

Technical note

Project A96 Corridor Masterplan Stage 2
Note Option Appraisal
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1 *Introduction*

1.1 As part of the development of a masterplan along the A96 corridor considerations immediately east of Inverness have been undertaken. Consultations took place with interested stakeholders as to the composition of a development framework for Inverness East. A series of different options have emerged.

1.2 Similarly an exercise has taken place for a development framework in Nairn South and a series of different options have emerged.

1.3 This note focuses on the transport and access options for both of these areas and will appraise each in relation to the following criteria:

- Providing accessibility / transportation choices;
- Integrating access with adjoining communities;
- Encouraging walking and cycle links;
- Accessibility to Public Transport routes; and
- Capacity of road and rail

1.4 To facilitate the consideration of the options this note will also take cognisance of the appropriate Highland Smart Growth development principles. In respect to accessibility it recommends the following key points should be considered:

- Relate development density to accessibility to help ensure viable public transport services.
- Deliver walkable and cycle friendly places that are distinctive and attractive with a strong sense of place through legible and permeable design.
- Ensure accessibility through mobility choice by actively promoting attractive public transport.

- Address key road challenges including the Raigmore interchange/ appropriateness of the Nairn bypass.

1.5 By referring to the two appraisal matrices developed as part of the preliminary option testing, the note will identify which options meet the appraisal criteria outlined above as well as those in 1.3.

2 *Options for the East of Inverness* **Option A**

2.1 This option includes a bypass to Raigmore Interchange that connects with the Inshes interchange which runs close to the south eastern boundary of the Inverness Retail and Business Park.

2.2 In terms of accessibility / transportation choices this option offers little choice in terms of mode choice. The new railway station is well located in regard to the business park and the college campus however there are no pedestrian linkages between the railway station, business park or the college to the nearby housing area. This may therefore encourage residents to travel by non-sustainable means to access these services unless sufficient bus routes are provided through the site.

2.3 This option does provide reasonable links in regard to integrating the site with adjoining communities. There are pedestrian links between Raigmore and the Business Park. The proposed A96 junction will provide access by car and the site can be accessed from other areas by rail.

2.4 In order for the site to fully accessible by walking and cycling it should ideally be compact and provide adequate links to shops, places of employment and schools. The majority of the housing areas are within a suitable walking distance to the school site and the remainder are within cycling distance however there is limited choice in regard to accessing other facilities by walking or cycling with the exception of the hotel and leisure complex.

2.5 In regard to the impact on the road network, the provision of a new link road between the A9 and the A96 will relieve both the A96 and the Smithton Roundabout. This new road has good access points to the new development areas and will therefore help to ensure that development traffic does not impact adversely the existing road network.

Option B

- 2.6 This option includes a bypass to Raigmore Interchange that connects with the Inshes interchange which leaves the A96 to the east of the Smithton roundabout.
- 2.7 A park and ride facility with associated rail halt at the Smithton Roundabout allows good access to the area and for a variety of transport choices to be used to access the retail park and the college campus. The provision of a park and ride facility will allow for the site to be well integrated with adjoining communities. Its provision will also make the area more attractive for public transport operators to introduce services through.
- 2.8 The compact nature of the development should allow for good walking and cycling access both to the area and through it. However there are relatively few pedestrian linkages shown on the masterplan. In respect to the other elements being appraised this is a good layout for the development however further attention will need to be given to the walking and cycling routes in order to make it fully accessible by all modes.
- 2.9 It is expected that the new link road will accommodate the majority of the development traffic however access to both Ashton Farm Road and Barn Church Road will be required in order for this to be the case. The main development area, including all the main trip generators such as the college, retail areas and Business Parks, has good access to the new link road and therefore should not have a detrimental effect the existing local road network. However there is a substantial area of high/medium density housing located to the far east of the site which has limited access to either the bypass or the link road and therefore will rely on the existing local road network for all car trips.

Option C

- 2.10 This option includes a bypass to Raigmore Interchange that connects with the Inshes interchange which runs close to the south eastern boundary of the Inverness Retail and Business Park.
- 2.11 A park and ride facility with associated rail halt at the new junction created by the bypass proposal (to the east of the Inverness Retail and Business Park) will provide a good choice of transport modes. The park and ride facility allows for a good level of integration between this development and other communities. The majority of the new housing for this particular design layout

is located adjacent to existing communities and therefore both old and new will be able to easily access local services.

