

South Loch Ness – Road Improvement Strategy

Road widening to twin track standard, shared-use path provision, village enhancement and drainage improvement to this very important strategic route serving the South Loch Ness area



Typical edge damage, lack of passing places and poor drainage

Contents	Page
Introduction & Background	3
Funding	5
Existing Condition	6
Twin Track Road Widening – General Standards	7
Shared-Use Path Provision – General Standards	8
Village Enhancement - General Standards	9
Drainage Improvement - General Standards	10
Communities and Landowners	11
Appendix 1 – Strategy Timeline	12
Appendix 2 - Technical Information	13
Appendix 3 - Strategy Plans	14
Appendix 4 - Strategy Progress	15

Introduction & Background

The rural road network in the South Loch Ness area requires significant upgrading and improvement to adequately serve the area now and in the future. These fragile routes have suffered significant deterioration and, being evolved routes rather than designed roads, they are not able to cope with the existing and developing use by vehicles, pedestrians and cyclists. The principal routes **B851**, **B862**, **B861** and **B852** fulfil various functions as rural distributors, commuter routes to Inverness, A82 Diversion route due to accident, rockfall/landslide or steep ground timber operations, routes to market for timber extraction, recognised Tourist Routes and form part of the National Cycle Network.

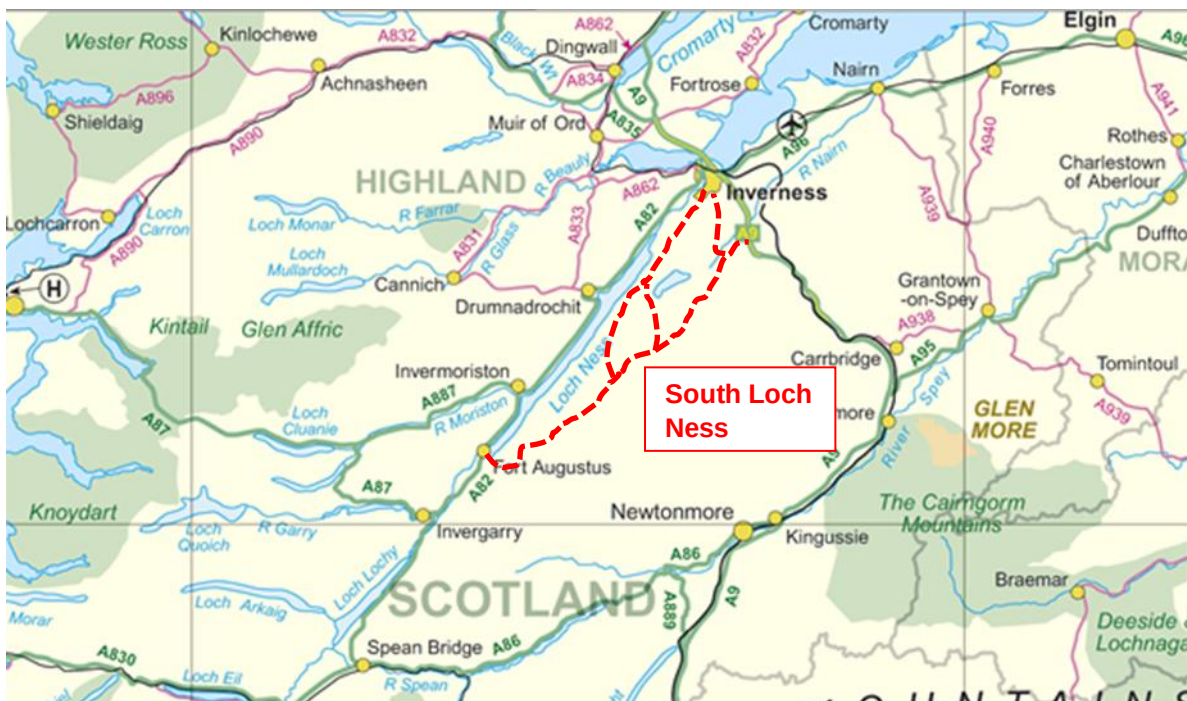
These roads are vital to the economic stability and growth of South Loch Ness.

