DART+ West - MCA Stage 2

Clonsilla Level Crossing Assessment

	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
					Pedestrian Cycle Bridge only at Level Crossing / Station (delivered contingent on road bridge crossing at Barberstown)	Overbridge with approach roadworks 200m to the east of crossing	Overbridge 210m to the west of crossing
1	**Economy**	1.1	**Construction and Land Cost**	Assessment of cost of construction of option, land costs and temporary works	**Significant comparative advantage over other options** The provsions here include low key works to close the level crossing and the construction of a new pedestrian / cycle bridge	**Significant comparative disadvantage over other options** This option includes the costs of urban roadworks across green fieldsto cross the railway and canal via raised embankment and single span bridge. Includes 2No, Junctions and the acquisition of 6No houses.	**Significant comparative disadvantage over other options** This option includes costs above Option 2 for additional at grade roadworks and a longer bridge structure and land acquisition associated with same. It also includes a premium for the cost of online construction which applies to the works North of the canal. This option does not require the acquisition of any houses.
		1.2	**Long Term Maintenance costs**	Ongoing annual maintenance costs associated with varied options	**Some comparative advantage over other options** Maintenance costs low - 15k ex VAT per year for bridge structure	**Some comparative disadvantage over other options** The inspection and maintenance costs are associated with the roadworks and the bridge	**Some comparative disadvantage over other options** An overbridge would increase the maintenance requirements over a level crossing, though it would not be significantly more so than other options.
		1.3	**Traffic Functionality /economic benefit**	Benefits to vehicular traffic through reduction in journey time lengths and delays through removal of level crossings. Consideration of potentially longer routes for traffic.	**Some comparative disadvantage over other options** Displacement of mobility impaired and cycle traffic onto ramped alternative routes; increase in journey times for local residents. Removal of vehicular access over the level crossing results in displaced flows - 680 vehicles AM peak hour and 704 vehicles PM peak hour. Additional traffic delay will result along adjacent access routes - 1% AM peak hour and 1% PM peak hour. Benchmark journey times will increase by up to 3%,	**Some comparative advantage over other options** Some improvement in journey time; potential for induced trips; diversion required for local residents.	**Some comparative advantage over other options** Some improvement in journey time; potential for induced trips; diversion required for local residents.

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
2	Integration	2.1	Transport Integration	Impact on scope for and ease of interchange between modes. Impact on the operation of other transport services both during construction and in operation. New interchange nodes and facilities; Reduced walking and wait times associated with interchanges. Modal shift figures during construction and operations. Changes to journey times to transport nodes.	**Some comparative disadvantage over other options** Severance of access to train station car parking from south of the railway. Would require significant re-routing of proposed L52 bus route (BusConnects). Diversion of vehicular access to Royal Canal greenway along a more circuitous route.	**Some comparative advantage over other options** Improved facilities for pedestrians and cyclists on new road link. Diversion of vehicular access to Royal Canal greenway along a more circuitous route. Slightly more circuitous route for cyclists to access station from the south. Would require slight re-routing of proposed L52 bus route (BusConnects), and a looped route back to continue to directly serve Coolmine Station, as per existing plan.	**Some comparative advantage over other options** Improved facilities for pedestrians and cyclists on new road link, although less extensive than other options. Slightly more circuitous route for cyclists to access station from the south. Removal of direct local access to Royal Canal greenway, although alternative access provided via slightly circuitous route. Would require slight re-routing of proposed L52 bus route (BusConnects), although it would still directly serve Coolmine Station, as per existing plan
		2.2	Land Use Integration	Impact on land use strategies and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local planning documents.	**Some comparative advantage over other options** The option is located in lands zoned “High Amenity” and “Open Space”. The construction of a pedestrian and cycle bridge would impact negatively on this land use objective which crosses over the Royal Canal. It would prevent continued vehicular acesss at this location. However, when compared with other options it is more discrete and impacts less HA and OS zoned lands when compared wiith Option 2 and 4 and for this reason would have some advanttges over other options. The Draft Kellystown LAP 2020 is currently being developed on the opposite side of the road and would need to be take account of this as part of the movement strategy. Further consultation would be required with FCC if this is chosen as the preferred option.	**Some comparative disadvantage over other options** This Option would impact lands zoned LAP13.C Kellystown LAP which is also zoned as a Strategic Development Zone (SDZ) Other relevant zonings that apply include Open Space, established residential, town centre and district. It is also within a wider 'urban Framework Plan' area as per the Fingal DP map-based Zoning Objectives. The Draft Kellystown LAP 2020 (south of the railway) indicates that this Option would be located in an area identified for openwith residential either side of the proposed online road option. Further consultion would be required with FCC if this is chosen as the preferred option.	**Some comparative advantage over other options** Options 4 impacts zonned 'High Amenity' and 'Open Space' and would include vehicular, pedestrian and cycle access.The Draft Kellystown LAP 2020 is currently being developed on the opposite side of the road and would need to be take account of this as part of the movement strategy. Further consultation would be required with FCC if this is chosen as the preferred option.

