Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
1. Economy - The impacts of a transport investment on economic growth and competitiveness	Capital Expenditure (CAPEX): construction, land acquisition, temporary works.	This sub-criteria considered cost of construction, land cost and temporary works cost of each option. A high-level cost estimate was prepared for each option (including potential land acquisitions (permanent and temporary, zoned or un-zoned land). The lowest cost option was preferable to higher cost options.	Construction Costs - Some Comparative Disadvantage over Other Options Potential interference with property rights - Commentary Generally there are no permanent works required outside of IE's property boundary up to the SCR (on the west). Although it is noted that the works are right up to the property boundary on the south (consistent with the existing situation). The main focus of permanent works is in respect of the public road tie ins (especially western side along Con Colbert Road) and the SCR junction roads themselves. Same extent of permanent works and potential interference with property rights as Option 7. There may be temporary interference of property rights during construction along the rail corridor and works to the roads however technical and construction related solutions will seek to minimise these.	Construction Costs - Significant Comparative Disadvantage over Other Options Potential interference with property rights- Commentary Similar permanent works to Option 2 but risk of permanent works affecting the end terrace at SCR to account for raised road levels. Same extent of permanent works and potential interference with property rights as Option 8. There may be temporary interference of property rights during construction along the rail corridor and works to the roads however technical and construction related solutions will seek to minimise these. Similar temporary works to Option 2 but risk of permanent works / permanent land take affecting the end terrace at SCR in account for raised levels in road. Same temporary works / land take as Option 8. Possible compound and crane location at track level to the NW side of the bridge	Construction Costs - Significant Comparative Advantage over Other Options Option with the lowest cost, by a significant margin by virtue of less land take, less traffic disruption and less overall capital cost requirement. Potential interference with property rights - Commentary Generally there are no permanent works required in respect of increasing the track nos. outside of IE's property boundary up to the SCR (on the west). Although it is noted that the works are right up to the property boundary on the south (consistent with existing situation). The main focus of permanent works in respect of the public road tie ins (especially western side along Con Colbert Road) and the SCR junction roads themselves. There is Somely less permanent works within the junction itself - focused more on the south side. There may be temporary interference of property rights during construction along the rail corridor and works to the roads however technical and construction related solutions will seek to minimise these.	Construction Costs - Some Comparative Disadvantage over Other Options Significantly more expensive than Option 6, but Somely better than Options 4 and 8. Potential interference with property rights - Commentary Generally there are no permanent works required in respect of increasing the track nos. outside of IE's property boundary up to the SCR (on the west). Although it is noted that the works are right up to the property boundary on the south (consistent with existing situation). The main focus of permanent works is in respect of the public road tie ins (especially western side along Con Colbert Road) and the SCR junction roads. Similar extent of permanent works and potential interference with property rights as There may be temporary interference of property rights during construction along the rail corridor and works to the roads however technical and construction related solutions will seek to minimise these.	Construction Costs - Significant Comparative Disadvantage over Other Options Significantly more expensive that Option 6, more expensive than Option 2 and 7 by a lower margin. Potential interference with property rights - Commentary Similar permanent works to Option 2 but risk of permanent works affecting the end terrace at SCR to account for raised road levels (Similar to Option 4). Same extent of permanent works and potential interference with property rights as Option 4. There may be temporary interference of property rights during construction along the rail corridor and works to the roads however technical and construction related solutions will seek to minimise these.
1. Economy - The impacts of a transport	OPEX: maintenance costs, operational costs (IE or other entities), Technology advancement and future proofing / obsolescence	This sub-criteria considered long term maintenance costs. The option with less risk for long term maintenance issues (and hence cost) was preferable options with greater risk of long-term maintenance issues.	Some Comparative Disadvantage over Other Options Bridge bearings replacement every 25-50 years and bridge joint maintenance costs.	Some Comparative Advantage over other Options Typical maintenance requirements.	Some Comparative Advantage over other Options Typical maintenance requirements.	Some Comparative Disadvantage over other Options Bridge bearings replacement every 25-50 years and bridge joint maintenance costs.	Some Comparative Advantage over other Options Typical maintenance requirements.

