Bridges with low clearance for electrification							actrification			
					-	•				
					МсК	ee Barrack	s Bridge (O	BO3)		
Requirements - K					-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standar	ds)				
				Intervention Assessment						
		Baseline in	tervention (not subject to options)		-	-	-			
				Constructability	n					
1)			Feasibility	Geometrical fitness for intervention			Pass			
1 (PC :	0.11.00.11.11.			Safety	Leave as is					
el 1	Option 0: Do Nothing	Engineering		Electrical clearance for electrification	Standard clearance for electrification and free			The parapet may need to be raised		
; Level			Requirements	Track alignment and drainage (standards)	running solution			· ·		
Options				Structural soundness of the Bridge (if track interventions)						
Opt				Keep current functionality of roads						
		Economy		Investment guidelines and programme for DART+						
		Environment						No significant environmental issues		

					Bridges with	n low clear	ance for el	ectrification	
					Blackhorse Avenue Bridge (OBO4)				
	Requirements -k				-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)				
					Intervention			Assessment	
		Baseline int	ervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety	y y n S) Leave as is	•			
C 1)	Option 0: Do Nothing		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads		•	fail	Service bridge on the southern face makes the electrification not feasible	
vel 1 (P		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
Options Level 1 (PC 1)		Engineering		Feasibility	Constructability Geometrical fitness for intervention Safety		•		
	Option 1: Do Minimum		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	bridge Standard clearance for electrification and 4.4 m cw height and free running solution		Pass	Assuming Service bridge can be diverted Parapet needs to be raised	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
		Livionileit	Feasibility	Constructability Geometrical fitness for intervention Safety		•		ino agrimant environmental issues	
	Option 2: Do Something	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering, civil intervention and OHLE derrogation for cw heights and electrical clearances	•	Pass	Assuming service bridge cannot be diverted	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

	Bridges with low clearance for electrification							for electrification	
						Old Cabra	Road Brid	ge (OBO5)	
			Requirements	-Electrical clearance for electrification s -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
			Intervention	Assessment					
		Baseline int	ervention (not subject to options)		-	-	-		
1)	Option 0: Do Nothing	g Engineering		Feasibility	Constructability Geometrical fitness for intervention Safety		• • •		
Options Level 1 (PC			Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Standard clearance for electrification and free running solution	•	Pass	Parapet may need to be raised	
O		Economy Environment		Investment guidelines and programme for DART+				Included within the National Inventory of Architectural Heritage (NIAH)	

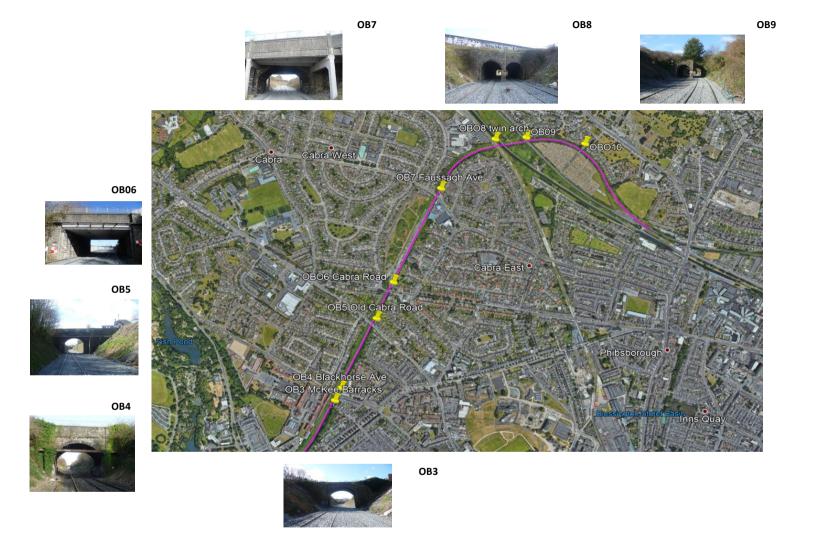
					Bridges with	low cleara	nce for el	ectrification	
_					Cabra Road Bridge (OBO6)				
				Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standa	rds)			
					Intervention			Assessment	
		Baseline inte	rvention (not subject to options)		-	-	-		
	Option 0: Do Nothing	Engineering	Feasibility Requirements	Constructability Geometrical fitness for intervention Safety Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is	•	fail	Bridge not clear for electrification	
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
(PC 1)		Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety Electrical clearance for electrification	Combination of track lowering and OHLE derogation from standards/fitted solution.	•	Pass	Feassible in principle but pending structural assessment	
Options Level 1 (PC 1)	Option 1 Do Minimum		Requirements	Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	for 4.2 m cw height.	•		assessment	
do		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	from standards/fitted solution if required (to minimize impact to road levels). Anticipated 501 mm additional vertical clearance for	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				Protected structure and Included within the National Inventory of Architectural Heritage (NIAH)	

