



ACTIVE TRAVEL FUND TRANCHE 3

TO	Fran Manancourt	FROM	Phil Freestone & Michael Dodds
DATE	04 August 2021	CONFIDENTIALITY	Public
SUBJECT	Tees Valley Schemes Economic Appraisal – Linthorpe Road		

This Technical Note outlines the economic appraisal for the three schemes submitted as part of Tees Valley Combined Authority's (TVCA) application for the Active Travel Fund 3 (ATF3).

SCHEMES

A summary of the proposed interventions for the three schemes is provided below.

Linthorpe Road Phase 2 (Middlesbrough):

- § Reallocation of road space to extend the one-way light segregated cycleways on both sides of Linthorpe Road installed through ATF2 from Ayresome Street to the Devonshire Road / Cumberland Road / The Avenue junction;
- § Signalising the Devonshire Road / Cumberland Road / The Avenue junction;
- § Advanced Stop Lines (ASLs) for cyclists at three signalised junctions;
- § Rationalisation of bus stops and installation of two bus stop islands;
- § Closure of three side roads and provision of continuous footway with cycle stands and planting;
- § Relocation of two Puffin crossings;
- § Introduction of a 20mph speed limit on Linthorpe Road and The Avenue; and
- § Traffic calming measures on The Avenue as far as Lancaster Road.

COST ESTIMATES

Scheme cost estimates were developed using a range of construction rates provided by a qualified WSP Quantity Surveyor to provide a cost range. The costs for the proposed infrastructure on each scheme are presented in the associated spreadsheets.

Uplifts were applied to the construction costs as outlined in the table below.

Element(s)	Growth factor
Provision for Diversion of Existing Services	20%
Prelims, Traffic Management & Overheads & Profit	45%
Design & Contract Management	20%
Risk / Contingency	30%
Assumed construction inflation @ 1Q 2021	0.5%
Optimism Bias	15%

WSP's Project and Commercial Services team have applied a risk calculator to establish the relevant Optimism Bias for this stage of scheme development. Through an assessment of the risks an Optimism



Bias level of 15% has been applied. This reflects that the schemes will be delivered within the highway boundary, with minimum intrusion or significant works that will impact on utilities. This figure is also in line with the default level for active mode appraisal as specified within the Department for Transport's (DfT) Active Modes Appraisal Tool (AMAT).

The lower, upper and average costs calculated for the schemes shown in the table below.

Scheme	Lower cost estimate	Upper cost estimate	Average cost estimate
Linthorpe Road Phase 2	£1,301,600.00	£2,427,000.00	£1,864,300.00

For the purposes of the funding bid, it has been deemed appropriate to adopt the **upper cost estimates** for the economic appraisal for the proposed schemes given the early stage of scheme development.

BASELINE DEMAND

Linthorpe Road Phase 2 and Woodland Road Phase 2

The Census 2011 layer in the Propensity to Cycle Tool (PCT) was used to approximate the baseline commuter cycling flows for the Linthorpe Road route. Given the variation in the cycling flows along the route, a weighted average was calculated for each. The PCT flows represent the number of commuters and therefore were multiplied by two to reflect two-way trips (i.e. outbound and homeward trips). Furthermore, to convert from commuting to all trip purposes (i.e. leisure / recreational, education, business etc.), the figures were multiplied by three (based on data from the National Travel Survey). This is in line with the specified methodology outlined by the DfT in their ATF Tranche 3 Value for Money Guidance.

Census Journey to Work data was also used to estimate the number of commuters who walk to work along the Linthorpe Road route. This was derived from the Datashine Commute website, which presents the numbers of commuters travelling by each mode between MSOA centroid pairs. Where the most direct walking route between MSOA centroids used a section of the proposed infrastructure improvements, the flows were summed to estimate the level of demand. To convert the commuter pedestrian flows to the total number of trips on foot along the route, they were multiplied by 32. This is based on doubling the numbers to reflect two-way trips (i.e. outbound and homeward trips) and then multiplying by 16 to convert from commuting to all-purpose walking trips. This is again in accordance with the specified methodology outlined by the DfT in their ATF Tranche 3 Value for Money Guidance.

