

DART+ WEST - MCA Stage 1
Ashtown Level Crossing Assessment

	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Do Nothing	Do Minimum	Option 1
					<p>Leave the current level crossings in place.</p>	<p>Closure of the existing crossings with no alternative provided. All traffic would be diverted to alternative routes around the crossing location.</p>	<p>This online scheme would require a structure spanning the railway and canal(overbridge). This would lift the existing carriageway by at least 7.3m above the railway line, accommodating a cross section of a 6.5m carriageway with 2m footpaths across the bridge. There would be insufficient width for a cycleway across the bridge.</p> <p>The topography is such that the northern approach (where the ground falls away towards the Tolka River) would necessarily be very steep and would also require significant modifications to the recent village centre developments of the area overground.</p> <p>The length of the approach on the northern side would be approximately 220m(overbridge) and be at a maximum gradient of 8% and 140m on the southern side at a maximum gradient of 5%. The bridge over the rail line would be at an approximate level of 51.9m OD.</p>

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	Parameter		Criteria	Sub-Criteria (Quantitative/Qualitative)	Do Nothing	Do Minimum	Option 1
1	Economy	1.1	Construction and Land Cost	Assessment of cost of construction of option, land costs, acquisition costs and temporary works	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options
					The proposed signaling system will need augmentation to accommodate the level crossing left in place	Cost of removing crossing is nominal in comparison to provision of road crossing.	This option is considered to be impracticable due to the direct impacts on the community immediately in the vicinity of the level crossing. The multistorey complex to the north incorporates a streetscape and extensive underground carpark. The impact on these properties of a bridge over or under the streetscape would be inordinately impactful.
					Some comparative disadvantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options
		1.2	Long Term Maintenance costs	Ongoing annual maintenance costs associated with varied options	The existing crossing is manned resulting in an ongoing annual cost. The level crossing equipment incurs an annual maintenance cost and replacement cost on a 15yr cycle	The closure of the level crossing would remove the maintenance requirement of the level crossing.	This option is characterised on the basis of fixed unmovable structures and a robust structural interface with the multistorey structure to the north of the level crossing.
					Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over 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.	Reduced capacity as train frequencies increase; increase in journey times for local residents. Journey Time deterioration - 14% on opening vs existing, 38% on opening vs replacement route Traffic diversions in the peak hour - 867 No. 4.5km minimum	Reduced capacity as train frequencies increase; increase in journey times for local residents. Journey Time deterioration - 14% on opening vs existing, 38% on opening vs replacement route Traffic diversions in the peak hour - 867 No. 4.5km minimum	Improvement in journey times; potential for induced trips; potential to increase congestion at Ashtown Roundabout as a result of induced traffic

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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 GDA Cycle Network Plan cannot be realised with such poor connectivity. Increased delays on bus routes. Reduced access to train station and car park.	Significant comparative disadvantage over other options Inconsistent with GDA Cycle Network Plan - which shows a secondary route on Ashtown Road; Disruption to bus routes; Slight reduction in accessibility of train station.	Some comparative advantage over other options General reduction in journey times. Cycle and pedestrian routes provided.
		2.2	Land Use Integration Impact on land use strategies and regional and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local planning documents.	Significant comparative disadvantage over other options The retention of the level crossing in its current form would not support the delivery of a sustainable public transport system for a growing population. Do-Nothing would not bring forward objectives regarding supporting the DART Expansion contained in Dublin MASP, FDP and DCC.	Some comparative disadvantage over other options At local planning policy level, this option would not significantly impact on either the Fingal DP or DCC planning policies/objectives. However, closure of the level crossing with no cycle or vehicular alternatives provided will negatively impact connectivity in the area and all modes of transport. No alternatives access is likely to impact on existing and future planning & transport development which is due to take place in the area. (e.g. lands associated with Navan Road Parkway LAP and the Ashtown – Pelletstown LAP 2014. (subject to details of these plans and traffic studies).	Significant comparative disadvantage over other options The Ashtown – Pelletstown LAP 2014 has defined the area north of the level crossing as "village node" which is an established mixed use local retail and commercial space. The area has a high quality public realm and community function. The introduction of an overbridge option and raised roadway along Ashtown Road would result in significant planning/development, landscape impacts, community severance and connectivity issues that would negatively impact on the function of this core retail area. These changes would also influence future land use factors.

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Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Do Nothing	Do Minimum	Option 1
2.3	Geographical Integration	Alternative level crossing options are mostly neutral in respect of Geographical Integration due to localised nature of the level crossings.	Comparable to other options	Comparable to other options	Comparable to other options
			No significant effect on geographical integration.	No significant effect on geographical integration.	No significant effect on geographical integration.
2.4	Other Government Policy Integration	Integration with the other Government policy such as the NPF and RSES.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options
			This option would not support the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF- (NS04), RSES & GDA Transport Strategy).	Closing the level crossing would support national and regional planning policy and sustainable mobility (NS04 of the NPF) with regards to the delivery of the DART Maynooth: Expansion Programme however the provision of no alternatives for cyclists and vehicular traffic would lead to impacts on Smarter Travel policy, GDA Transport Strategy and other modes of transport.	This option supports government policies relating to DART Expansion programme. However, likely significant impacts due to overbridge option along Ashtown Road particularly regarding landscape, access issues, integration affecting social & economic development of Rathborne/Ashtown core village area.
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, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over other options
			Retains vehicular traffic which will impact a low number of sensitive receptors in proximity.	Removes vehicular traffic and minimal construction impacts.	For the overbridge option the elevated road way will result in significant elevated structures which is likely to increase noise levels at local receptors and require noise mitigation measures along its extent/ as it would run directly in front of a number of mixed-use multi-storey buildings in the core village area along Ashtown Road. The construction phase noise and vibration impacts would also be significant. The noise environment has the potential to change for the 199 properties located within 100m.
3.2	Air Quality and Climate	Estimated number of number of receptors within 50m reviewed as part of appraisal. Options closer to more sensitive locations will have an increased risk of changes in air quality during construction or operational phases. However, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative disadvantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options
			Retains vehicular traffic with which will impact a low number of sensitive receptors in proximity.	Removes vehicular traffic and minimal construction phase. No assessment of traffic redistribution has been completed	Online options is similar to the current scenario however due to the elevated nature of the structure air impacts would be located closer to sensitive receptors particularly in the core village area at the multi-storey buildings in Ashtown mixed use area. However no new sensitive receptors impacted. This option does not reduce the number of sensitive receptors within 50m of the route - 112 dwellings within 50m. Potential for construction phase dust impacts particularly at Ashtown village core.

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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.	No impact on existing landscape or visual characteristics.	Minimal impact on existing landscape or visual characteristics - no likely significant landscape or visual impacts. Loss of local connectivity.	<p>Significant comparative advantage over other options</p> <p>Significant comparative advantage over other options</p> <p>Significant comparative disadvantage over other options</p> <p>Online overbridge option is likely to have a significant negative impact on landscape and visual amenity and public realm of Rathborne Village Centre and along the extent of Ashtown Road.</p> <p>Significant visual impact on the architectural heritage setting of 10th Lock on Royal Canal and thus impacts on the achievement of Objective CH43 of Fingal Development Plan. Significant impact due to removal of roadside tree-lined hedgerows leading to railway - significant visual impact for properties in Martin Savage Park and for Ashtown Stables. [Objective CH43 Protect and enhance the built and natural heritage of the Royal Canal and ensure that development within its vicinity is sensitively designed and does not have a detrimental effect on the character of the Canal, its built elements and its natural heritage values and that it adheres to the Waterways Irelands Heritage Plan 2016-2020.)</p>
		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.	No direct impacts.	No direct impacts.	<p>Some comparative advantage over other options</p> <p>This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. As the new structure over the railway and canal is aligned with the existing crossing there will be minimal habitat loss and less impact on the overall integrity of the pNHA.</p>

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	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)	No direct impacts.	No direct impacts.	Indirect impacts on Longford Bridge (RPS No. 693). Potential for indirect impacts to the Royal Canal (RPS No. 944a) and setting of protected structures in the area.
	3.6	Water Resources	Overall potential significant effects on water resource attributes likely to be affected during construction and operation.	This Option will have neutral impacts on the water resources as there will be no changes to the receiving environment. Has some comparative advantage over other options.	Removes vehicular traffic born pollutants and minimal construction phase. The Do Minimum Option has a significant comparative advantage compared to other options overall.	This option has the potential to impact on water quality of the Royal Canal during the construction phase of the overbridge.
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.	No direct impacts.	No direct impacts.	Option 1 would have direct and indirect impacts on the equine holding. Other areas could also be impacted subject to detailed design.	
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. 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.	No direct impacts	No direct impacts	Overbridge options require fill import to the site for construction over existing roadway (Minor negative). Potential for ground contamination is considered low, subject to further investigation. No pits or quarries are present. Comparative advantage is considered as construction is proposed on existing route and unlikely to encounter new areas of soft ground or contamination.	