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
investment on economic growth and competitiveness.	Train Operations Functionality/Economic Benefit	The option which resulted in a lower risk of interruption was preferable to options with a higher risk on operations.	Some Comparative Advantage over Other Options Somely smoother gradient than Option 6, position of cross-overs (relevant for operation between Inchicore and Heuston) also Some advantage compared to Option 6	Some Comparative Advantage over Other Options Somely smoother gradient than Option 6, position of cross-overs (relevant for operation between Inchicore and Heuston) also Some advantage compared to Option 6	Some Comparative Disadvantage over Other Options Somely steeper gradient than Other Options, position of cross-overs (relevant for operation between Inchicore and Heuston) also Some disadvantage compared to other options	Some Comparative Advantage over Other Options Somely smoother gradient than Option 6, position of cross-overs (relevant for operation between Inchicore and Heuston) also Some advantage compared to Option 6	Some Comparative Advantage over Other Options Somely smoother gradient than Option 6, position of cross-overs (relevant for operation between Inchicore and Heuston) also Some advantage compared to Option 6
	Traffic functionality: Potential impacts for vehicular traffic and associated economic activities and opportunities.	The option with shorter traffic disruption/diversions was preferable to options with longer disruption/diversions.	Significant Comparative Disadvantage over Other Options As this option does not allow for phased construction (requiring the removal of the entire bridge) it would result in significant disruption and diversions. This would have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore) but also strategically in the context of the wider transport network. Same as option 7.	Some Comparative Disadvantage over Other Options As this option allows for phased construction and while disruption and diversions will still have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore), strategically in the context of the wider transport network access can still be maintained as part of a construction management plan. Similar to Option 8.	Some Comparative Advantage over Other Options This option allows for phased construction in localised small areas where piling can be done on both sides, then the deck is built on top and the area is filled and pavement reinstated. This allows traffic to continue throughout construction with local diversions. The Some advantage over Options 4 and 8 is due to the fact that this stage (surface construction of piled wall and slab) can be of less duration than the two main phases of Options 4 and 8.	Significant Comparative Disadvantage over Other Options As this option does not allow for phased construction (requiring the removal of the entire bridge) it would result in significant disruption and diversions. This would have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore) but also strategically in the context of the wider transport network. Same as option 2.	Some Comparative Disadvantage over Other Options As this option allows for phased construction and while disruption and diversions will still have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore), strategically in the context of the wider transport network access can still be maintained as part of a construction management plan. Similar to Option 4.
	Urban regeneration	The option with greater potential to contribute to future urban regeneration was preferable.	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral
	Summary Evaluation		**Some Comparative Disadvantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Significant Comparative Advantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Significant Comparative Disadvantage over Other Options**

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
2. Integration - Integration considers the extent to which the options being evaluated promotes integration with other transportation networks and infrastructure and is compatible with Government policies, including national spatial and local planning policy	Transport integration	The option which maximises integration with other existing and proposed transportation networks, infrastructure and services was preferable to other options.	Comparable to Other Options / Neutral Current situation to be reinstated after construction therefore no Operation changes to transportation integration.	Comparable to Other Options / Neutral Current situation to be reinstated after construction therefore no Operation changes to transportation integration.	Comparable to Other Options / Neutral Current situation to be reinstated after construction therefore no Operation changes to transportation integration.	Comparable to Other Options / Neutral Current situation to be reinstated after construction therefore no Operation changes to transportation integration.	Comparable to Other Options / Neutral Current situation to be reinstated after construction therefore no Operation changes to transportation integration.
