

Figure B.6: Accident Route Sections

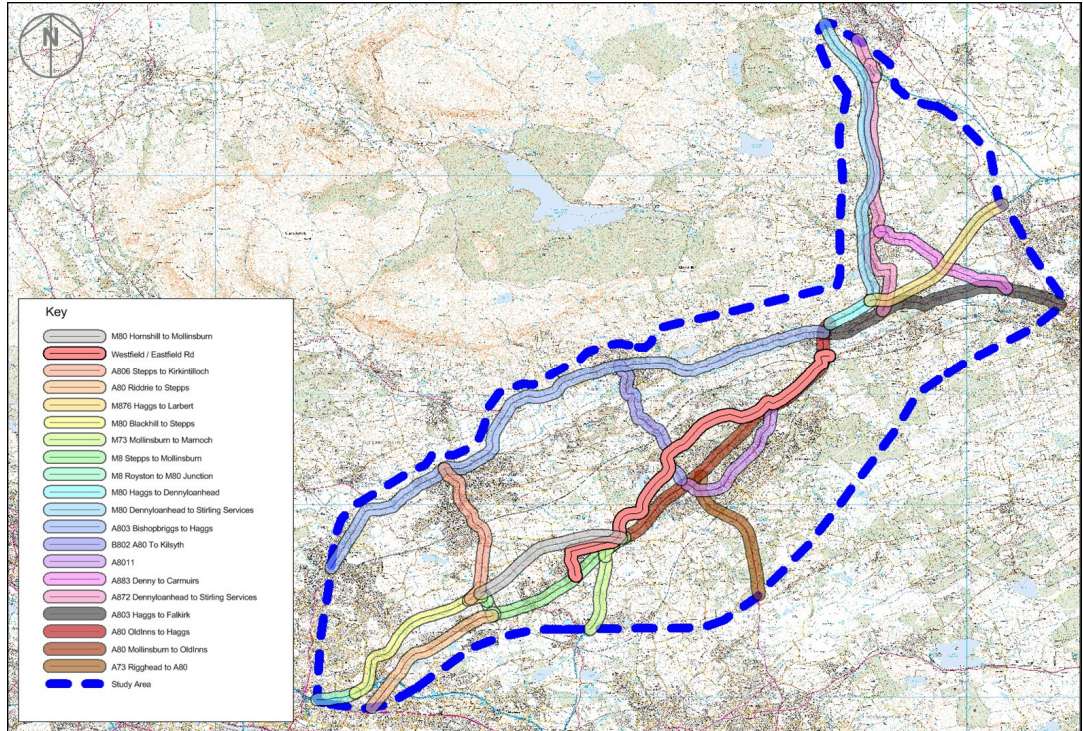


Figure B.7a: 5 Year Pre Opening Accidents

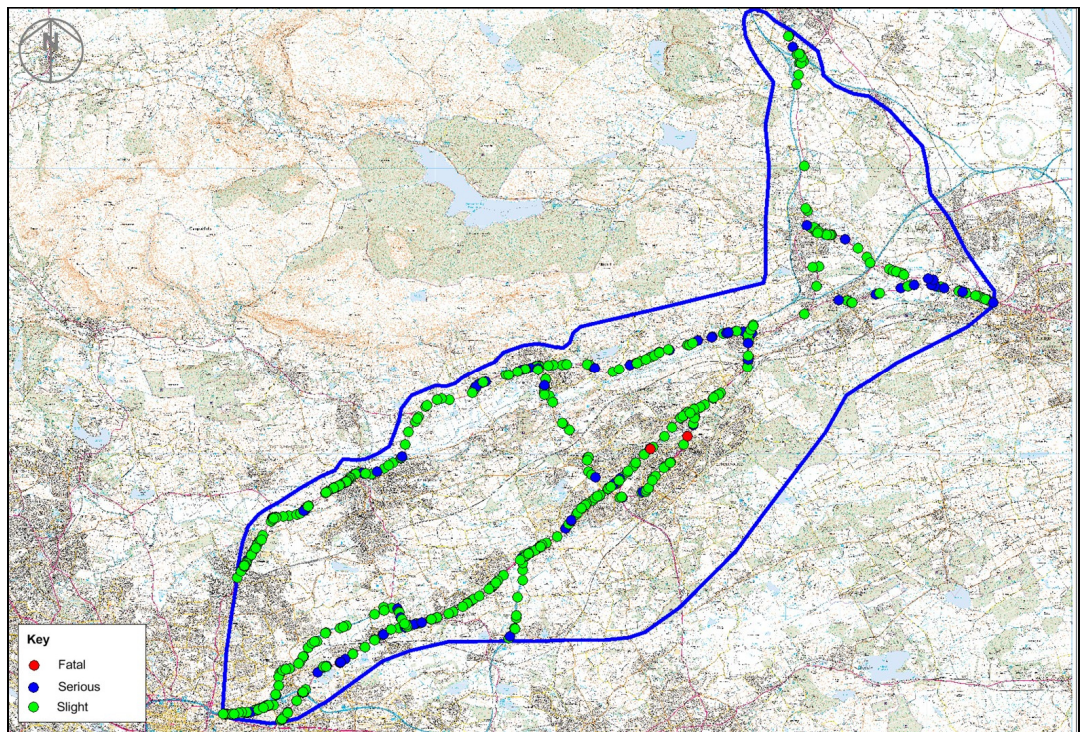