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4	Accessibility & Social inclusion	3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
				No changes from an EMI perspective transverse to the railway therefore advantage over other options.	No changes from an EMI perspective transverse to the railway therefore advantage over 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.	
		4.1	Impact on Vulnerable Groups	Impacts on low income groups, non-car owners, mobility impaired, visually impaired and people with a disability.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
			Original Distance roundabout to roundabout 500m retained. The long closure times associated with the level crossing will, however, restrict access	This option severs access locally across the railway	This options introduces steepened gradients north of the railway and cannot accommodate appropriate pedestrian and cycle access due to the constrained width of the available corridor.		
		4.2	Stations Accessibility	Quantification of increased service levels to the vulnerable groups.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
				Station Accessibility is addressed for all level crossing options in proximity to a station This option will require that traffic seeking to access the station from the north will divert along the existing road network due to delays at the level crossing Shortest diversion route 4.5km.(7 x diversion route. Original Distance roundabout to Rockfield Drive crossroads 500m retained.	Station Accessibility is addressed for all level crossing options in proximity to a station This option requires that all traffic accessing the station from the north must divert along the existing road network Shortest diversion route 4.5km (7x diversion route).	Station Accessibility is addressed for all level crossing options in proximity to a station This options introduces steepened gradients north of the railway and cannot accommodate appropriate pedestrian and cycle access due to the constrained width of the available corridor.	
		4.3	Social Inclusion	Service levels impacts including severance of community groups; Severance from community facilities consequent on an option.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
				This option causes severance of the community through curtailment of local access over the railway without replacement with effective alternative access. Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Oddice St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.	This option causes severance of the community through curtailment of local access over the railway without replacement with effective alternative access. Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Oddice St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.	This option causes community severance for those on foot or bicycle. Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Oddice St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.	

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5	Safety	5.1 Rail Safety	Safety for Rail users – removal of Level crossings is considered a significant safety enhancement	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
				This Option leaves the railway level crossing in place, a characteristic which is considered negative from the perspective of railway safety.	This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety.	This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety.
				This option will require construction activity associated with signalling along the live railway associated with the level crossing	There is no significant construction activity along the railway associated with the level crossing	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	Significant comparative disadvantage over other options	Some comparative advantage over other options
				This option retains the level crossing - a significant hazard to transport users; This option will result in traffic diversions of up to 4.3km and increased congestion on the local road network.	This option closes the level crossing - removes a significant hazard to transport users; This option will result in traffic diversions of up to 4.3km and increased congestion on the local road network.	This option closes the level crossing - removes a significant hazard to transport users; This option will not significantly divert traffic.
		5.3 Pedestrian, Cyclist and Vulnerable Road user Safety	Quality of Access for these road users. removal of interfaces	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
The curtailed availability of access over the level crossing associated with this option will divert vulnerable road users onto the existing road network. Diverted road users will be required to negotiate up to 6No additional junctions including traffic light junctions and roundabouts, typically turning left travelling southbound, right if travelling northbound. This options does not provide for segregation on the diversion routes for vulnerable road users.	The removal access over the level crossing associated with this option will divert vulnerable road users onto the existing road network. Diverted road users will be required to negotiate up to 6No additional junctions including traffic light junctions and roundabouts, typically turning left travelling southbound, right if travelling northbound. This options does not provide for segregation on the diversion routes for vulnerable road users.			The removal access over the level crossing associated with this option will divert vulnerable road users onto the existing road network. Diverted road users will be required to negotiate up to 6No additional junctions including traffic light junctions and roundabouts, typically turning left travelling southbound, right if travelling northbound. This options does not provide for segregation on the diversion routes for vulnerable road users.		

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6 Physical Activity	6.1 Connectivity to adjoining cycling facilities	Analysis of the extent that the scheme connects with cycle tracks.	<p>Significant comparative disadvantage over other options</p> <p>No formal cycle tracks currently present on the immediately surrounding road network, but increased closures of the level crossing would reduce access to the proposed Royal Canal Greenway.</p> <p>Access to the train station for pedestrians and cyclists will be significantly inhibited by the level crossing, particularly with the planned level of service on the railway.</p>	<p>Significant comparative disadvantage over other options</p> <p>No cycle tracks currently present on the immediately surrounding road network, but removal of level crossing will sever access to the Royal Canal Greenway from the opposite side of the railway.</p> <p>Access to the train station for pedestrians and cyclists will be significantly inhibited by removal of the level crossing.</p>	<p>Significant comparative disadvantage over other options</p> <p>This option does not provide good linkage between existing and proposed cycle routes</p> <p>The quality of access to the train station for pedestrians and cyclists is poor in respect of this option.</p>
	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	<p>Significant comparative disadvantage over other options</p> <p>Cross Railway journey = nil as crossing remains in place; Inaccessible when crossing is closed.</p> <p>Diversion for cyclists when level crossing closed 4.3km</p> <p>The principal high amenity greenspaces in the vicinity of the existing train station include the Royal canal, the gaelic football grounds south of the railway, Pheonix Park, south of the railway and the amenity zoned lands north west of the level crossing. Increased closures of the level crossing would reduce access to each of them.</p>	<p>Significant comparative disadvantage over other options</p> <p>Cross Railway journey = 4.3km as level crossing is removed.</p> <p>Diversion for cyclists when level crossing closed 4.3km</p> <p>The principal high amenity greenspaces in the vicinity of the existing train station include the Royal canal, the gaelic football grounds south of the railway, Pheonix Park, south of the railway and the amenity zoned lands north west of the level crossing. Removal of the level crossing would curtail access to each of them.</p>	<p>Significant comparative disadvantage over other options</p> <p>Cross Railway journey = nil as the proposed option is along the plan alignment of the existing Ashtown Road.</p> <p>This option does not effectively facilitate cycle access due to the constrained width of the corridor.</p> <p>The principal high amenity greenspace in the vicinity of the existing train station is the Royal canal. This access is maintained by the proposed bridge scheme.</p>
	Criteria		Do Nothing	Do Minimum	Option 1
1	Economy		Some comparative disadvantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
2	Integration		Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options
3	Environment		Significant comparative advantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options
4	Accessibility and social inclusion		Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Some comparative disadvantage over other options
5	Safety		Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
6	Physical Activity		Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
	Progress To Stage 2		No	No	No

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Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a	
			<p>Under Rail and Canal Mill Lane: This option would entail re-routing Ashtown Road along its old alignment (pre Royal Canal) on Mill Lane and passing under both the railway and the Royal Canal. The option can accommodate a cross section of a 6.5m carriageway with 2m footpaths on both sides and 2.5m two-way cycle track on the eastern side. An at-grade turning head and drop-off will be provided to the south of Ashtown Station.</p> <p>The length of the option is approximately 150m on the northern side and 300m south of the rail line. The option would drop to an approximate level of 37.5m above MSL under the rail which is at a level of 45.6m above MSL at the crossing point. On the southern side a separate pedestrian and cyclist link and link to the riding school are proposed to maintain access for non-motorised use these would have cross section of 4.0m.</p> <p>It is feasible to cross at this location, as it is upstream of the double lock on the canal and the canal is at the same approximate level as the adjacent railway. This option would require some property acquisition and modifications to existing accesses.</p>	<p>Overbridge on Mill Lane This option would entail re-routing Ashtown Road along its old alignment (pre Royal Canal) on Mill Lane and passing over both the railway and the Royal Canal. The option can accommodate a cross section of a 6.5m carriageway with 2m footpaths on both sides and 2.5m two-way cycle track on the eastern side. An at-grade turning head and drop-off will be provided to the south of Ashtown Station.</p> <p>The length of the option is approximately 300m each side of the rail line and canal. The option would rise to an approximate deck level of 52.9m OD which is at a level of 45.6m OD at the crossing point. On the southern side a separate pedestrian and cyclist link and link to the riding school are proposed to maintain access for non-motorised use these would have cross section of 4.0m.</p> <p>It is feasible to cross at this location, as it is upstream of the double lock on the canal and the canal is at the same approximate level as the adjacent railway. This option would require some property acquisition and modifications to existing accesses. It would pass through the grounds of the listed Ashton House.</p>	<p>Pedestrian and cycle underpass at Ashtown This option is located approximately 1km to the west of the existing level crossing at Ashtown at the grade separated junction on the Navan Road serving Phoenix Park Railway Station. At this location there is scope to construct a new road link over the canal and railway to link to River Road. This could either descend to tie into River Road or be designed to pass over it to cross the Tolka River and connect onwards to the Dunsink lands. In the latter case, a short spur would be provided to link to River Road, in both cases this would involve significant diversions and land acquisition. The option can accommodate a cross section of a 6.5m carriageway with 2m footpaths and 1.75m cycle tracks on both sides.</p> <p>The road would be at a similar level as the existing junction Phoenix Park crossing the rail at a level of approximately 55.4m above MSL before descending to tie into the level of the River Road at a level of 34.7m above MSL. The road on the northern side would be at a gradient of approximately 6% over 300m.</p> <p>This option also includes the construction of a new tunnel under the rail line and canal at Ashtown to provide pedestrian and cycle access (Option 4A). This option would drop to a level of approximately 40.1m above MSL to tie in with the existing road to the north of the rail line providing a pedestrian and cycling link north and south of the rail line with a 4m wide cross section</p>	

