

## **17 Vehicle Travellers**

**This chapter assesses the impact on vehicle travellers in terms of view from the road and driver stress for the Northern Leg of the proposed scheme.**

**The View from the Road assessment describes the views that would be experienced by vehicle travellers. To represent the likely change over time, views were assessed for the winter year of opening, and during the summer 15 years after opening. A comparison is also provided between the views that will be gained for the new road and those gained from the existing A90.**

**During the winter year of opening (with newly planted mitigation), the majority of the views from the road will be open or modified by existing vegetation and minor cuttings, with views across the surrounding farmland and distant views towards the developed areas of Dyce and Aberdeen. In summer after 15 years the mitigation planting will have become established and will enclose many of the views, but travellers will still gain attractive, open rural views in contrast with the enclosed urban views currently experienced along the A90 through Aberdeen.**

**Driver stress is defined for the purposes of the assessment as the mental and physiological effects experienced by a driver in terms of three main components: frustration, fear of a potential accident, and uncertainty of the route which is being followed.**

**Driver stress has been mitigated through scheme design (e.g. good traffic flow and appropriate signage). Low driver stress will be experienced on the proposed scheme except between North Kingswells and the A96 where high driver stress will be experienced. Driver stress on the majority of the existing road network is not predicted to be affected by the proposed scheme, although it will reduce on the southbound A90 and on the westbound A96, and will increase on the northbound B977.**

### **17.1 Introduction**

- 17.1.1 This chapter presents an assessment of the impact on vehicle travellers in terms of view from the road and driver stress.
- 17.1.2 View from the road is defined as the extent to which vehicle travellers are exposed to different types of scenery through which the proposed scheme passes. The existence of a new road may enable more people to view the landscape than hitherto. In areas of high quality scenic landscape, the road may allow travellers to appreciate the area and their location in relation to distinctive landscape features, by allowing appropriate views. Views out from a new road or section of a road may also help to alleviate driver stress. Conversely, where views from a road are restricted by the topography of a new construction, this may cause frustration or contribute to driver boredom.
- 17.1.3 Driver Stress is defined, for the purpose of the assessment, as the mental and physiological effects experienced by a driver using a road network. Factors influencing the level of driver stress include the road layout and geometry, surface riding characteristics, junction frequency and the speed and flow per lane. In general, drivers will choose the route that they believe to give the shortest reliable journey time, taking account of expected variability and coping with associated stress.
- 17.1.4 The three main components of driver stress are frustration, fear of a potential accident, and uncertainty of the route which is being followed. These components are discussed in the following paragraphs.
- 17.1.5 Frustration is caused by a driver being unable to drive at a speed at which they wish, in relation to the conditions of the road. The level of frustration increases as the travelling speed falls in relation to expectations and may be caused by high flow levels, intersections, road works, or difficulties in overtaking slower moving traffic.
- 17.1.6 The main factors leading to fear are the presence of other vehicles, inadequate sight distances and the likelihood of pedestrians stepping on to the road. Other factors include complex junctions and

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roundabouts, and poorly maintained road surfaces. Fear is highest when speeds, flows and the proportion of heavy vehicles are all high.

- 17.1.7 Route uncertainty is caused primarily by signing that is inadequate for the individual's purposes. Good design and layout and/or signs should help eliminate this cause of stress for drivers. Poor lighting may also cause uncertainty as turnings and junctions may not be seen in advance.

## **17.2 Approach and Methods**

- 17.2.1 The assessment of impacts on Vehicle Travellers has been undertaken following guidance provided in DMRB (Volume 11, Section 3, Part 9).

### **View From the Road**

- 17.2.2 The assessment takes into account the types of scenery or landscape character, the extent to which travellers would be able to view the scene, the quality of the landscape and features of particular interest or the prominence of the view.

- 17.2.3 The extent to which travellers will be able to perceive the landscape through which they are passing will vary with the relative level of the road and its surrounding topography and vegetation. The categories used in assessing this are:

- No view – road in very deep cutting or contained by earth bunds, environmental barriers or adjacent structures;
- Restricted view – road in frequent cuttings, or with deep cuttings across slopes, with frequent environmental barriers or adjacent structures blocking the view;
- Intermittent view – road generally at grade but with shallow cuttings, environmental barriers or structures at intervals; and
- Open view – road generally at grade or on embankment with views extending over the wider landscape or only restricted by existing landscape features.

### **Driver Stress**

- 17.2.4 Driver Stress has been assessed using the three following point scale as recommended in DMRB:

- high;
- moderate; and
- low.

- 17.2.5 This is based on estimating the average peak hourly flow per lane in 'flow units' and the average journey speed of the route. Flow units are calculated whereby a car or light van is equal to one unit and a commercial vehicle over 1.5 tonnes unladen or public service vehicle is equal to three flow units. Traffic speed is based on average journey speed (km/hr).

- 17.2.6 The assessment has been carried out for the existing traffic conditions using 2005 traffic flows, and for the Design Year (15 years after scheme opening). Paragraphs 5.3.1-5.3.2 of Chapter 5 (Overview of Assessment Process) provide a description of the traffic predictions on which this assessment is based.

- 17.2.7 Tables 17.1 and 17.2 present the guidance provided by DMRB on the appropriate category of stress levels for varying flow, speed and standard of road for dual carriageway and single carriageway roads respectively. The categories only apply to those sections of road where traffic flows and speeds are known for over 1km of the route.

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**Table 17.1 - Driver Stress Levels on Dual Carriageway Roads**

Average Peak Hourly Flow per Lane <sup>1</sup> (flow units / hour)	Average Journey speed km/hr		
	Under 60	60 – 80	Over 80
Under 1200	High <sup>2</sup>	Moderate	Low
1200 - 1600	High	Moderate	Moderate
Over 1600	High	High	High

**Table 17.2 - Driver Stress Levels on Single Carriageway Roads**

Average Peak Hourly Flow per Lane <sup>1</sup> (flow units / hour)	Average Journey speed km/hr		
	Under 50	50 – 70	Over 70
Under 600	High <sup>2</sup>	Moderate	Low
600 – 800	High	Moderate	Moderate
Over 800	High	High	High

<sup>1</sup> A car or light van equals one flow unit. A commercial vehicle over 1.5 tons unladen weight or a public service vehicle equals 3 flow units.

<sup>2</sup> 'Moderate' in urban areas.

- 17.2.8 The guidance states that for new or improved routes, designed in accordance with the Scottish Executive's current standards, the appropriate stress category will normally be 'moderate' or 'low'. In the assessment of stress on existing roads, the level of stress is based primarily on traffic flows and speeds.
- 17.2.9 Traffic forecasting data and existing speeds and flow rates, used as the basis for the numerical analysis of driver stress were provided by MVA.
- 17.2.10 In accordance with the guidance in DMRB, the assessment of Driver Stress is made for the highest traffic flow in the first 15 years after opening. This will be the 15<sup>th</sup> year (Design Year).

**17.3 Baseline Conditions**

**View From the Road**

- 17.3.1 As the proposed Northern Leg is an entirely new construction, a detailed comparison of the baseline view from the road with the view from the proposed road has not been possible. However, below is a description of the views from the existing A90(T) (currently the primary route through Aberdeen), and an overview of the existing road network which serves the area along the route. As there is no logical comparative starting point on the A90, the description covers the journey from the start of the Southern Leg of the proposed road at Charleston to the end of the Northern Leg at Blackdog. A summary description of the landscape visible across the length of the proposed route can be found in Chapter 11 (Landscape).

Existing A90(T) (Heading North)

- 17.3.2 Once the road has emerged from the rock cuttings for the existing Charlestown junction, views from the northbound carriageway open up to look across the surrounding farmland to the west and towards Garthdee, with occasional hedgerows and stands of trees near to the road obscuring the view. Once the road reaches the Leggart area at the edge of Aberdeen, an established hedge around the gardens of housing adjacent to the road will restrict views out as the road approaches the River Dee crossing. From the southbound carriageway, views are restricted by the topography and existing trees around Charlestown, with more open views across farmland towards the industrial estate at Altens. When the road is running past the Kincorth area, the views are generally

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open, looking across communal grassy open spaces surrounded by occasional semi-mature trees, although the views tend to be limited by the housing area.

