

Anderson J (Jayne)

From: David French <[REDACTED]>
Sent: 01 November 2022 13:25
To: Anderson J (Jayne)
Cc: Douglas.Milne@morton-fraser.com
Subject: A720 Sheriffhall Roundabout Public Inquiry Ref: CPO-230-1 — Inquiry Statement
Attachments: Sheriffhall overarching objectors - Inquiry statement.docx

Categories: CPO-230-1 ROD 230 5 & 6

Hi Jayne,

Attached is the Inquiry Statement for the Sheriffhall overarching objectors. If a different file format would be preferred, or if there are any other problems, please let me know.

The expert report mentioned in our Inquiry Statement will be submitted on 20th December.

Many thanks,
David French

A720 Sheriffhall Roundabout CPO-
230-1

Sheriffhall Overarching Objectors'
inquiry statement

1 Introduction

We are individual, non statutory objectors who formed a group for convenience after the Pre Inquiry Meeting on 4th October 2022. We reiterate, that we sincerely appreciate the privilege of being able to participate in this Inquiry.

We are:

Dr Shona McIntosh

David Mumford

Dr Rupert Nash

Alexander Brett Walker

Daniel Wight

For ease we have called ourselves Sheriffhall Overarching Objectors (ShOO).

We have also been joined by Spokes, and Spokes members David French and Michaela Jackson assisted with and put their names to this Statement. Spokes is the Lothian Cycle Campaign – a non party political voluntary organisation, founded in 1977, and now with a membership of over 1000.

We are commissioning a report on greenhouse gas emissions by an expert in this field, Dr Andrew Boswell. His report will be submitted by December 20th.

We submit in this report that the Economic Case for the scheme is already seriously prejudiced in the light of new Scottish Government policy and outdated traffic modelling inputs and escalating inflation. We also submit that it hinders inclusive economic growth.

The expert witness report on greenhouse gas emissions finds that the approach of Transport Scotland (TS) and its consultants to the impact assessment of greenhouse gas emissions in the Environmental Report is unlawful. The impacts of GHGs are “Major Adverse” on the Institute of Environmental Management & Assessment (IEMA) significance criteria, such that the Scheme locks in emissions and does not make a meaningful contribution to Scotland's trajectory towards net zero.

We submit that even with mitigation there will be significant adverse environmental damage to nature, Scotland's cultural heritage and through the disposal of toxic waste.

We submit that the Scheme is myopic in that any flow and active travel advantages around the immediate Scheme are outweighed within a few hundred metres through congestion and safety hazard. The proposed roundabout would probably be less safe than the existing one.

We submit that future development near the scheme and the sub region can thrive in the absence of the Scheme through community wealth building, place making, 20 minute neighbourhoods and a reduction in car dependency.

2 Need and Economic Case

2.1 The City Deal

The need and economic case is hitched firmly to the Edinburgh and South East Scotland City-Region Deal (“City Deal”). This is quango-led and operates outside the statutory town planning framework. It is unashamedly driven by the need to accelerate economic growth, particularly house building, while paying lip service to inclusivity. It can be seen from the Policy Justification section of our submission that such a brash approach needs to be tempered by for example the Scottish Ministers’ Infrastructure Investment Plan 2021 (IIP) stresses the need to include natural infrastructure, digital communities and “no one left behind”. The National Performance Framework is strong on these themes also. The City Deal’s redeeming feature is that the current Deal has bet on digital, cultural and brain driven developments, largely tied to our centres of learning excellence. Latterly, it has woken up to the benefits of community wealth building. It is strong on training.

But it is based on a trickle-down economic model and references as its main guide Oxford Economics, a consultancy wedded to a low tax, low interest, high growth regime.

It supports five new towns in the region including Shawfair and Greater Blindwells. 1,600 houses are approved at Lesser Blindwells and an area reserved for a further 6,000 but subject to the scrutiny of the Local Development Plan process. We have yet to see what direction NPF4 takes with 75% of household growth in Edinburgh and the Lothians coming from the rest of Scotland where areas are losing population such as North Ayrshire, West Dunbartonshire, remote and rural Scotland and even Glenrothes New Town. So new towns are being built when the old new towns such as Glenrothes and Irvine are losing population. The Housing Need and Demand Assessment 3 shows that only 10% is housing need, the rest, demand from inward migration¹. We await the 2022 Census results to see the continuing effect of the fall in the birth rate and the increase in the over 75s cohort.

Edinburgh and South East Scotland is also a supply side dependent regional economy where there is a shortage of key workers and materials. So the City Deal pump priming is simply inflating housing costs.

But positively, City Deal investments, ‘Big Moves’ in digital “data driven”, cultural and brain jobs is to be acknowledged. So the question is – are they dependent on the Sheriffhall Roundabout Scheme? The three remotely close are the Usher Institute/BioQuarter about 5 km away along the busy Old Dalkeith Road; the Food and Drink Innovation Hub, 5 km away and will have a bespoke vehicular access off the A1 and Musselburgh Rail Station (7 minutes to Waverley, 20 minutes to Dunbar) and Easter Bush is 8 km away with access to the Straiton or Loanhead junctions. The Dunard Concert Hall will be in the City Centre; The National Robotarium is out west; Edinburgh Futures and Bayes Centre is at the old Edinburgh University.

Of the new towns, the Shawfair master plan is essentially based on a 20 minute neighbourhood with rail station, school catchment and town centre, with employment on the doorstep and facing central Edinburgh (Photo Production). At Blindwells the boast is that it will have sustainable transport over the private car, reduction of waste and resource consumption, transport hub, footpath/cycleway to Prestonpans rail station and dedicated bus lanes². Greater Blindwells will be subject to statutory scrutiny through the Local Development Plan Process.

The Scottish Ministers were excoriating about SESplan (2016), saying they were “not satisfied that the Plan has been informed by an adequate and timely Transport Appraisal” and “The plan does not

¹ <https://esescityregiondeal.org.uk/s/SES-HNDA3-Final-Report.pdf>

² [Blindwells New Settlement DF | East Lothian Council](#)

take sufficient account of the relationship between land use and transport”³. So the regional strategy all fell apart when it first came under statutory scrutiny. TS fell back on the outdated SESplan 2013.

Despite this planning vacuum through which the Sheriffhall Scheme seeks justification, the City Deal does offer something through its ‘Big Moves’. But it is stretching credulity to maintain that they are in any way dependent on the Sheriffhall Scheme. It is not only that they are some distance from the Scheme but they are digital based and their locations lend themselves to sustainable transport access. The new link using existing road space at minimal expense for buses between Niddrie and BioQuarter is an example and serves this development better than Sheriffhall, which will further congest Old Dalkeith Road.

The as-yet unfunded Bus Rapid Transit that is developing in east Edinburgh to match the west Edinburgh scheme could get a boost from the scrapping of Sheriffhall, as could numerous active travel schemes such as the Dunbar to Musselburgh core active travel route (c £25 million)⁴.

2.2 Opportunity Cost: Sheriffhall v Sustainable Travel

The City Deals ‘Big Moves’ can be better served by sustainable transport. Yet a sustainable transport option was never assessed, only seven introverted road options. So like the east Edinburgh Bus Rapid Transit, a number of these schemes are not funded - money that can be better spent if the Sheriffhall Scheme is scrapped.

The Scottish Government would pay £120 million and this was meant to be the cost of the scheme (at Q2 2018) but it is known that TS is looking for S75 payments from Shawfair developers. The convention was to use 3.5% to 3.8% per annum inflation. So by conventional wisdom £130 million would be realistic. The transaction will be done through City Deal and this will account for 86% of its transport budget.

However, TS acknowledges that inflation in the building industry is over 20% per annum at the moment and that there is supply chain shortage. But that is not all. TS is using 15-20% Optimism Bias, yet at Aberdeen Western Peripheral the cost of the scheme was exceeded by over 25% even at the contract stage. At Sheriffhall there are as yet serious, unknown subterranean problems due to a geological fault and old, extensive mine workings.

