Somerset County Council

Somerset County Council Transport Policies Strategic Environmental Assessment Environmental Report

Appendix 3: Assessment of Options

Prepared for:

Somerset County Council
Taunton

Prepared by:
ENVIRON
Exeter, UK

Date:
October 2010

Project or Issue Number:
UK1815830

Contract/Proposal No:	UK1815830
Issue:	2
Author (signature):	
Project Manager/Director (signature):	
Date:	October 2010

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Version Control Record

Issue	Description of Status	Date	Reviewer Initials	Authors Initials
1	First Draft to Client	08/06/10	JC	EJ
2	FINAL Draft to Client	07/10/10	JC	EJ

(Please note that where different parts of a strategy will score differently and two different scores are entered into a column, the colour assigned to the column is the most negative that will be scored by the strategy. For example, if the effect will be significantly positive in one regard but significantly negative in another the column has been coloured red).

Taunton Strategy Options

Future baseline (FB) to 2026 (for further details of the future baseline for Taunton please see Annex 1)

Scenario 1: low costs and low level of intervention – interventions costing less than £5m including Smarter Choices initiatives;

1a: assesses the contribution to delivery of the strategy objectives of activities associated with Smarter Choices, such as travel planning and marketing, and a number of walking and cycling schemes, modelled through changes to travel demand

Scenario 1b also includes a number of low cost highway and public transport interventions

Scenario 2: schemes included in scenario 1 and also includes schemes with moderate to high costs with increased level of intervention with interventions costing in excess of £5 million (major schemes); and

Scenario 3: schemes included in scenarios 1 and 2 and also includes schemes with high costs and high intervention – characterised by demand management.

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
1. Health						
1a: Safety	-	-	-	-	-	Future baseline: In the future baseline scenario the number of slight accidents decreases and the number of fatal and serious accidents remain the same. Although slight injuries will decline, the scenario will not lead to an achievement of the KSI targets so has been scored as a slight negative impact. Scenario 1a: The safety impacts of the smarter choices initiatives are negligible. As the interventions will not lead to the achievement of any of the safety targets (but will not lead to a decline in conditions) they have been scored as slight negative. Scenario 1b: Improvements include encouragement of pedestrian movements at junctions, improvements in visibility and capacity. The scenario will lead to the same number of KSI accidents as the baseline but a reduction of one slight accident. Although slight injuries will decline, the scenario will not lead to an achievement of the KSI targets so has been scored as a slight negative impact. The timescales and durations of the impacts are uncertain at this stage because of the uncertainty related to when schemes will be implemented. This uncertainty relates to all of the strategies. The probability of the impacts for scenarios 1a and 1b are high (and this relates to all the SEA objectives). This is because this is a low

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						cost and low intervention strategy and does not face any specific delivery barriers. Scenario 2: A number of the schemes are included to address safety concerns. However, the scenario will lead to two more KSI accidents compared to the baseline and two more slight accidents compared to the baseline. As the interventions will not lead to the achievement of safety targets they have been scored as slight negative. The reason for this is that additional distances will be travelled compared to the other scenarios. The probability of the impacts for scenario 2 is medium (and this relates to all the SEA objectives). As a higher cost strategy scenario 2 is likely to face more barriers to delivery. Scenario 3: The scenario will lead to one more KSI accident compared to the baseline and two more slight accidents compared to the baseline. As the interventions will not lead to the achievement of safety targets they have been scored as slight negative. The reason for this is that additional distances will be travelled compared to the other scenarios. A reduction in traffic in the town centre would have benefits in reducing pedestrian and cyclist accidents. The probability of the impacts for scenario 3 is low / uncertain (and this relates to all the SEA objectives). As the highest cost strategy scenario 3 will face a number of barriers to delivery including cost and commitment of partners.
1b: Healthy modes	-	+	+	-	++	Future baseline: Whilst high levels of congestion and delay could persuade people to switch modes to walking and cycling, the significantly increased levels of traffic that will be experienced on most roads in the future baseline are likely to mitigate against this by making the walking and cycling environment unpleasant. Therefore, the numbers of people walking and cycling (and the numbers participating in physical activity as per the SEA indicator) are likely to remain largely the same or possibly even decline. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Scenario 1a: A number of walking and cycling schemes will be delivered as part of the scenario. The modelling undertaken predicts vehicle demand will reduce by about 1% making the walking and cycling environment slightly more pleasant. This will not lead to a significant increase in walking and cycling but should lead to a small increase, thus increasing the numbers of people participating in physical activity as per the SEA indicator. The consultation showed that the majority of people support improvements to walking and cycling so this should be positive. Scenario 1b: There would be localised benefits in terms of better access to public transport and improvements to walking and cycling facilities, although according to the Atkins modelling report there is little evidence to suggest these benefits would be either significant in scale or extent.

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						Scenario 2: Scenario 2 also includes the walking and cycling schemes included as part of scenario 1a. However, traffic levels are likely to be higher than in the baseline conditions (vehicle demand is predicted to be 2% higher) so conditions for walkers and cyclists are likely to deteriorate, thus decreasing the numbers of people participating in physical activity as per the SEA indicator. Scenario 3: Scenario 3 includes the walking and cycling schemes included as part of scenario 1a. Travel demand is likely to be the same as scenario 2. However, cyclists are likely to be encouraged because of the reduction of traffic in the town centres and reductions in traffic speed in the restricted zones. Pedestrianisation and restricted zones will also encourage walking in Taunton and Bridgwater. This effect is likely to be significant in Taunton due to its magnitude but less significant in Bridgwater and Wellington. The consultation showed that the majority of people support improvements to walking and cycling so this should be positive.
1c: Pollution	-/0	0	0	+	++	Future baseline: In the absence of a transport strategy, traffic levels, congestion and queuing in the study area are set to increase considerably. The average delay at several key junctions will increase including at East Reach (a predicted increase in delay of 46%) and also at M5 Junction 25 (a massive predicted increase in delay of 896%), both areas already experiencing air quality problems. However, forecast improvements in vehicle technology may ameliorate some of this impact and mean that emissions of PM10 and NOx may not increase despite this traffic growth. Because of this the impact has been scored as a minor negative. Although traffic would increase past some sensitive receptors this would not generally be enough to significantly increase annoyance from noise. There are some exceptions and Fore Street/East Street in Taunton is likely to experience significant increase in nuisance. The scenario would not have an effect on traffic in tranquil areas so this has been scored as neutral. Scenario 1a: Vehicle demand is predicted to reduce by about 1% and this will have a negligible effect on air quality and noise. Smarter choices on their own will not make a significant contribution to meeting the strategy objectives. Scenario 1b: Similarly to scenario 1a, there is no evidence from the model to suggest that environmental criteria will be significantly affected by the schemes and interventions included in Scenario 1b. Therefore, this has been scored as neutral. Scenario 2: Changes in NOX, PM10, CO2 and noise levels show little change when compared with baseline conditions with the exception of the A358 at Henlade which shows a predicted 37% fall in NOX although only a 5% fall in PM10 and a predicted 8% fall in noise, which are a product of the A358 dualling

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						proposal. The Northern Inner Distributor Road (NIDR) is predicted to experience a fall of 18% in NOX and 4% in PM10 and a 5% fall in noise. Scenario 3: Reductions in atmospheric pollutants relative to the Baseline in 2026 shows some significant reductions in NOx in Taunton on North Street (-20%), A358 at Henlade (-35%) and the Northern Inner Distributor Road (-18%). Particulates are generally comparable to the Baseline. Changes in forecast noise levels associated with Scenario 3 are generally small relative to the 2026 Baseline. Differences of less than 3 dBa are generally regarded as being insignificant (according to Design Manual for Roads and Bridges guidance). However, in this respect changes on the A358 at Henlade (-8%), North Street (-5%) and Northern Inner Distributor Road (-5%) are judged to be significant.
2. Communities						
2a: Quality of centres	- -	0	+	- -	++/ -	Future baseline: In the future baseline, traffic flows and congestion will increase in all of the town centres apart from Wellington. On some routes traffic flows are predicted to increase by up to 123% and traffic delay is predicted to increase by 169% over the whole study area. The scenario would not introduce changes to the transport system that would improve the impact of the transport system on townscape. The scenario will fail to support the spatial strategy by failing to provide adequate infrastructure to support development in the three Strategically Significant Cities and Towns (SSCTs) (as defined by the Regional Spatial Strategy) - Taunton, Bridgwater and Wellington. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Because of the magnitude of the effect this has been scored as major negative impact. Scenario 1a: Vehicle demand is predicted to reduce by about 1% and this will have a negligible effect on urban and rural centres. Scenario 1b: The scenario will lead to a small reduction in delay and queuing at some key junctions and this may cause a small decrease in traffic levels in centres. Scenario 2: There is a predicted small increase (2% increase) in vehicle demand in scenario 2. In terms of congestion, results indicate significant reduction during the AM peak in relation to the 2026 baseline but an increase in delays in the PM peak relative to the baseline. In terms of traffic levels there is predicted to be an increase in all three centres. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Because of the magnitude of the effect this has been scored as major negative impact.

