
Appendix E

Comparison Summary Table

Road Type	Online dualling at Inverurie D2APc GSJ (formerly Category 7A)	Online dualling at Inverurie D2APb At-Grade (formerly Category 6)	Online dualling at Inverurie D2UAP (Urban GSJ)	Online dualling at Inverurie D2UAP (Urban At-Grade)
Scheme Objective	Grade Separated, no gaps in central reserve, 70mph speed limit (61.1m width including 3m minimum construction and maintenance space)	At-grade roundabout, no gaps in central reserve, 60mph speed limit (34.1m width including 3m minimum construction and maintenance space)	Grade Separated Junction, no gaps in central reserve, 60mph speed limit (52m width including 3m minimum construction and maintenance space)	At-grade roundabout, no gaps in central reserve, 60mph speed limit with potential for reduction to 50mph (29.4m width including 3m minimum construction and maintenance space)
1.1 Reduced journey times	Performs well against scheme objective	As D2APc but reduced performance due to delays at roundabout and 60mph speed limit	As D2APc but reduced performance due to 60mph speed limit	As D2APc but reduced performance due to delays at roundabout and speed limit
1.2 Improved journey time reliability	Performs well against scheme objective	As D2APc but reduced performance due to delays at roundabout and speed limit	Performs well against scheme objective	As D2APc but reduced performance due to delays at roundabout and speed limit
1.3 Increased overtaking opportunities	Performs well against scheme objective	As D2APc but at-grade signalised roundabout will hinder opportunities	As D2APc but reduced performance due to 60mph speed limit	As D2APc but at-grade signalised roundabout will hinder opportunities

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Scheme Objective				
1.4 Improved efficiency of freight movements along the transport corridor	Performs well against scheme objective	As D2APc but reduced performance due to delays at roundabout	Performs well against scheme objective	As D2APc but reduced performance due to delays at roundabout
1.5 Reduced conflicts between local traffic and strategic journeys	Grade separation at Blackhall Road provides some separation but local and strategic traffic concentrated in same road corridor	At-grade signalised roundabout will not provide any separation plus local and strategic traffic concentrated in same road corridor	Grade separation at Blackhall Road provides some separation but local and strategic traffic concentrated in same road corridor	At-grade signalised roundabout will not provide any separation plus local and strategic traffic concentrated in same road corridor.
1.6 Improved network resilience	Additional lanes available as function of dualling but no parallel diversion route	Additional lanes available as function of dualling but no parallel diversion route	Additional lanes available as function of dualling but no parallel diversion route Removal of hard strips reduces resilience by decreasing space available during incidents	Additional lanes available as function of dualling but no parallel diversion route Removal of hard strips reduces resilience by decreasing space available during incidents

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Scheme Objective				
2.1 Reduced accident rates and severity	Performs well against scheme objective	As D2APc but reduced performance since at-grade junctions have higher accident rates	Removal of hard strips means an inconsistent cross-section	As D2APc but reduced performance since at-grade junctions have higher accident rates Removal of hard strips means an inconsistent cross-section
2.2 Reduced driver stress	Performs well against scheme objective	As D2APc but at-grade signalised roundabout is lower standard and inconsistent junction provision	As D2APc but removal of hard strips is lower standard of provision and an inconsistent cross-section	As D2APc but at-grade signalised roundabout and removal of hard strips is lower standard of provision and inconsistent junction and cross-section layout
2.3 Reduced potential conflicts between Motorised and Non-Motorised Users	Online dualling creates wider barrier between Inverurie town and areas to south. NMUs will have to negotiate long underpass or in conflict with traffic if crossing at roundabout.	Online dualling creates wider barrier between Inverurie town and areas to south. NMUs will have to negotiate long underpass or in conflict with traffic if crossing at roundabout. NMU crossings would be more difficult due to increased traffic volumes at roundabout.	Online dualling creates wider barrier between Inverurie town and areas to south. NMUs will have to negotiate long underpass or in conflict with traffic if crossing at roundabout.	Online dualling creates wider barrier between Inverurie town and areas to south. NMUs will have to negotiate long underpass or in conflict with traffic if crossing at roundabout. NMU crossings would be more difficult due to increased traffic volumes at roundabout.

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Scheme Objective				
3.1 Improved access to the wider strategic transport network	Reduced potential to accommodate future local development due to increased traffic along the existing corridor exacerbating severance of the main part of Inverurie and development areas to the south	As D2APc but further limitation due to reduced potential to accommodate future local development at signalised roundabout	Reduced potential to accommodate future local development due to increased traffic along the existing corridor exacerbating severance of the main part of Inverurie and development areas to the south	As D2APc but further limitation due to reduced potential to accommodate future local development at signalised roundabout
3.2 Enhanced access to jobs and services				
4 To facilitate active travel in the corridor.	Limited opportunities to make future provision along the corridor due to space constraints	Limited opportunities to make future provision along the corridor due to space constraints	Limited opportunities to make future provision along the corridor due to space constraints	Limited opportunities to make future provision along the corridor due to space constraints
5 To facilitate integration with Public Transport Facilities.	Performs well against scheme objective through journey time savings	As D2APc but reduced performance due to delays at roundabout and 60mph speed limit	As D2APc but reduced performance due to 60mph speed limit	As D2APc but reduced performance due to delays at roundabout and speed limit

