Department for Transport

TAG Forthcoming Changes: Units A4.1 and A5.1

Details

Description	**Updates to TAG units A4.1 and A5.1 to reflect a new approach to estimating the physical health benefits of walking and cycling, including an update to absenteeism benefits appraisal guidance.**
Units	A4.1 - social impact appraisal A5.1 - active mode appraisal
Change announced	August 2017
Expected release date	**November 2017**

Description

The new approach to estimating the physical health benefits of walking and cycling is simpler and needs less information from the user. It also:

- estimates the health benefits for different age groups (including older pedestrians and cyclists) and for both gender separately. This is based on the reduced relative risk for all-cause mortality.
- converts the time spent walking and cycling into Metabolically Equivalent Tasks (MET) hours, which provide a standard metric for physical exertion. This allows for potential future methodology development, including disease specific impacts and morbidity.
- revises recommendations around assumed rates of decay in volumes of additional walking and cycling following the initial investment;

- provides a WebTAG active travel health benefits toolkit, alongside a more detailed software tool on request,[1] to calculate the benefits, showing what inputs are needed from the user and what other assumptions are used.

Contact

For further information on this guidance update, please contact:

Transport Appraisal and Strategic Modelling (TASM) Division
Department for Transport
Zone 2/25 Great Minster House
33 Horseferry Road
London
SW1P 4DR
tasm@dft.gsi.gov.uk

[1] This tool runs in Analytica, a free viewer version which allows the model to be used can be downloaded at: http://www.lumina.com/products/free101/. Email tasm@dft.gsi.gov.uk to obtain a copy of the model to input into Analytica Free 101.

Detail – active travel health impacts

A completed research project (*SO17859 Research into valuing health impacts in Transport Appraisal*) provided a literature review on the science on physical activity and health, and a summary of current methods used in WebTAG and the World Health Organisation Health Economic Assessment Tools (WHO HEAT).[2] Based on this, the report proposes a refreshed method to calculate the physical health benefits of walking and cycling, and provides an example calculation for one scenario.

DfT will follow its recommendations to update WebTAG's approach. The revised Physical Activity Impacts sections of TAG unit A4.1 and A5.1 are also included as an annex to this document. A new TAG appraisal toolkit is also available on the WebTAG page.[3]

Current approach in WebTAG

The method is based on WHO's HEAT (2007 and 2011), and requires the user to provide estimates of:

- **the change in the number of persons walking and cycling** (based on inputting the number of trips and the assumption that 90% of trips are part of a return journey);
- **average time travelled by active mode by users per day** (calculated from average distance and speed along the specific route or area); and
- **the change in relative risk in the population of all-cause mortality** (using linear interpolation or extrapolation based on duration of activity relative to the indicative values from the research).

The physical activity impacts are calculated using the mortality rate of the age group 15-64 years old, with background mortality assumed at 0.0024 deaths (based on ONS, 2007). Gender and age differences are not directly taken into account.

[2] The report is available at https://www.gov.uk/government/publications/transport-appraisal-valuing-health-impacts

[3] https://www.gov.uk/government/publications/webtag-social-and-distributional-impacts-worksheets, refer to the "Active modes health benefits worksheet".

To calculate the time spent walking and cycling, the cycling and walking speed are selected by the user but are not assumed to affect the intensity of the physical activity (thus a faster speed will lead to a shorter duration and smaller health benefit).

The economic benefit of reduced mortality is then valued using the value of a prevented fatality given in the TAG Data Book.

The current guidance also suggests that the impact of different forecast assumptions on rates of decay (that is, the reduction in volumes of additional walking and cycling following the initial investment) should be tested. The worked example in Appendix B of WebTAG A5.1 assumes a 10% annual rate of decay, i.e. a 10% annual reduction in the walking and cycling after the initial investment. This is often taken as the 'recommended' WebTAG rate. However, the guidance does also say negative decay rates could apply to represent increased use encouraging others to take up active modes over time.

Updated approach

Fewer inputs required

Under the new WebTAG approach the user will only be required to estimate the number of new walking and cycling trips. The active travel health benefits toolkit then converts this into the number of individuals affected by the project using the same methods as currently described in WebTAG unit 5.1 (based on the assumption that 90% of trips are part of a return journey).

