Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option A. Full-length dualling, offline between A14 and Cambridge Research Park, mainly online along the rest of the corridor except for pinchpoints, with bypass to the west of Stretham

	Impacts	Summary of key impacts	Assessment: Quantitative	Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The highest benefits are generated by options A and B, which both offer online full length dualling and bypassing of the key pinchpoints at Milton, Stretham and Little Thetford. The choice between a western bypass (option A) or an eastern bypass (option B) at Stretham makes little difference to the economic performance of the scheme and that decision should be taken using other criteria.	Value of journey time changes(£): 113.0 Net journey time changes (£) 0 to 2min: 44.006 / 2 to 5min: 33.721 / > 5min: 76.243		666.9	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.				
	Regeneration					
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development				
Environmental	Noise	Option A would result in the reduction in noise at a large number of receptors caused by the redistribution of traffic onto the proposed offline sections of the alignment. There would be 420 properties within 100m of the Proposed Scheme, compared with 723 properties along the alignment of the existing A10. Where the bypass routes would move the road closer to individual or small groups of receptors where the noise level would currently be low, there would be large increases in noise at a small number of receptors (e.g. west of Milton, Stretham, and Little Thetford). Road traffic noise increases of >1dB would not be likely within any of the Noise Important Areas along the existing route but some Noise Important Areas would be mitigated by the bypasses (offline sections). Some dwellings could potentially be eligible for Noise Insulation. Noise mitigation may also need to be considered for individual receptors or groups of receptors close to the proposed bypass routes.	Quantitative figures cannot be provided as noise modelling has not been undertaken.	Minor beneficial	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 869 properties within 200m of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.	N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e): 5367 Change in traded carbon over 60y (CO2e): 4918	Slight adverse	-£300,426	
	Landscape	Where the route of Option A would be widened online the loss of mature roadside vegetation would be likely to open up views of the road from properties along the A10 and, potentially change the character of this relatively well treed corridor. The widening of the river Great Ouse crossing close to Stretham Ferry Marina is particularly sensitive. An unsympathetic crossing combined with loss of screening vegetation could give rise to significant adverse landscape and visual effects in this location. Bypassing Stretham to the west would be likely to be highly visible in the open landscape particularly where the road and its traffic are elevated across the A1123 Wilburton Road. The short bypass north of Little Thetford would reduce the impacts of the road and traffic properties fronting the A10 in this area. Offline sections would be likely to be detrimental to tranquillity.	N/A	Moderate adverse	N/A	
	Townscape	N/A	N/A	N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a landscape mainly dominated by the A10 with associated infrastructure. Known and unknown archaeological remains would have the potential to be physically impacted by Option A during construction. There would also be impacts on historic buildings and on the historic landscape. After mitigation, it is not likely there would be any significant impacts.	N/A	Moderate adverse	N/A	
	Biodiversity	In the absence of mitigation for Option A, moderate adverse effects on The Wash and North Norfolk Coast SAC would be anticipated, due to potential for disturbance effects on harbour seal, a qualifying species. Moderate adverse effects would also be anticipated for direct habitat loss at Beach Ditch and Engine Drain CWS and River Great Ouse CWS where traversed by or immediately adjacent to Option A online carriageway widening. Moderate adverse effects would be anticipated relating to secondary pollution related impacts arising from changes to water or air quality at these CWS as well as Landbeach Pits and Willow Wood CWS which is hydrologically connected to Beach Ditch and Engine Drain CWS. Moderate adverse effects would be anticipated relating to direct loss, fragmentation and/or secondary effects to HoPI lowland fen associated with the River Great Ouse CWS where subject to online carriageway widening for Option A. Increased run-off and pollution during construction and changes to groundwater could also adversely affect the condition of such habitats. This habitat type is irreplaceable. Moderate adverse effects would be anticipated relating to direct loss, fragmentation and/or secondary effects to HoPI floodplain grazing marsh arising from both online carriageway widening, and new offline carriageway for Option A. Increased run-off and pollution during construction could also adversely affect the condition of such habitats. Changes to the water environment would also have the potential to affect ponds. Option A would have the potential for significant moderate adverse effects to nesting and wintering birds associated with Worts Meadow LNR and floodplain grazing marsh. Species within the immediate local area are likely to be habituated to traffic noise levels due to the existing A10, however, construction noise particularly associated with new offline carriageways in areas of potential ornithological interest have the potential to create most disturbance. Option A has the potential to sever connectivity of Worts Meadow LNR bird species to the semi-natural habitats including floodplain grazing marsh to the west. Habitats likely to support nesting or wintering birds which may be subject to direct loss, fragmentation or secondary effects (e.g. associated with noise) from Option A include floodplain grazing marsh, hedgerows, farmland. The risk of collision strike for barn owl would also be greatest where new offline routes would be created. There is a risk of direct mortality, habitat loss, fragmentation, severance to bats, hazel dormouse, reptiles, terrestrial and aquatic invertebrates. Habitat losses also have the potential to be moderately adversely affect notable plants and fungi. Option A is likely to result in an overall slight adverse impact on broadleaved semi-natural woodland, traditional orchard, rivers and streams, hedgerows, semi-improved grassland, badger, otter, water vole, harbour seal, other notable mammals, notable fish and notable plants and fungi. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals, and would require verification through surveys and associated ecological assessments including a HRA screening assessment.	N/A	Slight adverse	N/A	
	Water Environment	Option A would be anticipated to have slight adverse Impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, would however, be likely be Insignificant.	N/A	Slight adverse	N/A	
Social	Commuting and Other users	The highest benefits are generated by options A and B, which both offer online full length dualling and bypassing of the key pinchpoints at Milton, Stretham and Little Thetford. The choice between a western bypass (option A) or an eastern bypass (option B) at Stretham makes little difference to the economic performance of the scheme and that decision should be taken using other criteria.	Value of journey time changes(£): 691.3 Net journey time changes (£) 0 to 2min: 210.968 / 2 to 5min: 208.59 / > 5min: 494.404			DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.				