2.12 The park and ride site and the new railway halt should make the development a more attractive option for public transport providers to introduce services. In addition to this, the majority of business units, college etc are closely situated in a central area of the site making it easier for public transport routes to be put in place. Bus use could well be a popular option for residents and workers to travel between the railway station and the elements of the business park furthest west, the hotel, college campus and the low density housing area to the north-east of the site.

2.13 With regard to the use of walking and cycling as modes of transport the majority of the site can easily access services such as schools. However, the medium density housing to the south-west of the site is further away from these services and has restricted points of access due to the railway line. Similarly, several of the low density housing areas to north-east of the site are bounded by the golf courses. In terms of personal safety this may encourage some residents to make journeys within walking and/or cycling distance by car.

2.14 This is the smallest option in regard to development traffic generation. Once again all of the main trip generators in the development will have relatively good access to the new link road and therefore should not have too great an impact on the existing local road network.

Option D

2.15 This option includes a bypass to Raigmore Interchange that connects with the Inshes interchange which leaves the A96 to the east of the Smithton roundabout.

2.16 This layout is very limited in terms of transport choices and its level of accessibility. This design option spreads the development out across all of the Inverness East area. This dispersed nature makes the area unattractive for public transport routes as there is no central location with a high density of development.

2.17 Similarly, walking and cycling are not encouraged in this design as the services are spread out over a large area. The high density housing area to the south west of the area is located within a good walking and cycling distance of the business park and the college campus. However the bypass creates a barrier

between these two land uses and will therefore encourage residents to make these short trips by car as opposed to by sustainable modes.

2.18 Although the housing element of this layout is quite well integrated into the existing community, due to the likelihood of the car being used for the majority of trips, full integration between the two communities is unlikely.

2.19 Following on from this, the development is very well catered for in regard to the car. The college campus, business park and retail areas all have excellent links directly onto the link road and/or bypass. Therefore it is predicted that there will be a high impact on the Smithton Roundabout both during the AM and PM peak hours due to development traffic.

Option E

2.20 This option includes an arching bypass to Raigmore Interchange that connects with the Inshes interchange which leaves the A96 at the Smithton roundabout.

2.21 With the provision of two new railway halts this option by far provides the best links to other communities and encourages the use of sustainable transport. The western of the two rail halts will provide good access to the business park and the college campus and therefore will encourage people from surrounding areas to travel to these by sustainable means. The eastern rail halt is situated in the centre of the main housing area and will therefore provide good access to the adjoining communities, Inverness and the wider area. The majority of the housing areas are located to the north-west of the railway line. Access points across the railway will be important in order for the two communities to integrate well. Due to way the housing is sandwiched between the railway and the bypass these accesses are essential. Without them the easiest option for these residents will be to use the new bypass and access services in other areas by car as opposed to the local services.

2.22 These access points are also crucial in regard to promoting walking and cycling to access local services, schools etc. These facilities are within easy walking and/or cycling distance of the new housing however due to the realignment of the railway adequate access points will be required in order to maintain these connections.

2.23 It is likely that the business park, retail units and college will be a source of employment for residents from both the new and existing housing areas. The distance between these areas is within walking and cycling distance. Therefore,

as long as appropriate pedestrian and cycle linkages are provided, the layout will encourage the use of sustainable modes for these trips.

2.24 The two new railway halts will make the development as a whole a much more attractive option for public transport operators to introduce good bus services through the site. As stated previously it is important that the realigned railway does not become a barrier between the new and existing communities. Sufficient access points across the railway will prevent this from happening and make the area more attractive to public transport operators.

2.25 There is excellent access to the college, business park and retail park from the new link road. If the junction between the link road and the A96 can also incorporate Barn Church Road into this high capacity junction then it is likely that the development traffic will be accommodated.

3 *Options for the Nairn South* **Option A**

3.1 This option includes a bypass route for Nairn running from Drumdivan in the west to Auchinacloich in the east.

3.2 Transport choices for this layout are quite limited. The areas of development are dispersed to the south, south-east and west of Nairn and therefore will probably not be an attractive option for public transport operators to introduce routes into as there is no core area. The existing railway station is in an easily accessible location for the occupants of the high density housing area to access on foot or by cycle. However both the areas of low density housing would likely access the station by car, or may even simply travel by car for longer distances as they are both in close proximity to accesses on the A96 and Nairn bypass.