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Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a				
1	Economy	1.1	Construction and Land Cost	Assessment of cost of construction of option, land costs, acquisition costs and temporary works	Some comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options		
					Construction cost impacts are high due to direct impacts on canal and existing rail and more difficult construction. Land costs lower than option to east into zoned lands.	This option requires a crossing of the canal and railway on skew and an extended road alignment through the listed Ashton House property to facilitate a tie in to the north of the canal and railway.	Additional pedestrian / cycle underbridge required in Ashtown. Some realignment and improvement works required on River Road. A two or three span bridge configuration is anticipated here requiring construction activity between the canal and the railway		
		1.2	Long Term Maintenance costs	Ongoing annual maintenance costs associated with varied options	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options		
					A fixed bridge will reduce maintenance requirements over a level crossing or other mechanical solution. Bridge option would determine overall maintenance costs.	A fixed bridge will reduce maintenance requirements over a level crossing or other mechanical solution. Bridge option would determine overall maintenance costs. The likely need for elevated approach ramps along the northern approach to the bridge from the level crossing results in an additional ongoing maintenance cost	A fixed bridge will reduce maintenance requirements over a level crossing or other mechanical solution. Bridge option would determine overall maintenance costs, 2No. In this case.		
		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.	Significant comparative advantage over other options	Significant comparative advantage over other options	Some comparative advantage over other options		
					Improvement in journey times; potential for induced trips; potential to increase congestion at Ashtown Roundabout as a result of induced traffic.	Improvement in journey times; potential for induced trips; potential to increase congestion at Ashtown Roundabout as a result of induced traffic.	Some improvement in journey time; potential for induced trips. Journey Time deterioration - 7% on opening vs existing, 19% on opening vs replacement route Traffic diversions in the peak hour - 867 No. 2.1km minimum		

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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.	Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. The route is largely on the desire line of transport customers. Cycle track provided	Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. The route is largely on the desire line of transport customers. Cycle track provided	Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. Bus services may be impacted as a result of the proposed diversion along the narrow River Road. Cycle track provided
		2.2	Land Use Integration	Impact on land use strategies and regional and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local planning documents.	Underbridge online option on mill lane: At local planning policy level, a small section of this option is located on DCC (DP) lands close to Ashtown Station, zoned Z11 and also contains the conservation area of the Royal Canal. The remainder of this option is located in FDP area: relevant zoning includes "High Technology" (to the south of the Canal) and travel north of the canal into the start of a large area of land zoned 'High Amenity'. This option is within close proximity to the future Navan Road Parkway LAP (map based objective: LAP 13.B) and is likely to support overall land use and transport planning integration. Subject to further design and traffic data.	Overbridge on Mill Lane: At local planning policy level, Option 3 is similar to Option 2, however its entire extent is located within the FDP area only: relevant zoning includes "High Technology" (to the south of the Canal). This route travels along the eastern boundary of a large area of land zoned 'High Amenity' (north of the canal). The introduction of a new overbridge in a High Amenity area would not work towards 'Objective NH51 (FCDP) "Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place". However, for the most part this option follows existing road networks which would reduce the overall impact on those lands. The option travels east of the future Navan Road Parkway LAP (map based objective: LAP 13.B) which would be linked by vehicular, pedestrian and cycle access. This option is likely to work towards overall land use and transport planning integration in this local area. Subject to further design and traffic data.	At local level, the majority Option 4 is located within lands zoned by Fingal DP as "High Amenity". The route travels close to the boundary of the existing Coolmine Rugby Club and could support Fingal DP local map-based Specific Objective 136 "Facilitate pedestrian access from Coolmine Rugby Club grounds over the Canal adjacent to the Phoenix Park Railway Station". However, the introduction of a new road infrastructure in 'High Amenity' zoned land would go against Objective NH51 (FCDP) "Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place". However, in terms of future land use factors. Option 4 could create a direct link into map based objective (LAP13.B - Navan Road Parkway Local Area Plan) and also linking into LAP13.C. Option 4a section would result in a direct pedestrian and cycle access from the station into the "The Village Centre" via a new tunnel structure. This has some comparative disadvantage due to the impact on zoned high amenity lands.

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	2.3	Geographical Integration	Alternative level crossing options are mostly neutral in respect of Geographical Integration due to localised nature of the level crossings.	Comparable to other options	Comparable to other options	Comparable to other options
				No significant effect on geographical integration.	No significant effect on geographical integration.	No significant effect on geographical integration.
	2.4	Other Government Policy Integration	Integration with the other Government policy such as the NPF and RSES.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
				This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, 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, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
				Moves traffic to rear of apt block from current road layout. This option will introduce additional noise to the rear apartments while also decreasing road traffic noise levels to the apartments currently facing the front of the apartment block. Construction phase of this option will be more significant due to the excavation required. 198 properties within 100m.	Moves traffic to rear of apt block from current road layout. This option will introduce additional noise to the rear apartments while also decreasing road traffic noise levels to the apartments currently facing the front of the apartment block. Construction phase of this option will be less significant than Option 2 due to less excavation required. 150 dwellings within 100m.	Operational traffic impacts only affects 2 dwellings. Pedestrian crossing will have impacts during construction. 130 dwellings within 100m of both vehicular route and pedestrian crossing. 2 properties within 100m of the vehicular route.

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a	
3.2	Air Quality and Climate	Estimated number of number of receptors within 50m reviewed as part of appraisal. Options closer to more sensitive locations will have an increased risk of changes in air quality during construction or operational phases. However, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options	
			Moves traffic to rear of apt block from current road layout. 130 dwellings within 50m where traffic has been moved from front to back. Embodied carbon for new bridge. Potential for construction phase dust impact is not significant when mitigation measures are put in place.	Pedestrian crossing will have impacts during construction. 52 dwellings within 50m of both vehicular route and pedestrian crossing. Potential for construction phase dust impact is not significant when mitigation measures are put in place.	Pedestrian crossing will have impacts during construction. 47 dwellings within 50m of pedestrian crossing. Pedestrian crossing will have impacts during construction. Only 1 property within 50m of the vehicular route of operational traffic. Two separate bridges will increase embodied carbon for this option. Potential for construction phase dust impact is not significant when mitigation measures are put in place.	
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.	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	
			Option will have a very significant impact on boundary trees/woodlands, entrance gates and lodge at Ashton (Ashtown) House, a protected structure (No. 690). Lands of Ashton House and the corridor of the Royal Canal west of Longford Bridge are zoned High Amenity and identified as a Nature Development Area in the Fingal Development Plan. Very significant visual impact for setting of 10th Lock on Royal Canal. Significant impact due to removal of roadside tree-lined hedgerows leading to railway - significant impact for Ashtown Stables. Further detail required to for full assessment of likely significant impacts.	Option will have a very significant impact on boundary trees/woodlands, entrance gates and lodge at Ashton (Ashtown) House, a protected structure (No. 690). Lands of Ashton House and the corridor of the Royal Canal west of Longford Bridge are zoned High Amenity and identified as a Nature Development Area in the Fingal Development Plan. Very significant visual impact for setting of 10th Lock on Royal Canal. Significant impact due to removal of roadside tree-lined hedgerows leading to railway - significant impact for Ashtown Stables. Further design detail required for further detailed assessment.	Alignment will have a very significant impact on the landscape character and structure, trees and woodlands of lands between Ashtown Lodge (and its associated lodge) and Coolmine Rugby Club. Alignment will impact existing landscape character of River Road and lands north to the Tolka River. The majority of the lands are laid out in mature parkland with trees, walks and boundary woodland - all of which will be impacted by the alignment. The lands and the corridor of the Royal Canal are zoned High Amenity and identified as a Nature Development Area in the Fingal Development Plan. Tree and Woodland preservation objectives in Fingal Development Plan apply to the lands. Tunnel will have a significant impact on boundary trees/woodlands, entrance gates and setting of lodge at Ashton (Ashtown) House, a protected structure (No. 690). Lands of Ashton House and the corridor of the Royal Canal west of Longford Bridge are zoned High Amenity and identified as a Nature Development Area in the Fingal Development Plan. Side slopes (if proposed) would have significant impact due to removal of roadside tree-lined hedgerows leading to railway - significant impact for Ashtown Stables.	