	Physical activity	Not assessed for this scheme		N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the full length of the route, used by a large numbers of daily travellers		Large beneficial		
	Accidents	Significant reduction in collisions would be expected between A14 and Cambridge Research Park and on minor alternative routes due to demand diverting to the new offline sections. Modern dual carriageways are statistically safer than older single carriageway A roads.		Moderate beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme		N/A		N/A
	Access to services	Not assessed for this scheme		N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme		N/A		DI analysis not undertaken at this stage
	Severance	Slight increase in severance at Chittering due to widening and large increase between Landbeach and Waterbeach due to new offline section, likely to affect <200 people per day. Bypasses will slightly decrease severance at Stretham and Little Thetford. Slight severance benefits for communites along B1049 and Horningsea Road depending on magnitude of change in traffic volumes.		Neutral		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme		N/A		
Public Account	Cost to Broad Transport Budget				146.7	
	Indirect Tax Revenues	Very small changes			-0.5	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option B. Full-length dualling, offline between A14 and Cambridge Research Park, mainly online along the rest of the corridor except for pinchpoints, with bypass to the east of Stretham

Impacts		Summary of key impacts	Assessment					
			Quantitative			Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The highest benefits are generated by options A and B, which both offer online full length dualling and bypassing of the key pinchpoints at Milton, Stretham and Little Thetford. The choice between a western bypass (option A) or an eastern bypass (option B) at Stretham makes little difference to the economic performance of the scheme and that decision should be taken using other criteria.	Value of journey time changes(£): 115.0 Net journey time changes (£) 0 to 2min: 43.735 / 2 to 5min: 34.851 / > 5min: 77.59				652.8	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.						
	Regeneration							
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development						
Environmental	Noise	Option B would result in a reduction in noise at a large number of receptors caused by the redistribution of traffic onto the proposed offline sections of the alignment. There would be 434 properties within 100m of the Proposed Scheme, compared with 723 properties along the alignment of the existing A10. Where the bypass routes would move the road closer to individual or small groups of receptors where the noise level would currently be low, there would be large increases in noise at a small number of receptors (east of Milton, Stretham, and Little Thetford). Road traffic noise increases of >1dB would not be likely within any of the Noise Important Areas along the existing route but some Noise Important Areas would be mitigated by the bypass routes (offline sections). Some dwellings could potentially be eligible for Noise Insulation. Noise mitigation may need to be considered for individual receptors or groups of receptors close to the proposed bypasses.	Quantitative figures cannot be provided as noise modelling has not been undertaken.			Minor beneficial	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 867 properties within 200m of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.			N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e): 34,673 Change in traded carbon over 60y (CO2e): 5811			Slight adverse	-£1,564,326	
	Landscape	Where the route of Option B would widened online the loss of mature roadside vegetation would be likely to open up views of the road from properties along the A10 and potentially change the character of this relatively well treed corridor. The widening of the river Great Ouse crossing close to Stretham Ferry Marina is particularly sensitive. An unsympathetic crossing combined with loss of screening vegetation could give rise to significant adverse landscape and visual effects in this location. There would be likely significant adverse landscape and visual effects where the route would be offline between Landbeach and Waterbeach, including significant impacts on views from Landbeach conservation area. Significant adverse effects would be likely to arise from local bypasses east of Stretham and west of Little Thetford, particularly where the route crosses the A1123 Wilburton Road, and potentially visible from the Ouse Valley Way long distance path and affecting the landscape setting of the Stretham Old Engine scheduled monument. Offline sections would be likely to be detrimental to tranquillity.	N/A			Moderate adverse	N/A	
	Townscape	N/A	N/A			N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a landscape mainly dominated by the A10 with associated infrastructure. Known and unknown archaeological remains would have the potential to be physically impacted by Option B during construction. There would also be impacts on historic buildings and on the historic landscape. After mitigation, it is not likely there would be any significant impacts.	N/A			Moderate adverse	N/A	
