APPENDIX 21.9

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
Construction Phase								
Areas A, B & C The cumulative effects of traffic generated by construction operations, and waste disposal activities together with traffic management and phasing of the works will result in delays to vehicular traffic.	Strategic Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance	The effectiveness of the traffic management and signing strategy will be monitored regularly and adjustments made to reduce the effect on vehicle users. An extensive publicity campaign will give users advance warning of the road works.	Moderate Negative Significance.	**Areas A, B & C** The cumulative effects of traffic generated by construction operations, and waste disposal activities together with traffic management and phasing of the works will result in delays to vehicular traffic.	Moderate Negative (Short term, Temporary, Direct)	The traffic assessment for construction effects included other proposed developments. Proposed developments near to this area and therefore likely to have an effect are developments 1, 2, 3, 10. Therefore the residual effects are in fact cumulative effects. For further details see Chapter 16: Transport
	Local Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance					
	Bus User High	Temporary High magnitude Short Term Direct	High Negative Significance					
Areas A, B & C Removal of the PRoW linking Cross Street and Ashley Way	Pedestrians High	Permanent High Magnitude Short Term Direct	High Negative Significance	The works are to be carried out in phases with the diverted	Moderate Negative Significance.	**Areas A, B & C** Disruption to the PRoW linking Cross Street and Ashley Way	Moderate Negative Significance (Short term, Temporary,	The PRoW linking Cross St and Ashley Way with Spike Island could be affected by Development 3 if

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with Spike Island and the Trans Pennine Trail and effect of construction works on the cycleway along Ditton Road, Ashley Way and Victoria Road.				PRoWs planned with minimum additional journey lengths.		with Spike Island.	Direct)	construction works occur before it is removed and a new diversion established, causing additional disruption to users. There are no developments likely to affect the Ditton Rd or Victoria Rd. However developments 4 and 10 are located on or very close to PRoW and although not directly effected by the Project, any disruption to these PRoW during the construction phases of these developments will reduce the availability of PRoW in the vicinity.

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
	Cyclists High	Temporary High Magnitude Short Term Direct	High Negative Significance	Traffic management and phasing of the works to take into account the requirements for cyclists (road widths and signing).	Moderate Negative Significance	**Areas A, B & C** Disruption to the PRoW linking Cross Street and Ashley Way with Spike Island, and to the cycleway on Ashley Way.	Moderate Negative Significance (Short term, Temporary, Direct)	There are no developments likely to affect the Ditton Rd or Victoria Rd. However developments 1, 2, 3 and 10 have potential to affect the on road or segregated cycle network, including the PRoW linking Cross St and Ashley Way with Spike Island and the Ashley Way cycleway, due to their locations on or close to these cycleways. The nature of disruption will depend on the length and nature of construction periods. Therefore there is potential for a moderate negative cumulative effect.
Areas A, B & C Effect on the Freight Line during construction of the Freight Line Bridge will	Rail Network User High	Temporary Moderate Magnitude Short Term Direct	Moderate Negative Significance	The closures will be during quiet periods (weekends/night-time) on the Freight Line.	Low Negative Significance	**Areas A, B & C** Effect on the Freight Line.	Low Negative (Short term, Temporary, Direct)	There is potential that development 1 (Ditton Strategic Rail Freight Park) may affect rail users if closures of the line are required during construction. Any

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
necessitate 10 closures of the Freight Line.								effects would be temporary and of low significance.
Area D Traffic generated by construction and waste disposal activities together with the cumulative effects of construction and waste disposal activities at other works areas will result in delays to vehicular traffic.	Strategic Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance	The effectiveness of the traffic management, phasing and signing strategy can be monitored and adjusted to reduce delays to vehicular traffic. An extensive publicity campaign will give users advance warning of the road works.	Moderate Negative Significance	**Area D** Traffic generated by construction and waste disposal activities together with the cumulative effects of construction and waste disposal activities at other works areas will result in delays to vehicular traffic.	Moderate Negative (Short term, Temporary, Direct)	The traffic assessment for construction effects included other proposed developments. The only proposed development near to this area and therefore likely to have an effect is development 3. Therefore the residual effects are in fact cumulative effects. For further details see Chapter 16: Transport
	Local Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance					
	Bus User High	Temporary High magnitude Short Term Direct	High Negative Significance					
Area D The effect of construction activities on the PRoW along the Manchester Ship Canal and	Pedestrians High	Temporary High magnitude Short Term Direct	High Negative Significance	Construction activities to be staggered and carried out in two phases. During the first phase the	Moderate Negative	None	-	There are no other proposed developments which may effect these PRoWs.
	Cyclists High	Temporary High	High Negative Significance					

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
desire lines along Wigg Island will require closures of stretches of the paths.		magnitude Short Term Direct		PRoW can be diverted via desire lines along Wigg Island and in phase two the desire lines can be diverted via the Manchester Ship Canal.				
Areas E, F, G and H Delays to vehicular traffic as a result of the following: Increase in traffic as a result of construction and waste disposal activity and phasing of the construction work at Astmoor Junction. Construction of distributor roads along the Central	Strategic Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance	The traffic management and phasing of works employed at Astmoor junction, Weston link junction, Weston Point junction, M56 junction 12 and the Central Expressway distributor road works will be monitored and the phasing and	Moderate Negative	**Areas E, F, G and H** Delays to vehicular traffic as a result of the following: Increase in traffic as a result of construction and waste disposal activity and phasing of the construction work at Astmoor Junction. Construction of distributor roads along the Central Expressway	Moderate Negative (Short term, Temporary, Direct)	The traffic assessment for construction effects included other proposed developments. Proposed developments near to this area and therefore likely to have an effect are developments 5 and 6. Therefore the residual effects are in fact cumulative effects. For further details see Chapter 16: Transport
	Local Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance					
	Bus User High	Temporary High magnitude Short Term Direct	High Negative Significance					

