

ACADEMY STREET TIA / EIA FAQs

Theme 1: TIA

Why have you assumed that most through traffic is from Crown and the west rather than areas like Culloden and Inshes? Why is there so much traffic from Crown?

The model has considered every possible origin-destination pair (i.e. trip start and trip end zones) to determine which trips would realistically use Academy Street.

The TIA then used a 'gravity model' approach, which is an industry standard technique, to determine the proportion of journeys using Academy Street from each zone. Within this model, the proximity of an area to Academy Street directly influences the likelihood of trips from that area using Academy Street as part of their route. Notably, Crown, due to its population density and close proximity to Academy Street, is anticipated to contribute a significant proportion of trips.

Has your study considered tourist/visitor traffic?

No. Because the TIA has used Census data to determine of origins and destinations of trips using Academy Street, rather than having the real-world data, the study cannot account for non-work trips. This was agreed within the scope of the study. To be able to consider visitor/tourist data, a separate data-collection exercise would need to be carried out to determine the number of tourist/visitor vehicles during the specified time periods on Academy Street.

You have said that some of the junctions will be over capacity, will changes be made to these junctions?

The TIA has identified where the impacts of the scheme are going to be and where the network is likely to be under stress. Determining changes to be made to specific junctions requires a separate study.

Officer additional comment: If a junction is over capacity, it means that queues will form during peak times. This is quite normal and observed every day in Inverness and other cities around Scotland.

If there's more traffic on other routes, what's the impact on air quality / noise?

While the TIA has established the numbers of vehicles displaced and their likely alternative route, the study has not assessed the air quality or noise impacts of this displacement.

The EIA qualitatively considers the noise and air quality impacts, but the study scope and the available data does not cover an assessment of the noise and air quality impacts on a road-by-road basis. A separate noise and air quality study would need to be completed to understand the before and after effects of the Academy Street scheme in detail.

Are any junctions or links going to improve?

As shown in the TIA, five junctions are expected to have improved operation following the scheme:

- Bank Street / Fraser Street
- Friars Lane / Academy Street / Chapel Street
- Academy Street / Post Office Avenue / Margaret Lane
- Queensgate / Academy Street / Strothers Lane
- Shore Street / Cromwell Road / Harbour Road

Nine links are also expected to see reduced traffic volumes; these are listed within Chapter 9 of the TIA report.

How has access to car parking been considered in the study?

The TIA has assumed that all vehicles currently using Academy Street to access car parks (i.e. Rose Street, Inverness Rail Station, Eastgate) will continue to do so after the scheme. Due to the restriction of east-west movement along the length of Academy Street, the TIA has estimated that 15% of Eastgate traffic currently approaching via Friars Bridge and Waterloo Bridge will reroute to Rose Street car park rather than rerouting via Harbour Road. This represents 4% of all vehicles currently accessing Eastgate.

Will the periods of delay during the peak hours spread out?

The TIA provides detail on the specific changes in delay at each of the modelled junctions. It is possible that the local network's AM and PM peak hours (the hours during which traffic volumes across the modelled network are at their highest) may shift by a number of minutes but this has not been included within the TIA. It is also expected that drivers may change their travel behaviour in response to the changes in traffic, which could mean that traffic volumes shift earlier or later than the current peaks.

Has mode shift or trip evaporation been considered?

The TIA has been produced on the basis that all existing drivers using Academy Street will continue to take their journey via car. This includes traffic using Academy Street as a through road or traffic destined for Academy Street and surrounding roads. As such this represents a worst-case scenario, as it can be expected that some car drivers might choose to switch to a different mode post-scheme.

How will displaced traffic impact the Crown area?

The TIA has identified that traffic volumes within the Crown area have the potential to increase as a result of vehicles being displaced from Academy Street. Following the initial findings of this study, THC has commissioned WSP to conduct a detailed analysis of traffic movements within Crown, particularly focusing on areas likely to experience increases in displaced traffic. This study should aim to identify potential hotspots, especially near sensitive receptors like Crown Primary School and major routes like Southside Road. Such analysis should enable targeted interventions to manage traffic effectively.

Officer additional comment: It's worth noting that all of the junctions analysed at the entry and exit from the Crown are within the capacity of the junction or links.

When was the data used in the TIA collected?

As set out within the TIA, classified junction turning count data was made available by THC. This data was collected on the following dates:

- Thursday 18th August 2022; and
- Thursday 15th February 2018.

ANPR survey data was also provided by THC. The data was collected on the following dates:

- Tuesday 21st September 2021; and
- Wednesday 22nd September 2021.

Before commencing the TIA, WSP interrogated the data provided by THC to ascertain its suitability for the purposes of this study.

Why have you concluded that approximately 50% of trips will be removed yet there is an estimated 75% reduction in traffic on Academy Street?