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a		
3	Environment	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 disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
				Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Demolition of old Mill lane buildings may impact bats further studies would be required.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Demolition of old Mill lane buildings may impact bats. Loss of woodland habitat is anticipated.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Loss of woodland, marsh, treeline and hedgerow habitat is anticipated.
		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	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
			Direct impacts on gate lodge, entrance and demesne associated with Ashton House (RPS 0690). Indirect impacts on mill and outbuildings (RPS 691) and Pelletstown House (structure of architectural merit). Potential indirect impacts on Royal Canal (RPS No. 944a) and the Royal Canal 10th Lock (RPS No. 944b). Potential to encounter archaeological deposits that may survive in undeveloped areas and path of former road way.	Direct impacts on gate lodge, entrance and demesne associated with Ashtown House (RPS No. 0690). Indirect impacts on mill and outbuildings (RPS No. 691) and Pelletstown House (structure of architectural merit). Potential indirect impacts on Royal Canal (RPS No. 944a) and the Royal Canal 10th Lock (RPS No. 944b). Potential to encounter archaeological deposits that may survive in undeveloped areas and path of former road way.	Direct impacts on River Tolka and former demesne landscapes associated with Ashbrook (RPS No. 941) & Ashtown Lodge. Direct impacts on entrance and demesne associated with Ashton House (RPS 690). Indirect impacts on mill and outbuildings (RPS 691) and Pelletstown House (structure of architectural merit). Potential indirect impacts on Royal Canal (RPS No. 944a) and the Royal Canal 10th Lock (RPS No. 944b). Potential to encounter archaeological deposits that may survive in undeveloped areas.		
		3.6	Water Resources	Overall potential significant effects on water resource attributes likely to be affected during construction and operation.	Some comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options
				Underpass excavations pose potential risk to Groundwater quality. Has some comparative disadvantage over other options.	This option has the potential to impact on water quality of the Royal Canal during the construction phase of the overbridge. Has some comparative advantage over other options.	Crossing of Tolka is within floodplain creating potential increase in flood risk to neighbouring lands. Creates potential pathway for pollutants to Tolka River resulting on negative impacts to Water Quality. Underpass excavations also pose potential risk to Groundwater quality. Options 4a is disadvantageous across all sub-criteria and has a significant comparative disadvantage over other options.	

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a	
	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 disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
				The non-agricultural impact will involve the acquisition of one residential property and a commercial property. The agricultural impact will have a profound impact on an equine holding (Ashtown Riding Stables).	The non-agricultural impact will involve the acquisition of one residential property and a commercial property. The agricultural impact will have a profound impact on an equine holding (Ashtown Riding Stables).	The non-agricultural impact will involve the acquisition of one residential property and a commercial property. The agricultural impact will have a profound impact on an equine holding (Ashtown Riding Stables).
	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. 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 disadvantage over other options	Some comparative advantage over other options	Some comparative advantage over other options
Underbridge option means that some materials may arise, which could possibly be suitable for reuse elsewhere on the project (Minor positive). This is balanced by an associated impact of interfering with the canal and existing railway, which may require specific materials be imported. Involves other geotechnical risks to design and construction which would require further studies and design information.				Overbridge options require increased fill import to the site (Minor negative).	Chance of additional earthworks requirements on approach to river to the north (Minor negative) but has not been observed (walkover survey / investigation required) and is possibly unlikely based on available mapping. Option 4A footbridge has higher comparative earthworks needs.	
	3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over 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.	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.	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.
	4.1	Impact on Vulnerable Groups	Impacts on low income groups, non-car owners, mobility impaired, visually impaired and people with a disability.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
				Road traffic diverted distance route is 572m (1.1x diversion route). Local ped/cycle access maintained along ramped access through underpass, ~340m diversion.	Road traffic diverted distance route is 750m (1.4 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 - ~400m diversion	Road traffic diverted distance route is 2.5km (1.4 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 - ~400m diversion

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	Parameter		Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a
4	Accessibility & Social inclusion	4.2	Stations Accessibility	Quantification of increased service levels to the vulnerable groups.	<p>Station Accessibility is addressed for all level crossing options in proximity to a station</p> <p>This option does not significantly affect access to the station</p>	<p>Station Accessibility is addressed for all level crossing options in proximity to a station</p> <p>This option does not significantly affect access to the station</p>	<p>Station Accessibility is addressed for all level crossing options in proximity to a station</p> <p>This option does not significantly affect access to the station</p>
		4.3	Social Inclusion	Service levels impacts including severance of community groups; Severance from community facilities consequent on an option.	<p>This option does not cause community severance.</p> <p>This option does not curtail access to community amenities</p> <p>Diverted distance route is 572m (1.1x diversion route).</p>	<p>This option does not cause community severance.</p> <p>This option does not significantly affect access to community amenities</p> <p>Diverted distance route is 750m (1.4 x diversion route).</p>	<p>Diverted distance route 798m (1.6x diversion route) but existing vehicular route severed.</p> <p>Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Office St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.</p>
		5.1	Rail Safety	Safety for Rail users – removal of Level crossings is considered a significant safety enhancement	Option removes the rail - road interface	Option removes the rail - road interface	Option removes the rail - road interface

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 2	Option 3	Option 4 & 4a	
5	Safety	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 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	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	Significant comparative advantage over other options Diverted distance route is 572m (1.1x diversion route).	Some comparative disadvantage over other options Diverted distance route is 565m (1.1x diversion route) steep gradients on north side of option will be a disadvantage to vulnerable road users.	Some comparative advantage over other options Diverted distance route 798m (1.6x diversion route). With the incorporation of a pedestrian / cycle bridge in this option, any impact on pedestrians, cyclists and vulnerable road users is significantly reduced. Detour ~400m
		6.1	Connectivity to adjoining cycling facilities Analysis of the extent that the scheme connects with cycle tracks.	Significant 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.	Significant 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.	Significant 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.

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Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6	
			<p>This option is considered in combination with Option 4 described with 4 a. and also includes a pedestrian cycle overbridge structure with a 4m wide cross section (Option 4B) over the canal and railway. It include the demolition of the existing cable stayed footbridge at the level crossing and the station footbridge to provide space for the proposed bridge.</p> <p>The proposed bridge would cross the rail and Canal at a level of approximately 50.0m above MSL where the rail is at a level of 44.8m above MSL and the canal at a level of 39.4m above MSL.</p>	<p>This option would involve construction of a new road link parallel to the south of canal before turning northwards and under the rail and canal to connect with Rathborne Avenue to the north of the Canal. This route would descend from the Ashtown Road and run between Ashtown Railway Station and Martin Savage Park residential estate. The route would cross under the railway and canal at right angles before rising in a cutting to join into the existing circulatory roads to the north of the Pelletstown Development. The option can accommodate a cross section of a 6.5m carriageway with 2m footpaths and 1.75m cycle tracks on both sides.</p> <p>The railway is at a level of 42.5m OD and the ground level at the canal is 39.5m OD with this road option lowered to a level of 32.0m OD providing 3.7m clearance. Due to the required levels for tying into the existing road network the normal clearance envelope under the railway would have to be reduced.</p> <p>This option would have the disadvantage that it would not have the necessary design clearance for double decker buses, other higher delivery vehicles and service vehicles that use this route at present. As the option would be in a cutting form most of its length this would be a disadvantage to cyclists, pedestrians and vulnerable road users. The underpass would also require a pumped drainage system.</p>	<p>This option would cross the railway and canal approximately 250m east of the existing level crossing. It incorporates a tightly curves plan layout which facilitates a link to the existing Ashtown road at the train station. The link would traverse the green area between Ashtown Station and Martin Savage Park and would climb to cross over the railway and canal to tie into the new circulation roads through the Pelletstown Development. The option can accommodate a cross section of a 6.5m carriageway with 2m footpaths and 1.75m cycle tracks on both sides.</p> <p>The option would bridge over the railway and canal with approach gradients of 6% either side. The rail level at the crossing is approximately 42.1m above MSL and the canal at 39.3m above MSL with the bridge level over the railway at 50.00m above MSL. The road level crests to a height of 52.0m above MSL, 60m south of the rail line before descending over the rail and canal. The option can be walled or can be constructed with open embankments to provide a softer texture to the scheme. The provision of landscaped embankments would result in a need for more land acquisition.</p> <p>There would also be impacts on Martin Savage park home to St Oliver Plunket's GAA club to the south and would be located within zoned housing development land within the Ashtown - Pelletstown SDZ to the north of the rail line and canal.</p>	

