



ABERDEEN HARBOUR
EXPANSION PROJECT
November 2015

*Volume 3:
Technical
Appendices*

APPENDIX 18-A TRANSPORT ASSESSMENT



Aberdeen Harbour Expansion Project

Transport Assessment

July 2015



FAIRHURST


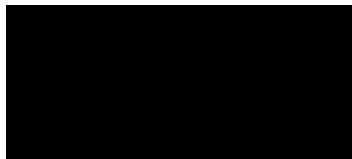

CONTROL SHEET

CLIENT: Aberdeen Harbour

PROJECT TITLE: Aberdeen Harbour Expansion Project

REPORT TITLE: Transport Assessment

PROJECT REFERENCE: 108675 TA04

Issue & Approval Schedule	ISSUE 4		Name	Signature	Date	
	Prepared by	K Chesney			28/07/15	
	Checked by	M Peters			29/07/15	
	Approved by	R McDonald			29/07/15	
Revision Record	Rev.	Date	Status	Description	Signature	
	3	04/09/15	FINAL	Minor text amendments to incorporate project team comments	By	MA
					Checked	MP
					Approved	RMcD
	4	22/10/15	FINAL	Text amendments following meeting with ACC Roads	By	MA
					Checked	MP
					Approved	RMcD

This document has been prepared in accordance with procedure OP/P02 of the Fairhurst Quality and Environmental Management System

Contents

1	Introduction	1
1.1	General	1
1.2	Site Location	1
1.3	Correspondence	2
1.4	Existing Aberdeen Harbour Context	2
2	Planning Policy Context	4
2.1	National Planning Policy	4
2.2	Regional Policy	5
2.3	Local Policy	7
3	Existing Site Accessibility	9
3.1	General Accessibility	9
3.2	Walking Accessibility	10
3.3	Cycling Accessibility	13
3.4	Public Transport	14
3.5	Local Road Network	16
3.6	Committed Transport Infrastructure	21
4	Development Proposal	23
4.1	Overview	23
4.2	Phasing	23
4.3	Highway Realignment	23
4.4	Site Access	24
4.5	Coast Road Improvements	28
4.6	National Cycle Network Route 1	30
4.7	Parking	31
4.8	Public Transport / Taxi Drop-off	32
4.9	Internal Roads	32
4.10	Coastal Path	32
4.11	Traffic Regulation Orders	34
5	Construction Traffic	35
5.1	Introduction	35
5.2	Construction Activity	35
5.3	HGV Construction Traffic Route	36

5.4	Road Condition Survey	37
6	Trip Generation	38
6.1	Operational Trip Generation	38
6.2	Peak Hour Vehicle Generation	40
6.3	Cruise Ships	40
6.4	Abnormal Loads	41
7	Traffic Impact Analysis	42
7.1	Base Traffic	42
7.2	Committed Development	42
7.3	Assessment Years	43
7.4	Development Traffic Distribution	43
7.5	Study Area	43
7.6	Junction Capacity Analysis	44
7.7	Coast Road / Main Site Access Junction	44
7.8	Coast Road / St Fittick's Road / Greyhope Road	45
7.9	Victoria Road / St Fittick's Road	45
7.10	Coast Road / Hareness Road	46
7.11	Coast Road Railway Bridge	47
7.12	Link Capacity	50
8	Travel Plan Framework	55
8.1	Introduction	55
8.2	Travel Plan Management	55
8.3	Travel Plan Aims	56
8.4	Objectives	56
8.5	Delivery and Implementation Strategy	57
8.6	Appointment of a Travel Plan Co-ordinator	57
8.7	Staff Travel Survey	58
8.8	Travel Plan Measures	58
8.9	Monitoring	62
8.10	Review	62
8.11	Action Plan	62
9	Summary and Conclusion	64
9.1	Summary	64
9.2	Planning Policy Context	64
9.3	Development Proposal	64

9.4	Accessibility	65
9.5	Measures to Encourage Sustainable Transport	66
9.6	Traffic Impact	66
9.7	Conclusion	67

Table of Contents

Table 3-1: Local Bus Service Information	14
Table 3-2: Local Train Service Information	16
Table 3-3: Coast Road Traffic Flows Sept 2013	19
Table 6-1: Proposed Harbour Weekday Traffic Generation	39
Table 6-2: Weekday Peak Hour Traffic Generation for the New Harbour	40
Table 7-1: Coast Rd / Main Site Access Junction Capacity Summary	44
Table 7-2: Coast Rd / St Fittick's Rd / Greyhope Rd Junction Capacity Summary	45
Table 7-3: Victoria Rd / St Fittick's Rd Junction Capacity Summary AM Peak	45
Table 7-4: Victoria Rd / St Fittick's Rd Junction Capacity Summary PM Peak	46
Table 7-5: Coast Rd / Hareness Rd Junction Capacity Summary AM Peak	46
Table 7-6: Coast Rd / Hareness Rd Junction Capacity Summary PM Peak	46
Table 7-7: Coast Rd Railway Bridge Capacity Summary – Existing Layout	47
Table 7-8: Coast Rd Railway Bridge Capacity Summary – Revised Layout	49

Appendices

APPENDIX A	Scoping Correspondence with Aberdeen City Council
APPENDIX B	Sustainable Transport Maps
APPENDIX C	Traffic Survey Data
APPENDIX D	Site Layout , Site Access, and Coastal Path Diversion Drawings
APPENDIX E	Proposed Off-Road Cycle Path Adjacent to Coast Road
APPENDIX F	Swept Path Analysis Drawings
APPENDIX G	PICADY / LinSig Output
APPENDIX H	Typical Staff Travel Survey Questionnaire

1 Introduction

1.1 General

1.1.1 Fairhurst have been appointed by Aberdeen Harbour to prepare a Transport Assessment (TA) relating to proposals for a new harbour at Nigg Bay. The new harbour would represent an expansion of the existing Aberdeen Harbour providing increased shipping capacity and the ability to accommodate larger vessels.

1.1.2 This report investigates the transport related issues associated with the proposed harbour expansion at Nigg Bay, and forms part of the Environmental Statement.

1.2 Site Location

1.2.1 Nigg Bay is located to the south east of Aberdeen approximately 3km east from the city centre. The coastline forms a natural bay, which has been identified as a suitable location to form a new harbour. Figure 1-1 highlights the location of Nigg Bay.



Figure 1-1: Site Location Plan

- 1.2.2 The immediate adjacent land uses are primarily made up of greenfield and leisure land, which segregate Nigg Bay from residential neighbourhoods and industrial estates, which are found within the wider vicinity. There is an existing road network which encloses Nigg Bay, formed by Coast Road to the west and Greyhope Road to the north.
- 1.2.3 Land immediately north of Greyhope Road forms part of Balnagask Golf Course. Land to the west of Coast Road incorporates St Fittick's Park which is public open space. Also to the west of Coast Road, adjacent to Nigg Bay, there is an existing wastewater treatment plant. On the south west side of Nigg Bay, a section of Coast Road runs parallel to the Aberdeen – Edinburgh Railway Line, which is on the west side of Coast Road. To the west of the railway lies the restored Ness Landfill site.
- 1.2.4 Nigg Bay lies in close proximity to Altens and East Tullos Industrial Estates, which are major industrial and employment hubs within Aberdeen.

1.3 Correspondence

- 1.3.1 Proposals for a new harbour have been discussed extensively with Aberdeen City Council (ACC). In December 2013 Fairhurst prepared a document entitled 'Aberdeen Harbour Expansion, Transportation Framework', which was issued to ACC, and outlined transportation issues and anticipated impacts associated with the proposal. Following discussion with ACC the document was updated in March 2015 and again issued to ACC. A key amendment to the March 2015 document included proposals to improve the efficiency of existing traffic signals on the Coast Road Railway Bridge. Email correspondence from ACC confirmed that the proposal to improve the traffic signal operation was sufficient, subject to full design and submission of traffic signal analysis. Section 7 of this report comments further on the proposed traffic signal improvements and provides the requested supporting traffic signal analysis.
- 1.3.2 Building on the Transportation Framework document, Fairhurst prepared a formal Transport Assessment Scoping Statement which was submitted to ACC in advance of this report in order to agree the report content and certain parameters to be adopted. ACC responded accepting the Scoping Statement. Relevant correspondence is contained within Appendix A.

1.4 Existing Aberdeen Harbour Context

- 1.4.1 The existing Aberdeen Harbour is located approximately 800m northwest of the proposed harbour at Nigg Bay, and lies to the immediate east of Aberdeen City Centre, at the mouth of the River Dee.
- 1.4.2 Aberdeen Harbour is one of the UK's busiest ports and the centre of activity for the energy industry's marine operations in North-West Europe. As such it handles cargo for a wide range of industries for more than 40 countries worldwide providing a key regional resource within the UK and playing a vital role in Scotland's transport infrastructure. Due to its city centre location the port has had to adapt to and be conscious of its surrounding environment as it has major influence on both the pedestrian and vehicular activity within the City of Aberdeen and the surrounding strategic network.

- 1.4.3 The location of the existing harbour within the heart of Aberdeen offers unique qualities. However, the natural confines of the existing Harbour provide limited scope for the expansion of operations. Land surrounding the Harbour is predominantly allocated for mixed-use development in the current Local Development Plan and is the subject of continuous pressure for the development of uses which are not always compatible with Port activities.
- 1.4.4 The existing access arrangements can also be a hindrance to the effective operation and future expansion of the existing harbour. The area in and around Market Street has consistently been identified as a problem area for traffic management and the impact of such on the public realm and city centre. The high volume of traffic not only affects the city itself, but can also cause problems maintaining consistent and efficient transport links to and from the port.
- 1.4.5 In light of growing demand for increased capacity at Aberdeen Harbour, and due to existing constraints around the existing harbour, expansion on a site outwith the immediate city centre is considered to be crucial. The proposed site at Nigg Bay emerged as the preferred option for growth within Aberdeen Harbour's 'Directions for Growth' document, published in December 2012.
- 1.4.6 The proposals support the construction of a modern harbour facility within the bay, to provide a new deep-water facility that would provide much needed additional capacity for marine activity within Scotland which would support oil and gas, renewable energy investment, and potential to attract leisure cruise ships to the region.
- 1.4.7 The relationship and close proximity of a new harbour to the existing port facility at Aberdeen is important. The facilities offered at the existing port are critical for servicing the strong customer base located in the city and immediate region. Relocation or diversion of this business elsewhere would result in unsustainable traffic patterns and the potential loss of the skills and knowledge base that exists in Aberdeen.

2 Planning Policy Context

2.1 National Planning Policy

- 2.1.1 The National Policy Context is principally defined by National Planning Framework 3 (2014), Scottish Planning Policy (SPP), and Scottish Planning Advice Note 75 (PAN 75) 'Planning for Transport'. The Scottish Government document 'Transport Assessment Guidance' is also of relevance.
- 2.1.2 National Planning Framework 3 (NPF3) sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole. It sets out the Government's development priorities over the next 20-30 years and identifies national developments which support the development strategy.
- 2.1.3 NPF3 identifies Expansion of Aberdeen Harbour as a National Development and Nigg Bay as the preferred option. The document comments that *'these classes of development support the expansion of Aberdeen Harbour. Current constraints will increasingly limit the ability of the harbour to provide crucial services and limit opportunities for business growth at this nationally important facility. Nigg Bay has been identified as the preferred development option, due to the constraints of the existing sites.'*
- 2.1.4 As the harbour expansion at Nigg Bay is established at the top tier of the planning hierarchy, it follows that the strategic and local development plan tiers should seek to facilitate and deliver the development.
- 2.1.5 NPF3 is aligned with the Scottish Government's 'Scottish Planning Policy' (SPP). The current version of SPP was published in June 2014 and replaces SPP (2010) and Designing Places (2001). SPP identifies the Scottish Government's overarching aim to increase sustainable economic growth within Scotland.
- 2.1.6 SPP revolves around the principal policies – sustainability and placemaking. In considering how planning should support the vision, the document outlines the key outcomes that developments need to contribute to:
- *'A successful, sustainable place – supporting sustainable economic growth and regeneration, and creation of well-designed, sustainable places.*
 - *A low carbon place – reducing our carbon emissions and adapting to climate change.*
 - *A natural, resilient place – helping to protect and enhance our natural and cultural assets, and facilitating their use.*
 - *A more connected place – supporting better transport and digital connectivity.'*
- 2.1.7 SPP advocates that Development Plans should *'provide for the development requirements of uses requiring a coastal location, including ports and harbours...'*. SPP comments further that *'When preparing development plans, planning authorities should consider the need for improved and additional freight transfer facilities...'*

Facilities allowing the transfer of freight from road to rail or water should also be considered’.

- 2.1.8 Commenting on Development Planning, SPP further notes the benefit of locating significant freight generating areas close to harbours. Nigg Bay is located close to existing industrial areas at Altens and East Tullos, which generate freight movements and would benefit from having a new harbour in close proximity.
- 2.1.9 SPP and PAN 75 provide policy and guidance relating to land use planning with a view to encouraging sustainable transport. Land use planning considers a site’s location with respect to surrounding land uses and transport networks. Careful consideration of transport links serving the proposed harbour is required, taking in to consideration the surrounding land uses and infrastructure. However the selection of the new harbour site is heavily influenced by the coastline formation, which dictates the location. The type of development and the profile of traffic that will access the harbour is of significance when considering the site’s sustainable transport credentials.
- 2.1.10 SPP confirms that *‘Development plans should indicate when a travel plan will be required to accompany a proposal for a development which will generate significant travel’*. PAN 75 provides further guidance on the need for a Travel Plan, noting that *‘All applications meeting the threshold for a transport assessment should require a travel plan; developments below the threshold may nevertheless contribute to sustainable travel’*. The specific characteristics of a development should also be considered when determining the need to operate a Travel Plan. PAN 75 comments that *‘It is recommended that the appropriate use of travel plans should be determined by considering the potential contribution a development can make to sustainable travel’*.
- 2.1.11 PAN 75 indicates that *‘Travel Plans are documents that set out a package of positive and complementary measures, for the overall delivery of more sustainable travel patterns for a specific development.’* It further states that *‘their ability and success in influencing travel patterns is dependent upon the commitment of the developer and occupier of a development.’*
- 2.1.12 PAN 75 advises that *‘As planning applications can be submitted as detailed or in outline it is recommended that travel plans should also follow a two stage process. A travel plan framework should be agreed at the planning application stage’*. This advice is particularly relevant when workforce details are not known at the planning application stage.
- 2.1.13 Transport Assessment Guidance (TAG) has been published by Transport Scotland to guide the preparation of Transport Assessments (TA) for development proposals in Scotland. Paragraph 1.8 notes that the TA process *‘is directed towards successful delivery of development-related transport measures aimed at achieving sustainable transport outcomes.’* It further notes that the *‘process incorporates scoping, transport assessment and implementation including travel plans and monitoring.’*

2.2 Regional Policy

2.2.1 Regional Policy for the proposed development is largely defined by:

- Approved Aberdeen City & Shire Strategic Development Plan (March 2014)

- NESTRANS Regional Transport Strategy Finalised Strategy 2021 (June 2008)
- 2.2.2 The Approved Aberdeen City & Shire Strategic Development Plan (SDP) sets strategic planning policy for the Aberdeen City region. The SDP identifies the undernoted objectives:-
- *‘To be a city region which takes the lead in reducing the amount of carbon dioxide released into the air, adapts to the effects of climate change and limits the amount of non-renewable resources it uses*
 - *To make sure that new development meets the needs of the whole community, both now and in the future, and makes the area a more attractive place for residents and business to move to.*
 - *To make sure that all new developments contribute towards reducing the need to travel and encourage people to walk, cycle or use public transport by making these attractive choices’.*
- 2.2.3 With specific regard to harbour expansion, the SDP confirms that *‘The harbour has been identified as a key port in the National Renewables Infrastructure Plan. Work will be needed to set out in more detail the likely implications of this (building on ‘The Case for Growth’) and how the growth of the harbour can be accommodated to inform the next local development plan’.*
- 2.2.4 The NESTRANS Regional Transport Strategy (RTS) was refreshed in 2013 so that it is aligned with the SDP plan period to the end of 2035. The RTS refresh, approved in January 2014, identifies four Strategic Objectives surrounding the Economy, Accessibility and Safety, the Environment, and Spatial Planning. Strategic Objectives relating to the Economy are:
- *‘To make the movement of goods and people within the north east and to/from the area more efficient and reliable.*
 - *To improve the range and quality of transport to/from the north east to key business destinations.*
 - *To improve connectivity within the north east, particularly between residential and employment areas’.*
- 2.2.5 The RTS contains an ‘External Connections Strategy’, which comments that *‘Supporting sustainable economic growth and improving connectivity were identified as key issues for the strategy to address. External connections are central to achieving this and play a crucial role in linking the north east to the rest of Scotland and the UK, Europe and the world. The measures in this section largely contribute towards the economic objectives of the strategy’.* The document includes five elements within the External Connections Strategy, corresponding to the key modes for people and freight. One of those is ‘Connections by Sea (EC4)’.
- 2.2.6 The RTS acknowledges the potential for development of a new harbour at Nigg Bay (the RTS refresh pre-dates publication of NPF3 where Nigg Bay was selected as a National Development). The RTS acknowledges the importance of enhancing connections by sea, commenting that *‘Nestrans and its partners will also seek to promote passenger and freight movements by short sea shipping routes through relevant EU programmes, and similarly will seek to promote coastal shipping services*

to major UK ports. This will help manage the growth of heavy goods vehicle traffic and allow freight movements to bypass land bottlenecks. Nestrans will encourage the development of existing and new freight / passenger ferry connections and routes between the north east and Europe and will continue to promote and support projects to enhance the role of the north east's ports particularly to Scandinavia and the recent EU accession countries in the Baltic'. The RTS hereby acknowledges the important role that the proposed harbour at Nigg Bay can play in helping to remove freight from roads in preference to delivery by sea, to the overall benefit of the road network.

2.3 Local Policy

2.3.1 Local Policy that would guide this development is largely defined by:

- The Adopted Aberdeen Local Development Plan – (February 2012)
- Proposed Aberdeen Local Development Plan (March 2015)
- Aberdeen Local Transport Strategy 2008 – 2012 (March 2008)
- ALDP Supplementary Guidance 'Transport and Accessibility' – (March 2012)

2.3.2 The Adopted Aberdeen Local Development Plan 2012 (LDP) outlines proposals for development and land use for a period of 10 years from adoption. It sets out the strategic policies and proposals for promoting sustainable growth of the city over a 10-20 year period. The LDP 2012 is the current document, but it is due to be renewed in 2016 and the Proposed Aberdeen Local Development Plan (PLDP) March 2015 therefore also contains relevant emerging policy.

2.3.3 The LDP sets out specific policies for ensuring that new developments contribute to delivering sustainable communities within the city. A number of the policies identified within the current LDP remain relevant to the emerging PLDP. These include:

- Policy I1 (PLDP Policy I1) – Infrastructure Delivery and Developer Contributions
- Policy T2 (PLDP Policy T2) – Managing the Transport Impact of Development
- Policy D3 (PLDP Policy T3) – Sustainable and Active Travel
- Policy NE9 (PLDP Policy NE9) – Access and Informal Recreation

2.3.4 The Proposed Local Development Plan makes specific reference to a harbour at Nigg Bay. It acknowledges that *'The harbour is facing significant pressures for expansion that cannot currently be met within the existing site. Scotland's National Planning Framework 3 recognises this and identifies the expansion of Aberdeen Harbour at Nigg Bay as a National Development. This site is identified in the Local Development Plan as an Opportunity Site for a new harbour development'*. Nigg Bay is allocated for a new harbour in the PLDP as site OP62.

2.3.5 The LDP Supplementary Guidance 'Transport and Accessibility' (March 2012) provides advice on preparation of a Transport Assessment, and also contains the Council's parking standards for new developments.

- 2.3.6 The Local Transport Strategy 2008 – 2012 (LTS) still forms the current transport strategy for Aberdeen and outlines the policies and interventions adopted by ACC to guide the planning and improvement of the local road network over a five-year period.
- 2.3.7 The LTS sets out five high level aims, as follows:
- *‘Support and Contribute to a thriving economy for Aberdeen and its region*
 - *Ensure a safe and secure transport system*
 - *Minimise the environmental impact of transport on our community and the wider world*
 - *Ensure the transport system is integrated and accessible to all*
 - *Ensure that transport policies integrate with and support sustainable development, health and social inclusion policies’.*
- 2.3.8 A number of specific objectives detailed within the LTS also support the previously listed aims. Key considerations among these objectives include:
- *‘minimise and improve reliability of journey times for people and goods through Aberdeen’s transport networks*
 - *improve the condition of road, footway and cycle road network*
 - *increase the share of travel by the most sustainable modes to promote economic growth without the associated traffic growth*
 - *continue to reduce road casualties*
 - *reduce carbon emissions from road transport*
 - *improve accessibility (network and cost) to jobs and services to support social inclusion,*
 - *to facilitate and support land use development adjacent to sustainable transport corridors and nodes*
 - *to promote healthy living by encouraging safe walking and cycling’*
- 2.3.9 The LTS recognises the importance of Aberdeen Harbour as a key transport node in Aberdeen. It notes that *‘Aberdeen Harbour is a major component in the local transport infrastructure and a key economic driver in the region. A recent study, for example, estimated that in 2006 the port contributed approximately £420 million to the local economy and helped sustain around 11,000 jobs within the City and wider region. The Council is committed to the ongoing development of Aberdeen Harbour and supports various policies and initiatives that can deliver improvements. The Council supports Aberdeen Harbour in its efforts to promote short sea shipping as both a viable alternative and complementary to transporting freight by road and rail’.*

3 Existing Site Accessibility

3.1 General Accessibility

- 3.1.1 The site is located to the south east of Aberdeen City along the coastline at Nigg Bay. The immediate vicinity primarily comprises greenfield land, Balnagask Golf Course, and a waste treatment works. Within the wider locality there are extensive employment opportunities at East Tullos and Altens to the south west and south, as well as the established residential settlement area of Torry to the west.
- 3.1.2 Existing transport infrastructure surrounding the site comprises Coast Road to the immediate west, and Greyhope Road to the immediate north. Both roads meet at the north west corner of the proposed harbour, along with St Fittick's Road, forming a priority T-junction. Coast Road / St Fittick's Road form the major road corridor, whereas Greyhope Road is the minor arm.
- 3.1.3 In addition, there are Core Paths near Nigg Bay including the Coastal Path which passes through the proposed harbour site between Coast Road and Greyhope Road.
- 3.1.4 Figure 3-1 below identifies infrastructure surrounding Nigg Bay.

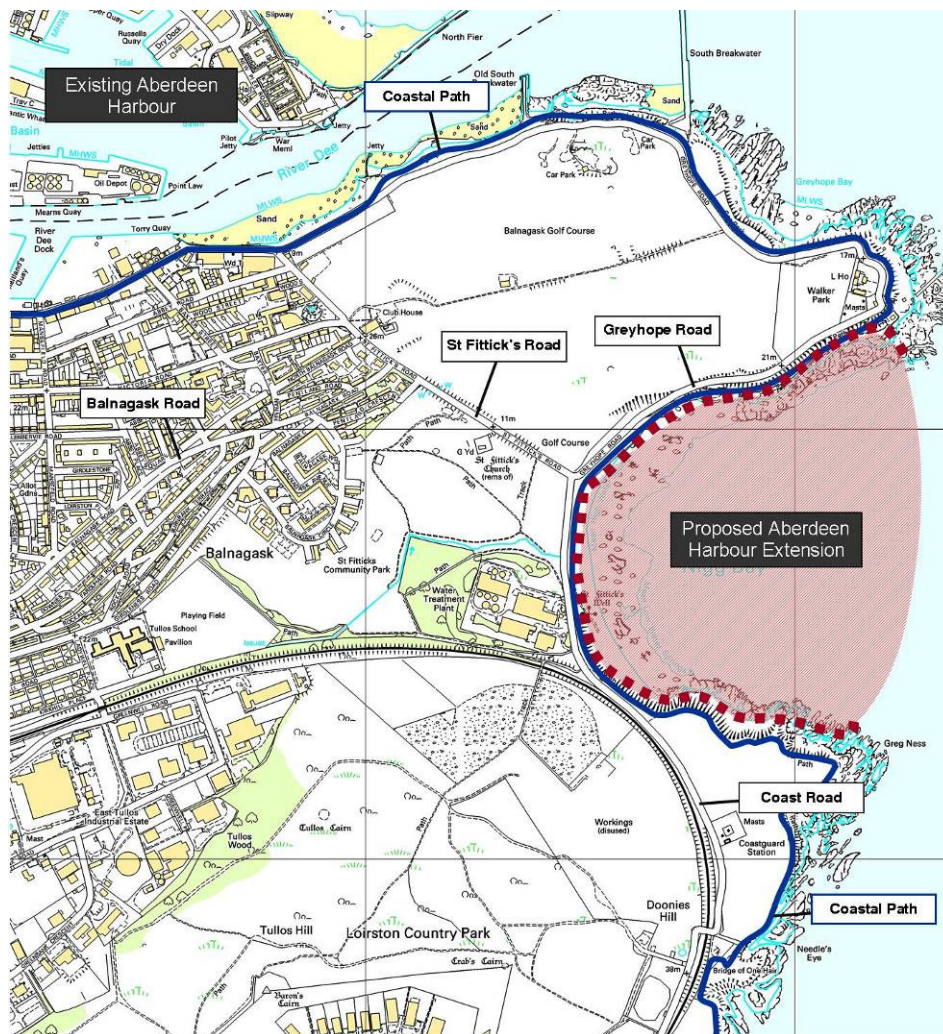


Figure 3-1: Transport Infrastructure Surrounding Nigg Bay

3.2 Walking Accessibility

- 3.2.1 Advice found in TAG notes that ‘*Journey times of up to 20-30 mins are appropriate for walking*’. At an average walking speed of 1.2m per second this would equate to a walking distance of between 1,440 - 2,160m, assuming no delays to the journey. This broadly correlates with advice found in PAN 75 which comments that ‘*A maximum threshold of 1600m for walking is broadly in line with observed travel behaviour*’. Where there are less delays to pedestrians, such as at pedestrian crossings, a 30 minute journey time could allow a pedestrian to travel further than 1,600m, and many would be prepared to do so.
- 3.2.2 Whilst the site is located within an outlying headland position, a proportion of the Torry area of Aberdeen is accessible within a 1,600m walking distance as is highlighted by Figure 3-2 within Appendix B. There are existing unsurfaced footways on the north and south side of the 30mph St Fittick’s Road which are each approximately 3m wide and provide a link from Nigg Bay to Torry. The photographs below show the existing footways on St Fittick’s Road.