	Land use integration	The option with greater consistency and compliance with planning policy was preferable to others.	Comparable to Other Options All options are supported by the national and regional planning policy context. •NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 •EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5. At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(I) and MTO5. It also facilitates BusConnects.	Comparable to Other Options / Neutral All options are supported by the national and regional planning policy context. •NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 •EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5. At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MTO5. It also facilitates BusConnects.	Comparable to Other Options / Neutral All options are supported by the national and regional planning policy context. •NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 •EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5. At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MTO5. It also facilitates BusConnects.	Comparable to Other Options / Neutral All options are supported by the national and regional planning policy context. •NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 •EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5. At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MTO5. It also facilitates BusConnects.	Comparable to Other Options / Neutral All options are supported by the national and regional planning policy context. •NPF: National Strategic Outcome - NSO1, NSO4 and NSO8 •EMRA RSES / MASP: Policy Objective RPO8.8 (Table 8.2); Sustainable Transport Objective RPO5. At local level, the Dublin City Development Plan 2016 -2022 supports the development of the DART + Programme project under Objective MT4, MT3, MT6(i) and MTO5. It also facilitates BusConnects.
	Geographical Integration	The option which minimises disruption and accessibility during construction was preferable.	Significant Disadvantage compared to Other Options As this option does not allow for phased construction (requiring the removal of the entire bridge) it would result in significant disruption and diversions. This would have significant potential impact locally in terms of the users immediately around the junction, business in the area (in particular Kilmainham) but also strategically in the context of the wider transport network. Same as option 7.	Some Comparative Disadvantage over Other Options As this option allows for phased construction and while disruption and diversions will still have significant potential impact locally in terms of the users immediately around the junction, business in the area (in particular Inchicore), strategically in the context of the wider transport network access can still be maintained as part of a construction management plan. Similar to Option 8.	Some Comparative Advantage over Other Options This option allows for phased construction in localised small areas where piling can be done on both sides and filled over local. At a later date opened up and precast deck slabs could be set on top with the area reinstated. This allows traffic to continue throughout construction with more localised diversions. The Some advantage over Options 4 and 8 is due to potentially shorter duration of construction impact on road users.	Significant Comparative Disadvantage over Other Options As this option does not allow for phased construction (requiring the removal of the entire bridge) it would result in significant disruption and diversions. This would have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore) but also strategically in the context of the wider transport network. Similar to option 2 with minor additional road works just west of bridge.	Some Comparative Disadvantage over Other Options As this option allows for phased construction and while disruption and diversions will still have significant potential impact locally in terms of the uses immediately around the junction, business in the area (in particular Inchicore), strategically in the context of the wider transport network access can still be maintained as part of a construction management plan. Similar to option 4 with minor additional road works just west of bridge.
	her government po	The option with greater consistency and compliance with other government policy was preferable to others.	Comparable to Other Options / Neutral All options meet a range of other government policy relating to investment in rail, electrification etc.	Comparable to Other Options / Neutral All options meet a range of other government policy relating to investment in rail, electrification etc.	Comparable to Other Options / Neutral All options meet a range of other government policy relating to investment in rail, electrification etc.	Comparable to Other Options / Neutral All options meet a range of other government policy relating to investment in rail, electrification etc.	Comparable to Other Options / Neutral All options meet a range of other government policy relating to investment in rail, electrification etc.

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CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
	Adaptability in the future (robustness in the solution)	The option with greater adaptability for the future was preferable to others.	Some Comparative Advantage over Other Options Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users, also provides space for future utility diversions or new installations.	Some Comparative Advantage over Other Options Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users, also provides space for future utility diversions or new installations.	Some Comparative Disadvantage over Other Options Would require additional track lowering for electrification of fast tracks in future under the existing structure. Over widened end extension would allow for additional space for utility diversions but not the same level of flexibility for road users as the other options.	Some Comparative Advantage over Other Options Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users, also provides space for future utility diversions or new installations.	Some Comparative Advantage over Other Options Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users, also provides space for future utility diversions or new installations.