Default assumptions used

The worksheet also shows which other assumptions have been used. These are taken from National Travel Survey (NTS) data for Great Britain 2012-14, and are the recommended default assumptions, most importantly (for the calculation of health impacts): age/gender split, walking/cycling distance and walking/cycling speed. However, the user can vary these if they have robust scheme specific evidence. The user should report any changes to default assumptions and provide the evidence to support this.

The worksheet provides the default assumptions on the:

- average age and gender split of walking and cycling trips (source: NTS)
- mean distance of walking and cycling trips by age and gender (source: NTS, excluding top 1% of trips to limit the influence of outliers)
- walking and cycling speed by age and gender (source: NTS)
- number of ‘active days’ per year that new walkers and cyclists use the e.g. new pathway. The default is 220 ‘active days’ per year, based on the number of working days in a year. This is a conservative estimate as weekend use is not included.
- average Metabolically Equivalent Tasks (MET) for walking and cycling (source: the updated 2011 Compendium of Physical Activities[4])
- relative risks (RRs) for all-cause mortality for walking and cycling (source: Kelly et al. 2014 study).
- benefit capping of RR values at 0.70 and 0.55 for walking and cycling respectively, following similar approach used in HEAT (WHO 2014).
- background mortality rates for the UK population and average years of life lost (based on data from the Global Burden of Diseases 2015 study results for England)
- value of a Quality-Adjusted Life Year (QALY) at £60,000 in 2009 prices, with future benefits discounted at 1.5% (source: Department for Health).[5]

<u>Estimating health benefits by gender and age group</u>

The literature review indicated that health benefits of physical activity vary by gender and age. The current WebTAG does not take account of these differences. The new approach will estimate and monetise the health benefits for different age groups and for both gender separately.

The new approach uses METs and the reduced relative risk for all-cause mortality to calculate the change in mortality for the scenario. From this we

[4] https://sites.google.com/site/compendiumofphysicalactivities/
[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216003/dh_120108.pdf

estimate the number of deaths avoided by age and gender, and convert this to Years of Life Lost (YLLs). This is converted to a monetary impact by multiplying the YLLs by the value of a QALY.

Removing the decay assumption

As noted under ‘The current approach in WebTAG 4.1’, the current guidance suggests a 10% annual rate of decay for additional walking and cycling after the initial investment.

Although an assumption on decay may be reasonable for information and promotion campaigns, it is inconsistent with appraisal for other transport modes, where decay rates are not routinely applied.

Therefore, the default assumption is now zero decay. For information and promotion campaigns targeting behaviour change, it may be appropriate to apply a rate of decay and there is functionality to do this in the toolkit.

Expected impact of these changes

The new approach generally estimates greater economic benefits than the current WebTAG guidance. This is largely driven by 2 changes:

- removing the assumption of 10% annual decay; and
- including the health benefits of walkers aged 75+ and cyclists aged 65+ (previously not accounted for using the HEAT methodology). They are a small proportion of users but the health benefits from physical activity amongst older people are much higher.

For example, the health benefits assessed in the example appraisal at annex B of TAG unit A5.1 (p.19) would increase from £1.3m to £4.8m under the updated methodology.

Future Research

This first phase of research looked at health benefits from reducing premature death (mortality), i.e. benefits from gaining more life years. Phase 2 of this research project will look at the impacts of walking and cycling on morbidity (i.e. the increased quality of life) and will explore disease specific impacts. Early indications suggest the key disease specific impacts include a reduction in the risk of depression for younger users and a reduction in the risk of dementia for older users.

Detail – absenteeism benefits appraisal guidance

Background

Reductions in short term absence from work can result from the improved levels of health of those who take up physical activity as a result of a walking or cycling intervention. TAG Unit A4.1 currently contains guidance on how to include these impacts in transport appraisal. Current guidance recommends a range of between 6-32% for the reduction in absenteeism attributable to undertaking 30 minutes of exercise per day.

Since this guidance was last updated, Public Health specialists at Greater London Authority (GLA) have carried out a review of recent developments in the evidence base for absenteeism benefits. Their recommendation arising from this was to use a 25% reduction per 30 minutes of exercise per day to calculate absenteeism benefits. This is within the WHO range cited above, and is supported by all of the key sources evidence considered in the GLA meta-analysis.

In particular, NICE (2008)[6] uses a 27% reduction in short-term sick leave, based on research conducted by the Alberta Centre for Active Living in Canada, which is in line with the 24% reduction demonstrated by Van Amelsvoort et al (2006)[7]. These are both within the range of 13% to 40% reduction found in Lechner et al (1997)[8].