Following planning consent for three major renewable projects in South Loch Ness, one pumped storage hydro and two wind power, it was considered that a strategic approach to securing and delivering roads mitigation and improving these roads was required.

The principal goal of this resulting strategy is to **upgrade the principal B-class roads from mainly single track to twin track standard, deliver a shared-use path, improve the road environment through local villages and settlements, and improve road drainage**. Twin tracking the road is considered to be the most effective way to cater for modern day traffic, improve road safety and 'future-proof' the road as a local asset.

Single track road improvements are not considered a viable, long-term option to deliver a 'fit-for-purpose' road network.

These improvements will provide a much improved alternative route to the A82 Fort Augustus to Inverness for tourist traffic, better access for communities and a viable strategic alternative to the A82 when it is closed to traffic. In part, there is no two lane alternative to the A82 between Invermoriston and Drumnadrochit without going via the West Coast or A86 alongside Loch Laggan. The extent to which this area is isolated from the Trunk and A-road network can be seen on the plan below.



Plan showing Trunk and A-road network in the Loch Ness area

This Strategy supports the Council's **Corporate Plan** programme '**Working Together for the Highlands**' by directly delivering on key areas of the programme;

- Working together for the economy
- Working together for better infrastructure
- Working together to empower our communities

Furthermore, the Strategy meets the aims of the Council's **Local Transport Strategy** by meeting its Principal Themes - safety, sustainability, economic development and integration by directly delivering on six of its Core Policies;

- CP1 – Development Management Contribution to Transport
- CP2 – Road Network Part 1 – Road Improvement Schemes
- CP3 – Road Network Part 2 – Road Maintenance
- CP4 – Pedestrian and Cycle Network
- CP13 – Freight Transport
- CP14 – Road Safety

This report supersedes and takes precedence over the strategy outlined on the original plans.

Funding

This upgrading to twin track has been an aspiration for many years with lack of funding the obstacle. This strategy presents a unique opportunity to combine the needs of various stakeholders with interests in the South Loch Ness road network. The strategy enables the delivery of a comprehensive package of road improvements funded by a combination of developer obligations, developer contributions, Council capital funding and the Scottish Government's Strategic Timber Transport Scheme. Additional and alternative funding mechanisms, e.g. Community Links Funding, will be utilised where appropriate.

Funding began to be assembled in 2004 from the Glendoe Hydro Scheme. Further stakeholder commitments from Dunmaglass Wind Farm were confirmed in 2011, Community Council and Local Member support secured in November 2011, modest funding from Highland Council Capital Programme approved for spend over three years 2012/13, 2013/14 and 2014/15 and Strategic Timber Transport Scheme funding approved in 2012. Corriegarth Wind Farm commitments were confirmed in 2013. Construction of wind farm related road mitigation works started in 2012 and 2013 respectively, the latter due to be complete this year.

Further improvements will be delivered in 2014/15 from existing and new stakeholders who are on site or currently going through the planning process.

Existing Condition

As of 2011, the existing lengths of twin track for each road were as follows;

- B851 - 5.2 km of 21.7 km, which represents 24% twin tracked
- B862 – 26.3 km of 49.8 km, which represents 53% twin tracked
- B861 – 4.6 km of 7.8 km, which represents 58% twin tracked
- B852 – 7.6 km of 21 km, which represents 36% twin tracked

Existing lengths of twin track road are performing significantly better than the lengths of poor standard single track road and those '1 ½ width' sections, which lie somewhere between the two. Problems are compounded by sub-standard geometry, reduced forward visibility and a lack of passing places.

Increased HGV traffic and a growing trend of drivers ignoring passing places by driving on the verges, or forcing other road users to do this as evasive action, demonstrate how unsuitable these roads are for modern day traffic in their current form. Extensive edge over-run results in breakdown and failure of the road, beyond a state of economic repair.



