable transport as their central theme and therefore section 106 agreements must address this.
- This package must be undertaken with other measures such as travel planning and publicity/information to influence changing people's travel behaviour.
- Encourage mixed use developments to further reduce the need to travel by car as it enables linked trips especially if they are close together and support a large residential catchment.
- Introduce car-free developments in areas where public transport and cycling/walking facilities are high. Pilot such developments and carry out before and after studies into their success. Package should go hand in hand with measures to promote the uptake of electric vehicles.
- Encourage development which incorporates green spaces in new developments. Resist development on greenbelt land. Ensure design contributes to local character through the EIA process and any others available. Resist development in areas which are over subscribed to certain classes of use (for example leisure) to promote mixed use development.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DESIGN & LOCATION OF NEW DEVELOPMENTS PACKAGE**

APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE

SEA Analysis Table	Development Control Measures Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>U</b>	If this package requires new/more car parking, this requires land. This might be taken from green areas in town centres which could mean the loss of woodlands, trees, hedgerows and grassland. However, concentrating development in town centres will protect the greenbelt.	Ensure brownfield sites are redeveloped before the use of any green areas in the town centre. Consider the implementation of multi-storey and underground car parks to keep space required to a minimum.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
<b>SEA Topic – Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	✓	More car parking will allow better access by private vehicle. High density mixed use development in town centres will increase connectivity for sustainable modes and encourage linked trips.	Couple measures particularly the latter with measures to increase the network capacity for sustainable modes which ideally connect town centres to nearby residential areas to enable easier access by sustainable modes.
To reduce crime and create safe environments	U	More car parking will attract more cars to the town centre, increasing the risk of accidents. Encouraging linked trips through high density mixed use developments in town centres and improving the connectivity by sustainable transport modes will make town centres safer, particularly if people choose to not access them with their cars. Restrictions on access	Do not allow more car parking. Push for the implementation of infrastructure and measures to encourage sustainable modes of transport. Use some developer S106 contributions to improve safety on cycle and pedestrian paths.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
		for deliveries etc for new developments will also reduce the risk of accidents. Developer S106 contributions can be applied to improving safety.	
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	U	Depends on implementation.	
To move away from waste disposal to minimisation, reuse, recycling and recovery	U	Depends on implementation.	
To ensure the efficient use of water, and safeguard water resources	O		
To reduce contamination and safeguard soil quality and quantity	U	Depends if any new car parks and road access requires any landtake.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
SEA Topic - Air			
To protect and enhance air quality and minimise noise pollution	U/P+	The provision of additional car parking will not achieve this objective as it will encourage more cars within town centres. Other measures such as developer S106 can help to fund schemes which promote sustainable travel. Restrictions in terms of access for deliveries etc to new developments will also contribute to this. High density mixed use developments in town centres will negate the need for a number of trips especially by private vehicle as they can be easily linked by walking.	No extra car parking for town centres. Introduce car free developments, particularly for residential developments which will be located in areas where access to facilities by sustainable modes of transport is viable.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Development Control Measures Package</b>		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	<b>P+</b>	High density mixed use developments in urban centres will support patterns of settlement and economic development that reduce dependence on the car. It will also contribute to promoting cycling, walking and public transport, as would section 106 agreements should they be used to facilitate this. However, the provision of further car parking in town centres will not achieve this.	Restrict further car parking in town centres. Couple with measures to promote and facilitate the use of sustainable modes of transport including behavioural change.
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	<b>P-</b>	Any new infrastructure will need to consider the impacts of climate change and in particular flooding.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Development Control Measures Package</b>		
<p>To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport</p>	<p><b>P+</b></p>	<p>Negotiating developer S106 agreements which ultimately go on to fund new infrastructure or services which improve the choice of sustainable travel and encourage a shift away from car use to more sustainable modes, will contribute towards mitigating greenhouse gas emissions. Likewise, high density, mixed use development will encourage linked trips to be made and will reduce the need to make several trips for different purposes. Special access arrangements for deliveries etc for new developments in particular will depend on what these actually are to determine what effect it'll have on greenhouse gas emissions. Extra car</p>	<p>No further provision of car parking in town centres. Require new developers to have service plans with clear instructions on how they aim to offset their carbon emissions through deliveries. This can be negotiated during the planning process.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
		parking will encourage more trips to be made by car to the town centres, therefore not contributing to this objective.	
To ensure the sustainable supply and use of energy	<b>P+</b>	As above, these measures (apart from parking) can be positive in contributing towards mitigating greenhouse gas emissions.	Any extra car parking provision (and at new developments) to include electric vehicle charging points.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Measures will contribute towards encouraging mixed use development to create local identity. However, if more car parking is needed this might necessitate the need of more land, which could end up being existing green parks and open spaces.	Work with planners to encourage the reuse of buildings and conversion of redundant buildings for new use. Introduce and encourage car free developments particularly in areas where infrastructure for sustainable transport modes is considered adequate enough to serve nearby residential areas, which can sustain local businesses.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

<b>SEA Analysis Table</b>	<b>Development Control Measures Package</b>		
To conserve and enhance the historic environment, heritage assets and their settings	<b>P+</b>	Developer contributions to provide or improve sustainable modes will have a positive impact on any local heritage assets.	
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Encouraging high density mixed use development will improve access by sustainable modes for all people. S106 agreements which are used to facilitate the use of sustainable modes of transport will also do this. Extra car parking will not benefit those who do not have access to a car.	
To empower all sections of the community to participate in decision making and local action	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
<b>SEA Topic - Economic development</b>			
<p>To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy</p>	<p>✓</p>	<p>Supporting and encouraging mixed use development will create a variety of job opportunities, which will also be local to many people including people of ethnic minority backgrounds and other disadvantaged groups of people. S106 monies used to invest in sustainable modes of transport will further improve access to employment particularly for people who do not have access to a car. Further car parking provision will improve access for those who do have a car. Access arrangements for businesses could be detrimental to business development if</p>	<p>Agree a service and delivery programme for new developments where appropriate during the planning process to negotiate best working practices.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

SEA Analysis Table	Development Control Measures Package		
		restrictions are too harsh.	
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	Encouraging high density mixed use development will support regeneration in the County's main towns and will encourage development that recycles income and wealth within local communities by enhancing opportunities for socially disadvantaged people to access employment.	
To maintain the vitality and viability of existing centres	✓	S106 agreements will secure funding from developer for town centre enhancements and the measures will encourage mixed use development in town centres.	

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE

### **Significant Positive Effects:**

This package concerns how much influence planners can have on development. Provided the right choices are made, these could be significant positive impacts on employment and maintaining the vitality and viability of existing centres.

### **Significant Negative Effects:**

None.

### **Timescale:**

Medium to long term as the content of the local plans are realised.

### **Temporary or Permanent:**

Impacts from any new road infrastructure at developments would be permanent but positive impacts from any modal shift and travel plans could be temporary, as this is dependent on travel behaviour/choice.

### **Likelihood of effects or impacts identified occurring:**

Medium likelihood.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Planners should use their negotiating skills to ensure that developers incorporate sustainable transport infrastructure into their plans and that s106 agreements reflect these decisions.
- Ensure brownfield sites are redeveloped before the use of any green areas in town centres. Consider the implementation of multi-storey and underground car parks to keep space required to a minimum.
- Introduce car free developments, particularly for residential developments which will be located in areas where access to facilities by sustainable modes of transport is viable.
- Any extra car parking provision (and at new developments) to include electric vehicle charging points.
- Work with planners to encourage the reuse of buildings and conversion of redundant buildings for new use.
- Introduce and encourage car free developments particularly in areas where infrastructure for sustainable transport modes is considered adequate enough to serve nearby residential areas, which can sustain local businesses.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, DEVELOPMENT CONTROL MEASURES PACKAGE**

**Data Issues:**  
None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE**

SEA Analysis Table	Education Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	O		
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	P+	The safer pedestrians and cyclists feel whilst on the network, the more likely they will be to walk or cycle, thus increasing their opportunities for access to leisure facilities and open space.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE**

<b>SEA Analysis Table</b>	<b>Education Package</b>		
To reduce crime and create safe environments	✓	Not only will pedestrians and cyclists be safer through training, but the more people who walk and cycle, the safer the network will be as numbers should deter crime.	Walkers and cyclists must feel safe to travel on their own even after training. Therefore safety should be enhanced by other measures such as lighting and CCTV, and personnel at interchanges which will also deter crime.
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	○		
To move away from waste disposal to minimisation, reuse, recycling and recovery	○		
To ensure the efficient use of water, and safeguard water resources	○		
To reduce contamination, and safeguard soil quality and quantity	○		
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	The more people that have cycle training the more likely people are going to travel by more sustainable modes, this will then improve air quality and noise if sufficient modal shift is achieved.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE**

<b>SEA Analysis Table</b>	<b>Education Package</b>		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	This sub-package will encourage people, particularly young children to use more sustainable modes of transport, however, its permanency depends upon many things, one of which being the continual feeling of being safe on the network.	Training programmes should include information on the wider benefits of walking and cycling.
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	0		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	P+	Although training will encourage more people to cycle/walk, it will not create a big enough shift from private vehicle use to more sustainable modes on its own. The permanency of effect also depends on more factors other than whether the pedestrian/cyclist feels safe.	Programmes should include information to disseminate the wider benefits of walking and cycling to create a behavioural change not just in terms of safety.
To ensure the sustainable supply and use of energy	0		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE**