[6] NICE (2008): *Business Case Tool for Physical Activity in the Workplace*
[7] Van Amelsvoort et al (2006): *Leisure time physical activity and sickness absenteeism: a prospective study*
[8] Lechner et al (1997): *Effects of an Employee Fitness Program on Reduced Absenteeism*

In line with this new evidence, **WebTAG will be updated to recommend a reduction of 25% as the central case**.

Annex A: Revisions to TAG Unit A4.1

New or changed text is highlighted in yellow.

Physical Activity Impacts

Introduction

There is longstanding recognition of the interrelation between transport, the environment and health[9]. Transport can affect levels of physical activity. Physical inactivity is a primary contributor to a broad range of chronic diseases such as coronary heart disease, stroke, diabetes and some cancers[10]. Physical activity also has an important role to play in preventing weight gain and obesity, and improving mental health. This section provides guidance for appraising the health benefits of active transport (i.e. cycling and walking).

Physical Activity

There is a strong evidence base behind the impact of physical activity on health. A 2012 meta-analysis estimated physical inactivity to be responsible for 5.3 (of 57) million deaths worldwide, similar to the burden of tobacco smoking and obesity.[11]

The World Health Organisation has produced the Health Economic Assessment Tool (HEAT) to conduct an economic assessment of the health benefits of walking and cycling, to support its inclusion in appraisal figures (WHO, 2007, 2011 & 2014). It estimates the value of reduced mortality risk that results from specified amounts of walking or cycling. It should be noted that relatively modest changes in walking and cycling can lead to significant economic benefits or disbenefits.

It is assumed that there is a dose-response type effect where greater levels of activity yield greater benefits to individuals, especially those induced to active modes from a relatively inactive lifestyle.

WebTAG's recommended method for appraising health impacts of active travel is based on estimating the change in premature death (mortality) resulting from a change in walkers and cyclists, i.e. health benefits from gaining more life years. An intervention which increases the number of active users is expected to reduce the relative risk of all-cause mortality. This can be monetised by estimating the number of deaths avoided, converting to Years of Life Lost (YLLs) and then multiplying by the value of a Quality-Adjusted Life Year (QALY). In the event that a scheme reduces the number of walkers and cyclists, this method can be used to monetise the health disbenefit.

For interventions targeted at cycling and walking promotion, physical activity benefits will usually be a large proportion of the scheme's benefits. For schemes primarily involving other modes, physical activity impacts will be important where it is demonstrated that there is significant mode shift due to the intervention to or from active modes.

Further research is ongoing on the relationship between physical activity and health[12]. Therefore the values derived from applying the methodology below should be taken to be indicative of the order of magnitude of the expected effect, rather than as

[9] Road Transport and Health, British Medical Association, 1997
[10] Department of Health (2004): *At Least Five a Week.* A report from the Chief Medical Officer.
[11] Lee et al (2012): *Impact of Physical Inactivity on the World's Major Non-Communicable Diseases*, available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3645500/
[12] TAG Unit A5.1 –Active Mode Appraisal includes suggestions and sensitivity tests around the assumptions concerned with active mode forecasting and the potential longevity of targeted interventions.

precise estimates. However, this approach only captures the benefits of reduced premature mortality, and does not capture the impacts on the quality of life (morbidity). Future research may be needed to explore the impacts of physical activity on reducing the risk of the incidence of specific diseases and the associated morbidity (i.e. health related quality of life).

Methodology

Reporting Physical Activity Impacts in the Appraisal Summary Table

In preparing inputs for the Appraisal Summary Table (AST) the changes in the number of walkers and cyclists should be estimated using forecasting tools or methods where walking or cycling measures are key to the intervention being considered (see TAG Unit A5.1 – Active Mode Appraisal).

The AST entries should describe how the intervention affects the number of active users. The entry in the Overall Assessment column in the AST should provide the estimated value of changes to health, between the without-scheme and with-scheme scenarios, the impacts on pedestrians and cyclists being identified separately.

It should be remembered that schemes aimed at active mode use may contain a number of trade-offs between different impacts in the appraisal, including physical activity. For instance, a cycle bridge over a source of severance such as a railway line may have a key economic efficiency benefit of reducing journey times, but can reduce health benefits due to existing cyclists travelling shorter distances. However, it may also encourage more cycle use amongst users previously travelling by mechanised modes. The active travel health benefits toolkit supporting this guidance adopts a simple, proportionate approach of estimating health benefits based on the number of additional users and standard NTS active travel profiles. However, where such local effects are important this can be reflected by the analyst by varying assumptions around journey distance, speed etc (see section XX below for further details).

