

Figure 2.6 Summary of Personal Injury Accidents



Source: crashmap.co.uk

Five day average traffic count and average speed data for two points at the western and eastern extents of the B9040 was provided by Moray Council.

Data from May 2006 for the B9040 east of Hopeman indicated an average of 2,577 daily vehicle movements and an average speed of 51.9mph.

May 2017 data for the B9040 west of Lossiemouth indicated an average of 3,534 vehicles per day travelling at an average speed of 46.1mph.

These results illustrate that while vehicle movements are relatively low for a B class road, the number of movements has increased by around 37% over the 11-year period between surveys. While vehicle speeds are below the signed national speed limit (60mph), the B9040 has no off-road provision for pedestrians or cyclists and it is likely that only confident cyclists would currently travel using this route. The mixing of vulnerable users and traffic raises safety concerns; reducing these conflicts will have a bearing on the design of any future provision.

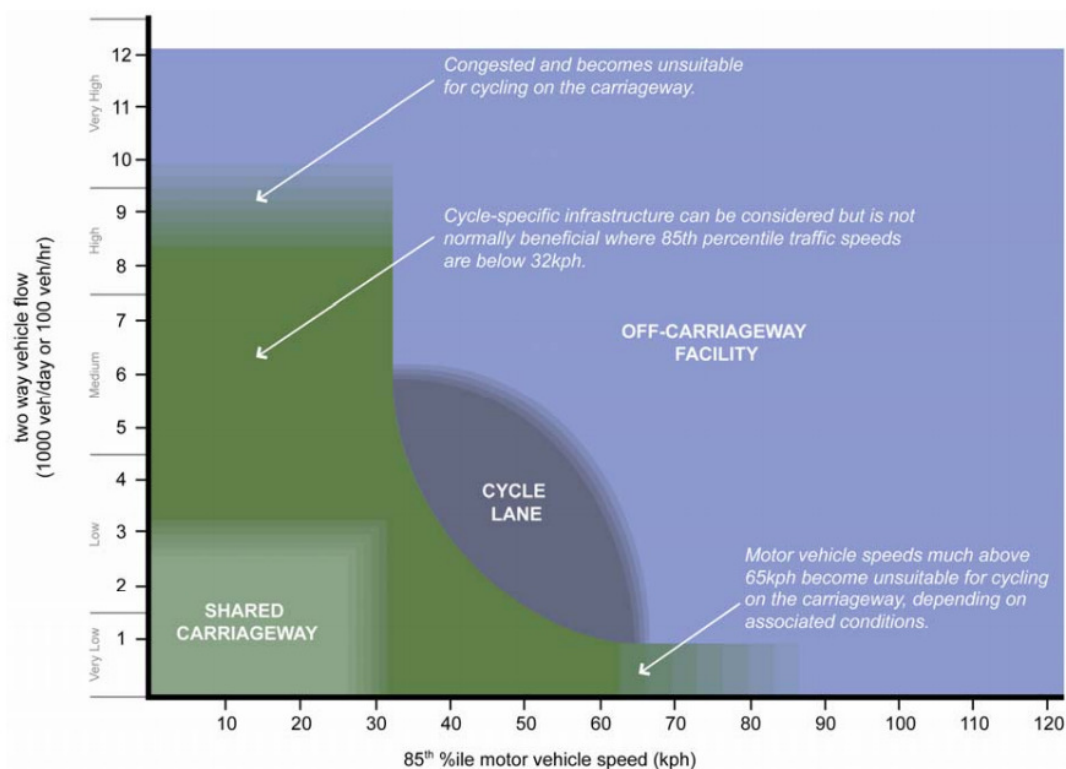
3.0 Cycle Design Specification and Criteria

3.1 Specification

The Transport Scotland guidance 'Cycling By Design'⁶ has been used as the basis for the appraisal and design of the potential options although reference has also been made to the Sustrans Design Guidance⁷ which has a wider consideration of the design of traffic free routes.

Figure 3.1 illustrates the key considerations in determining the form of the cycle link required for particular road conditions, as recommended by Transport Scotland.