We have attempted through discovery to get an up to date estimate for the Scheme but as yet nothing has been forthcoming. However, is it not unrealistic to calculate the optimism bias at 80% in view of the Aberdeen overshoot after contracts and the ground conditions at Sheriffhall. With inflation currently at 10% pa, the project cost could realistically approach £300 million.

Regardless of the eventual cost of the scheme, the money would be better spent on improving sustainable transport infrastructure. £120m could, for example, pay for approximately 100 km of “Cycle superhighways”⁵, which would be enough to completely revolutionise cycling in each of Scotland’s cities. Alternatively, it would pay for a free bus pass for everyone in Midlothian for 10 years, which would do far more to reduce congestion on the A720.

3

<https://www.gov.scot/binaries/content/documents/govscot/publications/correspondence/2016/11/sesplan-strategic-development-plan/documents/16-may-2019---scottish-ministers-decision/16-may-2019---scottish-ministers-decision/govscot%3Adocument/16%2BMay%2B2019%2B-%2BScottish%2BMinister%2527s%2BDecision.pdf>

⁴ [Segregated Active Travel Corridor Feasibility Study | East Lothian Council](#)

⁵ [Cycle City Ambition: typical costs of cycling interventions - GOV.UK](#)

2.3 Who Pays What

So even with S75s there will be a substantial deficit. Where will this come from? The Benefit Cost Ratio would plummet, but even this is academic if there is no additional government money from down the back of a sofa or if council tax payers are to contribute substantially to the Scheme as they did at the A1 junction improvement (QMU).

2.4 Benefit Cost Ratio

An up to date figure for the cost of the Scheme is “crucial” (TAG) in order to work out the BCR. This has two sides, the cost of the scheme and the economic savings through time and collisions.

The estimates for time saved depend critically on the quality of the traffic modelling, which is discussed in detail in section 5. In short, we argue that the modelling is deeply flawed and does not reflect Scottish Government policy. Therefore the estimates of time saving used to feed into the TUBA model are untrustworthy.

The choice of using a willingness to pay mode is inherently biased towards car drivers and passengers - i.e. those transport users who can afford to pay more for their time, which is directly in conflict with “inclusive economic growth”, one of the key themes of the National Transport Strategy 2 (NTS2)⁶. The stage 3 report mentions “inclusive growth” exactly once in the introduction (1.1.9) before ignoring this. We discuss further in section 2.7 below.

It is easy to extrapolate that with a cost of 2.5 times the original and traffic numbers (car-kilometres travelled) falling from plus 17.5% (TS model) to minus 20% (30% City of Edinburgh), the scheme is in BCR deficit.

2.5 Congestion on Local Roads

TS acknowledges that there will be an increase in traffic on local roads but it has not included this congestion in the BCR calculations nor bus hold ups. It can be seen from TS’s figures that there are more hold ups on other bus routes that do not go through Sheriffhall, for example at Loanhead.

2.6 Congestion on The A720

STPR2 has looked at congestion along the A720 and its heat map shows congestion at nearly all junctions. SESplan (2016) pointed to the need for further improvements (three lane dual?) as this Scheme was only a “first step”. Induced traffic is discussed in Section 5.. So even if you sailed over Sheriffhall, you could be stuck in a 4 mile queue going west from Gilmerton/Loanhead (photo production). This is acknowledged by AECOM - “the proposed scheme has not been developed to solve congestion along the bypass nor across the wider area but to address operational difficulties” (1.6).

2.7 Inclusive Economic Growth

One of the explicit purposes of the Scheme is to encourage *Inclusive* Economic growth, not growth at any price, nor growth that exclusively benefits the more well off in the region. The IIP’s and Programmes for Government are strong on this. Although late in the day, AECOM has rightly homed in on areas included in the Scottish Index of Multiple Deprivation (SIMD), where there are “lower levels of car availability, increasing dependence on public transport”. They state that 24% of

⁶ <https://www.transport.gov.scot/publication/national-transport-strategy-2/>

households in the region have no access to a car, but this disguises the fact that the figure for Edinburgh City is 40% and it is a fair assumption that it is even higher in areas with a low SIMD index. So if “none are to be left behind”, one area of focus should be the 40% plus households in the deprived areas that do not have access to a car and who are likely to be dependent on active or public transport.

In depth studies of these areas have been undertaken by the Joseph Rowntree Foundation⁷, Poverty Action⁸ and Close the Gap⁹. The statistics are telling and the lived stories behind them must be dire: 24% child poverty, 22% classed as economically inactive, high proportion of older workers on low income, 14% of workers getting below the living wage, in work poverty – 73% of people in work are in poverty, women more likely to be living in poverty, child care more than rent and mortgage, 85% of care sector are women employees but low percentage in trades.

The six most deprived areas in the Central Belt lie very close to the motorway network.

Do we eliminate deprivation by spending 86% of the City Deal transport budget on a single road junction when these areas are dependent on a reliable and frequent bus service? Yet, it is not just the scale of this roads budget that is prejudicial, perhaps to the extent of breaching the Equality Act, but day after day people from these areas will have to risk injury crossing busier roads to get to the bus stop and facilities and breath in the car fumes that lead to the death of 35,000 people in the UK every year through pulmonary illness. To suggest that these people should simply buy a car is bland rhetoric.

Young people are also discriminated against as they rely on bus and active travel to get to work. Perhaps they can afford an old banger, perpetuating the induced car generation cycle.

TS and City Deal has lost sight of the need for inclusivity as it chants the mantra of growth at all costs. Sheriffhall will benefit the better off with at best remote trickle down to the deprived areas.

Even geographically the cited deprived areas are not close to the Scheme. Niddrie, for example, lies between the BioQuarter/Royal Infirmary to the south and the City Centre to the north. How can it be argued that it is better for them to get in a car, drive the six km to Sheriffhall along a congesting Old Dalkeith Road, to pick up their journey along the A720. Similarly at Mayfield, where they would drive through Dalkeith to the A7 to get the six kilometres to Sheriffhall to pick up the A720. This is faintly risible when these areas lie close to designated employment zones, A7 urbanisation in case of Mayfield.

So it fails inclusivity on all counts other than remote trickle down. Indeed it is harmful by increased congestion on local roads and bus routes and starving public transport and active travel of investment.

TS cannot meet the City of Edinburgh Council (CEC) and Midlothian Council (MLC) recommendations to have dedicated bus lanes at the Scheme.

2.8 Collisions

Collisions are factored into the economic modelling and safety is one of the scheme objectives. It uses a model but surely it can be seen from heat maps along the A720 that Sheriffhall is no worse, indeed better than other junctions. The figures have been requested of TS through discovery but as yet have not been provided.

⁷ [Poverty in Scotland 2022 | JRF](#)

⁸ [Transport and Child Poverty – Beyond the pandemic](#)

⁹ [Gendered economic recovery for Scotland](#)

A collision at Sheriffhall is more likely to be a prang rather than a pile up, since traffic is generally moving more slowly than, for example, traffic from the A701 joining the bypass at Straiton junction. The relationship between congestion and collisions is not yet well-understood¹⁰, but we note that the safety record at Sheriffhall in recent years is comparable to, or even better than, the other large junctions on the A720^{11 12}. The local authorities during consultation have commented that the enlarged, un-signalised roundabout at the Sheriffhall Scheme could induce higher speeds and more traffic¹³.

The model ignores the local road network where pedestrians must negotiate even busier roads. More vehicles on the road mean more deaths, brain damage and maiming.

Another model used is to test driver stress, but there is no model to test pedestrian or cyclist stress. So much for the sustainable transport hierarchy that puts car use as the lowest priority. But even drivers on local roads will suffer as they wait even longer at junctions such as Gilmerton crossroads and Eskbank Toll.

2.9 Community Benefits

There would no doubt be some benefits flowing from the Procurement Act 2014 as there would be in any public works contract. But as yet these benefits are unknown and better benefits could be achieved by targeting the money directly such as at the proposed 360 Centre at Cockenzie that will train young people in green economy skills– but funding has not been allocated.