Figure B.7b: 3 Year Pre Opening Accidents

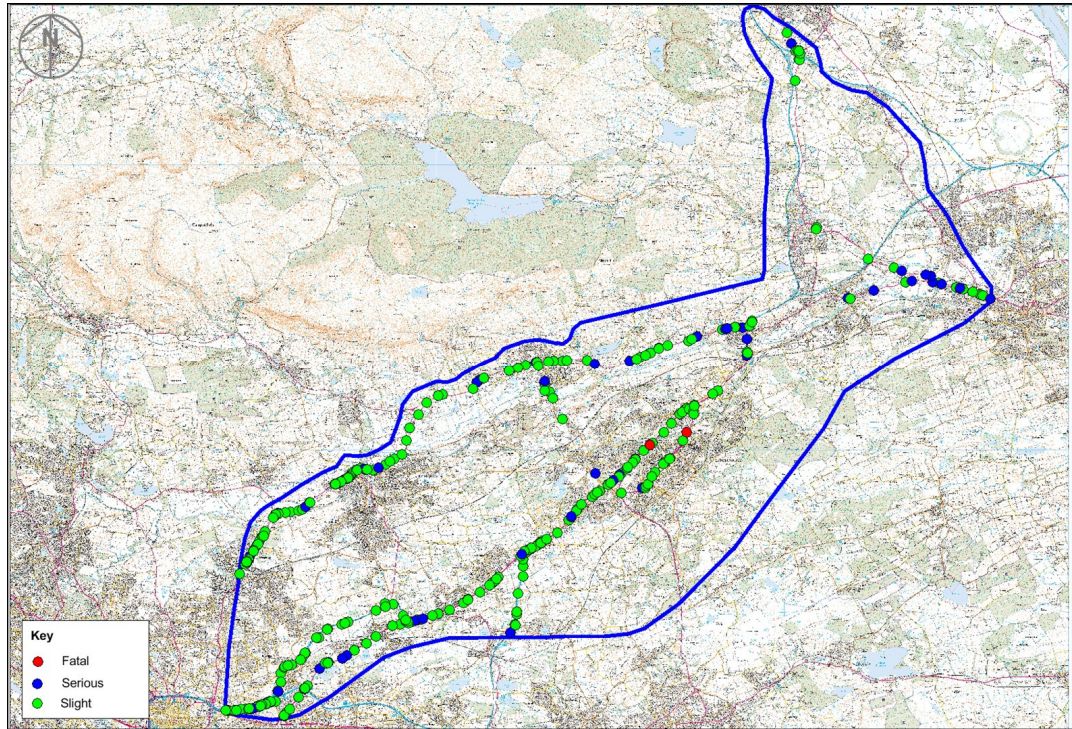
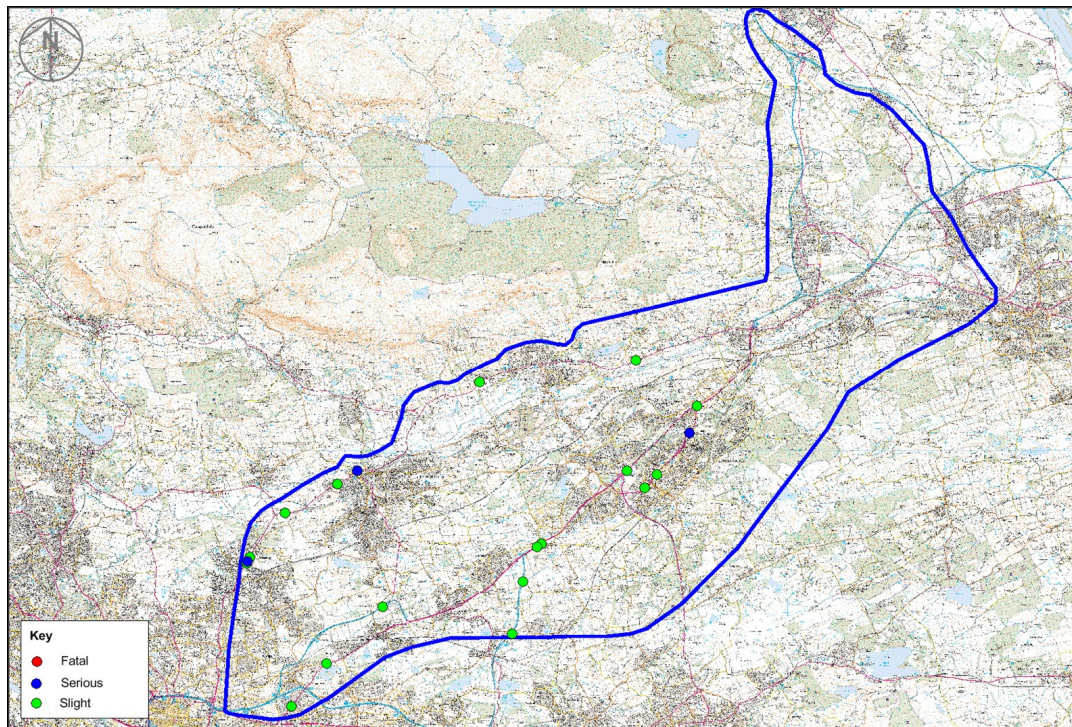