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6		
1	Economy	1.1	Construction and Land Cost	Assessment of cost of construction of option, land costs, acquisition costs and temporary works	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	
					Additional pedestrian / cycle overbridge required in Ashtown. Some realignment and improvement works required on River Road. A two or three span bridge configuration is anticipated here requiring construction activity between the canal and the railway	Construction of the bridge under the train station presents significant engineering challenges. The station structure is supported on piles and the track is supported on the ground. It is considered a section of the train station would need to be demolished and reconstructed to facilitate this option. This option also requires construction in rock below canal level to provide a structure of substandard vertical clearance which would only cater for cars and small commercial vehicles	Construction cost lowest of road bridge options but impact on zoned lands to the north and impact on sports facilities to the south would result in higher costs.
		1.2	Long Term Maintenance costs	Ongoing annual maintenance costs associated with varied options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
					A fixed bridge will reduce maintenance requirements over a level crossing or other mechanical solution. Bridge option would determine overall maintenance costs, 2No. In this case.	There is additional costs for maintenance of a pumped drainage system associated with this option.	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 advantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options
					Some improvement in journey time; potential for induced trips. Journey Time deterioration - 7% on opening vs existing, 19% on opening vs replacement route Traffic diversions in the peak hour - 867 No. 2.1km minimum	Journey Time deterioration - 14% on opening vs existing, 38% on opening vs replacement route Traffic diversions in the peak hour - 867 No. 4.5km minimum	Improvement in journey times; potential for induced trips; potential to increase congestion on surrounding road network as a result of induced traffic.

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6		
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 advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
				Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. Bus services may be impacted as a result of the proposed diversion along the narrow River Road. Cycle track provided.	Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. Bus services may be impacted as a result of headroom restrictions on the proposed route. Slightly more circuitous route for pedestrians & cyclists. Cycle track provided.	Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. There may be severance to existing connectivity on the northern side of the canal and railway as a result of the construction of the required approach ramps. Slightly more circuitous route for pedestrians & cyclists. Cycle track provided.	
		2.2	Land Use Integration	Impact on land use strategies and regional 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 disadvantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
				At local level, the majority Option 4 is located within lands zoned by Fingal DP as "High Amenity". The route travels close to the boundary of the existing Coolmine Rugby Club and could support Fingal DP local map-based Specific Objective 136 "Facilitate pedestrian access from Coolmine Rugby Club grounds over the Canal adjacent to the Phoenix Park Railway Station" However, the introduction of a new road infrastructure in 'High Amenity' zoned land would go against Objective NH51 (FCDP) "Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place".	Option 5 (is similar to 6 and 7), located entirely within the DCDP area. This option is located on lands zoned Z11 'canal, coastal and river amenities' associated with the royal canal and travels along the north edge of the (Z9 zoned) existing Martin Savage Park (GAA pitch). North of the Canal it travels through currently a greenfield site, zoned for residential use in the Pelletstown Action Area Plan 2014. This option goes against the LAP residential zoning however, subject to traffic and design studies it may support the overall future land use and transport planning integration.	Option 6 (is similar to 5 and 7) located entirely within the DCDP area. This option is located on lands zoned Z11 'canal, coastal and river amenities' associated with the royal canal and travels along the north edge of the existing Martin Savage Park (GAA pitch) (Z9 zoned - recreational, amenity and open space). North of the Canal it travels through currently a greenfield site, zoned for residential use in the Pelletstown Action Area Plan 2014. This option goes against the LAP residential zoning.	
		However, in terms of future land use factors. Option 4 could create a direct link into map based objective (LAP13.B - Navan Road Parkway Local Area Plan) and also linking into LAP13.C. Option 4b section would result in a direct pedestrian and cycle access from the station into residential zoned lands associated with Ashtown – Pelletstown LAP 2014. This has some comparative disadvantage due to the impact on zoned high amenity lands.	Option 5 is at some disadvantage due to the impact on the functionality of the GAA/ amenity lands however it is still at a disadvantage due to the negative effects on zoned residential land. (even though it is less than options 6 and 7). On the north side of the canal, Option 5 is routed through a permitted residential development (DCC Ref. 3666/15, ABP ref. PL29N.246373). This option is likely to have an impact on this development.	Option 6 is at some advantage (over option 7) as it will have less of an impact on the functionality of the GAA/ amenity lands however it will also have a disadvantage due to future zoned residential land. On the north side of the canal, Option 6 is routed through a permitted residential development (DCC Ref. 3666/15, ABP ref. PL29N.246373).			

DART+ WEST - MCA Stage 1						
Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6	
	2.3	Geographical Integration	Alternative level crossing options are mostly neutral in respect of Geographical Integration due to localised nature of the level crossings.	Comparable to other options	Comparable to other options	Comparable to other options
			No significant effect on geographical integration.	No significant effect on geographical integration.	No significant effect on geographical integration.	
	2.4	Other Government Policy Integration	Integration with the other Government policy such as the NPF and RSES.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative advantage over other options
			This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, 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, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options
			Operational traffic impacts only affects 2 dwellings. Pedestrian crossing will have impacts during construction. 148 dwellings within 100m of both vehicular route and pedestrian crossing. 2 properties within 100m of the vehicular route.	Moves traffic to rear of apt block from current road layout. This option will introduce additional noise to the rear apartments while also decreasing road traffic noise levels to the apartments currently facing the front of the apartment block. Construction phase is potentially more significant than Option 6 due to greater excavation required. 119 dwellings within 100m.	Moves traffic to rear of apt block from current road layout. This option will introduce additional noise to the rear apartments while also decreasing road traffic noise levels to the apartments currently facing the front of the apartment block. Construction phase is potentially less significant than Option 5 due to lesser excavation required. 220 dwellings within 100m.	