In circumstances where forecasts of the change in number of active users is available or can be produced, the resulting health impact should be monetised..

In schemes that are demonstrated to have an immaterial impact on physical activity, such as inter-urban road building, it will be satisfactory to enter a qualitative indicator in the AST. In this context, "immaterial" means that the impacts are recorded as neutral, or in some marginal cases, slight. Where the impacts may be larger, monetisation should be undertaken. This includes interventions that may, for example, ease travel by motorised modes and encourage car use rather than active modes.

Calculating Physical Activity Impacts

To calculate physical activity impacts, the minimum input required from the user is to estimate the change in the number of walking and cycling trips. The active travel health benefits toolkit can then calculate the estimated impact on mortality and monetise this using the default assumptions detailed in the following paragraphs. These default assumptions can be adjusted by the user, if local data is available or if schemes are particularly targeted at certain demographics.

The user inputs the expected change in the number of walking and cycling trips. The toolkit converts this into the number of users affected, based on the assumption that 90% of trips are part of a return journey.

The age and gender distribution of the users is then estimated, using the average age and gender split of cycling and walking trips in England from the National Travel Survey

(NTS) 2012-2014. If there is local evidence or schemes are particularly targeted at certain demographics (for instance commuters or school children) then the default age and gender distribution can be changed appropriately.

Table X: Gender and age split of the observed main-mode cycle and walking trips

	Cycling			Walking		
Age group	Male	Female	Total	Male	Female	Total
0-19	16%	4%	20%	15%	15%	30%
20-49	39%	16%	55%	17%	24%	41%
50-64	13%	5%	18%	7%	9%	16%
65-80	5%	1%	6%	5%	5%	10%
80+	1%	0%	1%	1%	1%	2%
Total	74%	26%	100%	45%	54%	99%

The NTS data on distance and speed is used to calculate the average time spent cycling and walking per person, by age and gender. The top 1% of trips are excluded in order to limit the influence of outliers.

Table X: Average cycling and walking times per person per. Unit: h/week

	Cycling		Walking	
Age group	Male	Female	Male	Female
0-19	2.37	2.79	2.14	2.03
20-49	3.28	2.76	2.17	2.07
50-64	3.53	2.64	2.33	2.35
65-80	2.99	2.29	2.35	2.32
80+	2.05	2.00	2.28	2.08

This time is converted to Metabolically Equivalent Tasks (MET) hours using the 2011 Compendium of Physical Activities[13] where cycling is 6.8 METs and walking is 3.3 METs. METs provide a standard metric for physical exertion.

Table X: Average MET and mMET increase per person due to cycling and walking.

	Cycling		Walking	
	MET		mMET	
Age group	Male	Female	Male	Female
0-19	16.12	18.99	7.05	6.69
20-49	22.29	18.80	7.14	6.82
50-64	23.98	17.96	7.67	7.76
65-80	20.33	15.56	7.76	7.65
80+	13.92	13.63	7.52	6.87

[13] https://sites.google.com/site/compendiumofphysicalactivities/

The mortality impact is calculated using log-linear relative risks (RRs) for all-cause mortality for regular walkers and cyclists, relative to the presence of mortality in the population as a whole, based on Kelly et al 2014[14]). For cycling the RR per 11.25METh/week is 0.90, so that these cyclists, in any given year, are thus 10% less likely to die from any cause than non-cyclists. Benefits are capped at RR values of 0.70 and 0.55 for walking and cycling respectively, following a similar approach used in HEAT (WHO 2014). These RRs are assumed to sufficiently take into account other forms of physical activity so that we can estimate health benefits of cycling and walking directly, without taking other forms of physical activity into account.

The number of deaths avoided (or incurred) by age and gender is then estimated by multiplying the change in background mortality with the background mortality for that age and gender group. This is based on the Global Burden of Disease 2015 study results for England. It assumes that cycling and walking will not decrease mortality in the youngest age group (0-19). The number of deaths is then converted to Years of Life Lost (YLLs) by age and gender, using the same GBD 2015 study

Table X: Background mortality rates by age and gender

Age group	Male	Female
0-19	0.00042	0.00032
20-49	0.00118	0.00071
50-64	0.00627	0.00419
65-80	0.02459	0.01669
80+	0.11471	0.09948

Table X: Average discounted and undiscounted YLL loss per death.