Figure B.7c: 1 Year Post Opening Accidents



B.5 STAKEHOLDER DATA

Table B.10: Stakeholder Consultation

Consultee	Type	Method of Consultation	Response Received / Feedback
Falkirk Council	Local Authority	Telephone and email	Response received
North Lanarkshire Council	Local Authority	Telephone and email	Response received via email
East Dunbartonshire Council	Local Authority	Telephone and email	Response received
A.G. Barr Plc	Business	Telephone and email	No response provided
Marwood Electrical Company	Business	Telephone and email	No response provided
DM Design	Business	Telephone and email	No response provided
Crow Wood Golf Course	Business	Telephone and email	No response provided
Best Western Garfield Hotel	Business	Telephone, email and visit	No response provided
Optical Express Outlet	Business	Visit	No response provided
Dobbies Garden Centre	Business	Telephone and visit	No response provided
Carpet Right	Business	Visit	No response provided
Maplin	Business	Visit	No response provided
Pets at Home	Business	Visit	No response provided
Pilkingtons	Business	Telephone	No response provided
Cumbernauld Shopping Centre	Business	Telephone	Response received
Stewart Inn	Business	Telephone	Response received from patron
Mallard Leisure Ltd	Business	Telephone	No response provided
Mollinsburn Inn	Business	Telephone	No response provided
Millerston Cars	Business	Telephone	No response provided
Berkeley Executive	Business	Telephone	No response provided
Village Tandoori	Business	Telephone	No response provided
The Golden Pheasant	Business	Telephone	Response provided
Bladerunners	Business	Telephone	Response received
Catering at Craigend	Business	Telephone	No response provided
Adams Joiners	Business	Telephone	No response provided

Appendix C: Environment

C ENVIRONMENT

This section provides details of the 1-year after evaluation undertaken for the Environment criterion in the Scottish Trunk Road Infrastructure Project Evaluations (STRIFE). The 1-year after evaluation includes a 'high level' assessment of the environmental impacts of the project (where possible), a review of whether the environmental mitigation measures proposed in the project's Environmental Statement (ES) have been implemented (commenting on their success where possible) and a check of whether specific requirements of the appraisal process have been met.