FORECAST DEMAND

The DfT's Uplifts Tool (2021) was used to approximate the number of pedestrian and cycling trips with the scheme. The calculation is based on the locality of the scheme (i.e. Middlesbrough) and the intervention costs by infrastructure category. Within the Uplifts Tool, intrinsic walking and cycling potential levels have been determined for each local authority, based on socio-demographics and geography. The walking and cycling trips derived were used for the initial economic appraisal.

APPRAISAL

The DfT's Active Modes Appraisal Tool (AMAT) (July 2021) has been used for the economic appraisal.

The assessment was undertaken following the methodology proposed in the ATF Tranche 3 Value for Money Guidance for schemes over £2m in cost, using the DfT Uplifts Tool (2021) to calculate the forecast demand.

The following assessments were undertaken:

- § Scenario 1 – The Uplifts Tool has been used to calculate the forecast demand, as per the methodology proposed in the ATF Tranche 3 Value for Money Guidance for schemes over £2m in cost.
- § Scenario 2 – The forecast number of trips in the next highest intrinsic cycling / walking potential category of the Uplifts Tool has been used to reflect that these schemes link to existing infrastructure and therefore could reasonably be expected to benefit from additional demand than a standalone scheme.
- § Scenario 3 – An average of the lower and upper cost estimates has been adopted to reflect the uncertainty in the costs at this early stage of scheme development. The default intrinsic cycling / walking potential categories of the Uplifts Tool have been used based on the scheme location.

Based on appraisals undertaken for similar schemes, the maintenance costs were assumed to be 5% of the total scheme costs every 10 years.

A 30-year appraisal period was selected, reflecting the high standard of the infrastructure to be installed as well as the plan that TVCA and the boroughs have to invest in pedestrian and cycling infrastructure further along the routes to extend the active travel network in the region.

SUMMARY OF RESULTS

The BCRs calculated in each scenario for the three schemes are presented in the table below.

Scheme	Scenario 1 (core)	Scenario 2 (higher uplift)	Scenario 3 (ave. costs)
Linthorpe Road Phase 2	1.79	2.56	1.85

Value for Money Category

The calculated BCRs indicate that the schemes vary between Medium and High Value for Money (VfM) across the scenarios.

Linthorpe Road Phase 2

Within the Uplifts Tool, Middlesbrough is classed as having a low intrinsic walking and cycling potential, although the Linthorpe Road scheme connects a densely populated area of the town to the ATF2 scheme which links to the town centre and the main campus of Teesside University on the route. Therefore it is felt that there is justification for using the moderate intrinsic cycling and walking potential level in line with that for neighbouring authorities (Darlington and Stockton) and thus it is expected that the scheme would deliver a **High** VfM as per Scenario 2.

Additional Benefits

This economic appraisal has not taken into account further potential sources for additional benefits.

These could include benefits associated with improved safety for pedestrians and cyclists as a result of the proposals, wider well-being and health benefits, or wider leisure and tourism benefits that are not included



within the AMAT. Therefore, it is likely that the benefits achieved through the proposed schemes have been underestimated, which would further strengthen the Value for Money case.

The VfM assessment should also consider the results of the multi-criteria assessment framework exercise which has been undertaken to help prioritise TVCA ATF3 schemes. The framework includes the following metrics:

- § Effectiveness
 - Catchment population
 - Propensity to cycle and walk
 - Strava data
 - Safety
- § Strategic fit
 - Support development sites
 - Education
 - Access to healthcare, leisure and retail
 - Project alignment
 - Deprivation
- § Economic
 - Scheme costs
- § Deliverability
 - Planning permission
 - Land ownership
 - Public and political support
 - Timescales for delivery