**Footways on St Fittick’s Road
Looking West from Greyhope Road**



**St Fittick’s Road Footway
Construction**

- 3.2.3 Whilst unsurfaced, the existing footways on St Fittick’s Road (which are designated as Core Paths) are wide and are used by pedestrians as indicated in the above photographs. Principal use is by dog walkers and leisure users making use of coastal routes.
- 3.2.4 Coast Road forms the west boundary of the proposed harbour and runs in a north-south direction. There are no footways on Coast Road along the Nigg Bay frontage. The level of pedestrian movement along this 60mph section of road is low as there is limited development along the Coast Road route. The photographs below show Coast Road adjacent to Nigg Bay, where the carriageway is bound by grass verges.



Coast Road Looking South from Greyhope Road

- 3.2.5 In a southerly direction from Nigg Bay, following Coast Road, there is limited development within a 1,600m catchment area which would be deemed appropriate for walking. Hence there is limited pedestrian movement from the south toward Nigg Bay.
- 3.2.6 Greyhope Road forms the northern site boundary. It is rural in nature with almost no development along its length. Consequently there is low pedestrian demand on Greyhope Road, though it is used as a leisure route and by dog walkers.
- 3.2.7 Greyhope Road has no formal footways for a distance of approximately 220m north east from its junction with Coast Road. At that point there is a surfaced footway on the south side of the road heading east, measuring approximately 1.8m in width. It links to the Coastal Path, which passes through the proposed harbour site parallel to Greyhope Road. The photographs below show footway provision on Greyhope Road.



Greyhope Road Looking East from Coast Road



Footway on Greyhope Road Looking East 340m from Coast Road



Footway on Greyhope Road Looking West 340m from Coast Road

- 3.2.8 Pedestrian provision in the local vicinity of Nigg Bay includes Core Paths, which generally serve a leisure function. Figure 3-2 contained within Appendix B shows the surrounding Core Paths network in the context of the site. These are Aberdeen Core Paths which, under the Land Reform (Scotland) Act 2003, all Local Authorities and National Park Authorities in Scotland are required to provide. The Act requires that Authorities *'provide the basic framework of routes sufficient for the purpose of giving the public reasonable access throughout their area'*.
- 3.2.9 The Coastal Path forms Core Path 78 and it passes through the proposed harbour site as it follows the coastline from Cove to Torry. The path follows the general alignment of Coast Road and Greyhope Road. The surfaced footway on the south side of Greyhope Road forms part of the Coastal Path, and subsequently the Core Path network.
- 3.2.10 For the majority of its length the Coastal Path is unsurfaced and is not constructed to any regular specification. It generally has a Type 1 crushed rock construction with a whin dust surfacing. It has irregular widths but is sufficient to allow passage along the coastline and is generally used as a leisure route. The following photographs show the Coastal Path, Core Path 78, within the vicinity of Nigg Bay and illustrate its irregular formation.



Coastal Path Looking East Near the Coast Rd / Greyhope Rd Junction



Coastal Path Looking North from the South End of Nigg Bay

- 3.2.11 Core Path 108 is also within the vicinity of Nigg Bay and provides a link from Coast Road to Torry, through St Fittick's Park. The path is similar in nature to the Coastal Path shown in the photographs above.
- 3.2.12 Footways on St Fittick's Road to the north west of Nigg Bay also form part of the designated Core Path network which provides access from Coast Road into central Aberdeen. St Fittick's Road is designated as Core Path 104 and it links to Core Path 78 (Coastal Path) at Greyhope Road by Torry Quay.
- 3.2.13 Despite the setting and lack of surfaced pedestrian infrastructure, there are still sufficient links to accommodate walking trips between Nigg Bay and the nearby urban zone at Torry, which is within reasonable walking distance. Within Torry there are established pedestrian networks and good public transport links providing onward travel through to Aberdeen City Centre and surrounding areas.

3.3 **Cycling Accessibility**

- 3.3.1 Cyclists can use the aforementioned Core Path routes and roads surrounding Nigg Bay. Coast Road and Greyhope Road both form part of the National Cycle Network Route 1 (NCR1) which is a long distance cycle route running along the east coast of Britain. Local to Nigg Bay it connects the site directly with Aberdeen City and Dyce to the north, and Cove Bay and Portlethen to the south, all of which are within a reasonable cycle distance. The Coast Road and Greyhope Road sections of NCR1 facilitate cycling on road, though there are no advisory cycle lanes or specific cycling infrastructure. The route of NCR1 is identified on Figure 3-3 in Appendix B.
- 3.3.2 Fairhurst undertook a survey of traffic movements at various points on Coast Road and Greyhope Road for 7 days commencing Saturday 14th September 2013. On Coast Road, at a point 20m south of Greyhope Road, an average of 12 cyclists per day were recorded (8 northbound and 4 southbound). Further south on Coast Road, at a point 40m north of Hareness Road, an average of 9 cyclists per day were recorded (5 northbound and 4 southbound). Surveys on Greyhope Road recorded an average of 8 cyclists per day (3 eastbound and 5 westbound). Traffic survey data is enclosed within Appendix C.
- 3.3.3 Surveys indicate that the number of cyclists using NCR1 passing the site is very low. The number of cyclists using the roads on a Saturday is generally double that of an average day, indicating that that use of the route may primarily be for leisure purposes.
- 3.3.4 In addition to the NCR1, there are other local roads that are considered to be suitable for cycling within the vicinity of Nigg Bay. St. Fittick's Road is approximately 9m wide and links with a section of Balnagask Road before providing access onto Girdleness Road and on to Abbotswell Road via a toucan crossing on Wellington Road. Streets in Torry are also generally considered to be suitable for cycling due to being lightly trafficked within residential areas. This forms part of the wider network which provides a link to Aberdeen City Centre to the west and Cove to south. The wider cycling network comprises dual use paths, quietly trafficked routes and on-road cycle lanes, as well as toucan crossing points. These give access by bicycle to Altens, Kincorth and Ferryhill.

- 3.3.5 The wider cycling network within the vicinity of Nigg Bay is shown on Figure 3-3 in Appendix B, which illustrates that there are alternative cycling routes to NCR1 linking Aberdeen City Centre to Cove, avoiding the Coast Road. Figure 3-4 provides photographs of some of these routes.
- 3.3.6 Transport Assessment Guidance notes that a journey time of 30 – 40 minutes is appropriate for determining a cycling catchment for a development, and this would encompass the majority of Aberdeen.
- 3.3.7 Aberdeen is well served by a network of on-road and traffic free cycle routes providing good cycling connectivity to the city centre and surrounding employment zones. The wider cycling network within the city can be accessed utilising the adjacent local network within Tullos and surrounding neighbourhoods.

3.4 Public Transport

- 3.4.1 There are currently no bus services using Coast Road or Greyhope Road past the site. The nearest existing bus services operate on Victoria Road, St Fittick's Road and Balnagask Road within Torry to the north west of Nigg Bay where residential and employment land lies. Details of local bus routes, services and frequencies operating near the site are summarised in Table 3-1.

Operator	Service	Route	Frequency	Nearest Bus Stop
First Group	12	Heathryfold to Torry via <i>Union Square</i>	Monday to Friday <i>Every 10mins (peak)</i> Saturday and Sunday <i>Every 20 & 30mins</i>	Balnagask Road
Stagecoach	59	Northfield to Torry via <i>Royal Infirmary, Cornhill Hospital and City Centre</i>	Monday to Friday <i>Every 10mins</i> Saturday and Sunday <i>Every 10 & 20mins</i>	Balnagask Road
First Group	3	Mastrick to Cove via <i>Aberdeen Royal Infirmary & Union Square</i>	Monday to Friday <i>Every 10mins</i> Saturday and Sunday <i>Every 15 & 30mins</i>	Wellington Road
First Group	5	Craigiebuckler to Torry via <i>Mannofield & Union Street</i>	Monday to Friday <i>Every 30mins</i> Saturday and Sunday <i>Every 30 and 30mins</i>	Girdleness Road

Note that some services will differ in destinations, routing and frequency throughout the whole day

Table 3-1: Local Bus Service Information

- 3.4.2 The established existing residential area at Torry is served by high frequency bus services provided by First Aberdeen and Stagecoach Bluebird, via the Victoria Road,

St Fittick's Road and Balnagask Road corridor. The closest bus stops to Nigg Bay are located on Balnagask Road, a walking distance of approximately 550m from Nigg Bay utilising footways on St Fittick's Road. The bus stops are served by First Group Service 12 and Stagecoach Service 59.

- 3.4.3 First Group Service 12 operates at a daytime frequency of 12 minutes Monday to Saturday via the city centre and the Hilton area to Heathryfold. Stagecoach Service 59, Hospital Link, operates at a 10 minute daytime frequency Monday to Saturday via the city centre and Westburn Road to Northfield. Both services operate via Market Street and serve Union Square Bus Station, Aberdeen Railway Station and Union Street, connecting to local and regional bus and rail services. Services operate at a reduced frequency on Sundays.
- 3.4.4 Bus stop locations and bus service routes in Torry are illustrated on Figure 3-5 in Appendix B.
- 3.4.5 Public transport by rail can be accessed at Aberdeen Railway Station which is found within Union Square in the city centre, approximately 3km west from Nigg Bay. This is the closest passenger station and is accessible through a 12 minute cycle or public transport by bus.
- 3.4.6 Aberdeen Railway Station is well connected with services to Dyce, Inverurie, Elgin and Inverness to the north as well as lines to Glasgow and Edinburgh to the south passing through Stonehaven, Dundee and Perth on route. Additionally there are national connections to London, passing through the Midlands in England.
- 3.4.7 The routing and frequency of rail services at Aberdeen Railway Station is summarised in Table 3-2 below;

Operator	Route	Frequency	
		Monday to Friday	Sunday
First Scotrail	Aberdeen to Edinburgh via <i>Inverurie*, Stonehaven, Montrose, Dundee & Kirkcaldy</i>	Every Hour	Every Two Hours
First Scotrail	Aberdeen to Glasgow via <i>Inverurie*, Stonehaven, Dundee, Perth & Stirling</i>	Every Hour	Every Two Hours
First Scotrail	Aberdeen to Inverness via <i>Inverurie, Huntly, Elgin & Nairn</i>	Every Two Hours	5 Daily Services
Caledonian Sleeper	Aberdeen to London via <i>Preston & Crewe</i>	Night Services <i>Expect Saturday</i>	Night Services
East Coast	Aberdeen to London via <i>Dundee, Edinburgh, Newcastle, York, Doncaster & Peterborough</i>	3 Daily Services	3 Daily Services
Cross Country	Aberdeen to Penzance via <i>Dundee, Edinburgh, Newcastle, York, Leeds, Birmingham & Bristol</i>	1 Daily Service	No Service

Note that some services will differ in destinations, routing and frequency throughout the day

Table 3-2: Local Train Service Information

3.4.8 With regard to rail freight, Aberdeen currently has facilities located at three points;

- Craiginches (includes cement handling facilities);
- Waterloo Quay / Regents Quay (includes extended siding and storage facilities); and
- Raiths Farm at Dyce (includes extensive freight handling capacity).

3.4.9 The Craiginches Rail Freight Terminal is located on Greenwell Road in East Tullos close to Nigg Bay. It is a straight line distance of 1.5km from Nigg Bay, though there is no direct connecting road link. The distance by road between the freight terminal and Nigg Bay, via Wellington Road and Hareness Road through Altens Industrial Estate, is approximately 6km. There may be potential to enhance infrastructure links between the transport facilities in future in connection with wider development in the East Tullos area.

3.5 Local Road Network

3.5.1 The site is directly accessed via Coast Road which forms the western perimeter of the proposed site. Coast Road routes along the coastline for a distance of approximately 4km forming a link between Cove and Torry, two established Aberdeen suburbs. It

also gives access to Altens Industrial Estate via Hareness Road. Coast Road is a single carriageway road and is subject to the national speed limit (60mph for cars) between St Fittick's Road and Burnbanks Village, a distance of approximately 3km.

- 3.5.2 Coast Road is of variable width. The northern section is 7.3m wide from its junction with Greyhope Road and St Fittick's Road to a point approximately 1.2km to the south, where it crosses the railway line. This section of Coast Road is adjacent to Nigg Bay and is generally in good condition. The road is bound by grass verges on both sides, with no defined footways. The following photos show this section of Coast Road.



Coast Road Between Greyhope Road and the Railway Bridge

- 3.5.3 To the south of Nigg Bay Coast Road crosses the railway line via a bridge which has no footways. The carriageway width is 6.6m, but the northern and southern road alignments on the approaches are acute requiring the bridge to operate on a shuttle basis using traffic signals to control the flow of vehicles. HGVs use the route and use both sides of the carriageway to negotiate the bridge, as shown in the photograph below. The bridge has no identified weight restriction. Network Rail have confirmed that it can accommodate Construction & Use Traffic up to 44 tonnes, and it may be suitable for heavier abnormal loads.



Coast Road Railway Bridge

- 3.5.4 The traffic signals at the bridge allow only one stream of vehicles to cross at a time. Information regarding existing operation of the traffic signals has been obtained from ACC. The traffic signals operate on a maximum cycle time of 110 seconds and have an intergreen period of 16 seconds. The northbound and southbound stop lines are currently spaced 145m apart and a 16 second intergreen time is required to allow large vehicles to complete their movement over the bridge prior to the opposing traffic stream starting. The following photos show the approaches to the bridge.



**Coast Road Railway Bridge
Northbound Approach**



**Coast Road Railway Bridge
Southbound Approach**

- 3.5.5 The southern section of Coast Road, between the railway bridge and Hareness Road, has a variable width generally between 6.0 – 6.6m, but with a 5.7m wide pinch point to the south of Doonies Farm. It is also bound by grass verges on both sides, which are narrow and steep in places. There are no footways. The carriageway has recently benefited from surface dressing treatment and generally appears to be in good condition. The following photographs show the southern section of Coast Road.



Coast Road Between Hareness Road and the Railway Bridge

- 3.5.6 Coast Road gives access to Hareness Road approximately 2.2km south from Nigg Bay. The junction is formed by a ghost island, whereby Coast Road widens to incorporate a right turn lane to accommodate vehicles turning right in to Hareness Road which is an industrial standard road giving access to Altens Industrial Estate.
- 3.5.7 Further south from Hareness Road, Coast Road gives access to Cove. Approximately 800m south from Hareness Road the speed limit on Coast Road changes to 30mph at Burnbanks Village.

- 3.5.8 Coast Road is not a primary route and for most of the day traffic flow on the road is relatively low. However during weekday AM and PM peak periods Coast Road carries high volumes of traffic, including large vehicles, as many people use it as a secondary means of accessing / egressing the industrial areas of Altens in preference to the congested A956 Wellington Road. Some drivers also use Coast Road to travel between the A90(T) and the city centre, via Cove and Torry, bypassing Wellington Road.
- 3.5.9 Coast Road performs an important function in relieving traffic congestion on Wellington Road at peak times. However traffic using Coast Road ultimately passes through the residential areas of Torry to the north and to a lesser extent Cove to the south, which affects residential amenity. In that regard the traffic signals on the Coast Road railway bridge play an important role in regulating the level of traffic using Coast Road. If delays were reduced at the bridge then additional traffic could be induced on the route in preference to Wellington Road, until an equilibrium in journey times is reached.
- 3.5.10 Table 3-3 below presents traffic flow data recorded on Coast Road north of Hareness Road during a 7 day period commencing Saturday 14th September 2013.

Days	Northbound	Southbound	Two Way Flow
Mon – Thur Daily Ave	2609	2581	5190
Mon – Thur AM Peak Ave (07:30 – 08:30)	321	492	813
Mon – Thur PM Peak Ave (16:15 – 17:15)	539	245	784
Friday Daily	2273	2403	4676
Saturday Daily	967	1196	2163
Sunday Daily	606	826	1432
Average Daily Traffic	2037	2106	4143

Table 3-3: Coast Road Traffic Flows Sept 2013

- 3.5.11 Table 3-3 highlights that traffic flow on Coast Road is spiked during weekday peak periods in comparison to the rest of the day. Approximately 15% of daily traffic occurs during each peak hour on week days. Traffic surveys show a dominant southbound flow during the weekday AM peak hour, which is reversed during the PM peak hour. This reflects the influence of Altens Industrial Estate and use of Coast Road as a secondary means of accessing employment zones therein. The traffic surveys also show the comparison between midweek and weekend days, highlighting that Coast Road is highly used as a commuter route through the week.
- 3.5.12 The traffic surveys also reveal that Coast Road is well used by HGVs. On an average weekday (Monday to Thursday) Coast Road carried 355 HGVs northbound (13.6% of total northbound traffic) and 396 HGVs southbound (15.3% of total southbound traffic). This included use by 97 articulated lorries (two way) per day. The high level of

use by HGVs indicates that the route can accommodate HGV movements. The percentage of HGVs using Coast Road is comparable to Wellington Road. Luxury coaches also use the route, generated by an operator based in Altens Industrial Estate.

- 3.5.13 Between the proposed site and the city centre the most direct route is via St. Fittick's Road and Victoria Road. Both of these routes are single carriageway roads with a speed limit of 30mph. Whilst the roads are wide the nature of Victoria Road as an urban corridor means that there is frequent pedestrian movements alongside and across the carriageway, car parking bays on both sides of the road, shops and business with frontage and servicing needs, bus stops, and measures such as build outs to assist pedestrians. Victoria Road can accommodate small light vehicles, but it is not well suited to large heavy vehicles. However a proportion of HGVs do still use Victoria Road, some of which also pass along Coast Road.
- 3.5.14 Figure 3-6 contained in Appendix B provides an overview of local streets within Torry, highlighting various constraints, pedestrian measures and movement restrictions which render the residential streets as unsuitable for high levels of HGV traffic.
- 3.5.15 Greyhope Road forms the northern boundary of Nigg Bay. It is subject to the national speed limit (60mph for cars) and has a variable road width close to Nigg Bay. The carriageway is approximately 5.5m wide at its junction with Coast Road and widens to approximately 7m heading east. As the route continues towards Aberdeen Harbour the road reduces in width to a minimum of 4m with passing places. Greyhope Road allows two way vehicle movements and serves few properties. A number of free car parks are found along the Greyhope Road route where people can park for leisure purposes. One such car park is found to the immediate north of Nigg Bay on the south side of Greyhope Road. The car park has a rough hardcore surface, and access to the car park is restricted by a narrow iron gateway so that only cars can enter. The photographs below show the car park.



Existing Car Park on Greyhope Road Adjacent to Nigg Bay

- 3.5.16 Greyhope Road is lightly used. Traffic surveys in September 2013 at a point 20m east of Coast Road showed a 7 day average flow of 397 vehicles eastbound and 358 vehicles westbound. Traffic flow is higher at weekends than through the week.
- 3.5.17 Coast Road gives access to Altens Industrial Estate to the south via Hareness Road, which is a wide single carriageway road with a 30mph speed limit. Hareness Road is an industrial road which runs through Altens Industrial Estate connecting to

Wellington Road at the Hareness Roundabout. Hareness Road has been constructed to a standard capable of supporting frequent HGV movements associated with the industrial businesses within Altens. It filters traffic to Wellington Road, which is the main highway corridor in the area providing a link between Aberdeen City Centre and the A90(T). Access is also available to other parts of Aberdeen via roads which connect with Wellington Road.

- 3.5.18 Within Altens Industrial Estate there are other important roads which filter traffic to Wellington Road via the Souter Head Roundabout which is located approximately 900m south from Hareness Roundabout. These roads include Crawpeel Road and Blackness Road, which are both wide industrial roads which connect with Souter Head Road. Souter Head Road in turn connects with Wellington Road by means of a roundabout which is partially signalised. During weekday peak periods, particularly during the PM peak, there is a dominant southbound flow of vehicles on Crawpeel Road and Blackness Road as vehicles leave Altens Industrial Estate via Souter Head Roundabout, avoiding Hareness Roundabout which experiences congestion.

3.6 Committed Transport Infrastructure

- 3.6.1 The Aberdeen Western Peripheral Route (AWPR) will be a new orbital route around the west side of Aberdeen described as *'the most important infrastructure project taking place in the North East (which) will bring a range of substantial benefits to the region'*. Its construction is anticipated to provide a much needed fast and safe route around Aberdeen which links with the existing major roads and key locations such as the airport, park and ride sites and the major industrial estates around the city. The route runs between Stonehaven and Blackdog and will follow an orbital alignment around the city to the west, with interchanges on the A93, A944, A96(T), A947 and A90(T).
- 3.6.2 The construction of the AWPR has commenced and it is forecast to be complete in winter 2017. The AWPR will connect to Wellington Road at the A90(T) Charleston Junction providing a strong link to Altens and facilitating access from the industrial estate to northern and western areas of Aberdeen as well as towns in Aberdeenshire to the north of the city. The AWPR is expected to bring about a reduction in traffic flow on northern sections of Wellington Road as traffic which currently travels through the city centre redistributes to the AWPR. A reduction in HGV traffic using Coast Road would also be expected, as traffic heading in the same direction redistributes to the AWPR.
- 3.6.3 The A90(T) is the main strategic road link which passes through Aberdeen providing a link to main towns in the north including Fraserburgh, Peterhead and Ellon. Upon opening the AWPR will be part of the Trunk Road network, replacing the constrained Anderson Drive which is the current A90(T). To the north of Aberdeen the A90(T) also connects with the A96(T), and it provides a connection to Aberdeen International Airport and extensive industrial areas within Dyce. The A96(T) also links further north to Inverurie and on through Moray to Inverness and the wider Highlands catchment area.
- 3.6.4 To the south the A90(T) is an important transport corridor as part of the strategic road network which allows access to Glasgow and Edinburgh in Scotland's Central Belt;

whilst also providing connections to the cities of Dundee, Perth and Stirling as well as many other sizeable towns within Angus, Perthshire and Fife.

4 Development Proposal

4.1 Overview

- 4.1.1 The proposal is to form a new harbour at Nigg Bay as an expansion to the existing Aberdeen Harbour. The new harbour would not be a replacement for Aberdeen Harbour but would instead allow for future growth. There are many existing office and industrial buildings with associated multi-level car parks that have been developed over time at Aberdeen Harbour, particularly at Commercial Quay. There are no proposals to replicate such facilities at the new harbour. The facilities proposed at the new harbour would be similar to those found at Albert Quay and North Esplanade Quay where there are few buildings. At this point there are no proposals for existing ferry services at Aberdeen Harbour to transfer to the new harbour. If this was to be considered in future it would be subject to a separate application.
- 4.1.2 The proposal includes approximately 1,400m of new quay. Works would include the construction of two substantial breakwaters each over 600 metres long to the north and south. Quay construction would begin with a 400 metre long solid quay built around the eastern side of the bay and continuing some 300 metres along the northern side. There the construction would change to an open quay to complete 550 metres on the northern side and 300 metres on the eastern side. The quays and paved backup areas would provide over 140,000 square metres of working space. Aberdeen Harbour drawing number 2015001-002 Rev B contained in Appendix D illustrates the proposal.
- 4.1.3 It is anticipated that only 20 – 25 harbour staff would be based at the new harbour, with the majority working shift patterns so that only around 16 staff would be on site at any time. Two single storey welfare / administration buildings are planned for quayside staff and each would occupy a footprint of approximately 15m x 7.5m.
- 4.1.4 Aberdeen Harbour have forecast that annually the number of ships that would use the new harbour would be approximately 550 commercial vessels, 1700 PSV / Offshore vessels, 40 DSV and 30 cruise ships over a 7 month summer period. This represents an average of around 45 ships per week.

4.2 Phasing

- 4.2.1 An indicative work programme is for construction to commence in Q1 of 2017, with the harbour becoming operational in Q2 of 2020.

4.3 Highway Realignment

- 4.3.1 The proposed harbour incorporates some land that is currently on the west side of Coast Road within St Fittick's Park, and also some land to the north of Greyhope Road. This would require both roads to be realigned so that the public highways are outwith the harbour boundary. The proposals are shown on Fairhurst drawing number 100011/1909 Rev G contained within Appendix D.
- 4.3.2 The Coast Road – St Fittick's Road corridor would be realigned over a distance of approximately 280m. Currently both roads meet at the Greyhope Road junction,

where the major road has a relatively tight bend with inside corner radius of 12m. The corridor realignment would involve enlarging the inside radius to a minimum of 175m. The corridor would also be widened in order to enable access to the new harbour.

- 4.3.3 Greyhope Road would be realigned over a distance of approximately 310m so that it is repositioned further north from its current alignment. The road realignments would lead to the Coast Road / St Fittick's Road / Greyhope Road junction being repositioned approximately 150m north west from its current location. Drawing number 100011/1909 Rev G shows the relocated junction, which is subject to detailed design. The junction would be within the 30mph zone. Nonetheless, enhanced visibility in excess of 120m would be achievable in each direction from a 4.5m set back distance for vehicles exiting Greyhope Road. Forward visibility in excess of 120m would also be available for right turning vehicles entering Greyhope Road. Those splays would be appropriate for 40mph design speeds and are shown on the junction drawing.
- 4.3.4 The harbour proposal would lead to the loss of the existing car park that is currently accessed from Greyhope Road. Although we are aware that the car park is used on occasions for recreational use (to provide coastal access by walkers etc) it is not understood to be extensively used and its loss would be of only small detriment. There are other car parks located on Greyhope Road which can accommodate leisure users, giving access to the Coastal Path.