The environmental mitigation measures originally proposed for M80 Steps to Hags were obtained from the project's ES. A review of these was carried out in February 2014. Following this review, a site visit was undertaken to establish whether or not the proposed mitigation measures as set out in the Schedule of Commitments within the ES had been implemented.

The ES splits the mitigation into different environmental topics reflected in the report below. A substantial proportion of mitigation measures concerned either (i) noise abatement, in the form of barriers and bunds, or (ii) tree planting, to compensate, create or enhance habitats or to mitigate landscape and visual impacts. As these measures were placed across large expanses of the completed scheme, an overall view of the scheme was taken during the site visits to ensure they were installed along the entire length of the specified sections required and to assess these measures in the wider scheme context. A selection of these mitigation measures were then inspected in more detail.

Noise and Vibration

The proximity of residential settlements to passing traffic on the original A80 resulted in fairly high traffic noise levels. The ES noted that overall, the scheme would bring about a mostly beneficial impact on the area. 3,200 properties will experience a reduction in noise levels whilst approximately 400 properties will experience an increase in noise levels. A Noise Insulation (Scotland) Regulations Report is being prepared by Jacobs. This will identify which (if any) properties are experiencing an increase in noise to a level requiring payment of compensation and the provision of noise insulation.

Mitigation identified for the scheme included acoustic screening and use of low noise surfacing. Noise bunds and noise barriers were in place throughout the length of the scheme at various locations. Planting at these locations was also included which should provide additional visual screening over time.

A comparison of actual and forecast traffic flows has revealed that, from a total of sixteen model links examined, actual traffic flows on fourteen links are lower than those forecast with the actual flow on many links being more than 20% lower than forecast. According to Calculation of Road Traffic Noise and the DMRB, this would result in noise impacts 1dB less than forecast given the lower traffic flows.



Figure 1 – Noise barrier along carriageway

Low noise surfacing was to be utilised during construction. No noise measurements were undertaken as part of the 1YA evaluation, but there was a notable difference observed in noise levels when travelling the route between the new surface of this scheme and the existing M80 surface.

Global and Local Air Quality

The ES concluded that those properties adjacent to the original A80 would benefit from improved air quality as the traffic is now re-routed along the new M80. A smaller number of properties will experience some deterioration in air quality.

The ES also concluded that in terms of total emissions, there will be a net increase in the emission of pollutants as a result of an increase in road traffic. However, the impact on regional and total UK emissions will be negligible. Given this, no mitigation measures to reduce the impact upon global or local air quality were identified in the ES.

As described in the noise section, a comparison of actual and forecast traffic flows has revealed that all, with the exception of two (from a total of sixteen), links within the model area experience lower traffic flows than those forecast. Many of links are experiencing over 20% less traffic meaning it can be expected the impact of emissions associated with an increase in road traffic would be less than presented in the ES.

Water Quality, Drainage and Flood Defence

There are a number of watercourses in and around the project area, including, including Bothlin Burn, Luggie Water, Red Burn, Bonny Water, and the Forth and Clyde Canal.

The ES concluded that between Stepps and Mollinsburn there would be a net reduction in pollutants reaching watercourses, though there would be an increase in discharges to some small watercourses. Between Mollinsburn and Hags all road drainage eventually runs into Luggie Water and Bonny Water.

The drainage system for the scheme was designed to treat all road drainage before reaching watercourses to ensure any discharge, including any pollution resulting from a serious accidental spillage, is at an acceptable level. This system includes primary treatment via filter drains along the length of the road verge and secondary treatment via retention ponds.



Figure 2 – Retention pond

Both of these measures were found to be in place across the length of the scheme. The ES originally stated there would be 11 retention ponds, though this review concluded the SUDS constructed actually included more than 11 individual ponds. For example, at Castlecary, where the ES indicated only one, there was a small pond closest to the carriageway and five other larger ponds, which were connected via gabion channels, sited further back.



Figure 3 – Gabion channel between ponds

Geology

The scheme lies partially within a Site of Special Scientific Interest, designated for its geological interest (Mollinsburn Road Cutting). Measures were to be taken during construction to minimise impact during this time, such as maintaining the habitats associated with the SSSI. The habitats observed during the 1YA visit appeared to reflect the existing habitats.