	Discounted YLLs		Undiscounted YLLs	
Age group	Male	Female	Male	Female
0-19	47.7	48.0	81.7	82.8
20-49	34.1	33.6	47.2	45.9
50-64	23.7	23.7	28.9	29.0
65-80	15.1	14.3	16.6	16.3
80+	5.8	5.8	6.4	5.7

The resulting YLLs are converted to monetary impacts through multiplying by the value of a Quality-Adjusted Life Year (£60,000[15] in 2012 prices and present values), with future benefits discounted at 1.5%

An example calculation using this methodology is detailed in the research report for DfT by Tainio, M., Woodcock, J. et al (2016): *Research into valuing health impacts in Transport Appraisal.*

It is assumed that the appraised walking and cycling is the derived demand from transport need, and physical activity undertaken specifically to gain the health benefits of physical exercise is not included. The benefits outlined in this section should therefore not be subject to the 'rule of a half', which is consistent with the treatment of accident costs (see Section 2).

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[14] Kelly, P. et al (2014): *Systematic review and meta-analysis of reduction in all-cause mortality from walking and cycling and shape of dose response relationship*

[15] Department for Health (2010): *Quantifying health impacts of government policies*

Estimating Impacts on Absenteeism

Reductions in short term absence from work can result from the improved levels of health of those who take up physical activity as a result of a walking or cycling intervention. These benefits can be monetised and entered into the appraisal as a value in the AST under the Physical Activity heading though it should be noted that these are business benefits rather than consumer benefits – the benefits that employers gain through reductions in lost productivity.

Physical activity programmes involving 30 minutes of exercise a day have been shown to reduce short-term sick leave. NICE (2008)[16] uses a 27% reduction in short-term sick leave, based on research conducted by the Alberta Centre for Active Living in Canada, which is in line with the 24% reduction demonstrated by Van Amelsvoort et al (2006)[17]. These are both within the range of 13% to 40% reduction found in Lechner et al (1997)[18]. Following this, WebTAG recommends to use a 25% reduction.

In the UK the average absence of employees is 6.8 days per year, of which 95% is accounted for by short-term sick leave (CBI, 2003). Therefore, for each employee who takes up physical exercise for 30 minutes a day for 5 days a week as a result of a walking or cycling intervention, the annual benefit to employers is likely to be (on average) at least 0.4 days gross salary costs (6% of 95% of 6.8 days). This will be expressed at factor cost so needs uplifting to market prices by the market price adjustment factor of 1.19.

In order to calculate the benefits, this figure needs to be combined with the average gross salary costs and the number of affected working people. Average gross salary cost figures may be found in Data Book Table A1.3.1 with average hours worked. Market price values should be used, for consistency with other elements of the appraisal (see TAG Unit A1.1). This value should also increase over time to reflect increased wages and productivity in line with real GDP per capita.

The number of working people affected may be calculated from the number of new walking and cycling commuters who are expected to use the facility. These benefits should not be subject to the 'rule of a half' which is consistent with the treatment of other benefits from improved levels of health and accident costs.

In practice, the analyst may wish to employ a similar method to that used to estimate benefits due to decreased mortality, noting that the aforementioned findings were not taken from the same evidence, but are highly comparable. Therefore a linear interpolation of reduced sick days may be accrued where individuals travel for less than 30 minutes per day, or extrapolated if activity is longer.

Further Considerations

There are several assumptions made in the currently recommended methodology that could be refined with further research, or further resources that are likely to not be appropriate for the scope of the appraisal. These should require no specific action from analysts undertaking the appraisal methodology itself. However, these may be useful to bear in mind when interpreting and communicating the results. The following issues may be pertinent:

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[16] NICE (2008): *Business Case Tool for Physical Activity in the Workplace*

[17] Van Amelsvoort et al (2006): *Leisure time physical activity and sickness absenteeism: a prospective study*

[18] Lechner et al (1997): *Effects of an Employee Fitness Program on Reduced Absenteeism*