	Biodiversity	In the absence of mitigation for Option B, moderate adverse effects on The Wash and North Norfolk Coast SAC would be anticipated, due to the potential for disturbance effects on harbour seal, a qualifying species. Moderate adverse effects would be anticipated for direct habitat loss at Beach Ditch and Engine Drain CWS and River Great Ouse CWS where traversed by or immediately adjacent to Option B online carriageway widening. Moderate adverse effects would be anticipated relating to secondary pollution related impacts arising from changes to water or air quality at these CWS as well as Landbeach Pits and Willow Wood CWS which is hydrologically connected to Beach Ditch and Engine Drain CWS. Moderate adverse effects would be anticipated relating to direct loss, fragmentation and/or secondary effects to HoPI lowland fen associated with the River Great Ouse CWS where subject to online carriageway widening. Increased run-off and pollution during construction and changes to groundwater could also adversely affect the condition of such habitats. This habitat type is irreplaceable. Moderate adverse effects would be anticipated relating to direct loss, fragmentation and/or secondary effects to HoPI floodplain grazing marsh arising from both online carriageway widening, and new offline carriageway. Increased run-off and pollution during construction could also adversely affect the condition of such habitats. With Option B, compared to Option A, there would be an additional risk of secondary effects to Great River Ouse CWS and associated floodplain grazing marsh due to the proximity of the eastern offline section around Stretham roundabout to this CWS. Changes to the water environment would also have the potential to affect ponds. There would be the potential for significant moderate adverse effects to nesting and wintering birds associated with Worts Meadow LNR and floodplain grazing marsh. Species within the immediate local area are likely to be habituated to traffic noise levels due to the existing A10, however, construction noise particularly associated with new offline carriageways in areas of potential ornithological interest would have the potential to create most disturbance. Option B would have the potential to sever connectivity of Worts Meadow LNR bird species to the semi-natural habitats including floodplain grazing marsh to the west. Habitats likely to support nesting or wintering birds which may be subject to direct loss, fragmentation or secondary effects (e.g. associated with noise) from Option B include floodplain grazing marsh, hedgerows, farmland. The risk of collision strike for barn owl would also be greatest where new offline routes would be created. There would be a risk of direct mortality, habitat loss, fragmentation, severance to bats, hazel dormouse, reptiles, terrestrial and aquatic invertebrates. Habitat losses would also have the potential to be moderately adversely affect notable plants and fungi. Option B, when compared with Option A, would be likely to result in additional habitat loss and fragmentation due the longer offline route. Option B would be likely to result in an overall slight adverse impact on broadleaved semi-natural woodland, traditional orchard, rivers and streams, hedgerows, semi-improved grassland, badger, otter, water vole, harbour seal, other notable mammals, notable fish and notable plants and fungi. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals, and would require verification through surveys and associated ecological assessments including a HRA screening assessment.	N/A			Slight adverse	N/A	
	Water Environment	Option B would have slight adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be Insignificant.	N/A			Slight adverse	N/A	
Social	Commuting and Other users	The highest benefits are generated by options A and B, which both offer online full length dualling and bypassing of the key pinchpoints at Milton, Stretham and Little Thetford. The choice between a western bypass (option A) or an eastern bypass (option B) at Stretham makes little difference to the economic performance of the scheme and that decision should be taken using other criteria.	Value of journey time changes(£): 686.6 Net journey time changes (£) 0 to 2min: 209.364 / 2 to 5min: 209.49 / > 5min: 501.115					DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.						
	Physical activity	Not assessed for this scheme				N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the full length of the route, used by a large numbers of daily travellers				Large beneficial		
	Accidents	Significant reduction in collisions would be expected between A14 and Cambridge Research Park and on minor alternative routes due to demand diverting to the new offline sections. Modern dual carriageways are statistically safer than older single carriageway A roads.				Moderate beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme				N/A		N/A
	Access to services	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Severance	Slight increases in severance at Chittering and Waterbeach due to widening of existing carriageway. Bypasses will slightly decrease severance at Stretham and Little Thetford. Slight severance benefits for communites along B1049 and Horningsea Road depending on magnitude of change in traffic volumes. Likely to affect <200 people per day				Slight positive		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme				N/A		
Public Accounts	Cost to Broad Transport Budget						148.5	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.					2.1	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option C. Offline dualling between A14 and Cambridge Research Park, with junction upgrades along the rest of the corridor

Impacts		Summary of key impacts	Assessment					
			Quantitative				Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Options C and F offer noticeably lower levels of benefits as the extent of dualling is restricted to the southern section, with some junction improvements only in the north of the corridor.	Value of journey time changes(£) 54.1 Net journey time changes (£) 0 to 2min: 39.67 / 2 to 5min: 30.933 / > 5min: 35.634					313.7	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.							