SEA Analysis Table	Education Package		
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Increased number of pedestrians/cyclists can place extra pressures on the natural landscape, which can lead to erosion and other issues such as littering and picking of wild flowers.	Ensure education/training includes attributing respect to surroundings, highlighting the need to stay on designated cycle and pedestrian paths so not to impact the surrounding landscape and not to litter, pick wild flowers etc.
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		
<b>SEA Topic – Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Educating and training disadvantaged groups of people in particular to stay safe whilst travelling sustainably will open up more opportunities to access services. This includes employment opportunities.	As above, it is imperative, if accessibility is to be enhanced, that specific groups of people are given the training, encouragement and facilities to realise the opportunities available to them. Travel Planning is particularly important here to show them how easily they can access the facilities they want by sustainable modes of transport. Therefore, possibly link the two packages especially for

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE

SEA Analysis Table	Education Package		
			groups of people who have difficulties accessing or negotiating the transport system.
To empower all sections of the community to participate in decision making and local action	P+	Education as to how people can determine there own safety could have an effect on empowerment within the community.	Make sure any transport safety education is aimed at everyone regardless of disability.
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	P+	Can have a positive effect in terms of addressing unemployment among ethnic minorities and other disadvantaged groups of people.	Consider coupling projects with travel planning measures to raise awareness of opportunities available to them.
To spread economic growth more evenly to benefit deprived areas	P+		
To maintain the vitality and viability of existing centres	O		

### Significant Positive Effects:

Education particularly safety education can have a significant positive impact on reduction of accidents caused by traffic, as well as helping to disseminate the message about sustainable transport modes in general.

### Significant Negative Effects:

None.

## **APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EDUCATION PACKAGE**

**Timescale:** short to medium term. Although it will not take long to roll out education regarding safety and the benefits of sustainable modes of transport.; behavioural change may take some time to take effect.

**Temporary or Permanent:** Impacts could be temporary as travel choices are down to personal choice, education measures can help people to make more environmental travel choices but this is down to each individual.

**Likelihood of effects or impacts identified occurring:**

Past evidence from national education interventions such as school travel planning interventions including walking buses has shown that publicity, particularly journey planning can have a not insignificant effect on changing people's travel behaviour.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Education should focus on the personal safety benefits and environmental benefits of sustainable travel.
- Personal safety should be enhanced by other measures such as lighting and CCTV, and personnel at interchanges which will also deter crime.
- Training programmes should include information on the wider benefits of walking and cycling, and includes attributing respect to surroundings, highlighting the need to stay on designated cycle and pedestrian paths so not to impact the surrounding landscape and not to litter, pick wild flowers etc.
- Specific groups of people are given the training, encouragement and facilities to realise the opportunities available to them. Travel Planning is particularly important here to show them how easily they can access the facilities they want by sustainable modes of transport. Therefore, possibly link the two packages especially for groups of people who have difficulties accessing or negotiating the transport system.

**Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Emissions Reductions Package</b>		
<b>SEA Objective</b>	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	The measures will bring about reductions in emissions and other pollutants which affect biodiversity.	
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>P+</b>	Less air pollutants and noise emissions would improve physical and mental health of the population.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Emissions Reductions Package</b>		
To reduce crime and create safe environments	P-	Electric cars can be silent therefore there is potential for more accidents to happen.	The issue of silent electric cars needs to be addressed by the manufacturers or perhaps by warning signage.
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	O		
To move away from waste disposal to minimisation, reuse, recycling and recovery	O		
To ensure the efficient use of water, and safeguard water resources	O		
To reduce contamination and safeguard soil quality and quantity	P+	Reductions in particulates will also benefit soil conditions as there will be fewer deposits from the air and run-off.	
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	✓	Package will address the causes of polluting air and mitigate the production of greenhouse gases.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Emissions Reductions Package</b>		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	The incentives offered to develop and purchase electric vehicles will improve the choice of sustainable transport, especially as renewable energy technology becomes more developed.	As it stands technology for electric vehicles is still evolving and energy is still sourced from non-renewables. Arguably these measures should come in to effect in the longer term rather than them being a part of short term actions. This will then allow the implementation of measures which will have more than an impact now.
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	✓	These types of schemes are about reducing the impact on climate change.	
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	✓	The package is aimed at reducing emissions; however energy production technology is still evolving so greenhouse gases may be emitted elsewhere in the energy supply chain.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Emissions Reductions Package</b>		
To ensure the sustainable supply and use of energy	✓	The package will encourage the development of facilities for vehicles that use less or no fossil fuels and mitigate greenhouse gas emissions.	Same as above for electric vehicles and infrastructure.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	P+	Lower emissions will protect open spaces which benefit both people and wildlife.	
To conserve and enhance the historic environment, heritage assets and their settings	P+	Lower emissions will reduce transports contribution to the chemicals which can affect the well being of buildings, however impacts could be site specific.	
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	O		
To empower all sections of the community to participate in decision making and local action	O		

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE

SEA Analysis Table	Emissions Reductions Package		
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	P-	Measures aimed at reducing emissions by penalising the use of other vehicles (such as high emitting HGVs) will have a negative impact on the economy. They will not support local and community businesses and will not make Hertfordshire an attractive place to locate to.	Use with other less penalising methods to promote, encourage and support the use of sustainable transport.
To spread economic growth more evenly to benefit deprived areas	O		
To maintain the vitality and viability of existing centres	P+	By creating local centres that are less polluted.	

### Significant Positive Effects:

Provided the energy suppliers continue to move towards sustainable energy production, low emission vehicles and electric cars would have a significant impact on air quality and therefore the environment and human health.

### Significant Negative Effects:

None.

**Timescale:** medium to long term as technology is still moving forwards.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, EMISSIONS REDUCTIONS PACKAGE

**Temporary or Permanent:** Infrastructure installed to support electric vehicles should result in permanent impacts with greater uptake of ULEVs.

**Likelihood of effects or impacts identified occurring:**

Provided there is political buy-in, some of the measures are likely to happen, therefore some of the effects will occur.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

This package needs to be considered alongside others such as improving bus services or implementing travel planning, or it could impact on the economy and on people who cannot afford to buy new low emission vehicles.

**Data Issues:**

None.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Environmental/Sustainable Modes Infrastructure Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>U</b>	Increasing the number of pedestrian and cycle routes could mean the loss of hedgerows and grasslands particularly from verges.	Utilise existing space for new and improved routes. For example, use existing road space to implement cycle lanes and facilities which changes the dynamics of the route to favour cyclists. Likewise, use existing pathways to upgrade and improve.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Environmental/Sustainable Modes Infrastructure Package		
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	✓	Measures will encourage walking and cycling by providing new footpath and cycle ways and protecting rights of way, cycle ways and bridle ways. They will also address the recreational needs of young people both in rural and urban areas by improving access to leisure facilities, open space, and to culture and the arts. Improved facilities will also increase opportunities for active travel, leading to a healthier population.	
To reduce crime and create safe environments	✓	Improved design will reduce opportunities for crime. The greater the number of people walking or cycling, the safer people will perceivably feel. If more	

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Environmental/Sustainable Modes Infrastructure Package		
		people were to shift from car use to more sustainable modes, the less number of cars would arguably lead to reduced accident risk.	
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	U	Signing and new routes will mean the use of new construction materials.	Where possible use sustainable construction material, including recycled materials for example in signing. If this is not possible, look to using locally sourced materials in the first instance.
To move away from waste disposal to minimisation, reuse, recycling and recovery	U	Some measures will require the use of new construction materials.	Promote schemes and measures which generate the least amount of construction waste before others. Ensure design guides refer to construction practices and the minimisation of construction waste and the use of recycled construction materials where possible.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Environmental/Sustainable Modes Infrastructure Package</b>		
To ensure the efficient use of water, and safeguard water resources	O		
To reduce contamination and safeguard soil quality and quantity	P-	Any new pedestrian or cycle routes could result in soil capping.	
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	✓	Measures which aim to increase the use of sustainable travel as opposed to using the private vehicle will contribute to mitigating the production of greenhouse gas emissions, will address the causes of air pollution and minimise and mitigate noise pollution.	
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	This package will aid and promote walking and cycling.	Couple with development control measures in particular Section 106 agreements to help fund schemes and improvements.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Environmental/Sustainable Modes Infrastructure Package</b>		
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	P+	Any new pedestrian/ cycling infrastructure will need to be constructed with sufficient drainage.	
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	✓	Measures which improve the choice of sustainable modes of transport and consequently contribute to increasing their use will contribute to mitigating transport greenhouse gas emissions.	Should go hand in hand with other measures which promote a shift from private vehicle use to more sustainable modes so to maximise the opportunity of reducing transport greenhouse gas emissions.
To ensure the sustainable supply and use of energy	P+	This package will contribute to mitigating greenhouse gas emissions.	Same as above.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	P+	This package will improve sustainable access to the natural environment and will contribute to maintaining tranquillity and air quality.	Ensure design guides for new infrastructure takes into account the existing natural landscape and how best to implement schemes to compliment this to protect local character.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Environmental/Sustainable Modes Infrastructure Package</b>		
To conserve and enhance the historic environment, heritage assets and their settings	O		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	✓	This package will improve access to health and other services and will support measures to enhance human health. The package will particularly suit those who do not have access to a car.	Couple with measures which raise community awareness of healthy lifestyles, for example partnership working with health authorities.
To empower all sections of the community to participate in decision making and local action	P+	This package will take into account under-represented community groups particularly people on low incomes.	
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	P+	This package will aim to integrate environmental and economic goals and will support community economic development by improving access to employment. They will also promote the	There should be accompanying measures to support and encourage the use of more sustainable modes of transport which aim to provide an alternative form of travel to the private vehicle.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Environmental/Sustainable Modes Infrastructure Package		
		<p>environmental economy whilst supporting local and community businesses by improving opportunities of access to a wider skills base. They will further help to address unemployment among ethnic minorities and other disadvantaged groups.</p>	
<p>To spread economic growth more evenly to benefit deprived areas</p>	<p><b>P+</b></p>	<p>This package would improve access to employment particularly for those who do not have access to a car. This will enhance the skills base for businesses and improve the choice of candidate, providing more opportunities for disadvantaged groups of people.</p>	<p>As above.</p>