	Summary Evaluation		**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**
	Noise and vibration		Some Comparative Advantage over Other Options Significant noise issues during construction and Some piling required, as with all options, but less than compared to option 6. The construction traffic impact for Option 2 (and 7) has potentially greater impact compared to the other options. Track lowering may have noise reduction during operation.	Some Comparative Disadvantage over Other Options Significant noise issues during construction and Some piling required, as with all options, but less than compared to option 6. The construction traffic impact for Option 4 (and 8) has potentially greater impact compared to option 6 but would be an improvement in terms of Options 2 and 7. Track lowering may result in noise reduction during operation. Proximity to properties at south west corner of junction greater with option 4 (and 8) compared to option 2 and 7 with increased risk of noise and vibration impacts during construction and operation.	Some Comparative Disadvantage over Other Options Significant noise issues during construction as Option 6 is likely to require more night piling than other options. Traffic disruption comparatively less than for other options during construction. Track lowering may have Some noise reduction during operation.	Some Comparative Advantage over Other Options Significant noise issues during construction and Some piling required, as with all options but less than compared to option 6. The construction traffic impact for Option 7 (and 2) has potentially greater impact compared to the other options. Track lowering may result in noise reduction during operation.	Some Comparative Disadvantage over Other Options Significant noise issues during construction and Some piling required, as with all options but less than compared to option 6. The construction traffic impact for Option 8 (and 4) has potentially greater impact compared to option 6 but would be an improvement in terms of Options 2 and 7. Track lowering may have noise reduction during operation. Proximity to properties at south west corner of junction greater with option 4 (and 4) compared to option 2 and 7 with increased risk of noise and vibration impacts during construction and operation.
	Air quality and Climate		Some Comparative Disadvantage over Other Options General construction and operation phase impacts in terms of air quality are largely similar for all options. The construction traffic impact for Option 2 (and 7) has potentially greater impact compared to Option 6 and in this regard, Option 2 is a Some comparative disadvantage compared to Option 6. Option 2 (and 7) would also be Somely worse in terms of construction traffic compared to options 4 and 8.	Some Comparative Disadvantage over Other Options General construction and operation phase impacts in terms of air quality are largely similar for all options. Construction traffic for Option 4 (and 8) will be greater compared to Option 6 but would be Somely more advantageous compared to options 2 or 7. This relates to the level of traffic diversions and disruption in and around the junction in order to construct the options. Option 4 (and 8) will require Some traffic disruption and would have more potential for air emissions compared to Option 6 but not as much compared to Options 2 and 7.	Some Comparative Advantage over Other Options General construction and operation phase impacts in terms of air quality are largely similar for all options, however there is a reduced construction traffic impact with Option 6 giving it a Some comparative advantage over other options. Construction can be achieved with out as many traffic diversions and disruptions around the junction and with a reduced disruption period, reducing potential for traffic stacking through the junction and therefore reducing the potential for air emissions compared to the other options	Some Comparative Disadvantage cover Other Options General construction and operation phase impacts in terms of air quality are largely similar for all options. The construction traffic impact for Option 7 (and 2) has potentially greater impact compared to Option 6 and in this regard, Option 7 is a Some comparative disadvantage compared to Option 6. Option 7 (and 2) would also be Somely worse in terms of construction traffic compared to options 4 and 8.	Some Comparative Disadvantage Other Options. General construction and operation phase impacts in terms of air quality are largely similar for all options. Construction traffic for Option 8 (and 4) will be greater compared to Option 6 but would be Somely more advantageous compared to options 2 or 7. This relates to the level of traffic diversions and disruption in and around the junction in order to construct the options. Option 8 (and 4) will require Some traffic disruption and would have more potential for air emissions compared to Option 6 but not as much compared to Options 2 and 7.

