

Appraisal Summary Table		Date produced:			Contact:				
		18	11	2021					
<b>Name of scheme:</b>		A350 Melksham Bypass			<b>Name</b>				
<b>Description of scheme:</b>		The scheme provides a new single carriageway bypass for the A350 to the east of Melksham, approximately 9km long. The A350 is a key north-south route through West Wiltshire connecting several towns and employment areas (comprising the A350 Growth Zone) with each other and the SRN (M4), as well as fulfilling wider regional north-south connections with the south coast. The scheme has an outturn cost estimate of c.£235m and comprises the bypass, supplementary improvements to adjacent parts of the network and a package of complementary walking and cycling measures within the town which lock in benefits of the traffic relief provided by the bypass. The scheme complements a number of recent and planned improvements to the A350 as part of a strategic approach to upgrading the route. Subject to funding and planning consent, the delivery programme is based on scheme opening in 2028.			<b>Organisation</b>		Wiltshire Council		
					<b>Role</b>		Promoter/Official		
Impacts		Summary of key impacts		Assessment					
				Quantitative		Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp	
Economy	Business users & transport providers	The majority of benefits to business users arise from journey time savings across all time periods. The greatest journey time savings relate to north-south inter-urban and longer distance journeys on the A350 (via the new bypass). Smaller journey time benefits accrue to other through trips via Melksham, trips to / from Melksham and trips within Melksham as a result of the traffic relief provided by the bypass. There is a small benefit to business users in terms of vehicle operating costs.		Value of journey time changes(£)		56,920,000			
				Net journey time changes (£)					
				0 to 2min	2 to 5min	> 5min	-	58,910,000	Moderate beneficial
	Reliability impact on Business users	The scheme in general improves the capacity of the local network and introduces a new north-south route which will increase overall network resilience (e.g. in relation to incidents and disruption). The bypass is of a higher standard than the existing A350 route, with fewer junctions and accesses and in a less built-up environment. As a result, users are expected to experience less variability in day to day journey times. Other local and through trips would also be expected to experience smaller reliability benefits as a result of the traffic relief provided by the bypass; this includes bus services operating on the local network.					-	2,750,000	
	Regeneration	Not specifically assessed. The scheme is expected to support local aspirations for regeneration within Melksham town centre as a result of improved access (including more reliable access via the existing A350 route due to the traffic relief provided by the bypass). Traffic reduction through the central town area and the associated complementary walking and cycling measures would further support an enhanced local environment making contributing to a more attractive and vibrant town centre.					-	n/a	
	Wider Impacts	Only impacts associated with fixed land use (or implicit land use change) are considered. The most relevant impact in the context of the scheme is considered to be agglomeration-based productivity improvements, reflecting 'static clustering'. The scheme would serve to effectively bring workers and employment opportunities closer together. Workers would have access to a greater range of employment opportunities, whilst employers would have greater access to a more diverse pool of labour (and a greater range of skills). As a result, higher levels of Gross Domestic Product (GDP) per worker are expected, providing a productivity uplift. Changes in the level of economic activity as a result of the scheme are also captured within the Economic Case; assessed via the output change in imperfectly competitive markets. Inefficiencies mean that the value of the increased output from a reduction in generalised travel cost is not fully captured by the magnitude of the change; hence, the assessment provides means of estimating the welfare effect of this value gap		Output change in imperfectly competitive market: £5.69m NPV Agglomeration benefits (static clustering): £19.09m NPV			-	24,780,000	