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
Expressway between Halton Brow and Halton Lea. Construction of Western link junction and Weston Point Expressway junction.				traffic management adjusted to reduce delays to vehicular traffic. The Astmoor Road diversion will be via Daresbury Expressway and Bridgewater Expressway. The length of the diversion will be dept to a minimum and closures carried out during quiet periods (weekends, night-time) to reduce overall effect. An extensive publicity campaign will		between Halton Brow and Halton Lea. Construction of Western link junction and Weston Point Expressway junction.		

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
				give users advanced warning of the road works.				
Areas E, F, G and H Effect of the junction remodelling work on the surrounding PRoWs, cycleways and bridleways.	Pedestrians High	Temporary High magnitude Short Term Direct	High Negative Significance	The Astmoor Road and footpath closure to be carried out during quiet periods (weekend, night-time) to minimise impact to pedestrians and cyclists.	Moderate Negative	None	-	PRoWs in this vicinity are unlikely to be affected by any proposed developments.
	Cyclists High	Temporary High magnitude Short Term Direct	High Negative Significance		Moderate Negative	None	-	
Area I Closure of the SJB to all vehicular traffic for bridge reconfiguration work after opening of the New Bridge.	Strategic Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance	Diversions via the New Bridge will be maintained and advance signing used to route traffic onto the New Bridge. An extensive publicity campaign will give advanced	Moderate Negative Significance.	None	-	There are no other proposed developments which may affect the operation of the SJB.
	Local Highway Network User High	Temporary High magnitude Short Term Direct	High Negative Significance					
	BusUser High	Temporary High magnitude Short Term	High Negative Significance					

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
		Direct		warning of the road works.				
Operational Phase								
Improved journey times and an improved journey ambience for strategic trips.	Strategic Highway Network User High	Permanent High magnitude Direct Long term	High Positive significance	None	High Positive Significance	Improved journey times and an improved journey ambience for strategic trips.	High Positive (Permanent, Long-term, Direct)	The traffic assessment for operational effect included other proposed developments. Proposed developments near to this area and therefore likely to have an effect are developments 1, 2 and 3. Therefore the residual effects are in fact cumulative effects. For further details see Chapter 16: Transport
Improved journey times and an increase in journey ambience for cross-river trips.	Local Highway Network User High	Permanent High magnitude Direct Long term	High Positive significance	None	High Positive Significance	Improved journey times and an increase in journey ambience for cross-river trips.	High Positive (Permanent, Long-term, Direct)	
Improved bus journey times and an increase in journey ambience for cross-river trips.	Bus User High	Permanent High magnitude Direct Long term	Moderate Positive significance	Enhanced bus journey facilities following SJB de-linking.	High Positive Significance	Improved bus journey times and an increase in journey ambience for cross-river trips.	High Positive (Permanent, Long-term, Direct)	
No significant change in bus journey times or journey ambience for non cross-river traffic as a result of the Project.	Bus User High	Permanent Low magnitude Indirect Long term	Not significant	Supports implementation of Halton wide Sustainable Transport Strategy enhancement.	High Positive Significance	Support of the implementation of Halton wide Sustainable Transport Strategy enhancement	High Positive (Permanent, Long-term, Direct)	Other proposed developments are also likely to be part of Halton wide Sustainable Transport Strategy enhancement therefore there is a potential for positive cumulative effects.

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
Overall no significant change in pedestrian movements or access to local facilities for non cross-river trips as a result of the Project, but localised effects at Widnes Loops Junction.	Pedestrian High	Permanent Low magnitude Direct Long term	Low Negative significance	3 PRoW may be affected by construction of Speke Road Toll Plaza (St Michael's Golf Course) and Widnes Loops Junctions. Alternative routes will maintain access. Supports implementation of Halton wide Sustainable Transport Strategy enhancement.	Moderate Positive Significance	None	-	There are no proposed developments that are likely to interfere with these PRoWs.
Overall no significant change in cycle movements or access to local facilities for non cross-river trips as a result of the Project, but localised effect by Hallwood	Cyclists High	Permanent Low magnitude Direct Long term	Low Negative significance	Proposed diversion of Hallwood Park cycleway near the junction between the Central Expressway and the Southern Expressway	Moderate Positive Significance	None	-	There are no other proposed developments in the vicinity of Hallwood Park.

Effect	Receptor and importance	Nature of Effect	Significance	Mitigation & Enhancement Measures	Residual Significance	Cumulative Effect	Significance (and Nature) of Cumulative Effect	Explanation
Park and Widnes Loops junction.				due to Lodge Lane Junction infrastructure. Supports implementation of Halton wide Sustainable Transport Strategy enhancement.				

Table 21.9. Cumulative effects relating to Transport arising from the Project