2.10 Community Wealth Building

Belatedly, City Deal acknowledges the Centre for Local Economic Strategies (CLES) economic model, which attempts to build wealth around local areas. Although conceived independently, the 20 minute neighbourhood concept and the 2019 planning Acts placemaking complement community wealth building. Like Shawfair to the north the current placemaking consultation by Midlothian Council town planners in Dalkeith is to use the 20 minute neighbourhood to create a place that can look away from Sheriffhall¹⁴. The Planning Advice Note (PAN) sets out a guide for place making that concludes “Give people an alternative to the car”.

‘Spaces for People’ during Covid gave us a glimpse of what neighbourhoods might look like without the dominance of the motor car – less pollution, wider pavements to socialise in safety and former rat runs now safe for children to play.

2.11 Conclusion

¹⁰ [Current Understanding of the Effects of Congestion on Traffic Accidents - PMC](#)

¹¹ <https://www.crashmap.co.uk/Search>

¹² [Road Safety Data - data.gov.uk](https://www.data.gov.uk)

¹³ <https://www.gov.scot/binaries/content/documents/govscot/publications/foi-eir-release/2022/08/foi-202200278136/documents/foi-202200278136---information-released/foi-202200278136---information-released/govscot%3Adocument/FOI%2B202200278136%2B-%2BInformation%2Breleased.pdf>

¹⁴ Midlothian Council – Place making Consultation Dalkeith, October 2022.

Not only does the scheme fail on its objectives notably road safety and fail on cost grounds but it positively harms inclusivity and communities.

Productions

1. Photo – Promotion Hoarding Shawfair
2. Photo – Gantry sign 4 mile queue westbound from A720 Gilmerton/ Loanhead/Loanhead Junction.
3. Core Document Map. TS requested to produce.

3 Policy Justification

3.1 Policy rationale for proposal

The central need given for the proposed Scheme is to reduce congestion at the Sheriffhall roundabout caused by shared strategic and local traffic use, remove a barrier to local and strategic movements and provide benefits for businesses, travellers and local communities.

The proposed Scheme is said to contribute towards the Scottish Government's overall objectives to provide an efficient, safe and integrated transport system to act as a key enabler for sustainable economic growth.

The existing junction is said to limit economic development, impede bus operations and access to planned park and ride and has a severance effect for pedestrians and cyclists.

According to The National Planning Framework ("NPF3"), 2014, improved internal transport links are necessary to facilitate growth¹⁵. NPF3 identifies that in the Edinburgh city-region, strategic, cross-boundary transport infrastructure improvements are required to unlock effective housing land. It specifically identifies that road network capacity, including at the A720, has particular implications for future development, a matter reflected in the South East Scotland Strategic Development Plan ("SESPlan, 2013")¹⁶.

More recently the City Deal, signed in 2018, is a £1.3 billion programme covering six local authorities, the city Region's universities and colleges and business and third sectors. Over 15 years the £1.3 billion funding will support a range of Deal activities across five Programme themes (covering Housing, Innovation, Skills, Culture and Transport). The City Deal identified transport as one of the barriers to growth and committed the Scottish Government to investing £140 million on strategic transport improvements. This specifically includes £120 million to support improvements to the A720 City Bypass for the grade separation of Sheriffhall roundabout. It identifies that this work will improve road safety and journey times for all road users, bring economic benefits across Edinburgh and South-East Scotland; and improve accessibility for all modes of transport including walking and cycling. Accordingly, the proposed Scheme contributes to the need to support fair regional access and growth by removing the barrier to movement between Local Authority Areas created by the junction.

The proposed scheme has now been in gestation for over 15 years. It was recommended in the Strategic Transport Projects Review in 2008, it is justified by the 2014 National Planning Framework 3, the preferred option for the Scheme was identified in 2017 and the draft Order and Environmental Statement were published in 2019.

3.2 Problems with this rationale

Since 2019 robust scientific evidence on climate change has shown that the rate of global warming is more rapid than previously forecast¹⁷, and the catastrophic consequences are already starting, with the worst effects in the poorest countries around the globe and amongst the most deprived sections of the population. In Scotland the updated international evidence on climate change has led to radical revisions of policy at the national and local

¹⁵ [National Planning Framework 3 - gov.scot](#)

¹⁶ [SES Regional Planning](#)

¹⁷ [AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability — IPCC](#)

level. These make the rationale for the Sheriffhall Roundabout obsolete. Current policies directly relevant to the Sheriffhall proposals include the following.

Scottish National policy

2019 Climate Change Scotland Act and 2009 Climate Change Scotland Act

The construction of the Scheme would involve immense carbon emissions, primarily through the consumption of diesel oil, concrete and steel, when immediate reductions in emissions is essential to avoid catastrophic climate change. Furthermore, the Scheme will almost certainly induce more motorised vehicle use in its lifetime, generating further carbon emissions.

Implementation would therefore directly impede Scottish Ministers in their obligation under the Climate Change Act (Part 1) to 'ensure that the net Scottish emissions account for the year 2030 is at least 75% lower than the baseline ...'.

The Act explicitly states the need for action to achieve reductions in carbon emissions within Scotland: 'All of Scotland's statutory targets are economy-wide; including all territorial greenhouse gas emissions and a fair share of those from international aviation and shipping, as well as territorial removals (including from the land use sectors). The statutory framework sets a default position that the targets are to be met through domestic action alone, without any use of international offset credits.'

Under Section 94A of the Climate Change Scotland Act 2009: '... where the Scottish Ministers publish an infrastructure investment plan. (2) They must also publish an assessment of the extent to which investment in accordance with the plan is expected to contribute to the meeting of the emissions reduction targets.' Although in the Scottish Government's Infrastructure Investment Plan 2021-22 to 2025-26: progress report - 2021 to 2022 (published 2022) Annex C provides a carbon assessment of the infrastructure plan, it is at an aggregate level, and is acknowledged to be 'only a partial or crude estimate of the actual emissions'. It makes no attempt to quantify the construction or operation emissions for each Scheme. This is fundamental to assessing how the climate targets might be affected by infrastructure proposals. The A720 Sheriffhall Scheme is not assessed even to this superficial level.

The Scottish Government's Update to 2018-2032 Climate Change Plan, Dec. 2020¹⁸

The Scheme fundamentally contradicts key goals of the Scottish Government as stated in their updated 2018-2032 Climate Change Plan:

- '3.3.1 ... transport... continues to be Scotland's biggest emitting sector, accounting for 35.6% of emissions in 2018
- 3.3.2 Our National Transport Strategy (NTS2), published on 5 February, ... *embeds taking climate action as a core priority ... and is clear about the need to reduce unsustainable travel.* This strategic aim will guide our actions as we address climate change ...

¹⁸ [Climate Change Plan 2018-2032 - update: strategic environmental assessment - draft - gov.scot](https://www.gov.scot/publications/updates/2020/12/18-climate-change-plan-2018-2032-update-strategic-environmental-assessment-draft/pages/10)

- 3.3.3 ... it is self-evident that managing transport demand and embedding behaviour change will also be of vital importance. Cars currently account for almost 40% of transport emissions, therefore, the predominance of car use cannot be overlooked. NTS2 commits us to look beyond technological developments and *clearly states that the Scottish Government will not build infrastructure to cater for forecasts of unconstrained increases in traffic volumes*. The Committee on Climate Change (CCC) has also recommended that we reduce the demand for less sustainable transport modes and therefore, following the sustainable travel hierarchy, we will continue to promote active travel and a shift to more sustainable modes, while deprioritising single-occupancy car use.
- 3.3.7 ... the [COVID19] pandemic has presented opportunities to live and work differently. There has been a mass shift to home working in some professions. ONS' latest research on homeworking found that 44% of Scotland's workforce were working from home in April 2020 compared to 4% in 2019. Furthermore, Transport Scotland found that 36% of people agree that they will work from home more often in the future. This provides an opportunity to *consider how remote and flexible working could offer benefits for people in a variety of jobs, while reducing demand for commuter travel...* Sustained remote and local working practices could ... caus[e] less congestion. Reducing congestion, in turn, will allow public transport to run more smoothly and improve safety for active travel.
- 3.3.18 By 2045, in line with our vision in NTS2, we will have a sustainable, inclusive, safe and accessible transport system, The Sustainable Travel and Investment Hierarchies [1st Walking and wheeling; 2nd Cycling; 3rd Public Transport; 4th Taxis and shared transport; 5th Private car] will have informed infrastructure development and ensure that transport options focus on reducing inequalities and the need to travel unsustainably. *We will not have catered for unconstrained increases in traffic volumes and will first make best use of existing assets.'*

