

York Northwest Masterplanning and Infrastructure Study: Access Corridor Analysis

MULTI-CRITERIA ANALYSIS OF REVISED ACCESS CORRIDOR OPTIONS

Scoring Approach

Benefits (+1 added to score for option)

Disbenefits (-1 taken from score for option)

CRITERIA		ACCESS CORRIDOR A: CHANCERY RISE				ACCESS CORRIDOR B2: HOLGATE PARK DRIVE				ACCESS CORRIDOR G: HOLGATE PARK			
Category	Indicator	HIGH Trip Scenario		LOW Trip Scenario		HIGH Trip Scenario		LOW Trip Scenario		HIGH Trip Scenario		LOW Trip Scenario	
TRAFFIC IMPACT	General network impact (Sections 4.2 & 4.5 Modelling TN)	<input checked="" type="checkbox"/> Significantly higher PM peak journey times on Acomb Road (8mins more than Options B2/G) due to more YC inbound traffic using route to access site		<input checked="" type="checkbox"/> Lower overall network delay in both peaks than Options B2/G		<input checked="" type="checkbox"/> Lower car journey times than Option A on side roads onto A59 (Carr Lane, Water End) in AM peak		<input checked="" type="checkbox"/> Lower car journey times than Option A on A59 outbound (45 secs)		<input checked="" type="checkbox"/> Lower car journey times than Option A on side roads onto A59 (Carr Lane, Water End) in AM peak		<input checked="" type="checkbox"/> Lower car journey times than Option A on A59 outbound (45 secs)	
		<input checked="" type="checkbox"/> Overall network statistics indicate more delays and lower average speeds than Options B2/G in both time periods	-2	<input checked="" type="checkbox"/> Lower A59 AM & PM peak inbound car journey times than Options B2/G (up to 1min less inbound)	1	<input checked="" type="checkbox"/> Higher PM peak car journey times on the A59 corridor than Option A (around 30secs in each direction)	-1	<input checked="" type="checkbox"/> Higher AM peak journey times on Acomb Road (5mins more than Option A)	0	<input checked="" type="checkbox"/> Higher PM peak car journey times on the A59 corridor than Option A (around 30secs in each direction)	-2	<input checked="" type="checkbox"/> Higher AM peak journey times on Acomb Road (5mins more than Option A)	0
				<input checked="" type="checkbox"/> Higher PM peak journey times on Acomb Road (3mins more than Options B2/G) due to YC inbound traffic using route to access site		<input checked="" type="checkbox"/> Higher AM peak journey times on Acomb Road (2.5mins more than Option A)				<input checked="" type="checkbox"/> Additional delay to existing office park traffic in PM peak at new priority junction between Holgate Park Drive and access corridor due to queuing back from A59 junction		<input checked="" type="checkbox"/> Additional delay to existing office park traffic in PM peak at new priority junction between Holgate Park Drive and access corridor due to queuing back from A59 junction	
										<input checked="" type="checkbox"/> Higher AM peak journey times on Acomb Road (2.5mins more than Option A)		<input checked="" type="checkbox"/> Higher AM peak journey times on Acomb Road (2.5mins more than Option A)	
	Access junction operation (Section 4.4 Modelling TN)	<input checked="" type="checkbox"/> Smaller queues on A59 arms of access junction than at Holgate Park Drive	0	<input checked="" type="checkbox"/> Smaller queues on A59 arms of access junction than at Holgate Park Drive	0	<input checked="" type="checkbox"/> Smaller AM peak site exit queues than Option A	0	<input checked="" type="checkbox"/> Smaller AM peak site exit queues than Option A	0	<input checked="" type="checkbox"/> Smaller AM peak site exit queues than Option A	0	<input checked="" type="checkbox"/> Smaller AM peak site exit queues than Option A	0
		<input checked="" type="checkbox"/> New junction on A59 leads to additional queues on corridor		<input checked="" type="checkbox"/> New junction on A59 leads to additional queues on corridor		<input checked="" type="checkbox"/> Larger PM peak site exit queues than Option A due to Holgate Business Park traffic using junction		<input checked="" type="checkbox"/> Larger PM peak site exit queues than Option A due to Holgate Business Park traffic using junction		<input checked="" type="checkbox"/> Larger PM peak site exit queues than Option A due to Holgate Business Park traffic using junction		<input checked="" type="checkbox"/> Larger PM peak site exit queues than Option A due to Holgate Business Park traffic using junction	
	Dispersal of development traffic across network (Section 4.1 Modelling TN)	<input checked="" type="checkbox"/> Access located close to end of three radial corridors (Acomb Road, Boroughbridge Road and Tadcaster Road)	-1	<input checked="" type="checkbox"/> Access located close to three radial corridors (Acomb Road, Boroughbridge Road and Tadcaster Road)	-1	<input checked="" type="checkbox"/> Access point located in less congested part of the network making it easier for YC traffic to disperse	1	<input checked="" type="checkbox"/> Access point located in less congested part of the network making it easier for YC traffic to disperse	1	<input checked="" type="checkbox"/> Access point located in less congested part of the network making it easier for YC traffic to disperse	1	<input checked="" type="checkbox"/> Access point located in less congested part of the network making it easier for YC traffic to disperse	1
		<input checked="" type="checkbox"/> Access located in congested part of network making it more difficult for YC traffic to disperse		<input checked="" type="checkbox"/> Access located in congested part of network making it more difficult for YC traffic to disperse									
		<input checked="" type="checkbox"/> Access leads to more YC traffic on congested outer ring road		<input checked="" type="checkbox"/> Access leads to more YC traffic on congested outer ring road									
	Secondary traffic mitigation measures	N/A	0	N/A	0	<input checked="" type="checkbox"/> Mitigation measures required to discourage rat-running through residential streets such as Grantham Drive	-1	<input checked="" type="checkbox"/> Mitigation measures required to discourage rat-running through residential streets such as Grantham Drive	-1	<input checked="" type="checkbox"/> Mitigation measures required to discourage rat-running through residential streets such as Grantham Drive	-1	<input checked="" type="checkbox"/> Mitigation measures required to discourage rat-running through residential streets such as Grantham Drive	-1