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						Scenario 3: A number of measures are proposed that will contribute to improvement in rural and urban centres. These include pedestrianisation in Taunton and the implementation of restricted zones in Taunton and Bridgwater plus enhanced streetscapes. Given the scope for demand management in Bridgwater the potential for an Eastern Relief Road is included in the scenario although this element is subject to a high level of uncertainty. Although overall travel demand will be roughly the same as in scenario 2, traffic and congestion /delay in Taunton town centre will be reduced in many areas including the central shopping streets. There is predicted to be an overall reduction in traffic in Taunton town centre of 38%. In Bridgwater the effect will not be so significant with only three out of the five roads that were listed as sensitive to severance showing traffic reductions. The central shopping street is likely to see an increase in traffic. Wellington the High Street is likely to experience an increase in traffic flows.
2b: Security	0	0	0	0	0	All scenarios: No measures are proposed to improve the security of interchanges so it must be assumed that the security of the transport system will remain the same.
2c: Severance	- -/+	0	+	-/+	-/+	Future baseline: In the future baseline, traffic flow and severance increases within Taunton and Bridgwater town centres. Some of the largest increases are forecast to occur on Priorswood Road, Fore Street, East Street, Priority Bridge Road, Station Road, Kingston Road and Bridge Street in Taunton. Some reductions in flow are forecast most notably on North Street in Taunton influenced by the presence of the Third Way Inner Relief Road. All main routes in Bridgwater are likely to experience an increase in daily traffic flow. This increase in traffic levels in most areas may be offset in reductions in speed but will still result in an increase in severance in most parts of the study area. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Traffic flows on High Street, Wellington are forecast to fall primarily as a result of the construction of the Longforth Farm distributor road. Scenario 1a: Vehicle demand is predicted to reduce by about 1% and this will have a negligible effect on community severance. However, this may be offset by a forecast increase in vehicle speeds. This has therefore been scored as neutral. Scenario 1b: The scenario will lead to small improvements in delay and congestion and the same reduction in vehicle demand as scenario 1a (a predicted reduction of about 1%). The scenario will not result in any change to traffic speed. However, a significant proportion of the scheme improvements encourage pedestrian movements at junctions and visibility improvements so should make it easier for pedestrians to cross the road. There are traffic reductions on a small number of the roads highlighted in

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						the SEA scoping report as sensitive to severance. This includes Silk Mills Road in Taunton, Bristol Road and Westonzoyland Road in Bridgwater and High Street, Wellington. This will have a small positive effect in some areas on reducing severance. Scenario 2: The Atkins report shows how daily traffic flows are expected to change by 2026 along the roads sensitive to severance. This shows positive trends for Taunton: A358 Priorswood Road, North Street, Corporation Street, A3038 Station Road/Kingston Road, Bridge street and Third Way; Bridgwater: A39 Quantock Rd. This varies from a reduction of 5% on Corporation Street to 22% on Shuttern/Upper High Street/St Mary's Street. Three routes are likely to experience an increase in traffic. The effect is slightly more positive in Taunton than in Bridgwater or Wellington. In Bridgwater and Wellington only Quantock Road in Bridgwater would show positive changes. Scenario 3: The Atkins report shows how daily traffic flows are expected to change by 2026 along the roads sensitive to severance. This shows positive trends for Taunton: A38 Wellington Road/Wellington New Road, North Street, Corporation Street, Fore Street/East Street, A3038 Station Road/Kingston Road, Bridge Street and Third Way. This varies from a predicted reduction of 6% on the Third Way to 94% on North Street. Five routes are likely to experience an increase in traffic. The picture is also mixed in Bridgwater where three routes are likely to experience a decrease in traffic (A38 Taunton Road, A372 Westonzoyland Road and A39 Bath Road. Two routes are likely to experience an increase. In Wellington there is predicted to be an increase in traffic of 4% along the High Street.
3. Economy						
3a: Management of transport system	0	0	0	0	0	All scenarios: No maintenance or specific management measures are included in the strategy
3b: Transport improvements	- -	0	+	-/+	- - /++	Future baseline: In the future baseline, the study area is predicted to see between a 27- 53[1]% increase in travel demand in the am peak to 2026. This growth will result in a considerable increase in traffic levels in many parts of the study area and a predicted increase in total journey times over the whole network of 115%, a predicted increase in delay of 169% plus a predicted decrease in speed of 35%. Some of the junctions that are likely to experience particular delays are Creech Castle Junction in Taunton, Cross Riffles in Bridgwater and junctions 23-25 of the M5. Increased delay and congestion will lead to decreased journey time reliability and costs to the economy. The effect will increase in magnitude in the

1 The higher figure represents peak unconstrained demand. The lower figure assumes some trip suppression (i.e. people travelling at non peak times, car sharing etc).

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						medium and long term as conditions continue to deteriorate. Scenario 1a: Vehicle demand is predicted to reduce by about 1% and traffic speeds are predicted to increase by about 2.4% (reflecting a slight decrease in congestion). This will have a negligible effect. Scenario 1b: Vehicle demand is predicted to reduce by about 1% and there will be small but discernable reduction in delay on key junctions and selected routes. Specific examples from the modelling include an 11% reduction in journey times on Staplegrove Road, a 29% reduction in journey delay on Obridge/Priorswood Road junction and a 58% reduction in journey delay on A38 Bridgwater/Toneway (all at AM peak). There are smaller reductions in delay predicted for Bridgwater as a lot of the improvements are targeted to Taunton. All of this will result in a slight positive effect. Scenario 2: Vehicle demand is predicted to increase by 2% compared to the baseline. There are mixed results in terms of reduction of congestion and journey times. There is a significant reduction of congestion in the AM peak and an increase in the PM peak. The modelling illustrates that increased PM peak congestion results in an overall increase of about 10% in journey times relative to the Baseline although the analysis shows improvements in Taunton but a decrease in performance in Bridgwater. The Atkins report shows that Scenario 2 has a significant beneficial effect in relation to delays at some of the key junctions and overall junction delays are reduced by approximately 24% relative to the 2026 Baseline. Most of this is due to the fall in delays at the junction of Bridgwater Road and Tone Way. Allowing for this effect there is still a predicted 7% reduction in delay relative to the 2026 Baseline. However, the following junctions are likely to experience an increase in delay: A358 Staplegrove/A3085 Silk Mills junction, A3085 Silk Mills/A38 Wellington New Road junction, Toneway/Victoria Parkway/Obridge Viaduct. In Bridgewater the picture is more negative with three out of six key junctions modelled experiencing a worsening of conditions. There is uncertainty relating to the performance of the strategy overall and the Atkins report notes that more analysis is needed on a scheme by scheme basis. Scenario 3: As with scenario 2, vehicle demand is predicted to increase by 2% compared to the baseline. This suggests that the impacts of demand management are being offset by the release of suppressed demand. However, congestion and delay will reduce in many areas of the system making journey times more reliable. The modelling shows an increase in delay on the motorway but an improvement over the baseline in all other areas. There is a significant reduction in junction delay recorded at many key junctions (24% reduction in delay at junctions overall). The performance in Taunton is more positive. In Bridgwater only two out of the five modelled junctions will see a reduction in delay. Junctions in Wellington are not modelled. Scenario 3 confers benefits in terms of journey time reliability to both