	Regeneration								
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development							
Environmental	Noise	Option C would reduce noise impacts to settlement that would be close to the highway infrastructure (Between Milton - Ely road and Denny End Road Intersection). There would be 604 properties within 100m of the Proposed Scheme, compared with 723 properties along the alignment of the existing A10. The increases in noise would be as a result of the introduction of a new offline road which would bring the noise source closer to individual or groups of dwellings (Landbeach). Two Noise Important Areas may be mitigated. Some dwellings could potentially be eligible for Noise Insulation. Noise mitigation may need to be considered for receptors close to the proposed offline dualling. For the remainder of the route there would be expected to be no change in noise, including at the Noise Important Areas.	Quantitative figures cannot be provided as noise modelling has not been undertaken.				Minor beneficial	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 1,159 properties within 200m of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.				N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e) 167757 Change in traded carbon over 60y (CO2e) 7036				Slight adverse	-£7,328,665	
	Landscape	There would be likely to be significant adverse landscape and visual effects where the route of Option C would be offline between Landbeach and Waterbeach, including significant impacts on views from Landbeach conservation area. For the remaining part of the route there would be likely to be localised landscape and visual effects associated with the proposed junction improvements and online widening near Cambridge Research Park. These effects would primarily be related to the loss of existing vegetation opening up views of the road and its traffic to sensitive visual receptors.	N/A				Moderate adverse	N/A	
	Townscape	N/A	N/A				N/A	N/A	
	Historic Environment	The Proposed Scheme would pass through a landscape dominanted by the A10 and associated infrastructure with the exception of the offline section at Landbeach which is undeveloped green belt land. Given the undeveloped nature of the land, unknown archaeological remains would have the potential to be physically impacted by Option C during construction. There would also be impacts predicted on the historic landscape and the visual setting of historic buildings. After mitigation, it would not be likely that there would be any significant impacts.	N/A				Slight adverse	N/A	
	Biodiversity	As with Options A and B south of Cambridge Research Park, in the absence of specific mitigation, Option C would be likely to result in an overall moderate adverse impact due to direct loss, fragmentation and/or secondary effects on HoPI floodplain grazing marsh. Increased run-off and pollution during construction could also adversely affect the condition of such habitats. This section of new carriageway would also have the potential for moderate adverse significant effects to nesting and wintering birds associated with Worts Meadow LNR and floodplain grazing marsh. The habitat loss, fragmentation and severance effects of the offline route would have the potential to moderately adversely affect bats, wintering and breeding birds, great crested newts, reptile and hazel dormouse. In the absence of specific mitigation, Option C would be likely to result in an overall slight adverse impact on broadleaved semi-natural woodland, ponds, hedgerows, badger, other notable mammals, terrestrial and aquatic invertebrates and notable plants and fungi. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals and would require verification through surveys and associated ecological assessments.	N/A				Slight adverse	N/A	
	Water Environment	Option C would have slight adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be Insignificant.	N/A				Slight adverse	N/A	
Social	Commuting and Other users	Options C and F offer noticeably lower levels of benefits as the extent of dualling is restricted to the southern section, with some junction improvements only in the north of the corridor.	Value of journey time changes(£) 352.2 Net journey time changes (£) 0 to 2min: 204.106 / 2 to 5min: 171.52 / > 5min: 249.193					339.4100704	DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.							
	Physical activity	Not assessed for this scheme					N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the improved section of the					Large beneficial		
	Accidents	Significant reduction in collisions would be expected between A14 and Cambridge Research Park and on minor alternative routes due to demand diverting to the new offline section. Slight decrease in collisions at junctions along the rest of the route. Whilst the northern section would not be dualled, its safety record is better than the national average.					Moderate beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme					N/A		N/A
	Access to services	Not assessed for this scheme					N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme					N/A		DI analysis not undertaken at this stage
	Severance	Severe increase in severance between Landbeach and Waterbeach due to new offline section, likely to impact <200 people per day. Neutral impact in settlements along the rest of the route.					Slight negative		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme					N/A		
Public Accounts	Cost to Broad Transport Budget							66.9	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.						13.9	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option D. Full-length dualling, completely offline alignment running to the west of Milton

Impacts		Summary of key impacts	Assessment					
			Quantitative			Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The more limited access points to the offline corridor reduce the benefits compared with options A and B	Value of journey time changes(£): 99.7 Net journey time changes (£) 0 to 2min: 48.421 / 2 to 5min: 33.683 / > 5min: 86.145				557.8	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.						