Approximately 50% of eastbound and 50% of westbound vehicles on Academy Street are currently utilising it as a through road, and the study has concluded that all of these vehicles will be removed from Academy Street. In addition, the bus lanes on Academy Street will result in trips destined for Academy Street having a slightly different route within the internal network (i.e. via Church Street, Post Office Avenue, Strothers Lane, Union Street or Queensgate) and therefore traffic volumes on Academy Street will further reduce as a result of this change.

Considering all of the above, the TIA has concluded that total traffic volumes on each link of Academy Street are expected to reduce from c.8000 Passenger Car Units (PCUs) per day to less than 2000 PCUs per day.

Officer additional comment: A passenger car unit figure is made up of units applied by the type of vehicles, i.e 1.0 for a car, 2.0 for a bus etc:

- Pedal cycle: 0.2
- Motorcycle: 0.4
- Car or light goods vehicle: 1.0
- Medium goods vehicle: 1.5
- Bus or coach: 2.0
- Heavy goods vehicle (HGV): 2.3

Have you accounted for drop-offs and pick-ups in your assessment of through traffic?

The Automatic Number Plate Recognition (ANPR) data was used to establish the number of through trips on Academy Street. A 15-minute threshold was applied to the ANPR data, meaning that vehicles entering and leaving Academy Street in less than 15 minutes were classed as through trips. No consideration has been given to pick-up or drop-off within the traffic redistribution analysis, however it is worth noting that all trips with a destination within the Academy Street area can still be made and therefore pick-ups and drop-offs can continue.

Are buses that use Queensgate, Church Street and Union Street going to be impacted by the scheme?

WSP has assessed junctions along Academy Street and along key bus routes within the city centre to give THC confidence that these junctions should continue to operate within capacity and limited levels of delay following the scheme's implementation. These junctions are predicted to experience a net reduction in total traffic following the scheme implementation. This means that queues on junction approaches should clear every traffic light cycle, meaning that buses are unlikely to suffer additional delay. In addition, the bus lanes on Academy Street are expected to increase journey times for buses using the street.

What impact is the scheme expected to have on Post Office Avenue?

Existing traffic volumes on Post Office Avenue are 11 Passenger Car Units (PCUs) in the AM peak, and 23 PCUs in the PM peak. Post-scheme, these volumes are expected to increase

to 42 PCUs in the AM peak and 107 PCUs in the PM peak. This equates to less than one extra vehicle per minute in the AM peak, and less than two extra vehicles per minute in the PM peak.

Theme 2: EIA

Have you engaged with businesses to understand the existing economic state of Academy Street?

The EIA uses industry-standard techniques to appraise the transport-related economic impacts of the scheme, such as changes in journey times, improved pedestrian environment, change in number of people walking and cycling, noise impacts and accident impacts. As part of this, the EIA has considered changes in footfall and vehicle traffic on Academy Street but has not assessed the specific business-related impacts of these changes. The EIA also provides evidence and case studies of the wider economic impacts of improving the pedestrian environment and reducing vehicle traffic in city centres, but – in line with Transport Scotland guidance - does not include these impacts within the Benefit Cost Ratio.

As part of WSP's commission, the team have also engaged with business representatives including BID during the assessment.

A period of statutory consultation will commence on publication of the TRO and will be an opportunity for everyone, including businesses, to provide comments and feedback to the council.

The EIA shows a BCR of 0.51, what does that mean?

The Benefit Cost Ratio (BCR) compares the relative costs and benefits of the Academy Street scheme. A BCR equal to 1 means that the costs and benefits are equal, a BCR less than 1 indicates that the costs outweigh the benefits included in the assessment, and a BCR more than 1 indicates that the benefits outweigh the cost. However, it is important to note that not all benefits expected for the scheme are included within the BCR, because not all benefits can be 'monetised' (i.e. converted into a monetary value).

The BCR presented within the EIA is 0.51. This means that for every £1 spent on the scheme, a £0.51 benefit is returned to the economy. These benefits are primarily in relation to the improved active travel facilities and public realm on Academy Street, and the associated health benefits achieved by enabling people to walk, wheel and cycle in Academy Street. The disbenefits are primarily caused by vehicle traffic being displaced, resulting in longer journey times for vehicles currently using Academy Street as a through road. Furthermore, the nature of the transport economic appraisal process means that schemes reallocating road space, prioritising sustainable transport or creating journey time increases for private vehicles, are likely to have a BCR less than 1.

In Scotland, the government does not recognise the BCR as a sole determining factor of value for money. If following DfT guidance, the Academy Street scheme BCR would traditionally fall within the 'poor' category. However, in Scotland a scheme's alignment with local and national policy and its ability to meet objectives should also be considered in the overarching case for investment alongside the forecast quantified wider economic benefits. The case for investment is further complemented through the delivery of a city-wide master plan to improve the sustainable travel network, making those journeys undertaken by bus and active travel easier and more accessible.