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6	
3.2	Air Quality and Climate	Estimated number of number of receptors within 50m reviewed as part of appraisal. Options closer to more sensitive locations will have an increased risk of changes in air quality during construction or operational phases. However, qualitative criteria are also used where necessary to differentiate between the options.	Some comparative advantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over other options	
			<p>Pedestrian crossing will have impacts during construction. 31 dwellings within 50m of pedestrian crossing. Pedestrian crossing will have impacts during construction. Only 1 property within 50m of the vehicular route of operational traffic. Two separate bridges will increase embodied carbon for this option. Potential for construction phase dust impact is not significant when mitigation measures are put in place.</p>	<p>22 dwellings within 50m. Moves traffic to rear of apt block from current road layout. Potential for construction phase dust impact is not significant when mitigation measures are put in place.</p>	<p>Moves traffic to new route away from current route and therefore impacts on properties. 91 dwellings within 50m. This option also brings additional traffic to proximity of a school (highly sensitive receptor). Potential for construction phase dust impact is not significant when mitigation measures are put in place.</p>	
3.3	Landscape and Visual (including light)	<p>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.</p>	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options	
			<p>Alignment will have a very significant impact on the landscape character and structure, trees and woodlands of lands between Ashtown Lodge (and its associated lodge) and Coolmine Rugby Club. Alignment will impact existing landscape character of River Road and lands north to the Tolka River. The majority of the lands are laid out in mature parkland with trees, walks, and boundary woodland all of which will be impacted by the alignment. The lands and the corridor of the Royal Canal are zoned High Amenity and identified as a Nature Development Area in the Fingal Development Plan. Tree and Woodland preservation objectives in Fingal Development Plan apply to the lands. Pedestrian/cycle bridge will have a significant impact on trees/hedgerows along the royal canal and on open space north of Martin Savage Park. The bridge overswings the canal in a visually incongruous manner. Royal canal corridor is a conservation area in the Dublin City Development Plan. Lands south of the canal are zoned open space (Z9) for the protection, provision and improvement of recreational amenity, open space and green networks.</p>	<p>Option cuts through a permitted residential development on north side of canal - with very significant implications for the permitted layout (DCC Ref. 3666/15, ABP ref. PL29N.246373). Option will have a significant impact on boundary trees/hedgerows along the railway / canal corridor (a conservation area in the Dublin City Development Plan). Option will have a significant impact on open space at Martin Savage Park, including on Oliver Plunket's GAA pitches. Option will have very significant visual impact for properties at the north end of Martin Savage Park and for users of the Royal Canal. NOTE: Further design detail provided for full assessment of likely impact. Note: Option cuts through a permitted residential development on north side of canal - with very significant implications for the permitted layout (DCC Ref. 3666/15, ABP ref. PL29N.246373 - Active planning application 2596/20)</p>	<p>Option will have a significant impact on boundary trees/hedgerows along the railway / canal corridor (a conservation area in the Dublin City Development Plan). Option will have a very significant impact on open space and Oliver Plunket's GAA club/pitches at Martin Savage Park. Options would have a very significant impact on mature tree-lined hedgerow and linear open space between the established residential developments of Kempton Green and Ashbrook. NOTE: Option cuts through a permitted residential development on north side of canal - with very significant implications for the permitted layout (DCC Ref. 3666/15, ABP ref. PL29N.246373 - Active planning application 2596/20) Option will have very significant visual impact for properties at Ashbrook, Kempton Green, and for users of Martin Savage Open Space and the Royal Canal.</p>	

DART+ WEST - MCA Stage 1							
Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6		
3	Environment	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 disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
				Potential compliance/conflict with biodiversity objectives; Indirect impacts on protected species, designated sites; Overall effect on nature conservation resource.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Loss of woodland, marsh, treeline and hedgerow habitat is anticipated.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Disturbance to Light-bellied Brent Goose (Qualifying Interest of SPAs) which are known to forage in significant numbers at Ashtown Playing Pitches. Habitat loss.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Permanent loss of habitat and disturbance to Light-bellied Brent Goose (Qualifying Interest of SPAs) which are known forage in significant numbers at Ashtown Playing Pitches.
		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	Some comparative advantage over other options	Some comparative advantage over other options
			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)	Direct impacts on River Tolka and former demesne landscapes associated with Ashbrook (RPS No. 941) & Ashtown Lodge. Potential for indirect impacts on the Royal Canal (RPS No. 944a). Potential to encounter on archaeological deposits that may survive in undeveloped areas.	Potential for indirect impacts on the Royal Canal (RPS No. 944a). Potential to encounter archaeological deposits that may survive within undeveloped areas.	Potential for indirect impacts on the Royal Canal (RPS No. 944a). Potential to encounter archaeological deposits that may survive within undeveloped areas.	
		3.6	Water Resources	Overall potential significant effects on water resource attributes likely to be affected during construction and operation.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative advantage over other options
				Overall potential significant effects on water resource attributes likely to be affected during construction and operation.	Crossing of Tolka is within floodplain creating potential increase in flood risk to neighbouring lands. Creates potential pathway for pollutants to Tolka River resulting on negative impacts to Water Quality. Options 4b has some comparative disadvantage over other options.	Underpass excavations pose potential risk to Groundwater quality. Has some comparative disadvantage over other options.	This option has the potential to impact on water quality of the Royal Canal during the construction phase of the overbridge. Has some comparative advantage over other options.

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6	
	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.	Some comparative advantage over other options	Some comparative advantage over other options	Some comparative disadvantage over other options
				Direct impacts on non-agricultural property include impacts to property curtilage (garden) and community / amenity lands. Minor direct impact on agricultural property.	Direct impact on green area between Ashtown railway station and Martin Savage Park and development lands north of the canal.	Option 6 will have direct impacts on amenity lands with a significant impact on the use of one sports pitch (St. Oliver Plunkett GAA club).
	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. 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	Some comparative advantage over other options	Some comparative disadvantage over other options
Chance of additional earthworks requirements on approach to river to the north (Minor negative) but has not been observed (walkover survey / investigation required).				Overbridge options require increased fill import to the site (Minor negative).	Some made ground on-site (requires walkover survey / investigation). Overbridge options require increased fill import to the site (Minor negative).	
	3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	Some comparative disadvantage over other options	Some comparative disadvantage over other options	Some comparative disadvantage over 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.	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.	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.
	4.1	Impact on Vulnerable Groups	Impacts on low income groups, non-car owners, mobility impaired, visually impaired and people with a disability.	Significant comparative advantage over other options	Significant comparative advantage over other options	Some comparative advantage over other options
				Road traffic diverted distance route is 2.5km (1.4 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 - ~400m diversion	Diverted distance route is 450m (1.0x diversion route).	Diverted distance route is 650m (1.4 x diversion route).

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6		
4	Accessibility & Social inclusion	4.2	Stations Accessibility	Quantification of increased service levels to the vulnerable groups.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant 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	Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station	Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station
		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 route 798m (1.6x diversion route) but existing vehicular route severed. Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Oddice St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.	Significant comparative advantage over other options This option does not cause community severance. This option does not curtail access to community amenities Diverted distance route is 450m (1.0 x diversion route).	Some comparative disadvantage over other options This option does not cause community severance. This option does not curtail access to community amenities Diverted distance route is 650m (1.4 x diversion route).
	Rail Safety	5.1	Rail Safety	Safety for Rail users – removal of Level crossings is considered a significant safety enhancement Option removes the rail - road interface	Significant comparative advantage over other options	Significant comparative disadvantage over other options	Significant comparative advantage over other options
					Option removes the rail - road interface	Option removes the rail - road interface. Limited clearance underbridge poses potential hazard to structure and in turn rail users if a bridge strike occurs.	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

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 4 & 4b	Option 5	Option 6	
5	Safety	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 advantage over other options Providing a segregated crossing would have a significant advantage as vehicular traffic is not crossing the live rail	Significant comparative disadvantage over other options Providing a segregated crossing would have a significant advantage as vehicular traffic is not crossing the live rail. Limited clearance underbridge poses potential hazard to high vehicles and their occupants.	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 Diverted distance route is 798m (1.6x diversion route). With the incorporation of a pedestrian / cycle bridge in this option, any impact on pedestrians, cyclists and vulnerable road users is significantly reduced. Detour ~400m	Some comparative disadvantage over other options Diverted distance route is 821m (1.6x diversion route).	Some comparative disadvantage over other options Diverted distance route is 1.1km (2x diversion route).
		6.1	Connectivity to adjoining cycling facilities Analysis of the extent that the scheme connects with cycle tracks.	Significant 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.	Significant 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.	Significant 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.