4.4 **Site Access**

- 4.4.1 The proposal includes three points of vehicular access to the harbour site, all of which would be controlled by gates and / or security barriers. The main site access would be formed close to where the existing Coast Road / St Fittick's Road / Greyhope Road junction is located and would incorporate a security gatehouse and barrier controlled access. In addition to barriers there would also be an additional gate which would allow a security lockdown when required.
- 4.4.2 Vehicles entering the harbour would be required to stop at the gatehouse before gaining entry. The stop lines would be located approximately 45m in from the Coast Road channel, which would comfortably allow two articulated HGVs to stack without impeding through flow on Coast Road.
- 4.4.3 The entry to the harbour would have two lanes. The western lane would incorporate Automatic Number Plate Recognition (ANPR) technology to allow approved vehicles to enter without having to consult with gatehouse staff, reducing delays. Vehicles using the eastern lane would need to receive clearance from gatehouse staff. There would be instances where vehicles would not be cleared to enter the harbour, and to accommodate that occurrence an escape road is proposed leading from the barrier control to the realigned Greyhope Road. From there vehicles would be able to access Coast Road again.
- 4.4.4 The escape route is proposed as a private road which would only permit movements in one direction, from south to north. No entry signs would be erected at the Greyhope Road side to prevent entry movements from the north. Vehicles exiting on to the 60mph Greyhope Road would have visibility for 215m to the east from a 2.4m set back distance, which is demonstrated on drawing 100011/1910 Rev B in Appendix D. Approach speeds from the west would be much reduced due to the

alignment of Greyhope Road at its junction with Coast Road. Visibility would be available for 43m from a 2.4m set back distance, which is considered to be sufficient given that approach speeds at that point would likely be less than 30mph. Within the urban environment, 43m visibility is accepted stopping sight distance policy for a 30mph road.

- 4.4.5 The main site access would be constructed at an approximate 40 degree angle to Coast Road. The angle, together with the use of kerbed islands, would physically restrict HGVs from being able to enter from the west, or exit to the west. This measure would restrict HGVs from passing along Victoria Road through Torry. Instead there would be a route plan for HGVs directing all entry and exit movements to and from the south via Altens Industrial Estate. Signage would be used along the route directing HGVs to use Coast Road and Hareness Road to reach Wellington Road. The site access design would encourage that, whilst light vehicles would be able to enter and exit via Torry. Swept Path Analysis included on drawing number 100011/1909 Rev G in Appendix D demonstrates that the site access design would restrict HGV movements through Torry.
- 4.4.6 The existing 30mph speed limit is located on St Fittick's Road approximately 20m west from Greyhope Road. Following realignment of Coast Road it is anticipated that the 30mph speed limit would be located on the south side of the harbour access. Drawing number 100011/1909 Rev G indicates the Coast Road 30mph speed limit relocated approximately 200m south of the harbour access.
- 4.4.7 The new harbour access would therefore be within the 30mph urban limits of Aberdeen. Whilst the National Roads Development Guide has been adopted by Aberdeen City Council to guide urban road design, it is considered that in this instance use of the Design Manual for Roads and Bridges (DMRB) is more appropriate to guide the form of junction that the harbour access should take. DMRB Volume 6 (TD42/95) comments on appropriate forms of major / minor priority junctions. Figure 2/2 from TD42/95 is replicated below and provides an indication of appropriate forms of junctions based on traffic volumes.

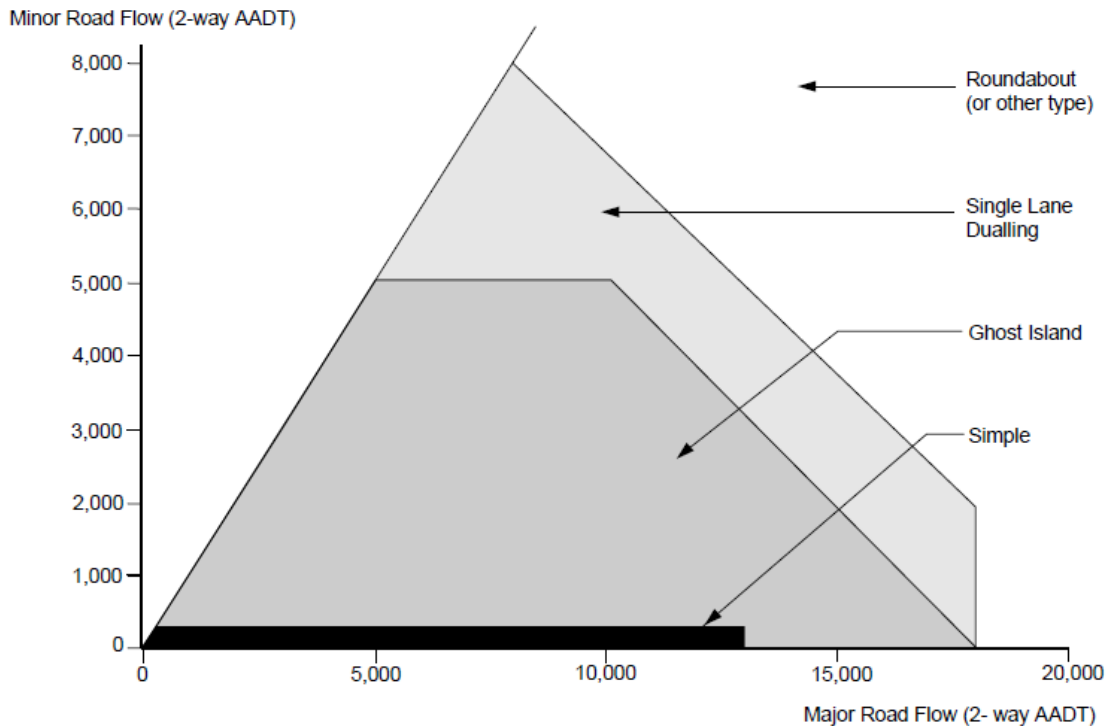


Figure 4-1: DMRB Volume 6 TD42/95 Figure 2/2

4.4.8 Traffic surveys in 2013 established that Coast Road had an average daily traffic flow (which could represent Annual Average Daily Traffic - AADT) of 4143 vehicles. During scoping discussions it was agreed that traffic entering and exiting the new harbour could equate to approximately 1,400 two way movements per day. Based on those major and minor road traffic flows at the site access, DMRB guidance indicates that a ghost island is the appropriate form of junction to serve the proposed harbour.

4.4.9 Fairhurst drawing number 100011/1909 Rev G illustrates a ghost island layout incorporating the following geometry.

- Through Lanes widths – 3.5m
- Right Turning Lane width – 3.5m
- Turning Length – 18m
- Deceleration Length – 80m
- Direct Taper – 25m
- Tapers – 1:30

4.4.10 The layout complies with DMRB standards for a 60mph road, which is considered to be a robust design which is commensurate with the proposed development. Coast Road would be outwith the 30mph zone to the south of the harbour access so vehicles could approach the junction above 30mph. The site access proposal is subject to receiving technical approval and it is acknowledged that some of the geometric values could alter slightly through that process. Nonetheless the site layout drawing establishes the principle that a ghost island is proposed for the access, and

Aberdeen Harbour would purchase the necessary land from Aberdeen City Council to form the access.

- 4.4.11 In accordance with DMRB TD42/95 standards the turning length within the right turn lane of a ghost island should be a minimum of 10m in length. It can be extended to accommodate queuing. In this instance analysis (contained in Chapter 7) has shown that right turning traffic entering the harbour would generate minimal queuing at the site access. Nonetheless the turning length has been increased to 18m to accommodate instances when an articulated lorry may be waiting to turn right. This maintains the 80m deceleration length in advance of the turning length.
- 4.4.12 Appropriate visibility splays can be achieved on the main site access junction. To the south a reduction to the existing speed limit on Coast Road is proposed, reducing the 60mph speed limit to 40mph. Nonetheless a 215m visibility splay, which is appropriate for a 60mph design speed, can be achieved to the south from a 4.5m set back distance. To the north west vehicles would approach the junction from within the 30mph zone which would allow reduced visibility standards to apply. A splay of 120m, which is suitable for a 40mph design speed, would be achievable to the north west from a 4.5m set back distance on the harbour access. Forward visibility for 120m would be achievable for right turning vehicles entering the harbour access.
- 4.4.13 Drawing number 100011/1910 Rev B contained within Appendix D illustrates the achievable visibility splays at the main harbour access, including showing land that would need to be free from obstructions within the highway verges.
- 4.4.14 The main site access proposal makes an allowance for pedestrian movements via a connection to the northern footway on St Fittick's Road. A new surfaced footway would be continued south from the repositioned Greyhope Road junction leading to a pedestrian crossing on the harbour access. The crossing would guide pedestrians in to the harbour, via the security gatehouse and turnstile.
- 4.4.15 A secondary access is proposed to the quayside approximately 120m south of the main access. This access would primarily be used by coaches associated with cruise ship passengers. The access would be formed by a simple T-junction, where the harbour access would also be angled so as to only allow coaches to enter and exit from the south. The access would have a gate which is positioned approximately 20m back from the Coast Road channel, so that any coach entering the site would not obstruct through flow on Coast Road whilst awaiting entry through the gate. Drawing 100011/1909 Rev G contained in Appendix D shows the secondary access and associated Swept Path Analysis for a coach.
- 4.4.16 Coaches exiting the secondary access would have visibility for 120m to the north from a 2.4m set back distance. This would be appropriate for a 40mph design speed. At the point where vehicles approaching from the north would become visibility to an exiting coach they would be within the 30mph zone whereby the design speed of approaching vehicles is not likely to exceed 40mph. Similarly, coaches entering the site from the south would have 120m forward visibility. To the south the harbour security fence can be set sufficiently far back to achieve a visibility splay for 215m from a 2.4m set back distance for exiting vehicles. This would be appropriate for a 60mph design speed for vehicles approaching from the south, albeit a reduced speed limit to 40mph is proposed to the south.

- 4.4.17 The secondary access could also be used by occasional lorries carrying abnormal loads. On occasion there may be a need for such lorries to route north west via Torry due to alignment constraints on the approaches to the railway bridge on Coast Road. The secondary access could therefore incorporate a further gate within the fenceline which could open to allow occasional access to and from the north west for abnormal loads.
- 4.4.18 A third access point is proposed which would be rarely used. It would give access to the southern breakwater and would be located approximately 765m south from the main access. The southern breakwater access would be used regularly during the construction of the breakwater. Thereafter, during the operational phase, it would only be used by occasional maintenance vehicles. The access would be formed by a surfaced bellmouth created through the verge, with a gate set approximately 10m back from the Coast Road channel.
- 4.4.19 The breakwater access could achieve visibility splays of 2.4m x 215m in both directions for exiting vehicles, which would exceed requirements for the proposed 40mph speed limit at that point in the road. Right turning vehicles entering the access from the south would also have 215m forward visibility, albeit vegetation within the western Coast Road verge would need to be trimmed back. Drawing number 100011/1910 Rev B in Appendix D illustrates the visibility splay.

4.5 **Coast Road Improvements**

- 4.5.1 The approximate 1.2km long section of Coast Road between the proposed harbour and the railway bridge measures 7.3m in width which is industrial road standard. The approximate 1.2km long section of Coast Road between the railway bridge and Hareness Road is narrower, generally measuring between 6.0 – 6.6m in width, with a 5.7m wide pinch point over a short distance.
- 4.5.2 The east side of the highway corridor is contained by the Aberdeen – Edinburgh Railway Line and associated land. The road is bounded by a small dyke over almost the entire west side of the route and by a combination of a dyke and Armco barrier on the east side of the road. For much of the route the dykes and Armco Barriers are set back approximately 0.5m from the existing Coast Road channel, and that separation strip should be retained which restricts the opportunity to widen the carriageway. Nevertheless articulated lorries can be observed to pass one another on Coast Road with relative ease and at a reasonable speed. Lorry drivers evidently feel that the road is of an appropriate standard for them to use. Analysis contained within Chapter 7 of this report demonstrates that the link has capacity to accommodate development traffic flows at its existing width.
- 4.5.3 Improvements to the Coast Road are proposed in connection with the harbour expansion. A reduction to the speed limit is proposed over the approximate 3km section of Coast Road between the harbour access and Burnbanks Village, commensurate with anticipated mean speeds on the route upon operation of the harbour. In addition, improvements to the carriageway construction are proposed.
- 4.5.4 A reduction from the existing 60mph speed limit to 40mph is proposed. It is considered that a reduced speed limit on Coast Road would be an effective means of controlling the flow of vehicles in a safe manner upon opening of the harbour, to the benefit of all road users. The reduced speed limit would reflect the character and use

of the road at that point. This proposal is made following a review of national guidance on setting speed limits contained within The Scottish Government Circular 1/2006 'Setting Local Speed Limits'.

- 4.5.5 Annex E of the Circular comments that *'The aim should be to align the speed limit to the prevailing conditions, and all vehicles moving at speeds as close to the posted speed limit as possible'*. The speed limit should be appropriate to the character of the road and the traffic using it. Mean traffic speeds should be taken into consideration as an indication of what drivers feel is the right speed to be travelling. Existing mean traffic speeds can be used to guide the assessment, as mean speeds inclusive of harbour traffic clearly cannot be measured at this time.
- 4.5.6 Fairhurst recorded all vehicle speeds on Coast Road at 2 points over a 7 day period commencing 14th September 2013. At a point 20m south of Greyhope Road the mean northbound speed was 31mph and southbound speed was 28mph. Vehicle speeds were also measured at a point 40m north of Hareness Road which indicated a northbound mean speed of 39mph on weekdays and 43mph at weekends. Southbound mean speeds were 41mph on weekdays and 43mph on weekends.
- 4.5.7 Annex D of Circular 1/2006 refers to an accident threshold of 60 injury accidents per 100 million vehicles kilometres as being significant. The Crashmap website indicates that 9 injury accidents occurred on the 1.2km section of Coast Road between Hareness Road and the railway bridge over a 10 year period from 2005 – 2014. This equates to an accident ratio of 0.9 accidents per year. The accident rate on other sections of Coast Road between Nigg Bay and Cove is less frequent.
- 4.5.8 The 2013 traffic surveys on Coast Road recorded a daily average of 4,143 two way vehicles on Coast Road at a point north of Hareness Road. Assuming the same traffic levels over the 10 years between 2005 - 2014, vehicles using the 1.2km section of Coast Road between Hareness Road and the railway bridge would have travelled a combined total of $4,143 \times 1.2 = 4,972$ vehicle kms per day, and 1,814,780 vehicle kms ($4,972 \times 365$) per year. There is therefore an average accident rate of 0.9 per 1,814,780 veh/kms, which would factor up to 1 per 2,016,422 veh/kms. This would equate to 50 injury accidents per 100 million veh/kms ($100,000,000 / 2,016,422 = 50$). The section of Coast Road that has had most accidents is therefore below the threshold of 60 injury accidents per 100 million veh/kms noted in Annex D of Circular 1/2006.
- 4.5.9 Annex E of Circular 1/2006 provides a flow chart that guides the assessment of speed limits. Coast Road falls in to the 'Lower Tier' category, which is predominantly for Class C and unclassified roads. The mean vehicle speeds in both directions north of Hareness Road is currently around 40mph. Operation of the harbour is expected to lead to an additional 453 HGVs per day (7 day average) on the route which is likely to reduce average speeds so that the route will self-regulate at no more than 40mph through the day. The additional HGVs may also discourage some light vehicles from using the route. Based on future expected mean speeds of less than 40mph, and the accident rate which is below 60 per 100 million veh/kms, the flow chart in Annex E points towards a 40mph speed limit as being appropriate.
- 4.5.10 Based on the above assessment a reduced speed limit to 40mph is proposed on Coast Road. This would be of most benefit to the 1.2km section of road between the railway bridge and Hareness Road which has experienced the highest accident ratio.

However the speed limit reduction is proposed over the whole section of Coast Road from the proposed harbour access south to Burnbanks Village, so as to avoid numerous changes in speed limit over the relatively short section which could be confusing to drivers.

- 4.5.11 In addition to proposing a speed limit reduction on Coast Road, Aberdeen Harbour propose to resurface the Coast Road carriageway over the 1.2km section between the railway bridge and Hareness Road. The resurfacing would be completed prior to the construction phase. It would strengthen the carriageway and provide a smooth regulated running surface. The carriageway condition would be monitored throughout the construction phase, with additional improvements made where necessary in advance of the harbour opening.

4.6 National Cycle Network Route 1

- 4.6.1 NCR1 currently uses the Coast Road carriageway. The section of Coast Road north of the railway bridge is 7.3m wide which can accommodate the occasional cyclists who use the route. The section of Coast Road between the railway bridge and Hareness Road is narrower, generally measuring between 6.0 – 6.6m in width. Whilst the route only carries a low level of cyclists, they would benefit from being separated from vehicular traffic over that section of road. Therefore the harbour expansion proposals include an allowance to provide a section of off-road cycle path on the east side of the railway line running parallel with the section of Coast Road from the railway bridge to a point just north of Hareness Road.
- 4.6.2 There is an existing underpass beneath the railway line to the north of Hareness Road which links Coast Road to land on the east side of the railway. It is proposed to make use of that underpass to reroute the NCR1. At the Coast Road railway bridge the cycle path would tie in to the Coast Road carriageway on the east side of the bridge parapet, where there is currently a link to the Coastal Path. A push button would be incorporated into the traffic signals which could be used on an 'on demand' basis, holding traffic streams on red and allowing cyclists to enter the carriageway safely from the cycle path. Use is expected to be low, causing minimal delay to vehicles.
- 4.6.3 The National Roads Development Guide makes reference to 'Cycling By Design' with regard to cycle path specification. It notes a desirable minimum width of 3m, and an absolute minimum width of 2m where combined two way cycle flows are less than 200 per hour. The same specification is applicable to shared footpath/cycle path infrastructure. A footnote also comments that a minimum width of 1.5m could be considered over short distances where there are constraints and combined flows are less than 150 per hour for cyclists only, or 100 per hour for cyclists and pedestrians.
- 4.6.4 It is anticipated that combined pedestrian / cycle flows will not exceed 100 per hour and Fairhurst consider that a width of 2m would be commensurate with demand. Drawing numbers 108675/8011 Rev A and 108675/8012 Rev A are enclosed within Appendix E and show the proposed alignment of the off-road cycle path, and how it would tie in to the traffic signals at the railway bridge. Cycling by Design includes a specification for a cycle path with an unbound surface, which is proposed in this location. The specification is included on the drawings in Appendix E.

4.6.5 Figure 4-2 overleaf replicates the table extracted from Cycling by Design which comments on cycle path width requirements.

Facility		Width (m)		Comments
Segregated cycleway or cyclepath	One way cycles only	Desirable Minimum	2.0	Operates satisfactorily for one-way flows of up to 150 cycles per hour with minimal overtaking anticipated.
		Absolute Minimum	1.5	The running width required that is free from obstructions such as debris, gullies, line markings and street furniture.
	Two way cycles only	Desirable Minimum	3.0	Operates satisfactorily for two-way flows up to 300 cycles per hour.
		Absolute Minimum	2.0*	Operates satisfactorily for two-way flows of up to 200 cycles per hour free from obstructions such as debris, surface gullies, line markings and street furniture.
	Pedestrian only space	Desirable Minimum	2.0	The minimum width in normal circumstances to permit unobstructed passage by opposing wheelchairs.
		Absolute Minimum	1.5	Acceptable over short distances in specifically constrained environments, such as at bus stops or where obstacles are unavoidable (Transport Scotland 2009).
Shared cycleway or cyclepath	Pedestrian and cycle space	Desirable Minimum	3.0	Typically regarded as the minimum acceptable for combined flows of up to 300 per hour.
		Absolute Minimum	2.0**	Can operate for combined flows of up to 200 per hour but will require cycles and pedestrians to frequently take evasive action to pass each other.

* Widths narrower than 2m can present a hazard to cyclists, however widths as low as 1.5m may be acceptable over short distances where there is no alternative. This width should only be considered where two-way flows of less than 150 cycles per hour are likely.

** In particularly constrained situations or for combined flows of less than 100 per hour, a width of 1.5m may be considered. However this will create conflict between users and should only be used over short distances where no alternative is available.

Figure 4-2: Cycling by Design (2010) – ‘Off-Carriageway Facility Widths’

4.7 Parking

4.7.1 Aberdeen City Council do not have defined parking standards for a harbour development. There are standards for various use classes based on building sizes, but these do not adequately cover the operational requirements for a working harbour. Therefore parking has been proposed based on Aberdeen Harbour’s experience, and their knowledge of working needs.

4.7.2 Drawing 100011/1909 Rev G highlights a car park adjacent to the main harbour entrance which could accommodate 59 car parking spaces, inclusive of 3 spaces reserved for disabled users. In addition, there would be space for 5 motorcycles to park and a shelter offering secure parking for 8 bicycles. The car park would be for private harbour use and would be located close to the security gatehouse which would be manned 24 hours per day.

- 4.7.3 The car park would be accessed from the escape road which would link the harbour access to Greyhope Road. Entry would be via the harbour access, and exit would be via Greyhope Road.
- 4.7.4 It is anticipated that only 20 – 25 harbour staff would be based at the new harbour, with the majority working shift patterns so that only around 16 staff would be on site at any time. It is clear that the car park would not be fully utilised by staff members. However the car park proposed is required to accommodate maintenance and operational needs of visiting vessels. Vehicles would not be permitted to park on the quayside within the harbour boundary, so the car park would be required to allow support vehicles to park outside the controlled access point.
- 4.7.5 Section 5 provides details on construction related traffic activities. There will be a need to establish a temporary car park area within the site during the construction phase. An appropriate area will be identified in consultation with the appointed contractor.

4.8 Public Transport / Taxi Drop-off

- 4.8.1 Proposals include a bus turning circle adjacent to the main access which would allow a bus stop to be formed off the Coast Road carriageway enabling public buses to travel to the harbour from Torry. Buses could turn at the harbour and travel back to their service route. Introduction of a new bus stop would require buses to travel an extra 900m to service the harbour.
- 4.8.2 Fairhurst have consulted Stagecoach and First Bus who both currently operate frequent bus services within Torry. Both operators have expressed that they would consider extending their respective bus routes to service the new harbour. However given that the harbour is not expected to be operational until 2020 neither operator would commit to considering service alterations at this time.
- 4.8.3 The bus turning circle could also accommodate taxi movements for drop-off and pick-ups. There would not be a taxi rank.

4.9 Internal Roads

- 4.9.1 The harbour quayside would primarily be formed in concrete. White lining would be used to define vehicle and pedestrian routes within the harbour.
- 4.9.2 It is anticipated that ship crew arriving at the harbour would primarily do so by public transport or taxi given that they could be at sea for an extended time. They would pass through the security turnstile to a bus shelter, where they would be collected by a crew bus which would operate within the harbour boundary transferring crew to and from their ships.

4.10 Coastal Path

- 4.10.1 The Coastal Path would be permanently affected by the formation of the new harbour. The Coastal Path currently passes through Nigg Bay but would not be able to do so upon completion of the harbour as there would be no public access available to the quayside. The harbour boundary would be entirely secured by a high fence and monitored by security cameras and staff.

- 4.10.2 The route of the Coastal Path would need to be altered during the harbour construction phase. It would be stopped up between the Coast Road railway bridge and a point west of the northern breakwater on Greyhope Road. An alternative route is proposed during the construction period which is shown on Fairhurst drawing number 100011/1911 Rev C contained in Appendix D.
- 4.10.3 The temporary rerouting of the Coastal Path during the construction phase would involve formation of a path mostly within the verge on the east side of Coast Road for a distance of approximately 1.2km south from Greyhope Road to the railway bridge. The path would also be moved to the north side of the realigned Greyhope Road for 660m from Coast Road to Walker Park. At Walker Park a path could be formed north between Balnagask Golf Course and Walker Park over a distance of 250m, at which point the path would tie back in to the Coastal Path on Greyhope Road. By taking the temporary path between Balnagask Golf Course and Walker Park the route would avoid using the section of Greyhope Road which would pass by Walker Park, where concrete batching and form works may take place, inducing frequent vehicle movements.
- 4.10.4 An onus would be placed on the appointed contractor to manage the route of the Coastal Path so that safe passage is available during the construction phase. This is likely to mean that the route would be variable around the Coast Road / St Fittick's Road / Greyhope Road junction as site access works progress.
- 4.10.5 Much of the route of the temporary path would remain permanent beyond the construction phase. Drawing number 100011/1912 Rev B contained in Appendix D shows the proposed permanent alteration to the Coastal Path. The route would remain on the east side of Coast Road, but could switch back to the south side of Greyhope Road.
- 4.10.6 The Coastal Path is not heavily used and is not a commuter route around Nigg Bay. A width of 2m is proposed for the realigned section of the Coastal Path, which would be wider than the current provision. An unbound whin dust surface is proposed, which will replicate the existing make up of the Coastal Path. It is noteworthy that existing Core Paths on St Fittick's Road are also unsurfaced.
- 4.10.7 The realigned section of the Coastal Path adjacent to Coast Road would be constructed to standards promoted by 'Paths for All'. They contain a specification for a path with an unbound whin dust finish which is shown in Figure 4-3 below.