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						private and public users relative to the 2026 Baseline. Compared to Scenario 2 the results are more comparable for private vehicles while showing some further slight improvements for public transport. The fact that only 2 junctions will see a reduction in delay in Bridgwater is negative as the Taunton Strategy Consultation highlighted the considerable concern in Bridgwater in particular regarding congestion.
3c: Rural access	-	-	-	-	-	Future baseline: The strategy mainly concerns access into and out of the three towns of Taunton, Bridgwater and Wellington. However, the Atkins study did analyse the effect that the scenario would have on access to West Somerset and found that in the future baseline, journey times to West Somerset would increase significantly making access to tourist areas more difficult. Increases in congestion on the roads will make access by bus less reliable. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Scenario 1a: Smarter choices measures within the towns will not affect access to tourist attractions, rural areas and the countryside. Therefore, journey times to West Somerset will continue to deteriorate. Scenario 1b: Measures within the towns will not affect access to tourist attractions, rural areas and the countryside. Therefore, journey times to West Somerset will continue to deteriorate. Scenario 2: Measures within the towns will not affect access to tourist attractions, rural areas and the countryside. Therefore, journey times to West Somerset will continue to deteriorate. Scenario 3: Measures within the towns will not affect access to tourist attractions, rural areas and the countryside. Therefore, journey times to West Somerset will continue to deteriorate.
3d: Road freight	0	0	0	0	+	Baseline, scenario 1a, 1b and 2: No measures are proposed to reduce the impact of freight in the study area and no modelling has been provided on the change to HGVs in the future baseline. HGV traffic was raised as an issue in Wellington during the consultation and it would be positive if some measures were included. Scenario 3: The pedestrianisation measures in Taunton will reduce the impact of service vehicles on certain areas during the peak period. This would support the aspirations of Project Taunton to reduce vehicle impacts in the town centre whilst maintaining an adequate level of servicing. There are no measures proposed for Bridgwater and Wellington. HGV traffic was raised as an issue in Wellington during the consultation and it would be positive if some measures were included.
4. Access						

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
4a: Sustainable access	- -	0	0	++	++	Future baseline: In the absence of bus priority measures in the future baseline the increases in delay will mean significant increases in bus journey times and decline in bus journey time reliability. This will result in buses becoming increasingly unattractive for car drivers. For those without access to a car, service and accessibility will decline. The overall effect is that access to key services (the SEA indicator) will decline. This could have disproportionate effects on older and younger people and women who are more likely to have to rely on public transport. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Scenario 1a: The scenario includes a wide range of bus measures including improved route information, fares and payments, fleet characteristics, information systems and education. The initiatives should provide better access to public transport for both established users, but more particularly, new users. Bus service journey times were also modelled and found that there would be a negligible change in bus journey times. Scenario 1b: The scenario includes a wide range of bus measures including corridor improvements. The Atkins modelling report notes that public transport schemes are likely to improve perceptions of quality and attractiveness of services and these factors are difficult to quantify. However, as part of a wider package these measures are valuable. Bus service journey times were also modelled and as with scenario 1a, it was found that there would be a negligible change in bus journey times. Scenario 2: Scenario 2 includes a wider range of bus measures than scenarios 1a and 1b and this is positive given the large support for public transport measures highlighted in the Taunton Strategy Consultation. This includes bus priority measures, fleet and passenger information improvements and the implementation of four park and ride sites. Interventions are likely to cause significant journey time improvements relative to other vehicles (which will experience deteriorations of journey times on some routes) and increase the attractiveness of bus travel relative to the car through re-allocation of road space. This is likely to cause a significant positive effect in relation to improving bus services for all. Some of the schemes serve areas that are deprived. Scenario 3: The public transport measures included as part of scenario 2 are also included as part of scenario 3. In addition, the management measures in Taunton and Bridgwater town centres will make bus journeys more reliable. Bus service journey times will be significantly improved. The significant changes to off street parking charges in Taunton are likely to make many people switch to park and ride services. Action in Bridgwater and Wellington is more limited because of the private ownership of most

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						of the parking in Bridgwater.
5. Environment						
5a: Biodiversity	0	0	0	0	0	All scenarios: The changes in traffic levels will mainly affect routes in town centres or strategic routes so there will be no significant effect on habitats and species of value.
5b: Cultural heritage	- - /+	0	+	- -	++	Future baseline: In the future baseline overall traffic levels are set to significantly increase in Taunton and Bridgwater and the visual appearance of the two towns is likely to be affected in key locations. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Traffic levels in Wellington will decrease so will cause a positive effect on townscape in the town. Scenario 1a: Vehicle demand is predicted to reduce by about 1% and this is likely to have a negligible effect on townscape. Modelling has not identified changes in trips on certain routes. Scenario 1b: Vehicle demand is predicted to reduce by about 1%. However, there will be more significant reductions on some routes such as Silk Mills Road in Taunton, Bristol Road and Westonzoyland Road in Bridgwater and High Street, Wellington and this is likely to have a positive effect on heritage on these routes. Scenario 2: There is predicted to be a small increase (2% increase) in vehicle demand in scenario 2 and as compared to the baseline there will be a deterioration in levels of visual amenity within Taunton town centre and to a lesser extent Bridgwater. Scenario 3: The visual appearance of the study area has been defined in relation to the volume of traffic at key locations. This reveals no perceptible difference in impact arising from the implementation of Scenario 3 in Bridgwater or Wellington. By comparison there is some evidence of quite significant differences in parts of Taunton town centre culminating in a predicted overall reduction of 38%.
5c: Landscape	0	0	0	0	0	All scenarios: No new infrastructure will be introduced in the future baseline and there will be no changes in traffic flows in area valued for their landscape character. Most of the changes in traffic flows will occur in the three towns and on the M5.
6. Natural resources						
6a: Carbon	- -	- -	- -	- -	- -	Future baseline: There is predicted to be an increase in 40% in distance travelled over the network between 2006 and 2026 in the future baseline scenario. This will result in an increase in CO2 levels of

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
emissions						42% in the study area up until 2026 and therefore a worsening of the SEA indicator relating to reducing the amount of carbon dioxide produced per person in Somerset. The effect will increase in magnitude in the medium and long term as traffic levels increase as more and more planned developments are built unsupported by infrastructure improvements. No measures are proposed to increase the use of energy from renewable sources in the transport system. Scenario 1a: Distance travelled n the AM peak is predicted to increase by 0.1% over the whole of the strategy area so carbon emissions will increase slightly over and above the baseline scenario (which already shows an increase in emissions of 42%). Because the effects are negligible they have not been modelled in the Atkins report. Scenario 1b: Distance travelled will be the same as in the baseline scenario. This equates to a predicted increase of 42% in emissions. Scenario 2: Emissions have not been modelled for this scenario as part of the Atkins report. However, distance travelled in the AM peak increases by 2.6% over the baseline scenario (which already shows an increase in emissions of 42%). Scenario 3: In terms of CO2 emissions Scenario 3 is predicted to show a 1% reduction relative to the Baseline. Environmental objectives of reducing CO2 emissions are not met to any significant extent, although Scenario 3 does indicate a small margin of success. Higher parking charges more widely applied, particularly in Bridgwater, would deliver a greater fall in emissions although only if alternative transport is available. These measures are not planned at the moment.
6b: Adaptation	- -	- -	- -	- -	- -	All scenarios: No measures are proposed to reduce the impact of the effects of climate change in the future baseline. Therefore, the effect on the SEA indicator (reducing the unavoidable effects of climate change) will be negative. The impact of not taking action will increase in the future as climate change effects take hold.
6c: Water, soil and minerals	+/- -	+/-	+/-	- -	- -	Future baseline: The strategy reduces the development of new transport infrastructure so will minimise the use of some natural resources. However, increasing traffic (and therefore pollution) levels on roads which are designed for much lower levels could overwhelm their drainage systems and lead to the WFD targets not being achieved. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Scenario 1a: The scenario includes the building of new walking and cycling schemes and this will use

SEA objectives	Options Packages					
	FB	1a	1b	2	3	Commentary
						mineral resources. However, compared to the baseline traffic levels will be lower and the risk of problems with water pollution levels will be much less. Scenario 1b: The scenario includes the building of new highway interventions and this will use mineral resources. However, compared to the baseline traffic levels will be lower and the risk of problems with water pollution levels will be much less. Scenario 2: The scenario includes the building of new walking and cycling schemes and new park and ride sites and this will use mineral resources. Increasing traffic (and therefore pollution) levels on roads which are designed for much lower levels could overwhelm their drainage systems and lead to the WFD targets not being achieved. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate. Scenario 3: The scenario includes the building of new walking; cycling, park and ride and pedestrianisation schemes and this will use mineral resources. Traffic levels will decrease on some roads but overall traffic will not decrease. Increasing traffic (and therefore pollution) levels on roads which are designed for much lower levels could overwhelm their drainage systems and lead to the WFD targets not being achieved. The effect will increase in magnitude in the medium and long term as conditions continue to deteriorate.