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
3. Environment - considers impacts, such as emissions to air, noise, and ecological and architectural impacts.	Landscape and Visual	The Option which minimises potential impact on the environmental factor under consideration was preferable to other options.	Some Comparative Disadvantage over Other Options The replacement bridge under Option 2 (and 7) will be of longer span and increased height compared with existing. The increased height will be achieved by track lowering so the bridge height OD would be similar to that existing. The width is similar to that existing. The visual change experienced by nearby residents of dwellings relates to the introduction of a replacement bridge of similar width and height but of longer span compared with that existing. Option 2 (and 7) is marginally better than option 4 (and 8) in terms of visual impact on nearby residents of dwellings because the proposed bridge is a narrower structure than in option 4 and 8.	Some Comparative Disadvantage over Other Options The replacement bridge under Option 4 (and 8) will be of longer span and increased height compared with existing. The increased height will be achieved by track lowering so the bridge height OD would be similar to that existing. Option 4 (and 8) will require substantial works on the OBC1A structure to put in place an over widened portal to accommodate the four tracking needed at this location. This will introduce a bigger, bulkier structure into the area, potentially altering the setting of the Royal Hospital, Kilmainham to a degree. Option 4 (and 8) will necessitate removal of a property at the southwest corner of the junction, part of a row of houses in that location. Retaining wall to the west will be further from properties compared to option 6.	Some Comparative Advantage over Other options The existing OBC1 is retained and a buried portal is introduced on the north side of the existing rail tracks. This option is likely to be better than any of the other options in terms of potential adverse effects on the designated landscape of the grounds of The Royal Hospital Kilmainham. The scale of the visual change experienced by nearby residents of dwellings is likely to be less than that associated with options 2 and 4 and 7 and 8. This is because the existing bridge OBC1 will be retained alongside the proposed buried portal.	Some Comparative Disadvantage over Other Options As with Option 2, the replacement bridge under Option 7 will be of longer span and increased height compared with existing. The increased height will be achieved by track lowering so the bridge height OD would be similar to that existing. The width is similar to that existing. The visual change experienced by nearby residents of dwellings relates to the introduction of a replacement bridge of similar width and height but of longer span compared with that existing. Option 7 (and option 2) is marginally better than option 4 (and 8) in terms of visual impact on nearby residents of dwellings because the proposed bridge is a narrower structure than in option 4 and 8.	Some Comparative Disadvantage over Other Options As with option 4, the replacement bridge under Option 8 will be of longer span and increased height compared with existing. The increased height will be achieved by track lowering so the bridge height OD would be similar to that existing. Option 8 (and 4) will require substantial works on the OBC1A structure to put in place an over widened portal to accommodate the four tracking needed at this location. This will introduce a bigger, bulkier structure into the area, potentially altering the setting of the Royal Hospital, Kilmainham to a degree. Option 8 (and 4) will necessitate removal of a property at the southwest corner of the junction, part of a row of houses in that location. Retaining wall to the west will be f further from properties compared to option
	Biodiversity (flora and fauna)		Comparable to Other Options / Neutral Areas of rough grasslands, scrub and trees will be directly impacted as with all options. Also potential to effect habitat suitable for bird nesting and / or bat roosting.	Comparable to Other Options / Neutral Areas of rough grasslands, scrub and trees will be directly impacted as with all options. Also potential to effect habitat suitable for bird nesting and / or bat roosting.	Comparable to Other Options / Neutral Areas of rough grasslands, scrub and trees will be directly impacted as with all options. Also potential to effect habitat suitable for bird nesting and / or bat roosting.	Comparable to Other Options / Neutral Areas of rough grasslands, scrub and trees will be directly impacted as with all options. Also potential to effect habitat suitable for bird nesting and / or bat roosting.	Comparable to Other Options / Neutral Areas of rough grasslands, scrub and trees will be directly impacted as with all options. Also potential to effect habitat suitable for bird nesting and / or bat roosting.