- 17.3.3 As the road crosses the Bridge of Dee, both carriageways have attractive views along the river valley. There are open views along the exit roads of the Garthdee Roundabout, with the A90 continuing up South Anderson Drive. As the road runs up to the roundabout with Broomhill Road, views out are limited by the supermarket buildings and high density housing on the western side of the road, and raised planting beds and housing on the eastern side.
- 17.3.4 Between the Broomhill Road and Seafield Road/ Cromwell Road roundabouts, the views are slightly more open, with wider footpaths and avenue-style planting of mature and semi-mature trees beside the road, although the views are limited in distance by the housing along the road. As the road continues towards the roundabout with Queen's Road, views open up on the eastern side of the road, looking across adjacent sports facilities. New development around Robert Gordon University on the western side of the road limits the views out.
- 17.3.5 As the road runs up the Hill of Rubislaw, views are restricted by larger houses next to the road, but views become more open on both sides of the road as it approaches the King's Gate roundabout, although the distance of the views remains limited by the housing. The A90 continues along North Anderson Drive, with views opening up more as the surrounding housing is set back further from the road, with occasional stands of semi-mature trees on the western side of the road. A public amenity space near the Lang Stracht/ Westburn Road junction allows open views to the east from the southbound carriageway.
- 17.3.6 Between the Lang Stracht/ Westburn Road junction and the Rosehill Drive roundabout the houses of the Mastrick and Cummings Park areas are separated from the road by community spaces, grass verges, planting beds and small stands of trees, which give a more open feel to the views despite their limited range. Tower blocks and other high density blocks of flats on the eastern side of the road dominate views from the southbound carriageway, although the spacing between the buildings allows limited views out. Once the road has passed the Forresterhill/ Provost Fraser Drive roundabout, the northbound carriageway begins to get views along the carriageway towards the woodland and farmland on the Hill of Danestone.
- 17.3.7 The housing in the Middlefield and Hilton areas is closer to the road as it runs down the hill towards the A96 roundabout, which encloses the views much more, particularly on the western side of the road where the housing is elevated above the carriageway. Elevated planting beds along the edge of the road increase the sense of enclosure to views to the west, while the lack of trees along this stretch of road increases the impression of being in an urban area.
- 17.3.8 The road then runs down Mugiemooss Road towards the River Don crossing, with views into the river valley restricted by mature trees along the river. Both carriageways have views along the river as the road crosses the Don, although the views to the west are marred by the sewage works next to the river.
- 17.3.9 As the road runs up the Hill of Danestone, views to the west of the road are contained by dense mature woodland, while walls and trees around the housing behind the supermarket obstruct views to the east of the road. Once the road reaches the top of hill, the views open up to the west and north to look across rolling farmland on the hillside until the road reaches the roundabout with Whitestripes Avenue. Housing in the Danestone area limits views to the south of the road, although a wide grass verge prevents any sense of enclosure for drivers.
- 17.3.10 Housing on the northern side of the road contains views as the road runs along The Parkway to the Scotstown Road roundabout, although grass embankments and semi-mature trees adjacent to the road soften the edge of the containment. There are views to the south just after the Whitestripes Avenue roundabout before semi-mature woodland around the edge of a community sports ground partially obstructs views. The views then become obscured by the houses and gardens around the northern edge of Westfield Park.

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- 17.3.11 Between the Scotstown Road and Ellon Road roundabouts, views to both sides of the road are contained by the buildings in the industrial estate to the north of Bridge of Don. There are occasional glimpses between the buildings and car parks, and public open spaces around the estate reduce the sense of enclosure, but there are no significant views out. From the Scotstown Road roundabout onwards, the northbound carriageway gains views along the road to the North Sea.
- 17.3.12 The road then runs along the eastern edge of the Denmore Industrial Estate, with mature trees along the edge of the road partially containing views to the west, although there are occasional glimpses through into the industrial estate. Scrub woodland and hedgerows along the eastern edge of the road block the majority of views towards the coast, although there are intermittent views through to the sea.
- 17.3.13 After the Mill of Mundurno roundabout, views out from the road become much more open, with views to the east and west across rolling farmland occasionally disrupted by small stands of trees and hedgerows or changes in the landform. There are also views to the east towards the North Sea. Table 17.3 provides a detailed description of the Blackdog to Hatton stretch of the road.

#### Other Roads

- 17.3.14 While the A90(T) provides the major transport link from the north to south of Aberdeen, there are numerous roads serving the areas to the west of the city. Near the River Dee, the B9077 and A93 link Aberdeen with Banchory along the south and north banks of the River Dee respectively. The B979 that turns off the B9077 near Kirkton of Maryculter runs south towards Stonehaven and is currently used as an informal bypass of South Anderson Drive and the roundabouts at Bridge of Dee. A network of minor local routes provides access throughout the wooded and open farmland to the south of the Dee and through the communities to the north of the river. The B979, Baillieswells Road and Kirk Brae Mews are the most significant roads running north through the area, with the majority of roads running across the rolling farmland north of the Dee Valley settlement only providing access to properties.
- 17.3.15 To the south of Kingswells, the A944 runs west from Aberdeen towards Dunecht, with a busy junction at the southern edge of the settlement. The minor road that runs north around Kingswells and runs towards the A96(T) sees a high volume of traffic at most times of the day, with a few other minor roads providing access throughout the surrounding rural area.
- 17.3.16 The A96(T) to the north of Kingswells is the major road to the west in the area, linking Aberdeen with Inverness, with a link to Aberdeen Airport turning off the road near the Scottish Agricultural College at Craibstone, running around the airport and to the settlement at Dyce. The A947 runs north from Dyce and provides an additional link from Aberdeen to Banff and Fraserburgh. A network of busy B-class roads provides local access between Dyce and the A90(T), with a high volume of traffic using roads such as the B977 to avoid the congestion on the A90.

#### **Driver Stress**

- 17.3.17 The current level of driver stress has been assessed for sections of the existing road network where traffic flows will change following construction of the scheme. In the assessment of driver stress, the highest peak level of traffic has been analysed whether it came under the am or pm peak.
- 17.3.18 The results are shown in Table 17.3 and indicate that existing stress levels during peak hours are generally moderate or high along the existing road network with low stress on the A90 (T) Murcar Industrial Estate to Balmedie and on the A96, Blackburn to Craibstone section. Moreover, there are additional sections of the existing roads that fall outwith the limits of the approved methodology as junction spacing is less than one kilometre and free flowing conditions do not exist on these sections. The relevant sections include the existing A90 trunk road between Summerhill and Bridge of Don and the existing A96 trunk road between Craibstone and Bucksburn. These sections

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of road are particularly congested during peak periods and would tend to exhibit conditions likely to result in high levels of driver stress.

**Table 17.3 - Driver Stress Levels on Existing Road Network in 2005**

Link Description	Direction	Road Class <sup>1</sup>	Average Peak Hourly Flow per Lane <sup>2</sup> (Flow Units / Hour)	Average Vehicle Speed (km/h)	Driver Stress
A90 (T) Aberdeen Exhibition & Conference Centre to Murcar Industrial Estate	N/B	DC	1056	79	Moderate
	S/B		1074	79	Moderate
A90 (T) Murcar Industrial Estate to Balmedie	N/B	DC	943	101	Low
	S/B		883	101	Low
A96 Blackburn to Craibstone	E/B	DC	839	101	Low
	W/B		889	101	Low
A96 Bucksburn to Woodside	E/B	DC	1110	35	High
	W/B		1150	42	High
C89C Chapel of Stoneywood - Fairley Road (At North Kingswells Junction)	N/B	SC	907	50	High
	S/B		931	49	High
B977 Echt - Balmedie Road (West)	N/B	SC	67	57	Moderate
	S/B		38	57	Moderate
A947 Aberdeen - Old Meldrum - Turriff Road	N/B	SC	629	49	High
	S/B		627	49	High
B977 Echt - Balmedie Road (East)	N/B	SC	721	44	High
	S/B		751	42	High
B997 Aberdeen - Denhead Road	N/B	SC	320	53	Moderate
	S/B		297	53	Moderate
B999 Aberdeen - Tarves Road	N/B	SC	320	53	Moderate
	S/B		428	51	Moderate

<sup>1</sup> Road Class: M = Motorway, DC = Dual Carriageway, and SC = Single Carriageway

<sup>2</sup> Derived Flow Units / Hour: A car or light vehicles equal one flow unit. A commercial vehicle or HGV over 1.5 tonnes weight or a public service vehicle equals 3 flow units.

## 17.4 Potential Impacts

### View From The Road

- 17.4.1 Potential impacts are mitigated by design measures integral to the scheme proposals, and by planting proposals. Impacts therefore cannot be assessed in the absence of mitigation, and Potential Impacts are essentially similar to residual impacts for the winter year of opening before mitigation planting has become established. These impacts are therefore reported in Section 17.6.

### Driver Stress

- 17.4.2 Potential impacts are mitigated by design measures integral to the scheme proposals. As with View from the Road, potential impacts are therefore essentially similar to residual impacts for the year of opening, and are reported in Section 17.6.