CRITERIA		ACCESS CORRIDOR A: CHANCERY RISE		ACCESS CORRIDOR B2: HOLGATE PARK DRIVE		ACCESS CORRIDOR G: HOLGATE PARK	
Category	Indicator	HIGH and LOW Trip Scenarios		HIGH and LOW Trip Scenarios		HIGH and LOW Trip Scenarios	
PUBLIC TRANSPORT	Poppleton Bar P&R service (Section 4.3 Modelling TN)	<input checked="" type="checkbox"/> Benefits from use of bus priority infrastructure on A59 planned as part of Access York improvements.	1	<input checked="" type="checkbox"/> P&R services redirected away from more congested lower section of A59, resulting in end-to-end inbound journey time up to 45secs lower than Option A in high and low scenarios <input checked="" type="checkbox"/> Raises profile of public transport at existing office development by serving Holgate Business Park directly <input checked="" type="checkbox"/> Increased appeal of reverse P&R opportunities for people travelling from the railway station to Holgate Business Park <input checked="" type="checkbox"/> Redirection of services from main corridor reduces value of bus priority measures proposed as part of Access York improvements on A59 to the south of Holgate Park Drive.	2	<input checked="" type="checkbox"/> P&R services redirected away from more congested lower section of A59, resulting in end-to-end inbound journey time around 45secs lower than Option A in high and low scenarios <input checked="" type="checkbox"/> Raises profile of public transport at existing office development by serving Holgate Business Park directly <input checked="" type="checkbox"/> Increased appeal of reverse P&R opportunities for people travelling from the railway station to Holgate Business Park <input checked="" type="checkbox"/> Redirection of services from main corridor reduces value of bus priority measures proposed as part of Access York improvements on A59 to the south of Holgate Park Drive.	2
	Other bus services	<input checked="" type="checkbox"/> Access corridor alignment further to the south provides opportunity to divert Acomb Road bus services through site to avoid congestion further south along Holgate Road.	1	<input checked="" type="checkbox"/> Access corridor alignment further to the north reduces potential to run Acomb Road bus services through site without circuitously altering route.	-1	<input checked="" type="checkbox"/> Access corridor alignment further to the north reduces potential to run Acomb Road bus services through site without circuitously altering route.	-1
PEDESTRIAN & CYCLIST	Connectivity	<input checked="" type="checkbox"/> Provision of direct and attractive corridor for pedestrians/cyclists from Acomb Road to railway station	1	<input checked="" type="checkbox"/> Optimal location for new rail crossing for pedestrians/cyclists closer to midpoint between existing crossing locations at Water End and Cinder Lane.	1	<input checked="" type="checkbox"/> Optimal location for new rail crossing for pedestrians/cyclists closer to midpoint between existing crossing locations at Water End and Cinder Lane.	1
NOISE & AIR QUALITY	Air quality (Section 4.6 Modelling TN)	<input checked="" type="checkbox"/> Potential to divert Acomb Road bus services via new access corridor into YC site enables reduction in the number of bus movements through Air Quality Management Area further to the south along Holgate Road. <input checked="" type="checkbox"/> Slightly lower levels of emissions in the areas of the network towards the city centre where air quality is an issue <input checked="" type="checkbox"/> Intensification of general traffic movements at new junction within constrained section of corridor and in closer relative proximity to current Air Quality Management Area risks expanding air quality issues out across a wider area. <input checked="" type="checkbox"/> Sensitive receptors to southern boundary of corridor (existing terraced housing).	