

Area around MEMORIAL ROAD				
CAF Parameters	Sub-Criteria	Basis for Comparative Analysis	Option 3 Assessment	Option 6 Assessment
1. Economy - The impacts of a transport investment on economic growth and competitiveness.	Capital Expenditure (CAPEX): construction, land acquisition, temporary works.	This sub-criteria considered cost of construction, land cost and temporary works cost of each option. A high-level cost estimate was prepared for each option (including potential land acquisitions (permanent and temporary, zoned or un-zoned land). The lowest cost option was preferable to higher cost options.	<p>Construction Costs - Comparable to the Other Option / Neutral</p> <p>Potential for Interference with Property Rights - Commentary</p> <p>The bridge replacement works do not require permanent works outside of IE's property boundary either north or south.</p> <p>There may be temporary interference of property rights during construction along the rail corridor and works around the bridge however technical and construction related solutions will seek to minimise these. Construction requirements (including potential temporary interference of property rights) and methodologies will be presented at Public Consultation No. 2.</p>	<p>Construction Costs - Comparable to the Other Option / Neutral</p> <p>Potential for Interference with Property Rights - Commentary</p> <p>The bridge replacement works do not require permanent works outside of IE's property boundary either north or south.</p> <p>There may be temporary interference of property rights during construction along the rail corridor and works around the bridge however technical and construction related solutions will seek to minimise these. Construction requirements (including potential temporary interference of property rights) and methodologies will be presented at Public Consultation No. 2.</p>
	OPEX: maintenance costs, operational costs (IE or other entities), Technology advancement and future proofing / obsolescence	This sub-criteria considered long term maintenance costs. The option with less risk for long term maintenance issues (and hence cost) was preferable options with greater risk of long-term maintenance issues.	<p>Comparable to the Other Option / Neutral</p> <p>Typical maintenance requirements.</p>	<p>Comparable to the Other Option / Neutral</p> <p>Typical maintenance requirements.</p>
	Train Operations Functionality/Economic Benefit	The option which resulted in a lower risk of interruption was preferable to options with a higher risk on operations.	<p>Comparable to the Other Option / Neutral</p>	<p>Comparable to the Other Option / Neutral</p>
	Traffic functionality: Potential impacts for vehicular traffic and associated economic activities and opportunities.	The option with shorter traffic disruption/diversions was preferable to options with longer disruption/diversions.	<p>Comparable to the Other Option / Neutral</p> <p>Both options require the closure of the bridge and the first 10-15m of road south of the bridge in order to construct the new bridge. The difference in the extent of road works is comparative in terms of the duration of closure.</p> <p>The construction management plan will articulate measures for mitigating the effects on local industry through extended journey times.</p>	<p>Comparable to the Other Option / Neutral</p> <p>Both options require the closure of the bridge and the first 10-15m of road south of the bridge in order to construct the new bridge. The difference in the extent of road works is comparative in terms of the duration of closure.</p> <p>The construction management plan will articulate measures for mitigating the effects on local industry through extended journey times.</p>
	Urban regeneration	The option with greater potential to contribute to future urban regeneration was preferable.	<p>Comparable to the Other Option / Neutral</p>	<p>Comparable to the Other Option / Neutral</p>
	Summary Evaluation		<p>Comparable to the Other Option / Neutral</p>	<p>Comparable to the Other Option / Neutral</p>