In particular, the rationale for the Scheme is now outdated by the commitment in the Updated Climate Change Plan to Outcome 1: '*To address our overreliance on cars, we will reduce car kilometres by 20% by 2030.*' (p.221)

Scotland's National Strategy for Economic Transformation. 1 March 2022¹⁹

This states: 'Our vision is to create a wellbeing economy: a society that is thriving across economic, social *and environmental dimensions*, and that delivers prosperity for all Scotland's people and places. *We aim to achieve this while respecting environmental limits, embodied by our climate and nature targets.*' (Executive Summary) It clearly implies that economic growth should be within the constraints of achieving net zero carbon emissions:

'We want businesses to be exemplars, recognising and acting on their responsibilities to fair work and net zero. Taking action that protects and sustains our environment and natural world.' (Conclusion)

The Strategy aims for Scotland to be: '*an international benchmark for how an economy can transform itself, decarbonise and rebuild natural capital whilst creating more, well-paid and*

¹⁹ [Scotland's National Strategy for Economic Transformation - gov.scot](https://www.gov.scot/publications/national-strategy-for-economic-transformation/pages/1-march-2022/)

secure jobs and developing new markets based on renewable sources of energy and low carbon technology' and 'a country *where economic power and opportunity are distributed fairly across our regions*, cities and towns, rural and island communities.'

National Performance Framework: National Outcomes. 22 June 2022²⁰

The Scottish Government's Wellbeing Economy Monitor will complement traditional metrics like Gross Domestic Product (GDP) and include measures such as child poverty, levels of greenhouse gas emissions and biodiversity, and fair work indicators to consider Scotland's economic success.

Kate Forbes, Cabinet Secretary for Finance and the Economy, said: 'Our vision for Scotland's economy is to create a system which prioritises the collective wellbeing of current and future generations. While traditional economic metrics, such as GDP, will remain important measures of Scotland's economic success, this new monitor will ensure we are tracking how to build a fairer, healthier and greener economy.' This collective wellbeing is defined in terms of National Outcomes to which the Scottish Government is committed. These are titled: Children and Young People, Economy, Fair Work and Business, International, Communities, Education, Health, Poverty, Culture, Environment and Human Rights.

<https://nationalperformance.gov.scot/national-outcomes>

In relation to the Economy and Fair Work and Business outcomes the economic case for the Sheriffhall flyover Scheme seems outdated, based on pre-pandemic patterns of work and preceding recognition of the climate emergency. The Scheme would certainly undermine the Environment, Communities and Health outcomes and would probably undermine Children and Young People and Poverty outcomes.

Midlothian Council policy

Scotland's Changing Climate – Midlothian's Climate Change Strategy. Aug. 2020²¹

The vision of this Strategy is: 'To become an earth friendly Council, resource aware and committed to working in partnership with others to achieve our net zero carbon ambition by 2030 and ensure that our actions today assist future generations to create a resilient and more sustainable future in Midlothian.'

It commits Midlothian Council to: 'accelerating development of the Midlothian Active Travel network including cross-boundary connections for longer distance commuting and leisure routes; and accelerating organisational change to extend home working and reduce the need to travel to work.' One of its objectives is 'To take a 'One Council' approach to reducing carbon emissions and putting this objective at the heart of our organisational activities, processes and decisions'.

With regard to transport, the Strategy acknowledges that: 'The transport sector produces the highest greenhouse gas emissions and it is increasing. The provision of transport infrastructure, which connects people with places and enables people to make sustainable transport choices and, in turn, more sustainable journeys, could make a significant contribution to lowering emissions.' (p.16)

²⁰ [National Outcomes](#)

²¹ [Midlothian Council Climate Change Strategy - August 2020](#)

There are numerous references to promoting environmentally sustainable forms of travel:

- 'The Council's Active Travel Strategy 2019/2024 also includes a programme of development to extend and improve the network of walking and cycling routes across Midlothian... A land use and transport hierarchy, which prioritises walking and cycling and public transport above car use, is essential ...' (p.16)
- 'The Midlothian Local Development Plan, the Council's Travel Plan and the Active Travel Plan all seek to promote sustainable travel by providing policy support, establishing objectives and identifying actions which: Reduce the need to travel; Reduce journeys by car; Promote walking, cycling and public transport as climate friendly alternatives; Improve walking, cycling and public transport infrastructure; Develop cycle/footpaths as part of the wider Midlothian Green Network; Develop links and connections with Borders Rail stations and other places of interest; and Identify developer contributions towards sustainable transport infrastructure.' (p.18)
- 'The Council acknowledges that in order to achieve sustained modal shift in travel choices this has to be matched by a commitment to: upgrade and develop the walking, cycling and public transport infrastructure and develop a network that is accessible for everyday journeys; make logical connections between rail and bus stations/stops and cycle paths/footpaths; and *prioritise active travel and public transport modes over the car to make them more attractive.*' (p.19)

Midlothian Active Travel Strategy 2018-21²²

This Strategy is designed to 'aid the increase of walking and cycling journeys, *especially for commuting* and short trips to local facilities' and includes:

- Objective 1. Raise awareness of all aspects of active travel and promote walking and cycling as alternative transport modes for short trips and commuting.
- Objective 2. Encourage more people to walk and cycle more often by providing them opportunities to do so.
- Objective 3. Increase the availability of active travel infrastructure and develop infrastructure improvements which encourage active travel.

Edinburgh City Council policy

City Mobility Plan 2021-2030²³

This sets out Edinburgh City Council's strategic approach to the sustainable, safe and effective movement of people and goods around Edinburgh. It is premised on recognition that transport is the single biggest contributor to greenhouse gas emissions, including carbon, and central to the damage we are doing to our planet. To meet the Council's goal of becoming net carbon zero by 2030, it is changing its transport policies and practises to create mobility systems that by 2030 are carbon emission free, efficient, accessible and affordable, and allow people to spend more time improving their quality of life. It aims for

²² [Midlothian Active Travel Strategy](#)

²³ [About the City Mobility Plan 2021-2030](#)

cleaner air, more walking, wheeling and cycling, more local spending, and *fewer journeys to work*. Specific measures include:

- 'Policy Measure MOVEMENT 12 – Strategic and Trunk Road Network. *When proposals are made to expand capacity on the strategic and trunk road network, including the city bypass, the Council supports any additional capacity being reserved for public transport, high occupancy vehicles and active travel modes.*'
- 'Policy Measure MOVEMENT 9 – Regional Interchanges. Investigate opportunities to expand existing and create new strategically placed transport hubs on the edge of the city where people travelling into Edinburgh can switch to or between public transport and active travel. Interchanges will include facilities to support sustainable travel.'

In approving the City Mobility Plan – Mode Share Targets at a meeting of the Edinburgh City Transport and Environment Committee on 11 November 2021, the Council adopted:

'...the proposed mode share targets, which are based upon planning for a 30% reduction in kilometres travelled by car by Edinburgh residents to contribute to the Scottish Government's target of a national reduction of 20% in car-kilometres by 2030. The proposed higher target for a 30% reduction in car-kilometres reflects the city's ambition to build on existing levels of connectivity and by delivering the measures set out in the CMP over its 10-year lifespan.' (Sec. 2.4, Transport and Environment Committee Report).

East Lothian Council policy

Climate Change Strategy 2020-2025²⁴

This Strategy sets out how East Lothian Council will:

1. reduce emissions to reach Net Zero as soon as reasonably practicable and by 2045, and help to mitigate against further global temperature rise; and
2. adapt to and prepare for future changes in our climate. One of the two overall aims is to: 'work with our communities and partners towards making East Lothian a carbon neutral county, enabling the county to deliver its part of wider national and international commitments...'