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## 17.5 Mitigation

### View From The Road

- 17.5.1 Measures to mitigate potentially adverse impacts on the landscape have been incorporated into the scheme design. The main elements of the proposals are summarised below, and details are provided in Chapter 11(Landscape).
- 17.5.2 Mitigation measures designed to minimise adverse impacts on the view from the road and the potential for driver stress include the following:
- where possible, the established trees, woodland and drystone walls adjacent to the road have been protected to maintain the character of the landscape affected by proposals;
  - planting proposals using coniferous, broadleaved, mixed and scrub woodland, as well as occasional groups of feathered and lines of heavy standard trees are proposed to create a diverse range of species along the route;
  - planting on the slopes of deep cuttings and screening bunds will help to soften the sense of enclosure created by the earthworks;
  - new drystone walls to be built to mark realigned field boundaries in areas where they form an important part of the landscape character;
  - most of the verges will be seeded by species rich grassland and rock cuts will be soiled and seeded in niches with native grasses to enhance visual amenity from the carriageway;
  - attenuation ponds required as part of the road drainage system and ecological ponds required to offset the habitat loss for local wildlife will be designed to look as natural as possible, with riparian and wetland planting around them to create new habitats and visual interest; and
  - the earthworks required for the road will be graded out to tie smoothly into the surrounding landscape, and where possible, the land adjacent to the road will be regraded to allow for its return to agricultural use.

### Driver Stress

- 17.5.3 The proposed scheme will generally be designed to appropriate roads design standards in accordance with the DMRB and as such, further mitigation measures are not required. Where the design does not comply with the DMRB standards, departures from standards applications will be prepared and these will detail appropriate mitigation for these specific locations.
- 17.5.4 Relief of frustration has been achieved via the design of the new road layout of the scheme, such that under normal conditions, the flow of traffic will be acceptable to most drivers and is, therefore, anticipated to produce little frustration.
- 17.5.5 Relief of fear has been achieved through the design of sight distances that generally comply with the current standards giving a clear view of the carriageway ahead. The absence of pedestrians on the new AWPR road layout will also remove a significant fear of accidents. Additionally, the provision of adequate lighting at the junctions on the proposed scheme will reduce fear in vehicle travellers. Current design standards do not require road lighting for the full length of the new AWPR.
- 17.5.6 Driver stress in terms of route uncertainty will be alleviated by the provision of signs designed in accordance with the appropriate standards.

**Table 17.4 - Summary of Measures Employed to Address Potential Impacts on Vehicle Travellers**

Type of Measure	Description
Prevent	None provided.
Reduce	Grading out of embankments and landscaping proposals to assimilate the proposed scheme into the rural landscape and enhance the sense of travelling through the landscape. Planting of mixed woodland to screen views of negative landscape elements. Planting and seeding to provide roadside interest. Flow of traffic along proposed road will be acceptable to drivers such that little frustration is envisaged. Sight distances along the proposed road will give a clear view of the carriageway ahead and adequate lighting will be provided at the scheme's junctions, removing most of the fear of accidents. Road signing will be of an appropriate standard to remove any uncertainty concerning the routes.
Remedy/Offset	None provided.
Enhance	None provided.

## 17.6 Residual Impacts

### View From The Road

- 17.6.1 Views from the proposed Northern Leg and the A90 North Junction Roundabout are described in Table 17.6 and Table 17.7 at the end of this section and shown on Figures 17.1a-g and Figure 17.2 for views in the winter year of opening (with all earthworks and planting in place but without the benefits of established planting) and Figures 17.4a-g and Figures 17.5 for views in the summer fifteen years after opening when proposed planting will have become established. The figures also include information on how the proposed scheme will affect views from the existing A90 as it approaches the new A90 North Junction near Blackdog. These views are described in Table 17.8 and shown on Figure 17.3 (for winter year of opening) and Figure 17.6 (for summer 15 years after opening).
- 17.6.2 In the winter year of opening, 41.9% of the Northern Leg will have open views with 22.9% having intermittent views. The open views generally overlook areas of open farmland where there are no built receptors adjacent to the road, with a requirement for immediate mitigation from false cuttings, although there will often be long range views towards populated areas such as Aberdeen, Dyce or the industrial estate at Kirkhill. The intermittent views tend to be caused by smaller cuttings and bunds or small areas of established vegetation that will help to break up views from the carriageway. The more extensive earthworks and false cuttings required as the road runs through more significant hills and affects more receptors will mean 15.5% of the proposed scheme will have restricted views and 19.7% will have no view. However, the development of extensive woodland mitigation planting to screen properties and to compensate for habitats lost to the road, means that by the summer 15 years after opening the open views will have been reduced to 19.9%, while the intermittent views will increase to 28.2%. The percentage of no views will have increased to 30.7% and the restricted views will have increased to 21.2%, further limiting the views out.
- 17.6.3 In the winter year of opening, the majority of the proposed scheme will have views out from the road. These views will become more contained as the proposed planting matures, with the majority of views obstructed by woodland planting. The views that will remain will tend to be rural in character, looking across rolling farmland with settlement visible to the south and east.
- 17.6.4 The views from the AWPR will offer a significant change to those currently available from the A90, with views that will generally be more rural in character. Sections of the proposed route will offer attractive open views across the rolling countryside around Aberdeen, which will become more enclosed as proposed mitigation planting matures. This will provide a more pleasant journey for

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drivers than the generally enclosed urban journey that is continually disrupted by the stop/start traffic caused by traffic lights and roundabouts that travellers currently experience as they drive through Aberdeen.

#### Driver Stress

- 17.6.5 The impact of the proposed scheme on driver stress has been assessed by comparing stress levels on the road network for the Do Minimum option in 2027, with the stress levels on the road network with the scheme in 2027. Additionally, driver stress for the proposed AWPR mainline in 2027 has been assessed in accordance with the DMRB in order to determine stress levels on this route in the first 15 years after opening. The highest peak level of traffic has been analysed in the driver stress assessment.
- 17.6.6 In addition, traffic levels on the currently congested sections of the trunk road described in paragraph 17.3.18 are predicted to reduce, thereby having a beneficial effect in terms of stress.
- 17.6.7 The main sections of road network where driver stress levels are predicted to decrease due to the proposed scheme are as follows:
- The A90(T) Murcar Industrial Estate to Balmedie southbound will change from Moderate to Low; and
  - The A96 Blackburn to Craibstone southbound will change from Moderate to Low
- 17.6.8 The main sections of road network where driver stress levels are predicted to increase as a result of the proposed scheme are as follows:
- The B977 Echt – Balmedie Road northbound, north of the AWPR will change from Moderate to High.
- 17.6.9 On the remaining sections of the road network not mentioned above, driver stress due to the proposed scheme will remain as it would for the 'Do Minimum', see Table 17.9.
- 17.6.10 The results, which are shown in Table 17.5 show that stress levels along the proposed scheme in design year 2027 are generally low along the majority of the route with high stress between North Kingswells and A96 junction due to the volume of traffic expected to travel on this section of the route.

**Table 17.5 - Driver Stress Levels for the Proposed AWPR Mainline 2027**

Link Description	Direction	Proposed Scheme			
		Road Class <sup>1</sup>	Average Peak Hourly Flow per Lane <sup>2</sup> (Flow units / Hour)	Average Vehicle Speed (km/h)	Driver Stress
AWPR - North Kingswells to A96 Junction	N/B	DC	1849	96	High
	S/B		2015	93	High
AWPR - A96 to South Kirkhill	N/B	DC	833	108	Low
	S/B		995	108	Low
AWPR - South Kirkhill to A947	N/B	DC	833	108	Low
	S/B		995	105	Low
AWPR - A947 to A90 North	N/B	DC	749	108	Low
	S/B		950	106	Low

<sup>1</sup> A car or light van equals one flow unit. A commercial vehicle over 1.5 tons unladen weight or a public service vehicle equals 3 flow units.

<sup>2</sup> 'Moderate' in urban areas

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**Table 17.6 - View from the Road, Northern Leg**

Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch314800-315450	Kingswells wooded farmland & Overhills open farmland	NBC	Open view: Road will move from cutting onto embankment as it crosses over the North Kingswells Junction, with views towards Brimmond Hill to the west. An area of dense scrub on the hillside will not affect views out. New scrub woodland planting and groups of feathered trees next to the road.	Intermittent view: Views towards Brimmond Hill will be broken up by established woodland planting and linear clusters of established standard trees beside the road.
ch314800-314950	Kingswells wooded farmland & Overhills open farmland	SBC	Restricted view: Views across to the northern end of Kingswells will be obstructed by a false cutting beside the North Kingswells Junction and the remains of a semi-mature shelterbelt woodland to the north of Dykeside Steading. New scrub woodland planting across the false cutting.	No view: Established scrub woodland planting across the false cutting beside the North Kingswells Junction will combine with the existing shelterbelt woodland to screen the majority of views out towards Kingswells.
ch314950-315500	Overhills open farmland	SBC	Open view: Road will be on a small embankment with views across rough farmland towards Bucksburn and Aberdeen. New scrub woodland and clusters of feathered trees along the embankment.	Restricted view: View across rough farmland towards Bucksburn and Aberdeen will be obstructed by established scrub woodland standard trees along the embankment.
ch315450-316200	Overhills open farmland & Craibstone wooded farmland	NBC	Intermittent view: Road will be in cutting that will vary in depth as it crosses the undulating farmland, which will block many of the views to the west towards Brimmond Hill. Occasional clusters of new standard tree planting.	Intermittent view: Road will be in cutting that will vary in depth as it crosses the undulating farmland, which will block many of the views to the west towards Brimmond Hill. Occasional clusters of established standard tree planting.
ch315500-316020	Overhills open farmland	SBC	Intermittent view: Views out towards Newhills will be partially obstructed by the varying depth of the road cutting. Clusters of new standard trees along the top of the cutting.	Intermittent view: Views out towards Newhills will be partially obstructed by the varying depth of the road cutting. Clusters of established standard trees along the top of the cutting will disrupt views further but will not fully contain views out.
ch316020-316200	Overhills open farmland	SBC	Intermittent view: Road will be in cutting which will limit some views out towards the Chapel Belts woodland, with further screening from the structure of the Ashtown Overbridge. New scrub woodland planting across the top of the cutting.	Restricted view: Screening provided by the cutting will be strengthened by established scrub woodland planting at the top of the slope, limiting views out towards the Chapel Belts woodland, with further screening from the structure of the Ashtown Overbridge.
ch316200-316425	Overhills open farmland & Craibstone Golf Course	NBC	Open view: Views across farmland and the Craibstone Golf Centre towards Brimmond Hill. New linear group of feathered trees adjacent to the road.	Intermittent view: Established linear group of trees beside the road will break up views to the west.
ch316200-316450	Overhills open farmland	SBC	Restricted view: A false cutting adjacent to the road will help to contain views of the access road into the Craibstone College of Agriculture. New scrub woodland planting across the cutting.	No view: Established scrub woodland planting across the false cutting adjacent to the road will contain views of the access road into the Craibstone College of Agriculture.

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Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch316425-316720	Craibstone wooded farmland	NBC	Intermittent view: Road will be in cutting, with occasional views across Craibstone Golf Course. Existing woodland at the edge of the Craibstone College estate will limit how far views will extend from the road. New coniferous woodland planting next to the road.	No view: Views out from the road will be contained by established coniferous woodland planting beside the road.
ch316450-316700	Craibstone wooded farmland	SBC	Open view: Views into the Craibstone College of Agriculture estate across an area of rough grassland around the Ferguson Building and main car parks. New mixed woodland planting adjacent to the road will link two areas of existing woodland but will not affect views.	Restricted view: Established mixed woodland adjacent to the road will help to screen the estate from views.
ch316700-316790	Craibstone wooded farmland	SBC	Restricted view: Existing woodland on the Craibstone College of Agriculture estate will contain the majority of views to the side. New mixed woodland planting on the embankment will replace some of the woodland lost due to the road.	No view: The existing woodland on the Craibstone estate will be reinforced by established mixed woodland planting on the embankments to contain views into the estate.
ch316720-316975	Craibstone wooded farmland	NBC	No view: The semi-mature woodland of Parkhead Wood will obstruct views from the road. New mixed woodland planting on the slopes of the cutting.	No view: The semi-mature woodland of Parkhead Wood will obstruct views from the road. Established mixed woodland planting on the slopes of the cutting will reinforce the screening.
ch316790-316920	Craibstone wooded farmland	SBC	Open view: Views across one of the college's test fields towards the Sutton Hall student residence. New mixed woodland planting at the top of the shallow cutting.	Restricted view: Established mixed woodland planting along the shallow cutting will obstruct the majority of views into the Craibstone estate.
ch316920-317000	Craibstone wooded farmland	SBC	Restricted view: Existing semi-mature woodland on the Craibstone College of Agriculture estate will limit views out from the road, although the clearance of trees for new slip roads will allow some views out. New mixed woodland planting along edge of the junction slip road.	No view: The regrowth of trees damaged by construction of the road will be reinforced by established mixed woodland planting linking it with other estate woodland to contain views from the road.
ch316975-317350	Craibstone wooded farmland	NBC	Intermittent view: The main carriageway will be on embankment as it runs down to cross the A96 (T). Some of the views out will be obstructed by blocks of woodland around Craibstone pond not removed by the junction construction. New mixed woodland planting adjacent to the road.	Restricted view: Established mixed woodland planting across the embankments will strengthen the existing woodland, helping to obstruct the majority of views out.
ch317000-317380	Craibstone wooded farmland	SBC	Open view: Views down to the new junction with the A96 (T) across new retention ponds. New mixed woodland planting adjacent to the road, with additional riparian woodland around the ponds.	No view: Established mixed and riparian woodland planting between the road and the retention ponds will contain the majority of views.

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Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch317350-317630	Craibstone wooded farmland & Newton open farmland	NBC	Open view: Views to the west along the A96 (T) road, looking over the Chapel of Stoneywood towards Kirkhill Forest. New mixed woodland planting around the A96 Junction.	Open view: Established mixed woodland around the A96 Junction will not significantly affect views out from the road.
ch317380-318100	Craibstone wooded farmland & Newton open farmland	SBC	Open view: Views across the A96 (T) to the east and farmland to the south of the Kirkhill Industrial Estate and around the MacRobert Farm towards the new roundabout. A series of new retention ponds will be situated next to the A96 Junction. New scrub woodland planting adjacent to the ponds.	Open view: Views across the A96 (T) to the east and farmland to the south of the Kirkhill Industrial Estate and around the MacRobert Farm towards the new roundabout. A series of new retention ponds will be situated next to the A96 Junction. Established scrub woodland planting adjacent to the ponds will not affect views.
ch317630-318050	Newton open farmland	NBC	Intermittent view: A false cutting and a series of noise barriers (1.2 – 2.8m high) adjacent to the road to screen properties at Chapel of Stoneywood will partially obstruct views from the road. New scrub woodland planting across the bund.	No view: Established scrub woodland planting across the bund beside the road to screen properties at Chapel of Stoneywood will increase the screening to contain views out from the road.
ch318050-318950	Newton open farmland	NBC	Open view: Views to the west across rolling farmland, looking up the hillside towards Kirkhill Forest. Blocks of new scrub woodland planting and occasional feathered trees adjacent to the road.	Intermittent view: Views to the west across rolling farmland, looking up the hillside towards Kirkhill Forest. Blocks of established scrub woodland planting and occasional feathered trees adjacent to the road.
ch318100-318800	Newton open farmland	SBC	Intermittent view: Views over Kirkhill Industrial Estate and Aberdeen airport towards Dyce will be partially obstructed by false cuttings adjacent to the road to provide screening for the Newton and Howemoss Farms.	Intermittent view: Views over Kirkhill Industrial Estate and Aberdeen airport towards Dyce will be partially obstructed by false cuttings adjacent to the road to provide screening for the Newton and howemoss Farms.
ch318800-319275	Newton open farmland & Tyrebagger Hill/ Kirkhill	SBC	Intermittent view: Views across Kirkhill Industrial Estate and Aberdeen Airport towards Dyce will be partially blocked by a low false cutting adjacent to the road and by a stand of existing woodland cut off from Kirkhill Forest. New scrub woodland on the embankment.	Restricted view: The established scrub woodland planting on the embankment will strengthen screening provided by the bund and limit views out across the industrial estate. The existing woodland is scheduled to be felled and restocked after construction of the road.
ch318950-319540	Newton open farmland & Tyrebagger Hill/ Kirkhill	NBC	Intermittent view: Views out across the hillside will be limited by the dense woodland of Kirkhill Forest at the top of the cutting. New woodland planting between the road and the existing woodland across the graded slopes of the road cutting.	No view: The established woodland planting across the cutting for the road will increase the screening provided by Kirkhill Forest to enclose all views out.