Why is the monetised analysis completed in 2010 prices and values but the wider economic impacts is in present day values?

In line with industry guidance, including Scottish Transport Appraisal Guidance (STAG) and the Department for Transport's Transport Appraisal Guidance (TAG), all monetary values included within the calculation of the Benefit Cost Ratio are rebased to 2010 values. This ensures that a like-for-like comparison can be made between costs and benefits. Current guidance for Wider Economic Impacts works in present day values and this is a reflection of the data sources used for this element.

Why aren't the wider economic impacts included in the Benefit Cost Ratio?

As per the established Transport Appraisal Guidance (TAG), wider economic impacts refer to economic impacts which are additional to transport user impacts. As stated in the guidance, the methodologies to estimate these impacts are often subject to a degree of uncertainty. For this reason they have been reported in the EIA as indicative monetised impacts rather than being included within the BCR calculation.

What would happen if you did include the wider economic impacts in the BCR?

The wider impacts generate benefits between £1.5 million and £4 million in present day values and prices. If incorporated within the BCR calculation the PVB could exceed the cost of intervention if the higher range (£4 million) is achieved, resulting in a BCR more than 1.

Over what time period is the BCR calculated?

In line with STAG guidance, the BCR includes appraisal of the impacts of the scheme over the following time periods:

- Highway user impacts: 60 years
- Bus user impacts: 60 years
- Active mode user impacts: 40 years
- Public realm impacts: 20 years

This is the industry-standard approach to appraising transport schemes. As set out above, it is worth noting that the highway user impacts (i.e. impacts on vehicles/vehicle drivers) are given a longer impact period – and therefore more weighting in the appraisal – than active travel and public realm impacts.

Why is value of time less for a cyclist than a car driver or bus?

The EIA sets out various industry-standard tools that have been used within the assessment (e.g. TUBA, AMAT, ABC). Within these tools there are built-in assumptions around the 'value of time' for different road users. The current versions of these tools assume that car users have a higher value of time than other modes. This means that the appraisal assumes that a one minute change in journey time for a car driver has a bigger impact on the monetised impact of a scheme than the same change in journey time for a bus user or cyclist.

These assumptions cannot be modified by practitioners; however, it is expected that in the longer term these assumptions will be updated to better align with the sustainable travel hierarchy, which places sustainable modes above private vehicles.

What case studies have been used to inform your assessment of the economic impacts?

The Wider Economic Impacts have been assessed using best practice data sources, including the Pedestrian Pound study which uses case studies from across the UK. We have also searched for examples of similar schemes across the UK that can be used as comparators to help inform the forecast wider economic impacts. 'Before' and 'after' data from other schemes is required to inform the forecast, and so this limits the analysis to secondary data that has been made available. Any secondary data used has been assessed in line with best practice guidance.

Why are you reporting a negative impact on climate change?

The climate change element includes two key components: user emissions and embodied carbon. User emissions are expected to increase in the worst-case scenario due to the redistribution of vehicular traffic currently travelling through Academy Street, which results in increased vehicle kilometres and increased greenhouse gases. This is the primary source of the negative climate change impact. The embodied carbon is a result of the change in infrastructure – typically schemes on undeveloped land or green space have a higher embodied carbon than schemes such as Academy Street where existing infrastructure is being renewed, however there is still a carbon impact associated with any sort of construction.

Are you expecting visitor numbers to Academy Street to change?

Case studies considered within the EIA indicate that visitor footfall to an area increases following improvements similar to the Academy Street scheme. The economic benefits associated with this change are quantified within the Wider Economic Impacts section of the EIA, but are not included within the BCR.

In addition to increases in visitor numbers, the Active Travel Fund 4 Uplift Tool has been used to estimate the increase in pedestrians and cyclists on Academy Street and these additional people benefit from the improved active travel infrastructure and public realm, resulting in positive benefits related to active travel journey quality and fitness. These are monetised within the active mode user impacts and included within the BCR.

How has equality been considered within the EIA and the scheme more generally?

Following Scottish Transport Appraisal Guidance (STAG) the scheme has been assessed against the Equality and Accessibility criterion. This includes consideration of changes to public transport network coverage, active travel network coverage, comparative access by people groups and geographic locations, and changes in affordability. The study concludes that an overall neutral impact on Equality and Accessibility is anticipated.

Officer additional comment: It should also be noted that an EQIA has been present for the duration of the project and will continue to be integral to the project and forms part of the deliverables as part of the project duration. Under the current design criteria of RIBA administered by Sustrans an EQIA is part of the project deliverables.