Biodiversity and Habitats

The ES stated there are no nationally designated ecological sites, though there are twenty Sites of Interest to Nature Conservation which lie in proximity to the scheme.

Otters, protected under the Wildlife and Countryside Act 1981 and as a European Protected Species, are known to use some of the watercourses. These watercourses also support salmonids. The ES also identified that other protected species such as different species of bats, amphibians and birds are also present in areas along the route as well as badgers.

Habitat creation and improvement measures were to include native woodland, scrub and wildflower planting. Due to the timing of this review it was not possible to confirm the level of the wildflower planting, which are mainly visible in the spring. However, tree planting was evident across the length of the scheme, and comprised one of the major mitigation components. However, a general observation regarding the tree planting was that it appeared to have a low density in comparison with other recent Transport Scotland schemes. (See the landscape and visual section below for further discussion on the establishment of tree planting.) Some of the retention ponds supported marginal reeds, rushes and other aquatic vegetation but tree planting appeared less well established and in some cases had failed (see landscape section). It is recommended that further monitoring of the success of habitat creation and planting is carried out.

Provision of otter flood level ledges and otter fencing was also identified in the ES. During the site visit, a mammal tunnel was located on the north side of the carriageway at Bothlin Burn's culvert, set at a higher level than the culvert (Figure 4). An otter ledge was attached to both abutments of the wide culvert near Dalshannon at Luggie water where most otter activity had been observed (Figure 5).



Figure 4 – Mammal tunnel at culvert



Figure 5 – Otter flood level ledge



Figure 6 – Otter fencing

Otter fencing has been erected at various locations along the eastbound and westbound carriageways. The fencing was in good condition and had been dug in below ground level. However, the fencing intended to guide otters towards the otter ledge at Dalshannon appeared to stretch not as far as expected to the west of the culvert, in comparison with the eastern side and other parts of the scheme. This is where the otter fence met another metal fence surrounding two utility buildings and it was apparent that otters would be able to cross through at this point and under the more open metal fence and have access to the roadside verge in an area of known otter activity. Action is recommended to investigate the suitability of the fencing at the utility buildings near Dalshannon to ensure the

effectiveness of the implemented mitigation in directing otters to the otter ledge. It is recommended that the suitability of fence designs in this area are reviewed and the road kill / wildlife-related RTA data are assessed during the 3YA evaluation.



Figure 7 – Location of the end of the otter fencing and more open fence around the utility buildings near Dalshannon.

Provision of refuges and hibernation sites for amphibian species was also noted in the ES. There was no obvious evidence of this identified during the review. However, the nature of these refuges, constructed from piles of logs, wood or stones could mean they may have become hidden by vegetation and are no longer clearly visible.

Landscape & Visual Amenity

The landscape that the scheme lies within is not designated for its value at local, regional or national level. Between Stepps and Mollinsburn significant adverse landscape impacts were predicted as the road was built through a rural landscape of rolling landform, fields, agriculture and woodland. Over three hundred properties were identified as likely to experience adverse visual effects at completion. However, it is anticipated once planting has fully established this will drop significantly to 34.

A total of 45 individual mitigation measures were identified in the ES, most of which consisted of planting. This included native woodland, shrubs, hedgerows, grass seed, wildflowers. Due to the time of year the review was conducted, it was not possible to confirm that all this planting had been carried out, in particular the wildflowers. Ongoing monitoring of the success of the planting carried out is recommended given its importance to provide the level of screening required and a sense of connectivity with the surrounding landscape.

Hedgerow planting was also not as evident as had been indicated in the ES at one location (Mollinsburn Junction), where a field boundary hedge (commitment LV2) was unable to be replaced due to the structural foundations of the piled embankment. A significant level of tree planting was carried out across the length of the scheme, mainly as small clumps of trees. Information from the contractor has advised that a shortfall in tree planting was addressed under Excluded Seasonal works in the 2012/2013 planting season. This will be evaluated again at the 3YA evaluation.



Figure 8 – Tree planting



Figure 9 – Trees planted in small 'clumps'

A number of trees (whips) were also observed to have been blown over and may require replanting, and were not well established in a marshy area near Bothlin Burn. Jacobs have commented that it was recognised that establishment of hedgerows has not been successful in many of the locations across the site due to the failure of plants and issues with predation of the plants by deer that have been accessing the road corridor. The poor establishment has been noted and raised with the Contractor to be addressed during the Establishment Period.

