Appendix E:
Appraisal Summary Table

BIRMINGHAM CYCLE REVOLUTION

Birmingham City Council

Appraisal Summary Table

Date produced:	25 April 2013

Contact:	
Name	Richard Leonard
Organisation	Birmingham City Council
Role	Promoter/Official

Name of scheme:	Birmingham Cycle City Ambition Grant Application
Description of scheme:	Cycle infrastucture corridors and routes throughout Birmingham - particularly connecting residential areas with employment centres.

Impacts		Summary of key impacts	Assessment			
			Quantitative	Qualitative	Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp
Economy	Business users & transport providers	The proposed cycle schemes is forecast to **increase cycling by 27%** as observed in cases such as the Cycling Demonstration Towns study. This will lead to improved health for employees that take up cycling. This, in turn, will reduce the number of short-term absences from work due to illness. Such reduction in sick-leave is considered entirely as a business benefit. This has been estimated as £4m for the Birmingham schemes, but could be potentially a lot more becuase conservative forecasting assumption have been adopted. Journey time changes have not been modelled for these schemes.	**Value of journey time changes(£)** **Net journey time changes (£)** 0 to 2min: N/A; 2 to 5min: N/A; > 5min: N/A	No journey time savings quantified. Improved health for employees and others quantified as business user benefits. Reduced work absences due to illness.	**£4m**	**High Beneficial**
	Reliability impact on Business users	The proposed cycle schemes include in-street and on-street cyling facilities. It **increases the cycle network by 115km** and **improves 97km of the existing network**. The improved segregation between cyclists and motorists will improve the reliability of jouneys considerably, with cyclists able to time their travel better and consistently travel within expected durations. Some crossing points are also improved as part of the supporting measures. Slower speed limits proposed in some areas will add further to journey time reliablity.	Journey time reliability benefits have not been quantified. The evidence base and research for cyclist journey time reliability is very sparse and accuracy of estimations may not be adequately reliable at present.	More segregation with motorised travel leading to more predictability of cycling journey times	N/A	**High Beneficial**
	Regeneration	Some of the cycling schemes such as the proposed extension of the BeActive by Bike programme through the **provision of 4750 bikes for use in deprived communities** to tackle barriers of engagegement will support community led regeneration. The provision of cycling lessons and learn to ride groups, led rides and cycle maintenance training will also have regeration and job prospect improvement impacts.	Increased levels of cycling within deprived communities through the targeting of schemes within Birmingham's CCAG application.	Less barriers to work and commuting to employment centres. Not quantified	N/A	**Beneficial**
	Wider Impacts	Wider impacts such as agglomeration benefits are often not considered significant for cycling schemes because of the levels of mode shift that are evident in comparable studies. However, it is clear that **taking around 2,000 drivers from the Birmingham road network used by cyclists** will to improve journey times for the remaining motorised users. This in turn will improve costs of travel and impact favourably on wider economic impacts.	No modelling has been carried out to quantify wider economic benefits of the cycling proposals but some benefits are expected because of the mode shift impacts of the proposals.	Reduced journey times for remaining motorised on the road network	N/A	**High Beneficial**
Environmental	Noise	The introduction of 'quiet route' cycle lanes and supporting 20mph zones will lead to a reduction in noice levels along key surburban roads in each quadrant. The scheme will also include revised on street way marking to slow vehicles close to each cycleway.	N/A	Reduced vehicle speeds, removal of traffic from key surburban roads	N/A	**Moderate Beneficial**
	Air Quality	The reduction of vehicle speeds on each of the 'routes' identified within the application will lead to a increase in local air quality. Transfer of commuters from car to cycle will reduce overall traffic volumes.	N/A	Reduced vehicle speeds, removal of traffic from key surburban roads	N/A	**Moderate Beneficial**
	Greenhouse gases	The proposed schemes are forecast to reduce the average distance travelled by motorised travel by around **8,000kms daily**. This translates to a significant reduction in CO2 emissions over the appraisal period. Note that the emissions are quantified over 30 years.	Change in non-traded carbon over 30y (CO2e): **8090** Change in traded carbon over 30y (CO2e): 0	Reduced veh kms; Reduced carbon emissions;	**£0.25m**	**Moderate Beneficial**
	Landscape	No assessment has been undertaken for the wider landscape benefits of the scheme.	N/A	N/A	N/A	**Neutral**
	Townscape	The scheme includes the improvement of 97km of the existing cycle network in Birmingham. This includes canal towpaths, cycle ways through the city centre, quiet routes outside the city centre and main cycle corridors providing access for cyclists across Birmingham. All of these measures will lead to improvements in local townscape through improved surfacing, removal of street 'clutter', improved signage and a reduction in traffic volumes	N/A	Improved local infrastructure, surfacing improvements, signage, reduction in traffic volumes	N/A	**Beneficial**
	Heritage of Historic resources	No assessment has been undertaken for the wider impact of the scheme on Heritage and Historic Resources	N/A	N/A	N/A	**Neutral**
	Biodiversity	No assessment has been undertaken on the impact of the scheme on Biodiversity	N/A	N/A	N/A	**Neutral**
	Water Environment	No assessment has been undertaken on the scheme's impact on the water environment	N/A	N/A	N/A	**Neutral**