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	Parameter		**Criteria**	**Sub-Criteria (Quantitative/ Qualitative)**	**Option 1**	**Option 2**	**Option 4**
		2.3	**Geographical Integration**	Alternative level crossing options are mostly neutral in respect of Geographical Integration due to localised nature of the level crossings. As a consequence all options are rated comparable to one another.	**Comparable to other options** No significant effect on geographical integration.	**Comparable to other options** No significant effect on geographical integration.	Comparable to other options No significant effect on geographical integration.
		2.4	**Other Government Policy Integration**	Integration with the other Government policy such as the NPF and RSES.	**Comparable to other options** This option would support the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF- (NS04), RSES & GDA Transport Strategy).	**Comparable to other options** This option would support the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF- (NS04), RSES & GDA Transport Strategy).	**Comparable to other options** This option would support the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF- (NS04), RSES & GDA Transport Strategy).
		3.1	**Noise and Vibration**	Estimated number of sensitive properties within 100m of the works. Options closer to more sensitive locations will have an increased risk of generating a noise impact. However, qualative criteria are also used where necessary to differentiate between the options.	**Some comparative advantage over other options** Pedestrian crossing only will have no operational noise impact. 27 properties within 100m.	**Some comparative disadvantage over other options** This option constructs a new crossing point and therefore moves vehicular traffic closer to dwellings not currently exposed to vehicular traffic. 86 dwellings within 100m.	**Some comparative disadvantage over other options** 38 dwellings within 100m. Slightly preferred over option 2 due to lower number of properties within 100m
		3.2	**Air Quality and Climate**	Estimated number of number of receptors within 50m reviewed as part of appriasal. Options closer to more sensitive locations will have an increased risk of changes in air quality during construction or operational phases. However, qualative criteria are also used where necessary to differentiate between the options.	**Some comparative advantage over other options** Pedestrian crossing only will have no operational impact locally. Traffic redistribution not considered. 8 property within 50m. Potential for construction phase dust impact is not significant when mitigation measures are put in place.	**Some comparative disadvantage over other options** 25 dwellings within 50m. Due to longer length and overbridge, there would be a higher volume of embodied carbon in this option. Potential for construction phase dust impact is not significant when mitigation measures are put in place. Potential for construction phase dust impact is not significant when mitigation measures are put in place.	**Some comparative disadvantage over other options** 5 dwellings within 50m. Slightly preferred over option 2 due to lower number of properties within 50m and lower construction materials (embodied carbon). Potential for construction phase dust impact is not significant when mitigation measures are put in place.