					Bridges with	n low clear	ance for el	ectrification	
_				Fassaugh Avenue Bridge (OBO7)					
			Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline in	ervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety	ention	•			
	Option 0: Do Nothing	Engineering	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is	•	fail	Bridge not clear for electrification
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
: 1)		Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•			
Options Level 1 (PC 1)	Option 1: Do minimum			Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and OHLE derogation from standards/fitted solution. Anticipated 178 mm additional vertical clearance for 4.2 m cw height.	•	Pass	Feassible in principle but pending structural assessment
0		Economy		Investment guidelines and programme for DART+					
		Environment						No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety	Partial bridge reconstruction.	•			
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and OHLE derogation from standards/fitted solution if required (to minimize impact to road levels). Anticipated 501mm additional vertical clearance for 4.4m cw height.	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

					Bridges with	n low clear	ance for el	ectrification	
_				Royal Canal and LUAS Twin Arches (OBO8)					
	Requirements - Kee				-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)				
					Intervention			Assessment	
		Baseline in	tervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety	vention Safety	•			
	Option 0: Do Nothing	Engineering	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is	•	fail	Bridge not clear for electrification
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
0.1)	Option 1 Do Minimum	Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•			
Options Level 1 (PC 1)			Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Track lowering (100 mm) or slab track and slewing.	•	Pass	Assumes 100 m track lowering is possible	
0		Economy		Investment guidelines and programme for DART+					
		Environment	Feasibility	Constructability Geometrical fitness for intervention		•		No significant environmental issues	
	Option 2	Engineering	Requirements	Safety Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and bridge reconstruction. Standard cw height and electrical clearance. OHLE multiple fitted bridge arms	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				Potential impact to the Royal Canal	

					Bridges with	n low clear	ance for el	ectrification	
_					Maynooth Line Twin Arch (OBO9)				
			•	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline int	tervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety	ntion	•			
	Option 0: Do Nothing	Engineering	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	ds) Leave as is ns)	•	fail	Bridge not clear for electrification
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
2.1)		Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•			
Options Level 1 (PC 1)	Option 1 Do minimum		gineering Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	height and electrical clearance derogation (special reduced). OHLE Multiple fitted Tunnel/bridge arms	Pass	Pass		
0		Economy		Investment guidelines and programme for DART+					
		Environment						No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and bridge reconstruction. Standard cw height, electrical clearance. OHLE multiple bridge arms	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	

					Bridges with	n low clear	ance for el	ectrification	
_					Glasnevin Cemetery Road Bridge (OBO10)				
			Requirements	-Electrical clearance for electrification -Keep current functionality of roads -Track alignment and drainage requirements (standards)					
					Intervention			Assessment	
		Baseline int	tervention (not subject to options)		-	-	-		
			Feasibility	Constructability Geometrical fitness for intervention Safety	ntion	•			
	Option 0: Do Nothing	Engineering	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Leave as is	•	fail	Bridge not clear for electrification
		Economy Environment		Investment guidelines and programme for DART+				No significant environmental issues	
2.1)		Engineering	Feasibility	Constructability Geometrical fitness for intervention Safety		•			
Options Level 1 (PC 1)	Option 1 Do Minimum		Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	electrical clearance derrogation. OHLE fitted	•	Pass		
0		Economy		Investment guidelines and programme for DART+					
		Environment						No significant environmental issues	
			Feasibility	Constructability Geometrical fitness for intervention Safety		•			
	Option 2	Engineering	Requirements	Electrical clearance for electrification Track alignment and drainage (standards) Structural soundness of the Bridge (if track interventions) Keep current functionality of roads	Combination of track lowering and bridge reconstruction. Standard cw height and electrical clearance. OHLE multiple bridge arms	•	Pass		
		Economy Environment		Investment guidelines and programme for DART+		•		No significant environmental issues	



OB10