Freight Strategy Options

P1 = Do minimum
P2 = Reacting to demand for information
P3 = Stimulating demand for information
P4 = Reacting to demand for physical measures
P5 = Area wide restrictions

Please note that all the packages above include the measures proposed in Package 1. The preferred strategy is a mix of the measures included in all of the above packages.

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
1. Health							
1a: Safety	+	+	+	+	?	+	All the packages include some positive measures for safety through providing information to drivers on the most appropriate routes and through acting on local issues and gathering of information on the impact of freight. Package 1 (and therefore packages 2-5) includes such measures as freight maps, information and routing resources which will help drivers to avoid inappropriate (and therefore potentially unsafe) routes. Package 2 also includes investigating local issues as they arise. These issues may include safety issues and package 2 will help to ensure these issues are investigated. Package 3 also includes provision for freight studies which can help to highlight where safety issues may exist. Package 4 also includes advisory signage and traffic regulation orders (as does package 5 – although package 5 includes more traffic restrictions than package 4) and this may help to divert lorries away from unsuitable routes. Whilst these can be useful they should be guided

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							by information to ensure that the impact does not move to another community. The practicality and cost of area wide restrictions is also likely to be prohibitive and very difficult to target (package 5). Therefore, it has been scored as uncertain. The preferred strategy includes many of these measures including freight maps and information, freight studies and advisory signage (although it does not include any traffic regulation orders or traffic restrictions). All of these measures should help drivers to chose safer routes and help local safety issued to be resolved. It is uncertain what the safety record of freight travel is in Somerset and whether residents feel that it is less safe (and causes more accidents in their communities) than it is. This would be a useful issue to address for the preferred strategy as liaison with communities (as part of measure 1.2, for example) is undertaken.
1b: Healthy modes	0	0	0	0	0	0	All of the packages could have a slight positive impact in this regard if the impact of HGV traffic is reduced to such a level that people feel that walking and cycling offer them an option they did not have before (because of safety issues). However, there are so many other factors that are important in terms of encouraging people to walk and cycle this has been scored as neutral.
1c: Pollution	+	+	+	0	0	+	As a whole air quality in Somerset is good and noise pollution is isolated. There are two AQMAs – in Taunton and Yeovil. Reducing freight in town centres is a difficult task – even if through-traffic were completely eliminated, deliveries to businesses will continue. Reducing freight traffic in tranquil areas is also difficult as outside the main towns and transport corridors most areas of Somerset are rural and relatively tranquil. However, most of the packages have some positive effects through making sure HGVs take the most appropriate routes. Package 1 (and therefore packages 2-5) includes engaging with the planning process and including freight issues in wider freight policies. This helps to ensure that the implications of future development are thought through in terms of their freight impact before development takes place. Package 2 also includes improving signage and information packs and this makes sure that the driver takes the most appropriate route. This is especially important in town centres

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							where pollution levels can be high. Measures in packages 2 and 3 (and the preferred strategy) to reduce the impact of the last mile of the HGV journey are particularly positive for air quality in AQMAs and other town and village centres (measures 2.7 and 3.8). Package 3 also includes safeguarding rail sites (perhaps facilitating modal shift onto rail) and measures that will reduce the impact of the last mile of HGV journeys (see above). Packages 4 and 5 introduce the idea of HGV restrictions. However, these are not likely to be helpful in reducing pollution because they are likely to cause lorries to take longer diversionary routes (which will result in them emitting higher levels of pollution). The preferred strategy includes many of these measures including improving signage and information packs and safeguarding rail sites –although it does not include any traffic restrictions. Measures in the preferred strategy to reduce the impact of the last mile of the HGV journey are particularly positive for noise pollution and air quality in AQMAs and other town and village centres (measures 2.7 and 3.8).
2. Communities							
2a: Quality of centres	+	+	+	+	?	+	One of the aims of the freight strategy is to facilitate movement of goods whilst reducing the impact on communities. It is clear that there is concern about freight in Somerset communities but there is no clear pattern in the data. All of the packages include some positive measures that help HGV drivers chose the most appropriate route and help to improve the liaison between operators and communities. Package 1 (and therefore packages 2-5) includes provision of freight maps, information and routing resources and community liaison (included in all the packages). This will help drivers to choose the most appropriate route and help communities and the industry to understand each others points of view. Package 2 also includes investigation of local issues as they arise, up our street information packs and travel planning to improve the last mile of the journey. Package 3 also includes a travel planning service.

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							The preferred strategy also includes a number of these measures. Packages 2, 3 and the preferred strategy are likely to be more positive than package 1 because they pro-actively provide information rather than waiting until there is a problem within communities. Packages 4 and 5 also provide for physical restrictions. Whilst these can be useful they should be guided by information to ensure that the impact does not move to another community. The practicality and cost of area wide restrictions are also likely to be prohibitive and very difficult to target (package 5). Therefore, it has been scored as uncertain.
2b: Security	0	0	0	0	0	0	None of the packages will have a significant effect on the security of the transport system.
2c. Severance	+	+	+	+	?	+	The effect on 2c will be the same as the effect on 2a, therefore please see the commentary above.
3. Economy							
3a: Management of transport system	+	+	+	?	-	+	The provision of freight routes and signage helps to give certainty to both operators and other road users and helps to maintain journey time reliability. Packages 2, 3 and the preferred strategy are likely to be more positive than package 1 because they provide more tools and encouragement to the freight industry to use more suitable routes. Packages 4 and 5 also provide for physical restrictions which if used correctly could help to improve reliability of the network. However, these need to be considered carefully and package 5 (prohibiting HGVs from large parts of the network) could have a detrimental effect on the freight industry and the economy. The preferred strategy includes many of the positive measures listed above.
3b: Transport improvements	+	+	+	?	-	+	The effect on 3b will be the same as the effect on 3a, therefore please see the commentary above.
3c: Rural access	0	0	0	0	0	0	None of the packages will have a significant effect on access to rural areas by public transport.
3d: Road freight	+	+	+	?	?	+	The effect on 3b will be the same as the effect on 2a, therefore please see the commentary

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							above.
4. Access							
4a: Sustainable access	0	0	0	0	0	0	None of the packages will have a significant effect on accessibility.
5. Environment							
5a: Biodiversity	?	?	?	?	?	?	The main impact that the packages are likely to have is through changes to HGV routes (routing HGVs away from sensitive routes or changes that bring HGVs onto more sensitive routes) and direct land take impacts. All the packages may change HGV routes if more information is made available to HGV operators. Packages 4 and 5 might cause more significant routing changes through imposing routing restrictions. Package 3 and the preferred strategy might cause direct land take impacts wherever site allocations are made (for example through the safeguarding of rail development sites – addressed both in package 3 and the preferred strategy). Because the locations of land take impacts and the likely route changes are not known it is not possible to assess the effect on biodiversity.
5b: Cultural heritage	?	?	?	?	?	?	As with 5a, the main impact that the packages are likely to have is through changes to HGV routes (routing HGVs away from sensitive routes or changes that bring HGVs onto more sensitive routes) and direct land take impacts. All the packages may change HGV routes if more information is made available to HGV operators. Packages 4 and 5 might cause more significant routing changes through imposing routing restrictions. Package 3 and the preferred strategy might cause direct land take impacts wherever site allocations are made (for example through the safeguarding of rail development sites – addressed both in package 3 and the preferred strategy).

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							Because the locations of land take impacts and the likely route changes are not known it is not possible to assess the effect on cultural heritage.
5c: Landscape	?	?	?	?	?	?	As with 5a and 5b, the main impact that the packages are likely to have is through changes to HGV routes (routing HGVs away from sensitive routes or changes that bring HGVs onto more sensitive routes) and direct land take impacts. All the packages may change HGV routes if more information is made available to HGV operators. Packages 4 and 5 might cause more significant routing changes through imposing routing restrictions. Package 3 and the preferred strategy might cause direct land take impacts wherever site allocations are made (for example through the safeguarding of rail development sites – addressed both in package 3 and the preferred strategy). Because the locations of land take impacts and the likely route changes are not known it is not possible to assess the effect on landscape.
6. Natural resources							
6a: Carbon emissions	0	0	0	-	-	0	In order to have a positive effect on carbon emissions, the packages would need to cause a significant change in vehicle miles. The main impacts on vehicle miles is likely to come from packages 4 and 5 which implement various levels of restrictions on HGVs. However, these restrictions are likely to lengthen routes that HGVs have to take and so increase carbon emissions. If Traffic Regulation Orders are taken forward their routing should be carefully planned and monitored to ensure that they do not increase the level of carbon emissions unacceptably.
6b: Adaptation	0	0	0	0	0	0	None of the packages will have a significant effect on adaptation to climate change.
6c: Water, soil and minerals	0	0	0	0	0	0	None of the packages will have a significant effect on water, soil and minerals.