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
3	Environment	3.3	Landscape and Visual (including light)	Key landscape characteristics affected; Impact on landscape character; Impacts on landscape features, protected landscapes. Key visual characteristics affected; Impacts on properties, amenities, protected views, key views.	Some comparative advantage over other options Proposed structure will impact some trees at entrance to Beech Park. Significant impact on residential properties on Clonsilla Road/ Larch Grove and Weaver's Walk north of the canal, and along the east side of Clonsilla Road south of canal (including Greenmount House). Impact on tree-lined corridor on northern side canal where structure will oversail the canal.	Some comparative disadvantage over other options Overbridge option will remove a number of residential properties at Larch Grove. Very significant impact on residential properties on Clonsilla Road/ Larch Grove and Weaver's Walk north of the canal, and along the east side of Clonsilla Road south of canal (including Greenmount House). Significant impact on tree-lined corridor of canal/railway. Junction with Porterstown Road may impact boundary of Luttrellstown Castle estate (an architectural conservation area, and a protected structure). Tree Preservation Objectives within Luttrellstown estate. Note also impacts for Option 1.	Some comparative disadvantage over other options Impact on trees north of the canal - which are subject to Tree Preservation Objectives. Passes through Beech Park. Lands south of the railway are zoned High Amenity. Very significant impact on tree-lined corridor of canal and entrance to Porter's Gate. Visual impact on canal side properties at end of western ramp.
		3.4	Biodiversity (flora and fauna)	Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	Some comparative advantage over other options Hydrologically connected to South Dublin Bay and River Tolka Estuary SPA. No risk of likely significant effects. Potential impacts to Royal Canal pNHA. Minor habitat loss in comparison to other options.	Some comparative disadvantage over other options Hydrologically connected to South Dublin Bay and River Tolka Estuary SPA. No risk of likely significant effects. Potential impacts to Royal Canal pNHA. Loss of woodland, treeline, hedgerow amenity grassland and wet grassland habitats.	Some comparative advantage over other options Hydrologically connected to South Dublin Bay and River Tolka Estuary SPA. No risk of likely significant effects. Potential impacts to Royal Canal pNHA. Loss of treeline and wet grassland habitat. Direct impacts to veteran beech tree in the field where option runs through.
		3.5	Cultural, Archaeological and Architectural Heritage	Overall effect on cultural, archaeological and architecture heritage resource. Likely effects on RPS, National Monuments, SMRs, Conservation areas, etc. Number of designated sites/structures (by level of designation) directly impacted by scheme (landtake)	Significant comparative disadvantage over other options Potential Indirect impacts on Callaghan Bridge (RPS No. 706), the Royal Canal (RPS No. 944a) and Clonsilla Overbridge and Signal Box (RPS No. 707). Requires the construction within the footprint of the royal canal and localised narrowing of the canal.	Significant comparative advantage over other options Direct impacts on demesne landscapes associated with Greenmount and Kellystown. Potential indirect impact on the Royal Canal (RPS No. 944a). Potential to encounter archaeological deposits that may survive within undeveloped areas.	Significant comparative disadvantage over other options Direct impact on demesne landscape associated with Courtyard, Beech Park House (RPS No. 709). Potential indirect impact on the Royal Canal (RPS No. 944a). Potential to encounter archaeological deposits that may survive within greenfield areas.

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
		3.6	**Water Resources**	Overall potential significant effects on water resource attributes likely to be affected during construction and operation.	**Some comparative advantage over other options** Potential Positive impact on surface water quality during operation by removing **vehicular traffic borne pollutants**. Potential negative impact on surface water quality during construction phase. Option has some comparative advantages over other options.	**Some comparative disadvantage over other options** Potential negative impact on surface water quality during operational phase. Potential negative impact on surface and groundwater quality during construction phase. Has some comparative disadvantage over other options.	**Some comparative disadvantage over other options** Proposed route indicated to have increased flood risk compared to other options. Potential negative impacts to surface water quality during operational phase. Potential negative impact on surface and groundwater quality during construction phase. Has some comparative disadvantage over other options.
		3.7	**Agriculture and Non-Agricultural**	Overall impact on land take & property. Number of properties to be impacted/acquired. Likely temporary or permanent severance effects, etc.	**Significant comparative advantage over other options** Options 1 will have a direct impact involving a small area of amenity lands in Beech Park.	**Significant comparative disadvantage over other options** Under Options 2, the non-agricultural impact will involve the acquisition of five residential properties. The agricultural impact will result in landtake and land severance on a livestock farm holding.	**Significant comparative advantage over other options** Option 4 will have direct impact on amenity lands in Beech Park.
		3.8	**Geology and Soils (including Waste)**	Soils and Geology and likely impact on geological resources based on preliminary/likely construction details. Soil or topsoil resources to be developed/removed based on cut or fill requirements and potential for soft ground which may also need replaced. Existing information relating to potential to encounter contaminated land. High-level assessment based on the likely structures/ works required and the potential for ground contamination due to historic landfills, pits and quarries.	**Some comparative advantage over other options** Less fill import requirements compared to other options.	**Some comparative disadvantage over other options** Similar fill import requirements compared to other option.	**Some comparative disadvantage over other options** Similar fill import requirements compared to other option.