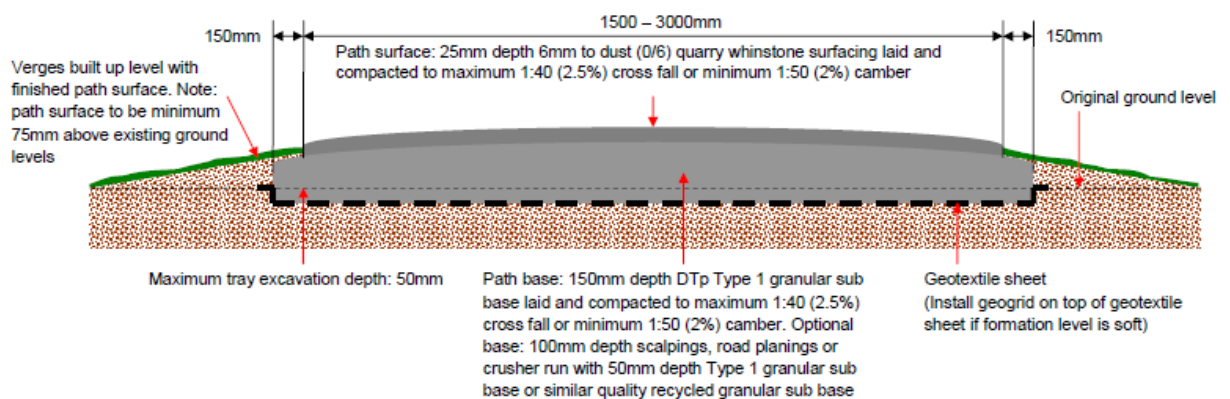


Figure 4-3: Paths for All – Whin Dust Path Specification

4.10.8 Paths for All specify a minimum path width of 1.5m. Fairhurst consider a 1.5m path width to be commensurate with the level of pedestrian demand on the Coastal Path, and it would be wider than much of the existing Coastal Path. A 2m path width is proposed adjacent to Coast Road, which could alternatively be reduced to 1.5m width with a 0.5m verge separating the path from the carriageway.

4.10.9 The section of Coastal Path that would be formed on the north side of Greyhope Road on a temporary basis during the construction phase would accommodate pedestrians and cyclists. In accordance with the Cycling by Design guidance noted earlier at Figure 4-2, a 2m width is considered to be appropriate and commensurate with the level of demand on the route.

4.11 **Traffic Regulation Orders**

4.11.1 A number of temporary and permanent Traffic Regulation Orders would be required during the construction and operational phase. These are expected to include:

- Temporary stopping up of sections of the Coastal Path
- Permanent stopping up of sections of the Coastal Path
- Alterations to the existing 30mph speed limit on St Fittick's Road
- Temporary reduction to the speed limit on Coast Road
- Permanent reduction to the speed limit on Coast Road
- Temporary stopping up of circa 1km of Greyhope Road east from Coast Road for the duration of the construction phase

5 Construction Traffic

5.1 Introduction

- 5.1.1 It is anticipated that a Construction Environmental Management Plan (CEMP) would be required to describe how construction activities would be controlled with a view to avoiding and, if necessary, mitigating adverse environmental impacts during the construction phase. The CEMP would include traffic and transport impacts.
- 5.1.2 Until such time as a contractor is appointed to the project details of construction traffic proposals cannot be confirmed. The contractor would have flexibility to make decisions which can greatly influence construction traffic effects. For example material required to construct the harbour could be delivered by sea or by road. The contractor would decide where material is to be sourced, which would affect construction traffic routing. In addition, the contractor's work programme would dictate working hours within permitted parameters. The contractor would also confirm staff requirements and could influence their travel arrangements.
- 5.1.3 Notwithstanding the need for contractor input to prepare firm plans, this section of the Transport Assessment outlines what could be considered as worst case scenario estimates for construction traffic in order to provide some context to requirements. It also presents construction traffic routing proposals.

5.2 Construction Activity

- 5.2.1 The current development program anticipates a start of construction on site in Q1 of 2017 and an estimated completion in Q2 of 2020. The first section of work would include quayside construction and construction of the breakwaters, together with other activities such as off-site highway works and site access formation.
- 5.2.2 The construction phase would generate travel demands associated with material delivery, as well as construction staff. In order to estimate the likely activity associated with construction, Aberdeen Harbour have provided estimates of quantities and type of material required to construct the harbour. Information is based on similar construction works at Torry Quay in recent years.
- 5.2.3 The breakwater construction is likely to involve the movement of up to 4,000 tonnes of material per day occurring over a 21 month period. This would potentially involve working double shifts, though confirmation would be required from the contractor once appointed.
- 5.2.4 The quay construction is likely to involve the movement of approximately 150m³ (approximately 360 tonnes) per day of concrete, over a period of approximately 72 weeks. It is anticipated that a batching / fabrication yard would be established, which could be located at Walker Park on Greyhope Road, land adjacent to St Fittick's Road, or land adjacent to Coast Road near the southern breakwater.
- 5.2.5 In order to form a robust assessment it is assumed that all of this material would arrive on site by road. Assuming that HGVs used to transport the breakwater material have an average capacity of 20 tonnes, there would be 200 vehicles generated per day. In addition to that, assuming that lorries delivering material for concrete do so in

20 ton loads, this would equate to a daily arrival of 18 vehicles. Therefore daily HGV traffic of around 218 vehicles would be anticipated associated with the breakwater and quay construction. This is based on 20 ton loads. If use was made of articulated lorries only, delivering in 29 ton loads, the number of HGV movements would be reduced to 150 daily. This is considered to be a robust estimate of material delivery needs, and generally replicates daily HGV movements that were associated with construction of Torry Quay. Relevant HGV delivery records for the Torry Quay project were included within the Appendix to the Transportation Framework report which was issued to ACC in advance of this report being written.

- 5.2.6 For the purposes of preparing robust estimates of material deliveries, it has been assumed that a total of twelve HGV movements per hour (one every 5 minutes) may arrive / leave during the AM (07:30 – 08:30) and PM (16:15 – 17:15) peak hour periods. Based on 218 HGVs per day, there would be a remainder of 194 HGVs generated during off-peak times. Assuming trips are spread over 7 hours between 08:30 – 16:15 (allowing for a lunch break), this would equate to an average of 28 deliveries per hour (56 two way movements). This would be reduced to 18 HGVs per hour (36 two way movements) if larger articulated lorries with capacity for 29 ton loads were used. Extending working hours would also reduce the number of HGV movements per hour.
- 5.2.7 Proposals include a temporary closure of Greyhope Road during the construction phase for a distance of approximately 1km between Coast Road and Girdleness Lighthouse. A number of large construction vehicles would be expected throughout the day on Greyhope Road accessing the northern breakwater. There would also be a number of movements across Greyhope Road between Walker Park and the northern breakwater if the batching / fabrication yard is established at Walker Park. Given that Greyhope Road carries light traffic flows, has no strategic function, and can be accessed from elsewhere, closure of the 1km section would have safety benefits whilst causing minimal disruption.
- 5.2.8 During the construction phase access to Greyhope Road would be retained from the St Fittick's Road / Sinclair Road end near Torry Quay. Thus access to the lighthouse, an adjacent property and existing car parks on the route would be maintained. Traffic signs on the route would inform drivers of the temporary road closure ahead.

5.3 HGV Construction Traffic Route

- 5.3.1 The designated route for all construction HGV trips would be via Coast Road and Hareness Road to Wellington Road. Within Altens there would also be potential to use Crawpeel Road or Blackness Road to reach Wellington Road via Souter Head Road. No construction HGVs would be permitted to enter or exit via Torry or Cove. Responsibility would be placed on the appointed contractor to ensure that this construction traffic routing requirement is adhered to.
- 5.3.2 The appointed contractor would be responsible for establishing all necessary traffic management measures to accommodate construction traffic using Coast Road and agreeing measures with ACC's Traffic Management department. This could include reducing the Coast Road speed limit to 30mph between Nigg Bay and Hareness Road on a temporary basis during the construction phase.

- 5.3.3 At Wellington Road the route that construction traffic take would depend on where material is sourced, which would be decided upon by the appointed contractor. Construction is projected to commence during Q1 of 2017. The AWPR is anticipated to be complete by Q4 of 2017, and would have the potential to change the way that construction traffic routes on Wellington Road.
- 5.3.4 The peak traffic generation for material deliveries to the site may need to be outwith the local road network peak hours so as to minimise disruption. A lorry ‘stop over’ area may be provided within the site.
- 5.3.5 Construction traffic movements could include the delivery of piles which may have abnormal load delivery requirements. They could be delivered by road or potentially by sea to the existing harbour and transported to site. Abnormal loads would be delivered in consultation with the police and roads authority where necessary, and likely during off-peak periods to ensure minimal disruption to the road network.
- 5.4 **Road Condition Survey**
- 5.4.1 In order to monitor the effect of construction traffic on the public highway network, it is anticipated that a condition survey would be required before and after the construction phase, and at any agreed intervals in between. Discussions with ACC to date have identified that the survey would be restricted to Coast Road between Hareness Road and Nigg Bay. Sections of Greyhope Road may also be incorporated.

6 Trip Generation

6.1 Operational Trip Generation

- 6.1.1 Due to the nature of the proposal it must be recognised that many trips to and from the harbour would have to be made by motor vehicle, including HGVs. However there would be an opportunity for staff and crew members to travel to and from the harbour by sustainable means. Occasional visits by cruise ships would generate trips by passengers which would be managed by private coach arrangements.
- 6.1.2 It is anticipated that only 20 – 25 harbour staff would be based at the new harbour, the majority of whom would work shift patterns so that only around 16 staff would be on site at any time. Trip generation from harbour staff would therefore be low.
- 6.1.3 Following discussion with Aberdeen City Council it was agreed that Fairhurst would use existing traffic generation associated with Albert Quay and North Esplanade Quay to represent regular daily development traffic associated with the new harbour. The berth length of those quays is approximately 1,400m, which replicates the length of the quayside proposed at the new harbour. ACC supplied traffic survey data for the Market Street junctions with Albert Quay and North Esplanade Quay, which was used to estimate weekday hourly traffic flow for the new harbour between 06:00 – 19:00. This was agreed through scoping correspondence.
- 6.1.4 Further correspondence with ACC with respect to the Air Quality and Noise Assessments which also form part of the Aberdeen Harbour Expansion Project Environmental Impact Assessment expanded the trip generation between 06:00 – 19:00 to establish a profile of vehicle trip generation over the course of 24 hours during a weekday. Table 6-1 below shows the agreed vehicle trip generation profile for the proposed harbour.

Time	Arrivals			Departures		
	Total	HGV	%HGV	Total	HGV	%HGV
0000 - 0100	3	1	34.9%	5	2	46.7%
0100 - 0200	5	2	44.6%	3	1	38.1%
0200 - 0300	1	0	0.0%	8	4	59.1%
0300 - 0400	4	0	0.0%	5	1	24.4%
0400 - 0500	4	0	11.5%	8	2	26.6%
0500 - 0600	11	1	8.5%	13	6	44.1%
0600 - 0700	35	3	7.5%	12	8	68.0%
0700 - 0800	61	12	14.8%	27	18	66.6%
0800 - 0900	43	11	48.8%	31	14	46.0%
0900 - 1000	49	17	34.9%	40	13	32.0%
1000 - 1100	56	23	40.7%	54	22	40.4%
1100 - 1200	65	25	38.4%	78	22	28.6%
1200 - 1300	55	17	30.8%	55	17	30.5%
1300 - 1400	51	22	43.6%	45	15	33.6%
1400 - 1500	70	41	58.7%	63	32	50.7%
1500 - 1600	53	32	60.4%	60	34	57.0%
1600 - 1700	43	25	58.3%	45	20	44.1%
1700 - 1800	17	14	81.8%	65	22	34.3%
1800 - 1900	17	10	59.7%	25	6	24.6%
1900 - 2000	19	8	42.0%	24	8	31.9%
2000 - 2100	10	4	43.2%	13	4	34.8%
2100 - 2200	7	3	37.7%	10	3	34.5%
2200 - 2300	8	3	39.1%	7	0	0.0%
2300 - 2400	5	2	41.0%	4	0	0.0%
0000 - 2400	693	278	40.1%	700	277	39.6%

Table 6-1: Proposed Harbour Weekday Traffic Generation

- 6.1.5 Table 6-1 indicates that the proposed harbour would generate a high level of HGV activity throughout the day. It is noteworthy that the classification of HGVs includes OGV1 and OGV2 vehicles. OGV1 vehicles include all goods vehicles with two axles and twin rear tyres, three axle rigid vehicles, and other heavy miscellaneous vehicles. OGV2 vehicles include three axle articulated vehicles and vehicles with four or more axles whether rigid or articulated. Therefore the classification of an HGV is wide ranging and includes a variety of different sizes of vehicles. Indeed some vans with twin rear tyres would be classed as an OGV1, and hence an HGV, though it would clearly be much smaller than an articulated lorry which has six axles.
- 6.1.6 Analysis of ACC's traffic survey data for Albert Quay and North Esplanade Quay, which forms the basis for the new harbour traffic estimates, shows that over the course of the 13 hour survey 580 vehicles were classified as being an HGV. The data can be broken down to show that 229 vehicles were classed as being OGV1, and 351 were classed as being OGV2. This reveals that 39% of HGVs recorded entering / exiting the existing Aberdeen Harbour were not articulated vehicles, and would have

been much smaller. Similarly, of the 555 HGVs shown to be generated by the proposed harbour over the course of a day it could reasonably be deduced that 39% (216) would not be articulated lorries.

6.2 Peak Hour Vehicle Generation

- 6.2.1 It is common to assess traffic impacts during weekday network peak hours, as these are the time periods when background traffic flow on the public highway is greatest and therefore when roads and junctions experience peak demands.
- 6.2.2 Through scoping correspondence it was agreed that an assessment of peak hour traffic impacts would be made for 2019, representing the harbour's proposed opening year. The anticipated harbour opening has since been revised to Q2 of 2020. At that time the AWPR is expected to be complete and open, so an assessment of the road network would need to take into account the traffic effects from this strategic infrastructure.
- 6.2.3 Aberdeen City Council have a Paramics model for the Altens area surrounding Nigg Bay which includes a 2020 baseline scenario which takes account of the effects of the AWPR and also includes an allowance for sites that are allocated in the 2012 Local Development Plan. It was agreed that traffic flows from the Paramics model (2020) would be used to provide a baseline scenario for capacity analysis. This correlates with the expected year of opening for the harbour.
- 6.2.4 The Paramics model indicates that the existing network weekday peak hours are 07:30 – 08:30 and 16:30 – 17:30. Table 6-2 below shows new harbour traffic generation during the network peak hours, based on ACC's survey of Albert Quay and North Esplanade Quay.

Time	Arrivals			Departures		
	Total	HGV	%HGV	Total	HGV	%HGV
0730 - 0830	64	12	18.8%	30	12	40.0%
1630 - 1730	34	25	73.5%	62	21	33.9%

Table 6-2: Weekday Peak Hour Traffic Generation for the New Harbour

- 6.2.5 Table 6-2 indicates that the development is expected to generate around 95 two-way vehicle trips during the weekday network peak hours

6.3 Cruise Ships

- 6.3.1 In addition to the general day to day operation and activity of the site, it is anticipated that cruise ships will occasionally berth at the harbour. This would be as a scheduled stopping point, not a start or end point. Passengers would disembark to partake in organised trips to Aberdeen, Aberdeenshire and surrounding areas.
- 6.3.2 Whilst the pattern of cruise ship arrivals is currently unknown, experience from other UK ports can point towards what can be expected. The Port of Southampton is the busiest cruise terminal in the UK and is frequently visited by cruise ships which typically arrive between 05:00 to 06:30 and have assisted disembarkation from 07:00. The last passengers leaving at around 09:00. All cruise ships depart the same day they arrive, normally at around 17:00. Embarkation normally closes for departing cruises at around 15:00 to 16:00.

- 6.3.3 There would be potential for a cruise ship with capacity for 2,000 passengers to berth at the proposed harbour. As a worst case scenario all passengers may wish to disembark the ship to partake in an organized trip. Passengers would be transported to various destinations by private coach arrangements. This would require up to 40 coaches, assuming an average capacity of 50 passengers. However the likelihood is that not all passengers would disembark. Coach trips would be booked by passengers in advance so that the required number of coaches is known and can be arranged. Coach arrivals and departures could be staggered so as to control the impacts on the surrounding road network. It should be emphasised that visits by large cruise ships and subsequent coach transfer would not be a daily occurrence. It would likely be a fortnightly occurrence over a 7 month period each year.
- 6.3.4 Coaches would access the harbour via the secondary access to the south of the main access and they would park within dedicated areas within the harbour boundary. Coaches would not pass through Torry but instead would travel to and from the harbour via Altens Industrial Estate. Swept Path Analysis on drawing number 100011/1905 contained within Appendix F shows that a luxury coach can cross the Coast Road railway bridge with ease. Luxury coaches have been observed to use the Coast Road route at present.
- 6.4 **Abnormal Loads**
- 6.4.1 Abnormal loads could occasionally be generated through the harbour (estimated to be 2 - 3 per month). Abnormal load requirements vary in weight, length and width and normal practice is to determine the ability of the road network to accommodate specific loads when plans are being made to receive such a delivery. This would be done in conjunction with the police and local authorities where necessary to determine that an appropriate route is available. This process would be expected to occur beyond completion of the harbour, allowing specific requirements to be identified and managed in future at the appropriate time.
- 6.4.2 Nevertheless a preliminary assessment has been made of abnormal loads routing between Wellington Road and the new harbour. Through Swept Path Analysis it has been determined that a route south via Coast Road would be suitable for abnormal loads of up to 25m in length. Beyond that length the approaches to the existing railway bridge on Coast Road prove to be a constraint. Drawing numbers 100011/9003, 100011/9004 and 100011/1908 in Appendix F present Swept Path Analysis demonstrating that an abnormal load up to 25m in length could negotiate the route between the proposed harbour and Wellington Road via Langdykes Road. Travel via Hareness Road may also be possible. Network Rail would need to be consulted in advance regarding any abnormal load routing proposal.
- 6.4.3 From Wellington Road vehicles can reach the A90(T) which provides access to the wider network to the north, south and west.
- 6.4.4 Abnormal loads greater than 25m in length could potentially pass through Torry, subject to a specific route assessment being made prior to planning the abnormal load delivery.

7 Traffic Impact Analysis

7.1 Base Traffic

7.1.1 Agreement was reached with Aberdeen City Council during scoping discussions that an assessment of capacity at relevant junctions could be made utilising traffic flows contained within ACC's 2020 Paramics model, which takes account of the effect that the AWPR will have. The Paramics model also makes an allowance for traffic generation from sites that are allocated in the 2012 LDP. The 2020 Paramics model reflects the year of opening for the proposed harbour. Figures 3 and 4 from the Scoping Statement in Appendix A show AM (07:30 – 08:30) and PM (16:30 – 17:30) network peak hour traffic flows respectively across the surrounding highway network, based on the Paramics model.

7.2 Committed Development

7.2.1 During scoping discussions with ACC it was agreed that the traffic impacts from the following committed developments would be considered within the TA.

- Loirston Development (1,067 houses)
- Office Development at Hareness Road

7.2.2 The Council's 2020 Paramics model already makes an allowance for development at Loirston, though it may not be representative of 1,067 houses. The 2032 Paramics model makes a fuller allowance for development at Loirston, and it was therefore agreed with ACC that Loirston traffic would be extracted from the 2032 Paramics model and applied to the 2020 model to represent full build out at Loirston. Traffic flows shown on Figures 3 and 4 include that allowance, and have been approved through scoping correspondence.

7.2.3 Committed traffic for the office development at Hareness Road has been extracted from the Transport Assessment that accompanied the Phase 3 application (Fairhurst Report Reference: 101161 - Project Noble Phase 3 Transport Assessment Addendum, May 2014). Figures 11 and 12 from the Scoping Statement in Appendix A show the AM and PM peak hour traffic movements respectively from the Hareness Road office development.

7.2.4 ACC also asked that traffic flows associated with a proposed waste management centre at Hareness Place also be taken into consideration within this Transport Assessment. A planning application by SITA is pending for a new Waste Management Facility at Hareness Place. Whilst it does not have planning permission at this time, this TA gives consideration to the traffic impacts associated with it. Figures 13 and 14 from the Scoping Statement show the AM and PM network peak hour traffic generation associated with the SITA proposal, extracted from the Transport Assessment that supported the planning application (Fairhurst Report Reference 104734/602 - Proposed Recycling and Resource Management Facility and Council Depot at Altens East, Transport Assessment).

7.2.5 Base 2020 AM and PM peak hour network traffic flows inclusive of all committed development traffic is shown on Figures 15 and 16 from the Scoping Statement in Appendix A. These were approved for use by ACC.

7.3 Assessment Years

7.3.1 Through scoping correspondence agreement was reached with ACC that the opening year for the proposed harbour would represent the only assessment year for traffic impacts. The anticipated year of opening is 2020, and the 2020 traffic flows from the Council's Paramics model have been used as the reference case.

7.4 Development Traffic Distribution

7.4.1 Traffic generated to and from the new harbour would be expected to have the same distribution patterns as the existing Aberdeen Harbour. Roadside surveys were conducted within Aberdeen Harbour to establish the general origin and destination of harbour traffic. Further analysis was undertaken to refine the origins and destinations for 'Aberdeen' traffic, so as to establish the expected routing of vehicles on primary roads. Development traffic distribution profiles for the proposed harbour were subsequently proposed within the Scoping Statement and agreed by ACC. HGV traffic has been assigned differently to light vehicles, as they would enter and exit the new harbour from the south via Hareness Road only. Light vehicles may enter and exit via Torry in addition to Altens. The assignment of light and HGV development traffic is shown on Figures 1 and 2 in the Scoping Statement enclosed in Appendix A.

7.4.2 Based on Figure 1, the assignment of light development traffic is shown on Figures 5 and 6 in the Scoping Statement for the AM and PM peak hours respectively. Based on Figure 2, the assignment of HGV development traffic is shown on Figures 7 and 8 in the Scoping Statement for the AM and PM peak hours respectively. Development traffic figures are those shown in Table 6-2. Figures 9 and 10 in the Scoping Statement subsequently show the overall flow of development traffic across the network during the AM and PM peak hours respectively.

7.5 Study Area

7.5.1 Through scoping correspondence with ACC agreement was reached that the Transport Assessment should include capacity analysis of any junction which would experience more than a 10% increase in entry flow on any arm during the network peak hours as a consequence of additional traffic from the proposed harbour. Figures 19 and 20 from the Scoping Statement in Appendix A present a threshold assessment illustrating the percentage impact that development traffic would have on the approach to significant junctions within the area during the AM and PM network peak hours respectively.

7.5.2 Based on the threshold assessment contained in the Scoping Statement, agreement was reached with ACC that the Transport Assessment study area should include the following junctions:

- Coast Road / Main Harbour Access
- Coast Road / St Fittick's Road / Greyhope Road
- Victoria Road / St Fittick's Road

- Coast Road / Hareness Road

7.5.3 In addition, it was agreed that an assessment of the shuttle traffic signals on the Coast Road railway bridge would also be included.

7.6 Junction Capacity Analysis

7.6.1 Transport Research Laboratory (TRL) software package Junctions 8 has been used to assess the operation and performance of priority controlled junctions. JCT Consultancy Limited software package LinSig Version 3 has been used to assess the shuttle traffic signals on the railway bridge.

7.6.2 The following modelling scenarios have been assessed for existing junctions:

- 2020 Base plus Committed Development Weekday AM and PM Peak Hours (Figures 15 and 16 from the Scoping Statement in Appendix A)
- 2020 Base plus Committed Development plus Harbour Development Weekday AM and PM Peak Hours (Figures 17 and 18 from the Scoping Statement in Appendix A)

7.6.3 Geometric values for the Coast Road / Hareness Road and Victoria Road / St Fittick's Road junctions have been measured from digital Ordnance Survey maps. Geometric values for the Coast Road / Main Harbour Access and Coast Road / St Fittick's Road / Greyhope Road junctions have been measured from digital design drawings, as these would be newly formed in connection with the development.

7.6.4 Assessment of the traffic signals on the Coast Road railway bridge is based on details of existing settings received from ACC, as well as on-site road measurements.

7.6.5 The following sections provide a summary of the traffic impact attributable to the proposed harbour development at each junction. Output is included within Appendix G, whilst electronic copies of model input and output files are available upon request.

7.7 Coast Road / Main Site Access Junction

7.7.1 This new junction has been assessed using the Junctions 8 'PICADY Module' and the results of the capacity assessment are summarised in Tables 7-1.

Coast Road / Main Site Access Junction Capacity Summary	2020 Base plus Committed plus Harbour			
	AM Peak		PM Peak	
Arm	RFC	Max Queue	RFC	Max Queue
Harbour Access – Left Turn	3%	0	7%	0
Harbour Access – Right Turn	2%	0	6%	0
Coast Road – Right Turn	7%	0	5%	0

Table 7-1: Coast Rd / Main Site Access Junction Capacity Summary

7.7.2 It is recognised that some junctions can begin to experience operational difficulties when any arm reaches a Ratio of Flow to Capacity (RFC) value of 0.85 (85% of capacity). However where associated queuing is light an arm operating above 85% RFC does not necessarily require to be improved.

7.7.3 Table 7-1 indicates that the proposed main harbour access would operate well within capacity during both weekday peak hours. RFC values would be low and there would generally be no queuing on any arm. The queuing results for right turning vehicles entering the site provides justification for the 18m turning length used within the ghost island design.

7.8 Coast Road / St Fittick's Road / Greyhope Road

7.8.1 This new junction has also been assessed using the Junctions 8 'PICADY Module' and the results of the capacity assessment are summarised in Table 7-2.