	Cultural, archaeological and architectural heritage		Some Comparative Disadvantage over Other Options Based on the available mapping and information, no effect on the gates/railings of the Memorial Gardens (NIAH Reg.No.50080013) or on the terrace of NIAH structures that stand to the south, on the corner of SCR and St. John's Road West or in Bully's Acre, within the grounds of the Royal Hospital. (Note: The DCIHR note a 'gas house' at the junction of SCR and St. John's Road West but states there are 'no remains'. It also notes a bridge but states that it is 'likely that the bridge has been replaced during under road construction.')	Some Comparative Disadvantage over Other Options Based on the available mapping and information, there would be no effect on the gates/railings of the Memorial Gardens (NIAH Reg.No.50080013) or in Bully's Acre, within the grounds of the Royal Hospital. (Note: The DCIHR note a 'gas house' at the junction of SCR and St. John's Road West but states there are 'no remains'. It also notes a bridge but states that it is 'likely that the bridge has been replaced during under road construction.'). Direct impact on terrace of NIAH structures that stand to the south, on the corner of SCR and St. John's Road West .	Some Comparative Advantage over Other Options Based on the available mapping and information, there would be no effect on the gates/railings of the Memorial Gardens (NIAH Reg.No.50080013) or on the terrace of NIAH structures that stand to the south, on the corner of SCR and St. John's Road West or in Bully's Acre, within the grounds of the Royal Hospital. (Note: The DCIHR note a 'gas house' at the junction of SCR and St. John's Road West but states there are 'no remains'. It also notes a bridge but states that it is 'likely that the bridge has been replaced during under road construction.')	Some Comparative Disadvantage over Other Options Based on the available mapping and information, no effect on the gates/railings of the Memorial Gardens (NIAH Reg.No.50080013) or on the terrace of NIAH structures that stand to the south, on the corner of SCR and St. John's Road West or in Bully's Acre, within the grounds of the Royal Hospital. (Note: The DCIHR note a 'gas house' at the junction of SCR and St. John's Road West but states there are 'no remains'. It also notes a bridge but states that it is 'likely that the bridge has been replaced during under road construction.')	Some Comparative Disadvantage over Other Options Based on the available mapping and information, there would be no effect on the gates/railings of the Memorial Gardens (NIAH Reg.No.50080013) or in Bully's Acre, within the grounds of the Royal Hospital. (Note: The DCIHR note a 'gas house' at the junction of SCR and St. John's Road West but states there are 'no remains'. It also notes a bridge but states that it is 'likely that the bridge has been replaced during under road construction.') . Direct impact on terrace of NIAH structures that stand to the south, on the corner of SCR and St. John's Road West .

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CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
	Water resources		Comparable to Other Options / Neutral Option will likely have a neutral/negligible impact on flood risk during operation - Water quality risk during construction phase as runoff pollutants may enter the receiving waterbodies, site runoff management will be required - Works will alter the existing drainage regime and increase risk of pluvial flooding to the site itself	Comparable to Other Options / Neutral Option will likely have a neutral/negligible impact on flood risk during operation - Water quality risk during construction phase as runoff pollutants may enter the receiving waterbodies, site runoff management will be required - Works will alter the existing drainage regime and increase risk of pluvial flooding to the site itself	Comparable to Other Options / Neutral Option will likely have a neutral/negligible impact on flood risk during operation - Water quality risk during construction phase as runoff pollutants may enter the receiving waterbodies, site runoff management will be required - Works will alter the existing drainage regime and increase risk of pluvial flooding to the site itself	Comparable to Other Options / Neutral Option will likely have a neutral/negligible impact on flood risk during operation - Water quality risk during construction phase as runoff pollutants may enter the receiving waterbodies, site runoff management will be required - Works will alter the existing drainage regime and increase risk of pluvial flooding to the site itself	Comparable to Other Options / Neutral Option will likely have a neutral/negligible impact on flood risk during operation - Water quality risk during construction phase as runoff pollutants may enter the receiving waterbodies, site runoff management will be required - Works will alter the existing drainage regime and increase risk of pluvial flooding to the site itself
	Agricultural and non-agricultural		Some Comparative Disadvantage over Other Options Some comparative disadvantage due to larger area affected and the estimated number of properties affected. While better than option 4 and 8 not materially so.	Some Comparative Disadvantage over Other Options Some comparative disadvantage due to larger area affected and the estimated number of properties affected. While worse than options 2 and 7 not materially so.	Some Comparative Advantage over Other Options Some comparative advantage due to smaller area affected and number of properties affected.	Some Comparative Disadvantage over Other Options Some comparative disadvantage due to larger area affected and the estimated number of properties affected . While better than option 4 and 8 not materially so.	Some Comparative Disadvantage over Other Options Some comparative disadvantage due to larger area affected and the estimated number of properties affected. While worse than options 2 and 7 not materially so.