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
		3.9	**Radiation and Stray Current**	Overall likely impact on existing sources of electromagnetic radiation.	**Comparable to other options** It is assumed that the routing of the cabling, the location of existing substations, hubs etc. along the line will be changed or impacted by the selection of any of the options over the entire project. Both Options are comparable from an EMI perspective at this stage in the assessment.	**Comparable to other options** It is assumed that the routing of the cabling, the location of existing substations, hubs etc. along the line will be changed or impacted by the selection of any of the options over the entire project. All Do-Something options are comparable from an EMI perspective at this stage in the assessment.	**Comparable to other options** It is assumed that the routing of the cabling, the location of existing substations, hubs etc. along the line will be changed or impacted by the selection of any of the options over the entire project. All Do-Something options are comparable from an EMI perspective at this stage in the assessment.
4	**Accessibility & Social inclusion**	4.1	**Impact on Vulnerable Groups**	Impacts on low income groups, non-car owners, mobility impaired, visually impaired and people with a disability.	· **Some comparative advantage over other options** Road traffic diverted distance route is 5.5km (12 x diversion route) steep gradients on north side of option will be a disadvantage to vulnerable road users. Local ped/cycle access maintained along ramped access over proposed bridge - ~340m diversion	**Some comparative disadvantage over other options** Local ped/cycle access maintained along ramped access over proposed bridge. Road traffic diverted distance route is 572m (1.1x diversion route).	**Some comparative disadvantage over other options** Local ped/cycle access maintained along ramped access over proposed bridge. Road traffic diverted distance route 894m (2.0x diversion route)
		4.2	**Stations Accessibility**	Quantification of increased service levels to the vulnerable groups.	· **Some comparative advantage over other options** Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station	**Some comparative disadvantage over other options** Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station	**Some comparative disadvantage over other options** Station Accessibility is addressed for all level crossing options in proximity to a station Shortest diversion route 894m (2.0x diversion route)