	Regeneration							
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development						
Environmental	Noise	The fully offline route, Option D would reduce noise impacts to settlements that are close to the highway infrastructure (Stretham, Little Thetford, Waterbeach, Landbeach and Cotthenham). There would be 132 properties within 100m of the Proposed Scheme, compared with 723 properties along the alignment of the existing A10. There would a potential increase in noise of some receptors in Stretham (Cross white Farm area), Little Thetford (Ren Fen Road, Bedwell Hey Farm), Landbeach (Middle Farm) and Cotthenham (Hedgerows Farm, Two Bit Farm, and Mitchell Hill Farm) as a result of the introduction of a new offline road which would bring the noise source closer to individual group of group of dwellings. Some noise mitigation may be required in these areas. All Noise Important Areas along the route would be likley to be mitigated.	Quantitative figures cannot be provided as noise modelling has not been undertaken.			Moderate beneficial	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 358 properties within 200m of the of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.			N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e): 34780 Change in traded carbon over 60y (CO2e): 5764			Slight adverse	-£1,559,690	
	Landscape	Significant landscape and visual effects would be likely as the route of Option D would need to be on embankment across visually sensitive areas such as the river Great Ouse floodplain and other low-lying fenland areas. Road and river crossings would be elevated and widely visible and mitigation through planting would be uncharacteristic in this open landscape. This opton would potentially be detrimental to tranquil areas and areas of darker skies.	N/A			Large adverse	N/A	
	Townscape	N/A	N/A			N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a rural landscape with semi-rural and semi-urban settlements to the east and west. Given the undeveloped nature of the land, unknown archaeological remains would have the potential to be physically impacted by Option D during construction. There would also be impacts predicted on the historic landscape and the visual setting of historic buildings. After mitigation, it would not be likely that there would be any significant impacts.	N/A			Slight adverse	N/A	
	Biodiversity	In the absence of mitigation for Option D, moderate adverse effects on The Wash and North Norfolk Coast SAC would be anticipated, due to potentail for disturbance effects on harbour seal, a qualifying species. Option D would result in an overall moderate adverse impact on Option D on Worts Meadow LNR, as a result of severance and fragmentation, which is situated between the existing A10 to the east and the new proposed offline carriageway to the west. This would have the potential to affect bird species listed on the Worth Meadow LNR designation and their connectivity to the LNR. Option D would result in the greatest habitat loss and fragmentation of CWSs as it would require a completely new crossing point over River Great Ouse CWS and two crossing points over Beach Ditch and Engine Drain CWS. Option D would also sever connectivity of Landbeach Pits and Willow Wood CWS to the surrounding landscape as it would be located between the existing A10 to the east and the new carriageway to the west. The potential for moderate adverse impact as a result of secondary pollution related impacts to the above CWS as well as other rivers and streams would also greatest for Option D (compared to the other options) due to the increase in numbers of crossing points and closer proximity to Landbeach Pits and Willow Wood CWS compared with the other options. This would also result in the greatest risk of impacts to notable fish. Option D would have the potential to result in moderate adverse secondary effects to HoPI lowland fen associated with Landbeach Pits Willow Wood CWS due to the close proximity of the new carriageway and the potential for hydrological changes. Increased run-off and pollution during construction and changes to ground water could also adversely affect the condition of such habitats. This habitat type is irreplaceable. Moderate effects would also be a result of Option D having direct habitat loss and secondary effects on HoPI floodplain grazing marsh including areas associated with the River Great Ouse CWS. Secondary hydrological impacts associated with groundwater have the potential to affect floodplain grazing marsh. Increased run-off and pollution during construction and changes to groundwater could also adversely affect the condition of such habitats. Changes to the water environment also has the potential to affect ponds which could result in moderate adverse effects on aquatic invertebrates and amphibians including great crested newt. Option D would have the potential to result in significant hedgerow loss and fragmentation of hedgerow and semi-natural broadleaved woodland where remaining habitat would become isolated between the existing carriageway and the new offline route to the west resulting in moderate adverse impacts to these habitats. Option D would have the potential to result in significant adverse effects to nesting and wintering birds associated with Worts Meadow LNR and floodplain grazing marsh and lowland fen habitats. Species within the immediate local area are likely to be habituated to traffic noise levels due to the existing A10, however, construction noise particularly associated with new offline carriageways in areas of potential ornithological interest have the potential to create most disturbance. Option D would be likely to sever connectivity of bird species listed in the Worts Meadow LNR to the surrounding landscape, as the LNR would become isolated between the existing A10 carriageway to the east, and the new carriageway to the west. Habitats likely to support nesting or wintering birds which may be subject to direct loss, fragmentation or secondary effects (e.g. associated with noise) by Options D include floodplain grazing marsh, lowland fen, hedgerows, farmland. Option D would also result in the greatest severance of hedgerows and therefore fragmentation/habitat loss of farmland bird assemblages. The risk of collision strike for barn owl would also be greatest where new offline routes would be created, most significant for Option D. The new carriageway proposed as part of Option D would have the potential to result in impacts to The Great River Ouse that supports harbour seal. This new carriageway would have the potential to cause impacts relating to underwater noise disturbance, pollution, air quality and loss of prey for this species. These impacts potentially cause disruption to harbour seal's feeding and hunting behaviour and in extreme cases cause hearing damage/loss. Option D would create the risk of greatest direct mortality, habitat loss, fragmentation and severance, for protected species including great crested newt, reptiles, bats, hazel dormouse, terrestrial and aquatic invertebrates, otter, water vole, notable fish. Habitat losses also have the potential to adversely affect notable plants and fungi. In the absence of specific mitigation, Option D would result in an overall slight adverse impact on traditional orchard, badger, other notable mammals. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals, and would require verification through surveys and associated ecological assessments including a HRA screening assessment.	N/A			Moderate adverse	N/A	
	Water Environment	Option D would have moderate adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be moderate.	N/A			Moderate adverse	N/A	
Social	Commuting and Other users	The more limited access points to the offline corridor reduce the benefits compared with options A and B	Value of journey time changes(£): 631.0 Net journey time changes (£) 0 to 2min: 222.854 / 2 to 5min: 190.138 / > 5min: 545.6					DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.						