Typical Road Failure

To date the strategy has focused on improving the direct route over the B851 and B862 connecting the strategic trunk road network between the A9 at Daviot and A82 at Fort Augustus. Stakeholder interests lie along this section, i.e. the renewable developments. In 2011 this 50 km route had 13.5 km of twin track with a remaining 30 km of inadequate single track road and 6.5 km within the settlements. This equates to 73% of this route requiring upgrading.

By October 2014, 7 km of this direct route has been twin tracked, 5.1 km on B851 and 1.9 km on B862. The benefit of these improved sections is being recognised by road users and local communities. However, this further illustrates the inadequacy of the poor standard single track sections of road.

Twin Track Road Widening – General Standards

The Twin Track standard requires **7 metre wide blacktop** providing a **6 metre wide carriageway** (between white lines) with 0.5 metre over-run strips either side. Appropriate width verges and slopes for cuttings or embankments will be required.

Widening to be formed by **surface course overlay**. Construction will be binder course to match existing road carriageway level with regulating course to achieve appropriate camber/crossfall for surface course overlay.

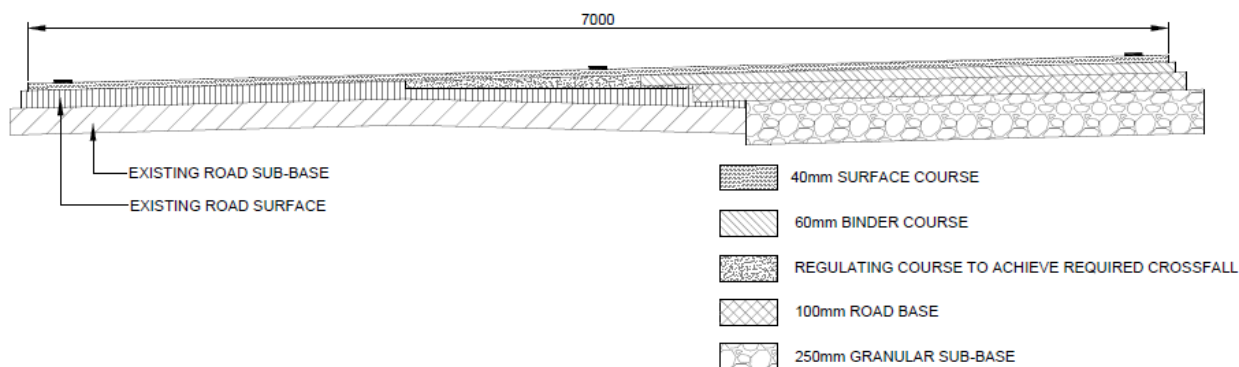
Depending on existing road construction, subgrade integrity and characteristics it may be appropriate to overlay with binder and surface course, provide subgrade stabilisation and/or asphalt reinforcement.

Twin tracking in itself will prolong the life of the existing sub-standard single track lane as traffic loading will be spread over two lanes rather than one, notwithstanding the strength improvement provided by the full width overlay. The result is a significantly improved road.

Twin track widening is not simply carriageway strip widening. While typically contiguous with the existing road, horizontal and vertical alignments will be optimised to improve safety and ride characteristics. Some localised areas of poor horizontal and vertical alignment will be improved. The use of appropriate stage **Road Safety Audits** will inform the design and construction processes. The aim is to improve the safety and utility of the public road network.

Where constraints are encountered then a reduction of this standard may be considered. There may be sections where it will only be possible to improve the existing single track road with the introduction of additional passing places.

Early identification of all Public Utilities infrastructure will be required. BT cables and fibre run along most of the route, often on both sides of the road. Water pipes run parallel to the road for most sections east of Gorthleck. Electricity O/H lines are primarily off-road with localised crossings. It is highly likely that some utility diversions will be required for all sections of works.