Summary of Packages Appraisal (Freight Strategy)

It is difficult to assess the effectiveness of the freight measures in the absence of information on the funding available and the location and timescale of likely measures. However, all the packages show some positive attributes that help drivers to choose more suitable routes, help with the provision of research on alternative freight modes and help to reduce the impact of freight traffic (including on the last mile of the journey in town and village centres). There are likely to be some issues regarding the restrictions enforced in packages 4 and 5. Whilst physical restrictions can be useful they can be cost prohibitive and very difficult to target. They are also likely to increase vehicle miles and therefore carbon emissions. However, none of these measures are included in the preferred strategy.

Recommendations for the preferred strategy

It is uncertain what the safety record of freight travel is in Somerset and whether residents feel that freight travel is less safe (and causes more accidents in their communities) than it actually is in reality. This would be a useful issue to address for the preferred strategy as liaison with communities (as part of measure 1.2, for example) is undertaken.

Whilst physical restrictions such as those proposed under packages 4 and 5 can be useful but they should be guided by information (and monitoring) to ensure that the impact does not move to another community or make other sustainability impacts (including carbon emissions) worse. The preferred strategy at the moment does not include traffic regulation orders but care should be taken if these are used in the future.

Rail Strategy Options

P1 = Lobbying and partnerships (do minimum)
P2 = Learning, lobbying and partnerships
P3 = Supporting station A (contributing)
P4 = Supporting station B (doing)
P5 = Supporting services

Please note that all the packages above include the measures proposed in Package 1. The preferred strategy is a mix of the measures included in all of the above packages.

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
1. Health							
1a: Safety	0	0	0	0	0	0	None of the packages will have a significant effect on road safety.
1b: Healthy modes	0	0	+	+	0	+	The main way that the strategies can contribute to this objective is to increase cycle parking at stations (as all stations in Somerset currently have inadequate cycle parking). Packages 1, 2 and 5 do not include any measures to address cycle parking. Packages 3, 4 and the preferred strategy should lead to better cycle parking through measures P3.4 and P4.3 – understanding and tackling issues regarding station facilities (although these measures are very general and direct reference is not made here to improving cycling facilities). Due to the fact that all stations in Somerset currently have inadequate cycle parking and increasing cycling is a key objective of the plan, it would be appropriate for the preferred strategy to refer to improved cycle parking directly.
1c: Pollution	0	0	0	0	0	0	Unless the measures in any of the packages cause significant modal shift away from cars it is

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
							unlikely that there will be an impact on air quality. Due to the uncertainty attached to the resources available to implement the strategy it is not possible to judge whether this modal shift will occur.
2. Communities							
2a: Quality of centres	0	0	0	0	0	0	Unless the measures in any of the packages cause significant modal shift away from cars it is unlikely that there will be an impact on congestion levels and the quality of urban and rural centres.
2b: Security	0	0	+	+	0	+	Packages 1, 2 and 5 do not include any measures to improve the safety of stations. Packages 2, 3 and the preferred strategy could have a positive effect on security of railway stations in Somerset by improving stations through P3.4 and P4.3 – understanding and tackling issues regarding station facilities (although these measures are very general and direct reference is not made here to improving security of stations). As security at stations is a concern of some passengers, it would be appropriate for the preferred strategy to refer to security improvements directly.
2c: Severance	0	0	0	0	0	0	None of the packages will have a significant effect on severance.
3. Economy							
3a: Management of transport system	0	0	0	0	0	0	None of the packages will have a significant effect on management of the transport system.
3b: Transport improvements	+	+	+	+	?	+	The packages could result in improvements that help decrease journey times by rail. All of the packages include measures that will contribute to this such as engaging in the development of timetables and supporting existing rail partnerships and fora. This should have a limited positive impact. Package 5 would have a much more positive impact if taken forward and funding were available as it includes financial support for services. However, package 5 is subject to a high degree of uncertainty regarding funding so has been scored as uncertain.

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
3c: Rural access	0	0	0	0	0	0	It is unlikely that any of the packages will implement measures that will improve access to rural areas and the countryside. Because of the importance of improving access to jobs and services by rail primarily, it is not a major deficiency that access to rural areas is not addressed. Package 5 is the only package that includes financial support for services and even if this option were to go ahead it is more likely to include improvements for commuter services and services to major conurbations such as Bristol and London.
3d: Road freight	0	0	0	0	0	0	None of the packages will have a significant effect on freight as rail freight is addressed in the Freight Strategy.
4. Access							
4a: Sustainable access	+	+	+	+	?	+	Only package 5 is likely to increase the number of services available and so increase modal choice in accessing jobs and services. However, package 5 is subject to a high degree of uncertainty regarding funding so has been scored as uncertain. Although the other packages will not include new services they may help to make the timing of existing services more convenient and stations more accessible. For example the development of timetables (all packages) and supporting existing rail partnerships (all packages) could mean some changes to rail services to make them more convenient. Packages 3, 4 and the preferred strategy will also help to make stations more accessible through understanding and tackling issues regarding station facilities. This could be particularly valuable for more vulnerable rail users if the security of stations is improved.
5. Environment							
5a: Biodiversity	0	0	0	0	0	0	None of the packages will have a significant effect on biodiversity.
5b: Cultural heritage	0	0	0	0	0	0	None of the packages will have a significant effect on heritage.
5c: Landscape	0	0	0	0	0	0	None of the packages will have a significant effect on landscape.

SEA objectives	Options Packages						
	P1	P2	P3	P4	P5	Preferred strategy	Commentary
6. Natural resources							
6a: Carbon emissions	?	?	?	?	?	?	Unless the measures in any of the packages cause significant modal shift away from cars it is unlikely that there will be an impact on carbon emissions. Due to the uncertainty attached to the resources available to implement the strategy it is not possible to judge whether this modal shift will occur.
6b: Adaptation	0	0	0	0	0	0	None of the packages will have a significant effect on adaptation to climate change.
6c: Water, soil and minerals	?	?	?	?	?	?	If infrastructure needs to built or maintained this will have an effect on mineral resources.

Summary of Packages Appraisal (Rail Strategy)

The rail strategy options will help to make rail services and railway stations more accessible to a larger group of people and will help to improve journey time reliability by rail. Only package 5 is likely to increase the number of services available through direct funding. However, package 5 is subject to a high degree of uncertainty regarding funding.

Recommendations for the preferred strategy

Due to the fact that all stations in Somerset currently have inadequate cycle parking and increasing cycling is a key objective of the plan, it would be appropriate for the preferred strategy to refer to improved cycle parking directly. It would also be useful to refer directly to security improvements in the preferred strategy.

Parking Strategy Options

P1 =Do minimum

P2 = Do something

P3 = Do something plus

Please note that all the packages above include the measures proposed in Package 1. A preferred strategy had not been chosen for the parking strategy at the time of the appraisal.