Figure 3.1 Cycling by Design – Link specification guide criteria



Traffic flow data for the B9040 provided by Moray Council indicates that based on the most recent survey data an average daily traffic volume of 3,500 vehicles and mean average

⁶ https://www.transport.gov.scot/media/14173/cycling_by_design_2010_rev_1_june_2011_.pdf

⁷ <https://www.sustrans.org.uk/our-services/our-expertise/route-design/sustrans-design-guidance>

speed of over 80km/h were observed. This suggests that the link should ideally take the form of an off-carriageway facility.

Although the above diagram is subject to other factors like proportion of HGV's within the motorised traffic, conflicts with parking areas and junctions or potential personal safety issues, the geometry of the B9040 and associated traffics speeds would prohibit the safe provision of an advisory on-road facility.

3.2 Design Guidance

As detailed in the introduction, the objective of this study is to develop a route that is suitable for everyday active travel journeys and therefore likely to be predominately a shared pedestrian and cycle path, which is defined in 'Cycling by Design' as:

'A route for pedestrians and cyclists not associated with a road carriageway. Pedestrians and cyclists may share the cycle path or may be segregated from each other'.

As far as is practicable, a desirable minimum path width of 3 metres will be used, with an absolute minimum width of 2 metres as specified in 'Cycling by Design'. Where it is impractical to meet these widths due to physical constraints, these will be reduced locally by a maximum of 0.5 metres.

Chapter 5 (Traffic free routes) of the Sustrans design manual suggests a minimum cycleway width of 2.5m for a rural commuter route. A segregation verge with a minimum width of 1.5m should be provided along a 60mph road.

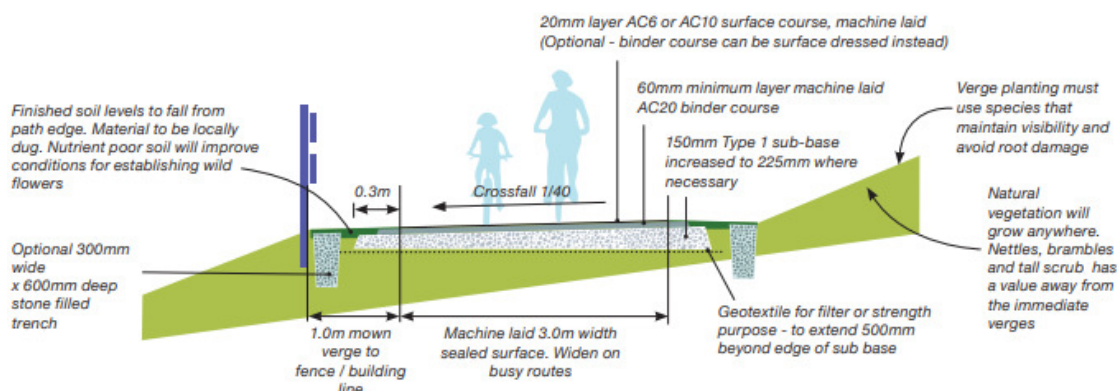
For all off-carriageway sections of the route, a flexible surface will be specified to provide a smooth and comfortable ride for cyclists and to minimise future maintenance. For the purposes of this study, the following specification will likely be adopted for the entire route as given in 'Table 10.1: Typical construction – urban location' of 'Cycling by Design':

- Surface Course: 30mm Hot Rolled Asphalt (CI 910).
- Binder: 50mm Dense Asphalt Concrete (CL906).
- Sub-base: 150mm Type 1 granular material (CI 803).

Chapter 6 (Traffic free routes: Detailed design) of the Sustrans design manual also specifies that a sealed, bitumen surfacing is required on paths anywhere within 2km of a village environment, advocating improved ride comfort, long term cost advantages and durability. The provision of a sealed surface unless in exceptional circumstances is also a

requirement of the Sustrans Community Links funding programme. Figure 3.2 shows an indicative path cross-section as per the Sustrans guidelines.