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ch319275-319600	Tyrebagger Hill/ Kirkhill	SBC	Intermittent view: A low false cutting adjacent to the road to protect the nearby pipeline will disrupt views across Kirkhill Industrial Estate over the airport towards Dyce. Clumps of new scrub woodland planting on the back of the embankment.	Intermittent view: A low false cutting adjacent to the road to protect the nearby pipeline will disrupt views across Kirkhill Industrial Estate over the airport towards Dyce. Clumps of established scrub woodland planting on the embankment will not significantly affect views.
ch319540-320440	Tyrebagger Hill/ Kirkhill	NBC	No view: Road will be in deep cutting with existing woodland of Kirkhill Forest at the top of the cutting ensuring views will be contained. At the end of the cutting, a 2.5m high noise barrier to provide noise attenuation for Bogenjoss will contain views out to the side of the road. Views along the carriageway across the River Don valley. New woodland planting in open spaces between the road and the forest.	No view: Road will be in deep cutting with existing woodland of Kirkhill Forest strengthened by established woodland planting at the top of the cutting ensuring views will be contained. At the end of the cutting, a 2.5m high noise barrier to provide noise attenuation for Bogenjoss will contain views out to the side of the road. Views along the carriageway across the River Don valley.
ch319600-320350	Tyrebagger Hill/ Kirkhill	SBC	Restricted view: Views out from the road will be contained by the road being in deep cutting, with stands of existing woodland from Kirkhill Forest between ch320000 and 320350 strengthening the enclosure as the cutting gets shallower.	Restricted view: Views out from the road will be contained by the road being in deep cutting, with stands of existing woodland from Kirkhill Forest between ch320000 and 320350 strengthening the enclosure as the cutting gets shallower.
ch320350-321000	Tyrebagger Hill/ Kirkhill	SBC	Open view: Road will be on embankment with views across rough farmland over the hills to the east. Clumps of new scrub woodland planting on the embankment.	Intermittent view: Clumps of established scrub woodland planting on the embankment will disrupt some of the views across rough farmland over the hills to the east.
ch320440-321500	Tyrebagger Hill/ Kirkhill	NBC	Open view: Views across open farmland and woodland around Pitmedden House down into the River Don valley from high embankment. Existing trees of East Woodlands and new mixed woodland planting on the embankment will not affect views out.	Restricted view: The established mixed woodland on the embankment and the development of the existing woodland below will help to contain most views out across the River Don Valley.
ch321000-321230	Tyrebagger Hill/ Kirkhill	SBC	Intermittent view: Road will be in shallow cutting with views out limited by the hillside adjacent to the road.	Intermittent view: Road will be in shallow cutting with views out limited by the hillside adjacent to the road.
ch321230-322160	Tyrebagger Hill/ Kirkhill	SBC	No view: Deep cutting and the existing trees of Monument Wood on the hillside adjacent to the road will enclose views out to the south.	No view: Deep cutting and the existing trees of Monument Wood on the hillside adjacent to the road will enclose views out to the south.
ch321500-322160	Tyrebagger Hill/ Kirkhill	NBC	Restricted view: Road will be in deep cutting which will contain most views out to the side. New mixed woodland planting at the top of the cutting to reinforce existing blocks of woodland. Views into the valley will be available along the carriageway.	No view: Established mixed woodland planting at the top of the cutting will strengthen the screening provided by the road cutting containing views to the side. Views into the valley will be available along the carriageway.

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Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch322160-322480	Tyrebagger Hill/ Kirkhill & Newton open farmland	NBC	Restricted view: A 1.5m high noise barrier on a low false cutting adjacent to the road to help screen an adjacent dwelling will contain the majority of views to the north. New scrub woodland planting on the embankment.	Restricted view: A 1.5m high noise barrier on a low false cutting adjacent to the road to help screen an adjacent dwelling and established scrub woodland planting across the embankment will contain the majority of views to the north.
ch322160-322500	Tyrebagger Hill/ Kirkhill & Newton open farmland	SBC	Restricted view: A 1.6m high noise barrier to provide noise attenuation for adjacent properties on a low false cutting at the top of the embankment to protect the nearby pipeline will contain the majority of the views out to the south. New scrub woodland across the bund.	Restricted view: The screening provided by the noise barrier and false cutting will be strengthened by the established scrub woodland adjacent to the road.
ch322480-322760	Newton open farmland	NBC	Intermittent view: A series of noise barriers (drystone walls and barriers across a bridge) 1.2m high beside the carriageway will partially disrupt views out to the north. The River Don valley and new river crossing will be visible along the carriageway. New scrub woodland planting on the embankment.	Restricted view: Established scrub woodland will strengthen the screening provided by the noise barriers. The River Don valley and new river crossing will be visible along the carriageway.
ch322500-322780	Tyrebagger Hill/ Kirkhill & Newton open farmland	SBC	Open view: Road will be on embankment with views to the south into the airport. Stands of new scrub woodland on the embankment. A 1m high drystone wall and a noise barrier across a bridge will not affect views out from the road.	Intermittent view: Views towards the airport will be broken up by stands of established scrub woodland adjacent to the road.
ch322760-322900	Newton open farmland & Lower Goval valley	NBC	Open view: Road will be on embankment as it runs down to the new River Don crossing with views across farmland towards the river, with additional views along the carriageway to the east. New scrub woodland planting on the embankment of the bridge.	Restricted view: Views to the side of the road will be contained by established scrub woodland planting on the embankments around the new River Don crossing. Views along the valley to the east will remain open.
ch322780-323000	Newton open farmland & Lower Goval valley	SBC	Open view: Views down into the airport and Pitmedden Road Industrial Estate from the embankment leading to the new River Don crossing. New scrub woodland planting on the embankment.	Restricted view: Established scrub woodland planting on the embankment for the new crossing will obstruct most views out from the road.
ch322900-323400	Lower Goval valley	NBC	Open view: Views from the new River Don crossing to the north along the river.	Open view: Views from the new River Don crossing to the north along the river.
ch323000-323450	Lower Goval valley	SBC	Open view: Views across the River Don valley over open farmland and towards Pitmedden Road Industrial Estate.	Open view: Views across the River Don valley over open farmland and towards Pitmedden Road Industrial Estate.
ch323400-323530	Lower Goval valley	NBC	Open view: Views up the river valley along the B977 from the embankment leading to the new River Don crossing. New scrub woodland planting on the embankment.	Restricted view: Established scrub woodland planting on the embankment for the river crossing will contain the majority of views out.

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Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch323450-323700	Lower Goval valley	SBC	No view: A false cutting on the embankment for the new river crossing to help screen an adjacent property will combine with the embankments and structure for the B977 Overbridge to obstruct views from the road. New scrub woodland planting on the embankments.	No view: A false cutting on the embankment for the new river crossing to help screen an adjacent property will combine with the embankments and structure for the B977 Overbridge to obstruct views from the road. Established scrub woodland planting on the embankments will increase sense of enclosure.
ch323530-323650	Lower Goval valley	NBC	No view: The embankments and structure for the B977 Overbridge will obstruct views from the road. New scrub woodland planting on the embankments.	No view: The embankments and structure for the B977 Overbridge will obstruct views from the road, strengthened by established scrub woodland planting around the bridge.
ch323650-324050	Lower Goval valley & Goval open farmland	NBC	Intermittent view: Road will be in cutting of varying depth as it runs across farmland below Goval Farm, with a new drystone wall at the edge of the road and the new viaduct for the Goval mill lade which will disrupt some views out.	Intermittent view: Road will be in cutting of varying depth as it runs across farmland below Goval Farm, with a new drystone wall at the edge of the road and the new viaduct for the Goval mill lade which will disrupt some views out.
ch323700-324100	Lower Goval valley & Goval open farmland	SBC	Intermittent view: Views will be partially contained within shallow cutting, with a deeper cutting as the road runs behind Parkhill Pumping Station. The new viaduct for the mill lade and a new drystone wall to provide noise mitigation will cause minor disruption to views out. The new river crossing will be visible along the carriageway.	Intermittent view: Views will be partially contained within shallow cutting, with a deeper cutting as the road runs behind Parkhill Pumping Station. The new viaduct for the mill lade and a new drystone wall to provide noise mitigation will cause minor disruption to views out. The new river crossing will be visible along the carriageway.
ch324050-324350	Goval open farmland	NBC	Open view: Road will be on embankment with views to the north across open farmland to the Goval Belt with the new A947 link road in the foreground.	Open view: Road will be on embankment with views to the north across open farmland to the Goval Belt with the new A947 link road in the foreground.
ch324100-324330	Goval open farmland	SBC	Open view: Road will be on embankment with views across adjacent farmland and the Goval Burn towards the existing trees and shrubs along the Formartine & Buchan Way.	Open view: Road will be on embankment with views across adjacent farmland and the Goval Burn towards the existing trees and shrubs along the Formartine & Buchan Way which will be strengthened by new broadleaf woodland planting along the realigned A947.
ch324330-324700	Goval open farmland	SBC	Restricted view: Views out will be obstructed by the embankments and structure of the new A947 Overbridge, and a false cutting along the edge of the slip road to help screen properties at Little Goval. New broadleaved and scrub woodland across the embankments.	No view: Established broadleaf and scrub woodland will enhance the screening provided by the embankments and structure of the new A947 Overbridge, and a false cutting along the edge of the slip road to help screen properties at Little Goval.
ch324350-324520	Goval open farmland	NBC	Restricted view: Views out will be obstructed by the embankments and structure of the new A947 Overbridge. New broadleaved woodland across the embankments.	No view: Established broadleaf woodland will increase the level of screening provided by the embankments of the A947 Overbridge to contain views out from the road.