	Physical activity	Not assessed for this scheme				N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the full length of the route, used by a large numbers of daily travellers				Large beneficial		
	Accidents	Significant reduction in collisions would be expected along the length of the existing alignment and on minor alternative routes due to demand diverting to the new route. Modern dual carriageways are statistically safer than older single carriageway A roads.				Large beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme				N/A		N/A
	Access to services	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Severance	Slight decreases in severance at Stretham, Little Thetford, Chittering and for communities along B1049 and Horningsea Road depending on magnitude of change in traffic volumes. Likely to affect <200 people per day				Slight positive		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme				N/A		
Public Accounts	Cost to Broad Transport Budget						169.9	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.					3.7	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option E. Full-length dualling, maximum online except for pinchpoints with bypass to the west of Stretham

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The more limited access points to the offline corridor reduce the benefits compared with options A and B	Value of journey time changes(£): 109.0 Net journey time changes (£) 0 to 2min: 46.975; 2 to 5min: 36.412; > 5min: 73.832		581.6	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.				
	Regeneration					
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development				
Environmental	Noise	Option E would result in a reduction in noise at a large number of receptors caused by the redistribution of traffic onto the proposed offline sections of the alignment. There would be 548 properties within 100m of the Proposed Scheme, compared with 723 properties along the alignment of the existing A10. Where the bypass route would move the road closer to individual or small groups of receptors where the noise level would currently be low, there would be large increases in noise at a small number of receptors. Some Noise Important Areas would be mitigated but in others along the online dualling, the noise level may increase. A number of dwellings could potentially be eligible for Noise Insulation. Noise mitigation may need to be considered for receptors close to the proposed bypasses (offline sections).	Quantitative figures cannot be provided as noise modelling has not been undertaken.	Neutral	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 1,034 properties within 200m of the of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.	N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e): 17002 Change in traded carbon over 60y (CO2e): 4618	Slight adverse	-£802,235	
	Landscape	Significant adverse effects would be likely to arise from local bypasses (offline section) west of Stretham and Little Thetford for Option E, particularly where the route would cross the A1123 Wilburton Road. There would be likely to be localised landscape and visual effects associated with the online widening and new and improved junctions along the remainder of the route. These effects would primarily relate to the loss of existing vegetation opening up views of the road and its traffic to sensitive visual receptors.	N/A	Moderate adverse	N/A	
	Townscape	N/A	N/A	N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a landscape mainly dominated by the A10. Known and unknown archaeological remains would have the potential to be physically impacted by Option E during construction. There would also be impacts predicted on historic buildings and on the historic landscape. After mitigation, it would not be likely that there would be any significant impacts.	N/A	Moderate adverse	N/A	
	Biodiversity	In the absence of mitigation for Option E, moderate adverse effects on The Wash and North Norfolk Coast SAC would be anticipated, due to potentail for disturbance effects on harbour seal, a qualifying species. In the absence of specific mitigation, Option E would be likely to result in an overall moderate adverse impact on Beach Ditch and Engine Drain CWS and River Great Ouse CWS due to potential habitat loss where traversed by or immediately adjacent to the online carriageway widening. Secondary moderate adverse impacts from pollution, due to changes to water or air quality, would be possible at these CWS as well as Landbeach Pits and Willow Wood CWS which is hydrologically connected to Beach Ditch and Engine Drain CWS. There would be the potential for moderate adverse impacts due to direct loss, fragmentation and/or secondary effects to HoPI lowland fen associated with the River Great Ouse CWS. Increased run-off and pollution during construction could also adversely affect the condition of such habitats. This habitat type is irreplaceable. There would be the potential for moderate adverse impacts due direct loss, fragmentation and/or secondary effects to HoPI floodplain grazing marsh were associated with River Great Ouse CWS, but this would be likely be less than Options A-B which traverse additional areas of this habitat further south. Increased run-off and pollution during construction could also adversely affect the condition of such habitats. Moderate adverse impacts may also occur due to loss of mature vegetation associated with the existing carriageway widening which would have the potential to result in the direct mortality and loss of habitat/connectivity for bats, great crested newts, reptiles, hazel dormouse. There would also be the risk of severance and fragmentation on offline sections. In the absence of specific mitigation, Option E would be likely to result in an overall slight adverse impact on Cambridge Road Willow Pollard CWS, broadleaved semi-natural woodland, traditional orchard, rivers and streams, ponds, hedgerows, semi-improved grassland, badger, otter, water vole, hazel dormouse, harbour seal, other notable mammals, reptiles, great created newts, terrestrial and aquatic invertebrates, notable fish, notable plants and fungi, and wintering and breeding bids. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals, and would require verification through surveys and associated ecological assessments including a HRA screening assessment.	N/A	Slight adverse	N/A	
	Water Environment	Option E would have slight adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be insignificant.	N/A	Slight adverse	N/A	
Social	Commuting and Other users	The more limited access points to the offline corridor reduce the benefits compared with options A and B	Value of journey time changes(£): 604.2 Net journey time changes (£) 0 to 2min: 216.79; 2 to 5min: 215.908; > 5min: 468.658			DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.				