SEA objectives	Options Packages			
	P1	P2	P3	Commentary
1. Health				
1a: Safety	0	0	+	None of the measures in package 1 or 2 will have a significant effect on safety. Package 3 will have some safety benefits. Reducing parking on pavements will help to remove a hazard especially for people with disabilities as will parking and drop off exclusion points around schools and enhanced enforcement of dangerous parking around schools.
1b: Healthy modes	+	+	+	Package 1 (and therefore all of the packages) will help to encourage healthy modes through helping to provide secure cycle parking in new development and through undertaking surveys of cycle parking needs in town centres. Package 2 will also include additional cycle parking at stations and key points on the cycling network. Package 3 also includes bicycle hoops on lampposts for cycle parking and re-instatement of cycle hubs. All of the packages may also indirectly encourage people to walk and cycle through making the road system more attractive and safer. Examples of measures include implementing real time information and variable message signs (which should reduce the amount cars circulate around the system looking for spaces) and removal of illegally parked cars.
1c: Pollution	+	?	+/?	Package 1 (and therefore all of the packages) will have some positive impacts on congestion and air pollution through reducing opportunities to park easily in towns and through provision of alternatives to parking in town centres. This includes extension of Silk Mills Park and Ride, controlled and restricted parking zones, use of travel plans, a new park and ride site, workplace charging and dedicated car share spaces. This will be assisted by the

SEA objectives	Options Packages			
	P1	P2	P3	Commentary
				fact that package 1 is not proposing an increase in existing provision in town centres. Circulation of traffic looking for parking spaces (and the pollution and congestion which results from this) will be reduced through the provision of real time information and variable message signs. Package 2 also includes submitting funding for Plugged in Places scheme for electric vehicle infrastructure, Bridgwater, Wellington and Yeovil park and rides, reducing the amount of all day parking in town centres, reduction of on street parking provision and reducing commuter parking. All of these measures are likely to encourage the use of non –fossil fuelled cars and encourage people to use alternatives to parking in town centres. However, it also proposes increasing parking provision to meet demand and decreasing car parking charges. This is likely to work against the measures listed above and means that the positive measures listed have an uncertain outcome. Package 3 also includes reducing parking provision in town centres, incentive schemes for low emission vehicles, installation of electric charging points in public car parks and new developments, free parking permits for electric vehicles and a traffic operations control centre. All of these measures are likely to encourage the use of non –fossil fuelled cars and encourage people to use alternatives to parking in town centres. However, the strategy also proposes four new multi storey car parks in Taunton. Although package 3 has the potential to be the most effective in reducing pollution the development of four new large car parks is likely to work against the measures listed above and means that the positive measures listed have an uncertain outcome.
2. Communities				
2a: Quality of centres	+	+	+	Package 1 (and therefore all of the packages) will help to improve the quality of centres through the introduction of controlled and restricted parking zones (although it would helpful if more detail were given on the types of situation where these might be used and whether they can be used for townscape or heritage reasons), removal of illegal vehicles and through provision of real time information and variable message signs (which should stop people circulating around town in order to find spaces). Package 2 also includes reduced on street parking and commuter parking which should help to reduce the number of vehicles entering town centres. Package 3 also includes car park guidance systems in Taunton, reduced provision in town centres, detailed design standards for car parks, making parking on pavements illegal, designated areas in town centres where parking is controlled. All of these measures should help to reduce the number of vehicles entering town centres and help reduce unnecessary circulation of traffic.

SEA objectives	Options Packages			
	P1	P2	P3	Commentary
2b: Security	0	0	0	None of the packages will have a significant effect on security of transport interchanges.
2c: Severance	+	+	+	The effect will be the same as for 2a, therefore please see the commentary above.
3. Economy				
3a: Management of transport system	+	+	+	Package 1 (and therefore all of the packages) will help to manage the transport system more effectively through the provision of real time traveller information and variable message signs which will help guide people to the car park that has spaces. Package 3 also includes a car park guidance system in Taunton and delivery of a proposed traffic operations control centre which will include car park management and guidance systems. All of these packages will help to manage congestion caused by car parking and help to improve journey times.
3b: Transport improvements	+	+	+	Many of the schemes within the packages will help to improve congestion and journey time reliability through providing alternatives to parking in town and stopping illegal parking. See 1c for more details as it sets out how schemes will help to reduce congestion and traffic.
3c: Rural access	0	-	0	None of the packages will include improvements that will make rural areas and attractions more accessible by public transport. However, package 2 will include small scale park and ride facilities for sensitive rural locations. There is an uncertainty over this measure, however, as the measure also seems to commit to increasing visitor parking at sensitive rural locations which could have a negative effect. This should be clarified.
3d: Road freight	0	0	0	None of the packages will have a significant effect on freight.
4. Access				
4a: Sustainable access	+	+	+	Park and ride services (included in all the packages) should help to improve accessibility for the people on the bus routes.
5. Environment				
5a: Biodiversity	?	?	?	The packages which are suggesting major new infrastructure such as park and ride sites (all the packages) could have an effect on biodiversity. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more

SEA objectives	Options Packages			
	P1	P2	P3	Commentary
				detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain.
5b: Cultural heritage	?	?	?	The packages which are suggesting major new infrastructure such as park and ride sites (all the packages) could have an effect on heritage. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain. However, package 1 (and therefore all of the packages) do include the introduction of controlled and restricted parking zones and as noted previously it would helpful if more detail were given on the types of situation where these might be used and whether they can be used for townscape or heritage reasons).
5c: Landscape	?	?	?	The packages which are suggesting major new infrastructure such as park and ride sites (all the packages) could have an effect on heritage. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain. Package 2 will include small scale park and ride facilities for sensitive rural locations and this may affect landscape. There is an uncertainty over this measure though, as the measure also seems to commit to increasing visitor parking at sensitive rural locations which could have a negative effect. This should be clarified.
6. Natural resources				
6a: Carbon emissions	+	?	+/?	Package 1 (and therefore all of the packages) will have some positive impacts on congestion and carbon emissions through reducing opportunities to park easily in towns and through provision of alternatives to parking in town centres. This includes extension of Silk Mills Park and Ride, controlled and restricted parking zones, use of travel plans, a new park and ride site, workplace charging and dedicated car share spaces. This will be assisted by the fact that package 1 is not proposing an increase in existing provision in town centres. Circulation of traffic looking for parking spaces (and the carbon emissions which result from this) will be reduced through the provision of real time information and variable message signs. Package 2 also includes submitting funding for “Plugged in Places” scheme for electric vehicle infrastructure, Bridgwater, Wellington and Yeovil park and rides, reducing the amount of all day parking in town centres, reduction of on street parking provision and reducing commuter parking. All of these measures are likely to encourage the use of non –fossil fuelled cars and encourage people to use alternatives to parking in town centres. However, it also proposes increasing parking provision to meet demand and decreasing car parking charges. This is likely to

SEA objectives	Options Packages			
	P1	P2	P3	Commentary
				work against the measures listed above and means that the positive measures listed have an uncertain outcome. Package 3 also includes reducing parking provision in town centres, incentive schemes for low emission vehicles, installation of electric charging points in public car parks and new developments, free parking permits for electric vehicles and a traffic operations control centre. All of these measures are likely to encourage the use of non –fossil fuelled cars and encourage people to use alternatives to parking in town centres. However, the strategy also proposes four new multi storey car parks in Taunton. Although package 3 has the potential to be the most effective in reducing pollution the development of four new large car parks is likely to work against the measures listed above and means that the positive measures listed have an uncertain outcome.
6b: Adaptation	0	0	0	None of the packages will have a significant effect on adaptation to climate change.
6c: Water, soil and minerals	?	?	?	If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Summary of Packages Appraisal (Parking Strategy)

All of the packages in the parking strategy will have some positive impacts on traffic in town centres, congestion, carbon emissions and air pollution through reducing opportunities to park easily in towns, through enforcing parking restrictions and through provision of alternatives. Packages 2 and 3 contain many positive measures that will help to reduce the impact of parking and package 3 has the potential to score the highest. However, because some of the measures in the strategy appear to be working against each other (some measures aim to reduce parking and others aim to increase provision and reduce cost) they have been scored as uncertain against many of the SEA objectives.

Recommendations for the preferred strategy

Packages 2 and 3 seem to contain some elements (increasing parking provision and decreasing car parking charges) that work against the measures to reduce the impact of traffic in town centres. For the preferred strategy, if these measures are taken forward, the strategy needs to be clear regarding the purpose of these measures and the impact they are likely to have in reaching sustainability and wider transport objectives.

It would be helpful if the preferred strategy gave more detail on the types of situation where controlled and restricted parking zones might be used and whether they can be used for townscape or heritage reasons.

Package 2 will include small scale park and ride facilities for sensitive rural locations. There is an uncertainty over this measure though, as the measure also

seems to commit to increasing visitor parking at sensitive rural locations which could have a negative effect. This should be clarified. If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Motorcycling Strategy

Please note that the motorcycle strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:

- (road safety measures;
- highway design measures;
- land use planning measures;
- parking measures;
- social inclusion measures; and
- policy integration measures.

These measures have been formulated into an action plan and prioritised as high, medium and low. The assessment below has assessed this action plan as the preferred strategy. A do minimum strategy has not been presented. The assessment has also considered the appropriateness of the assigned priorities. Where we feel that there are measures where a change in priority could improve the strategy's sustainability effects we have indicated this within the assessment.