Environmental	Noise	Upon opening (2028), the scheme predominantly results in minor to moderate decreases in noise along the A350 from south of Laycock, through Beanacre and Melksham, and also along the A3102 and Forest Lane/Woodrow Rd entering Melksham from the east, benefiting receptors within the vicinity; this reduces to predominantly negligible decreases in noise through Melksham and along the A3102 by the future year (2043), with receptors located in proximity to the A350 at Beanacre still experiencing a minor decrease in noise. For receptors located in proximity to the scheme alignment, including isolated receptors along the route and receptors located at south-east Bowerhill, the scheme predominantly results in moderate to major increases in noise upon opening (2028), reducing to predominantly moderate increases in noise by the future year.		Households experiencing increased daytime noise in forecast year: 1,240 Households experiencing reduced daytime noise in forecast year: 2,578 Households experiencing increased night time noise in forecast year: 154 Households experiencing reduced night time noise in forecast year: 1,122			-	8,410,000	Moderate beneficial

Air Quality	There is a decrease for both the NO2 and PM2.5 assessment scores (benefit) based on NO2 and PM2.5 concentrations at sensitive receptors despite an increase (worsening) in total emissions for NOx and PM2.5 across the local air quality affected road network (used to value the cost of 'other impacts'). Overall there is a net improvement in local air quality with the scheme, as indicated by a positive NPV (benefit).	<b>PM2.5</b> Number of properties with an improvement: 4,872 Number of properties with no change: 2,285 Number of properties with a deterioration: 2,222  <b>NO2</b> Number of properties with an improvement: 6,457 Number of properties with no change: 17 Number of properties with a deterioration: 2,905		-	1,020,000	Slight beneficial
Greenhouse gases	The scheme results in overall increase of approximately 63,000 tonnes CO2e over the 60 year appraisal period (TUBA based assessment, TAG Databook v1.15 'high' carbon values). Some improvement in fuel efficiency is expected as a result of a reduction in congested conditions, but this is more than off-set by an overall increase in vehicle kilometres travelled. Analysis suggests potential for vegetation planting associated with the scheme to reduce the impact by approximately 15,000 tonnes CO2e over the 60 year period.	Change in non-traded carbon over 60y (CO2e)	59,546	-	-3,940,000	
		Change in traded carbon over 60y (CO2e)	3,747			
Landscape	The Scheme is assessed as having a Large Adverse effect due to the cumulative adverse effect on landscape and visual amenity, particularly at construction and early years of operation. It is a stark contrast to the existing landscape conditions and will have an intrusive nature. The assessment is precautionary in that mitigation is not fully defined at this stage. However, the adverse effect cannot be completely mitigated and any planting will serve to minimise the adverse effect but not eradicate it. As a result, the Scheme can not be fully integrated and will result in permanent change to the face of the landscape.			Large adverse	-	
Townscape	It is assumed that the Scheme will have a positive effect on effect on Townscape by reducing the impact on the townscape by removing traffic etc. from local roads. However, a worksheet assessment was deemed unnecessary as any built up areas are at a distance from the Scheme.			Neutral	-	
Historic Environment	There is unlikely to be any substantial impact to designated assets and listed buildings. There is likely to be a moderate adverse impact to the setting of the Lacock Conservation Area however, mitigation measures could be put in place to reduce this. There is likely to be a moderate impact on the non-designated heritage asset identified as Medieval Settlement of Redstocks (MWI3625), and the Medieval Settlement of Southeast of Snariton Farm (MWI3621). At this stage, the Scheme is considered to result in an overall slight adverse effect on the known historic environment.			Slight adverse	-	
Biodiversity	<p>Impacts on internationally designated sites (Special Areas of Conservation, SAC) that have been designated for bats are to be determined following the outcome of the Habitats Regulations Assessment (HRA) and proposed bat activity surveys.</p> <p>Impacts on the Severn Estuary SAC, Special Protection Area (SPA) and Ramsar site will also be determined following the outcome of the HRA and further surveys as appropriate.</p> <p>Air quality impacts will be assessed on the nationally designated Spye Park Site of Special Scientific Interest (SSSI).</p> <p>A slight adverse impact is anticipated to the locally designated sites Bristol River Avon Local Wildlife Site (LWS), Inwood Lacock LWS and Kennet and Avon Canal LWS due to their proximity to the Scheme. A slight adverse impact is precautionarily anticipated for the other LWS due to potential air quality impacts.</p> <p>Slight adverse impacts are anticipated to priority habitats in the study area.</p> <p>A slight adverse impact on all protected species is anticipated as habitats will be fragmented or lost as a result of the proposed scheme. This is with the exception of bats, which precautionarily have been assigned an impact level of large adverse.</p> <p>Further surveys will determine the impacts of the Scheme on biodiversity features and appropriate mitigation will be put in place. At this stage, the Scheme is considered to result in an</p>			Large adverse	-	