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2. Integration - Integration considers the extent to which the options being evaluated promotes integration with other transportation networks and infrastructure and is compatible with Government policies, including national spatial and local planning policy	Transport integration	The option which maximises integration with other existing and proposed transportation networks, infrastructure and services was preferable to other options.	Comparable to the Other Option / Neutral Memorial Road is part of the proposed Bus Connects Liffey Valley Scheme while its junction is with the R148, which is part of the proposed Bus Connects Lucan Scheme. The current works will reinstate whatever the existing layout is at the time of going to construction.	Comparable to the Other Option / Neutral Memorial Road is part of the proposed Bus Connects Liffey Valley Scheme while its junction is with the R148, which is part of the proposed Bus Connects Lucan Scheme. The current works will reinstate whatever the existing layout is at the time of going to construction.
	Land use integration	The option with greater consistency and compliance with planning policy was preferable to others.	Comparable to the Other Option / Neutral Both options are supported by the national and regional planning policy context. o NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 o EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5.2 At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MT05(i). All works are focused on road or rail infrastructure identified in the Dublin City Development Plan 2016-2022. The nearest zoned land is Z9 associated with the Con Colbert House development on either side of Memorial Road. The proximity of the Memorial Gardens to the north, and their designated Conservation status, should be carefully considered at detailed design and assessment stage.	Comparable to the Other Option / Neutral Both options are supported by the national and regional planning policy context. o NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 o EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5.2 At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MT05(i). All works are focused on road or rail infrastructure identified in the Dublin City Development Plan 2016-2022. The nearest zoned land is Z9 associated with the Con Colbert House development on either side of Memorial Road. The proximity of the Memorial Gardens to the north, and their designated Conservation status, should be carefully considered at detailed design and assessment stage.
	Geographical Integration	The option which minimises disruption and accessibility during construction was preferable.	Comparable to the Other Option / Neutral Both options will require Temporary Traffic diversions of a similar nature to be provided.	Comparable to the Other Option / Neutral Both options will require Temporary Traffic diversions of a similar nature to be provided.
	Other government policy	The option with greater consistency and compliance with other government policy was preferable to others.	Comparable to the Other Option / Neutral Both options meet a range of other government policy including: o Transport Strategy for the Greater Dublin Area 2016-2035: Section 5.7 (Walking), Section 5.8.2 (Regional and Local Roads) and Section 5.8.3 (Principles of Road Development) o BusConnects –part of Liffey Valley BusConnects route	Comparable to the Other Option / Neutral Both options meet a range of other government policy including: o Transport Strategy for the Greater Dublin Area 2016-2035: Section 5.7 (Walking), Section 5.8.2 (Regional and Local Roads) and Section 5.8.3 (Principles of Road Development) o BusConnects –part of Liffey Valley BusConnects route
	Adaptability in the future (robustness in the solution)	The option with greater adaptability for the future was preferable to others.	Comparable to the Other Option / Neutral Currently there is no cycle lane across Memorial Bridge. Replacing the bridge could provide for segregated pedestrian facilities and cycle lane to necessary standards.	Comparable to the Other Option / Neutral Currently there is no cycle lane across Memorial Bridge. Replacing the bridge could provide for segregated pedestrian facilities and cycle lane to necessary standards.
	Summary Evaluation		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral

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3. Environment - considers impacts, such as emissions to air, noise, and ecological and architectural impacts.	Noise and vibration	The Option which minimises potential impact on the environmental factor under consideration was preferable to other options.	Comparable to the Other Option / Neutral No dwellings impacted by night works. Some piling required but same as Option 6. Rail track lowering by 0.7m may reduce noise during operation.	Comparable to the Other Option / Neutral No dwellings impacted by night works. Some piling required but same as Option 3. Rail track lowering by 0.65m may reduce noise during operation.
	Air quality and Climate		Comparable to the Other Option / Neutral Construction and operation phase impacts are analogous for both schemes and the variation to track lowering will not result in any significant variation in impact. Similarly, the number of properties potentially impacted by the construction/operation are identical.	Comparable to the Other Option / Neutral Construction and operation phase impacts are analogous for both schemes and the variation to track lowering will not result in any significant variation in impact. Similarly, the number of properties potentially impacted by the construction/operation are identical.
	Landscape and Visual		Some Comparative Advantage over Other Option Option 3 is marginally better than option 6 in terms of impacts to the setting of the War Memorial Gardens designated landscape (Conservation area) as there will be no change to the existing road levels on Chapelizod Road at the junction of the Memorial Road overbridge OBC3. This option is better in terms of minimising loss of trees and consequent impacts on the view north centered on the entrance of the War Memorial Gardens.	Some Comparative Disadvantage over Other Option Option 6 is marginally worse than option 3 in terms of impacts to the setting of the War Memorial Gardens designated landscape (Conservation area) as there will be more disturbance along Memorial Road to the junction with the bypass than with the other option. Some more potential for construction activity to impact Avenue Vista, including along the road which forms part of the approach to War Memorial Gardens.
	Biodiversity (flora and fauna)		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
	Cultural, archaeological and architectural heritage		Comparable to the Other Option / Neutral There is no designated architectural heritage affected in this option. Memorial Bridge is, however, recorded on the DCIHR but states that it has been 'now largely replaced.'	Comparable to the Other Option / Neutral There is no designated architectural heritage affected in this option. Memorial Bridge is, however, recorded on the DCIHR but states that it has been 'now largely replaced.'
	Water resources		Comparable to the Other Option / Neutral Negligible impact on flood risk during construction and operation. Moderate groundwater quality risk due to excavations during construction. Note: More detail info required in relation to the watermain, no major impact on water resources anticipated	Comparable to the Other Option / Neutral Negligible impact on flood risk during construction and operation. Moderate groundwater quality risk due to excavations during construction. Note: More detail info required in relation to the watermain, no major impact on water resources anticipated
	Agricultural and non-agricultural		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
	Geology and soils (include waste)		Comparable to the Other Option / Neutral Soil excavation required for construction of abutment foundations.	Comparable to the Other Option / Neutral Soil excavation required for construction of abutment foundations.