SEA objectives	Preferred strategy	
		Commentary
1. Health		
1a: Safety	+	The preferred strategy includes many measures that should help to reduce motorcycle casualties and help to reach the target of 33% reduction in killed and seriously injured from motorcycle accidents. This includes seeking opportunities to extend safety training and awareness, ensure that highway maintenance and design considers motorcyclists, creating clear zones on bends and anti skid service covers and ensuring that planning procedures also consider the needs of motorcyclists. Some schemes that are listed as medium and low priority would appear to be low cost ways to improve safety and the strategy would be stronger if they were listed as high priorities. These measures are further engaging with key stakeholder groups (RS5), continuing to seek opportunities to gather feedback from riders (RS7) and ensuring that the needs of motorcyclists are considered in traffic calming schemes (HD11). Other measures which could be moved up the priority list include such measures as replacing safety barriers with ones that are safer for motorcyclists (HD7 and HD8). These will clearly have safety benefits but these measures are subject to budget constraints and it is the decision of Somerset County Council where resources are best targeted.

SEA objectives	Preferred strategy	
		Commentary
1b: Healthy modes	0	The preferred strategy will not have a significant effect on encouraging people to use healthy modes.
1c: Pollution	?	Motorcycles can be causes of noise pollution but there can also be substantial environmental benefits from increased motorcycle use compared to car use, including lower emissions of certain air pollutants and lower fuel consumption. The beginning of the strategy document makes it clear that it is important for the strategy to promote the safe and responsible use of smaller machines (as bigger machines have little pollution benefit over cars). However, the preferred strategy does not appear to include measures that will meet this aim (apart from the Moped Loan Scheme) and therefore it is uncertain how this strategy objective will be implemented.
2. Communities		
2a: Quality of centres	+	Motorcycles make a smaller contribution to overall congestion by taking up less road space than cars (although they are not as positive as public transport in reducing congestion). Therefore, if the strategy is successful in encouraging people to switch from their cars to motorcycles the effect on congestion (and town and village centres) will be positive. Other measures which may improve townscape are HD3 which aims to minimise the number of road signs used – this should help to reduce unnecessary signage and road furniture in towns and villages.
2b: Security	0	The preferred strategy will not have a significant effect on security at transport interchanges.
2c: Severance	0	The preferred strategy will not have a significant effect on severance.
3. Economy		
3a: Management of transport system	0	The preferred strategy will not have a significant effect on the management of the transport system.
3b: Transport improvements	+	The preferred strategy does include transport improvements that improve congestion and journey times. As noted above, motorcycles make a smaller contribution to overall congestion by taking up less road space than cars (although they are not as positive as public transport in reducing congestion). Therefore, if the strategy is successful in encouraging people to switch from their cars to motorcycles the effect on congestion and journey times will be positive.
3c: Rural access	0	The preferred strategy will not have a significant effect on improving access to rural areas by public transport.
3d: Road freight	0	The preferred strategy will not have a significant effect on freight.

SEA objectives	Preferred strategy	
		Commentary
4. Access		
4a: Sustainable access	+	Motorcycles can provide mobility to people who could not afford a car in areas where public transport is poor and so are positive for accessibility. They are particularly positive in improving accessibility for young people and people on low incomes. Measures such as the Moped Loan scheme will be particularly positive.
5. Environment		
5a: Biodiversity	0	The preferred strategy will not have a significant effect on biodiversity.
5b: Cultural heritage	0	The preferred strategy will not have a significant effect on cultural heritage.
5c: Landscape	0	The preferred strategy will not have a significant effect on landscape.
6. Natural resources		
6a: Carbon emissions	?	Motorcycles represent a more efficient use of resources than the private car in terms of both their fuel efficiency and manufacture and the smaller and newer machines produce lower CO_2 emissions than most cars. The beginning of the strategy document makes it clear that it is important for the strategy to promote the safe and responsible use of smaller machines (as bigger machines have little emissions benefit over cars). However, the preferred strategy does not appear to include measures that will meet this aim (apart from the Moped Loan Scheme) and therefore it is uncertain how this strategy objective will be implemented.
6b: Adaptation	0	The preferred strategy will not have a significant effect on adaptation to climate change.
6c: Water, soil and minerals	?	If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Summary of Packages Appraisal (Motorcycling Strategy)

The Motorcycling Strategy will have positive impacts on the safety of motorcyclists through seeking opportunities to extend safety training and awareness, ensure that highway maintenance and design considers motorcyclists, creating clear zones on bends and anti skid service covers and ensuring that planning procedures

also consider the needs of motorcyclists. Getting people to switch to motorcycles can have other sustainability benefits through improving accessibility to groups who cannot afford a car (such as young people and those on a low income) and through reducing air pollution and CO_2 (if smaller motorcycles are promoted).

Recommendations for the preferred strategy

Some schemes that are listed as medium and low priority would appear to be low cost ways to improve safety and the strategy would be stronger if they were listed as high priorities. The measures are further engaging with key stakeholder groups (RS5), continuing to seek opportunities to gather feedback from riders (RS7) and ensuring that the needs of motorcyclists are considered in traffic calming schemes (HD11). Other measures which could be moved up the priority list include such measures as replacing safety barriers with ones that are safer for motorcyclists (HD7 and HD8). These will clearly have safety benefits but these measures are subject to budget constraints and it is the decision of Somerset County Council where resources are best targeted.

The preferred strategy needs to include measures that more pro-actively encourage the use of smaller machines.

If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Bus Strategy

Please note that the bus strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:

- co-operation and efficiency;
- bus and community transport services;
- integrated network development;
- access to health;
- access to education;
- sustainable development planning;
- park and ride/bus priority and ticketing).

A do minimum strategy has not been presented. These measures have been assessed generically (as detail is not available on their timescale or their likely location in most instances).

SEA objectives	Preferred strategy	
		Commentary
1. Health		
1a: Safety	0	None of the measures in the strategy will have a significant effect on safety.
1b: Healthy modes	+	The bus strategy includes improvements to bus waiting areas and interchanges and this may have a positive indirect effect on encouraging healthy modes (if people are encouraged to walk and cycle to the bus stop). The Somerset County Council Transport Policies cannot influence how/whether buses can carry bicycles as this is a matter for the bus companies.
1c: Pollution	+	If the strategy is positive in encouraging more people to use a bus (and this causes modal shift from cars) this will be positive for reducing air and noise pollution. In addition congestion may also be reduced through the implementation of bus priority measures in congested networks (e.g. bus lanes, bus gates etc).
2. Communities		

SEA objectives	Preferred strategy	
		Commentary
2a: Quality of centres	+	If the strategy is positive in encouraging more people to use a bus (and this causes modal shift from cars) and methods to reduce congestion such as bus priority measures in congested networks (e.g. bus lanes, SVD, bus gates) and park and rides schemes are implemented, this will be positive for improving the quality of town centres.
2b: Security	+	The bus strategy includes measures to improve interchanges for different services, improving waiting facilities and the passenger information provided. This should help to improve security at interchanges.
2c: Severance	0	The bus strategy will not have a significant effect on severance.
3. Economy		
3a: Management of transport system	+	The bus strategy will seek to market and sell spare seats on school transport vehicles to pupils and students not eligible for free transport and will use data from electronic travel plan monitoring system and elsewhere to investigate the effectiveness of different interventions in increasing public transport use. In addition the strategy aims to introduce smartcard technology to process concessionary passes for the elderly and disabled and the scholars' tickets.
3b: Transport improvements	+	The bus strategy will seek to implement bus priority measures in congested networks (e.g. bus lanes, SVD, bus gates) which will help improve journey times and reliability.
3c: Rural access	+	The bus strategy will seek to implement improvements to two rural interchanges each year for the period of the strategy which could have a positive impact on rural access.
3d: Road freight	0	The bus strategy will not have a significant effect on road freight.
4. Access		
4a: Sustainable access	+	The bus strategy aims to develop 'out of hours' transport for patients, employees and visitors to improve access to health facilities and aims to improve integration of school travel planning and the provision of school transport. In addition the strategy aims to work with local schools and colleges to ensure that appropriate transport services are in place to minimise exclusion from after school learning and activities which will have a positive impact on sustainable access. The strategy also aims to ensure LDFs and other future planning documents tackle accessibility issues.
5. Environment		

SEA objectives	Preferred strategy	
		Commentary
5a: Biodiversity	?	Large areas of land devoted to car parking through park and ride schemes could have an impact on biodiversity especially if the proposed site is on a greenfield site. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain.
5b: Cultural heritage	?	Large areas of land devoted to car parking through park and ride scheme could have an impact on heritage. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain.
5c: Landscape	?	Large areas of land devoted to car parking as part of a park and ride scheme could have a negative impact on landscape especially if the proposed site is on a greenfield site. However. It is assumed that this type of development will require EIA through the planning process and therefore as the locations are currently unknown it is appropriate to address this at the more detailed planning level. Therefore the potential impact of the strategy at this stage is uncertain.
6. Natural resources		
6a: Carbon emissions	+	If the strategy is positive in encouraging more people to use the bus (and this causes modal shift from cars) this will be positive for reducing carbon emissions.
6b: Adaptation	0	None of the measures will have a significant effect on climate change adaptation. Increases in temperature and rainfall at certain times of the year (under climate change scenarios) may make people less willing to use the bus. It would be useful if the strategy recognised this and integrated climate issues into work undertaken to improve bus stops and interchanges – ensuring that shade is available at as many bus stops as possible, for example.
6c: Water, soil and minerals	?	If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Summary of Packages Appraisal (Bus Strategy)

The bus strategy aims to promote improvements to the quality of the bus service which is aimed at improving accessibility and influencing people's travel behaviour away from car use towards more sustainable modes of transport. If the strategy is successful in moving people from cars to public transport there will be benefits in reducing CO_2 emissions and pollution.