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ENVIRONMENTAL/SUSTAINABLE MODES INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Environmental/Sustainable Modes Infrastructure Package		
To maintain the vitality and viability of existing centres	○		

**Significant Positive Effects:**

This package has significant positive effects on human health and social inclusiveness, air and noise pollution and reduction of greenhouse gases.

**Significant Negative Effects:**

None

**Timescale:** short to medium term.

**Temporary or Permanent:** Impacts from any new infrastructure to support sustainable modes would be permanent but positive impacts on health, pollution etc. could be temporary, as modal shift is dependent on travel choices/behaviour.

**Likelihood of effects or impacts identified occurring:**

Likely – as fuel costs increase, and provided appropriate pedestrian and cycle routes are delivered, people will be more inclined to walk and cycle more and therefore the effects demonstrated above are entirely plausible, however it may take a while for the impacts on economy, environment and human health to be felt.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

This package would have more effect if other measures were also employed such as publicity, development control measures such as s106 conditions advising sustainable infrastructure. Wherever possible new ped and cycle schemes should be low impact, for example they should use recycled construction material.

**Data Issues:**

Good baseline data needs to be gathered now so that before and after scenarios can be measured robustly.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE**

SEA Analysis Table	Freight Controls Package		
<b>SEA Objective</b>	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	U	Depending on implementation could be beneficial.	
<b>SEA Topic – Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	P+	Reduction of noise and pollutants caused by freight movement increases close to residential homes and therefore freight controls would improve physical and mental health of the population.	

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE**

<b>SEA Analysis Table</b>	<b>Freight Controls Package</b>		
To reduce crime and create safe environments	<b>P+</b>	Preventing HGVs from entering certain areas will reduce the risk of accidents from such modes.	Diverting HGVs elsewhere would arguably just divert if not enhance the risk of accidents by HGVs in the areas to which they are diverted. Therefore a definitive freight route which mainly uses national speed limit roads could be introduced to enforce this and only allow access through certain roads. Banning HGVs from driving through residential areas during the day will also reduce accident risk.
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>O</b>		
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>O</b>		
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		
To reduce contamination and safeguard soil quality and quantity	<b>P+</b>	Fewer particulates would enter local water resources and soil in areas where HGVs are controlled.	

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE**

SEA Analysis Table	Freight Controls Package		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	U	Restricting HGVs from entering areas at night time will minimise light and noise pollution. However, restricting night time deliveries will push them into the day which will exacerbate all of the problems during the day which have been alleviated from the night including increased safety risks. If they are restricted from entering certain areas, greenhouse gas emissions will arguably be reduced for these areas. Encouraging the use of low emission vehicles will enhance this further.	A freight route which is the shortest most possible which ideally avoids areas of residential properties. Areas which allow access only to HGVs. Require businesses to submit a detailed (separate to an employee travel plan) travel plan for deliveries and business travel.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	O		
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	O		

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE**

<b>SEA Analysis Table</b>	<b>Freight Controls Package</b>		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	<b>U</b>	Providing incentives for the use of low emission vehicles and banning lorries entering areas of a night time will reduce emissions. However, if they are forced to make deliveries during the day, when most traffic occurs, this will add to congestion, journeys will take longer and emissions will increase.	A delivery route which is away from areas of residential housing, which can be used at any time of the day. Allow HGVs in to areas for access only as part of planning agreements. Require separate travel plans for freight companies and business travel and set targets for reducing greenhouse gas emissions.
To ensure the sustainable supply and use of energy	<b>U</b>	Could be beneficial in terms of mitigating greenhouse gas emissions, depending upon how the measures are implemented (see above).	Same as above.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Measures can affect the maintenance of tranquillity and air quality in rural areas.	Separate travel plan for freight deliveries and business travel, which incorporates the use of lower emission HGVs. Encourage businesses to offset their emissions in areas where they will be affecting the most.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE**

<b>SEA Analysis Table</b>	<b>Freight Controls Package</b>		
			Night restrictions for HGVs in rural areas.
To conserve and enhance the historic environment, heritage assets and their settings	O		
<b>SEA Topic – Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	O		
To empower all sections of the community to participate in decision making and local action	U	HGV weight restrictions are subject to a Traffic Regulation Order which incorporates community involvement. Weight restrictions are the only way HGVs can be restricted from using a route.	Investigate areas where residents feel HGV use is a problem and determine an “action plan” between residents and companies involved to fathom the best course of action.
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	U	Some restrictions might place serious constraints on business practice of some companies, especially those who depend on and make deliveries. This might affect a business’ decision to locate in the county.	Work with businesses to negotiate transport operational plans and agreements as part of planning obligations for new businesses.
To spread economic growth more evenly to benefit deprived areas	O		

## APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, FREIGHT CONTROLS PACKAGE

SEA Analysis Table	Freight Controls Package		
To maintain the vitality and viability of existing centres	P+	Through HGV restrictions.	

### Significant Positive Effects:

There are no significant positive impacts, but reducing or controlling HGV movements can provide benefits to local residential areas by reducing noise and pollution caused by large diesel HGVs. It can also make roads safer and so perceptions of safety in town centres would be improved.

### Significant Negative Effects:

There are no significant negative impacts.

**Timescale:** short to medium term.

**Temporary or Permanent:** Any freight restrictions imposed would result in permanent positive impacts.

### Likelihood of effects or impacts identified occurring:

Medium likelihood as freight controls are being implemented in other parts of the region.

### Recommendation for mitigation for adverse effects and/or enhancement or positive effects:

- Controlling freight movement needs to be carefully thought through. For example bans can move the problem elsewhere. Freight routes need to be developed that address all concerns.
- Require businesses to submit a detailed (separate to an employee travel plan) travel plan for deliveries and business travel. Encourage businesses to offset their emissions in areas where they will be affecting the most.
- As part of travel plans, Investigate areas where residents feel HGV use is a problem and determine an “action plan” between residents and companies involved to fathom the best course of action.
- Allow HGVs in to areas for access only as part of planning agreements.
- Night restrictions for HGVs in rural areas.

### Data Issues:

Do people tend to report issues regarding freight and who would they report them to, how are they monitored.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Passenger Transport Infrastructure Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P-</b>	Potentially negative impacts if major transport infrastructure is built through natural habitats	Ensure transport infrastructure and particularly routes are not built through important natural habitats
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>P+</b>	Potential for improving links for residents to reach more services and facilities.	Ensure that routes for major new transport infrastructure allow for communities to be connected to key services.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Passenger Transport Infrastructure Package</b>		
To reduce crime and create safe environments	<b>P+</b>	More people using passenger transport would mean less crime and also if there were less cars on the road, there would be fewer road traffic accidents.	Lighting as well as CCTV and general interchange design all have an impact on how 'safe' residents feel.
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	Depends on implementation – i.e. how many resources new infrastructure requires.	
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	Depends on implementation – i.e. how much new material new infrastructure requires	
To ensure the efficient use of water, and safeguard water resources	<b>P-</b>	Any new infrastructure will need to adhere to SUDs to ensure additional runoff is diverted into the drainage systems.	
To reduce contamination and safeguard soil quality and quantity	<b>P-</b>	Any new infrastructure would mean soil capping.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Passenger Transport Infrastructure Package</b>		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	<b>U/P+</b>	Depends on how many people will no longer use their cars because passenger transport's poor image would be improved.	Encourage people to use passenger transport rather than their cars to reduce the amount of air pollution and noise pollution.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	<b>P+</b>	More interchanges will encourage greater use of Bus and Trains and less car transport	Building interchanges is likely to lead to a greater number of passengers being able to use passenger transport and will likely lead to a reduction in the number of people travelling by car.
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	<b>P-</b>	Any new infrastructure will add to runoff and so contribute to flooding.	
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	<b>U/P+</b>	Potential to encourage modal shift away from cars	Greater number of passenger transport journeys can encourage a shift away from car travel however routes need to be designed so as to be a viable alternative to car travel.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Passenger Transport Infrastructure Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	Bus transport in particular is a more fuel efficient way of transport compared to individuals travelling by car.	Ensuring that Bus and rail offer a viable and comfortable alternative to travelling by car.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>P-</b>	Major infrastructure may affect landscape and townscape and green spaces	Ensure that full public consultation is conducted to ensure landscape and important features of the town are considered.
To conserve and enhance the historic environment, heritage assets and their settings	<b>P-</b>	Possible effect on buildings and places of cultural heritage near passenger transport infrastructure, impacts could be site specific.	As above.
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Potential to open up more communities to access services and facilities	Ensure building of new infrastructure in particular passenger transport interchanges and passenger transport routes connect communities across the county to key services.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Passenger Transport Infrastructure Package</b>		
To empower all sections of the community to participate in decision making and local action	<b>P+</b>	Ensure full public consultation is conducted.	
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Potential to open up more communities to employment thereby encouraging economic development	Ensure building of new infrastructure in particular passenger transport interchanges and passenger transport routes connect communities across the county to key services.
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	Potential to open up more communities to employment thereby encouraging economic development	Ensure building of new infrastructure in particular passenger transport interchanges and passenger transport routes connect communities across the county to key services.
To maintain the vitality and viability of existing centres	<b>P+</b>	Potential to open up towns and centres to more communities.	