This approach only estimates the benefits of reduced premature mortality, and does not capture the impacts of physical activity on health related quality of life (morbidity). For instance, no account is made for the economic disbenefits of obesity, especially in children, or of reduced risks of depression and dementia. Furthermore, NICE have produced a report on the Wider Societal Impacts of health. This is a good starting point for those interesting in appraising the broader welfare impacts of improvements to a population's health beyond the direct health benefit (be it mortality and/or morbidity) enjoyed by the active mode user.[19]

The impact of a shift to walk or cycle is assumed to be the same for all individuals in that age and gender group. However, depending on their baseline levels of activity, an individual may derive little additional benefit from walking or cycling to reduce the chance of death by inactivity, or have a reduced relative risk through being partially active. There are some allowances made for this in the recommended approach, as relative risk reductions are capped. WHO stress that this methodology should not be used for populations with very high average levels of physical activity (e.g. the equivalent of more than 2 hours of brisk walking a day, which is equivalent to around 8.6 METh/day). Caution should also apply when using the approach in predominantly sedentary populations, since the underlying risk estimates were derived from populations with a broad distribution of activity levels. The recommended methodology could therefore slightly underestimate the effect in very sedentary population groups.

[19] NICE: *Methodology for estimating "Wider Societal Benefits" as the net production impact of treatments*, available at: https://www.nice.org.uk/Media/Default/About/what-we-do/NICE-guidance/NICE-technology-appraisals/DH-Documentation-for-Wider-Societal-Benefits.pdf

Annex B: Revisions to TAG Unit A5.1

2.1.7 The existing evidence base on how long the demand impact of active mode schemes will last is relatively sparse. For behavioural interventions, such as Smarter Choices initiatives, it may be reasonable to assume initial increases in walking and cycling decline over time. This phenomenon can be represented in forecasts through use of a decay rate, so that demand in the 'with scheme' scenario converges with the 'without scheme' demand forecasts over time. For infrastructure investments however, assuming such a reduction in annual demand over time would be inconsistent with appraisal for other transport modes, where decay rates are not routinely applied. Therefore the recommended default assumption for infrastructure investments for active modes is zero decay.

3.2.1 Physical activity impacts typically form a significant proportion of benefits for active mode schemes. The recommended method for estimating physical activity impacts of active travel is based on monetising the change in mortality resulting from a change in walkers and cyclists, i.e. the benefits from gaining life years. The method requires estimates of the number of new walkers or cyclists as a result of the scheme. This approach is supported by a strong evidence base, which is also included in WHO's 2014 update of its Health Economic Assessment Tool. More detailed guidance on estimating these benefits is given in the physical activity section of TAG Unit A4.1 - Social Impact Appraisal.

5.1.2 (4th bullet): **Other key assumptions**. All other assumptions underpinning the appraisal need careful consideration and justification since these will impact on the sensitivity of the scheme assessment and the resulting costs and benefits produced.. The spreadsheet toolkit supporting this guidance contains default assumptions around journey speeds and lengths, but where these are varied by the user based on local evidence the results may be highly sensitive to changes made.

References

Kelly et al (2014) Systematic review and meta-analysis of reduction in all-cause mortality from walking and cycling and shape of dose response relationship. *International Journal of Behavioral Nutrition and Physical Activity*, 11:132.

Tainio, M., Woodcock, J. et al (2016) Research into valuing health impacts in Transport Appraisal

World Health Organisation (WHO) (2014), Economic Assessment of Transport Infrastructure and Policies

B.3.6 As discussed in section 2.1, it is assumed that the initial increase in active mode users seen in 2012 is maintained indefinitely. This is a reasonable assumption as this is an infrastructure investment where the path is built and importantly maintained over time.

B.4.5 The physical activity benefits of the scheme are estimated for the potential new walkers and cyclists along the scheme route using the active travel health benefits toolkit. The user inputs the estimated number of new cycling and walking trips and the toolkit then calculates the estimated impact on mortality of the scheme using default NTS-based assumptions on age, gender, distance, speed, relative risks for all-cause mortality and the background mortality. The reduction in mortality is monetised using the value of a Quality-Adjusted Life year (£60,000 in 2012 prices and values)[20] with future benefits discounted at 1.5%.

B.4.6 In this example, the total monetary benefit from physical activity is £4.2m, in 2010 present values after discounting. More detail on this methodology is given in the physical activity section of TAG Unit A4.1 - Social Impact Appraisal.

N.B: The example case study will also be updated to be reflective of the new guidance.

[20] IDGVLH (2014) Report on valuation of SLYs (unpublished)