	Physical activity	Not assessed for this scheme		N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the full length of the route, used by a large numbers of daily travellers		Large beneficial		
	Accidents	Moderate reduction in collisions due to congestion reduction along the route and bypass of Stretham. Modern dual carriageways are statistically safer than older single carriageway A roads.		Moderate beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme		N/A		N/A
	Access to services	Not assessed for this scheme		N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme		N/A		DI analysis not undertaken at this stage
	Severance	Bypasses will slightly decrease severance at Stretham and Little Thetford. Slight increase in severance at Chittering and Waterbeach due to carriageway widening. Slight severance benefits for communites along B1049 and Horningsea Road depending on magnitude of change in traffic volumes. Likely to affect <200 people per day		Slight positive		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme		N/A		
Public Accounts	Cost to Broad Transport Budget				139.7	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.			1	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option F. Online dualling from Cambridge as far as Cambridge Research Park, with junction upgrades along the rest of the corridor

Impacts		Summary of key impacts	Assessment					
			Quantitative				Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	Options C and F offer noticeably lower levels of benefits as the extent of dualling is restricted to the southern section, with some junction improvements only in the north of the corridor.	Value of journey time changes(£)	50.2				213.8	DI appraisal not completed at this stage
			Net journey time changes (£)						
			0 to 2min	2 to 5min	> 5min				
			43.956	32.401	35.942				
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.							
	Regeneration								
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development							
Environmental	Noise	The online dualling of the southern section to Cambridge Research Park for Option F could potentially increase the noise between Milton Interchange and the Waste Treatment Site, affecting the residential properties close to the A10. The number of properties within 100m of the Proposed Scheme would be the same as the existing A10, 723 properties. Noise Important Areas along the route would be likely to either be unchanged or the noise increase due to the online dualling. A number of dwellings could potentially be eligible for Noise Insulation. Noise mitigation may need to be considered for receptors close to the proposed online dualling.	Quantitative figures cannot be provided as noise modelling has not been undertaken.				Minor adverse	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 1,324 properties within 200m of the of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.				N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e)	193062			Slight adverse	-£8,434,190	
			Change in traded carbon over 60y (CO2e)	7005					
	Landscape	There would be likely to be landscape and visual effects associated with the proposed dualling of the existing A10 and junction improvements for Option F. These effects would primarily be related to the loss of existing vegetation opening up views of the road and its traffic to sensitive visual receptors, particularly on the western edges of Milton and Waterbeach.	N/A				Slight adverse	N/A	
	Townscape	N/A	N/A				N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a landscape mainly dominated by the A10. There would be impacts predicted on historic buildings and on the historic landscape as a result of Option F. After mitigation, it is not likely there would be any significant impacts.	N/A				Slight adverse	N/A	
	Biodiversity	In the absence of specific mitigation, Option F would be likely to result in an overall moderate adverse impact on bats, great crested newts, reptiles, hazel dormouse due to the loss of mature vegetation associated with the existing carriageway widening. In the absence of specific mitigation Option F would be likely to result in a slight adverse impact on Cambridge Road Willow Pollard CWS, semi-natural woodland, traditional orchard, rivers and streams, ponds, hedgerows, semi-improved grassland, bats, badger, hazel dormouse, other notable mammals, wintering and breeding birds reptiles, great created newts, terrestrial invertebrates, notable fish and notable plants and fungi. These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals and would require verification through surveys and associated ecological assessments.	N/A				Slight adverse	N/A	
	Water Environment	Option F would have slight adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be Insignificant.	N/A				Slight adverse	N/A	
Social	Commuting and Other users	Options C and F offer noticeably lower levels of benefits as the extent of dualling is restricted to the southern section, with some junction improvements only in the north of the corridor.	Value of journey time changes(£)	250.1					DI appraisal not completed at this stage
			Net journey time changes (£)						
			0 to 2min	2 to 5min	> 5min				
			208.652	182.593	237.491				
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.							
	Physical activity	Not assessed for this scheme					N/A		
	Journey quality	Reliability improvements will have a positive impact on traveller stress along the improved section of the route and improved junctions, affecting a large number of travellers					Large beneficial		
	Accidents	Moderate reduction in collisions between A14 and Cambridge Research Park, slight improvements at upgraded junctions. Whilst the northern section would not be dualled, its safety record is better than the national average.					Moderate beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme					N/A		N/A
	Access to services	Not assessed for this scheme					N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme					N/A		DI analysis not undertaken at this stage
	Severance	Slight increase in severance at Waterbeach, slight decrease in severance in Stretford at A10/A1123. likely to balance out overall					Neutral		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme					N/A		
Public Accounts	Cost to Broad Transport Budget							58.9	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.						15.3	

Appraisal Summary Table

Date produced:	2 July 2020

Contact:	
Name	Rowland Potter
Organisation	CPCA
Role	Promoter/Official

Name of scheme:	A10 Cambridge to Ely Dualling and Junctions Project
Description of scheme:	Option G. Junction improvements (no dualling)

Impacts		Summary of key impacts	Assessment					
			Quantitative			Qualitative	Monetary £m(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The lowest level of benefits is generated by option G which includes junction improvements only. In the absence of a full corridor approach, junction improvements simply move congestion along to the next pinchpoint in many cases	Value of journey time changes(£): 4.5 Net journey time changes (£) 0 to 2min: 24.828 / 2 to 5min: 13.843 / > 5min: 5.904				20.9	DI appraisal not completed at this stage
	Reliability impact on Business users	The ASR for the OBC will consider whether and how these should be monetised.						