**Significant Positive Effects:**

No significant positive effects, although overall there are many potential positive impacts, including if sufficient modal shift can be achieved, less traffic and congestion which would provide benefits to health (air quality and noise, fewer accidents), benefits to the

## **APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR PASSENGER TRANSPORT INFRASTRUCTURE PACKAGE**

environment (reduction in greenhouse gases). It will mostly depend on implementation and the area that any large passenger transport scheme is considered in, but it would provide better access to services, facilities, employment, and keep town centres viable.

### **Significant Negative Effects:**

There are no significant negative impacts, but with any new major infrastructure there will be some loss of habitat and biodiversity, and permanent soil capping. Any new scheme will need to be mindful of drainage and flooding issues. Such large major passenger transport infrastructure will impact on local landscape and townscape and possibly any local heritage assets.

**Timescale:** medium to long term.

**Temporary or Permanent:** Impacts from any road/rail/tram/bus infrastructure would be permanent but positive impacts from any modal shift could be temporary, as this is dependent on travel behaviour.

**Likelihood of effects or impacts identified occurring:** dependant on levels of funding for major projects.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Ensure transport infrastructure and particularly routes are not built through important natural habitats
- Ensure that full public consultation is conducted to ensure landscape and important features of the town are considered.
- Ensure building of new infrastructure in particular passenger transport interchanges and passenger transport routes connect communities across the county to key services.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	X	By-products from transport have adverse and detrimental effects on biodiversity. Increasing road capacity will allow traffic and thus by-products to increase.	New road infrastructure to be the final option considered in any scenario. Offset the effects of new roads on local biodiversity and the by-products from increased traffic appropriately.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
<b>SEA Topic - Population and human health</b>			
<p>To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities</p>	<p><b>U</b></p>	<p>Negative: Roads might be built on greenbelt land, taking away the potential for them to be used as open spaces for recreation. It will not encourage walking and cycling (and improve health) as the capacity will make it easier for people to travel by cars. It will not manage visitor pressure on rural attractions to safeguard and enhance nature conservation. Positives: It will improve access to leisure facilities and open space and to culture and the arts.</p>	<p>Do not use greenbelt land to build new roads on.</p>
<p>To reduce crime and create safe environments</p>	<p><b>P-</b></p>	<p>More roads might increase the number of accidents due to extra capacity.</p>	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	X	New roads require the use of raw materials during construction and therefore do not protect mineral supplies.	Construct roads from recycled material or if this is not possible, source materials as local as possible.
To move away from waste disposal to minimisation, reuse, recycling and recovery	X	Sub-package will create construction waste.	Do not build new roads or consider this as the last option in every case. If needed, ensure construction waste is reduced, re-used and recycled as much as is physically possible.
To ensure the efficient use of water, and safeguard water resources	X	Providing more capacity makes it easier to travel by car. The more traffic there is, the more by-products there will be which can run off the roads and into the drainage system, thus contaminating water.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Road Infrastructure Package</b>		
To reduce contamination and safeguard soil quality and quantity	X	New major road infrastructure will result in a large area of soil being capped permanently.	
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	X	Providing current and future projected traffic levels with extra capacity will increase greenhouse gas emissions and increase noise. It will also enhance transport's contribution to air, water and soil pollution.	Do not build new roads or consider as a last resort. Should they be absolutely imperative, fully support the development of new technologies and do everything by every means possible to increase the number of lower emitting vehicles in the county.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	X	Will increase dependence on the car. Will not promote the use of sustainable modes of transport. Will not encourage the use of vehicles in the most environmentally friendly manner.	If new roads are imperative, attribute more road space than not on new roads to buses and cyclists. Increase attentions on car sharing in businesses etc through travel plans. Be more active in the development and increase use of alternative fuelled vehicles.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
SEA Topic - Climatic factors			
To adapt to the impacts of climate change such as flooding	P-	Increased traffic will increase transports contribution to greenhouse gas emissions, which in turn increase the chances of climate change impacts such as greater rainfall. Further, more roads, especially those built on greenbelt land will decrease the amount of vegetation available to permeate flood waters. Flooding on roads is likely, which then gives chance for the by-products of vehicles to contaminate the water which will infiltrate into the water and soil environment.	Utilise SUDs.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Road Infrastructure Package</b>		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	X	New roads will encourage car use due to the extra capacity available, which will increase emissions.	Build roads mainly for the use of buses and cyclists as opposed to private vehicles. Support and development new technologies and increase the use of lower emitting vehicles in the county. Carbon offset the equivalent of the predicted increase in greenhouse gas emissions due to increased traffic.
To ensure the sustainable supply and use of energy	X	Road building will require a lot of energy and not from renewable sources. The construction and purpose of roads will have an opposite effect on mitigating greenhouse gas emissions.	Encourage the development of facilities for vehicles that use less or no fossil fuels.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	P-	<p>If new roads were to be built to provide extra capacity, greenbelt land will be used. Therefore, this sub-package and its by-products from increased traffic would have negative effects on:</p> <ul style="list-style-type: none"> <li>• Resisting development in the green belt</li> <li>• Protecting and managing open spaces for the benefit of people and wildlife</li> <li>• Protecting special landscape design and “protected” sites</li> <li>• Protecting aspects of the natural and historic environment that contribute to local</li> </ul>	<p>Ensure EIA’s are carried out with particular attentions paid to this objective for all schemes, no matter their size, as common practice. Offset the disturbance to the natural and built environment elsewhere, for example, re-plant trees/vegetation which are built over.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
		<p>character</p> <ul style="list-style-type: none"> <li>• Promoting high quality design contributing to local character</li> <li>• Integrating any new development with the existing landscape</li> </ul> <p>It will also take away space and opportunities to create new green spaces. However, it will improve access to existing open spaces and parks.</p>	
To conserve and enhance the historic environment, heritage assets and their settings	<b>P-</b>	More roads would accommodate increased traffic levels, thus leading to increased emissions which can be harmful to the well-being of buildings, impacts could be site specific.	Support and assist the development and adoption of low emission vehicles by any means possible.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

<b>SEA Analysis Table</b>	<b>Major Road Infrastructure Package</b>		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	More roads will ease congestion and accommodate future transport growth to make travelling easier by all modes.	Promote the implementation of roads which are designed in such a way to give priority to public transport, pedestrians and cyclists as opposed to the private vehicle.
To empower all sections of the community to participate in decision making and local action	<b>P+</b>	All new schemes are subject to public consultation.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE**

SEA Analysis Table	Major Road Infrastructure Package		
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	✓	New roads would increase access to employment thus supporting local businesses and community economic development. It will also maintain if not strengthen the county's economic competitiveness because of the availability of the workforce, the ability to move about the county more freely and enhanced access to services.	
To spread economic growth more evenly to benefit deprived areas	P+	New roads will improve access for all modes to employment. It also gives opportunities for businesses to relocate in disadvantaged areas.	Concentrate road schemes more in disadvantaged areas and around them to provide more incentives for businesses to locate. To improve access further, design roads in disadvantaged areas that

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE

SEA Analysis Table	Major Road Infrastructure Package		
			give priority to buses, pedestrians and cyclists.
To maintain the vitality and viability of existing centres	<b>P+</b>	New roads will support the role of market towns in serving rural areas.	Ensure all modes are catered for on new routes particularly for pedestrians and cyclists so not to cause severance.

### Significant Positive Effects:

Good for economic reasons.

### Significant Negative Effects:

Significantly negative effects on biodiversity, sustainable use of resources and air quality and impacts on noise.

### Timescale:

long term. Building new roads is politically and environmentally unpopular, therefore probably subject to planning appeals.

### Temporary or Permanent:

Impacts from any new road infrastructure would be permanent but positive impacts on the economy could be temporary as this is influenced by a number of factors and not just road infrastructure.

### Likelihood of effects or impacts identified occurring:

Predict and provide mentality has changed in recent times, new road capacity is the last resort, and is costly.