Coast Road / St Fittick's Road / Greyhope Road <i>Junction Capacity Summary</i>	2020 Base plus Committed plus Harbour			
	AM Peak		PM Peak	
Arm	RFC	Max Queue	RFC	Max Queue
Greyhope Road – Left Turn	3%	0	7%	0
Greyhope Road – Right Turn	2%	0	6%	0
Coast Road – Right Turn	0%	0	0%	0

Table 7-2: Coast Rd / St Fittick's Rd / Greyhope Rd Junction Capacity Summary

7.8.2 Table 7-2 indicates that the relocated Coast Road / St Fittick's Road / Greyhope Road junction would also operate well within capacity during both weekday peak hours. RFC values would be low and there would generally be no queuing on any arm.

7.9 Victoria Road / St Fittick's Road

7.9.1 This existing junction has also been assessed using the Junctions 8 'PICADY Module' and the results of the capacity assessment are summarised in Tables 7-3 and 7-4.

Victoria Road / St Fittick's Road <i>AM Junction Capacity Summary</i>	2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	RFC	Max Queue	RFC	Max Queue
St Fittick's Road – Left Turn	1%	0	1%	0
St Fittick's Road – Right Turn	1%	0	1%	0
Victoria Road – Right Turn	2%	0	2%	0

Table 7-3: Victoria Rd / St Fittick's Rd Junction Capacity Summary AM Peak

Victoria Road / St Fittick's Road <i>PM Junction Capacity Summary</i>	2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	Arm	RFC	Max Queue	RFC
St Fittick's Road – Left Turn	2%	0	2%	0
St Fittick's Road – Right Turn	1%	0	1%	0
Victoria Road – Right Turn	2%	0	2%	0

Table 7-4: Victoria Rd / St Fittick's Rd Junction Capacity Summary PM Peak

7.9.2 Tables 7-3 and 7-4 demonstrate that the Victoria Road / St Fittick's Road will operate well within capacity during both weekday peak hours in 2020. The inclusion of development traffic from the proposed harbour would have almost no effect on the junction, allowing it to continue to operate well within capacity. RFC values would be low and there would generally be no queuing on any arm.

7.9.3 No improvements would be required to the existing junction in order to accommodate the proposed harbour development.

7.10 Coast Road / Hareness Road

7.10.1 This existing junction has also been assessed using the Junctions 8 'PICADY Module' and the results of the capacity assessment are summarised in Tables 7-5 and 7-6.

Coast Road / Hareness Road <i>AM Junction Capacity Summary</i>	2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	Arm	RFC	Max Queue	RFC
Hareness Road – Left Turn	8%	0	14%	0
Hareness Road – Right Turn	3%	0	3%	0
Coast Road – Right Turn	50%	1	53%	1

Table 7-5: Coast Rd / Hareness Rd Junction Capacity Summary AM Peak

Coast Road / Hareness Road <i>PM Junction Capacity Summary</i>	2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	Arm	RFC	Max Queue	RFC
Hareness Road – Left Turn	70%	2	76%	3
Hareness Road – Right Turn	62%	2	66%	2
Coast Road – Right Turn	8%	0	8%	0

Table 7-6: Coast Rd / Hareness Rd Junction Capacity Summary PM Peak

- 7.10.2 Table 7-5 indicates that under AM peak hour baseline conditions in 2020 the junction will operate within capacity with a maximum RFC value of 50%, experienced by right turners on Coast Road. A maximum queue of 1 vehicle is predicted. The addition of traffic associated with the proposed harbour would increase the maximum RFC values by only 3% and would have almost no effect on queuing.
- 7.10.3 Table 7-6 indicates that under PM peak hour baseline conditions in 2020 the junction will operate within capacity with a maximum RFC value of 70%, experienced by left turners on to Coast Road. A maximum queue of 2 vehicles is predicted. The addition of traffic associated with the proposed harbour would increase the maximum RFC value by 6% to 76%, and increase queuing by 1 vehicle. The junction would continue to operate within capacity.
- 7.10.4 Junction analysis demonstrates that the Coast Road / Hareness Road junction has sufficient capacity to accommodate the harbour development with no need for any junction improvements.

7.11 Coast Road Railway Bridge

- 7.11.1 The Coast Road railway bridge has been analysed using LinSig 3 software. The arrangement currently in place at this location involves traffic signals which allow only one stream of vehicles to cross at a time. Information regarding operation of the traffic signals has been obtained from ACC and an assessment of the existing situation has been undertaken utilising a cycle time of 110 seconds and intergreen period of 16 seconds, which is the confirmed intergreen time. The existing layout has a distance of approximately 145m between the northbound and southbound stop lines. Allowing for a typical distance of 9m per second of intergreen, this yields the 16 second value.
- 7.11.2 The results of the LinSig assessment for the AM and PM peak hours is summarised in Table 7-7 below for the existing situation.

Coast Road Railway Bridge Capacity	AM Peak Hour				PM Peak Hour			
	2020 Base plus Committed		2020 Base plus Committed plus Harbour		2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
Northbound	45.7%	6.3	55.5%	8.0	57.3%	10.4	65.1%	12.7
Southbound	46.5%	7.2	51.7%	8.2	56.6%	6.4	73.9%	9.3
Cycle Time	110 seconds		110 seconds		110 seconds		110 seconds	
PRC	93.7%		62.1%		57.1%		21.8%	
Delay (pcuHr)	5.01		6.15		6.26		8.62	

Table 7-7: Coast Rd Railway Bridge Capacity Summary – Existing Layout

- 7.11.3 Signal controlled junctions may begin to experience operational and performance difficulties when DoS (Degree of Saturation) levels exceed 90%. LinSig analysis of the existing railway bridge signals utilising traffic flows from ACC's Paramics model indicates that during both the AM and PM peak hour the traffic signals will operate

within capacity with minimal queuing. The PM peak hour has the most onerous conditions, with a maximum DoS of around 57% and ample Practical Reserve Capacity (PRC) of 57.1%.

- 7.11.4 Analysis indicates that the addition of harbour traffic would increase queuing and delay at the traffic signals, but they would continue to operate within capacity with DoS values below 90%. During the AM peak hour the harbour traffic is shown to increase queuing by around 1 – 2 vehicles and delay by around 1.1 second per vehicle. PRC would reduce from 93.7% to 62.1%. During the PM peak hour the harbour traffic is shown to increase queuing by around 2 – 3 vehicles and delay by around 2.4 second per vehicle. PRC would reduce from 57.1% to 21.8%.
- 7.11.5 Traffic analysis utilising traffic flows from ACC's Paramics model indicates that the shuttle traffic signals at the railway bridge will operate within capacity once new harbour traffic is added to the network. It is acknowledged that observed queuing at the bridge during weekday peak periods is currently greater than what is shown by LinSig analysis. The difference lies in the level of traffic that has been modelled. Results shown in Table 7-7 are based on traffic flows extracted from ACC's 2020 Paramics model, which allows for the effects of the AWPR. These are shown on Figures 15 and 16 from the Scoping Statement in Appendix A and were approved for use in the TA by ACC. Traffic flows surveyed in September 2013, and shown in Table 3-3, revealed higher peak hour flows than what is included in the Paramics model. The 2013 surveys (Monday to Thursday average) showed 268 additional vehicles during the AM peak hour and 113 additional vehicles during the PM peak hour. Surveys indicate that more traffic crosses the railway bridge during weekday peak hours than the Paramics model allows for, which would result in increased queue lengths and delay.
- 7.11.6 Measures have been considered to mitigate the effects of the additional harbour traffic on the railway bridge traffic signal operation. A balance is required so that improvements mitigate the effects of the additional harbour traffic but do not attract additional traffic to the Coast Road route which would induce more traffic through Torry, causing detriment to residential amenity. A solution which broadly achieves no net detriment to queue lengths and delay in comparison to the no harbour scenario would accommodate the additional harbour traffic without inducing more traffic to the route because journey times over the Coast Road would remain unchanged.
- 7.11.7 An assessment has been undertaken to determine if the intergreen period at the traffic signals could be reduced by relocating the stop lines closer together. Based on Swept Path Analysis and observations of traffic movements over the railway bridge, Fairhurst conclude that the stop lines are currently further apart than they need to be. Investigations suggest that the distance between the stop lines could be reduced to approximately 90m, which would allow the intergreen time to be reduced to 10 seconds (a reduction of 6 seconds from existing). Drawing numbers 100011/1904A, 100011/1905 and 100011/1906 are included in Appendix F and provide Swept Path Analysis for various vehicles, which supports the potential to move the existing stop lines closer together by approximately 55m. This potential is confirmed by on-site observations.
- 7.11.8 The ability to gain 6 seconds each time the signals change creates potential for a significant improvement in the operation of the traffic signals. Based on first

principles, one vehicle crosses the stop line every 2 seconds so during each cycle there would be 12 seconds of extra time available for a green signal allowing up to 6 additional vehicles to cross the stop line. Over the course of a peak hour, where there would be around 33 cycles, there would therefore be capacity for almost 200 additional vehicles to be accommodated through the traffic signals. The weekday peak hour which would experience the highest harbour traffic generation over the railway bridge is the PM peak hour, where 68 vehicles would be generated. Allowing for a Passenger Car Unit (PCU) factor of 2.3 for HGVs, the equivalent PCU value would be only 128 vehicles. An assessment based on first principles shows that by reducing the intergreen time the additional harbour traffic would be accommodated at peak times with no net detriment to the traffic signal operation.

7.11.9 Figures 9 and 10 contained within the Scoping Statement in Appendix A show that the additional harbour traffic that would cross the bridge would be only 55 vehicles during the AM peak hour and 68 vehicles during the PM peak hour. An assessment based on first principles therefore suggests that the reduction in intergreen time to 10 seconds as a consequence of moving the stop lines 55m closer together would mitigate the impacts of the additional harbour traffic. Indeed an assessment based on first principles would indicate that reducing the intergreen period by only 4 seconds, corresponding with moving the stop lines only 36m closer together, would allow an additional 132 vehicles to cross the bridge at peak times which would still mitigate the effects of additional harbour traffic.

7.11.10 Fairhurst have modelled the effect of reducing the intergreen time to 10 seconds by moving the stop lines 55m closer together. Table 7-8 below presents the results of the analysis alongside the 'do nothing' scenario which is based on the existing layout with a 16 second intergreen time.

Coast Road Railway Bridge Capacity	AM Peak Hour				PM Peak Hour			
	2020 Base plus Committed		2020 Base plus Committed plus Harbour		2020 Base plus Committed		2020 Base plus Committed plus Harbour	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
Northbound	45.7%	6.3	46.5%	7.0	57.3%	10.4	59.6%	11.4
Southbound	46.5%	7.2	46.5%	7.5	56.6%	6.4	58.2%	8.0
Cycle Time	110 seconds		110 seconds		110 seconds		110 seconds	
Intergreen	16 seconds		10 seconds		16 seconds		10 seconds	
PRC	93.7%		93.6%		57.1%		51.1%	
Delay (pcuHr)	5.01		5.07		6.26		6.74	

Table 7-8: Coast Rd Railway Bridge Capacity Summary – Revised Layout

- 7.11.11 LinSig analysis summarised in Table 7-8 indicates that reducing the intergreen period to 10 seconds by moving the stop lines 55m closer together would broadly achieve no net detriment, with queuing and delay remaining as per reference case conditions after additional harbour traffic is added to the network.
- 7.11.12 Further improvements could be considered by introducing Microwave Vehicle Detector (MVD) technology which could detect vehicles on the bridge and alter the intergreen period accordingly so as to give a variable intergreen rather than a fixed time period. The benefit would be that if vehicles have cleared the shuttle area before 10 seconds have passed then the intergreen could be automatically reduced in real time for that cycle, allowing the opposing traffic stream to commence quicker leading to less delay.
- 7.11.13 Use of MVDs has further benefits for cyclists. Coast Road over the railway bridge is currently part of the National Cycle Network, though surveys indicate that few cyclists use the route. Cyclists travelling at a comfortable speed could cover approximately 3.5m/s. Based on the current distance of 145m between the stop lines a cyclist would take approximately 41 seconds to cross the entire shuttle area. The current fixed intergreen period of 16 seconds is not long enough to allow a cyclist to complete the movement before vehicles in the opposing stream are released by the traffic signals.
- 7.11.14 Reducing the distance between the stop lines to 90m would reduce the time taken for cyclists to clear the shuttle area to 26 seconds. Making use of MVDs would allow the intergreen period to be variable, so that the all red period could be held for long enough to allow cyclists to clear the bridge. Given that there are few cyclists using Coast Road the capacity implications would be minimal, particularly off peak, and would be acceptable in the interest of road safety.
- 7.11.15 In connection with the Harbour expansion a new section of off-road cycle path is proposed on the east side of the railway line running parallel with Coast Road from the railway bridge to a point north of Hareness Road, which would become part of NCR1. This would eliminate the need for cyclists to cross the entire length of the railway bridge shuttle area, reducing intergreen requirements for cyclists.

7.12 **Link Capacity**

- 7.12.1 The harbour development would generate traffic on to the local road network and an assessment of capacity on local roads between the junctions in the study area can also be made. Within the vicinity of the proposed harbour Coast Road measures 7.3m in width between St Fittick's Road and the railway bridge which is considered to be suitable based on the road classification and level / composition of traffic that it carries. Likewise St Fittick's Road heading west towards Torry has a 9m wide carriageway which is more than sufficient.
- 7.12.2 The southern 1.2km section of Coast Road between the railway bridge and Hareness Road has a variable width generally between 6.0 – 6.6m. It connects to Hareness Road which is a wide industrial road capable of accommodating large vehicles. The southern section of Coast Road has the narrowest width and so it is where the impacts of additional traffic would be expected to be greatest. The capacity of this section of Coast Road can be considered in accordance with DMRB standards.

7.12.3 DMRB Volume 5 TA46/97 'Traffic Flow Ranges for use in the Assessment of New Rural Roads' provides guidance within Chapter 3 of the level of traffic that can be supported by various road standards and widths. Paragraph 3.8 notes that *'The congestion threshold is a measure of the maximum achievable hourly throughput of a link which should be considered as part of the scheme operational appraisal. Any increase in demand above this threshold can lead to flow breakdown, queuing and reduced throughput. It depends on many physical characteristics, for example, the proportions of different vehicle types, driver behaviour, distance between junctions, etc. It is not appropriate to define a fixed threshold value for any particular road standard. However, it is possible to estimate the maximum hourly throughput and it may be desirable to relate this to a daily flow. The threshold may be expressed in terms of annual average daily traffic (AADT) by identifying the likely ratio of peak to daily flow and applying this to the threshold hourly value. The resulting AADT is known as the Congestion Reference Flow (CRF).'*

7.12.4 The derivation of CRF is provided within TA46/97 Annex D which comments that *'The Congestion Reference Flow (CRF) of a link is an estimate of the Annual Average Daily Traffic (AADT) flow at which the carriageway is likely to be 'congested' in the peak periods on an average day. For the purposes of calculating the CRF, 'congestion' is defined as the situation when the hourly traffic demand exceeds the maximum sustainable hourly throughput of the link. At this point the effect on traffic is likely to be one or more of the following: flow breaks down with speeds varying considerably, average speeds drop significantly, the sustainable throughput is reduced and queues are likely to form. This critical flow level can vary significantly from day to day and from site to site and must be considered as an average. The CRF is a measure of the performance of a road link between junctions.'*

7.12.5 The CRF of a link is given by the following formula which is appropriate for assessing road widths between 5.5 – 11.0m:

CRF = CAPACITY * NL * Wf * 100/PkF * 100/PkD * AADT/AAWT where,

- CAPACITY is the maximum hourly lane throughput
- NL is the Number of Lanes per direction
- Wf is a Width Factor
- PkF is the proportion (percentage) of the total daily flow (2-way) that occurs in the peak hour
- PkD is the directional split (percentage) of the peak hour flow
- AADT is the Annual Average Daily Traffic flow on the link
- AAWT is the Annual Average Weekday Traffic flow on the link

7.12.6 In order to calculate CRF some of the component values from the formula first need to be derived.

7.12.7 Capacity is described as *'the maximum sustainable hourly lane throughput. For new links and existing links not currently experiencing congestion this can be estimated from the following relationship:*

CAPACITY = [A - B * Pk%]H

where, $Pk\%H$ is the percentage of 'Heavy Vehicles' in the peak hour. The term 'Heavy Vehicles' always includes the vehicle categories OGV1, OGV2 and PSV's according to the COBA definition'.

7.12.8 A and B in the capacity calculation are fixed values. For a single carriageway road A is 1380 and B is 15. $Pk\%H$ for Coast Road has been based on PM peak hour conditions which experience higher levels of HGV activity than the AM peak hour, making for a robust assessment. PM peak hour traffic on Coast Road is shown on Figure 18 in the Scoping Statement in Appendix A. It shows northbound flow of 485 vehicles and southbound flow of 258 vehicles. That includes 34 heavy vehicles northbound (9 from the base Paramics model and 25 from the harbour traffic), and 30 heavy vehicles southbound (9 from the base Paramics model and 21 from the harbour traffic). Maximum $Pk\%H$ per lane is therefore in the southbound direction and is $30/258 = 11.63\%$.

7.12.9 The width factor of a single carriageway road is defined by the formula

$$Wf = (0.171 * \text{Carriageway Width}) - 0.25$$

7.12.10 With respect to the southern section of Coast Road, the various values from the CRF formula are as follows, based on the 2020 harbour year of opening and inclusive of harbour traffic:

- Capacity = $[1380 - 15 * 11.63] = 1206$
- NL = 1
- $Wf = (0.171 * 5.7) - 0.25 = 0.7247$
- PkF = 15.66% (Based on Monday to Thursday flows - See Table 3-3)
- PkD = 69% (Based on PM peak which has largest directional split – See Table 3-3)
- AADT = 4919 (Agreed with ACC through discussions relating to Air Quality and Noise Assessments)
- AAWT = 5924 (Agreed with ACC through discussions relating to Air Quality and Noise Assessments)

7.12.11 The CRF for the southern section of Coast Road is therefore calculated as being:

$$CRF = 1206 * 1 * 0.7247 * 100/15.66 * 100/69 * 4919/5924 = 6716$$

7.12.12 The CRF calculation indicates that Coast Road in its current form, and based on flow compositions inclusive of harbour traffic, would become congested at peak times once AADT reaches 6,716 vehicles. It has been agreed with ACC through scoping discussions that AADT on the southern section of Coast Road will be 4,919 vehicles inclusive of harbour traffic. An assessment of link capacity (based on the 5.7m wide pinch point) therefore indicates that the southern section of Coast Road, with widths generally between 6.0 – 6.6m, can accommodate the harbour traffic without leading to congestion or flow breakdown. Daily traffic levels on Coast Road may actually reduce upon opening of the AWPR.

- 7.12.13 On the basis that the existing carriageway is sufficiently wide to accommodate the development traffic without causing congestion and flow breakdown on the link, no carriageway widening is deemed to be necessary to mitigate the development traffic. Surveys in September 2013 revealed that Coast Road carried 751 HGVs per day two way on average Monday to Thursday, which included 97 articulated lorries. The road already accommodates large vehicles.
- 7.12.14 Advice from DMRB Volume 6 TD27/05 'Cross-Sections and Headrooms' broadly correlates with the findings of the CRF calculations. Chapter 4 of the manual relates to highway cross-sections and notes regarding paved widths that *'The dimensions of the components of the Paved Width must be as given in Figure 4-1a to Figure 4-4b. Any reduction or increase in these dimensions is a Departure from Standard, with the exception that: 6.0m single carriageway all-purpose roads are permitted in Scotland and Northern Ireland for design year flows of 5000 AADT or less'*.
- 7.12.15 The agreed design year AADT of Coast Road is less than 5,000 vehicles inclusive of harbour traffic. Under those circumstances, the DMRB permits all purpose roads in Scotland to have a 6m road width, which Coast Road generally conforms to.
- 7.12.16 The inclusion of harbour traffic would increase the frequency of large vehicles meeting on Coast Road between Hareness road and the railway bridge. Traffic surveys at that location in September 2013 showed that the average traffic flow from Monday – Thursday comprised an hourly maximum of 77 HGVs using Coast Road, which occurred between 07:00 – 08:00 (48 southbound and 29 northbound) and also between 16:00 – 17:00 (34 southbound and 42 northbound).
- 7.12.17 Based on the most onerous existing traffic flows between 16:00 – 17:00 the frequency of HGVs passing on the section of Coast Road between Hareness Road and the railway bridge can be estimated. It would take approximately 1 minute for an HGV to travel the 1.2km section of Coast Road at a speed of 40mph (64kph). If HGVs were to be released equally spaced apart over an hour, there would be 1 per 106 seconds southbound and 1 per 86 seconds northbound. At that rate each HGV could expect to pass at least 1 HGV on the section of Coast Road.
- 7.12.18 Data from Table 6-1 indicates that peak harbour HGV generation is expected during the 2 hours from 14:00 – 16:00 on weekdays. Upon opening of the harbour the peak one hour combination of existing and harbour HGVs would be 139 occurring between 15:00 – 16:00 (73 southbound and 66 northbound). This assumes no reduction in existing HGV levels as a consequence of the AWPR, though the Council's Paramics model suggests that there would be a reduction in existing HGVs using the route. If HGVs were to be released equally spaced apart over an hour, there would be 1 per 49 seconds southbound and 1 per 55 seconds northbound. At that rate each HGV could expect to pass at least 2 HGVs on the section of Coast Road.
- 7.12.19 The harbour would increase the number of HGVs using Coast Road and the frequency at which they pass on the section of road between Hareness Road and the railway bridge. The peak hourly number of HGVs using the route would be 81% higher than at present. On average HGVs currently pass at least 1 other HGV travelling in the opposing direction between Hareness Road and the railway bridge at peak times. Upon opening of the harbour the frequency of HGVs passing each other would increase, with each passing an average of 2 HGVs at peak times. The frequency of HGVs passing during the construction phase would be similar. Given the

existing frequency of HGVs passing one another on the route, the increase is considered to be manageable based on the existing road geometry.

8 Travel Plan Framework

8.1 Introduction

- 8.1.1 A Travel Plan can often have greatest effect on those who make regular daily trips to a location, and therefore they often focus on staff movements. In addition, employers can impart greatest influence on employees through Travel Plan measures. Nonetheless, Travel Planning measures can also be aimed at influencing the way that infrequent visitors travel to the site. In all cases the nature of the business and reason for travelling are important factors which influence how a person travels.
- 8.1.2 Whilst the new harbour would be a major development, the number of staff that would be based there would be relatively low. Hence the number of staff trips would also be low, and modal shift due to Travel Planning measures would only ever involve a small number of staff trips.
- 8.1.3 There is potential to extend travel planning measures to also encourage infrequent visitors to travel to and from the harbour by sustainable means. Typically these trips would relate to freight deliveries, travel by crew members, travel by tourists, and travel by maintenance workers. Naturally there are some aspects of these trips that cannot be changed, particularly freight deliveries. However Travel Planning could influence route choice for freight, and potentially delivery times too.
- 8.1.4 The majority of trips by crew members and tourists would generally be by sustainable means as passengers on visiting ships would not have a car. Transport would be arranged for tourists by means of private coach, whilst crew members would have the opportunity to travel in to Aberdeen by bus or taxi in particular. The harbour proposal includes provision of a bus and taxi stop and turning circle to enable an extension of public transport services so as to provide sustainable transport links, encouraging their use.
- 8.1.5 The new harbour would be an expansion of Aberdeen Harbour, and Travel Plan procedures used at the existing harbour would be expanded to incorporate the new harbour. This could involve separate sections relating specifically to travel generated by the new harbour, such as tourist travel.
- 8.1.6 Within scoping correspondence it was agreed that the TA would include a Travel Plan Framework section, as a fully developed Travel Plan relating specifically to the new harbour cannot be completed until specific journey information is known. It is anticipated that a planning condition could be applied requiring a Travel Plan to be completed at a later date. An update to an existing Aberdeen Harbour Travel Plan may be most appropriate.
- 8.1.7 The following sections include typical information that the future Travel Plan should confirm.

8.2 Travel Plan Management

- 8.2.1 The Travel Plan needs to identify who would take on the role of Travel Plan Co-ordinator (TPC). The TPC will play a pivotal role in managing the Travel Plan and

working in a collaborative manner to achieve a reduction in vehicle trips and reducing the impact of residual vehicle trips.

8.2.2 The identified TPC will have overall responsibility for implementing and monitoring the Travel Plan. They will highlight and market the contents of the Travel Plan to staff, oversee the implementation of the Travel Plan, and monitor its progress. They will report to the Travel Plan Officer at Aberdeen City Council as necessary.

8.3 Travel Plan Aims

8.3.1 The aim of the Travel Plan would be to reduce vehicle usage to the harbour, particularly single occupancy trips. This would be achieved through the introduction of measures to be employed by Aberdeen Harbour to encourage sustainable travel.