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9	
			<p>This option would involve the construction of a new road in front of Kempton Gardens from the Navan Road and a new bridge over the canal and railway accommodating a cross section of a 6.5m carriageway with 2m footpaths and 1.75m cycle tracks on both sides.</p> <p>The option would bridge over the railway and canal with approach gradients of 6% either side. The rail level at the crossing is approximately 42.1m above MSL and the canal at 39.3m above MSL with the bridge level over the railway at 50.00m above MSL. The road level crests to a height of 52.0m above MSL, 60m south of the rail line before descending over the rail and canal.</p> <p>The route would then tie into the new circulation roads through the Pelletstown Development to the north of the canal. Separate 4m wide shared space cycle and pedestrian facilities to be provided both north of south of the canal linking from Ashtown Road to the proposed option.</p> <p>This option will have impacts on the residents of Kempton Gardens. Furthermore, it would require the construction of a significant new junction on the Navan Road. There would also be impacts on Martin Savage park home to St Oliver Plunket's GAA club to the south and would be located within zoned housing development land within the Ashtown - Pelletstown SDZ to the north of the rail line and canal.</p> <p>The option can be walled or can be constructed with open embankments to provide a softer texture to the scheme. The provision of landscaped embankments would result in a need for more land acquisition.</p>	<p>This option includes the provision of a new pedestrian and cycle bridge at 5.0m in width only. The bridge provides a connection between Ashtown road south of the level crossing and a proposed platform between the canal and the railway. The arrangement of the bridge utilises ramps parallel to and to the rear of the station platform rising to the east before turning perpendicular to the track to cross the railway.</p> <p>The rail level at the crossing is approximately 42.1m above MSL and the canal at 39.3m above MSL with the bridge level over the railway at 50.00m above MSL. The ramps on either side of the bridge will not exceed 5% gradient.</p> <p>Separate pedestrian stairs could be provided with this option as well to ease pedestrian access and rails for pushing cycle on if required.</p> <p>Constraints on bridge crossing here include the train station, the Royal Canal, the listed railway structures, and the canal bridge. Vehicular traffic will need to divert around the crossing, the diversion being an estimated 4.3km.</p>	<p>This option provides for lowering the existing railway sufficient to allow the railway pass under a bridge constructed at the level of the existing level crossing. This option would require limited road infrastructure works but would require the existing railway to be lowered over a length of approximately 2km centred on the existing level crossing. The railway would require lowering below the existing water level of the canal downstream of the level crossing. It would require demolition and reconstruction of the train station at a lower level - below canal water level. The canal would need to be channelised or relined. The existing protected canal bridge and locks would likely need to be demolished. The canal would most likely need to be lowered west of the existing level crossing over a length of approximately 1km with the associated construction of locks to facilitate changes in level.2</p>	

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9		
1	Economy	1.1	Construction and Land Cost Assessment of cost of construction of option, land costs, acquisition costs and temporary works	Significant comparative disadvantage over other options	Some comparative advantage over other options	Significant comparative disadvantage over other options	
				Construction costs higher than option 6 and greater impact on lands north and south would result in higher costs.	The costs for this option include the fixed pedestrian and cycle bridge over the canal and railway with associated ramps, turning facilities and set down facilities and associated land acquisition costs. There is no road bridge associated with this option.	The cost and disruption of a scheme of this nature would be unsustainable and unjustifiable in comparison to other options available. It is proposed to discard this option without further consideration.	
		1.2	Long Term Maintenance costs Ongoing annual maintenance costs associated with varied options	Some comparative advantage over other options	Some comparative advantage over other options	Significant 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	A pedestrian/cyclist overbridge would require minimal maintenance in short term with regular inspections and remedial works in the long term. The long term maintenance low compared to other options.	In dropping the railway adjacent to the canal a new drainage system will be needed which is likely to be sealed and pumped. In addition the earth retaining structure required over the full length of the proposed cut will require maintenance	
		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 advantage over other options	Significant comparative disadvantage over other options	Some comparative advantage over other options	
				Improvement in journey times; potential for induced trips; potential to increase congestion on Navan Road at proposed new junction.	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 - 867 vehicles AM peak hour and 705 vehicles PM peak hour. Additional traffic delay will result along adjacent access routes - 18% AM peak hour and 12% PM peak hour. Benchmark journey times will increase by up to 38%,	Improvement in journey times; potential for induced trips; potential to increase congestion at Ashtown Roundabout as a result of induced traffic.	

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Ashtown Level Crossing Assessment							
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9		
2	Integration	2.1	Transport Integration	<p>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.</p>	<p>Some comparative disadvantage over other options</p> <p>Improved interchange between modes, subject to satisfactory access to train station platforms. General reduction in journey times. There may be severance to existing connectivity on the northern side of the canal and railway as a result of the construction of the required approach ramps. Cycle track provided</p>	<p>Significant comparative disadvantage over other options</p> <p>This option reduces the scope for interaction between modes of transport in comparison to all other options</p>	<p>Some comparative disadvantage over other options</p> <p>General reduction in journey times. Disimproved interchange between modes - Ramp/steps and/or elevator required for access to platforms. Not explicitly stated if cycle track is provided on new bridge, but tie-in with existing bridge would suggest not.</p>
		2.2	Land Use Integration	<p>Impact on land use strategies and regional and local plans. Assessment of support for land use factors local land use and planning. Inclusion of project in relevant local planning documents.</p>	<p>Significant comparative disadvantage over other options</p> <p>Option 7 (is similar to 5 and 6) and is located entirely within the DCDP area. This option is located on lands zoned Z11 'canal, coastal and river amenities' associated with the royal canal and travels through Zoned Z9 (associated with Amenity, Open Space, Green Network) associate with the existing Martin Savage Park (GAA pitch). North of the Canal it travels through currently a greenfield site, zoned residential in the Pelletstown Action Area Plan 2014.</p> <p>This option would go against the LAP. Option 7 is more disadvantageous than 5 and 6 due to impact on the continued functionality of the GAA/ amenity lands, larger area of zoned residential land impacted and impacts to residential amenity.</p> <p>On the north side of the canal, Option 6 is routed through a permitted residential development (DCC Ref. 3666/15, ABP ref. PL29N.246373). This option will impact on this permitted development.</p>	<p>Some comparative disadvantage over other options</p> <p>Option 8 is located entirely within the DCDP area. Option 8 is located within lands zoned for Z9 (Amenity, Open Space, Green Network) and Z11 (canal, coastal and river amenities) associated with the Royal Canal. Option 8 provides walking and cycling access only which would impact vehicular connectivity to existing and future developments. The GDATS includes an objective to enhance linkages to planned developments.</p>	<p>Some comparative advantage over other options</p> <p>Upgrades the Irish Rail's railway infrastructure. No direct impacts to planning policy/ zoned lands.</p>

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Ashtown Level Crossing Assessment							
Parameter		Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9	
	2.3	Geographical Integration	Alternative level crossing options are mostly neutral in respect of Geographical Integration due to localised nature of the level crossings.	Comparable to other options	Comparable to other options	Comparable to other options	
				No significant effect on geographical integration.	No significant effect on geographical integration.	No significant effect on geographical integration.	
	2.4	Other Government Policy Integration	Integration with the other Government policy such as the NPF and RSES.	Significant comparative advantage over other options	Significant comparative advantage over other options	Some comparative advantage over other options	
				This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy).	This option supports the delivery of the higher level national and regional planning policies regarding the DART Expansion programme (NPF, RSES, GDA Transport Strategy). No cycling infrastructure provided.	
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, qualitative criteria are also used where necessary to differentiate between the options.	Significant comparative disadvantage over other options	Significant comparative advantage over other options	Some comparative disadvantage over other options		
			Moves traffic to new route away from current route and therefore introduces traffic - related impacts on other properties. 316 properties within 100m.	Pedestrian crossing will have impacts during construction. 147 dwellings within 100m of both vehicular route and pedestrian crossing. Traffic is removed in during the operational phase.	The construction stage impacts of this option are potentially significant on a greater number of properties due to the 2km extent either side. Operational noise impacts are not expected to change compared to the Do Nothing scenario.		

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9	
	3.2	Air Quality and Climate	<p>Estimated number of number of receptors within 50m reviewed as part of appraisal. Options closer to more sensitive locations will have an increased risk of changes in air quality during construction or operational phases. However, qualitative criteria are also used where necessary to differentiate between the options.</p>	<p>Some comparative disadvantage over other options</p> <p>Moves traffic to new route away from current route and therefore impacts on properties. 85 100 properties within 50m. Additional road infrastructure would increase embodied carbon for this option. Potential for construction phase dust impact is not significant when mitigation measures are put in place.</p>	<p>Some comparative advantage over other options</p> <p>Pedestrian crossing will have impacts during construction. 30 dwellings within 50m of pedestrian crossing with only construction phase impacts. Potential for construction phase dust impact is not significant when mitigation measures are put in place. Traffic is diverted onto the local road network during the operational phase. Traffic requires rerouting a significant distance however traffic redistribution has not been considered.</p>	<p>Significant comparative disadvantage over other options</p> <p>The construction stage impacts of this option are potentially significant on a greater number of properties due to the 2km extent either side. The construction phase is also likely to have a great embodied energy. Potential for construction phase dust impact is not significant when mitigation measures are put in place.</p>
	3.3	Landscape and Visual (including light)	<p>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.</p>	<p>Significant comparative disadvantage over other options</p> <p>Option will have a significant visual impact along the canal corridor and for users of the canal (a conservation area in the Dublin City Development Plan). Option will have a very significant impact on open space and sports pitches at Martin Savage Park. Option will have very significant visual impact for properties at the north end of Martin Savage Open Space. Note: Option cuts through a permitted residential development on north side of canal - with very significant implications for the permitted layout (DCC Ref. 3666/15, ABP ref. PL29N.246373 - Active planning application 2596/20).</p>	<p>Some comparative advantage over other options</p> <p>The bridge overswings the canal in a visually incongruous manner. Royal canal corridor is identified as a conservation area in the Dublin City Development Plan. Lands south of the canal are zoned open space (Z9) for the protection, provision and improvement of recreational amenity, open space and green networks.</p>	<p>Significant comparative disadvantage over other options</p> <p>Significant loss of trees and vegetation along canal and railway corridor. Visual impact for properties along lowered railway / works areas.</p>