Water Environment	<p>The proposed scheme will result in an increase in impermeable road area. This could potentially impact the water quality of a number of watercourses in the area. Sustainable drainage measures that attenuate flows can also be designed to removed suspended solids, dissolved copper and dissolved zinc and they are also effective for spillage control. The exact choice of system is dependent on the physical environment of the Scheme and needs to consider the availability of land, climate and rainfall characteristics, soil permeability and topography.</p> <p>The proposed scheme crosses watercourses and floodplains which could potentially affect flood flow conveyance and storage, but this can be mitigated through design and inclusion of floodplain compensation where appropriate.</p> <p>There are no predicted significant adverse effects for the proposed scheme. The highest individual assessment score is Low Significance. Applying water quality, groundwater, hydromorphology mitigation and flood risk mitigation will reduce the significance of effect to neutral.</p> <p>The significance of effects has been determined based on professional judgement, experience on similar Schemes, and the environmental data available at the time, however without further information on the Scheme design, and environmental surveys, there is a risk that unforeseen</p>			Neutral	-	

Social	Commuting and Other users	The majority of benefits to commuting and other users arise from journey time savings across all time periods. The greatest journey time savings relate to north-south inter-urban and longer distance journeys on the A350 (via the new bypass). Smaller journey time benefits accrue to other through trips via Melksham, trips to / from Melksham and trips within Melksham as a result of the traffic relief provided by the bypass. The journey time benefits are off-set to an extent by an increase in vehicle operating costs.	<table border="1"> <tr> <td>Value of journey time changes (£)</td> <td>102,900,000</td> </tr> <tr> <td colspan="2">Net journey time changes (£)</td> </tr> <tr> <td>0 to 2min</td> <td>2 to 5min</td> <td>&gt; 5min</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	Value of journey time changes (£)	102,900,000	Net journey time changes (£)		0 to 2min	2 to 5min	> 5min				-	95,410,000	Moderate beneficial														
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	Reliability impact on Commuting and Other users	The scheme in general improves the capacity of the local network and introduces a new north-south route which will increase overall network resilience (e.g. in relation to incidents and disruption). The bypass is of a higher standard than the existing A350 route, with fewer junctions and accesses and in a less built-up environment. As a result, users are expected to experience less variability in day to day journey times. Other local and through trips would also be expected to experience smaller reliability benefits as a result of the traffic relief provided by the bypass.		-	4,610,000																									
	Physical activity	The scheme enhances opportunities for walking and cycling between Melksham town centre and the rail station / Bath Road, and along the existing A350 corridor within Melksham and Beanacre. The complementary walking and cycling measures, facilitated by the traffic reductions from the bypass, will result in a better-connected walking and cycling network for Melksham and encourage greater use of these travel modes. The planned walking and cycling route adjacent to the bypass itself would also serve leisure activity, creating connected 'loops'.	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Baseline demand</th> <th colspan="2">Future demand</th> </tr> <tr> <th>Cycle</th> <th>Pedestrian</th> <th>Cycle</th> <th>Pedestrian</th> </tr> </thead> <tbody> <tr> <td>Town centre – Area A</td> <td>283 *</td> <td>2,120 **</td> <td>492</td> <td>3,689</td> </tr> <tr> <td>Melksham Station – Area B</td> <td>156 *</td> <td>566 **</td> <td>271</td> <td>985</td> </tr> <tr> <td>Southern connections – Area C</td> <td>355 **</td> <td>1,971 **</td> <td>620</td> <td>3,430</td> </tr> </tbody> </table> <p>Notes: * 2017-2020 AADF; ** factored up from Census 2011.</p>		Baseline demand		Future demand		Cycle	Pedestrian	Cycle	Pedestrian	Town centre – Area A	283 *	2,120 **	492	3,689	Melksham Station – Area B	156 *	566 **	271	985	Southern connections – Area C	355 **	1,971 **	620	3,430	Slight beneficial	12,570,000	