The second key outcome identified by the Strategy is: '*Active Travel and Sustainable Transport are used for everyday journeys, to drastically cut emissions from transport and improve air quality.*' It acknowledges that transport currently accounts for the largest source of Scotland's total greenhouse gas emissions (37%) and road transport emissions are the largest contributor to Scotland's transport emissions. To meet this outcome the Council commits, amongst other things, to:

²⁴ https://www.eastlothian.gov.uk/downloads/download/13283/climate_change_strategy_2020-25

- *'Work with our partners, including national transport agencies and local public transport providers, to tackle the challenge of increasing emissions from transport and prioritise active and sustainable transport...'* (p.55)
- *'Continue to work with partners including the Scottish Government's 'Smarter Choices, Smarter Places' programme and our Area Partnerships on behaviour change interventions to encourage the shift to active and sustainable transport modes...'* (p.56)
- *Promote implications for long-term health and wellbeing, contribution to Placemaking, reducing social isolation and reducing inequalities through reduced reliance on cars'.* (p.59)

The fifth key outcome is: 'A Low Carbon and Sustainable Economy'. The rationale is that: 'The move towards a sustainable and localised economy will contribute towards reducing the carbon emissions that cause global warming. *A thriving localised economy* creates local benefits and opportunities, *reduces the need to travel*, and promotes vibrant and sustainable communities.' (p,73) The Council already supports a focus on local employment and local markets and reducing food miles, i.e. reducing the need for travel. To meet this outcome the Council commits, amongst other things, to:

- *'Balance East Lothian's growth aspirations with our outstanding natural environment and quality of life.'* (p.75)
- *'Work with businesses to promote resource efficiency and sustainability, encouraging low carbon businesses and promoting businesses to be energy and resource efficient, including in their transportation and supply chains'.* (p.76)

4 Active Travel and the local road network

4.1 Key points

- Whilst proposed active travel infrastructure is significant improvement on the existing, it provides no connection to the east side of the A6106(N). Fixing this now will be significantly cheaper than retrofitting it at a later date.
- Getting to the proposed infrastructure will still involve cycling down hostile roads, with little or no protection - it will (at best) be an oasis of cycling excellence within a desert of underprovision.
- The same benefits could be achieved for a fraction of the cost, without the disadvantages of increasing the road capacity.
- Removing the bottleneck at Sheriffhall will lead to bigger problems elsewhere on the road network - including in residential areas such as Gilmerton, Dalkeith and Loanhead, and in the vicinity of the Royal Infirmary.

4.2 Active Travel

We recognise that the proposed active travel provision at the roundabout is a significant improvement on the existing situation. However, good connecting routes between the junction and surrounding destinations have not been included in the project. The following connections are vital, and must be built at high quality as part of the project, to ensure that the bypass crossing is effective and attracts the maximum number of active travellers.

- A cycleway should be added on the east side of the A6106(N), and an associated underpass. Without these, cyclists coming south on the A6106 (from Millerhill direction) will have to cross the road in order to use the underpass on the west side of the A6106. It is particularly important that the underpass is built as part of the roundabout project, as it will be difficult and expensive to retrofit. Extensive housing and employment developments are planned for land on the east side of the A6106(N) at Shawfair, Millerhill Marshalling Yards and Newton Farm. Shawfair train station is also located here and Midlothian Council's Active Travel Plan contains a proposal for a multi user path between Sheriffhall roundabout and Millerhill junction (running parallel to, but north of, the A720). Without an underpass on the east side of the A6106(N), accessing all of these becomes significantly more difficult for pedestrians and cyclists.
- The proposed bridge to the east of Sheriffhall roundabout, over the Borders railway, is not wide enough to allow for the active travel route included in Midlothian Council's Active Travel Strategy²⁵.
- The cycleways should be extended so that they connect at least as far as Dalkeith (A6106(S)), Eskbank (A7(S)) and The BioQuarter (A7(N)) and Fort Kinnaird (A6106(N)).
- Crucially, funding for all connecting routes should be included as part of an overall integrated project. This must not be left to local authorities as, when and if they can

²⁵ [Midlothian Active Travel Strategy](#)

raise the necessary sums. The fact that the connecting routes lie largely outside the trunk road boundaries is a matter of bureaucracy not of transport planning, and Transport Scotland must take a transport planning approach rather than merely being satisfied with an oasis of cycling excellence within a desert of underprovision.

High quality active travel infrastructure could be provided at Sheriffhall without increasing the road capacity. This would provide all the benefits of the proposed scheme, with few of the disadvantages, and cost a fraction of the proposed budget. For example, the Hovenring in Eindhoven was built in 2011 at an estimated cost of €6.3m²⁶

4.3 Local roads

Increasing road capacity at Sheriffhall will have significant detrimental effects in the surrounding area.

The Scottish Government has committed to reducing car-kilometres by 20% by 2030²⁷. The City of Edinburgh Council has similarly committed to a reduction by 30% by 2030²⁸. The proposed increase in road capacity at Sheriffhall makes both of these commitments more difficult to achieve, due to the likely induced demand^{29 30}. However, if successful, there would be such a large reduction in congestion at Sheriffhall that the junction would no longer be an argument for increasing capacity.

The main roads near the roundabout (i.e., the A7 N/S, the A6106 N/S, the A772 and the A768) are already severely congested. Removing the bottleneck at Sheriffhall will add more congestion to these roads, which connect residential areas such as Gilmerton and Dalkeith, as well as the Royal Infirmary of Edinburgh.

Grade separation at Sheriffhall is also likely to increase congestion at other bypass junctions. Most likely to be affected is Straiton junction, and increased congestion here will also increase traffic levels on the local roads in the Loanhead and Gracemount areas. Straiton junction is also already notoriously unsafe for pedestrians and cyclists, and increased congestion is likely to compound this.

²⁶ [Hovenring - ipv Delft creative engineers](#)

²⁷ [A route map to achieve a 20 per cent reduction in car kilometres by 2030 | Transport Scotland](#)

²⁸ [Transport and Environment Committee](#)

²⁹ [The Fundamental Law of Road Congestion: Evidence from US Cities](#)

³⁰ [Department for Transport - LATEST EVIDENCE ON INDUCED TRAVEL DEMAND: AN EVIDENCE REVIEW](#)

5 Traffic modelling

The traffic modelling is flawed: 1) on its own terms since it only accommodated 25% of estimated traffic growth; 2) as it fails to reflect Scottish Government commitments to reduce car-kilometres, and 3) potentially breaches obligations under the Climate Change (Scotland) Act 2009. Hence the economic case is unreliable. At a minimum, the traffic modelling must be repeated correctly to determine if the scheme can meet its own objectives and provide a worthwhile cost-benefit tradeoff.

Abbreviations

AT - Active travel (e.g. walking, wheeling, cycling)

DMRB - Design Manual for Roads and Bridges

ES - the environmental statement based on the findings of an EIA.

NTS - National Transport Strategy 2

S3R - the DMRB stage 3 report from AECOM

5.1 Regional and national modelling

The modelling used to make the case for the Scheme has the assumption of traffic growth baked in, despite Scottish Government commitments for modal shift from private car to active and public transport.

This results in, fundamentally, a circular argument: assume car traffic growth, build road capacity, consent residential and commercial developments based on the capacity, repeat. For public and active travel investment this works as a vicious circle: AT is not included in modelling, so benefits are not accounted for, thus there is no investment beyond a tacked-on NMU underpass.

Further, the AT infrastructure is not included in any wider regional modelling or development schemes: under the Scheme Sherriffhall might become an island of good infrastructure which does not connect to anywhere else. Compared to the treatment given to motor traffic, this is discriminatory.

The traffic modelling used to justify the scheme is set out in S3R chapter 5 and references therein. This section will set out the ways the modelling ignores relevant Scottish Government policy, ignores the well-established effect of traffic generation, and by its own standard will still be congested at rush hour.