### Recommendation for mitigation for adverse effects and/or enhancement or positive effects:

- Construct roads from recycled material or if this is not possible, source materials as local as possible.
- Build roads mainly for the use of buses and cyclists as opposed to private vehicles.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, MAJOR ROAD INFRASTRUCTURE PACKAGE

- Support and development new technologies and increase the use of lower emitting vehicles in the county.
- Encourage the development of facilities for vehicles that use less or no fossil fuels.
- Ensure EIA's are carried out
- Promote the implementation of roads which are designed in such a way to give priority to public transport, pedestrians and cyclists as opposed to the private vehicle.
- Concentrate road schemes more in disadvantaged areas and around them to provide more incentives for businesses to locate.
- To improve access further, design roads in disadvantaged areas that give priority to buses, pedestrians and cyclists.
- Ensure all modes are catered for on new routes particularly for pedestrians and cyclists so not to cause severance.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

SEA Analysis Table	Network Management/ Maintenance Package		
<b>SEA Objective</b>	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	U	Potential for damage to biodiversity if maintenance programmes are lengthy and impede upon natural habitats or particular times of migration to certain areas.	Ensuring that environmental considerations are taken into account when planning long term maintenance programmes.
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	P+	Cycle improvements can lead more people cycling/pedestrian and therefore a healthier lifestyle.	Ensure that cycling/pedestrian improvements are reinforced through publicity measures.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

<b>SEA Analysis Table</b>	<b>Network Management/ Maintenance Package</b>		
To reduce crime and create safe environments	<b>P+</b>	Intelligent Transport systems and CCTV both contribute to creating safer environments. Coordinating ITS and CCTV through a central point will allow it to be more effective.	
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	Maintenance work could be done using recyclable materials and thus improve Hertfordshire's use of sustainable resources.	Maintenance work should make use of recyclable aggregate where possible, and low energy systems.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	As above.	Maintenance work should make use of recyclable aggregate where possible.
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		
To reduce contamination and safeguard soil quality and quantity	<b>O</b>		
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	<b>O</b>		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car.	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

SEA Analysis Table	Network Management/ Maintenance Package		
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	P+	ITS can help plan for the effects of climate change and can be used as an early warning system for incidents such as flooding on key roads.	Ensure ITS is geared up towards providing early warning on climatic changes- Use of electronic signs to warn drivers of flooding on roads etc.
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	P+	Potential for small improvements to reduce greenhouse gases e.g. cycle and pedestrian routes.	Maintenance of cycle/pedestrian roads is likely to encourage greater use of these sustainable modes and thus contribute to reducing the number of car journeys.
To ensure the sustainable supply and use of energy	P-	There is a possibility that this package will use a lot of energy, with ITS, CCTV, security lighting.	Green energy sources are not yet common. Low energy systems should be considered if there is an alternative.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	P-	Maintenance work may have an effect in the character of the townscape if the work programme is extensive (noisy, dusty,)	Ensure that if maintenance work is carried out near historic parts of the town that no permanent damage is done to the landscape.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

<b>SEA Analysis Table</b>	<b>Network Management/ Maintenance Package</b>		
To conserve and enhance the historic environment, heritage assets and their settings	U	Depends on implementation of the network management package, any impacts could be site specific.	
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	O		
To empower all sections of the community to participate in decision making and local action	O		
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	P+	ITS can help reduce congestion which is likely to lead to greater economic development.	-
To spread economic growth more evenly to benefit deprived areas	O		-
To maintain the vitality and viability of existing centres	P+	Introduction of CCTV may make areas feel safer and therefore encourage more people to use existing centres.	Ensure that people are aware of CCTV to improve the perception of safety and encourage more people to use existing centres.

## **APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

### **Significant Positive Effects:**

There are no significant positive effects, but this package has a number of potentially positive impacts on the environment, the economy and human health; however its potential lies in the fact that it offers a holistic approach to improving transport information, reducing congestion, human fitness and crime.

### **Significant Negative Effects:**

None.

### **Timescale:**

Medium to Long Term. Setting up ITS/CCTV is not only costly, it is also not a quick win. The system must be integrated and therefore is it important that the whole package offers a 'joined up' approach.

### **Temporary or Permanent:**

Impacts from any new road infrastructure provided would be permanent.

### **Likelihood of effects or impacts identified occurring:**

Likely. Although this package may be resource hungry, it is also important as it offers the delivery mechanism of other packages and schemes and measures.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Ensuring that environmental considerations are taken into account when planning long term maintenance programmes.
- Ensure that cycling/pedestrian improvements are reinforced through publicity measures.
- Maintenance work should make use of recyclable aggregate where possible, and low energy systems.
- Ensure ITS is geared up towards providing early warning on climatic changes- Use of electronic signs to warn drivers of flooding on roads etc.
- Green energy sources are not yet common. Low energy systems should be considered if there is an alternative.
- Ensure that if maintenance work is carried out near historic parts of the town that no permanent damage is done to the landscape.
- Ensure that people are aware of CCTV to improve the perception of safety and encourage more people to use existing centres.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, NETWORK MANAGEMENT/MAINTENANCE PACKAGE**

**Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

SEA Analysis Table	Pricing Mechanisms and Restrictions Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Parking controls may cause some modal shift which will result in less air pollution and emissions, which will benefit any local flora and fauna.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

SEA Analysis Table	Pricing Mechanisms and Restrictions Package		
<b>SEA Topic - Population and human health</b>			
<p>To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities</p>	<p><b>P+</b></p>	<p>Restrictions and pricing mechanisms to make travelling by the private vehicle more costly will force people to reassess their travel modes. Workplace parking charges will further make people reassess their travel methods to work which could include a shift towards more sustainable modes such as walking and cycling. This will improve physical and mental health. However, such measures which restrict private vehicles will reduce opportunities of access to facilities if improvements are not made to other modes.</p>	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Pricing Mechanisms and Restrictions Package</b>		
To reduce crime and create safe environments	<b>P+</b>	If restrictions lead to less private vehicles on the road, this would reduce the risk of accidents. If some sort of mode shift materialises, then the extra people using more sustainable modes of transport will improve the feeling of safety and security on the network. Pedestrianised areas will also improve safety.	
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	Pedestrianised areas will require the use of more material to implement the carriageway changes.	Use recycled construction material where possible. If not use possible, use locally sourced material.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	Pedestrianised areas will create construction waste.	Ensure the waste hierarchy is applied to any construction waste as it happens. Landfill should be the last route of action.
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Pricing Mechanisms and Restrictions Package</b>		
To reduce contamination and safeguard soil quality and quantity	O		
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	<p>These measures will address the causes of air pollution and will contribute to mitigating the production of greenhouse gases. Restrictions in to specific areas will enhance air quality within these areas and minimise noise.</p>	<p>On its own, these measures will not create a significant enough modal shift to make a massive difference to such problems. Therefore they should go hand in hand with measures to improve and support the use of sustainable transport and lower emitting vehicles, which should be exempt from parking charges. Require all new developers to have electric vehicle charging points at their new developments and make their use exempt from any restrictions.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Pricing Mechanisms and Restrictions Package</b>		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	<b>P+</b>	Measures will promote cycling, walking, the use of public transport and car share. They will also make people assess their need to travel.	Use the money generated by parking charges to support the development of new footpaths and cycle ways. As above for electric vehicle infrastructure and exemptions for parking charges.
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	<b>O</b>		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	<b>P+</b>	Any measures which make private vehicle use more difficult will make people think about their travel modes and possibly shift to other modes or not make journeys unless they're vital. This will contribute to reducing greenhouse gas emissions emitted by vehicular transport.	Use with other measures which aim to make sustainable transport a more viable alternative to the private vehicle, including behavioural change measures. Emphasise the need to promote development in areas where people do not need to use their cars to access facilities.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Pricing Mechanisms and Restrictions Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	This package will contribute to mitigating greenhouse gas emissions and encourage the development of facilities for vehicles that use less or no fossil fuels.	Use the money generated from higher parking charges to provide further electric vehicle charging points. Require developers to include infrastructure for electric vehicles in their developments. Support with measures to improve the viability of sustainable transport use.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>P+</b>	This package can contribute to reducing the impact vehicles have on natural components of the landscape. If applied to rural areas, they will also maintain tranquillity.	
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Pricing Mechanisms and Restrictions Package</b>		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P-</b>	This package will not address social isolation and will not improve access to facilities. They will hit the poorest the hardest and will not overly benefit those who do not have access to a car. However, pedestrianised areas will benefit socially excluded people.	
To empower all sections of the community to participate in decision making and local action	<b>P-</b>	This package will not take into account under-represented community groups (including people on low incomes).	
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P-</b>	Such measures will not attract a workforce to places where workplace car parking charges are in place thus restricting a businesses expansion prospects. This would also not address	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

SEA Analysis Table	Pricing Mechanisms and Restrictions Package		
		unemployment among ethnic minorities and other disadvantaged groups. However, it could create opportunities for home and flexible working. Pedestrianised areas will also increase pedestrian access to facilities.	
To spread economic growth more evenly to benefit deprived areas	P-	Same reasons as above	
To maintain the vitality and viability of existing centres	P-	Vitality and viability of existing centres could deteriorate if economic growth started to falter because of the effects of pricing mechanisms and restrictions.	

## **APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

### **Significant Positive Effects:**

This package, if implemented correctly could lead to a change towards sustainable travel behaviour and have beneficial effects on the environment.