Social	Commuting and Other users	The proposed cycle schemes are forecast to **increase cycling by 27%** as observed in cases such as the Cycling Demonstration Towns. Mode shift from motorised travel will tend to reduce vehicle travel time. However, the changes in travel time are likely to be modest at these levels. Therefore, no specific modelling for journey time improvements has been carried out. With regard to health, increased cycling leads to improved health for cyclists. This, in turn, will reduce the number of short term absences from work due to illness. Such reduction in sick-leave is considered entirely as a business benefit as it is reported under Business User Impacts as **£4m**.	**Value of journey time changes(£)** **Net journey time changes (£)** 0 to 2min; 2 to 5min; > 5min	Reduce motorised journey times; improved health resulting in reduced work absences due to illness.	N/A **(£4m, repoters as Business User benefits)**	**High Beneficial**
	Reliability impact on Commuting and Other users	The proposed cycle schemes are both on-street and off-street. These increase the existing cycle network by 115km and improve 97km of the existing network. The improved segregation between cyclists and motorists will improve journey reliability, with cyclists able to time their travel better and consistently travel within expected durations. Some crossing points are also improved as part of the supporting measures. Slower speed limits proposed in some areas will add further to journey time reliablity.	Journey time reliability benefits have not been quantified. The evidence base and research for cyclist journey time reliability is very sparse and accuracy of estimations may not be adequately reliable at present.	More segregation with motorised travel leading to more predictability of cycling journey times	N/A	**High Beneficial**
	Physical activity	Physical activity reduces the number of deaths in any age group. The proposed cycle schemes are forecast to **increase the number of cyclists by 27% in Birmingham**. Using the estimation methodology developed by the World Health Organisation economic benefits due to reduced mortality over the life of schemes are estimated to be around **£29m**.	Reduced mortality benefits have been calculated; absenteeism benefits are also calculated and reported separately; morbidity benefits have not been quantified, however.	Mortality benefits	**£29m**	**Beneficial**
	Journey quality	Journey ambience benefits for the Birmingham cycle schemes are made up of changes in cycle route environmental quality, comfort and convenience as well as perceived safety improvements. Using WebTag 3.14.1, ambience rates and an average cycle trip length for Birmingham, the journey ambience benefits have been assessed as being substantial, and total around **£49m over the full appraisal period**.	All journey ambience benefits are quantified according to Webtag 3.14.1.	Journey ambiance benefits; Bike safety facilities; parking and shower facilities	**£49m**	**High Beneficial**
	Accidents	Changes in numbers of accidents following implementation of the schemes have been quantified in monetary terms. Accident benefits are made up of two components: cycle-related accident increases due to increases in cycle usage and accident reductions due to reduced motorised vehicle kms. The overall effect is a negative impact of -£5m (discounted to 2010) over full appraisal period.	Accident benefits have been quanitifed in line with WebTag 3.14.1	Accidents fro increased cycling; Accident reductions from reduced car veh kms	**total -£5m**	**Moderate Disbenefit**
	Security	The installation of additional lighting (particularly under bridges) and improved way marking will increase perceptions of safety and will remove features at locations which are currently perceived as threatening and not conducive to cycle use.	N/A	Increase in perceived security, removal of features which foster security concerns	N/A	**Beneficial**
	Access to services	The scheme includes the **improvement of 97km of the existing cycle network** in Birmingham. This includes canal towpaths, cycle ways through the city centre, quiet routes outside the city centre and main cycle corridors providing access for cyclists across Birmingham. Particular benefit will be gained through improving cycle movements across the ring road and within the city centre. Improved way marking will support cross city journeys by bicycle.	N/A	Reduced severance to key services, accident reductions	N/A	**Beneficial**
	Affordability	The scheme will support current and future cycle users. Cycling is an affordable and accessible form of transport and the scheme is supported by a range of complementary measures delivered by Birmingham City Council and partners which aim to assist new and existing cyclists across the city as they look for sustainable travel options to work or for leisure purposes.	N/A	Supporting measures to assist members of the public use an affordable form of transport	N/A	**Beneficial**
	Severance	The application includes the installation and improvement of routes for cyclists to support access to the city centre across the ring road. Local severance will also be reduced through the improvement of quiet routes and improved canal towpaths to connect residents to local amenities. The installation of new signage will support local residents as they access key services and employment by traffic free and low-traffic level routes.	N/A	Reduced severance to key services, journey ambience benefits	N/A	**Beneficial**
	Option values	No assessment has been undertaken on option values.	N/A	N/A	N/A	**N/A**
Public Accounts	**Cost to Broad Transport Budget**	The costs in the appraisal include optimism bias at +15% and are adjusted to market prices by +19%. The costs and benefits are discounted to 2010 and are in 2010 prices. (In 2013 prices undiscounted and without optmism bias or market price adjustment the costs are: Central Govt: £17m Local Govt: £5.9m)	Scheme costs have been prepared in line with WebTag 3.5.9 on scheme cost preparation	N/A	**£24.6m**	
	Indirect Tax Revenues	N/A	N/A	N/A	N/A	