	Regeneration							
	Wider Impacts	An allowance for the consumer surplus has not been estimated because it may be considered double-counting with any benefits arising from dependent development						
Environmental	Noise	The junction improvements for Option G would be unlikley to change the noise level at sensitive receptors along the route. The number of properties within 100m of the Proposed Scheme would be the same as the existing A10, 723 properties. Road traffic noise increases of >1dB would not be likely within Noise Important Areas and no dwellings would be likely to be eligible for noise insulation.	Quantitative figures cannot be provided as noise modelling has not been undertaken.			Neutral	A monetised value cannot be provided as noise modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Air Quality	This option would have the potential to affect nitrogen deposition within a designated ecological site (the River Great Ouse) and air quality at 1,323 properties within 200m of the of the Proposed Scheme, compared with 1,322 properties along the alignment of the existing A10. Exceedances of air quality objectives would be unlikely to occur in the vicinity of the Proposed Scheme for this option.	Quantitative figures cannot be provided as air quality modelling has not been undertaken.			N/A - Assessment not yet undertaken	A monetised value cannot be provided as air quality modelling has not been undertaken.	DI analysis not undertaken at this stage.
	Greenhouse gases	Based on a whole life carbon assessment, this option presents a slight adverse impact on GHGs, with increases in construction, maintenance and end user emissions from this option over the 60 year period. This is within the context of UK level carbon budgets.	Change in non-traded carbon over 60y (CO2e): 57455 Change in traded carbon over 60y (CO2e): 1794			Slight adverse	-£2,497,889	
	Landscape	There would be likely to be localised landscape and visual effects associated with the proposed junction improvements for Option G. These effects would primarily be related to the loss of existing vegetation opening up views of the road and its traffic to sensitive visual receptors.	N/A			Slight adverse	N/A	
	Townscape	N/A	N/A			N/A	N/A	
	Historic Environment	The Proposed Scheme runs through a landscape mainly dominated by the A10. There would no impacts anticpated to historic buildings, known or unknown archaeology or historic landscapes as a result of Option G.	N/A			Neutral	N/A	
	Biodiversity	No significant ecological effects woud be anticipated as a result of Option G. However, slight adverse impacts may occur on semi-natural woodland, ponds, bats, badger, hazel dormouse, reptiles, great created newts, terrestrial invertebrates, notable fish and notable plants and fungi. Impacts relate to direct mortality, habitat loss and fragmentation and changes in environmental conditions (e.g. air/water pollution, noise, lighting) during construction and operation.These impacts are based on current knowledge and assumptions of the ecological baseline and scheme proposals and would require verification through surveys and associated ecological assessments.	N/A			Slight adverse	N/A	
	Water Environment	Option G would have slight adverse impacts on the Water Environment receptors identifed taking into consideration the following mitigation measures: Flood Risk: Provision of compensatory flood storage, adherence to prescribed drainage strategy and design of culverts to comply with best practice guidance Surface Water Quality: Provision of SuDS and adherence to sediment/pollution management set out in a OEMP Geomorphology: Design of culverts to comply with best practice guidance Groundwater Quality: Adherence to sediment/pollution management set out in a OEMP The overall significance of impact, however, would likely be Insignificant.	N/A			Slight adverse	N/A	
Social	Commuting and Other users	The lowest level of benefits is generated by option G which includes junction improvements only. In the absence of a full corridor approach, junction improvements simply move congestion along to the next pinchpoint in many cases	Value of journey time changes(£): 51.4 Net journey time changes (£) 0 to 2min: 125.802 / 2 to 5min: 75.932 / > 5min: 53.262					DI appraisal not completed at this stage
	Reliability impact on Commuting and Other users	The ASR for the OBC will consider whether and how these should be monetised.						
	Physical activity	Not assessed for this scheme				N/A		
	Journey quality	Junction improvements only will not make enough of an improvement to significantly impact on traveller stress				Neutral		
	Accidents	Moderate reduction in collisions at upgraded junctions but no impact on congestion-related collisions along A10				Slight beneficial		DI appraisal not completed at this stage
	Security	Not assessed for this scheme				N/A		N/A
	Access to services	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Affordability	Not assessed for this scheme				N/A		DI analysis not undertaken at this stage
	Severance	Junction improvements will have localised slight severance benefits but likely to impact few people as they are not in populated areas				Slight positive		DI appraisal not completed at this stage
	Option and non-use values	Not assessed for this scheme				N/A		
Public Accounts	Cost to Broad Transport Budget						22.4	
	Indirect Tax Revenues	Changes in indirect tax revenue are a mirror image of the changes in greenhouse gas emissions. Increases in greenhouse gas emissions stem from increases in fuel consumption, which in turn is the main driver of changes in indirect tax revenue.					4.3	