### **Significant Negative Effects:**

This package would not address social exclusion, as it may make it more difficult to access services, especially for those on a low income who cannot afford the additional charges. It could also be negative for local employers who choose to do workplace parking charges and for town centres if sufficient improvements to sustainable modes are not made to allow people to make other travel choices.

### **Timescale:**

short to medium term.

### **Temporary or Permanent:**

Impacts would be permanent as long as the mechanisms/restrictions are in place, and sufficient modal shift is achieved.

### **Likelihood of effects or impacts identified occurring:**

Presently parts of this package are unpopular, for example, workplace charging however the impacts are likely if pricing mechanisms were embraced as long as other measures were also put into place.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Unless other schemes and measures are also put into place to mitigate the lack of transport for transport disadvantaged people, this would have a detrimental impact on the economic growth in parts of the County.
- Use the money generated from higher parking charges to provide further electric vehicle charging points.
- Require developers to include infrastructure for electric vehicles in their developments. Support with measures to improve the viability of sustainable transport use.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PRICING MECHANISMS & RESTRICTIONS PACKAGE**

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE**

SEA Analysis Table	Publicity Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Publicity can lead to behavioural change away from car use towards sustainable modes. Fewer cars reduce emissions and also reduce demand for new roads to be built- which would negatively affect biodiversity.	Publicity should also focus on the environmental benefits of sustainable travel and particularly the beneficial effects on the local environment.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE**

<b>SEA Analysis Table</b>	<b>Publicity Package</b>		
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>P+</b>	Publicity can encourage sustainable modes and promote the health benefits of travel by walking/cycling and it can also help to reduce the number of accidents on the road through carelessness or drunk driving.	
To reduce crime and create safe environments	<b>P+</b>	Publicity is important in reducing crime as it can be used to warn residents and communicate important messages to them.	Using a variety of media will reach a greater number of travellers.
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>P+</b>	Encourage behavioural mode change to walking and cycling and away from vehicles that use fossil fuels.	Continue to emphasise dwindling natural resources and emphasise this is a problem for everyone.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>O</b>	No impact	No impact

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE**

<b>SEA Analysis Table</b>	<b>Publicity Package</b>		
To ensure the efficient use of water, and safeguard water resources	O	No impact	No impact
To reduce contamination and safeguard soil quality and quantity	O		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	Publicity can encourage modal shift	Emphasise the benefits for local community and local area for air quality and noise with sustainable modes.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	Publicity can be used to encourage modal shift to sustainable modes.	
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	P+	Publicising sustainable modes will contribute towards the reduction of carbon emissions which contribute towards climate change.	Emphasise climate change benefits in any promotion of sustainable modes.
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	P+	Modal shift away from petrol consuming vehicles can lead to a reduction in greenhouse gases.	In any publicity emphasise benefits for local community as well as global effects.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE**

<b>SEA Analysis Table</b>	<b>Publicity Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	Any positive publicity around electric vehicles could increase the uptake and reduce the consumption of fossil fuels.	In any publicity emphasise the benefits that electric vehicles can have on the use of fossil fuels.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>P+</b>	Publicity around reducing travel by car can lead to a more pleasant environment	-
To conserve and enhance the historic environment, heritage assets and their settings	<b>U</b>	Publicity around sustainable modes might reduce demand for new roads and therefore the possibility of effecting cultural heritage of Herts.	-
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>P+</b>	Publicity around services available especially in different media/languages may encourage greater patronage of PT.	Provide greater publicity in areas of poverty and social exclusion, and consider the format/languages required in such areas.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE

SEA Analysis Table	Publicity Package		
To empower all sections of the community to participate in decision making and local action	<b>P+</b>	Publicity around services available especially in different media/languages may encourage greater patronage of PT.	Provide greater publicity in areas of poverty and social exclusion in different media/languages.
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>U</b>	Depends upon implementation, in key employment areas.	
To spread economic growth more evenly to benefit deprived areas	<b>U</b>	Depends upon implementation	
To maintain the vitality and viability of existing centres	<b>U</b>	Depends upon implementation in town centres.	

### Significant Positive Effects:

Past evidence (e.g. Sustainable Travel Demonstration Towns) has shown that publicity about sustainable travel modes can lead to people changing their transport mode from car use to walking, cycling and passenger transport. This could lead to less traffic on the road and therefore less air and noise pollution.

### Significant Negative Effects:

None.

**Timescale:** short to medium term. Although it will not take long to organise publicity, information and journey planning; behavioural change may take some time to take effect.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, PUBLICITY PACKAGE

**Temporary or Permanent:** Any positive behavioural change impacts could be temporary, as this relies on peoples personal travel choices.

**Likelihood of effects or impacts identified occurring:**

Past evidence from national interventions has shown that publicity, particularly journey planning can have a not insignificant effect on changing people’s travel behaviour.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Publicity when promoting sustainable travel should also focus on the positive impacts on : the environment, air quality and noise, climate change and the issue of dwindling natural resources.
- Publicity now needs to consider a greater range of media.
- Concentrate publicity in areas of poverty and social exclusion, as these areas are more likely to consider modal shift, material needs to be available in other formats and languages.
- Emphasize the consequences of actions such as drink driving as well as the benefits of sustainable travel in terms of health.

**Data Issues:**

It may be difficult to quantify exactly how ‘information’ or ‘publicity’ has had an effect on travel behaviour.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

SEA Analysis Table	Road Charging Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Less cars on the road means less pollutants impacting on flora and fauna and less road-kill.	
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>U</b>	Road charging will force some people to reassess their travel methods for economical reasons. This will increase sustainable transport use as a result, which will improve physical and mental health. However,	A charging system which includes every road in the county. Road pricing measures should go hand in hand with measures to support more sustainable modes of transport to help maximise encouragement for the use

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

SEA Analysis Table	Road Charging Package		
		<p>road pricing will hit the poorest the hardest and will therefore not improve access to leisure facilities, open space, culture and the arts for these people. To get around paying, people will “rat run” making other places more congested and polluted leading to distress and possible ill health (mental as well as physical) for residents.</p>	<p>of walking and cycling in particular to improve health.</p>
<p>To reduce crime and create safe environments</p>	<p><b>P+</b></p>	<p>Charging people to use roads will make them reassess their travel methods. The fewer vehicles on the road, the less chance of collision.</p>	<p>Charging system for the whole network or for main routes into and out of main towns.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Charging Package</b>		
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	The equipment used for charging (toll booths for example) might be borne from raw materials.	Use recycled materials where possible or if not, use local sources to obtain the material. Interactive (over the phone) payment methods to negate the use of physical payment booths (London Congestion Charge payment method).
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>O</b>		
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		
To reduce contamination and safeguard soil quality and quantity	<b>P+</b>	Road charging may reduce the levels of traffic on the roads and so reduce the amount of surface runoff and particulates that can contaminate local soil.	
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	<b>✓</b>	Road charging will address the causes of air, water and soil pollution, will minimise and mitigate noise	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Charging Package</b>		
		pollution and will mitigate the production of greenhouse gases.	
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	Road charging will encourage people to make alternative choices such as cycling, walking the use of public transport or even not travelling at all unless it's absolutely necessary. Further, they might consider the purchase of lower emitting vehicles if they are exempt from the charge.	Buses and low emission vehicles to be exempt from road charging. Support alongside methods for the uptake of electric vehicles. A charging system which includes every road in the county.
<b>SEA Topic – Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	O		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	U	Road charging will make people reconsider their travel modes and their journeys as a whole. Therefore, greenhouse gas emissions will be reduced with the introduction of road	An electronic road charging system which spans the entirety of the county.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

SEA Analysis Table	Road Charging Package		
		<p>charging. However, this will only be the case if a road pricing system is in place that includes roads throughout the whole of the county. If it just applies to the main roads, drivers will avoid these roads by taking other routes, which will increase congestion for these routes and areas. This will increase emissions in these areas and other associated problems.</p>	
<p>To ensure the sustainable supply and use of energy</p>	<p><b>P+</b></p>	<p>Road pricing can contribute to mitigating greenhouse gas emissions and encouraging the use of vehicles that use less or no fossil fuels.</p>	<p>Measures should go hand in hand with electric vehicle infrastructure and support, sustainable modes improvements and public transport (bus) improvement measures. A charging system which includes every road in the county.</p>

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

SEA Analysis Table	Road Charging Package		
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	U	Road pricing will contribute to reducing the by products which can affect wildlife and the natural environment through physical processes and also the cultural and historic environment (buildings). It will also contribute to maintaining tranquillity and air quality in rural areas. However, this is only the case if the road system spans the road network for the entire county.	Should go hand in hand with measures which support more sustainable modes of transport to the private vehicle in order to provide a viable alternative. A charging system which includes every road in the county.
To conserve and enhance the historic environment, heritage assets and their settings	O		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	X	Road pricing will hit the poorest the hardest and will not overly benefit those who do not have access to a car, but it	Use the money generated to improve buses in the county especially if they become overcrowded as a result. Support more routes.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Charging Package</b>		
		might ease congestion on the network for buses. However, if a modal shift occurs and bus use increases, overcrowding could become a problem.	Use the money generated to fund pedestrian and cycle schemes to provide more opportunities of access by these modes.
To empower all sections of the community to participate in decision making and local action	X	A road pricing system will not take into account the under-represented community groups (including people on low incomes)	
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	X	Road pricing will not attract new businesses to the county and existing ones may relocate. It will also not promote diversity in the local community by addressing unemployment among ethnic minorities and other disadvantaged groups of people. It will also not support tourism	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

SEA Analysis Table	Road Charging Package		
		nor improve equality of opportunity in the labour market. Overall, such a package will not support locale and community businesses.	
To spread economic growth more evenly to benefit deprived areas	X	Road pricing will act as a deterrent for new businesses to locate in the county and therefore will not support regeneration in the County's main towns.	
To maintain the vitality and viability of existing centres	O		

## **APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

### **Significant Positive Effects:**

Good for environmental reasons.