As detailed in previous sections, retention ponds, noise barriers and noise bunds have also been incorporated into the scheme. Where appropriate, land has been returned to agriculture. The landscaping Establishment Period is five years following completion of the construction stage and Transport Scotland's Managing Agents continually review and monitoring landscaping works. As such, it is expected that over time the features will weather, vegetation will grow and the scheme will assimilate better into the surrounding landscape and issues relating to the success of the establishment of the planting will be addressed (e.g. replace failed trees) to ensure the visual screening and habitat connectivity is implemented as proposed.

Agriculture and Soils

Assessments undertaken as part of the ES determined that limited mitigation was necessary for the operation of the scheme. This included re-grading and returning land to agricultural use which has been carried out at the locations identified in the ES.

Cultural Heritage

The ES noted historic sites in the locality of the scheme include a Roman fort at Mollins, the Antonine Wall and two associated sites (Garnhall 1 and Castlecary temporary camp) and the Forth and Clyde Canal. All of these are scheduled monuments of national importance.

A programme of works to ensure any features of cultural importance unavoidably lost during construction were excavated and recorded was to be managed by Historic Scotland.

Any other impacts are mitigated by landscaping measures, taken across the scheme, to minimise the visual impact of the road.

Physical Fitness

The scheme was designed not to cause any new community severance and the impact on pedestrians, cyclists and other similar user groups was anticipated to be slight to negligible.

A number of 'rights of way' to farms and other properties were to be diverted, a sample of which were checked and were found to be present.

Land Use

The total land-take for the scheme was 241 hectares, the majority off-line between Stepps and Mollinsburn. In other areas land take has been minimised through scheme design to mitigate against potential adverse environmental impacts. Further mitigation was limited and this review confirmed agricultural land was re-instated as appropriate.

Vehicle Travellers

Driver stress is anticipated to be lower as the scheme has improved the alignment of the road, though this kind of review does not allow comparisons of driver stress to be assessed. Mitigation measures provided to address landscape and visual amenity will improve the view from the road.

Environment: Key Findings

The mitigation measures included within the ES that can be observed during the operation stage have been implemented and were seen to be in good condition, although at one location (Mollinsburn Junction), a field boundary hedge (commitment LV2) was unable to be replaced due to the structural foundations of the piled embankment. A substantial proportion of mitigation measures placed across large expanses of the completed scheme comprised noise abatement measures and planting to compensate, create or enhance habitats or to mitigate landscape and visual impacts. A selection of these noise or planting measures were inspected in detail.

A comparison of actual and forecast traffic flows has revealed that, from a total of sixteen model links examined, actual traffic flows on fourteen links are lower than those forecast with the actual flow on many links being more than 20% lower than forecast. According to Calculation of Road Traffic Noise and the DMRB, this would result in noise impacts 1dB less than forecast given the lower traffic flows. Impacts on air quality would also be expected to be less than presented in the ES as a result of the lower traffic flows.

Measures taken to protect otters were in place, although recommendations to investigate the suitability of the fence design at the utility buildings near an area of known otter activity at Dalshannon (by the otter ledge) are made to be included in the 3YA evaluation. Extensive drainage measures have been constructed to minimise the risk of pollution to watercourses via filter drains and a series of retention ponds.

Landscaping has been carried out across the scheme. Information from the contractor has advised that a shortfall in tree planting was addressed under Excluded Seasonal works in the 2012/2013 planting season. This will be evaluated again at the 3YA evaluation. The poor establishment of plants in

certain areas has been noted and raised with the Contractor to be addressed and monitored throughout the Establishment Period. The landscaping establishment period is five years following completion. As such, it is expected that over time the features will weather, vegetation will grow and the scheme will assimilate better into the surrounding landscape and issues relating to the success of the establishment of the planting will be addressed (e.g. replace failed trees) to ensure the visual screening and habitat connectivity is implemented as proposed.

The following actions are recommended to improve the effectiveness of the implemented mitigation:

- **Biodiversity & Habitats:** review of the provision for otters at the utility buildings near Dalshannon, through investigating the fencing design used and road kill /wildlife-related RTA data during the 3YA evaluation.
- **Landscape & Visual Amenity:** continue to monitor the establishment of planting.