Figure 3.2 Cycling by Design – indicative path construction



Part 6 of the same document will be used as guidance to design appropriate verges and borders, whether in form of fencing or hedges. The proposed route corridors feature a variety of terrain including adjacent properties and the buffer or separation strips along the route and edge treatments will have to reflect that variety.

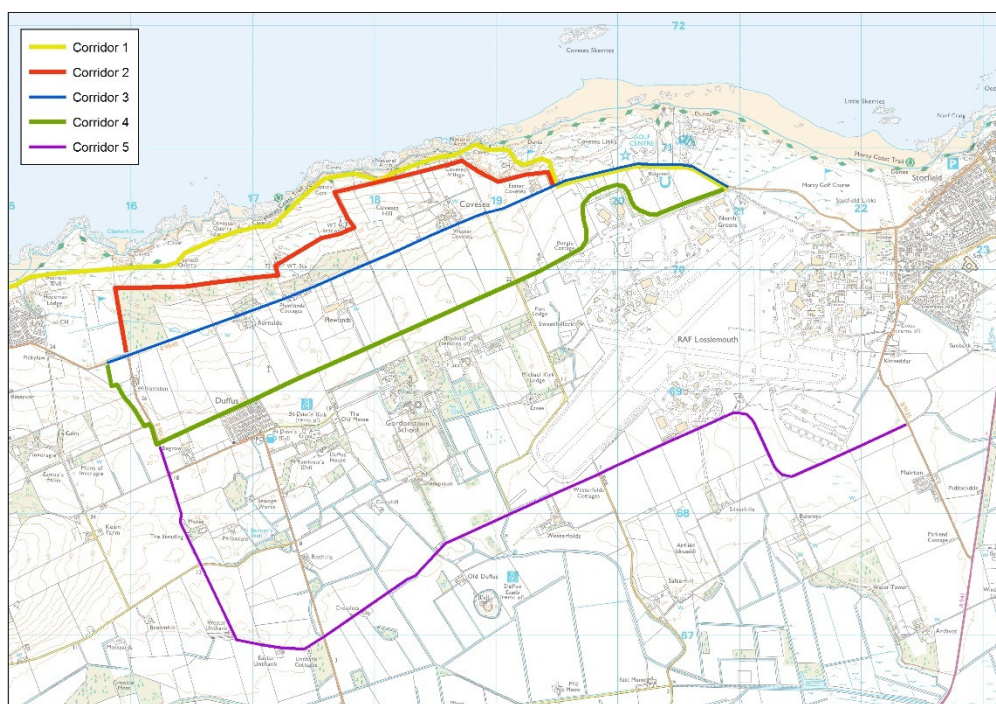
4.0 Site Assessment Walkover Survey

4.1.1 Proposed Route Corridors

Prior to undertaking site investigations, members of the project team used the information gathered from the desktop review to identify key opportunities and constraints along the proposed route. The five route corridors (1-5) identified by the previous study were subject to further investigation taking into account the study objectives, design guidelines and the appraisal criteria of future funding partners. These are shown below in **Figure 4.1**.

- Corridor 1; following the Moray Way coastal route before tying into the B9040;
- Corridor 2; following the boundary of local woodland and rural roads near Covesea Hill;
- Corridor 3; following the extent of the B9040 (either side of the carriageway to be considered);
- Corridor 4; extending the existing cycle route from the B9012 from Duffus around the perimeter of RAF Lossiemouth, linking in to the B9040; and
- Corridor 5; A rural route using existing roads to the south of RAF Lossiemouth, linking to the B9135 southwest of Lossiemouth Town.

Figure 4.1: Proposed Cycle Corridors





The desktop review of the study area highlighted that while there a number of distinct options between Hopeman and North Greens, between North Greens and Lossiemouth the proposed route alignment options are limited due to the width of the available corridor being restricted by RAF Lossiemouth and Moray Golf Club land on both sides of the B9040.

4.2 Detailed Site Assessment

Members of the project team undertook site visits on Wednesday 5th and Thursday 6th September 2018, to confirm and note key constraints and opportunities. The key findings and observations from the site visits for each proposed corridor and individual corridor sections are provided below with the five route corridors split into the following sections:

- Hopeman – North Greens;
- North Greens – Lossiemouth.