### **Significant Negative Effects:**

Bad for the economy and for socially excluded people.

### **Timescale**

medium to long term. This measure would be very expensive and complicated to put into operation.

### **Temporary or Permanent:**

Permanent impacts as long as the restriction/mechanism is in place, but positive environmental benefits could be temporary as it depends on people changing their travel behaviour and not just paying the charges.

### **Likelihood of effects or impacts identified occurring:**

Very unlikely, because of its cost and unpopularity.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

If the Council were to go down the road charging route, other measures need to be put into operation to make sustainable transport more freely available to everyone.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, ROAD CHARGING PACKAGE**

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

SEA Analysis Table	Road Safety and Speed Restrictions Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P+</b>	Possibility of reducing roadkill.	
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>O</b>		
To reduce crime and create safe environments	<b>✓</b>	Speed restrictions and road safety measures will improve the safety of all road users.	More 20mph zones in residential areas to make walking and cycling easier, which provides opportunities to improve health and increase social interaction as well improving

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

SEA Analysis Table	Road Safety and Speed Restrictions Package		
			access to services. This package should go hand in hand with measures from other packages to emphasise the positives.
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	U	Measures which require construction and material such as speed humps might not use sustainable construction material.	Where possible use recycled materials for measures which require infrastructure. If not possible, attempt as best possible to source materials locally. Consider measures first which do not require or require the least amount of new infrastructure and materials.
To move away from waste disposal to minimisation, reuse, recycling and recovery	U	Measures which require new infrastructure will produce construction waste and may not use recycled construction materials.	As above with considering measures first which require no or minimal new material to implement. If material is required, use recycled where possible and/or source locally if not. If construction waste is inevitable, apply the waste hierarchy by practice.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Safety and Speed Restrictions Package</b>		
To ensure the efficient use of water, and safeguard water resources	O		
To reduce contamination and safeguard soil quality and quantity	O		
<b>SEA Topic – Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	Traffic going at a slower speed e.g. a steady 50mph leads to more fuel efficiency and therefore less air pollutants.	Consider the use of average speed enforcements along key routes into and around urban centres. Avoid the use of lone measures (e.g. one speed camera) which force drivers to use their brakes suddenly only for them to speed up again afterwards. Adequate signing to warn people of restrictions.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	P+	Positive in that it supports road layouts that give greater priority to cyclists and pedestrians which can help to promote cycling, walking and the use of public transport and encourage the use of vehicles in the most	Speed bumps are least likely to promote environmentally friendly driving, try to avoid using these. 20mph zones in residential areas to give greater priority to walking and cycling. Speed bumps can be a nuisance for buses and

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

SEA Analysis Table	Road Safety and Speed Restrictions Package		
		environmentally friendly manner by improving traffic flow.	passenger comfort. Try to avoid the use of if along a bus route. Must go hand in hand with other sub-packages which aim to improve the use of sustainable modes, it cannot achieve increase in use on its own.
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	O		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	U	Speed restrictions and safety measures can improve traffic flow which will reduce greenhouse gas emissions. However, if drivers are forced to use their brakes to adhere to the measures and speed up again after they've passed them, this is will have the opposite effect. Measures which give priority to sustainable modes and their safety	Do not use lone measures. Consider average speed enforcements along key routes in to and around town centres. Compliment measures with others from alternative packages which support and encourage the use of sustainable modes.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Safety and Speed Restrictions Package</b>		
		will increase their use and thus eliminate emissions.	
To ensure the sustainable supply and use of energy	<b>P+</b>	Vehicles travelling at slower speeds e.g. a constant 50mph are more fuel efficient.	Use measures which improve traffic flow over long lengths of the network. Measures should be complimented by others that increase and encourage the use of sustainable modes.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Measures could affect (depending on what they are) local character and the protection of the natural and historic environment that contributes to local character. Measures will further effect tranquillity and air quality.	Measures such as speed cameras can impact on the landscape. Avoid measures which will have the most impact on the natural landscape, environment and townscape.
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

<b>SEA Analysis Table</b>	<b>Road Safety and Speed Restrictions Package</b>		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>U</b>	Measures which attribute priority to more sustainable modes of transport will benefit disadvantaged groups of people particularly those who have concerns regarding safety when using the transport network.	20mph zones in residential areas. This can go hand in hand with the sub-package design of new developments. For roads in town centres around main services/facilities, redesign to give more priority to sustainable modes, with the inclusion of ample crossing point and sustainable transport infrastructure and more speed restrictions, along with other measures such as revised parking enforcements etc.
To empower all sections of the community to participate in decision making and local action	<b>O</b>		
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Fewer collisions means reduced congestion, which then has positive impacts on the local economy.	
To spread economic growth more evenly to benefit deprived areas	<b>O</b>		

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE**

SEA Analysis Table	Road Safety and Speed Restrictions Package		
To maintain the vitality and viability of existing centres	<b>P+</b>	Slower speeds in town centres will make people feel safer and more likely to use sustainable modes to access centres.	

**Significant Positive Effects:**

The main positive effect is that on reducing casualties, but this package also has potential positive impacts on the environment (fauna, air pollution, noise pollution from transport, emissions). Feeling safer on the roads may increase levels of cycling and walking, which in turn will benefit local centres.

**Significant Negative Effects:**

None.

**Timescale:** Short term.

**Temporary or Permanent:** Any safety engineering works would have permanent impacts, but human behaviour will always create temporary and unexpected impacts.

**Likelihood of effects or impacts identified occurring:**

Fairly likely – the speed management strategy endorses some of these measures.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- That measures that lead to stop/start conditions for traffic flow be avoided as this will negate the positive effects on the environment. Measures need to be clearly thought through so that they have the best effects on human safety and the environment.

## APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, ROAD SAFETY & SPEED RESTRICTIONS PACKAGE

- More 20mph zones in residential areas to make walking and cycling easier, which provides opportunities to improve health and increase social interaction as well improving access to services. This package should go hand in hand with measures from other packages to emphasise the positives.
- Where possible use recycled materials for measures which require infrastructure. If not possible, attempt as best possible to source materials locally.
- Consider the use of average speed enforcements along key routes into and around urban centres. Avoid the use of lone measures (e.g. one speed camera) which force drivers to use their brakes suddenly only for them to speed up again afterwards. Adequate signing to warn people of restrictions.
- Speed bumps are least likely to promote environmentally friendly driving, try to avoid using these. Speed bumps can be a nuisance for buses and passenger comfort. Try to avoid the use of if along a bus route.
- Use measures which improve traffic flow over long lengths of the network. Measures should be complimented by others that increase and encourage the use of sustainable modes.
- Measures such as speed cameras can impact on the landscape. Avoid measures which will have the most impact on the natural landscape, environment and townscape.
- 20mph zones in residential areas. This can go hand in hand with the sub-package design of new developments. For roads in town centres around main services/facilities, redesign to give more priority to sustainable modes, with the inclusion of ample crossing point and sustainable transport infrastructure and more speed restrictions, along with other measures such as revised parking enforcements etc.

### **Data Issues:**

None.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

SEA Analysis Table	Small Scale Infrastructure and Road Improvements Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	<b>P-</b>	Small scale improvements are likely to affect the biodiversity of the areas improvements are being built in.	Small scale infrastructure such as cycle routes can in the long run lead to environmental benefits if mode shift away from cars is achieved.
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	<b>P+</b>	Cycling routes and pedestrian routes will encourage people to take part in active travel.	Publicity will be necessary to encourage use of cycle/pedestrian infrastructure

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Small Scale Infrastructure and Road Improvements Package</b>		
To reduce crime and create safe environments	<b>P+</b>	Small scale improvements such as CCTV cameras and lighting improvements will result in safer environments.	
<b>SEA Topic - Water and soil</b>			
To improve the sustainable use of resources	<b>U</b>	Depending on what materials are used it may be possible to increase use of recyclable aggregates in order to improve the sustainable use of resources in the county.	Ensure that the possibility of using recyclable aggregates is explored in the design of new small scale infrastructure and roads links.
To move away from waste disposal to minimisation, reuse, recycling and recovery	<b>U</b>	As Above	As Above
To ensure the efficient use of water, and safeguard water resources	<b>O</b>		
To reduce contamination and safeguard soil quality and quantity	<b>O</b>	Most of these works will be on existing infrastructure.	