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	Parameter		**Criteria**	**Sub-Criteria (Quantitative/ Qualitative)**	**Option 1**	**Option 2**	**Option 4**
		4.3	**Social Inclusion**	Service levels impacts including severance of community groups; Severance from community facilities consequent on an option.	**Some comparative disadvantage over other options** Diverted distance for vehicular traffic 5.5km (12 x diversion route), proposed pedestrian / cycle bridge maintains local non vehicular access. Community facilities affected by reduced access include Shopping facilities, St Josephs Medical Centre, St Mary's Church, 2No.Montessori School - north of the railway andThe Coartyard Beechpark, Westmanstown Sports and Conference Centre, Dublin Falconry and Luttrellstown Castle Resort - south of the railway.	**Some comparative advantage over other options** This option does not cause community severence. This option does not curtail access to community amenities Diverted distance route is 572m (1.1x diversion route).	**Some comparative disadvantage over other options** This option does not cause community severence. This option does not curtail access to community amenities Diverted distance route 894m (2.0x diversion route)
5	**Safety**	5.1	**Rail Safety**	Safety for Rail users – removal of Level crossings is considered a significant safety enhancement	**Comparable to other options** This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety. There is no significant construction activity along the railway associated with the level crossing	**Comparable to other options** This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety. There is no significant construction activity along the railway associated with the level crossing	**Comparable to other options** This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety. There is no significant construction activity along the railway associated with the level crossing
		5.2	**Vehicular Traffic Safety**	Quality of Access for these road users, lengths of diversions, removal of interface with rail and other modes of transport	**Significant comparative disadvantage over other options** Closing the crossing with no alternative would result in diversion of road traffic onto longer routes but would avoid congestion at the level crossing.	**Significant comparative advantage over other options** Providing a segregated crossing would have a significant advantage as vehicular traffic is not crossing the live rail.	**Significant comparative advantage over other options** Providing a segregated crossing would have a significant advantage as vehicular traffic is not crossing the live rail.
		5.3	**Pedestrian, Cyclist and Vulnerable Road user Safety**	Quality of Access for these road users. removal of interfaces	**Some comparative advantage over other options** This option closes the level crossing - removes a signficant hazard to transport users; Pedestrians, Cyclists and vulnerable road users are, however, accommodated at the level crossing by the proposed bridge.	**Some comparative disadvantage over other options** This option replaces access for pedestrians, cyclists and vulnerable road users via the proposed bridge but at more remote location than Option 1. Diverted distance route 758m (1.6x diversion route).	**Some comparative disadvantage over other options** This option replaces access for pedestrians, cyclists and vulnerable road users via the proposed bridge but at more remote location than Option 1. Diverted distance route 894m (2.0x diversion route).

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 1	Option 2	Option 4
6	Physical Activity	6.1	Connectivity to adjoining cycling facilities	Analysis of the extent that the scheme connects with cycle tracks.	**Some comparative advantage over other options** This option supports good linkage between existing and proposed cycle facilities The quality of access to the train station for pedestrians and cyclists is good in respect of this option.	**Some comparative disadvantage over other options** This option provides replacement pedestrian and cycle access with associated linkage to existing and proposed facilities along a diverted route - diversion - 500m	**Some comparative disadvantage over other options** This option provides replacement pedestrian and cycle access with associated linkage to existing and proposed facilities along a diverted route - diversion - 600m
		6.2	Permeability and local access opportunity	Journey Time and lengths of diversions for active modes and numbers affected. Analysis of the connectivity between level crossing and green areas/key attractions related to active mode	**Some comparative advantage over other options** Cross Railway journey = nil as the proposed option is along the plan alignment of the existing Clonsilla Road. Diversion for cyclists when level crossing closed is 0.35km. The principal high amenity greenspaces in the vicinity of the existing train station include the Royal canal, the amenity zoned lands and golf courses south of the level crossing. This option retains access to the amenities effectively	**Some comparative disadvantage over other options** This option provides replacement pedestrian and cycle access with associated linkage to existing and proposed facilities along a diverted route - diversion - 500m The principal high amenity greenspaces in the vicinity of the existing train station include the Royal canal, the amenity zoned lands and golf courses south of the level crossing. This option retains access to the amenities	**Some comparative disadvantage over other options** This option provides replacement pedestrian and cycle access with associated linkage to existing and proposed facilities along a diverted route - diversion - 600m The principal high amenity greenspaces in the vicinity of the existing train station include the Royal canal, the amenity zoned lands and golf courses south of the level crossing. This option retains access to the amenities

	Criteria		Option 1	Option 2	Option 4
1	Economy		**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
2	Integration		**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**	**Some comparative advantage over other options**
3	Environment		**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
4	Accessibility and social inclusion		**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
5	Safety		**Some comparative disadvantage over other options**	**Some comparative advantage over other options**	**Some comparative advantage over other options**
6	Physical Activity		**Some comparative advantage over other options**	**Some comparative disadvantage over other options**	**Some comparative disadvantage over other options**
	Preferred		**Yes**	**No**	**No**