The modelling set out uses the SESTrans Regional Model 2012 (SRM12)³¹ and the Transport Model for Scotland 2014 (TMfS14)³² to forecast future growth in traffic. TMfS14 *explicitly excludes* walking and cycling: "The walk and cycle modes are not included within

³¹ Jeff Davidson. Sustran regional model 2012 (SRM12) development report 24/09/2019. Technical report, Systra, 2019.

³² TMfS14 national demand model development report., TMfS14 national public transport model development report, TMfS14 national road model development report. Technical reports, by SiAS Ltd. for Transport Scotland, 2016.

the TMfS trip end model. ". SRM12 also does not include active travel, except for walking as required by use of public transport.

This is a fundamental flaw, since cycling and walking already make up a significant fraction of trips across Scotland. For example, the transport mode share for work in 2018 was 12% for walking and 3% for cycling³³. Further, even if calibration exercises are undertaken to ensure that baseline year travel estimates match the measured data, they cannot account for any growth in the AT modes as they do not include them. If these targets are not included in the modelling used to make decisions, then they will not be met since the modelling assumes business as usual.

Further, the Scheme modelling assumes, from SRM12, traffic growth (5.6.22) of 1.22-1.32% per annum over the next decade, giving rise to a 17.5% increase from 2024 to 2039. How can this possibly be squared with the Scottish Government's commitment to reduce car kilometres by 20% by 2030? This commitment is discussed at length by Transport Scotland's own report "A route map to achieve a 20 per cent reduction in car kilometres by 2030"³⁴ and the target for the City of Edinburgh is a 30% reduction. As cars make up around 80% of vehicles using the roundabout (see S3R 5.2.11), these reductions will significantly affect congestion at the junction.

The Climate Change (Scotland) Act 2009, section 44 states:

- (1) A public body must, in exercising its functions, act—
 - (a) in the way best calculated to contribute to the delivery of the targets set in or under Part 1 of this Act;
 - (b) in the way best calculated to help deliver any programme laid before the Scottish Parliament under section 53;

The latest report laid under section 53 is "CLIMATE READY SCOTLAND: Second Scottish Climate Change Adaptation Programme 2019-2024"³⁵, which makes extensive reference to National Transport Strategy 2 (NTS2), saying it "emphasises the importance of a Sustainable Travel Hierarchy which promotes walking, cycling, public transport, and bike, car or ride sharing in preference to single occupancy car use".

National Transport Strategy 2 states "We will not build infrastructure to cater for forecast unconstrained increases in traffic volumes. Instead, we will manage demand and reduce the need to travel by unsustainable modes.". Therefore, it appears that Transport Scotland and the Scottish Ministers should agree with my analysis above.

This Scheme should therefore be placed on hold until a proper modelling exercise can be undertaken.

³³ National transport strategy 2, Scottish Government, 2020.

³⁴ A route map to achieve a 20 per cent reduction in car kilometres by 2030. Technical report, Transport Scotland, 2022.

³⁵ Climate ready scotland: Second Scottish climate change adaptation programme 2019-2024. 2019.

5.2 Local modelling

There are several further problems with the traffic modelling at the scale of the Scheme and local network.

Paragraph 5.6.34 states that the “the Design network could not accommodate 100% of the additional trips estimated ... during the AM and PM periods”. Following the reasoning set out in paragraph 5.6.29, this indicates that the design network will be unable to accommodate the additional induced traffic in the peak periods.

After further analysis, the report concludes that “the heavily congested AM and PM periods could accommodate an increase of 25% of the predicted additional demand”. Do we really want to invest £150 million and still have serious congestion?

More troubling is 5.6.42: “Following an assessment of network performance based on incremental loading of additional traffic due to grade-separation during the AM and PM periods, it was concluded that the trip matrices defined for the heavily congested AM and PM periods could accommodate an increase of 25% of the predicted additional demand defined by SRM12. The trip matrices defined for the more lightly trafficked Inter-Peak and Overnight Periods include the full 100% predicted additional demand defined by the SRM12 model with the proposed Sheriffhall improvement in 2024.” This paragraph is unclear but appears to be implying that the trip matrices (i.e. the number of trips from A to B, for all start/finish locations in the model) used for the peak periods do not include the full estimated demand.

Is this true? If so, what is the justification for this? Is the purpose of this arbitrary demand reduction to avoid congestion in modelling? What would be the result of including the full demand on the estimated journey times and junction throughput? Following on from that, what would be the effect of this on the economic cost-benefit analysis?

5.3 Induced demand

We now turn to the well-known effect of induced demand or generated traffic³⁶. Simply put, if one lowers the cost of using a particular mode of transport, people will use it more. Therefore upgrading a congested road will attract traffic until it is congested again.

A major study commissioned by CPRE “The Impact of Road Projects in England”³⁷ examined Highways England's reports on road developments. They found:

- Average traffic increases over the short run (3-7 years; seven schemes) were +7%
- Average increases over the long run (8-20 years; six schemes) were +47%
- Of 25 road schemes justified on the basis that they would benefit the local economy, only five had any evidence of *any* economic effects. These effects were as likely to suck money out of the local area as to bring it in.

³⁶ [The Fundamental Law of Road Congestion: Evidence from US Cities](#)

³⁷ Lynn Sloman, Lisa Hopkinson, and Ian Taylor. The impact of road projects in England. Technical report, Transport for Quality of Life, 2017.

In the response to the Scottish Green Party objection, Transport Scotland wrote (emphasis ours): "The proposed Scheme supports the proposed City Region Deal development but *the junction improvement alone is not expected to generate any additional trips across the network*. However, it is predicted that some trips from the surrounding network, which are currently using alternative routes to avoid congestion at the junction, will be attracted to the proposed Scheme due to improved access to the strategic road network." However they did not present any evidence for this. The S3R states (5.6.33) that are "additional trips due to increased capacity following grade-separation". A straightforward reading of the report leads me to believe these are additional trips counter to TS's assertion.

SRM12 includes modelling of behaviour which should allow this effect to emerge naturally. For example the report makes clear in Table 88 that car use is close to perfectly elastic with respect to journey time. In plain English this means that (on average and all other things being equal) if journey times are reduced, modelled car drivers will be willing to drive further until their journey time (i.e. the cost) is restored to pre-improvement value.

Therefore a scheme which reduces journey times would, when run through SRM12, be expected to result in more and longer car trips by reducing the generalised cost of that choice. If the modelling does not, as asserted, show this effect, I would expect the report to at least note this.

Indeed, a City Deal Meeting on 11 Feb 2020 noted "there is significant suppressed demand, and an improved roundabout could attract a significant volume of increased general traffic, therefore bus priority measures should be considered in this context. TS noted that the Cross-boundary study which reported in 2017 provides evidence to support the points about wider impacts, increased growth, potential for induced demand and supported Sheriffhall as being a first step in improvements to the A720."³⁸ This suggests that those involved acknowledge that the upgrades are likely to cause additional car use.

³⁸ <https://www.gov.scot/binaries/content/documents/govscot/publications/foi-eir-release/2022/08/foi-202200278136/documents/foi-202200278136---information-released/foi-202200278136---information-released/govscot%3Adocument/FOI%2B202200278136%2B-%2BInformation%2Breleased.pdf>

6 Greenhouse Gas emissions

Sheriffhall Overarching Objectors (ShOO) have commissioned an expert witness report on the treatment of the Greenhouse Gas (GHG) emissions assessment in the Environmental Report (ER) from scientist and environmental consultant, Dr Andrew Boswell of Climate Emergency Planning and Policy. The expert witness report will be submitted by December 20th.

The expert witness report will address the issue, as outlined by the Reporter at paragraph 13.1 of the pre-inquiry meeting notes as a matter on which she would benefit from further clarification and information, whether the proposed scheme would be in contravention of the Climate Change (Scotland) Act 2019 and the Climate Change Plan Update. The report will also review whether the Environmental Report complies with the Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017 (“the **2017** Regulations”), and if the Reporter and the Scottish ministers have been provided with the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment.

7 Environmental Impact and Mitigation

Unless otherwise stated the references are to the Environmental Impact Assessment Report. The GHG emissions are discussed in our expert's report.