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CAF Parameters	Sub-Criteria	Basis for Comparative Analysis	Option 3 Assessment	Option 6 Assessment
	Summary Evaluation		<p>Comparable to the Other Option / Neutral</p> <p>Whilst Option 3 has some advantage recorded under landscape the overall MCA for environment is considered neutral. The construction stage impacts to the surface road, including potential impact to trees which help the Avenue Vista of the road, can be addressed through detailed construction stage planning and would not alone be reasonable to elevate the MCA above a neutral finding.</p>	Comparable to the Other Option / Neutral
4. Accessibility and Social Inclusion - considers social deprivation, geographic isolation and mobility and sensory deprivation	Impact on Vulnerable Groups / Local Residents	The option which provides a higher degree of accessibility and safety for vulnerable groups was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>It is acknowledged that this is a vulnerable users route between Inchicore/Kilmainham and Memorial Park facilities (St John of God School). Every effort will be made to ensure a similar level of service is provided during construction along with potential phasing in low peak seasons where feasible.</p>	Comparable to the Other Option / Neutral
	Accessibility (stations) - if relevant	The option which provided the best accessibility to the station was preferable.	<p>Comparable to the Other Options / Neutral</p> <p>This criteria is not relevant to this area</p>	<p>Comparable to the Other Options / Neutral</p> <p>This criteria is not relevant to this area</p>
	Accessibility (bridge) - if relevant	The option which minimised severance across bridges was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>
	Social inclusion.	The option which provided a higher degree of accessibility and connectivity for vulnerable groups was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>
	Summary Evaluation		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral

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5. Safety - Safety is concerned with the impact of the investment on the number of transport related accidents.	Rail Safety	The option which provided the best rail safety solution was preferable.	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
	Vehicular Traffic Safety	The option which provides the best vehicular safety solution was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>Current design is to widen the carriageway local to the bridge crossing but this may revert back to the same arrangement subject to the final approved Bus Connects Scheme Layout. It should be noted that the existing carriageway width across the bridge also encourages slower approaches to the busy R148 (Chapelizod Bypass). The Bus Connects team have indicated that they will accept the widening as they will introduce a segregated cycle track across the bridge as well as change the one way system to a bi-directional system with vehicles being able to turn from R148 into Memorial Road.</p>	<p>Comparable to the Other Option / Neutral</p> <p>Current design is to widen the carriageway local to the bridge crossing but this may revert back to the same arrangement subject to the final approved Bus Connects Scheme Layout. It should be noted that the existing carriageway width across the bridge also encourages slower approaches to the busy R148 (Chapelizod Bypass). The Bus Connects team have indicated that they will accept the widening as they will introduce a segregated cycle track across the bridge as well as change the one way system to a bi-directional system with vehicles being able to turn from R148 into Memorial Road.</p>
	Pedestrians, cyclists, road users and neighbours safety	The option which provides the best safety solution for different road users was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>	<p>Comparable to the Other Option / Neutral</p> <p>During Construction stage both Options are likely to require the provision of a temporary pedestrian bridge across the operational track while the main road bridge is being constructed in order to provide safe segregation from construction activity.</p>
	Summary Evaluation		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
6. Physical Activity - (where applicable) This relates to the health benefits derived from using different transport modes	Connectivity to adjoining cycle facilities	The option that provided better connectivity between trip generators (green areas / key attractions) and that promoted physical activity was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>Currently there is no cycle lane across Memorial Bridge. Replacing the bridge could provide a cycle lane to necessary standards. As well as potential cycleway integration with the R148 for 10 - 15m either side of the junction with Memorial Road (subject to co-ordination between BusConnects, Liffey Valley, Lucan Schemes and DART+ Schemes)</p>	<p>Comparable to the Other Option / Neutral</p> <p>Currently there is no cycle lane across Memorial Bridge. Replacing the bridge could provide a cycle lane to necessary standards. As well as potential cycleway integration with the R148 for 10 - 15m either side of the junction with Memorial Road (subject to co-ordination between BusConnects, Liffey Valley, Lucan Schemes and DART+ Schemes)</p>
	Permeability and local connectivity	The option that provided better connectivity between trip generators and that promoted physical activity was preferable.	<p>Comparable to the Other Option / Neutral</p> <p>Currently replacing like with like.</p>	<p>Comparable to the Other Option / Neutral</p> <p>Currently replacing like with like.</p>
	Summary Evaluation		Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral

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Area around Memorial Road - CAF Summary Table

CAF Parameters	Option3	Option 6
1. Economy	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
2. Integration	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
3. Environment	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
4. Accessibility and Social Inclusion	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
5. Safety	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
6. Physical Activity	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral

Conclusion	Comparable to the Other Option / Neutral	Comparable to the Other Option / Neutral
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Comparison Criteria Legend

Significant Comparative Disadvantage over the Other Option
Some Comparative Disadvantage over the Other Option
Comparable to the Other Option / Neutral
Some Comparative Advantage over the Other Option
Significant Comparative Advantage over the Other Option