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6 Avoid and minimise significant environmental effects on the communities and people in the corridor and natural and cultural heritage assets	<p>40 residential properties require acquisition and assumed demolition</p> <p>11 residential gardens require land take</p> <p>Elevated road causing noise, air quality, visual and human health impacts to a high number of receptors</p> <p>Loss of vegetation screening and limited space for mitigation</p>	<p>Between 4 and 9 residential properties require acquisition and assumed demolition (depending to which side of road is widened)</p> <p>Up to 12 residential gardens require land take</p> <p>Widened road causing noise, air quality, visual and human health impacts to a high number of receptors</p> <p>Loss of vegetation screening and limited space for mitigation</p>	<p>25 residential properties require acquisition and assumed demolition</p> <p>24 residential gardens require land take</p> <p>Elevated road causing noise, air quality, visual and human health impacts to a high number of receptors</p> <p>Loss of vegetation screening and limited space for mitigation</p>	<p>Between 4 and 7 residential properties require acquisition with some demolition (depending to which side of road is widened)</p> <p>Up to a further 4 residential gardens require land take</p> <p>Widened road causing noise, air quality, visual and human health impacts to a high number of receptors</p> <p>Loss of vegetation screening and limited space for mitigation</p>

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Other Considerations: Constructability & Maintainability	<p>Re-use of existing road reduces the earthworks required although approximately 3.4km length of retaining walls required to minimise footprint at pinch points</p> <p>Existing underpass closures and alternative routes required during construction</p> <p>Additional Don Crossing construction in close proximity to existing although construction to accommodate one carriageway only required</p> <p>Demolition and replacement of Upperboat Overbridge</p> <p>Constrained corridor for maintenance access</p> <p>No diversion route available for future maintenance works</p>	<p>Re-use of existing road reduces the earthworks required although up to approximately 0.9km length of retaining walls required to minimise footprint at pinch points</p> <p>Existing underpass closures and alternatives routes required during construction</p> <p>Additional Don Crossing construction in close proximity to existing although construction to accommodate one carriageway only required</p> <p>Demolition and replacement of Upperboat Overbridge</p> <p>Constrained corridor for maintenance access</p> <p>No diversion route available for future maintenance works</p>	<p>Limited benefit in cross-section width results in same issues as to D2APc</p>	<p>Limited benefit in cross-section width results in same issues as to D2APb</p>

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Scheme Objective				
Other Considerations: Health & Safety Impacts	Safety risks to travelling public and site operatives associated with construction within a constrained corridor adjacent to live traffic	Safety risks to travelling public and site operatives associated with construction within a constrained corridor adjacent to live traffic	Safety risks to travelling public and site operatives associated with construction within a constrained corridor adjacent to live traffic	Safety risks to travelling public and site operatives associated with construction within a constrained corridor adjacent to live traffic
Other Considerations: Construction Disruption	Traffic management, speed restrictions (40mph or less), night time and temporary local road closures Construction noise and dust in close proximity to populated area Construction traffic mixing with travelling public	Traffic management, speed restrictions (40mph or less), night time and temporary local road closures Construction noise and dust in close proximity to populated area Construction traffic mixing with travelling public	Traffic management, speed restrictions (40mph or less), night time and temporary local road closures Construction noise and dust in close proximity to populated area Construction traffic mixing with travelling public	Traffic management, speed restrictions (40mph or less), night time and temporary local road closures Construction noise and dust in close proximity to populated area Construction traffic mixing with travelling public
Associated construction works: Utilities	Extensive twin water main diversion 4.3km along online corridor High Voltage electricity diversions High pressure gas main diversion Local utility diversions	Extensive twin water main diversion 4.3km along online corridor High Voltage electricity diversions High pressure gas main diversion Local utility diversions	Extensive twin water main diversion 4.3km along online corridor High Voltage electricity diversions High pressure gas main diversion Local utility diversions	Extensive twin water main diversion 4.3km along online corridor High Voltage electricity diversions High pressure gas main diversion Local utility diversions

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Associated construction works: Drainage	Constrained corridor and re-use of the existing River Don bridge presents difficulties in achieving treatment and attenuation of road drainage, requiring agreement with SEPA and Aberdeenshire Council.	Constrained corridor and re-use of the existing River Don bridge presents difficulties in achieving treatment and attenuation of road drainage, requiring agreement with SEPA and Aberdeenshire Council.	Constrained corridor and re-use of the existing River Don bridge presents difficulties in achieving treatment and attenuation of road drainage, requiring agreement with SEPA and Aberdeenshire Council.	Constrained corridor and re-use of the existing River Don bridge presents difficulties in achieving treatment and attenuation of road drainage, requiring agreement with SEPA and Aberdeenshire Council.