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Journey quality	A significant reduction in driver frustration is expected as a result of the scheme, from improvements to journey reliability and reduced delays. There are considered to be positive impacts in relation to journey ambience for active modes associated with the complementary walking and cycling measures.		Moderate beneficial	1,950,000																										
Accidents	The bypass provides a modern, high-standard route. The transfer of traffic from the existing A350 and other less suitable routes results in a predicted decrease in the total number of accidents of 247 in the core assessment. Further marginal accident benefits are associated with the complementary walking and cycling measures.	Change in accidents (60 yrs): Core assessment: -247 Sensitivity assessment: -576	Slight beneficial	2,160,000	Slight beneficial																									
Security	The appraisal has resulted in neutral impacts against most security indicators, such as formal / informal surveillance, and landscaping. Lighting is to be provided at the main junctions and at the approaches to these junctions. Lighting is also proposed at all pedestrian underpasses created by the proposed bypass.		Neutral	-	Screened out (not required)																									
Access to services	The scheme is considered to have little direct influence on the availability or cost of public transport services. Reliability improvements on parts of the network where buses operate (e.g. A350) could result in some benefit to service punctuality. The reduced severance and improved walk / cycle connections between the town and the rail station would provide enhanced access to rail services. An overall conservative neutral assessment has been applied.		Neutral	-	Screened out (not required)																									
Affordability	The modelling and economic appraisal indicates that the scheme is expected to result in an overall increase in vehicle operating costs. At a personal / individual level, likely changes are expected to be small. Some users (e.g. for local trips) are expected to experience a reduction in the cost of travel, whilst other users (including inter-urban and longer distance trips) are likely to experience a slight increase in the cost of travel. The scheme is not expected to result in any other changes to user charges.		Slight adverse	-	Moderate adverse																									
Severance	Overall, the Scheme would offer relief from existing severance, through the reduction in traffic, including heavy goods vehicles, through Melksham which would provide a better and safer environment, and improved journey time reliability on the A350. The Scheme would also draw traffic away from other congested routes in the study area, particularly those which link to the centre of Melksham, which would have benefits for motorists, pedestrians and others. Relief from severance varies across the study area, with the largest benefits (moderate positive) expected in Melksham, Beanacre and Shurnhold which the A350 passes through, and where there are large communities and the presence of multiple vulnerable groups. Slight reductions in severance are predicted for places such as Lacock, Bowerhill, Redstocks, Seend, Seend Cleeve, Sells Green and Semington where reductions in severance through improved wider accessibility would be offset by the physical impacts of the Scheme which cuts through the area, particularly at the junctions. Neutral effects are predicted for Lower Woodrow, Woodrow, Sandridge Hill and Sandridge Common, where some localised disruption effects of the physical infrastructure would need to be mitigated (e.g. crossing facilities), however there would be improvements to wider access.		Slight beneficial	-	Slight beneficial																									
Option and non-use values	The scheme is not considered to substantially change the availability of transport services within the study area. Therefore a neutral assessment score is applied.		Neutral	-																										

Public Accounts	Cost to Broad Transport Budget	The cost includes investment cost plus maintenance / renewal costs over the 60 year appraisal period. Optimism bias of 23% is applied. Investment cost includes the bypass, supplementary works to the surrounding / adjoining road network and a complementary package of walking and cycling measures.		n/a	134,510,000	
	Indirect Tax Revenues	Additional income from indirect tax revenue is associated with an overall increase in vehicle kilometres travelled and increase in fuel consumption.		n/a	-4,240,000	