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Chainages	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Proposed Road, Winter Year of Opening	View from Proposed Road, Summer 15 Years of Opening
ch324520-325400	Goval open farmland	NBC	No view: False cuttings along the embankments to help screen properties adjacent to the new A947 Goval Junction will obstruct views to the north. New scrub woodland on the embankments.	No view: Screening provided by the false cuttings along the embankments will be increased by established scrub woodland.
ch324700-325400	Goval open farmland	SBC	Open view: Road will be on embankment above the new roundabout of the A947 Goval Junction near Little Goval with views across surrounding farmland to the B977. New scrub woodland planting on the embankment for the road. A 1m high drystone wall adjacent to the slip road to provide noise attenuation for nearby properties will not affect views out from the road.	Intermittent view: Views from the embankment will be broken up by the blocks of established scrub woodland planting adjacent to the road.
ch325400-325900	Red Moss wooded farmland	NBC	Restricted view: Road will be running in cutting as it crosses through Corsehill, which will contain most views out. A young coniferous crop plantation within Littlejohn's Wood is unlikely to significantly affect views.	Restricted view: Road will be running in cutting as it crosses through Corsehill, which will contain most views out. The developing coniferous plantation within Littlejohn's Woods will increase the level of screening but will not completely restrict views out.
ch325400-325700	Red Moss wooded farmland	SBC	No view: The carriageway will be in cutting as it cuts through Corsehill which will contain the majority of views out, with mature woodland at the top of the cutting within Corsehill Woods helping to further restrict views. New mixed woodland planting at the top of the slope between the carriageway and Corsehill Wood. Views down the carriageway into the Don Valley.	No view: Views will be contained by cutting along the carriageway and by established mixed woodland planting that will extend Corsehill Woods to the edge of the slope, ensuring views out will be contained. Views down the carriageway into the Don Valley.
ch325700-325900	Red Moss wooded farmland & Perwinnes open farmland	SBC	Restricted view: The shallow cutting for the road and the existing Corsehill Woods will help to limit the views available from the carriageway. New mixed woodland planting at the top of the cutting. Views into the Don Valley will be available along the carriageway.	No view: Established mixed woodland will strengthen the screening provided by the road cutting and Corsehill Woods. Views will be available along the carriageway looking across the Don Valley.
ch325900-326360	Red Moss wooded farmland & Perwinnes open farmland	NBC	No view: Views out from the carriageway will be obstructed by the embankments and structure of the B977 Overbridge and a false cutting adjacent to the road to screen properties to the north of Parkhill Nursery. New mixed woodland planting across the north side of the bund.	No view: Established mixed woodland will strengthen the screening provided by the B977 Overbridge and bund.
ch325900-326000	Red Moss wooded farmland & Perwinnes open farmland	SBC	No view: The embankments and structure of the B977 East Overbridge will contain views out from the carriageway. New mixed and scrub woodland on the bridge embankments.	Open view: Screening provided by the embankments and structure of the bridge will be reinforced by established mixed and scrub woodland adjacent to the road.
ch326000-326710	Perwinnes open farmland	SBC	Open view: Road will be on a small embankment with clear views across farmland to the south. Clusters of new feathered trees near the site of the former Lochgreens Pond.	Open view: Road will be on a small embankment with clear views across farmland to the south. Established clusters of standard trees will not significantly affect views.

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ch326360-326700	Perwinnes open farmland	NBC	Open view: Views across open farmland to the mature trees across Red Moss. Clusters on new feathered trees adjacent to the road.	Open view: Views across open farmland to the mature trees across Red Moss. Clusters on established standard trees adjacent to the road will not affect views.
ch326700-327000	Perwinnes open farmland	NBC	Intermittent view: Views across surrounding farmland will be disrupted by the changing depth of the cutting and the embankments and structure of the Lochgreens Overbridge. Small stands of new feathered trees across cutting.	Intermittent view: Views across surrounding farmland will be disrupted by the changing depth of the cutting and the embankments and structure of the Lochgreens Overbridge. Established clusters of standard trees will not affect views.
ch326710-326980	Perwinnes open farmland	SBC	No view: The embankment and structure of the Lochgreens Overbridge and a 1.6m high noise barrier on a false cutting to screen Lochgreens Cottage will contain views out. New feathered tree planting across embankments.	No view: The embankment and structure of the Lochgreens Overbridge and a 1.6m high noise barrier on a false cutting to screen Lochgreens Cottage will contain views out. Established standard trees will not significantly affect views.
ch326980-328000	Perwinnes open farmland	SBC	Open view: Road will be on embankment with views across farmland towards Corby Loch and the woodland around Lily Loch. Clusters of new feathered trees on the embankment.	Open view: Road will be on embankment with views across farmland towards Corby Loch and the woodland around Lily Loch. Clusters of standard trees on the embankment.
ch327000-327700	Perwinnes open farmland	NBC	Open view: Road will be on embankment with views across Lochgreens Farm and the surrounding farmland. Clusters of new standard trees on the embankment.	Open view: Road will be on embankment with views across Lochgreens Farm and the surrounding farmland. Clusters of established standard trees on the embankment.
ch327700-328000	Perwinnes open farmland	NBC	Open view: Road will be in shallow cutting which will not affect views out to the north across surrounding farmland. New scrub woodland planting at the top of the cutting.	Intermittent view: Established scrub woodland planting will disrupt views out from the carriageway.
ch328000-328900	Perwinnes open farmland & Potterton open farmland	NBC	No view: Views will be contained by cutting of varying depth and the structure and embankments of the Newtonhill Overbridge. New scrub woodland planting at the top of the cutting. After the Newtonhill Overbridge there will be views to the east along the carriageway to the North Sea.	No view: Views will be contained by cutting of varying depth and the structure and embankments of the Newtonhill Overbridge. Established scrub woodland planting at the top of the cutting. After the Newtonhill Overbridge there will be views to the east along the carriageway to the North Sea.
ch328000-329000	Perwinnes open farmland & Potterton open farmland	SBC	No view: Road will be in deep cutting that will obstruct views out. The structure and embankments of the Newtonhill Overbridge will also help to contain views. New scrub woodland planting on the slopes of the cutting between ch328000 and 328160.	No view: Road will be in deep cutting that will obstruct views out. Established scrub woodland planting on the slopes of the cutting between ch328000 and 328160 will help to strengthen screening as the cutting begins to decrease in depth.

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ch328900-329530	Potterton open farmland	NBC	Restricted view: The majority of views will be obstructed by cutting and the embankments and structure of the B999 Overbridge. There will be open views along the carriageway to the North Sea.	Restricted view: The majority of views will be obstructed by cutting and the embankments and structure of the B999 Overbridge. There will be open views along the carriageway to the North Sea.
ch329000-329515	Potterton open farmland	SBC	Restricted view: The majority of views will be obstructed by cutting and the embankments and structure of the B999 Overbridge.	Restricted view: The majority of views will be obstructed by cutting and the embankments and structure of the B999 Overbridge.
ch329515-329840	Potterton open farmland	SBC	Open view: Road will be running through several shallow cuttings, which will not affect views to the south across rolling farmland.	Open view: Road will be running through several shallow cuttings, which will not affect views to the south across rolling farmland.
ch329530-330150	Potterton open farmland	NBC	Open view: Views across farmland towards Potterton will not be affected as the road runs through shallow cutting and onto embankment. New scrub woodland planting on the embankment and riparian woodland planting around Blackdog Burn. There will also be open views along the carriageway to the coast.	Intermittent view: Views across farmland towards Potterton will be partially disrupted by established scrub and riparian woodland adjacent to the road. There will also be open views along the carriageway to the coast.
ch329840-330150	Potterton open farmland	SBC	Open view: Road will be on embankment above new retention ponds with views to the south across rolling farmland. New riparian woodland planting around the ponds.	Open view: Established riparian woodland planting around the retention ponds will obstruct most views to the south from the carriageway
ch330150-330950	Potterton open farmland	NBC	Intermittent view: Road will be running through a cutting of varying depth with a 1m high drystone wall to provide noise attenuation for nearby properties adjacent to a stretch of the carriageway, which will disrupt views to the north across farmland. Stands of new scrub woodland planting along the cutting. There will be open views along the carriageway towards the North Sea.	Intermittent view: Road will be running through a cutting of varying depth with a 1m high drystone wall to provide noise attenuation for nearby properties adjacent to a stretch of the carriageway, which will disrupt views to the north across farmland. Established stands of scrub woodland planting along the cutting will further break up views. There will be open views along the carriageway towards the North Sea.
ch330150-330500	Potterton open farmland	SBC	Intermittent view: Views to the south across farmland will be broken up by a cutting of varying depth.	Intermittent view: Views to the south across farmland will be broken up by a cutting of varying depth.
ch330500-330950	Potterton open farmland	SBC	Open view: Road will be on embankment as it leaves the new A90 North Junction, with open views to the south across the surrounding farmland towards the riparian vegetation around Blackdog Burn.	Open view: Road will be on embankment as it leaves the new A90 North Junction, with open views to the south across the surrounding farmland towards the riparian vegetation around Blackdog Burn.