	Geology and soils (include waste)		Some Comparative Advantage over Other Options Soil excavation required for construction of abutment foundations (estimated 156m total length, each side). Overall volume of material to be managed either through reuse or disposal less than for Option 6	Some Comparative Advantage over Other Options Soil excavation required for construction of abutment foundations (estimated 156m total length, each side). Overall volume of material to be managed either through reuse or disposal less than for Option 6.	Some Comparative Disadvantage over Other Options Soil excavation required for construction of new cut-and-cover Buried Portal (86m width, 10m length, 5.5m height approx.). Overall more volume of material to be managed either through reuse or disposal.	Some Comparative Advantage over Other Options Soil excavation required for construction of abutment foundations (estimated 119m total length, each side). Overall volume of material to be managed either through reuse or disposal less than for Option 6.	Some Comparative Advantage over Other Options Soil excavation required for construction of abutment foundations (estimated 156m total length, each side). Overall volume of material to be managed either through reuse or disposal less than for Option 6.
	Summary Evaluation		**Some Comparative Disadvantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Disadvantage over Other Options**

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CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
4. Accessibility and Social Inclusion - considers social deprivation, geographic isolation and mobility and sensory deprivation	Impact on Vulnerable Groups / Local Residents	The option which provides a higher degree of accessibility and safety for vulnerable groups was preferable.	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral
	Accessibility (stations)	The option which provided the best accessibility to the station was preferable.	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area
	Accessibility (bridge)	The option which minimised severance across bridges was preferable.	Some Comparative Advantage over Other Options During the Operational Phase Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users.	Some Comparative Advantage over Other Options During the Operational Phase Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users.	Some Comparative Disadvantage over Other Options During the Operational Phase the over widened end extension would allow for additional space, but not the same level of flexibility for road users as the other options.	Some Comparative Advantage over Other Options During the Operational Phase Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users.	Some Comparative Advantage over Other Options During the Operational Phase Options 2, 4, 7 & 8 provide over widened structures that have the potential to enhance the junction geometry to the benefit of vulnerable as well as vehicular users.
	Social inclusion	The option which provided a higher degree of accessibility and connectivity for vulnerable groups was preferable.	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area	Comparable to the Other Options / Neutral This criteria is not relevant to this area
	Summary Evaluation		**Some Comparative Advantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Advantage over Other Options**

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
5. Safety - Safety is concerned with the impact of the investment on the number of transport related accidents.	Rail Safety	The option which provided the best rail safety solution was preferable.	Some Comparative Disadvantage over Other Options Greatest track lowering, leading to steeper gradients for track including P&C location. Track lowering also impacts neighbouring third party plots with the requirement of underpinning of retaining walls and abutments to the South with increased risk to 3rd Party Plots. No central pier is present as a structure of collision. Positions of safety for staff are introduced.	Some Comparative Disadvantage over Other Options Greatest track lowering, leading to steeper gradients for track including P&C location. Track lowering also impacts neighbouring third party plots with the requirement of underpinning of retaining walls and abutments to the South with increased risk to 3rd Party Plots. No central pier is present reducing the risk of potential collision. Positions of safety for staff are introduced.	Some Comparative Advantage over Other Options No track lowering under existing Southern lines through existing structure however central pier to be considered for derailment risk. The line in the new cut & cover buried portal is steeper than all other options however no P&C is featured for this section of line. Positions of safety for staff are introduced.	Some Comparative Advantage over Other Options Similar to Option 2 but 200mm less track lowering resulting in lesser impact to gradients. No central pier is present, reducing risk of potential collision. Positions of safety for staff are introduced.	Some Comparative Advantage over Other Options Similar to Option 4 but 200mm less track lowering resulting in lesser impact to gradients. No central pier is present reducing risk of potential collision. Positions of safety for staff are introduced.
	Vehicular Traffic Safety	The option which provides the best vehicular safety solution was preferable.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.