7.1 Landscape and Visual Effects.

The extensive visibility of the Scheme across most of the study area is noted in the survey.

It is also noted in the report that where mitigation takes a term longer than 10 years it is considered to be “long term” yet the timeline criteria used are one year and fifteen years (8.2.15). Notwithstanding, even 15 years is too soon for native hardwood tree planting to become established as witnessed by the previous scheme’s tree planting that is only now establishing after 30 years (photo production). It would be fair to say that where tree planting would be used for mitigation screening, it would take at least a human generation to establish itself.

It is noted that the contractor’s compounds, haul roads, spoil heaps, stock piles and bunds are not included within the scheme boundary. The location, site area and thus environmental impact of these are unknown but likely to be ‘large adverse’ before, during and after Scheme construction. Siting is left almost entirely to the discretion of the contractor and planning permission is not required as it is permitted development.

It is noted in the report that the mature poplars are a “notable feature” and provide “structure to the landscape” and the stone walls are a “characteristic feature”. (8.5.5)

Extensive views south east from Drum House Garden Designed Landscape (GDL) (national importance) are noted. The national importance of Dalkeith Palace House GDL of 440 hectares is also noted. Although only “slight adverse” affected visually, it would be seriously affected by the wall of noise and dust from the proposed elevated flyovers (see ‘Noise and Vibration’ below). This would also affect the nationally significant Dalkeith Oakwood SSSI slightly over 1 km from the Scheme and an alluring ecosystem of ancient, mossy oaks, fungi and lichen. The surrounding woods are part of the North Esk Valley Special Landscape Area.

It is noted that there would be a significant effect on Sheriffhall Mains and ‘large adverse’ at Summerside due to the removal of trees (8.6.26).

A tree survey will be taken prior to construction but none is available now, so we do not know how many mature trees will need to be felled. But it will be a large number, including the above poplars, ancient woodland and tree belts.

Table 8.13 (Mitigation) refers to “biodiversity benefits” without specifying. It is noted that grasscrete would be used for the access roads to the suds ponds.

In this section and throughout the report the ‘Residual Effects’ tables are littered with caveat phrases such as “as far as possible”, “minimise”, “maximise”, “where feasible”. Overall the claim is that mitigation has the effect of neutralising significant adverse effects. Whereas we know from the recently built Aberdeen Western Peripheral that serious breaches can occur. Balfour Beatty is not a novice road builder yet it was fined £280,000 for sediment discharges into the Rivers Don and Dee and some tributaries³⁹. A similar breach affecting the fragile ecosystem of Dalkeith Oakwood SSSI of national, almost unique, significance would be

³⁹ [AWPR building firm fined £280,000 for river pollution](#)

more damaging. It is already seriously threatened by the spread of giant hogweed from the Scheme via the Dean Burn that would be dire and lead to the extensive use of glyphosate. Despite the same mitigation measures at the A1 QMU junction currently under construction, the giant hogweed seeds have spread and prolonged the contract by 3 months (along with supply difficulties)⁴⁰.

According to the study at year fifteen 'large adverse' becomes "slight adverse" because of the quick tree growth even on exposed Scheme embankments (at Summerside and Danderhall Settled Farmlands). Similarly the effect on the North Esk Valley SLA becomes 'Neutral' in 15 years. But the viewpoint at Summerside would still be 'large adverse' in 15 years. Sheriffhall Mains would remain 'moderate adverse'. Old Sheriffhall would show a 'large adverse' impact at year 1.

A narrow wedge of Green Belt would be prejudiced.

Overall, due to its scale, artificial lighting and loss of trees, shrubs and hedges the Scheme would be visually intrusive over its life at several viewpoints and for a human generation at the others.

7.2 Nature Conservation.

The report concludes that as a result of the Scheme's offsetting measures there would be "a locally-significant net gain in biodiversity". But this is being economical with the sentence in the body of the report that adds "once established". (9.7.17). Like the long period of time needed to establish the offset trees (in the foregoing section), we are talking about a human generation in time and many generations of creatures that inhabit the existing woods, pasture, burn and bogs, and even longer for the woodland floor to establish. How much flora and fauna would be lost during construction and the long re-establishment period?

In fact, the consultants take further liberties by stating that there is "significant benefit to biodiversity in general" (9.7.9).

The report points to a rich biodiversity of flora and fauna in and around the Scheme. There are 96 "Notable" animal species within 2 km and 133.76 ha of ancient woodland. The species are listed in the report. Each is important but here is a taster:

- Bats - common, soprano pipistrelle, Daubentons and noctule bats – all protected and "frequent within the survey area" (9.5.45)
- Badger – evidence of badger and good foraging in grassland that will be taken by the scheme. The extent of the setts is not determined.
- Otter – along the Dean Burn and Lugton Bogs immediately adjacent to the Scheme.
- Palmate newts, common frog and stickleback - at Lugton Bogs.
- Breeding Birds – 7 species on Red List, 3 on Amber List
- Barn Owl – nesting within 40 metres of Scheme.

It was John Muir who said: "When we try to pick out anything by itself, we find it hitched to everything else in the universe". The point is that all of the above are connected, certainly throughout the 2 km study area.

As referenced above, the Dalkeith Oakwood SSSI, a significant part of Scotland's natural heritage, appearing in the Ancient Woodland Inventory is one of only two of its kind in Scotland. The oaks are of mediaeval origin and the lichens, mosses and fungi give an ethereal feel. It is noted that the micro habitats in the old deadwood of the forest are rich in

⁴⁰ [A1 roadworks near QMU delayed by 'giant hogweed presence' | East Lothian Courier](#)

beetle fauna and scarce lichen flora including the rare species *Lecunia suavis*. The surrounding Dalkeith Estate LBS is within 12 metres of the massive Scheme construction works, and runs parallel to it.

Despite Scottish Natural Heritage pointing out the sensitivity of the lichen to airborne pollution at Dalkeith Oakwood SSSI– (the existing A720 is a known source), this is not considered to be an adverse factor in the report despite the exposure to the proposed flyovers.

Melville Castle LBS is 215 metres from the scheme and the River North Esk LBS (Regional Importance) lies 723 metres from the Scheme. Short distances for foraging animals.

Yet despite acknowledging this rich biodiversity and the scale of the construction work that does not yet include extensive site compound(s), haul roads, spoil tips, sock piles and bunds that are at the discretion of the contractor, and that despite the report's list of 80 adverse factors (7 beneficial), the Scheme, it claims, still shows a net gain and even "important contributions" to green and blue networks. So the body of the EIA and the conclusions the 'Statement of Reasons' simply do not tally.

As indicated 'adverse' factors become 'beneficial' factors post mitigation. The ecology clerk is there to "immediately" close down the construction work if necessary, a heavy responsibility on this person. Only lip service is paid to the precautionary principle and the fact that a human generation must pass before the planting benefits are realised, in the meantime, the loss of carbon sequestering trees and vegetation.

The mitigation conditions are loose textured and littered with caveat words and phrases.

A pre construction survey of protected species within 100 metres has not been undertaken and is at the discretion of the contractor.

It is noted that there is likely to be barn owl mortality but somehow the planting of trees on the embankments of the Scheme will encourage the owls to fly higher.

It is accepted in the report that the loss of trees in the ancient woodland cannot be compensated by new planting.

The mitigation planting and erecting bird boxes and the like are all worthy even if it would take a human generation to establish, but to pretend that these somehow mitigate the adverse factors listed, indeed show a "significant" benefit, is perverse and contradicts much of the body of the report. In fact, the dangers of a massive construction project on this scale in close proximity to precious habitats is seriously understated.

If the seven measures being proposed by TS in mitigation would have such a significant environmental benefit, then just let CEC and MLC get them done under their amenity budgets. To put these into perspective, creation of wetlands requires a sluice gate and a settling pond (Berwick Law) and school children can plant 400 saplings before lunch (Mains Farm Country Park). No big deal. No need for a massive road scheme to achieve.