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Overall % of the route with:				
Open View			13520m 41.9%	6435m 19.9%
Intermittent View			7390m 22.9%	9100m 28.2%
Restricted View			5025m 15.5%	6845m 21.2%
No View			6365m 19.7%	9920m 30.7%

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**Table 17.7 - View from the A90 North Junction Roundabout**

<b>Chainages (in direction of travel)</b>	<b>Landscape/ Character Area(s)</b>	<b>Settlement</b>	<b>View from Road, Winter Year of Opening</b>	<b>View from Road, Summer 15 Years After Opening</b>
ch0-380	Potterton open farmland & Blackdog man-made/ industrial		Open view: Views down the slip roads and over the parapet of the southern overbridge along the A90 to the south and across adjacent farmland towards the woodland around Harehill House and Seaview caravan park. There will also be views along the proposed Northern Leg as it runs across the rolling farmland to the west.	Open view: Views down the slip roads and over the parapet of the southern overbridge along the A90 to the south and across adjacent farmland towards the woodland around Harehill House and Seaview caravan park. There will also be views along the proposed Northern Leg as it runs across the rolling farmland to the west.
ch380-320	Potterton open farmland		Open view: The roundabout will be on embankment, allowing views up the hill towards the Middlefield dwelling. New scrub woodland planting on the embankment.	Intermittent view: Established scrub woodland planting adjacent to the roundabout will disrupt views across the rising landform to the west.
ch320-260	Potterton open farmland		Open view: Views along the local road that runs west towards Potterton and across new retention ponds below the embankment towards the landfill beside the A90. New riparian woodland planting around the ponds.	Open view: Established riparian woodland planting will screen views of the retention ponds but will not affect views towards the landfill site beside the A90.
ch260-160	Potterton open farmland & Blackdog man-made/ industrial		Open view: Views down the slip roads and over the parapet of the northern overbridge along the A90 to the north.	Open view: Views down the slip roads and over the parapet of the northern overbridge along the A90 to the north.
ch160-100	Blackdog man-made/ industrial		Open view: The embankment around the roundabout will allow views across the rolling farmland beside the A90 and towards the North Sea, with the access road for Wester Hatton Cottages and a small group of retention ponds in the foreground. Stands of new scrub woodland planting between the roundabout and a local access road and riparian woodland around the ponds.	Intermittent view: Established scrub and riparian woodland will screen the access road and ponds from view, and will disrupt views towards the coast.
ch100-60	Blackdog man-made/ industrial		Open view: Views towards the coast along the access road for nearby properties and the Blackdog Industrial Estate will be limited by Fife Hill. New scrub woodland planting to either side of the road.	Open view: Established scrub woodland will channel views towards the coast along the access road for nearby properties and the Blackdog Industrial Estate, which will be limited by Fife Hill.
ch60-0	Blackdog man-made/ industrial		Restricted view: A bund to screen adjacent properties will obstruct views out from the roundabout. New scrub woodland planting on the bund.	Restricted view: Established scrub woodland planting will strengthen the screening provided by the bund, containing the majority of views out.

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**Table 17.8 - View from the Road, A90 North of Aberdeen**

Division	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Existing Road in Summer	View from Existing Road, Winter Year of Opening	View from Existing Road, Summer 15 Years of Opening
Rose Cottage to Southern Tie-In	Cloverhills open farmland & Potterton open farmland	NBC	Intermittent view: Established trees and shrubs around Rose Cottage will disrupt views along the access road and turning circle for Seaview caravan park, with glimpses towards Harehill House.	Intermittent view: Established trees and shrubs around Rose Cottage will disrupt views along the access road and turning circle for Seaview caravan park, with glimpses towards Harehill House.	Intermittent view: Established trees and shrubs around Rose Cottage will disrupt views along the access road and turning circle for Seaview caravan park, with glimpses towards Harehill House.
Rose Cottage to Southern Tie-In	Cloverhills open farmland & Potterton open farmland	SBC	Open view: The artificial mounds of the capped landfill to the south of Blackdog will limit the distance of views out, with views towards the North Sea becoming visible as the road moves south.	Open view: The artificial mounds of the capped landfill to the south of Blackdog will limit the distance of views out, with views towards the North Sea becoming visible as the road moves south.	Open view: The artificial mounds of the capped landfill to the south of Blackdog will limit the distance of views out, with views towards the North Sea becoming visible as the road moves south.
Southern Tie-In to Northern End of North Tarbothill	Cloverhills open farmland & Potterton open farmland	NBC	Intermittent view: Views across farmland towards Harehill House will be broken up by established hedgerows and mature trees around North Tarbothill.	Intermittent view: Views across farmland towards Harehill House will be broken up by established hedgerows and mature trees around North Tarbothill.	Intermittent view: Views across farmland towards Harehill House will be broken up by established hedgerows and mature trees around North Tarbothill.
Southern Tie-In to Northern End of North Tarbothill	Potterton open farmland & Blackdog man-made/ industrial	SBC	Open view: The mounds of the capped landfill to the south of Blackdog limit views out but there are views along the Blackdog Burn towards the coast.	Intermittent view: The varying height of the embankment and false cutting between the A90(T) and the new access road for the Blackdog settlement will limit views across the capped landfill. New scrub woodland planting across the embankment and bund.	Restricted view: Established scrub woodland will increase the screening provided by the embankment and false cutting to contain the majority of views to the east.
Northern End of North Tarbothill Access to Middleton Steadings Access Road	Potterton open farmland & Blackdog man-made/ industrial	NBC	Open view: Existing hedgerow trees adjacent to the road have no significant screening effect on views to the west across the surrounding rolling farmland, with areas of established scrub around Blackdog Burn.	Open view: The proposed Northern Leg will be visible across the surrounding farmland, with established scrub around Blackdog Burn in the foreground. Existing hedgerow trees along the road will be cleared as the road nears Blackdog for the north bound slip road to the new junction.	Open view: The proposed Northern Leg will be visible across the surrounding farmland, with established scrub around Blackdog Burn in the foreground.

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Division	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Existing Road in Summer	View from Existing Road, Winter Year of Opening	View from Existing Road, Summer 15 Years of Opening
Northern End of North Tarbothill Access to Blackdog Burn	Potterton open farmland & Blackdog man-made/ industrial	SBC	Open view: Views across the rough grassland between the settlement at Blackdog and the capped landfill to the south towards the North Sea. The new housing development at the eastern edge of Blackdog is visible. Coniferous woodland areas recently planted on the old landfill site will be visible but will not affect views.	Open view: Views across the rough grassland between the settlement at Blackdog and the capped landfill to the south towards the North Sea. The new access road for the Blackdog settlement will be visible on embankment in the foreground, with two retention ponds adjacent to the road. New scrub woodland planting around the ponds and across the embankments.	Restricted view: Established scrub woodland around the retention ponds adjacent to the road will contain the majority of views to the east.
Blackdog Burn to Northern End of Strabathie Cottages	Potterton open farmland & Blackdog man-made/ industrial	SBC	Intermittent view: The houses and warehouses at the western edge of Blackdog disrupt views from the road towards the coast, with narrow views available along Hareburn Terrace.	Intermittent view: The houses and warehouses at the western edge of Blackdog will disrupt views from the road towards the coast, with narrow views available along Hareburn Terrace.	Intermittent view: The houses and warehouses at the western edge of Blackdog will disrupt views from the road towards the coast, with narrow views available along Hareburn Terrace.
Northern End of Strabathie Cottages to Blackdog Industrial Estate Junction	Potterton open farmland & Blackdog man-made/ industrial	SBC	Restricted view: An existing bund around the Blackdog Industrial Estate is covered in scrub woodland and shrubs to screen the estate, and contains views out from the road.	Restricted view: The existing bund around the Blackdog Industrial Estate will remain in place with the established scrub woodland and shrubs to screen the estate continuing to contain views out from the road.	Restricted view: The existing bund around the Blackdog Industrial Estate will remain in place with the established scrub woodland and shrubs to screen the estate continuing to contain views out from the road.
Middleton Steadings Access Road to Middlefield Farm Access	Potterton open farmland & Blackdog man-made/ industrial	NBC	Open view: Views across rolling farmland towards Middleton Steadings and the B999.	Intermittent view: The embankments for the rising slip road to the new A90 North Junction will begin to obstruct views as the road moves north, limiting views across the surrounding farmland.	Intermittent view: The embankments for the rising slip road to the new A90 North Junction will begin to obstruct views as the road moves north, limiting views across the surrounding farmland.
Blackdog Industrial Estate Junction to Middlefield Farm Access	Potterton open farmland & Blackdog man-made/ industrial	SBC	Open view: Views towards the coast across rolling farmland adjacent to the road are partially obstructed by existing trees around Blackdog Heights and the rising landform of Fife Hill.	Restricted view: The majority of views will be contained by the southbound slip road from the new A90 North Junction and a bund to screen adjacent properties from views. New scrub woodland planting on the bund.	No view: Established scrub woodland will strengthen the screening provided by the slip roads and false cutting to contain views from the road.