3.3 The provision of a footpath network provides pedestrian linkages between existing and new development areas. However, as the new housing areas are so dispersed there will be little opportunity for integration between the communities. The main opportunity for integration will be with the high density housing area. Both sites of low density housing are at the peripheries of the site and segregated from the existing communities by rivers and green space.

3.4 As mentioned above footpath proposals have been included in this design which will obviously encourage walking and cycling in the area. However

these footpaths do not provide direct links to key areas within the development or link to the existing communities. All of the high density housing located to the south of the development is within good walking distance of local services such as the school and retail facilities. However, the remaining low density housing at both the western and eastern extents of the site will likely make these trips by car due to the distance involved and their location in regard to main roads such as the A96 and the Nairn bypass and also the limited crossing points across rivers.

- 3.5 As mentioned above it is likely that this particular layout will result in significant car travel. There is good access to the proposed Nairn bypass from the two development areas to the south of Nairn. The development to the west of Nairn however will continue to produce trips on the existing network and through the town centre. In order to prevent this situation a junction may be required to link the bypass and the A939.

Option B

- 3.6 This option includes a bypass route for Nairn running from Gollanfield in the west to Auchinacloch in the east.
- 3.7 In regard to transport options this particular layout provides many opportunities. The development is clustered into a centrally located core area to the south of Nairn. There is direct access from the bypass route to the proposed commercial cluster to the south of Balnaspirach and the adjacent housing areas. Nairn railway station is also easily accessible for the housing and the commercial areas.
- 3.8 This option will allow for a high level of integration between the new areas and existing communities. The housing element is situated adjacent to the existing communities and there are no physical barriers such as rivers or inappropriately located green spaces which will cause the old and new communities to be segregated. The only barrier that exists is the railway line. However, as long as suitable links are available to cross the railway in order for access to the school to be gained it should not pose a problem.
- 3.9 Walking and cycling will both be attractive options due to compact nature of the development and its situation directly adjacent to the existing community. The housing is situated around a new district centre where local services can be accessed quickly and easily without needing to use the car. The business/retail

element of the development is situated adjacent to the housing and therefore can be accessed on foot or by cycle.

3.10 Once again due to the compact nature of this design and its close proximity to the existing community it will be an attractive option for public transport operators to introduce services to.

3.11 The compact layout of this option is well designed in order to alleviate traffic in the town centre. All development traffic is accommodated through the bypass and the new roundabout at the B9091. The only downside to this particular layout is that the proposed route for the bypass is particularly elongated. This will result in increased time and distances and will be expensive to construct.

Option C

3.12 This option includes a bypass route for Nairn running from Drumdivan in the west to Auchinacloch in the east.

3.13 A new access road to the north of the proposed district centre is provided to ease central congestion and improve linkages between proposed areas of housing growth.

3.14 In relation to accessibility and transport choices there is limited choice with this design option. The housing areas can easily access Nairn railway station and are within walking and cycling distance to the existing community. The housing element, business park and industrial development are all segregated from each other and therefore public transport operators will be unlikely to introduce new routes to the development.

3.15 Walking and cycling are likely to be used for short trips to local services from the housing areas to the proposed district centre. However, both the industrial development and the business park are segregated out on the periphery of the site by green space and rivers. Access to both of these locations in terms of accessing employment is therefore likely to be by car.

3.16 The housing areas are situated close to the existing community and therefore will create an element of integration between the two. However, due to the poor accessibility of the design and the location of employment opportunities the likelihood is that most trips will be made by car and the level of integration between communities will be limited.

3.17 In regard to road capacity, the business park and the industrial area are well provided for. Both of these areas have easy access to the roundabouts on the proposed Nairn bypass and therefore will alleviate town centre traffic. With the current design however the housing area cannot access the bypass and therefore residents and visitors will require to use the existing local road network for access to the A96 and even the other areas of new development.

