



A7.2 APPRAISAL SUMMARY TABLES

Table A7.2.1 APPRAISAL SUMMARY TABLE OPTION A

A453 MULTI-MODAL STUDY

APPENDIX 7.2

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail - offset by their effect in road traffic reduction. Slight adverse from M1-Clifton dualling. Moderate impact from Single c'way bypass.	Large Increase – 60 houses Slight decrease – 150 houses	Moderate Adverse
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton dualling. Slight benefit from splitting traffic on bypass and existing road at Clifton. Bypass traffic creates moderate impact at crossing points.	'Losing' zones NO2=10, PM10=10. 'Winning' zones NO2=4, PM10=4, No change NO2=8, PM10=8.	Slight Adverse
	Greenhouse Gases	Moderate benefits from traffic reduction from public transport schemes. Moderate adverse impact from road schemes except single c'way scheme in Clifton. Overall less CO2 than do-minimum	Difference from Do minimum. = - 2.2%	Slight Benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites. Moderate to large adverse impacts from the major road schemes		Moderate Adverse
	Townscape	Moderate adverse impact from NET schemes. Slight adverse impact from bypass on quality of urban fringe amenity areas		Slight Adverse
	Heritage of Historic Resources	Strong chance of bypass directly affecting archeological sites not known to be exceptional. Slight adverse impact of minor widening near Clifton Green.		Slight Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers and M1-Clifton dualling. Moderate adverse impact from eastern bypass		Moderate Adverse
	Water Environment	Moderate adverse impact from eastern bypass on Fairham Brook valley.		Moderate Adverse
	Physical Fitness	Strong mode change incentive of whole option including cycle & pedestrian schemes would give Moderate benefit overall		Moderate Benefit
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents	Large reduction in road user accidents through the improved standard of the major highway. 30-year savings of: 8925.30 casualties, 666.2 fatal and serious casualties.	PVB = £94.8m	Large Benefit
	Security	Some moderate, overall slight improvements through higher quality and integration of public transport schemes. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency			
	Reliability	Moderate benefits from public transport and demand management schemes working together to check traffic growth and change mode of transport. Moderate benefit of the major highway schemes removing the rest of A453 congestion.		Moderate Benefit
	Wider Economic Impacts	The option as a whole maintains optimum levels of access compared with severe congestion in Do-minimum. Wider economic effects are not a major influence in this relatively confined Study area. There are not changes affecting individual large economic problems or opportunities		Moderate Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street and rail schemes at level crossings. Moderate increase from eastern bypass. Moderate benefit from cycle and pedestrian schemes. Slight reduction through Clifton.		Moderate Adverse
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and bus/NET/rail stop integration.		Moderate Benefit
	Land Use Policy	Moderate adverse impact from two schemes: Clifton Park & Ride, and Clifton Eastern bypass. Slight adverse impact from M1-Clifton dualling		Adverse
	Other Government Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral

Table 7.2.2 APPRAISAL SUMMARY TABLE OPTION A1

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail - offset by their effect in road traffic reduction. Slight adverse from M1-Clifton dualling. Moderate impact from Single c'way bypass.	Large increase - 60 houses Slight decrease- 150	Moderate Adverse
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton dualling. Slight benefit in Clifton from splitting traffic on bypass and existing road. Bypass traffic creates moderate impact at crossing points	Zones: Losing' NO2=10, PM10=10. 'Winning' NO2=4, PM10=4, Same NO2=8, PM10=8.	Slight Adverse
	Greenhouse Gases	Moderate benefits from traffic reduction from public transport schemes. Increase from road schemes except single c'way scheme in Clifton. Overall less CO2 than do-minimum	Difference from Do-min = -2.1%	Slight Benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites. Moderate to large adverse impacts from Clifton bypass		Moderate Adverse
	Townscape	Slight adverse impact from NET schemes. Slight adverse impact from bypass on quality of urban fringe amenity areas		Slight Adverse
	Heritage of Historic Resources	Strong chance of bypass directly affecting archeological sites not known to be exceptional. Slight adverse impact of minor widening near Clifton Green.		Slight Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers and M1-Clifton dualling. Moderate adverse impact from eastern bypass		Moderate Adverse
	Water Environment	Moderate adverse impact from eastern bypass on Fairham Brook valley.		Moderate Adverse
	Physical Fitness	Strong mode change incentive of whole option including cycle & pedestrian schemes would give Moderate benefit overall		Slight Benefit
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents	Large reduction in road accidents through improved standard of the major highway. 30 Year saving of : 9,087 casualties, 668 fatal and serious casualties.	PVB = £96m	Large Benefit
	Security	Some moderate, overall slight improvements through higher quality and integration of public transport schemes. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency	The strategy provides an excellent return on investment. The strategy provides a Net Present Value of £1,728m on a Present Value Cost of £274m, with a benefit to cost ratio of 7.30.	Net Present Value = £1,713m	Benefit to Cost Ratio of 7.30
	Reliability	Moderate benefits from public transport and demand management schemes working together to check traffic growth and change mode of transport. Moderate benefit of the major highway schemes removing the rest of A453 congestion.		Moderate Benefit
	Wider Economic Impacts	The option as a whole maintains optimum levels of access compared with severe congestion in Do-minimum. Wider economic effects are not a major influence in this relatively confined Study area. There are no changes affecting individual large economic problems or opportunities		Moderate Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street and rail schemes at level crossings. Moderate increase from eastern Clifton bypass. Reduction on A453 Clifton. Moderate benefit from cycle and pedestrian schemes.		Moderate Adverse
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and bus/NET/rail stop integration.		Moderate Benefit
	Land Use Policy	Moderate adverse impact from two schemes: Clifton Park & Ride, and Clifton Eastern bypass. Slight adverse impact from M1-Clifton dualling		Adverse
	Other Government Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail, offset by reduction in road traffic. Slight adverse from M1-Clifton dualling. Large impact of Dual c'way offset by lower noise levels on A453 in Clifton.	Large increase - 70 houses Slight decrease - 170	Large Adverse
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton dualling. Slight benefit from diverting traffic onto more open bypass environment and reducing emissions on existing road at Clifton compared with Do-minimum, but bypass itself is moderate adverse-from large traffic flow.	Zones: Losing NO2=10 PM10=10 Winning NO2=4 PM10=4. Same NO2=8, PM10=8.	Moderate Adverse
	Greenhouse Gases	Moderate benefits from traffic reduction from public transport schemes. Increase from the road schemes except single c'way scheme in Clifton. Overall less CO2 than do-minimum	Difference from the Do Minimum = - 2.1%	Slight benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites. Large adverse impact from the dual c'way bypass.		Large Adverse
	Townscape	Moderate adverse impact from NET schemes. Moderate adverse impact from bypass on quality of urban fringe amenity areas		Moderate Adverse
	Heritage of Historic Resources	Strong chance of bypass directly affecting archeological sites not known to be exceptional. Slight adverse impact of minor widening near Clifton Green.		Slight Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers and M1-Clifton dualling. Moderate adverse impact from eastern bypass		Moderate Adverse
	Water Environment	Moderate adverse impact from eastern bypass on Fairham Brook valley.		Moderate Adverse
	Physical Fitness	Benefits restricted to pedestrian and cycle schemes.		Neutral
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents	Large reduction in road user accidents through the improved standard of the major highway. A 30 year saving of 10190 casualties and 737 fatal and serious casualties.	PVB = £94.8m	Large benefit
	Security	Overall slight improvements through higher quality and integration of public transport schemes, but with low patronage level. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency			
	Reliability	Moderate benefit of the major highway schemes removing the rest of A453 congestion, but secondary congestion created on other roads.		Moderate Benefit
	Wider Economic Impacts	The option allows greatest traffic access, but disadvantages public transport travellers and encourages congestion and hence economic viability in adjacent local areas. Wider economic effects are not a major influence in this relatively confined Study area. There are not changes affecting individual large economic problems or opportunities		Moderate Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street and rail schemes at level crossings. Moderate increase from eastern bypass. Moderate benefit from cycle and pedestrian schemes. Significant reduction through Clifton.		Moderate Adverse
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and bus/NET/rail stop integration.		Moderate Benefit
	Land Use Policy	Moderate adverse impact from two schemes: Clifton Park & Ride, and Clifton Eastern bypass. Slight adverse impact from M1-Clifton dualling		Adverse
	Other Government Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral

Table A7.2.4 APPRAISAL SUMMARY TABLE OPTION C

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail. Slight benefit from lower traffic flow on A453 in Clifton compared with do-minimum		Neutral
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton scheme. Slight benefit from lower traffic flows on A453 in Clifton. Air quality will deteriorate beyond 2011 due to the increase of congestion (but Do –min also has increasing congestion)	Zones: Losing NO2=4 PM10=5 Winning NO2=4 PM10=4 Same NO2=11 PM10=12	Slight Adverse
	Greenhouse Gases	Slight overall benefit from traffic reduction from public transport and demand management schemes Overall less CO2 than do-minimum	Difference from Do Minimum = - 4.5 %	Slight Benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites.		Slight Adverse
	Townscape	Slight adverse impact from NET schemes. Slight adverse from minor enlargement of A453 through Clifton		Slight Adverse
	Heritage of Historic Resources	Small risk of directly affecting archeological sites not known to be exceptional. Slight adverse impact of minor widening near Clifton Green offset by lower traffic flows and congestion.		Slight Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers.		Slight Adverse
	Water Environment	Negligible changes affecting the water environment.		Neutral
	Physical Fitness	Benefits from pedestrian and cycle schemes and public transport schemes.		Slight Benefit
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents			Large Benefit
	Security	Overall slight improvements through higher quality and integration of public transport schemes. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency			
	Reliability	Moderate benefit from earlier implementation relieving A453 congestion, limited by reaching capacity between 2011 and 2021		Moderate Benefit
	Wider Economic Impacts	The option constrains commuter road use and slightly improves business viability. Wider economic effects are not a major influence in this relatively confined Study area. There are not changes affecting individual large economic problems or opportunities		Slight Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street, and rail schemes at level crossings. Moderate benefit from cycle and pedestrian schemes		Moderate benefit
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and bus/NET/rail stop integration.		Moderate Benefit
	Land Use Policy	Slight adverse impact from Clifton Park & Ride scheme.		Adverse
	Other Govt. Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral

Table A7.2.5 APPRAISAL SUMMARY TABLE OPTION D

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail. landscaped scheme on A453 in Clifton gives slight benefit compared with do-minimum.	Slight increase 50houses Slight decrease100	Neutral
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton scheme. Slight additional impact from higher traffic flows on A453 in Clifton.	Zones: Losing NO2=4 PM10=5 Winning NO2=4 PM10=4 Same NO2=11 PM10=12	Slight adverse
	Greenhouse Gases	Slight overall benefit from traffic reduction from public transport and demand management schemes Overall less CO2 than do-minimum	Difference from Do-min = -2.1%	Slight Benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites.		Moderate Adverse
	Townscape	Slight adverse impact from NET schemes. Slight adverse from enlargement of A453 through Clifton		Slight Adverse
	Heritage of Historic Resources	Small risk of directly affecting archeological sites not known to be exceptional. Slight adverse impact of minor widening near Clifton Green offset by lower traffic flows and congestion.		Slight Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers and M1-Clifton dualling.		Slight Adverse
	Water Environment	Negligible changes affecting the water environment.		Neutral
	Physical Fitness	Benefits from pedestrian and cycle schemes and public transport schemes.		Slight Benefit
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents	30 Year Saving of : 9,842 Casualties, 718 fatal and serious casualties.	PVB £102m	Large Benefit
	Security	Overall slight improvements through higher quality and integration of public transport schemes. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency	The strategy provides an excellent return on investment. The strategy provides a Net Present Value of £1,713m on a Present Value Cost of £258m, with a benefit to cost ratio of 7.65.	Net Present Value £1,713m	Benefit to cost ratio of 7.65.
	Reliability	Moderate benefit from earlier possible implementation relieving A453 congestion.		Moderate Benefit
	Wider Economic Impacts	The option constrains commuter road use and improves business viability. Wider economic effects in relatively confined Study area are concerned with maintaining viability of Nottingham. There are not changes affecting individual large economic problems or opportunities		Moderate Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street and rail schemes at level crossings. A453 in Clifton would remain at similar levels to do minimum. Slight benefit for cycle and pedestrian schemes		Slight Adverse
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and integration of bus/NET/rail stops.		Moderate Benefit
	Land Use Policy	Slight adverse impact from Clifton Park & Ride scheme.		Adverse
	Other Govt. Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral

Table A7.2.6 APPRAISAL SUMMARY TABLE OPTION E

OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE MEASURE	ASSESSMENT
ENVIRONMENT	Noise	Slight adverse impacts from public transport schemes –mainly NET and rail. Lowered scheme on A453 in Clifton gives slight benefit compared with do-minimum.	Moderate decrease -130 houses	Slight benefit
	Local Air Quality	Moderate benefits from public transport schemes. Negligible impact from M1-Clifton scheme. Moderate additional impact from higher traffic flows on A453 in Clifton.	Zones: Losing NO2=4 PM10=5 Winning NO2=4 PM10=4 Same NO2=11 PM10=12	Moderate adverse
	Greenhouse Gases	Slight overall benefit from traffic reduction from public transport and demand management schemes Overall less CO2 than do-minimum	Difference from Do-min = -2.1%	Slight Benefit
	Landscape	Neutral or slight adverse impact from public transport schemes. Slight or moderate adverse from Park & Ride sites.		Moderate Adverse
	Townscape	Slight adverse impact from NET schemes. Large adverse from major construction on A453 through Clifton		Large Adverse
	Heritage of Historic Resources	Small risk of directly affecting archeological sites not known to be exceptional. Moderate adverse impact of minor widening near Clifton Green.		Moderate Adverse
	Biodiversity	Slight adverse impacts from Trent junction rail flyovers and M1-Clifton dualling.		Slight Adverse
	Water Environment	Minor changes affecting the water environment. Construction in low permeability ground		Neutral
	Physical Fitness	Benefits from pedestrian and cycle schemes and public transport schemes.		Slight Benefit
	Journey Ambience	Public transport schemes combined and integrated contribute to overall Large benefit. Highway schemes contribute Moderate benefit.		Large Benefit
SAFETY	Accidents	Large reduction in road accidents through improved standard of the major highway. 30 Year saving of : 10,215 casualties, 739 fatal and serious casualties.	PVB = £104m	Large Benefit
	Security	Overall slight improvements through higher quality and integration of public transport schemes. No adverse impacts.		Slight Benefit
ECONOMY	Transport Economic Efficiency	The strategy provides an excellent return on investment. The strategy provides a Net Present Value of £1,741m on a Present Value Cost of £258m, with a benefit to cost ratio of 7.74.	Net Present Value = £1,741m.	Benefit to Cost Ratio of 7.74.
	Reliability	Moderate benefit from relief of A453 congestion.		Moderate Benefit
	Wider Economic Impacts	The option constrains commuter road use and improves business viability. Wider economic effects in relatively confined Study area are concerned with maintaining viability of Nottingham. There are not changes affecting individual large economic problems or opportunities		Moderate Benefit
ACCESSIBILITY	Option Values	Changes are restricted to Moderate benefits from introduction of NET schemes and improvements in pedestrian and cycle schemes		Moderate Benefit
	Severance	Slight increases in severance from NET schemes on-street and rail schemes at level crossings. A453 in Clifton would remain at similar levels to do minimum. Slight benefit for cycle and pedestrian schemes		Slight Adverse
	Access to the Transport System	New routes of NET schemes give moderate benefit. No schemes have adverse effects. Pedestrian schemes have slight benefit in multi-mode journeys.		Moderate Benefit
INTEGRATION	Transport Interchange	Moderate benefits accrue in Station improvements, Park and Ride, and integration of bus/NET/rail stops.		Moderate Benefit
	Land Use Policy	Slight adverse impact from Clifton Park & Ride scheme.		Adverse
	Other Govt. Policies	Negligible specific impacts on Departments other than Transport and Environment.		Neutral