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Small Scale Infrastructure and Road Improvements Package</b>		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	<b>U</b>	To some extent building cycle routes and pedestrian routes will encourage mode shift but at the same time road improvements may encourage more car journeys.	Ensure that any small scale sustainable infrastructure is supported by a publicity and education programme to encourage use of the infrastructure.
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	<b>P+</b>	Cycle and pedestrian routes will encourage use	As above.
<b>SEA Topic - Climatic factors</b>			
To adapt to the impacts of climate change such as flooding	<b>P+</b>	Cycle and pedestrian routes are part of building a sustainable transport network for the future. In addition making road improvements can be an important measure in reducing the effects of flooding.	Ensure that ALL new small scale infrastructure takes consideration of the future climatic changes in order that they can be future-proofed.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Small Scale Infrastructure and Road Improvements Package</b>		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	<b>P+</b>	Sustainable modes will encourage behavioural shift away from carbon dioxide emitting transport	Sustainable modes infrastructure will only be effective in protecting the environment if it is used by people as an alternative to car travel. With this in mind publicity and education measures need to be in place to support the hard infrastructure measures.
To ensure the sustainable supply and use of energy	<b>P+</b>	Electric charging points will encourage use of sustainable energy	Electricity itself is not a endless supply of energy , technological advances should allow for less electricity to be used to power cars as newer vehicles are developed.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>U</b>	Small scale infrastructure can lead to damage of the landscape.	Consideration should be given to how small scale infrastructure can affect the landscape. In particular the location of works near to historic buildings needs to be examined.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Small Scale Infrastructure and Road Improvements Package</b>		
To conserve and enhance the historic environment, heritage assets and their settings	<b>U</b>	Small scale infrastructure can lead to damage to the cultural heritage of Herts, but impacts would be site specific.	As above.
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>U</b>	Making road improvements to rural communities may be important in providing a link for those communities to important services such as employment and shopping facilities.	
To empower all sections of the community to participate in decision making and local action	<b>O</b>		
<b>SEA Topic - Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Creating a route user hierarchy can reduce congestion which will be economically beneficial.	Ensuring that main towns and the most congested roads at peak times are given priority in terms of vehicle reduction will have a positive effect on reducing congestion.

**APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

<b>SEA Analysis Table</b>	<b>Small Scale Infrastructure and Road Improvements Package</b>		
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	Potentially depending on where infrastructure located	Locate small scale infrastructure and road improvements in deprived areas to stimulate greater investment in these areas as well as provide a connection from these communities to public services and employment.
To maintain the vitality and viability of existing centres	<b>U</b>	Depending on location	Ensure that existing centres are considered and maintained when plans for adding small scale improvements are drawn up. In particular ensure that congestion problems and air quality issues do not impact negatively upon the prosperity of these centres.

## **APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

### **Significant Positive Effects:**

There are no significant positive effects but if this package is implemented there will be an overall beneficial impact on human health and the economy, although not on the environment.

### **Significant Negative Effects:**

None.

### **Timescale:**

Short to medium term.

### **Temporary or Permanent:**

Impacts from new engineering works would be permanent, but positive impacts from any modal shift to sustainable modes as a result of any works could be temporary, as this is dependent on travel behaviour.

### **Likelihood of effects or impacts identified occurring:**

Likely if the funding is available to deliver the infrastructure.

### **Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Publicity and education programmes will be necessary to encourage use of cycle/pedestrian infrastructure and other small scale sustainable infrastructure.
- Ensure that the possibility of using recyclable aggregates is explored in the design of new small scale infrastructure and roads links.
- Ensure that ALL new small scale infrastructure takes consideration of the future climatic changes in order that they can be future-proofed.
- Consideration should be given to how small scale infrastructure can affect the landscape. In particular the location of works near to historic buildings needs to be examined.
- Ensuring that main towns and the most congested roads at peak times are given priority in terms of vehicle reduction will have a positive effect on reducing congestion.

## **APPENDIX 4C - INTERVENTIONS ASSESSMENT MATRIX, SMALL SCALE INFRASTRUCTURE & ROAD IMPROVEMENTS PACKAGE**

- Locate small scale infrastructure and road improvements in deprived areas to stimulate greater investment in these areas as well as provide a connection from these communities to public services and employment.
- Ensure that existing centres are considered and maintained when plans for adding small scale improvements are drawn up. In particular ensure that congestion problems and air quality issues do not impact negatively upon the prosperity of these centres.

### **Data Issues:**

None.

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE**

SEA Analysis Table	Specific Access Package		
SEA Objective	<b>Assessment of Effect</b> ✓ Positive impact P+ Potentially positive impact O No relationship/link U Uncertain/ Depends on implementation P- Potentially negative impact X Negative impact	<b>Justification:</b> <ul style="list-style-type: none"> <li>• Likelihood of effect occurring</li> <li>• Permanence of effect</li> <li>• Geographic scale of effect</li> <li>• Cumulative effects</li> <li>• Current env. Social &amp; economic trends of affected area</li> <li>• Likelihood of affecting particularly sensitive locations</li> </ul>	<b>Recommendations</b> (including mitigating negative effects and improving positive effects)
<b>SEA Topic – Biodiversity, fauna and flora</b>			
To protect and enhance biodiversity	O		
<b>SEA Topic - Population and human health</b>			
To maximise the opportunities for leisure and a healthy lifestyle for all, and to improve the physical and mental health of the population, and reduce health inequalities	✓	This package will improve access to facilities which can help maximise independent living, consequently resulting in improved physical and mental health of the population.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE**

<b>SEA Analysis Table</b>	<b>Specific Access Package</b>		
To reduce crime and create safe environments	✓	Improved the journey experience in transport (including taxis) will help to create a perceivably safer and more comfortable system for physically disadvantaged groups of people in particular.	Continue to provide shuttle buses to hospitals and dial-a-ride expansions will help people to access services without the fear of negotiating the network and travelling with people they do not know.
<b>SEA Topic – Water and soil</b>			
To improve the sustainable use of resources	○		
To move away from waste disposal to minimisation, reuse, recycling and recovery	○		
To ensure the efficient use of water, and safeguard water resources	○		
To reduce contamination and safeguard soil quality and quantity	○		
<b>SEA Topic - Air</b>			
To protect and enhance air quality and minimise noise pollution	P+	By providing such specialist transport services this will reduce the use of the private car and promote bus use.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE**

SEA Analysis Table	Specific Access Package		
To improve the choice of sustainable transport modes, encourage their use, and reduce the need to travel by car	✓	Extending concessionary fares to those on job seekers allowance would promote the use of public transport. Measures will address the public transport access to services particularly for those living in rural areas. Car clubs will provide access to services without necessitating car ownership.	Continue to develop schemes that provide alternatives to sole vehicle use. E.g. car share, car clubs, shuttle buses, electric scooters.
To adapt to the impacts of climate change such as flooding	O		
To reduce greenhouse gases including carbon dioxide, emitted by vehicular transport	P+	Measures aim to provide viable alternatives to the car and reduce the need to use or even own a car. Therefore they will contribute to mitigating transport greenhouse gas emissions.	

**APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE**

<b>SEA Analysis Table</b>	<b>Specific Access Package</b>		
To ensure the sustainable supply and use of energy	<b>P+</b>	Measures will indirectly contribute to mitigating greenhouse gas emissions.	Work with car club providers on the provision of low emissions vehicles.
<b>SEA Topic – Historic Environment and landscape</b>			
To protect and enhance the character of landscape, townscape and green spaces	<b>O</b>		
To conserve and enhance the historic environment, heritage assets and their settings	<b>O</b>		
<b>SEA Topic - Social inclusiveness</b>			
To tackle the causes of poverty and social exclusion by improving access to services and community facilities for all	<b>✓</b>	Measures are aimed at achieving this objective.	
To empower all sections of the community to participate in decision making and local action	<b>✓</b>	If more transport disadvantaged people are able to access services this will empower them to become involved in local activities.	

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE

SEA Analysis Table	Specific Access Package		
<b>SEA Topic – Economic development</b>			
To maintain employment, improve economic competitiveness (consistent with environmental constraints) and create a vibrant economy	<b>P+</b>	Measures will improve access to facilities and employment opportunities particularly for those receiving job seekers allowance. Improved access for disadvantaged groups will further support local and community business through the provision of potential custom.	Provide transport solutions for those actively seeking work or training who are unable to afford to travel, so that they can contribute to economic growth.
To spread economic growth more evenly to benefit deprived areas	<b>P+</b>	For reasons of the above and improved access to employment.	As above.
To maintain the vitality and viability of existing centres	<b>P+</b>	By improving access to services/facilities within town centres.	

### Significant Positive Effects:

This package has significant impact on human health, specifically maximising opportunities to access services, particularly work and education.

### Significant Negative Effects:

None.

## APPENDIX 4C – INTERVENTIONS ASSESSMENT MATRIX, SPECIFIC ACCESS PACKAGE

**Timescale:** short term. Providing funding is available for HCC and operators.

**Temporary or Permanent:** Impacts could be temporary as demographics change and travel choices change.

**Likelihood of effects or impacts identified occurring:**

Likely – already past schemes have shown small scale positive impacts.

**Recommendation for mitigation for adverse effects and/or enhancement or positive effects:**

- Those who are presently transport disadvantaged for whatever reason, should be targeted so that they are able to use affordable transport solutions.
- Continue to develop schemes that provide alternatives to sole vehicle use. Eg car share, car clubs, shuttle buses, electric scooters.
- Work with car club providers on the provision of low emissions vehicles.

**Data Issues:**

There should be a robust method of measuring improvement in accessibility so as to prove the package's efficacy.