	Pedestrians, cyclists, road users and neighbours safety	The option which provides the best safety solution for different road users was preferable.	Some Comparative Disadvantage over Other Options During the operational phase there is comparably no difference between the options primarily because it is proposed to reinstate the area with the same horizontal geometric elements existing at the time of going to construction. However during the construction stage this option, along with Option 7 is significantly disadvantaged to options 4, 6 & 8 as there is no possibility to phase the construction and/or provide sufficient space to accommodate vulnerable road users.	Some Comparative Advantage over Other Options During the operational phase there is comparably no difference between the options primarily because it is proposed to reinstate the area with the same horizontal geometric elements existing at the time of going to construction. However during the construction stage this option, along with Option 8 are significantly better than options 2 & 7 as there is the possibility to phase the construction and/or provide sufficient space to accommodate vulnerable road users. However not quite as much adaptability to improve the safety as Option 6.	Some Comparative Advantage over Other Options During the operational phase there is comparably no difference between the options primarily because it is proposed to reinstate the area with the same horizontal geometric elements existing at the time of going to construction. However during the construction stage this option provides a Somely better level of adaptability to the benefit of vulnerable users safety in comparison to Options 4 & 8 however it has significant benefits over Options 2 & 7.	Some Comparative Disadvantage over Other Options During the operational phase there is comparably no difference between the options primarily because it is proposed to reinstate the area with the same horizontal geometric elements existing at the time of going to construction. However during the construction stage this option, along with Option 2 is significantly disadvantaged compared to options 4, 6 & 8 as there is no possibility to phase the construction and/or provide sufficient space to accommodate vulnerable road users.	Some Comparative Advantage over Other Options During the operational phase there is comparably no difference between the options primarily because it is proposed to reinstate the area with the same horizontal geometric elements existing at the time of going to construction. However during the construction stage this option, along with Option 4 are significantly better than options 2 & 7 as there the possibility to phase the construction and/or provide sufficient space to accommodate vulnerable road users. However not quite as much adaptability to improve the safety as Option 6.
	Summary Evaluation		**Some Comparative Disadvantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**	**Some Comparative Disadvantage over Other Options**	**Some Comparative Advantage over Other Options**

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**
6. Physical Activity - (where applicable) This relates to the health benefits derived from using different transport modes	Connectivity to adjoining cycle facilities	The option that provided better connectivity between trip generators (green areas / key attractions) and that promoted physical activity was preferable.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.
	Permeability and local connectivity	The option that provided better connectivity between trip generators and that promoted physical activity was preferable.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.	Comparable to Other Options / Neutral The reinstatement would be to the horizontal geometric layout at time of construction; whether that would be the current layout or one that Bus Connects may have implemented in the interim.
	Summary Evaluation		**Comparable to Other Options / Neutral**	**Comparable to Other Options / Neutral**	**Comparable to Other Options / Neutral**	**Comparable to Other Options / Neutral**	**Comparable to Other Options / Neutral**

Civil and OHLE - Area around SOUTH CIRCULAR ROAD							
CAF Parameters	**Sub-Criteria**	**Basis for Comparative Analysis**	**Option 2 Assessment**	**Option 4 Assessment**	**Option 6 Assessment**	**Option 7 Assessment**	**Option 8 Assessment**

Area around SOUTH CIRCULAR Road CAF - Summary Table

CAF Parameters	Option 2	Option 4	Option 6	Option 7	Option 8
1. Economy	Some Comparative Disadvantage over Other Options	Some Comparative Disadvantage over Other Options	Significant Comparative Advantage over Other Options	Some Comparative Disadvantage over Other Options	Significant Comparative Disadvantage over Other Options
2. Integration	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options
3. Environment	Some Comparative Disadvantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Disadvantage over Other Options
4. Accessibility and Social	Some Comparative Advantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Advantage over Other Options
5. Safety	Some Comparative Disadvantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options	Some Comparative Disadvantage over Other Options	Some Comparative Advantage over Other Options
6. Physical Activity	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral	Comparable to Other Options / Neutral
Conclusion			**Preferred Option**		

Comparison Criteria Legend

Significant Comparative Disadvantage over Other Options
Some Comparative Disadvantage over Other Options
Comparable to Other Options / Neutral
Some Comparative Advantage over Other Options
Significant Comparative Advantage over Other Options