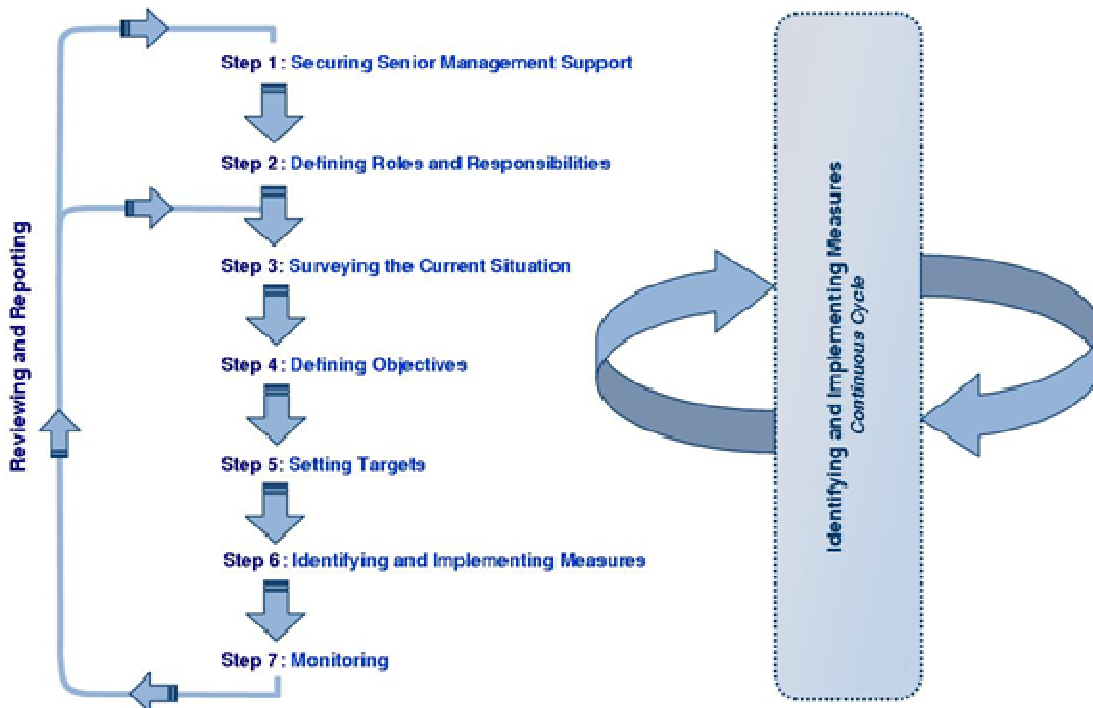


Figure 8-1: Travel Plan Steps

8.3.2 In order to establish a set of objectives the existing issues, barriers and incentives should be addressed to encourage sustainable mode choice.

8.4 Objectives

8.4.1 The Travel Plan could include the following objectives relating to staff travel:

- Reduce the need for travel during working hours
- Increase awareness among staff of travel choices, environmental implications of travel, and health benefits of sustainable travel
- Facilitate and promote more active forms of travel
- Increase the share of staff travelling to work by walking, cycling or public transport
- Reduce car use and in particular private car use

- To ensure the Travel Plan is reviewed, monitored and updated regularly

8.4.2 Similar objectives can be pursued with regard to infrequent visitors, which the Travel Plan should recognise.

8.5 **Delivery and Implementation Strategy**

8.5.1 Successful delivery and implementation of a Travel Plan can improve accessibility by sustainable modes, positively affect modal choice for journeys to work and reduce congestion on the road network. The most important measure of a Travel Plan's success is its effect on travel behaviour through reduced single occupancy car use and promotion of more sustainable forms of travel.

8.5.2 To assist in the delivery of a successful Travel Plan for the harbour the following strategy will be pursued:

- Appointment of a Travel Plan Co-ordinator to oversee the implementation and management of the Travel Plan.
- Implementation of measures to promote sustainable travel.
- The Travel Plan Co-ordinator will prepare the updated Travel Plan with specific reference to the new harbour, and the objective to reduce car trips by employees and where possible visitors.
- Establish the travel pattern to the harbour through a programme of Staff Travel Surveys to be undertaken annually. In addition, a Staff Travel Survey would also need to be undertaken 3 months after first occupation of the harbour to establish the base line.
- Set clear modal shift targets with specific dates for their achievement.
- Monitor the progress of the Travel Plan at regular intervals.

8.6 **Appointment of a Travel Plan Co-ordinator**

8.6.1 The key to successful implementation of a Travel Plan is staff involvement at all stages. Consultation will be achieved via the Travel Plan Co-ordinator. Once appointed, the name and contact details of the Travel Plan Co-ordinator will be provided to the Council.

8.6.2 The Travel Plan Co-ordinator will be responsible for:

- Updating the Travel Plan, including preparation of travel surveys to be undertaken and agreement of travel mode share targets.
- Being the point of contact for travel information, including preparation and distribution of up to date travel information packs on a regular basis.
- Liaising with public transport operators, planning / highway authorities and other stakeholders to explore the potential for sustainable travel improvements.
- Promoting and marketing the Travel Plan within the company, including provision of up to date information on regional and national initiatives / promotional events, e.g. National Bike Week.

- Monitoring progress of the Travel Plan through co-ordinating repeat surveys and using the findings to develop new measures as necessary to encourage sustainable travel.
- Regularly reviewing the aims / objectives of the Travel Plan, implementing any new Travel Plan measures and setting revised travel targets.
- Monitoring use of the car park.
- Monitoring freight access to the harbour
- Annual review of the progress of the Travel Plan with the Council.

8.7 Staff Travel Survey

8.7.1 A Staff Travel Survey should be undertaken for the harbour in order to gain insight in to travel characteristics associated with staff travel to the site. This should consider how the member of staff has travelled to work, and why they chose that mode of transport.

8.7.2 Within the first 3 months of the harbour becoming operational, the Travel Plan Co-ordinator will ensure that a Staff Travel Survey is carried out to establish travel patterns and obtain views of staff with regard to existing barriers to sustainable travel, as well as any measures that could potentially be implemented to encourage sustainable travel. The survey data would be collected via self-completion questionnaires issued to staff, and passed to the Travel Plan Co-ordinator who can compare findings and co-ordinate any necessary measures in response. In addition to this, an annual staff survey would also be undertaken on a selected survey date.

8.7.3 Surveys can be undertaken electronically or by paper means to capture the required data. Once the surveys have been completed and analysed the existing Travel Plan can be updated with new travel targets. An example of a Staff Travel Survey is contained within Appendix H.

8.8 Travel Plan Measures

8.8.1 This section sets out a range of measures that will assist in achieving the aims and targets of the Travel Plan. Aberdeen Harbour will allocate reasonable resources to ensure that the identified measures can be considered and implemented.

8.8.2 A number of measures either already exist or will be implemented as part of the proposed harbour development which will contribute towards the aim of reducing single occupancy car travel. These measures are:

- Provision of 8 secure and sheltered cycle parking spaces to encourage cycling to work.
- Provision of 5 dedicated motor cycle spaces.
- A pedestrian link to the existing footway on St Fittick's Road.
- Improvements to NCR1.
- Provision of a new bus stop and turning facility, which could also be used by taxis.

- Organised coach transfers for tourist visitors.
- Preparation of Sustainable Travel Information Packs and promotional material aimed at informing staff and visitors of their travel choices.
- Appointment of a Travel Plan Co-ordinator to manage the Travel Plan.

8.8.3 Staff and visitors will have a number of travel options from a variety of local origins. The following tables present additional measures that can be considered by Aberdeen Harbour for inclusion within the updated Travel Plan, set out in two categories:

- **IMPLEMENT** – These measures should be implemented within a specified time from occupation.
- **CONSIDER** – These measures should be considered for implementation if justified by the findings of the Travel Survey and/or an assessment of feasibility/deliverability.

8.8.4 The measures are also given timescales for action:

- **SHORT** – up to 3 months
- **MEDIUM** – 3 months to a year
- **LONG** – over a year

8.8.5 Proposed measures are set out in the following sections of the Plan.

Management of the Plan

STATUS	ACTION	COMMENTS	TIMESCALE
Implement	Senior management support.	This is key to the success of the Travel Plan.	Immediate – Prior to Occupation
Implement	Appointment of Travel Plan Co-ordinator.	Co-ordinator role to be identified in the management structure.	Immediate – Prior to Occupation
Implement	Clearly identify role/position of Travel Plan Co-ordinator within management hierarchy.	Identify person responsible for allocating funding and staff time for implementation of the Travel Plan.	Immediate – Prior to Occupation
Implement	Staff Travel Survey.	Key to obtaining up to date information.	Short – 3 months

Actions for Raising Awareness and Marketing the Plan

STATUS	ACTION	COMMENTS	TIMESCALE
Implement	All staff will be made aware of the contents of the Travel Plan and will be encouraged to travel by sustainable transport.	The Plan will be actively marketed to seek staff co-operation and encourage 'ownership' of the Plan.	Immediate – Prior to Occupation
Implement	Travel Plan Co-ordinator to operate an open door policy to encourage participation.	Imperative to obtain the thoughts of staff in order to identify existing boundaries	Immediate – Prior to Occupation
Implement	Issue a Travel Information Pack to all staff as part of the induction process.	Pack to set out current information on sustainable travel options.	Immediate – Prior to Occupation
Implement	Travel Awareness to be targeted at all staff on site. Suitable communications media to be identified.	Important to publicise success and keep staff informed.	Medium – 12 months
Consider	Promotional events.	Advertise and promote participation in national events such as national bike week.	Ongoing
Consider	Raise awareness of Travel Planning through Aberdeen Harbour website	Website to promote sustainable means of travel for staff and office visitors.	Immediate – Upon Occupation

Actions to Promote Public Transport

STATUS	ACTION	COMMENTS	TIMESCALE
Implement	Publicity of taxi details and public transport routes, timetables and travel information lines for staff and visitors.	Current information to be displayed in public area. Promote bus and rail websites and on-line journey planning tools.	Immediate – Prior to Occupation
Consider	Subsidised bus travel	Incentives to encourage staff to travel by public transport rather than car	Long – Over 12 months

Actions to Promote Walking and Cycling

STATUS	ACTION	COMMENTS	TIMESCALE
Implement	Provision of secure covered cycle parking and monitoring of usage.	Parking for 8 bicycles will initially be provided.	Immediate – Prior to Occupation
Implement	Display up to date information on local walking and cycling routes.	Information to be displayed where it can be viewed by staff and visitors.	Immediate – Upon Occupation
Consider	Shower, changing and locker facilities.	To be available to any staff that walk or cycle to work.	Immediate – Prior to opening
Consider	Ongoing promotion of cycling and walking as part of healthy living. Promote walking/cycling for special events e.g. bike2work week.	Travel Plan Co-ordinator to regularly distribute information and hang posters on staff notice boards.	Short – 3 months
Consider	Offering staff access to a government backed scheme for the tax efficient purchase of a bicycle.	Many websites available e.g. www.cyclescheme.co.uk	Medium – 6 months
Consider	Participation in wider cycling measures.	Measures may typically include participation in a local bicycle user group, provision of advice/training on safe cycling, arranging discounts with local cycle retailer etc.	Medium – 12 months

Actions to Reduce Car Use/ Modify Driving Behaviour

STATUS	ACTION	COMMENTS	TIMESCALE
Implement	Provide facilities for staff that travel by motorcycle.	5 motorcycles space will be provided.	Immediate – Prior to Occupation
Implement	Promote car sharing.	Where appropriate and to meet the needs of the business.	Medium – 12 months
Consider	Flexi-time schemes	Could enable an employee to alter their work pattern to match transport timetables	Short – 3 months
Consider	Guarantee lift home scheme.	Consider guaranteed lift home in times of emergency for those who do not drive to work	Medium – 12 months
Consider	Provision of pool cars or Car Club for staff that travel by car during the day. Ensure that any new lease cars are fuel efficient.	This would have to meet business needs.	Long – Over 12 months

8.9 **Monitoring**

- 8.9.1 Aberdeen Harbour will be required to assess staff travel patterns within 3 months of the occupation of the new harbour through a staff questionnaire. Thereafter surveys will be undertaken annually on the same agreed date with the council. The results of this survey will then be collated and reviewed by the Travel Plan Co-ordinator to determine the modal share for the harbour. Results will be used to identify specific measures to be incorporated into the Travel Plan document in future.
- 8.9.2 Information on current travel behaviour will be summarised and circulated among staff through information boards and emails with key initiatives highlighted. Other sustainable travel alternatives to private car use will be promoted through information packs and email / intranet.
- 8.9.3 The Travel Plan Co-ordinator will assess the effects of the various initiatives annually, based on the travel survey results. The purpose of this monitoring is to:
- Provide continued awareness of how staff travel to the site
 - Assess performance against the aims and targets of the Plan
 - Demonstrate continued management support
 - Guide implementation of revised targets or further travel initiatives if necessary
- 8.9.4 The Travel Plan Co-ordinator will produce an annual monitoring report, which will be submitted to the Council. The report will include the Staff Travel Survey results, analysis of trends against previous surveys, brief details of marketing and promotional events during the past year and details of any new measures adopted. It will also include details of relevant changes in personnel associated with the Travel Plan.

8.10 **Review**

- 8.10.1 The Travel Plan is an organic document that will require periodic review of targets and measures, in consultation with the Council.
- 8.10.2 The first review should take place one year after the updated travel surveys have been undertaken, with further reviews annually thereafter.
- 8.10.3 Where monitoring has revealed issues with the progress of the Travel Plan, revised targets or further measures will be identified, and agreed with the Council, to address these issues.

8.11 **Action Plan**

- 8.11.1 Beyond planning consent the following actions would be taken to update and develop the Travel Plan.
- Confirmation / appointment of a Travel Plan Co-ordinator shortly after planning consent is granted.
 - Implementation of Travel Plan measures by Aberdeen Harbour prior to occupation of the harbour.

- Travel Plan Co-ordinator to regularly review public transport plans, timetables, and relevant policy and changes to the area affecting travel to the site.
- Travel Plan Co-ordinator to implement annual Staff Travel Surveys within 3 months of the harbour opening.
- Travel Plan Co-ordinator to prepare a Travel Plan within 6 months of harbour occupation, setting out Mode Share Targets for staff. This could be an update to an existing Aberdeen Harbour Travel Plan.
- Travel Plan Co-ordinator to review responses to the Staff Travel Survey annually and produce a Monitoring Report for discussion with ACC.
- Travel Plan Co-ordinator to update the Travel Plan on an annual basis responding to the Monitoring Report details, reviewing measures to be implemented and Mode Share targets for staff where appropriate.
- Travel Plan Co-ordinator to encourage implementation of new measures as necessary to respond to the results of Staff Travel Surveys, filtering information back through Aberdeen Harbour for implementation at a local level.

9 Summary and Conclusion

9.1 Summary

- 9.1.1 Aberdeen Harbour propose to construct a new harbour at Nigg Bay. The new harbour would represent an expansion of the existing Aberdeen Harbour, providing increased shipping capacity and the ability to accommodate larger vessels.
- 9.1.2 There is growing demand for increased capacity at Aberdeen Harbour. However there are constraints around the existing harbour which curtail expansion in the immediate vicinity, therefore expansion on a site outwith the immediate city centre has been considered crucial. The proposed site at Nigg Bay emerged as Aberdeen Harbour's preferred option for growth within their 'Directions for Growth' document, published in December 2012.
- 9.1.3 The proposals support the construction of a modern harbour facility within the bay, to provide a new deep-water facility that would provide much needed additional capacity for marine activity within Scotland which would support oil and gas, renewable energy investment, and potential to attract leisure cruise ships to the region.
- 9.1.4 The relationship and close proximity of a new harbour to the existing port facility at Aberdeen is important. The facilities offered at the existing port are critical for servicing the strong customer base located in the city and immediate region. Relocation or diversion of this business elsewhere would result in unsustainable traffic patterns and the potential loss of the skills and knowledge base that exists in Aberdeen.

9.2 Planning Policy Context

- 9.2.1 National Development Framework 3 sets out the Government's development priorities over the next 20-30 years and identifies national developments which support the development strategy. NDF3 identifies Expansion of Aberdeen Harbour as a National Development and Nigg Bay as the preferred option. Thus the proposal is established at the top tier of the planning hierarchy in Scotland.
- 9.2.2 Regional and local planning and transport policy support proposals to expand Aberdeen Harbour, recognising the harbour's importance to the local economy. The Proposed Aberdeen Local Development Plan (March 2015) allocates Nigg Bay for a new harbour, site reference OP62.
- 9.2.3 The Local Transport Strategy recognises that moving freight transport from road to sea would bring benefits to the road network across the country. An expansion of harbour facilities would support that aspiration, and is aligned with transport policy.

9.3 Development Proposal

- 9.3.1 The new harbour would include approximately 1,400m of new quay and two substantial breakwaters each over 600 metres long to the north and south. The quays and paved backup areas would provide over 140,000 square metres of working space. A small accommodation building is proposed for the 20 – 25 staff that would be based at the harbour.

- 9.3.2 An indicative work programme is for construction to commence in Q1 of 2017, with the harbour becoming operational in Q2 of 2020.
- 9.3.3 Proposals include realignment to Coast Road and Greyhope Road, requiring the existing Coast Road / St Fittick's Road / Greyhope junction to be relocated approximately 150m to the northwest.
- 9.3.4 A main site access is proposed from Coast Road which would be constructed in ghost island formation, with appropriate geometry and visibility in accordance with design standards. Secondary access points are also proposed, in accordance with recognised design standards.
- 9.3.5 Improvements to Coast Road are proposed, including resurfacing the 1.2km section of road between Hareness Road and the railway bridge to strengthen the carriageway and provide an enhanced running surface. Increased HGV activity is expected to lead to reduced average vehicle speeds on Coast Road, and consequently a reduced speed limit to 40mph is proposed between Nigg Bay and Burnbanks Village.
- 9.3.6 The development proposal also includes a new off-road section of cycle path parallel to Coast Road between Hareness Road and the railway bridge which will provide an improvement to NCR1.
- 9.3.7 A section of the Coastal Path would be permanently altered so that it is outside the harbour boundary.
- 9.3.8 Some temporary and permanent Traffic Regulation Orders would be required associated with construction routing and permanent highway works.
- 9.3.9 The new harbour would promote traffic management plans to staff and visitors which would direct HGVs to enter and exit the harbour via Coast Road and Hareness Road, from Wellington Road. The traffic management plans would restrict HGVs from passing through Torry or Cove, except for occasional abnormal loads which would require special attention to routing, travel times and escort arrangements. The design of the site accesses would direct large vehicles to and from Altens, and would physically restrict them from entering via Torry. Road signs would be erected to identify the designated HGV route between the harbour and Wellington Road.

9.4 **Accessibility**

- 9.4.1 A review of accessibility shows that some residential parts of Aberdeen are within a reasonable walking distance from the proposed harbour, and there are existing pedestrian links that could facilitate pedestrian movement between the areas.
- 9.4.2 Much of Aberdeen is also within a reasonable cycling distance from the proposed harbour site, offering the potential for people to cycle there from the city. St Fittick's Road could be used and it is a wide single carriageway which is appropriate for cycling. In a southern direction Coast Road could be used and it forms part of the National Cycle Network.
- 9.4.3 Frequent bus services operate within Torry with the closest bus stops being approximately 550m away from Nigg Bay. Fairhurst have made contact with First Bus and Stagecoach, who operate existing bus services, and both have confirmed that

they would consider altering their bus routes in future to stop outside the new harbour.

- 9.4.4 Aberdeen Railway Station is located near to the proposed harbour and could be reached by bicycle or public transport.
- 9.4.5 The proposed harbour is located close to a rail freight terminal at Craiginches. There is potential to encourage transfer of freight between the two facilities in future and there could be an opportunity to consider new transport infrastructure between the two facilities in future as part of wider proposals for the general area.
- 9.4.6 The proposed harbour would be located in an area where there is a significant level of industrial development nearby, which could enable and encourage freight transport by sea. There is potential for further industrial development within the general area.
- 9.4.7 The harbour location is adjacent to an established road network whereby access is available via Coast Road and Hareness Road to Wellington Road. From Wellington Road access is available to all parts of Aberdeen and to the strategic Trunk Road network via the A90(T). The AWPR is under construction and is due to be open before the harbour becomes operational, enhancing accessibility by road within the Aberdeen area.
- 9.4.8 The harbour location is found to be accessible, offering opportunity for people to travel there by a variety of modes and allowing freight access.

9.5 Measures to Encourage Sustainable Transport

- 9.5.1 Development proposals include a number of measures to encourage and enable sustainable transport. These include:
- Provision of a bus stop and turning circle, which could also be used by taxis.
 - A pedestrian link to footways on St Fittick's Road, allowing walking trips to parts of Aberdeen which are within a reasonable walking distance.
 - Provision of 8 secured and sheltered bicycle parking spaces to encourage cycle trips.
 - Provision of 5 motorcycle parking spaces to encourage motorcycle trips.
 - Improvements to NCR1.
 - Operation of a Travel Plan.
 - Organised private coach transfers for tourist visitors.

9.6 Traffic Impact

- 9.6.1 An assessment of traffic impacts has been made within the agreed study area for the year of opening, based on weekday peak hour periods. The assessment found that all local junctions within the study area, and the proposed site access, would operate within sufficient capacity. No improvements are required to the existing junctions assessed in order to accommodate the proposed harbour development.
- 9.6.2 The harbour development would lead to some additional queuing and delay at the Coast Road railway bridge traffic signals. The stop lines at the traffic signals are

spaced 145m apart. There is potential to move the stop lines 55m closer together which would reduce lost intergreen time, allowing more green time to be allocated to traffic streams. This would allow more traffic to cross the bridge and would mitigate the impact of harbour traffic, causing no net detriment to existing operation.

- 9.6.3 The development includes proposals to alter the stop lines at the Coast Road railway bridge. The traffic signals could also be designed to accommodate a connection from the proposed off-road cycle path. MVDs could be installed which would allow a variable intergreen time and would have road safety and efficiency benefits. This proposal would allow the harbour traffic to be accommodated without encouraging more traffic to use Coast Road in preference to Wellington Road, which would otherwise cause detriment to residential amenity within Torry, and potentially Cove.
- 9.6.4 An assessment of Coast Road capacity has found that it can accommodate the additional harbour traffic with no need for widening works. It is acknowledged that Coast Road is part of the National Cycle Network and although traffic surveys have revealed that it is used by a low number of cyclists, it is proposed that a section of off-road cycleway on the east side of the railway line running parallel with Coast Road is provided. Subsequently the additional traffic using Coast Road would have limited impact on cyclists. Coast Road experiences high levels of traffic during weekday peak periods, but carries relatively low flows at all other times of the week.

9.7 **Conclusion**

- 9.7.1 Having fully assessed the transportation issues relating to the development of a new harbour it is concluded that the proposal meets with all relevant planning and transport policy and can be accommodated by existing transport infrastructure. The proposal includes measures to enable and encourage sustainable modes of transport, and sufficient measures to mitigate the impacts of harbour traffic on Coast Road, without encouraging further use of Coast Road as a relief road during peak times, which could otherwise cause detriment to residential amenity in surrounding areas.

Appendix A
Scoping Correspondence with Aberdeen City Council

Proposed Harbour at Nigg Bay

Transport Assessment Scoping Statement

June 2015



FAIRHURST

CONTROL SHEET

CLIENT: Aberdeen Harbour Board
PROJECT TITLE: Proposed Harbour at Nigg Bay
REPORT TITLE: Transport Assessment Scoping Statement
PROJECT REFERENCE: 108675

Issue and Approval Schedule:

ISSUE 1	Name	Signature	Date
Prepared by	Michael Ayim	[REDACTED]	17/06/15
Reviewed by	Ross McDonald	[REDACTED]	17/06/15
Approved by	Ross McDonald	[REDACTED]	17/06/15

Revision Record:

Issue	Date	Status	Description	By	Chk	App
2						
3						
4						

This report has been prepared in accordance with procedure OP/P02 of the Fairhurst Quality Management System.

Contents

1	Scoping Statement	1
1.1	Introduction	1
1.2	Policy Context	1
1.3	Site Location	2
1.4	Development Proposals	2
1.5	Parking	3
1.6	Site Access	3
1.7	Accessibility / Sustainable Transport	4
1.8	Trip Generation	4
1.9	Trip Distribution	5
1.10	Assessment Year / Time Periods	6
1.11	Committed Developments	7
1.12	Threshold Assessment	7
1.13	Study Area	8
1.14	Construction Phase	9
1.15	Abnormal Loads	9
1.16	Cruise Ship Travel	9
1.17	Travel Plan Framework	9

1 Scoping Statement

1.1 Introduction

1.1.1 The following Scoping Proposal sets out the methodology and parameters that are proposed for use within the Transport Assessment (TA) that would support a planning application for a new harbour proposed at Nigg Bay by Aberdeen Harbour Board. Fairhurst prepared a Transportation Framework document in December 2013, which was updated in March 2015, which presented the main traffic and transportation issues associated with the proposal. The document has formed the basis of extensive discussions with Aberdeen City Council to date, and this Scoping Statement builds on those discussions in advance of the formal Transport Assessment report.

1.1.2 Fairhurst propose to undertake the Transport Assessment in accordance with recognised guidance, including 'Transport Assessment Guidance', 'Scottish Planning Policy', and 'Planning Advice Note 75: Planning for Transport'. Due consideration will also be given to relevant Local Authority Guidance relating to road design and parking standards.

1.2 Policy Context

1.2.1 The TA will provide a review of Policy relevant to the proposed development under the following subheadings:

- National Policy
- Regional Policy
- Local Policy

1.2.2 The Policy Review will also consider Supplementary Planning Guidance:

- Delivering Identified Projects through a Strategic Transport Fund (NESTRANS)
- Transport and Accessibility (Aberdeen City Council)

1.3 Site Location

1.3.1 Nigg Bay is located to the east of Torry, Aberdeen, as shown on Figure 1. The industrial areas of East Tullos and Altens lie to the west and south respectively.



Figure 1 – Site Location

1.4 Development Proposals

1.4.1 Aberdeen Harbour's existing operations are restricted by the size and shape of the port and its location at the heart of Aberdeen City Centre. These constraints increasingly impact the ability of Aberdeen Harbour Board to provide adequate facilities for current and predicted marine traffic. Through an extensive period of consultation Aberdeen Harbour Board have identified Nigg Bay as a suitable site for expansion to accommodate growth in marine traffic.

1.4.2 The preferred option is to develop approximately 1400m of new quay as shown on the Aberdeen Harbour drawing number 2015001-002 contained in the enclosures. An indicative work programme is for construction to commence in Q1 of 2017, with the harbour becoming operational in Q4 of 2019.

