

A83 Medium Term Strategy
Options Assessment
Option Fact Sheet

Option Name	Long Term Scheme (LTS) – Debris Flow Shelter
Brief Description	<p>This option connects to the existing A83 Trunk Road at the eastern end of Glen Croe approximately 550m south-east of the Old Military Road (OMR) / lower forestry access track junction. Due to topographical and flooding challenges, a structure, approximately 450m in length, will be required to bridge the existing A83 Trunk Road, OMR and Croe Water and allow the route to continue on the western side of the glen. Embankment heights on approach to this structure are up to approximately 12m in height.</p> <p>Approximately 2,500m of the route is located on the western slopes, where the alignment generally follows the existing forestry access track corridor for approximately 1,200m, before diverging on approach to High Glen Croe where it sits lower for the remaining 1,300m. A Debris Flow Shelter approximately 2,400m in length is proposed along the western slope to protect the road from potential geohazards.</p> <p>At the western end, a further structure, approximately 320m in length, is required to connect the alignment from the western slopes to the northern high point adjacent to the Rest and Be Thankful car park over an existing steep gully. Embankment heights on approach to this structure are up to approximately 30m in height, however an extension of the structure abutments into a retaining wall may be more appropriate at this location to avoid embankments. From this point, the alignment continues generally north, parallel with the top end of the OMR and through the junction with B828 Glen Mhor local road to tie back into the existing A83 Trunk Road alignment east of Loch Restil.</p> <p>The maximum gradient of this option is approximately 5.35% as it passes along the western slopes of the glen.</p> <p>Overall, this option is approximately 4.3 km long, measured between the two points at which it ties into the A83 Trunk Road.</p>
Option Pros	<p>The key positive elements of this option are listed below:</p> <ul style="list-style-type: none"> • This option could be implementable as a phased approach with a medium term solution. • This option effectively bypasses the main landslide/debris flow hazard area on the eastern side of the Glen and is operationally comparable to the A83 Trunk Road with two-way traffic over its entire length. • This option provides protection from geohazards in the form of a Debris Flow Shelter which covers the length of the route that passes along the western slopes of the glen. • A significant length of this option lies within Scottish Ministers land. • Shortest estimated construction duration of the three LTS Green Option variants.

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Option Cons	<p>The key negative elements of this option are listed below:</p> <ul style="list-style-type: none"> • This option requires notable cutting into the hillside through a potential relict landslide feature which could reactivate previously failed material. • Provision of a debris flow shelter which facilitates appropriate management of existing watercourses and debris flows as they cross the route will require complex design and construction. • Significant maintenance programme for upkeep of debris flow shelter is anticipated. • The need for third party land cannot be ruled out, such as at the connections to the A83 Trunk Road at the east end and B828 Glen Mhor local road at the west end.
Time to Implementation	<p>An outline programme should be developed as part of DMRB Stage 2, should the Green Option be selected as the preferred route.</p>
Outline Construction Programme	<p>It is estimated that the construction of this option would extend over a period of 38 months to 44 months.</p>
Scheme Costs	<p>Costs for the LTS Green option will be prepared as part of the DMRB Stage 2 report.</p>
Caveats Identified	<p>The caveats associated with the above data at this stage are identified as following:</p> <ul style="list-style-type: none"> • There is limited available information on the underlying ground conditions and the general slope conditions along the western side of Glen Croe. Accordingly, the geotechnical solutions and geohazard mitigation proposed have been based on various assumptions and is subject to change pending further data collection, assessment and design development. This may have significant bearing on the estimated cost generated. • Rock slope stabilisation measures have not been proposed at this stage but may be required. Such measures are likely to be of relatively low cost when compared with other elements associated with construction of this option and are therefore assumed to be covered within optimism bias allowances within the estimated cost.