0	<input checked="" type="checkbox"/> Removal of traffic movements from A59 further out from city centre in less constrained section of corridor reduces potential air quality impacts. <input checked="" type="checkbox"/> Less sensitive receptors to immediate boundary of corridor (existing office development, an undeveloped plot and proposed new rail sidings into Thrall Works). <input checked="" type="checkbox"/> Higher emissions across all junctions included in air quality analysis	1	<input checked="" type="checkbox"/> Removal of traffic movements from A59 further out from city centre in less constrained section of corridor reduces potential air quality impacts. <input checked="" type="checkbox"/> Less sensitive receptors to immediate boundary of corridor (existing office development and area of open green space). <input checked="" type="checkbox"/> Higher emissions across all junctions included in air quality analysis	1
	Noise	<input checked="" type="checkbox"/> More constrained alignment close to surrounding residential uses risks magnifying noise impacts to sensitive receptors.	-1	<input checked="" type="checkbox"/> Less sensitive receptors to immediate boundary of corridor (existing office development, an undeveloped plot and proposed new rail sidings into Thrall Works).	1	<input checked="" type="checkbox"/> Less sensitive receptors to immediate boundary of corridor (existing office development and area of open green space).	1
HIGHWAY FOOTPRINT	Third party land requirements	<input checked="" type="checkbox"/> All buildings to be demolished (Alliance House and disused industrial building on south eastern boundary of Thrall Works) within Network Rail ownership.	1	<input checked="" type="checkbox"/> No land take required (all land within CYC ownership).	1	<input checked="" type="checkbox"/> No land take required (all land within CYC ownership).	1
	Land ownership along boundary	<input checked="" type="checkbox"/> Network Rail owned Thrall Works to northern edge of proposed alignment. <input checked="" type="checkbox"/> Private residential properties bordering southern edge of proposed alignment.	0	<input checked="" type="checkbox"/> CYC owned land to southern edge of proposed alignment. <input checked="" type="checkbox"/> Private office park to northern edge of proposed alignment.	0	<input checked="" type="checkbox"/> CYC owned land to northern edge of proposed alignment. <input checked="" type="checkbox"/> Private office park to southern edge of proposed alignment.	0
ENGINEERING FEASIBILITY	Junction improvements	<input checked="" type="checkbox"/> Junction improvement on A59 corridor will impact on Holgate Beck culvert, requiring relocation or protection. <input checked="" type="checkbox"/> Junction improvement requires disruptive construction works on main corridor, increasing likely delivery programme. <input checked="" type="checkbox"/> More constrained section of corridor in vicinity of access junction limits scope to reserve capacity to accommodate future growth in demand.	-3	<input checked="" type="checkbox"/> Use of Holgate Park Drive junction with A59 capitalises on existing underused infrastructure, with only minimal cost implications to improve efficiency. <input checked="" type="checkbox"/> Ability to increase size of junction footprint in future, should additional capacity be required to accommodate growth. <input checked="" type="checkbox"/> Majority of construction works required off A59, avoiding disruption to main corridor/reducing delivery programme.	3	<input checked="" type="checkbox"/> Use of Holgate Park Drive junction with A59 capitalises on existing underused infrastructure, with only minimal cost implications to improve efficiency. <input checked="" type="checkbox"/> Ability to increase size of junction footprint in future, should additional capacity be required to accommodate growth. <input checked="" type="checkbox"/> Majority of construction works required off A59, avoiding disruption to main corridor/reducing delivery programme.	3