DART+ WEST - MCA Stage 1							
Ashtown Level Crossing Assessment							
	Parameter		Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9
3	Environment	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.	Significant comparative disadvantage over other options	Some comparative disadvantage over other options	Significant comparative disadvantage over other options
					This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is potential for impacts to Royal Canal pNHA arising from noise, artificial lighting and impacts to water quality during construction. Permanent loss of habitat and disturbance to Light-bellied Brent Goose (Qualifying Interests of SPAs) which are known to forage in significant numbers at Ashtown Playing Pitches.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for construction and operational stage impacts to Royal Canal pNHA arising from noise and artificial lighting. During the construction stages water quality in the canal could be significantly impacted during the dewatering required for the channelisation and realignment and lowering of the canal in addition to the demolition of the canal bridge and locks. Works within the canal could impact fish and native white-clawed crayfish which will have to be taken from the water in advance of the works. Demolition works could also disturb and displace fauna.	This option is hydrologically connected to European sites downstream in the Tolka Estuary and Dublin Bay. There is no risk of Likely Significant Effects to this or any other European site. There is potential for construction and operational stage impacts to Royal Canal pNHA arising from noise and artificial lighting. During the construction stages water quality in the canal could be significantly impacted during the dewatering required for the channelisation and realignment and lowering of the canal in addition to the demolition of the canal bridge and locks. Works within the canal could impact fish and native white-clawed crayfish which will have to be taken from the water in advance of the works. Demolition works could also disturb and displace fauna.
		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)	Some comparative disadvantage over other options	Significant comparative disadvantage over other options	Significant comparative disadvantage over other options
					Indirect impacts on Longford Bridge (RPS No. 693). Potential for indirect impacts to the Royal Canal (RPS No. 944a) and setting of protected structures in the area. Potential to encounter archaeological deposits that may survive within undeveloped areas.	Potential for indirect impacts to Longford Bridge (RPS No. 693), the Royal Canal (RPS No. 944a) and the Royal Canal 10th Lock (RPS No. 944b). Potential to encounter archaeological deposits that may survive within undeveloped areas.	Potential direct impacts on Royal Canal (RPS No. 944a) and the Royal Canal 10th Lock (RPS No. 944b).
		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	Some comparative advantage over other options	Significant comparative disadvantage over other options
					This option has the potential to impact on water quality of the Royal Canal during the construction phase of the overbridge. Has some comparative advantage over other options.	Construction works for this option are adjacent to the Royal Canal and has the potential for minor impact on surface water quality during construction. This option however, removes vehicular traffic born pollutants and minimal construction phase.	The in-stream works required constitute a flood hazard and is significantly disadvantageous compared to the other options. The construction works within the Royal Canal proposed as part of Option 9 is likely to have a significant negative impact on Surface water quality. Excavations required for lowering of the railway vertical alignment also pose potential risk to Groundwater quality. Option is disadvantageous across all water sub-criteria and has a significant comparative disadvantage.

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Ashtown Level Crossing Assessment						
Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9	
	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 disadvantage over other options Option 7 will have direct impacts on amenity lands with a significant effect on the use of two sports pitches (St. Oliver Plunkett GAA club).	Significant comparative advantage over other options Option 8 will have a direct impact on a green area between Ashtown railway station and Martin Savage Park.	Some comparative advantage over other options Option 9 will involve direct non-agricultural impacts on the existing Ashtown train station which is proposed to be demolished and then reconstructed. The remaining works will occur within the confines of existing railway corridor therefore no significant impacts.
	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. 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 disadvantage over other options Some made ground on-site (requires walkover survey / investigation). Overbridge options require increased fill import to the site (Minor negative). This option appears to have the highest earthworks needs.	Significant comparative advantage over other options Chance of additional earthworks requirements on approach to river to the north (Minor negative) walkover survey / investigation required.	Significant comparative disadvantage over other options Although overbridge and approach roads construction requires less fill import to the site, the arisings from the railway lowering are much more likely to include ground contamination (considered medium to high risk, subject to further investigation). No pits or quarries are present. Comparative disadvantage is due to likelihood of ground contamination and more extensive length of works interfacing the canal.
	3.9	Radiation and Stray Current	Overall likely impact on existing sources of electromagnetic radiation.	Some comparative disadvantage over 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.	Some comparative disadvantage over 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.	Some comparative disadvantage over 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.
	4.1	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 Diverted distance route is 650m (1.4 x diversion route).	Significant comparative advantage over other options Road traffic diverted distance route is 4.3km (10 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 - ~400m diversion	Significant comparative advantage over other options Original Distance roundabout to roundabout 500m retained.

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	Parameter		Criteria	Sub-Criteria (Quantitative/ Qualitative)	Option 7	Option 8	Option 9
4	Accessibility & Social inclusion	4.2	Stations Accessibility	Quantification of increased service levels to the vulnerable groups.	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant 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	Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station	Station Accessibility is addressed for all level crossing options in proximity to a station This option does not significantly affect access to the station
		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	Significant comparative disadvantage over other options	Significant comparative advantage over other options
					This option does not cause community severance. This option does not curtail access to community amenities Diverted distance route is 650m (1.4 x diversion route).	Diverted distance for vehicular traffic 4.3km (10 x diversion route), proposed pedestrian / cycle bridge maintains local non vehicular access. Community facilities affected by reduced access include Shopping facilities, Giraffe Childcare, Pelletstown Educate Together National School - North of the railway and Halfway House, Ashtown Post Oddice St Dominics College, Meaghers Pharmacy, Daughters of Charity - south of the railway.	This option does not cause community severance. This option does not affect access to community amenities
5.1	Rail Safety	Safety for Rail users – removal of Level crossings is considered a significant safety enhancement	Significant comparative advantage over other options	Significant comparative advantage over other options	Significant comparative disadvantage over 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	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	This option removes the railway level crossing, a characteristic which is considered positive from the perspective of railway safety. This option has significant and prolongues impact on the live railway during construction.		

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Parameter	Criteria	Sub-Criteria (Quantitative/Qualitative)	Option 7	Option 8	Option 9	
5	Safety	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 advantage over other options Providing a segregated crossing would have a significant advantage as vehicular traffic is not crossing the live rail	Significant comparative disadvantage over other options This option closes the level crossing - removes a significant hazard to transport users; This option will result in traffic diversions of up to 4.3km and increased congestion on the local road network. This option incorporates good segregation for pedestrians, cyclists and cars from railway traffic.	Significant comparative advantage over other options This option closes the level crossing - removes a significant hazard to transport users; This option will not significantly divert traffic. This option incorporates good segregation for pedestrians, cyclists and cars from railway traffic.
		5.3	Pedestrian, Cyclist and Vulnerable Road user Safety Quality of Access for these road users. removal of interfaces	Some comparative disadvantage over other options Diverted distance route is 974m (1.9x diversion route).	Some comparative disadvantage over other options This option removes the level crossing. It replaces pedestrian and cycle access with a pedestrian cycle bridge. Other vulnerable road users are diverted onto the existing road network. Diverted road users will be required to negotiate up to 6No additional junctions including traffic light junctions and roundabouts, typically turning left travelling southbound, right if travelling northbound. This options does not provide for segregation on the diversion routes for vulnerable road users.	Significant comparative advantage over other options This option closes the level crossing. It provides a new link along approximately the same line as the original; The junction strategy for vulnerable road users is unaffected by this option; This option incorporates good segregation for pedestrians, cyclists and cars from railway traffic.
	6.1	Connectivity to adjoining cycling facilities	Analysis of the extent that the scheme connects with cycle tracks.	Significant 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.	Significant 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.	Significant 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.
				Significant 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.	Significant 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.	Significant 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.