- 1.4.3 Works are expected to include the construction of two substantial breakwaters each over 600 metres long to the north and south. Quay construction will begin with a 400 metre long solid quay built around the eastern side of the bay and continuing some 300 metres along the northern side. There the construction will change to an open quay to complete 550 metres on the northern side and 300 metres on the eastern side. The quays and paved backup areas will provide over 140,000 square metres of working space.
- 1.4.4 There are no proposals for existing ferry services at Aberdeen Harbour to transfer to Nigg Harbour.
- 1.4.5 The proposal includes some changes to the surrounding road network including partial realignment of Coast Road. In addition, part of Greyhope Road would be realigned to the north to form a junction with St Fittick's Road further west than it currently does. In order to facilitate construction of the northern breakwater, a temporary closure of part of Greyhope Road is proposed.
- 1.4.6 A 2 storey welfare/administration building is planned for quayside staff and will occupy a footprint of approximately 24 metres by 10 metres.
- 1.4.7 Ships forecast to use Nigg Bay on an annual basis is approximately 550 commercial vessels, 1700 PSV/Offshore vessels, 40 DSV, 45 cruise ships. This represents an average of 45 ships per week.

1.5 **Parking**

- 1.5.1 Within the Transport Assessment we will consider parking provision in accordance with harbour operational requirements, and Aberdeen City Council standards where applicable. The proposals include a car park with capacity for 60 vehicles outside the secure perimeter of the harbour but these will rarely be fully utilised.
- 1.5.2 Parking for motorcycles and bicycles will also be considered within the Transport Assessment.

1.6 **Site Access**

- 1.6.1 AHB drawing number 2015001-002 illustrates the proposed access points. These are:
- The main site access to the north.

- A secondary access point adjacent to the west quay
- An access to the southern breakwater

1.6.2 Access and egress from the harbour would primarily be via the main site access which would be secured by fencing complying with international ship and port facility security code. The Transport Assessment will comment on the required junction formation, which may include a ghost island arrangement on Coast Road. The site access will be angled so as to restrict HGV entry and exit movements to the south only. Kerbing would be used to physically restrict HGV movements.

1.6.3 A secondary point of access is proposed adjacent to the West Quay which would be gated and only occasionally used, facilitating entry and exit for coaches associated with cruise ships.

1.6.4 The southern breakwater would also require a new access onto Coast Road which would only be for use during construction and for future maintenance. It would be a gated access.

1.7 **Accessibility / Sustainable Transport**

1.7.1 The TA will consider all forms of transport, giving priority to walking, cycling and public transport provision ahead of private motor vehicle use. An assessment will be made of existing infrastructure and public transport services in order to gauge the impact that the proposed development will have on these. Where it is felt that the development would benefit from improvements to existing facilities we shall make such recommendations for change.

1.8 **Trip Generation**

1.8.1 Due to the nature of the proposal it must be recognised that many trips to and from the development will have to be made by motor vehicle, including HGVs. However there will be an opportunity for travel to and from the harbour by sustainable means. The Transport Assessment will comment on measures that can be implemented to encourage and accommodate sustainable transport.

1.8.2 Once the harbour is operational it is anticipated that only 20 – 25 harbour staff will be based at Nigg, the majority of which will work shift patterns so that only around 16

staff will be on site at any time. Trip generation from Harbour staff will therefore be low.

1.8.3 Following discussion with Aberdeen City Council, it has been agreed that Fairhurst will use existing traffic generation associated with Albert Quay and North Esplanade Quay to represent development traffic associated with Nigg Harbour. The berth length of those quays is approximately 1,400m, which replicates the length of the quayside proposed at Nigg Harbour. ACC supplied traffic survey data for the Market Street junctions with Albert Quay and North Esplanade Quay, which have been used to estimate weekday hourly traffic flow for Nigg Harbour between 06:00 – 1900. Some deductions have been made to account for existing facilities on Albert Quay which will not be replicated at Nigg Harbour; namely the Certas fuel distribution depot and the Petrofac Training Centre.

1.8.4 Table 1 shows agreed Nigg Harbour traffic flows, based on the ACC surveys at the existing Aberdeen Harbour.

Time	Arrivals			Departures		
	Total	HGV	%HGV	Total	HGV	%HGV
0600 - 0700	35	3	7.5%	12	8	68.0%
0700 - 0800	61	12	14.8%	27	18	66.6%
0800 - 0900	43	11	48.8%	31	14	46.0%
0900 - 1000	49	17	34.9%	40	13	32.0%
1000 - 1100	56	23	40.7%	54	22	40.4%
1100 - 1200	65	25	38.4%	78	22	28.6%
1200 - 1300	55	17	30.8%	55	17	30.5%
1300 - 1400	51	22	43.6%	45	15	33.6%
1400 - 1500	70	41	58.7%	63	32	50.7%
1500 - 1600	53	32	60.4%	60	34	57.0%
1600 - 1700	43	25	58.3%	45	20	44.1%
1700 - 1800	17	14	81.8%	65	22	34.3%
1800 - 1900	17	10	59.7%	25	6	24.6%
0600 - 1900	616	253	41.0%	601	244	40.6%

Table 1 – Traffic Generation Proposal for Nigg Harbour

1.9 Trip Distribution

1.9.1 The new harbour at Nigg would be expected to replicate travel patterns to and from the existing Aberdeen Harbour. Roadside surveys were conducted within the harbour to establish the origin and destination of harbour traffic, and the outcome is

presented within the Transportation Framework report which was previously issued to ACC. Further analysis has been undertaken to refine the origins and destinations for 'Aberdeen' traffic, so as to establish the expected routing of vehicles on primary roads. HGV traffic has been assigned differently to light vehicles, as they are to enter and exit Nigg Harbour from the south via Hareness Road only. The proposed assignment of light and HGV traffic is shown on Figures 1 and 2 in the enclosures.

1.10 Assessment Year / Time Periods

1.10.1 It is anticipated that the harbour would become operational towards the end of 2019. Therefore 2019 is proposed as the year of opening and the only design year for analysis within the Transport Assessment.

1.10.2 The Aberdeen Western Peripheral Route (AWPR) is expected to open in winter 2017, so an assessment of traffic impact in 2019 will need to take account of the change in traffic movements over the network as a consequence of the AWPR. Aberdeen City Council's Paramics model includes a 2020 baseline scenario which takes account of the effects of the AWPR and also includes an allowance for LDP sites. We propose to use traffic data from the Paramics model (2020) to provide a baseline scenario for capacity analysis.

1.10.3 We propose to make an assessment of traffic impact during the weekday AM and PM network peak hours. The Paramics data indicates that the existing network weekday peak hours are 07:30 – 08:30 and 16:30 – 17:30, which we propose to base our assessment on. Figures 3 and 4 in the enclosures highlight network flows around Nigg Harbour during these time periods, extracted from the Paramics model.

1.10.4 Further analysis of the PKC traffic survey data for the Market Street junctions with Albert Quay and North Esplanade Quay is required to determine Nigg Harbour traffic generation during the 07:30 – 08:30 and 16:30 – 17:30 time periods. This is shown in Table 2, with reductions for HGVs associated with Certas and a reduction of only 10 arrivals in the AM peak hour and 10 departures in the PM peak relating to the Petrofac Training Centre.

Time	Arrivals			Departures		
	Total	HGV	%HGV	Total	HGV	%HGV
0730 - 0830	64	12	18.8%	30	12	40.0%
1630 - 1730	34	25	73.5%	62	21	33.9%

Table 2 – Weekday Peak Hour Traffic Generation for Nigg Harbour

1.10.5 Figures 5 and 6 in the enclosures show the subsequent distribution of light Nigg Harbour vehicles during the AM and PM peak hours respectively, based on the distribution patterns from Figure 1. Figures 7 and 8 in the enclosures show the subsequent distribution of HGVs from Nigg Harbour during the AM and PM peak hours respectively, based on the distribution patterns from Figure 2. Figures 9 and 10 in the enclosures present total Nigg Harbour development traffic distributions during the weekday AM and PM peak hours respectively.

1.11 Committed Developments

1.11.1 Correspondence from ACC has previously indicated that the TA should consider the traffic impact from the following committed developments:

- Loirston Housing (1,000 houses)
- Office development at Hareness Road

1.11.2 These are the committed developments that we propose to allow for in the TA. The Council's 2020 Paramics model already makes an allowance for development at Loirston, though it may not be representative of 1,000 houses. The 2032 Paramics model makes a fuller allowance for development at Loirston, and we propose to utilise the Loirston traffic from that model for use in our TA. This is included in Figures 3 and 4.

1.11.3 Development traffic for the office development at Hareness Road has been extracted from the Transport Assessment that accompanied the Phase 3 application (Fairhurst Reference: 101161 Project Noble Phase 3 Transport Assessment Addendum, May 2014). Figures 11 and 12 show the peak hour traffic movements from this development.

1.11.4 A planning application has also been lodged by SITA for a new Waste Management Facility at Hareness Place. Whilst it does not have planning permission at this time, the TA will give consideration to the traffic impacts associated with it. Figures 13 and 14 show the traffic impact from the SITA development.

1.12 Threshold Assessment

1.12.1 We propose to make a capacity assessment of any significant junction where the Nigg Harbour traffic will lead to a 10% increase on any approach during the weekday

peak hours. This is consistent with the approach taken within recent Transport Assessments prepared for a number of developments within the Altens area.

1.12.2 Figures 15 and 16 in the enclosures show 2019 peak hour traffic flows inclusive of committed development traffic from Loirston, the office development at Hareness Road, and the SITA proposal.

1.12.3 Figures 17 and 18 in the enclosures show 2019 peak hour traffic flows inclusive of committed development traffic and Nigg Harbour traffic.

1.12.4 Figures 19 and 20 present a threshold assessment, showing the AM and PM peak hour impact of Nigg Harbour traffic in percentage terms against the traffic flows shown on Figures 15 and 16.

1.13 **Study Area**

1.13.1 Based on the threshold assessment shown on Figures 19 and 20, the following significant junctions will experience more than a 10% increase in traffic flow on any approach as a consequence of development, and we therefore propose that they will form the Transport Assessment study area.

- Coast Road / Site Access
- Coast Road / St Fittick's Road / Greyhope Road
- St Fittick's Road / Victoria Road
- Coast Road / Hareness Road

1.13.2 In addition, an assessment will be made of the shuttle traffic signals on the Coast Road Railway Bridge.

1.13.3 Assessments will be performed utilising LINSIG 3 and Junctions 8 modelling software.

1.13.4 Junction assessments will analyse the 2019 base condition inclusive of committed development (Figures 15 and 16), and the 2019 conditions inclusive of committed development plus Nigg Harbour development traffic (Figures 17 and 18) in order to establish the impact attributable to the proposed development. Where necessary, mitigation measures will be established which would achieve a 'no net detriment' position.

1.14 Construction Phase

1.14.1 The Transport Assessment will provide an indication of vehicle movements associated with harbour construction, based on Aberdeen Harbour Board's experience of quay construction. This will be based on material delivery by road as a worst case scenario, though there is potential for delivery by sea. Once appointed, the contractor would refine staff and material delivery proposals and traffic management arrangements.

1.15 Abnormal Loads

1.15.1 The Transport Assessment will make an assessment of abnormal loads using the existing network, identifying the maximum lorry dimensions that could use the existing road network to get from Nigg Harbour to Wellington Road.

1.16 Cruise Ship Travel

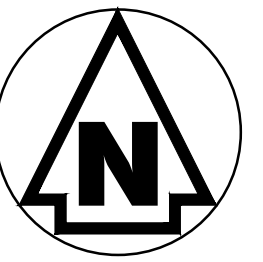
1.16.1 The Transport Assessment will identify anticipated cruise ship schedules and passenger transport arrangements.

1.17 Travel Plan Framework

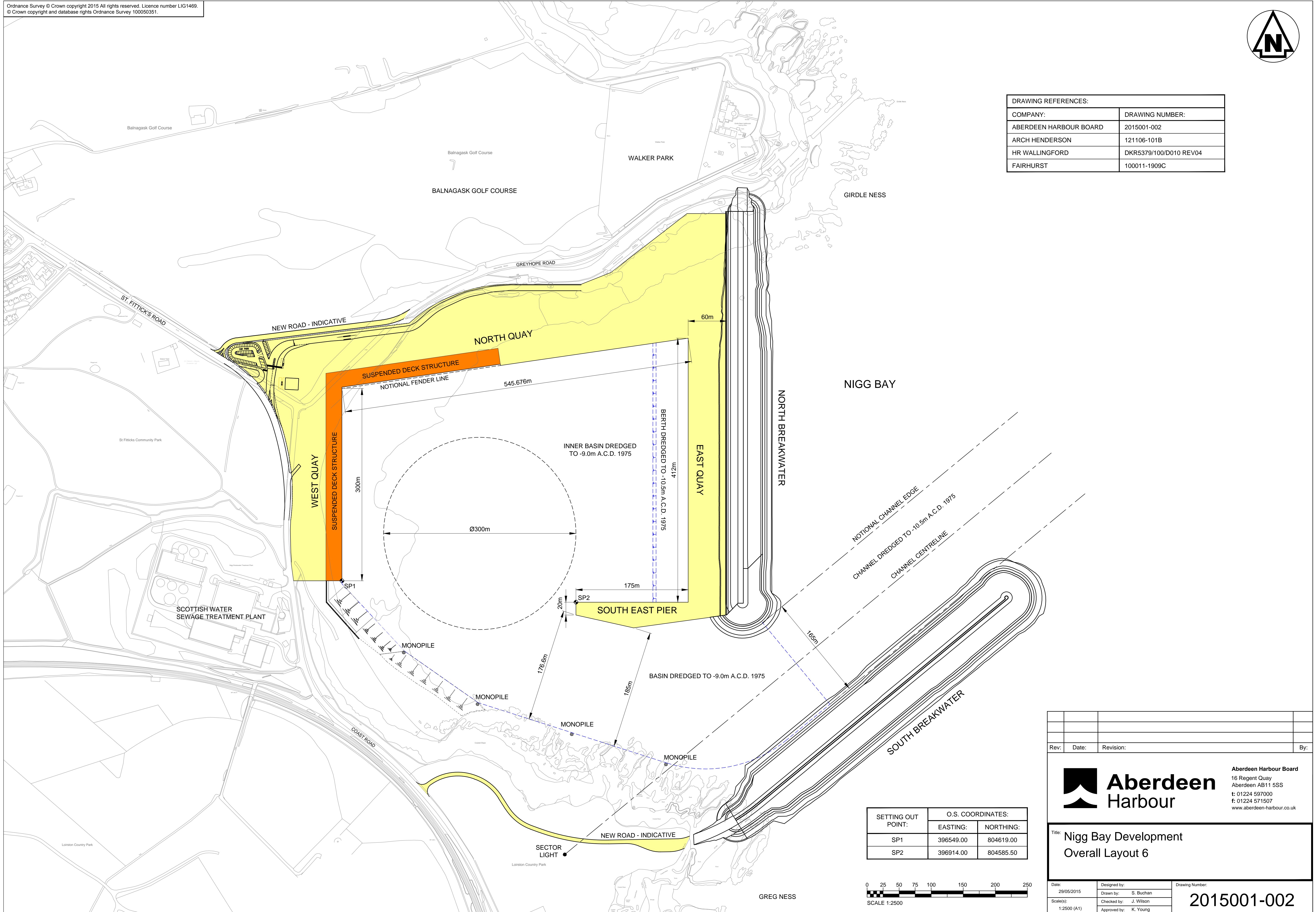
1.17.1 A full Travel Plan cannot be developed until staff information is available. Within the Transport Assessment we therefore propose to provide a Travel Plan Framework which can be used to develop a Travel Plan upon opening of the harbour.

Enclosures

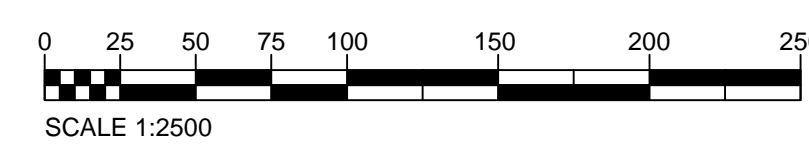
Aberdeen Harbour Drawing Number 2015001-002
Figures 1 - 20



DRAWING REFERENCES:	
COMPANY:	DRAWING NUMBER:
ABERDEEN HARBOUR BOARD	2015001-002
ARCH HENDERSON	121106-101B
HR WALLINGFORD	DKR5379/100/D010 REV04
FAIRHURST	100011-1909C



SETTING OUT POINT:	O.S. COORDINATES:	
	EASTING:	NORTHING:
SP1	396549.00	804619.00
SP2	396914.00	804585.50



Rev.	Date:	Revision:	By:

Aberdeen Harbour Board
 16 Regent Quay
 Aberdeen AB11 5SS
 t: 01224 597000
 f: 01224 571507
 www.aberdeen-harbour.co.uk

Title: **Nigg Bay Development**
Overall Layout 6

Date: 29/05/2015	Designed by: S. Buchan	Drawing Number: 2015001-002
Scales: 1:2500 (A1)	Drawn by: J. Wilson	
	Checked by: K. Young	

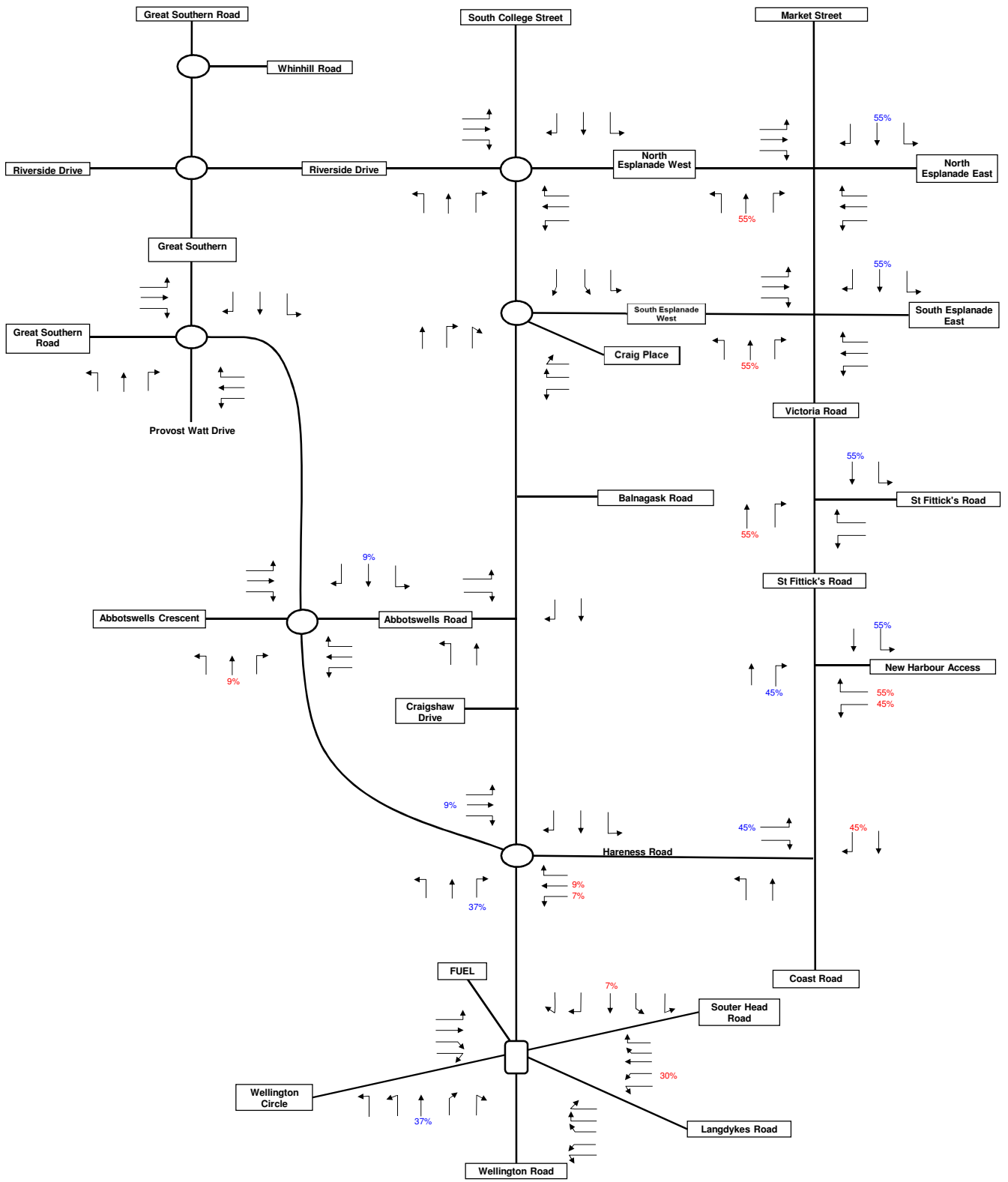


Figure 1: Development Traffic Distribution - Light Vehicles

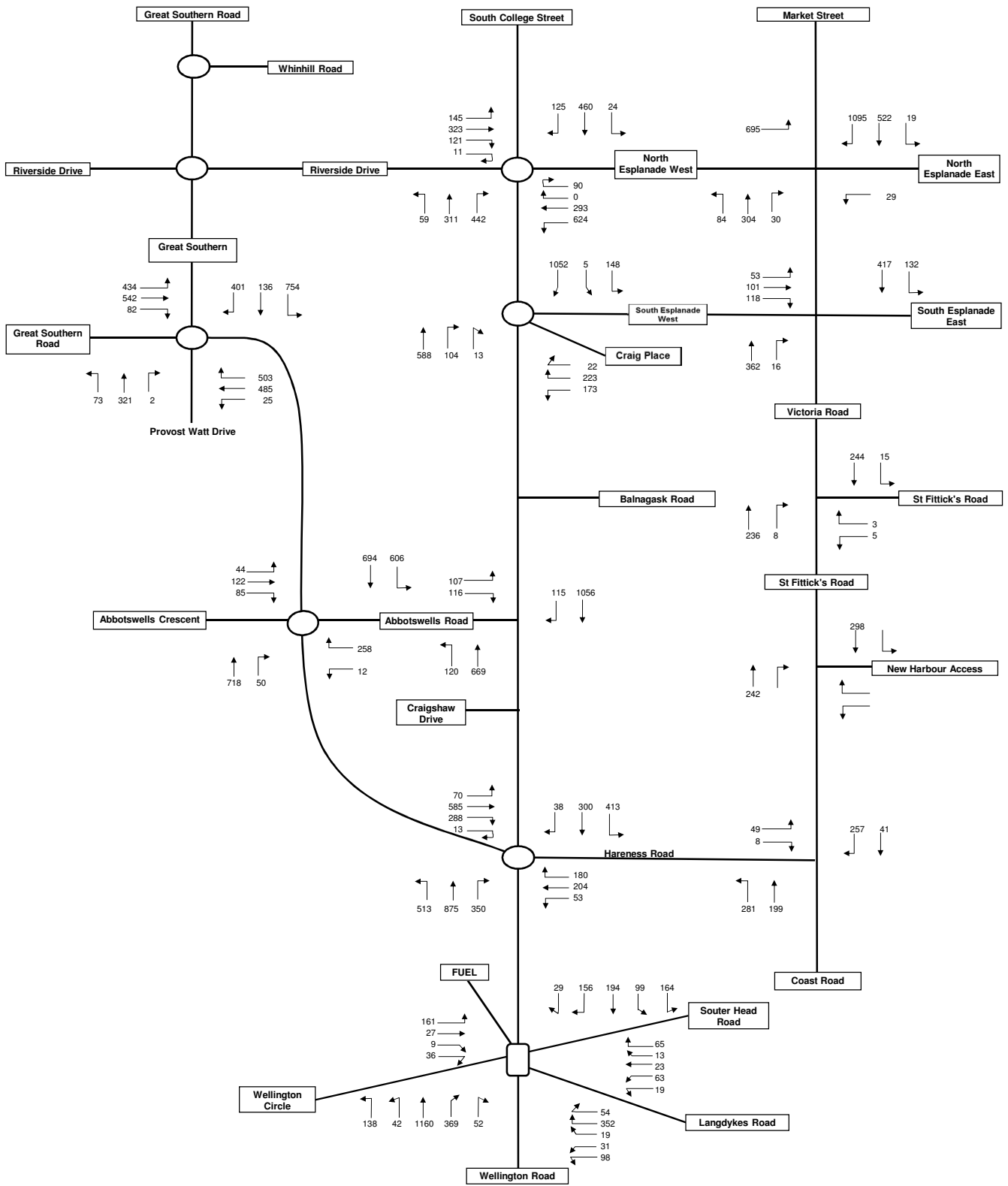


Figure 3: 2020 Paramics Reference Case Flows with Loirston Development - AM Peak (07:30 - 08:30)