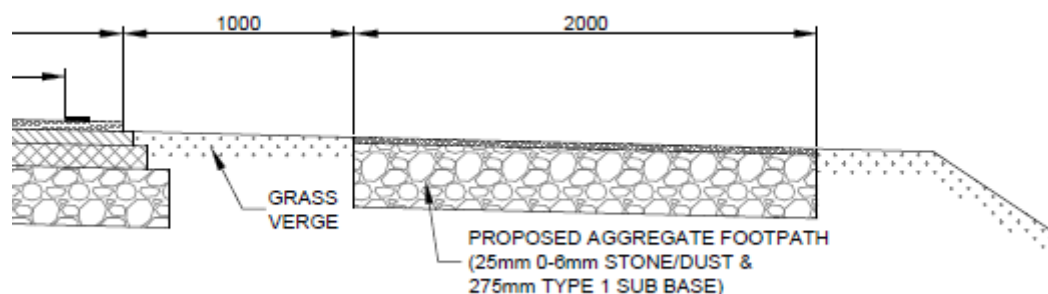
Typical Cross Section

Shared-Use Path Provision – General Standards

The existing road environment is not conducive to encouraging walking or cycling; this situation will not be resolved by twin tracking alone. While confident road cyclists are likely to remain on the carriageway, pedestrians, children and leisure cyclists require appropriate provision off the carriageway. The needs of and appropriate provision for vulnerable road users are a fundamental aspect of any road space.

Pedestrian safety must be considered in association with proposed road improvements. The strategy of twin track improvements would likely reduce the verge widths and thereby possibly increase risks for pedestrians.

Typically a **2 metre wide aggregate path** with **1 metre wide grass separation strip** from the carriageway and **1 metre verge** is to be delivered. Where constraints exist the path may be contiguous with the carriageway, separated by the use of kerbing. In such situations the path will be finished with a bituminous surface course.



Typical Cross Section

This will provide a real improvement and facility for local communities by providing safe and convenient access for vulnerable users. While in the longer term shared-use paths will cater for those travelling longer distances it is considered that local benefits will be realised very quickly. Residents on the outskirts of villages will have a reduced need on the car for local trips. The paths will improve local accessibility, connecting residents with their neighbours and local amenities, in a more sustainable manner, and also provide access to the wider area. It will also act as a very useful local asset for tourist and holiday-makers when they stay or visit the area.

Village Enhancement - General Standards

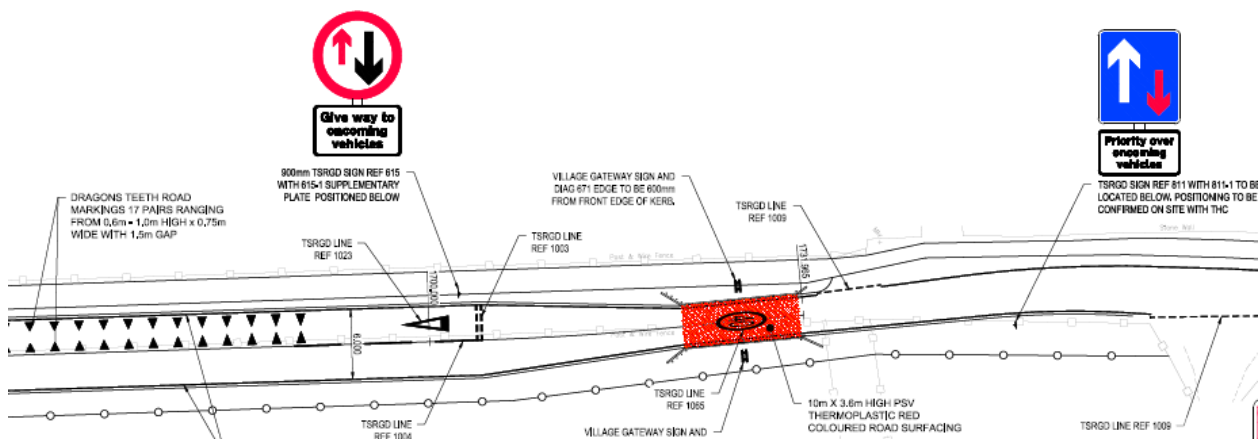
Numerous villages and settlements exist in South Loch Ness and typically they require a different approach to the open road sections. With speed restrictions in place and a concentration of people and amenity facilities then twin tracking is not always the most appropriate improvement method as this may be counter-productive to reducing speeds.