Recommendations for the preferred strategy

Any park and ride facilities planned in sensitive rural locations create an element of uncertainty as land take at sensitive rural locations could have a negative effect. This should be clarified.

Increases in temperature and rainfall at certain times of the year (under climate change scenarios) may make people less willing to use the bus. It would be useful if the strategy recognised this and integrated climate issues into work undertaken to improve bus stops and interchanges – ensuring that shade is available at as many bus stops as possible, for example.

If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Walking Strategy

Please note that the walking strategy has not put forward different option packages for testing. It has put forward a long list of measures that could be taken forward under the following headings:

- accessibility;
- quality of the walking environment;
- safety and security;
- promotion; and
- the planning process.

A do minimum scenario has not been presented. These measures have been assessed generically (as detail is not available on their timescale or their likely location in most instances.

SEA objectives	Preferred strategy	
		Commentary
1. Health		
1a: Safety	+	Potential measures included within the strategy discuss reducing the number of pedestrian casualties and if implemented should be positive for road safety.
1b: Healthy modes	+	The whole strategy aims to enhance the walking environment to ensure that people use a healthy mode and this will be positive.
1c: Pollution	+	If the strategy is positive in encouraging more people to walk (and this causes modal shift from cars) this will be positive for reducing air and noise pollution
2. Communities		
2a: Quality of centres	+	Positive measures within the strategy that may improve the quality of centres include improvements to the pedestrian environment through improved surfaces; footway width; facilities for disabled people; lighting; signage; street furniture etc.
2b: Security	+	Potential measures discussed include measures to reduce crime and fear of crime and ensuring that walking and

SEA objectives	Preferred strategy	
		Commentary
		cycling routes do not compromise the safety of pedestrians. This will be positive in improving security for pedestrians.
2c: Severance	+	Potential measures included within the strategy discuss installing crossings on pedestrian desire lines and upgrading crossings. These measures will be positive for dealing with existing severance issues.
3. Economy		
3a: Management of transport system	0	The strategy is unlikely to have a significant effect on management of the transport system.
3b: Transport improvements	+	If the strategy is positive in encouraging more people to walk (and this causes modal shift from cars) this will be positive in causing transport improvements.
3c: Rural access	+	This strategy is likely to have a positive impact through the promotion of the PRoW network, leisure walking routes and green tourism.
3d: Road freight	0	The strategy will not have a significant effect on freight.
4. Access		
4a: Sustainable access	+	The strategy is likely to have a positive effect on sustainable access by ensuring new development is built where walking is given a high priority through measures such as encouraging developers to follow the guidelines set out in the Manual for Streets, ensuring the emerging LDF gives walking a high priority and that patterns of development minimise the need to travel, by using developer funding opportunities to ensure walking routes between new developments and key destinations are good quality, direct, safe and attractive and by prompting walking to work, walking to school and walking linked to other types of travel, particularly public transport use.
5. Environment		
5a: Biodiversity	0	The strategy will not have a significant effect on biodiversity.
5b: Cultural heritage	0	The strategy will not have a significant effect on cultural heritage.
5c: Landscape	0	The strategy will not have a significant effect on landscape.

SEA objectives	Preferred strategy	
		Commentary
6. Natural resources		
6a: Carbon emissions	+	If the strategy is positive in encouraging more people to walk (and this causes modal shift from cars) this will be positive for reducing carbon emissions. The strategy also discusses allocating funds to fund street lighting changes that will be positive for carbon emissions.
6b: Adaptation	0	None of the measures will have a significant effect on climate change adaptation. Increases in temperature and rainfall at certain times of the year (under climate change scenarios) may make people less willing to walk. It would be useful if the strategy recognised this and integrated climate issues into the pedestrian standards checklist under measure 2A-2. Examples of measures include shaded walk ways, avoiding areas at risk from flooding, use of materials which don't contribute to surface water runoff etc.
6c: Water, soil and minerals	?	If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Summary of Packages Appraisal (Walking Strategy)

The strategy focuses on improving the pedestrian environment and encourages more walking. Walking has the additional benefit of promoting social inclusion, and the strategy is also concerned with making access easier for all users of the street environment, including those in wheelchairs and mobility scooters and those with sensory impairments. The strategy includes measures for the creation of high quality and attractive pedestrian environments within town centres and improving pedestrian access to public transport services. Walking also has the additional benefit of promoting health and quality of life. Therefore, the strategy is likely to have a positive impact particularly with relation to safety, health and accessibility. There is uncertainty related to whether significant new infrastructure will need to be built (and the effect of this on mineral resources).

Recommendations for the preferred strategy

It would be useful if the strategy integrated climate issues into the pedestrian standards checklist under measure 2A-2. Examples of measures include shaded walk ways, avoiding areas at risk from flooding, use of materials which don't contribute to surface water runoff etc. If infrastructure needs to built or maintained this will have an effect on mineral resources. It would be useful if the Somerset County Council Transport Policies made a commitment within a policy to reducing the impact of the resources used to build new transport infrastructure.

Annex 1: The Future Baseline for Taunton

The future baseline includes all committed highway schemes expected to be in place by 2026. These are shown in Tables A1 and A2.

Table A1 – Highway Baseline Schemes (2008/2026)	
Scheme	**Comments**
Paul St/Billetfield/The Mount junction improvement, Taunton	This scheme has been investigated through the SAWT team and draft proposals have been outlined. The scheme has been put on hold to link with D27.
Obridge Viaduct footway	This scheme has been commissioned to Atkins through the development brief process.
Longforth Farm Wellington	New distributor road
Nynehead/Wellington junction	Eastern junction of the Longford farm distributor road
Norton Fitzwarren Bypass	Associated with the development of the Norton Fitzwarren trading estate – a Local Development Framework (LDF) scheme.
The Third Way	A requirement for the delivery of Project Taunton
Northern Inner Distributor Rd	Running between Staplegrove Rd and Priory Fields
Monkton Heathfield Bypass	Requirement for the delivery of North East Taunton developments.
Huntworth Roundabout	Signalisation of enlarged roundabout
South Bridgwater Distributor Rd	Requirement for the delivery of Sedgemoor LDF scheme

Colley Lane Access Rd	Providing relief to Taunton Road, Bridgwater.
A39 Wembdon Bridgwater	New junction to provide access to adjoining site
Little Sydenham Link	Link running between the A38 to the A39
Bristol Road Development and Cattle Market Link	New access road
Puriton Access Rd	Link Road subject to the redevelopment of the OR depot at Puriton

Table A2 – Cycle, Walking and Public Transport Schemes Baseline Schemes (2008/2026)	
Scheme	**Comments**
Bridgwater Interchange	Plans envisage a new bus interchange within the grounds of Bridgwater Collage.
Yeovil to Taunton Fast Bus	New limited stop service.
Obridge Link, Taunton	Fully segregated pedestrian/cycle link
Rhode Lane Bus Gate, Bridgwater	New bus gate to allow buses to enter adjoining development
Yellands Hill Cycle Route, Taunton	New on line cycle route between Maidenbrook and Monkton on the A3259
Cycle Lane Corkscrew Lane, Taunton	New off line cycle lane between Gipsy Lane and Corkscrew Lane
Bus Gate Priory Bridge Road, Taunton	Delivered with NIDR