7.3 Cultural Heritage.

The study has been carried out as if there is no sense other than the visual. Even here the removal of trees and vegetation would expose Summerside Farm, Campend House and Steading, and Sheriffhall Farm to the Scheme structures and artificial lighting. The noise, dust, artificial lighting and vibration from the Scheme would seriously affect the amenity of these homes.

The construction of the Scheme would mean the complete loss of cropmarks and enclosure, a mid 19th century stone bridge and a stone boundary wall

The wall of noise (see 'Noise and Vibration') from the flyovers would hit Dalkeith House (Palace) Park and Garden diminishing one of Scotland's treasures. Dalkeith House itself would be exposed to the noise and dust as would the laundry block, meticulously restored and where visitors can enjoy the outdoor facilities, the cafe/restaurant terrace and orangery.

Even if some of the noise from the flyovers would sail over Sheriffhall Farm and Dovecot, the particulates would not. Buildings coated in dust and soot are less attractive and these listed buildings need to remain attractive places to live to secure their future.

Again caveat words appear in the mitigation table – “might”, “may require further investigation”, “possibly”.

7.4 Road Drainage and Water Environment.

The report does not hold back:

“By their very nature, road schemes have a potential to pose a significant risk to the water environment.....at every stage of the construction process, there is the potential for water pollution issues to arise” (11.6.3). Mitigation, it says, has to be “prescriptive”. It lists a number of likely adverse effects and mitigation that would “minimise” the impact of some of these. In particular there is significant risk of sedimentation of Lugton Bogs and Dean Burn (11.6.27).

It is concerning, given the massive (still unknown) scale of grouting that SEPA will only be notified when work starts regarding shallow mine workings. Further an adequate hydrological conceptual model is “required” backed up by site specific ground investigation. It notes that “Any adverse effects will depend on the size and duration of the excavation works”.

It notes what can go wrong with sediment release, accidental spillage (fuels, oils, lubricants), contaminated groundwater, piling and grouting, stockpiles and refuelling during construction.

It notes that dewatering could have a significant effect on groundwater quality and there can be leaching from cement slurry that will be poured over a vast area and capacity.

The extent of possible contamination is noted - “potential for contaminated water to be mobilised towards local surface water features such as the River North Esk or Dean Burn”. Although noted as slight adverse, perhaps the author has not married this to the fact that the contamination would occur in the middle of the Dalkeith Oakwood SSSI. Note above Balfour Beatty at Aberdeen Western Peripheral.

The report notes significant adverse effect likely from grouting works including the quality and flow of the Coal Measure aquifer (11.6.46)

It notes that flooding during construction is slight adverse but it is not clear whether the loss of land taken for the Scheme is considered (as a natural drain) including the 27 ha of agricultural land and also the knife edge flood risk in parts of Musselburgh and the high water table.

Even with mitigation there are still a number of adverse factors concerning aquifers and the effect of grouting on groundwater flow that remain significant.

The mitigation table (11-20) shows that SEPA has a leading role in consultation and appraisal whereas this body is now thinly spread throughout Scotland. SEPA requires to

make a clear statement as to how far it can get involved, particularly on the ground, including enforcement.

It is noted that in Table 11.21, 'Residual Effects', there are still adverse factors and that the diversion of the Dean Burn is seen as 'slight beneficial' but in the same breath showing 'slight adverse' from sediment release and aquifer contamination. So the jewel in the crown of TS's trumpeted local environmental benefits is, in fact, neutral at best by the report's own reckoning.

Although 'slight adverse' is assigned to the effect of piling and excavation on the Esk Valley Sand and Gravel aquifer, and also the Dalkeith Bedrock Aquifer for both construction and operation, it notes that dewatering may require to be permanent, see risk above.

The report does not discuss salt run-off from the carriageway but notes the litter and debris, ubiquitous around road works and operation.

Again the study does not include the major risk from the construction compounds, haul roads, spoil heaps, bunds and stockpiles that are at the contractors discretion.

7.5 Noise and Vibration.

From operation of the Scheme, 40 residential buildings would have an increase in noise annoyance levels, plus the Shawfair Hospital. Ten would see an increase in vibration. Houses further from the Scheme would suffer increased noise from the additional local traffic, notably in Dalkeith and the A6106 north of Newton Village.

Noise calculations of the type undertaken tend to flatten the noise effect due to averaging and fail to register the effect of wind direction/air flow to carry noise. Even so an exceptionally high increase is predicted at ref. M4, 626 Gilmerton Road, A772 (plus 13.7 dB(A)). A number of important roads in the local network do not appear to have been calculated – Straiton Road south of A720, Gilmerton Station Road, The Wisp north of A7, B702 north of Loanhead, Old Craighall Road at Millerhill.

Further, the height of the flyovers with traffic travelling at 70mph, (rather than 40mph at existing ground level swathed in trees and vegetation and a high, long continuous stone boundary wall), would send noise out over a wide area to Dalkeith Park and Gardens, Dalkeith Oakwood SSSI and the country park. This will create a wall of noise effect that can be experienced by the best noise receptor, the human ear, at similar distances near flyovers on the A1 at present.

During construction 5 residential properties will suffer significant noise increase for 114 weeks minimum.

7.6 Air Quality.

It is noted that Musselburgh AQMA has not been included in the assessment.

During construction 200 HGV's and 100 LGV's per day are likely to use the construction site and the associated dust effect would be "large". However, with mitigation this would be "negligible", according to the study. This is difficult to believe by anyone who has lived close to a building site when even 5 star builders use their best endeavours to subdue dust.

Table 13-11 shows a general rise in NO₂, PM₁₀ and PM_{2.5} concentrations and table 13-14 show NO_x levels up considerably (by 19 tonnes) in year 1 and only decrease by – 1 tonne in

Year 15. The respective figures are +3 and even for PM10 and +13,000 and -450 for CO₂ (this last figure is challenged by our expert). “Small increases” according to the report.

TS’s summary that NOX levels would fall is economical as the fall is small and dependent on vehicle technology in Year 15. High increases are predicted for most of this term.

Increases are described as “negligible” but only against “Air Quality Objective Values”, a high bar. As noted in the previous section, affected local roads have not been considered in the survey. However, Table 13-19 states “The proposed scheme causes a worsening in local air quality at the major locations due to the increase in traffic flows (and emissions) on the local road network”

7.7 Geology and Soils.

Even with mitigation, 13 adverse factors are listed including the ‘very large adverse’ for the loss of 27 ha of prime agricultural land. Prime land covers only 7% of Scotland’s agricultural land. Attention is also drawn to the adverse effect on the quality of the groundwater in the superficial deposits.

7.8 Material Assets and Waste.

The volume of waste to be taken off site is significant (68,974 tonnes) but more worrying is that come early next year there will be no waste disposal site for the further 5,021 tonnes of hazardous waste. This is considered to be significantly adverse (17.10.3) with the facility at Avondale, Falkirk open, but if there is no alternative site available when it closes in early 2023, then this is unacceptable and the project cannot proceed on an ‘all right on the night’ basis on a matter of this gravity.

The Residual Effects are all adverse.

7.9 Cumulative Assessment.

The carbon emissions are discussed in a separate submission by an expert witness.

It is noted that although Newton Farm is “a Reasonably Foreseeable Development”, the link to the Millerhill Junction is not assessed, nor the Park and Ride there.

7.10 Conclusion.

TS’s conclusion that there are local significant benefits is perverse in the light of what the body of the report actually states. On the contrary, there are significant environmental risks and likely permanent and long term damage. It is worth remembering that we are in a biodiversity, as well as a climate emergency.

7.11 References:

Productions: Illustrative Photos (by 20/12/22)

8 Conclusion

The Scheme fails on every count argued in the foregoing chapters. Neither does it meet any its objectives other than those narrowly defined around the immediate Scheme. Any benefits of the Scheme could be achieved at significantly reduced cost, without the associated disadvantages.

We see no overarching public interest benefit that would overturn our arguments and data.

We therefore submit that there is no need for this Scheme.

We hope that our submissions will help to override the Transport Scotland case and a report will go forward to the Ministers to reject the A720 Sheriffhall Scheme.