Traffic Advisory Leaflet 1/04 – Village Speed Limits refers.

The creation of Village Gateways at all village and settlement areas is an important aspect of the Strategy. This defines the start/end points of villages, reinforces the speed restriction and alerts drivers that a change of speed and behaviour is required as it signals a change of environment.

The gateways use high visibility backed signing, kerbing, carriageway narrowing and colour treatment, bollards and white lining including 'dragons teeth' markings. These have all been used initially on B851 and B862. However, as more of the route becomes twin track a Priority Give-Way system is envisaged as the standard, further encouraging speed reduction for inbound vehicles including high friction grip surfacing on the inbound approaches.

Gateways have been installed at six key settlements on B851 – Inverarnie, Farr and Croachy & B862 – Errogie, Gorthleck and Whitebridge. To date only Croachy South has received the Priority system.



Priority Give-Way Gateway Layout at B851 Croachy

Further measures are required to maintain speed reduction through villages and better serve local resident's needs, such as;

- Shared-use Path provision
- Village parking
- Passing opportunities
- 'Safer Routes to School'
- Speed reduction measures

Drainage Improvement - General Standards

The drainage of water from a road is very important, both in relation to road construction and maintenance. If not dealt with properly water has a major impact on the road's performance and integrity.

Appropriate road drainage provision will be required, with preference given to open ditches. Piped drainage and filter trenches will also be considered and will be dictated by local conditions. Subgrade drainage may also be required.

Where drainage is provided between the carriageway and shared-use path then the grass separation strip will be widened accordingly.

Structures and Culverts convey water below the road and require careful consideration; inspections and reference to available General/Principal Inspection reports is an essential component of this.

Preference is given to replacement of piped culverts full length as extending old culvert with new can result in a weak joint below the carriageway; a potential future problem. Larger culverts can be extended although this will be dictated by local conditions and carriageway/watercourse alignments.

Bridges will be dealt with on a case-by-case basis. Where extension to carry widened carriageway is feasible then this will form part of the works. However, it is accepted that notable structures, such as Listed Bridges, may remain as pinch-points on the route. In this situation appropriate measures to safely cater for road users will be implemented. B851 Dunmaglass Bridge is an example where a Priority Give-way arrangement has been provided.

Communities and Landowners

It is acknowledged that delivery of the strategy will be highly dependent on landowner agreement and support from the wider community.

Extensive community engagement has been carried out prior to the launch of the strategy and throughout recent construction works. The impact of road construction and associated traffic management and road closures requires careful consideration and engagement with affected communities. Regular briefings to Community Councils and local residents have proved worthwhile and successful.

Highland Council has developed good relationships which we are keen to maintain and develop throughout the Strategy's lifetime. It is expected that other stakeholders and their contractors will adopt similar relationships.

Highland Council is currently securing land required for future works by acquisition and agreements and negotiating compensation for land acquisition/purchase and accommodation works with landowners and their tenants. The involvement of the District Valuer is being used to ensure affected parties are treated equitably throughout the South Loch Ness area.

Appendix 1 – Strategy Timeline

Glendoe Hydro Sceme proposal submitted	2003
Dunmaglass Wind Farm proposal submitted	2005
Corriegarth Wind Farm proposal submitted	2007
Strategy Launch/Members & Community Council support	Nov 2011
Council Capital Programme Funding	March 2012
Strategic Timber Transport Funding	May 2012

Appendix 2 - Technical Information

Works shall be guided by the requirements of;

- Design Manual for Roads and Bridges
- Manual of Contract Documents for Highway Works
- Specification for Highway Works
- Highland Council's 'Roads & Transport Guidelines for New Developments'
- The ROADDEX Network

Further 'strategy specific' guidance in preparation.

Appendix 3 - Strategy Plans

South Loch Ness Strategy Plans - November 2011 (now superseded).

Revised Strategy Plans are in preparation.

Appendix 4 - Strategy Progress

In preparation.