CRITERIA		ACCESS CORRIDOR A: CHANCERY RISE				ACCESS CORRIDOR B2: HOLGATE PARK DRIVE				ACCESS CORRIDOR G: HOLGATE PARK							
Category	Indicator	HIGH and LOW Trip Scenarios				HIGH and LOW Trip Scenarios				HIGH and LOW Trip Scenarios							
	Access corridor	<input checked="" type="checkbox"/>	Shorter connection required to Leeman Road reduces proportional cost burden during early phasing.		1	<input checked="" type="checkbox"/>	Longer connection required to Leeman Road incurs proportionally greater cost burden during early phasing.		-1	<input checked="" type="checkbox"/>	Longer connection required to Leeman Road incurs proportionally greater cost burden during early phasing.		-1				
	Bridge structure	<input checked="" type="checkbox"/>	Shorter rail span and favourable ground elevations facilitate lower cost engineering solution.		1	<input checked="" type="checkbox"/>	Erection of bridge over railway likely to be complex due to required length of structure and constrained nature of site.		-2	<input checked="" type="checkbox"/>	Requirement to build three separate bridge structures and associated pier supports at intermittent locations, surrounded by live rail infrastructure		-2				
						<input checked="" type="checkbox"/>	Requirement to provide retaining structures on approach to bridge abutments to achieve required gradient with less favourable ground elevations.				<input checked="" type="checkbox"/>	Maintaining access to adjacent office park likely to be an issue during construction due to requirement to raise the levels of Holgate Park Drive.					
ENVIRONMENTAL CONSTRAINT	Impact to surrounding land uses	<input checked="" type="checkbox"/>	Horizontal alignment within 7.3m of properties on Cleveland Street likely to result in objection from residents (albeit that visual impact minimised by vertical alignment approx 2.0m below elevated ground level of properties).		-3	<input checked="" type="checkbox"/>	Tied arch structure of proposed railway bridge likely to be visible from York Minster (30m rise at centre of arch).		-2	<input checked="" type="checkbox"/>	Requirement to raise levels on Holgate Park Drive, requiring introduction of embankments and/or retaining walls which may impinge on existing parking facilities at office park		-1				
		<input checked="" type="checkbox"/>	Adverse effect to properties on western side of Cleveland Street/Wilton Rise from street lighting glare along corridor.				<input checked="" type="checkbox"/>	Vertical alignment requires bridge approach abutment at first floor height of adjacent office building, horizontal alignment of which being approximately 40m from access corridor.									
		<input checked="" type="checkbox"/>	Introduction of bus lane to rear of The Fox results in severance impact on listed building/loss of green open space														
AMENITY VALUE	Impact to local facilities	<input checked="" type="checkbox"/>	Opportunity to compensate required loss of children's play area at northern end of Cleveland Street through provision of enhanced facility.		2	<input checked="" type="checkbox"/>	Requirement to prohibit current overflow parking from offices on Holgate Park Drive likely to prove contentious.		-1	<input checked="" type="checkbox"/>	Access corridor constructed on amenity green space provided as part of the adjacent residential and office park development, with no opportunity to re-provide open space as part of the access corridor proposals		-1				
		<input checked="" type="checkbox"/>	Introduction of extensive landscaping to eastern aspect of access corridor softens visual impact and improves current aspect from Wilton Rise/Cleveland Street.														
YORK CENTRAL DELIVERY & PHASING	Relationship to proposed phasing of YC development	<input checked="" type="checkbox"/>	Allows access to land at rear of station, which is likely to be developed in advance of land further from city centre		1	<input checked="" type="checkbox"/>	Provides access some distance from those parts of YC likely to be delivered earliest		-1	<input checked="" type="checkbox"/>	Provides access some distance from those parts of YC likely to be delivered earliest		-1				
	Relationship to rail leases	<input checked="" type="checkbox"/>	Land required is in single rail lease/operational unit		1	<input checked="" type="checkbox"/>	Requires land in multiple rail leases/operational units		-1	<input checked="" type="checkbox"/>	Requires land in multiple rail leases/operational units		-1				
COST	Scheme costs	<input checked="" type="checkbox"/>	Total – £9.1 million Junction improvement – £0.6 million Access corridor – £3.9 million Bridge structure – £1.8 million Other (including optimism bias) – £2.8 million		1	<input checked="" type="checkbox"/>	Total – £17.5 million Junction improvement – £0.4 million Access corridor – £2.9 million Bridge structure – £8.7 million Other (including optimism bias) – £5.5 million		-1	<input checked="" type="checkbox"/>	Total – £22.3 million Junction improvement – £0.4 million Access corridor – £2.7 million Bridge structure – £12.3 million Other (including optimism bias) – £6.9 million		-1				
	Economic Appraisal	HIGH Trip Scenario		LOW Trip Scenario		HIGH Trip Scenario		LOW Trip Scenario		HIGH Trip Scenario		LOW Trip Scenario					
		<input checked="" type="checkbox"/>	Larger cost of network travel time (£2.4 million pa more than Options B2/G)		-1	<input checked="" type="checkbox"/>	Lower cost of travel time (£1.1million pa) and lower construction cost leads to better economic case than Options B2/G		1	<input checked="" type="checkbox"/>	Extra construction cost (compared with Option A) offset by savings in travel time after 5 years from site opening		1				
						<input checked="" type="checkbox"/>	Worse economic case than Option A		-1	<input checked="" type="checkbox"/>	Additional construction cost (compared with Option A) offset by savings in travel time after 5 years from site opening		1				
TOTAL SCORE	ACCESS CORRIDOR A: CHANCERY RISE				ACCESS CORRIDOR B2: HOLGATE PARK DRIVE				ACCESS CORRIDOR G: HOLGATE PARK								
	HIGH Trip Scenario		0	LOW Trip Scenario		5	HIGH Trip Scenario		-1	LOW Trip Scenario		-2	HIGH Trip Scenario		-1	LOW Trip Scenario	