Hopeman – North Greens Route Corridor 1 – Moray Way, Harbour Street to Easter Covesea



Route Overview

The proposed route follows the existing Moray Way coastal path for 5.5km before rejoining the B9040 at Easter Covesea and following a route adjacent to the carriageway as described in Section 3D.

Opportunities

- An existing signposted cohesive route that is continuous and recognisable and currently used by recreational walkers and cyclists.

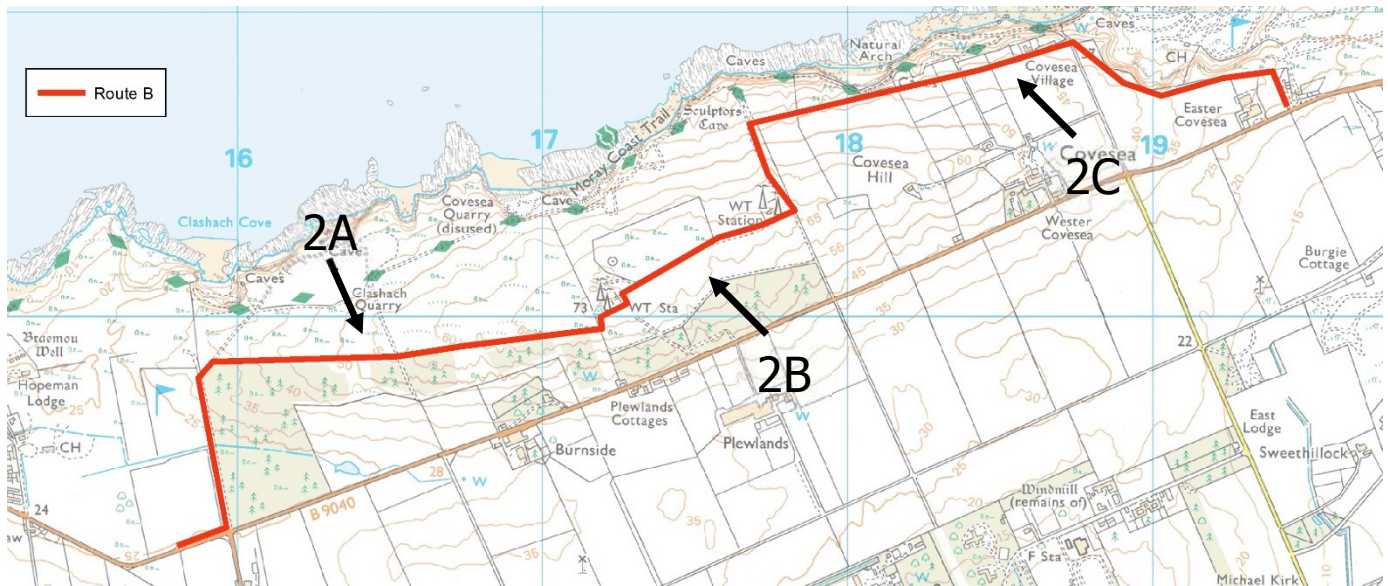


Constraints

- The existing path alignment, does not meet desire lines and is sinuous with frequent changes in gradient which result in a detour of around 1.5km compared to the existing on-road route.
- Upgrading the path to provide a sealed surface and alignment suitable for everyday cycling would require significant re-profiling works which would also be to the detriment of its existing recreational use.
- Due to the remoteness of the path it may not enhance personal security, sections would be exposed to severe weather and due to geometry certain sections could be difficult to maintain.



Hopeman – North Greens Route Corridor 2 – Rural Inland Route via Radar Station to Easter Covesea



Route Overview

The proposed route would diverge north from the B9040 at the junction with the B9012 for a distance of 5km before rejoining the B9040 at Easter Covesea. The proposed route represents an additional length of 1.2km compared with the B9040, with changes in gradient from the 25m contour at the B9040 up to 70m at the radar station before dropping back to the 25m contour at Easter Covesea. Each section of the route is discussed in more detail below.