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Division	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Existing Road in Summer	View from Existing Road, Winter Year of Opening	View from Existing Road, Summer 15 Years of Opening
Middlefield Farm Access to End of Disused Access Road	Potterton open farmland & Blackdog man- made/ industrial	NBC	Open view: Existing hedgerow trees along the boundary of adjacent fields and beside a disused access road have no significant effect on views out across surrounding farmland and towards Middlefield Farm.	No view: The structure and embankment for the roundabout of the new A90 North Junction will contain views out from the road.	No view: The structure and embankment for the roundabout of the new A90 North Junction will contain views out from the road.
Middlefield Farm Access to End of Disused Access Road	Potterton open farmland & Blackdog man- made/ industrial	SBC	Intermittent view: The farmland adjacent to the road rises to the north, partially containing views out from the road towards the coast.	No view: The structure and embankment for the roundabout of the new A90 North Junction will contain views out from the road.	No view: The structure and embankment for the roundabout of the new A90 North Junction will contain views out from the road.
End of Disused Access Road to Road to Potterton	Potterton open farmland & Blackdog man- made/ industrial	NBC	Intermittent view: Views across adjacent rolling farmland to the west are partially disrupted by the established hedgerows and hedgerow trees along the field boundaries and the road to Potterton.	Restricted view: The majority of views will be contained by the northbound slip road from the new junction.	Restricted view: The majority of views will be contained by the northbound slip road from the new junction.
End of Disused Access Road to Road to Potterton	Potterton open farmland & Blackdog man- made/ industrial	SBC	Intermittent view: Views across rolling farmland towards the North Sea, looking over Blackdog Links and the Blackdog Rifle Range are partially obstructed by the height of the existing embankments.	Restricted view: The embankments for the southbound slip road for the new A90 North Junction will increase the screening provided by the rising landform adjacent to the road. New scrub woodland planting between the slip road and a local access road.	No view: The established scrub woodland adjacent to the embankments for the new slip road will increase the screening from the slip road and adjacent topography, containing views out towards the coast.
Road to Potterton to Southern End of Wester Hatton	Blackdog man- made/ industrial	NBC	Restricted view: The majority of views out from the road are contained by the embankments and scrub vegetation around the landfill site adjacent to the road.	Intermittent view: The new access road for Wester Hatton will cut into existing embankment beside the road, with a new false cutting to provide screening. This will allow more open views than are currently available while still screening the landfill site from view. Clumps of new scrub woodland planting across the cutting.	Restricted view: Established scrub woodland planting along the false cutting will help to contain the majority of views out to the west.
Road to Potterton to Wester Hatton Cottages	Blackdog man- made/ industrial	SBC	Intermittent view: The undulating landform adjacent to the road allows occasional views to the east across rolling farmland looking over Blackdog Links and the Blackdog Rifle Range.	Restricted view: A false cutting to screen the new access road to Wester Hatton Cottages will limit the views available towards the coast. New scrub woodland planting across the bund.	No view: Screening provided by the false cutting will be enhanced by established scrub woodland planting, containing views out from the carriageway.

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Division	Landscape/ Settlement Character Area(s)	View from Northbound (NBC) or Southbound Carriageway (SBC)	View from Existing Road in Summer	View from Existing Road, Winter Year of Opening	View from Existing Road, Summer 15 Years of Opening
Wester Hatton Cottages to Northern Tie-In	Blackdog man-made industrial	SBC	Open view: Views across rolling farmland towards the North Sea, looking over Blackdog Links and the Blackdog Rifle Range.	Open view: Views across rolling farmland towards the North Sea, looking over Blackdog Links and the Blackdog Rifle Range. A 1m high drystone wall adjacent to the road to provide noise attenuation for nearby properties will not affect views to the east.	Open view: Views across rolling farmland towards the North Sea, looking over Blackdog Links and the Blackdog Rifle Range. A 1m high drystone wall adjacent to the road to provide noise attenuation for nearby properties will not affect views to the east.
Southern End of Wester Hatton to Northern Tie-In	Blackdog man-made/ industrial	NBC	Restricted view: Existing trees in front of Wester Hatton and a concrete wall around the yard for the adjacent buildings obstruct the majority views out from the road.	Restricted view: The construction of the new access road and screening bund will remove some of the existing trees, while the improvements to the A90 after the new slip road will remove part of the wall, but will not significantly reduce the level of screening.	Restricted view: The majority of the views from the road will be contained by the existing trees around Wester Hatton that will have recovered from construction clearance.
Northern Tie-In to Northern End of Wester Hatton	Blackdog man-made/ industrial	NBC	Restricted view: Most views out from the road are contained by the walls and buildings of the timber yard adjacent to Wester Hatton, and the rising landform and existing trees and shrubs adjacent to the carriageway as it heads north.	Restricted view: Most views out from the road are contained by the walls and buildings of the timber yard adjacent to Wester Hatton, and the rising landform and existing trees and shrubs adjacent to the carriageway as it heads north.	Restricted view: Most views out from the road are contained by the walls and buildings of the timber yard adjacent to Wester Hatton, and the rising landform and existing trees and shrubs adjacent to the carriageway as it heads north.
Northern Tie-In to Northern End of Wester Hatton	Blackdog man-made/ industrial	SBC	Open view: Views towards the North Sea across farmland and the Millden Links Golf Course.	Open view: Views towards the North Sea across farmland and the Millden Links Golf Course.	Open view: Views towards the North Sea across farmland and the Millden Links Golf Course.

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**Table 17.9 - Comparison of Driver Stress Levels, Do Minimum 2027 and Proposed Scheme 2027**

Link Description	Direction	Do Minimum				Proposed Scheme			
		Road Class 1	Average Hourly Flow per Lane2 (Flow Units / Hour)	Peak Flow per Lane2 (Flow Units / Hour)	Average Vehicle Speed (km/h)	Driver Stress	Road Class1	Average Hourly Flow per Lane2 (Flow Units / Hour)	Peak Flow per Lane2 (Flow Units / Hour)
A90 (T) Aberdeen Exhibition & Conference Centre to Murcar Industrial Estate	N/B	DC	1226	78	Moderate	DC	988	80	Moderate
	S/B		1180	79	Moderate		930	80	Moderate
A90 (T) Murcar Industrial Estate to Balmedie	N/B	DC	1145	102	Low	DC	955	100	Low
	S/B		967	64	Moderate		805	101	Low
A96 Blackburn to Craibstone	E/B	DC	1089	100	Low	DC	1086	100	Low
	W/B		1308	99	Moderate		1070	100	Low
A96 Bucksburn to Woodside	E/B	DC	1380	37	High	DC	1058	43	High
	W/B		1273	31	High		1120	34	High
C89C East of North Kingswells Roundabout	E/B	SC	1294	16	High	SC	999	35	High
	W/B		1251	17	High		544	49	High
C89C Southwest of North Kingswells Roundabout	N/B	SC	1294	16	High	SC	620	47	High
	S/B		1251	17	High		605	47	High
B977 Echt - Balmedie - Road West of A947	N/B	SC	90	57	Moderate	SC	55	57	Moderate
	S/B		90	57	Moderate		55	57	Moderate
A947 Aberdeen - Oldmeldrum - Turriff Road	N/B	SC	854	64	High	SC	949	75	High
	S/B		746	66	Moderate		787	64	Moderate
B977 Southwest of Goval Junction Roundabout	N/B	SC	822	40	High	SC	812	40	High
	S/B		824	40	High		1085	14	High
B977 Southeast of Goval Junction Roundabout	N/B	SC	822	40	High	SC	698	44	High
	S/B		824	40	High		907	37	High
B997 Aberdeen - Denhead Road	N/B	SC	373	45	High	SC	215	45	High
	S/B		489	35	High		260	35	High
B977 Echt - Balmedie Road Northeast of Goval Junction	N/B	SC	485	50	Moderate	SC	699	44	High
	S/B		516	49	High		533	49	High

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Link Description	Direction	Do Minimum				Proposed Scheme			
		Road Class 1	Average Hourly Flow per Lane2 (Flow Units / Hour)	Peak Flow per Lane2 (Flow Units / Hour)	Average Speed (km/h)	Vehicle Driver Stress	Road Class1	Average Hourly Flow per Lane2 (Flow Units / Hour)	Peak Flow per Lane2 (Flow Units / Hour)
B999 Aberdeen Tarves Road	N/B	SC	390	52	Moderate	SC	308	53	Moderate
	S/B		465	50	Moderate		413	51	Moderate
AWPR - North Kingswells to A96 Junction	N/B	-	-	-	-	DC	1849	96	High
	S/B		-	-	-		2015	93	High
AWPR - A96 to South Kirkhill	N/B	-	-	-	-	DC	833	108	Low
	S/B		-	-	-		995	108	Low
AWPR - South Kirkhill to A947	N/B	-	-	-	-	DC	833	108	Low
	S/B		-	-	-		995	105	Low
AWPR - A947 to A90 North	N/B	-	-	-	-	DC	749	108	Low
	S/B		-	-	-		950	106	Low

<sup>1</sup> Road Class: M = Motorway, DC = Dual Carriageway, and SC = Single Carriageway

<sup>2</sup> Derived Flow Units / Hour: A car or light vehicles equal one flow unit. A commercial vehicle or HGV over 1.5 tonnes weight or a public service vehicle equals 3 flow units.

Note: A 60/40 split has been assumed for the division of the average peak hourly flow per lane.