Option D

3.18 This option includes a bypass route for Nairn running from Gollanfield in the west to Auchinacloch in the east. In terms of transport choices this design will be very much car dominated. All the developments that are being proposed are scattered across the whole site. This is likely to encourage car travel to access different aspects due to the distances between each element.

3.19 Due to the scattered nature of the site it is highly unlikely that this particular design would be attractive to public transport operators. There is no core to the development and therefore nowhere to focus public transport services on.

3.20 There is limited integration with the adjoining communities with most of the new housing located on the peripheries of the site. The majority of these housing areas are segregated from other communities, both new and existing, and from facilities by various barriers including rivers and areas of green space. Similarly, the new facilities that are proposed, i.e. the retail development and the business park are situated for easy access from the bypass but not from the town itself, this will not be conducive to promoting integration between the old and new developments.

3.21 The barriers mentioned in the paragraph above along with the scattered nature of the site make both walking and cycling very unlikely in this development. In order to access any of the retail sites, business park or mixed-use sites the only viable option is to travel by car.

3.22 The developments to the south and east have good links to the proposed bypass and therefore should not have a detrimental effect on the existing local road network. The development area to the west of Nairn however has poor access and will result in trips being made through the town centre on the existing road network. Following on from this, the proposed route for the new bypass is very elongated. This will result in increased time and distances and also will be expensive to construct.

Option E

- 3.23 This option offers the tightest potential route for a bypass, linking to the north of Moss-side in the west to Auchinacloch in the east, with a key junction linking north south proposed at the A839. Therefore it will be the cheapest and shortest route and will be good for journey times and distance.
- 3.24 This design option is split into two focussed areas of development. In regard to accessibility the eastern of the two areas has good links to the bypass and, as discussed below, will be an attractive option for public transport operators.
- 3.25 The western of the two core development areas is well integrated with the existing community. Its situation adjacent to the existing community provides good walking and cycling links between the two. However, the integration between the eastern development area and both the existing community and the development to the west of the river is limited. This, along with its good links to the bypass, could easily results in a significant level of car use, even when the distances involved are relatively short.
- 3.26 Walking and cycling are reasonably well provided for in this design layout. Both of the two core development areas are of a compact design and therefore will encourage trips within them to be made by sustainable means. Both of the housing areas in the two development cores are focussed around proposed district centres meaning that local services will be easily accessible without the need for car use.
- 3.27 As the development is focussed around two core areas there is good potential for public transport to be an attractive option for operators. The western of the two development areas also has good access to Nairn railway station, further promoting the use of public transport.
- 3.28 It is anticipated that the highest share of trips generated by the development will be westbound to Inverness on the A96. There is good provision to accommodate this from the core development area to the east of the site. These developments have good access to the proposed bypass and therefore should not create additional trips on the existing network or through the town centre. The housing development however, to the west of the river, has no access to the bypass and therefore all trips to and from this area would be required to use the local road network to access services and to reach the A96.

A junction would be required between the bypass and the B9091 to prevent this from occurring and to keep traffic away from the town centre.

4

Conclusion

Options for the East of Inverness

4.1

Having appraised all five options for development to the east of Inverness using the criteria set out in paragraph 1.3 the following conclusions have been made. The preferred option from a transport and accessibility point of view is **Option E**. This particular design scenario provides excellent choice of transport modes through the provision of two railway halts and in being attractive to public transport operators. The site is also well designed in order to encourage the use of walking and cycling, however good access points across the railway line will be required for this to be fully effective. Finally all of the main trip generators in the site are ideally located for access to the link road and the A96. The least preferred scenario is **Option D** because of its car dominated nature, it will be unattractive to public transport operators and walking, cycling and integration with existing communities will be difficult as the developments are spread over a wide geographic area.

Options for Nairn South

4.2

The preferred scenario for developing land to the south of Nairn is **Option B**. This is due to its compact design, good accessibility for all modes of transport and it will also alleviate traffic through the town centre and the existing network. Option E would also be agreeable in regard to transport choices and accessibility as, although more dispersed than Option B, it is still compact and all developments are located in two core areas. It is also the shortest bypass and therefore cheaper. The least preferred scenario for Nairn is either options A or D. These two designs are both spread out over large areas and are limited in the transport choices available. They are both car dominated designs and therefore do not meet the appraisal criteria set out.