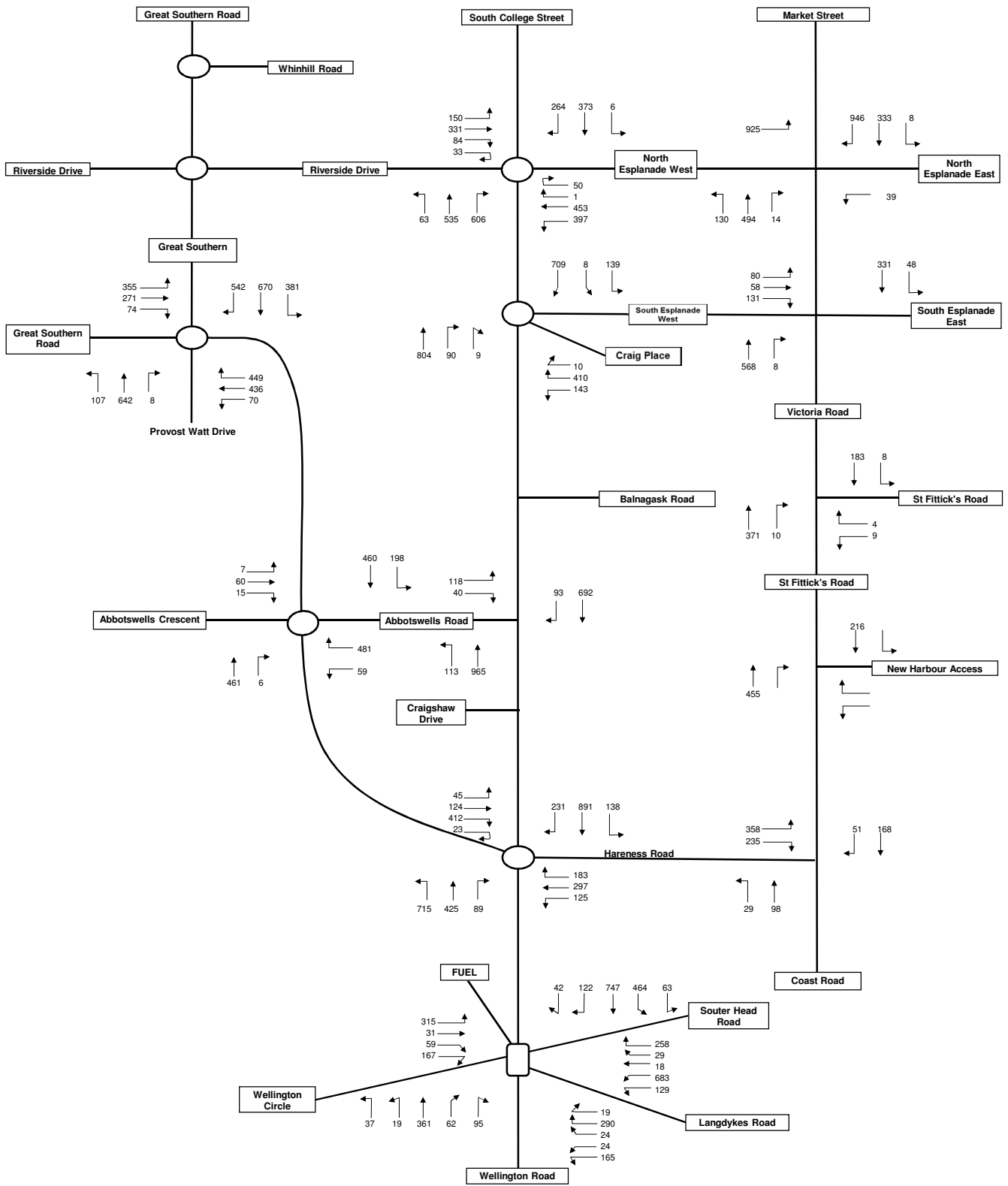


Figure 4: 2020 Paramics Reference Case Flows with Loirston Development - PM Peak (16:30 - 17:30)

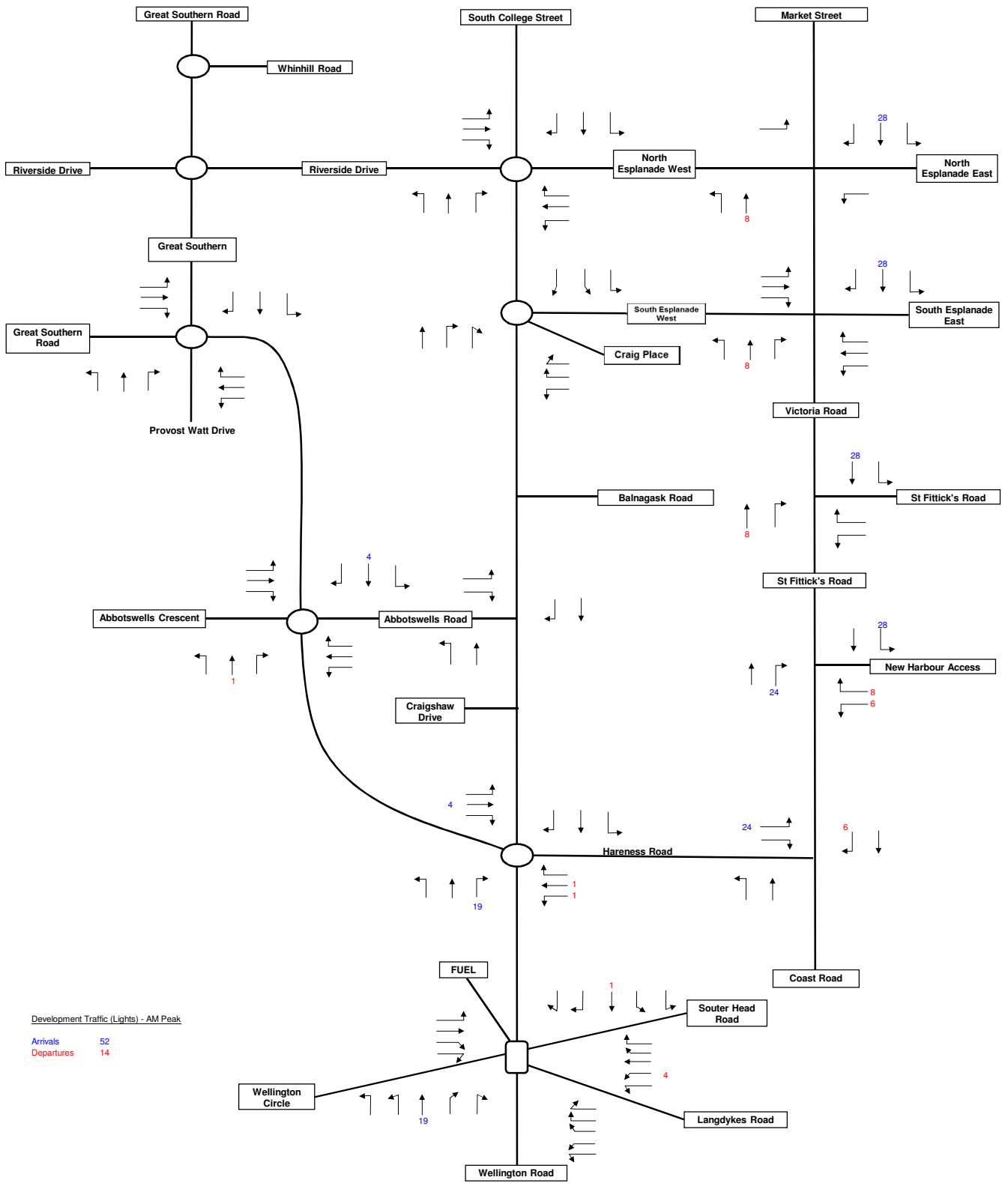


Figure 5: Development Traffic (Light Vehicles) - Weekday AM Peak

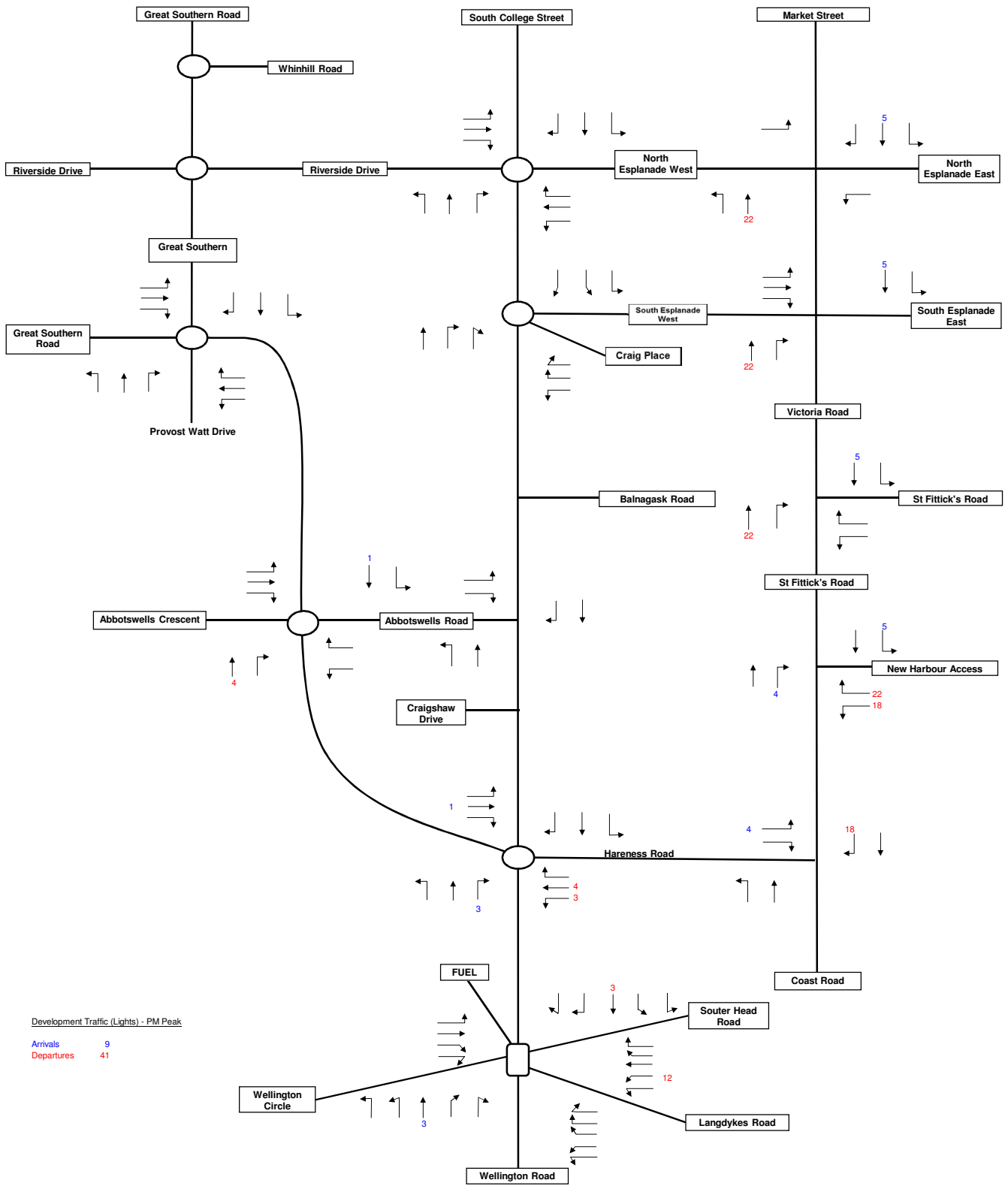


Figure 6: Development Traffic (Light Vehicles) - Weekday PM Peak

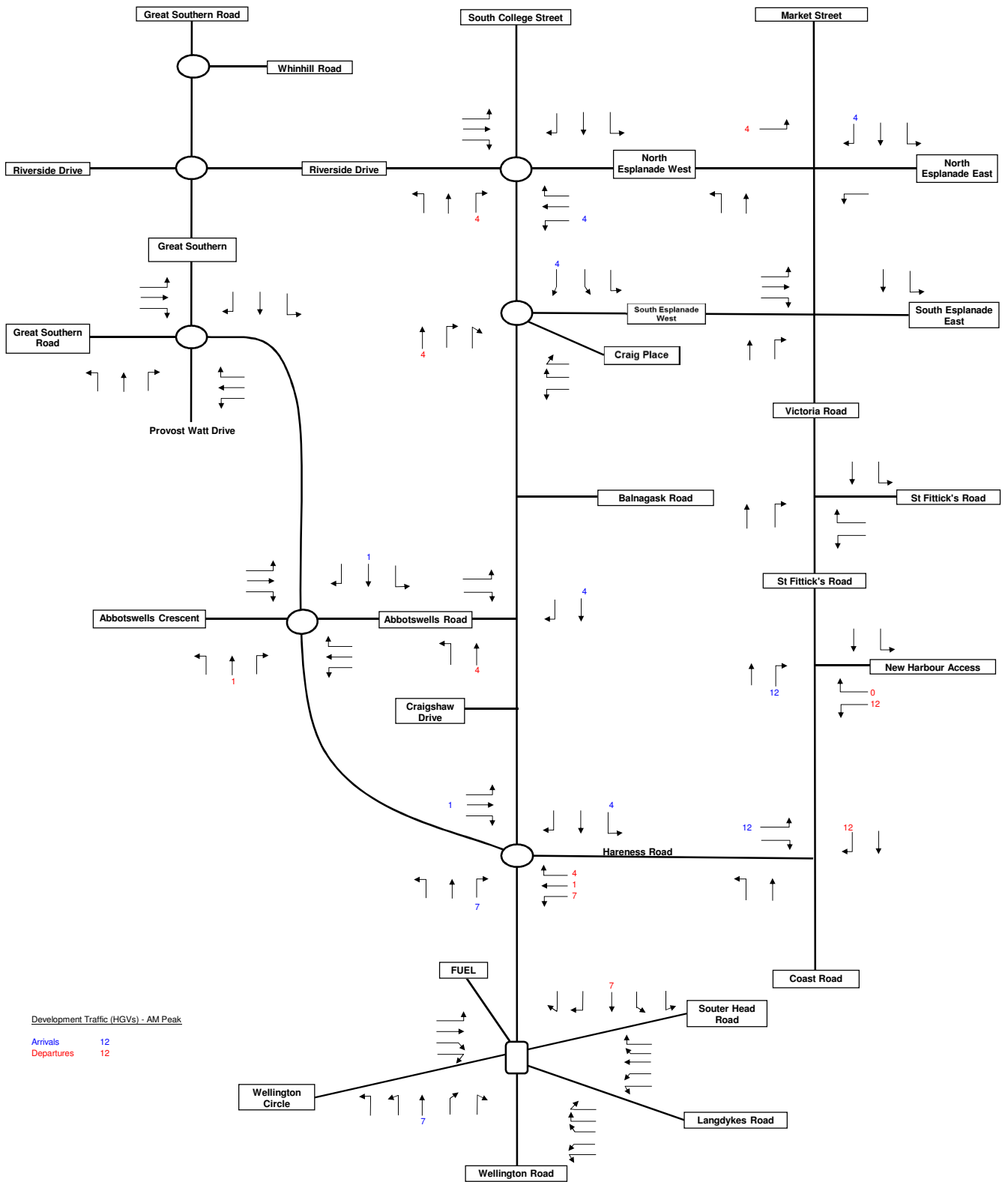


Figure 7: Development Traffic (HGVs) - Weekday AM Peak

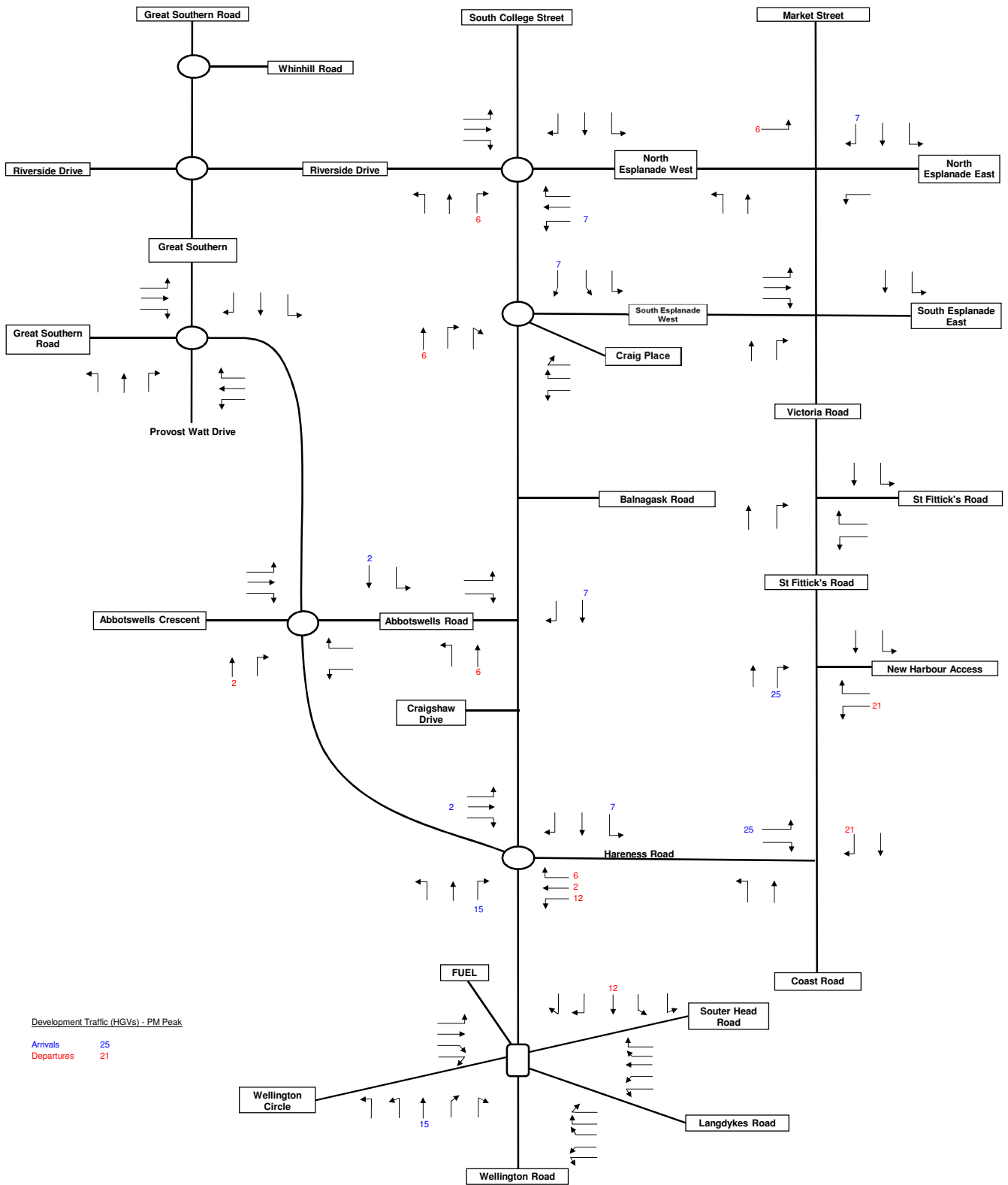


Figure 8: Development Traffic (HGVs) - Weekday PM Peak

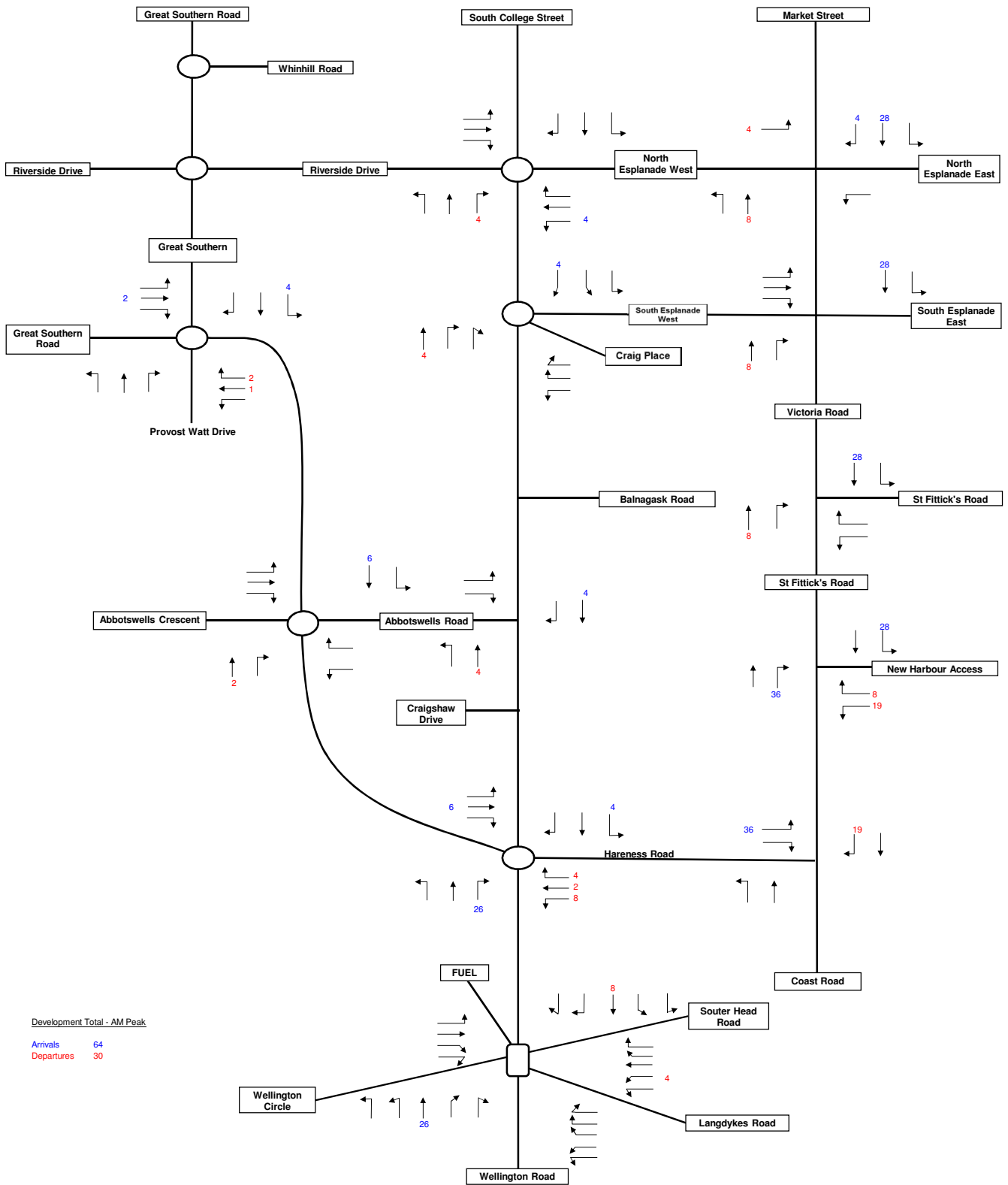


Figure 9: Nigg Harbour Development All Vehicles - AM Peak

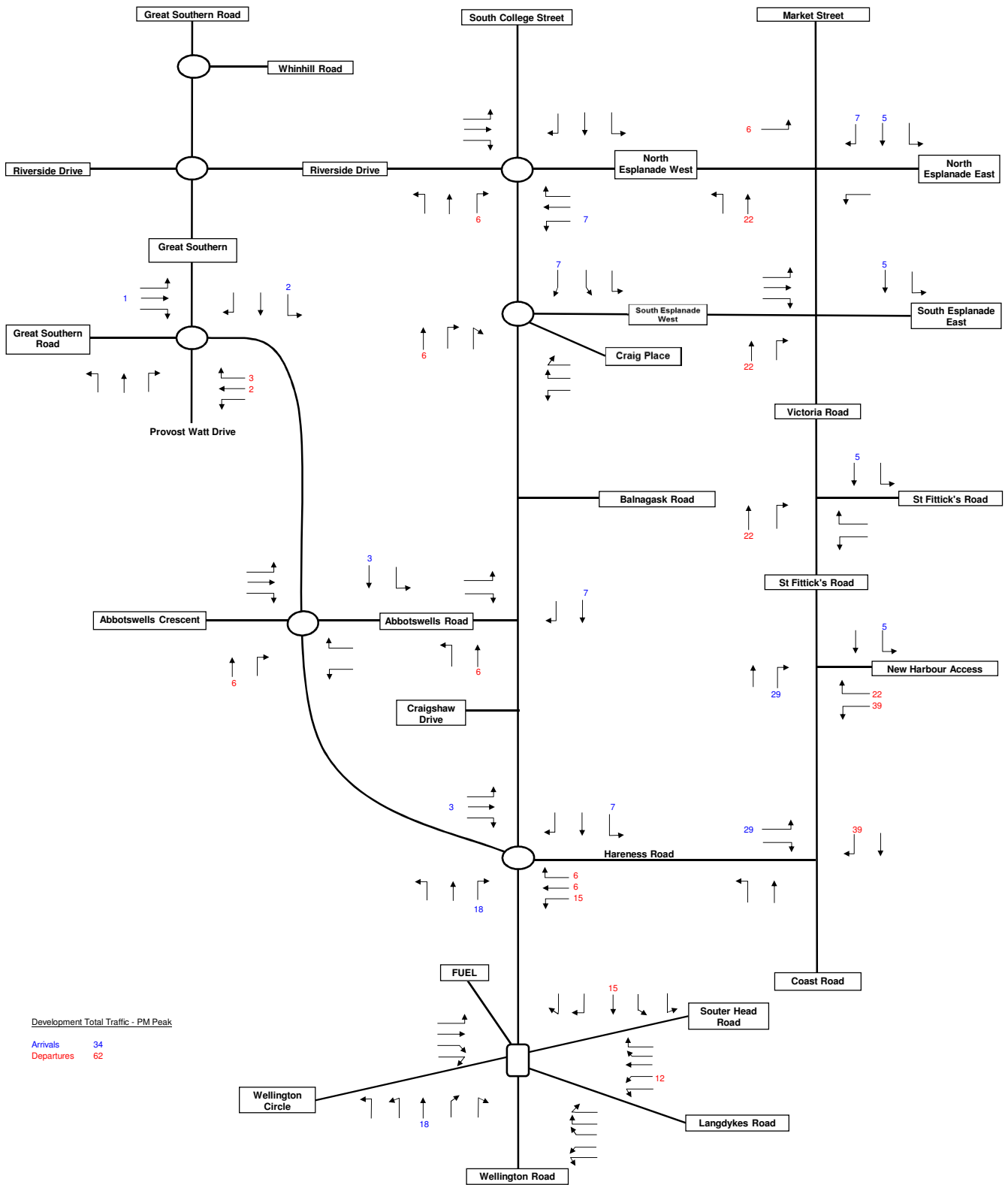


Figure 10: Nigg Harbour Development All Vehicles - PM Peak

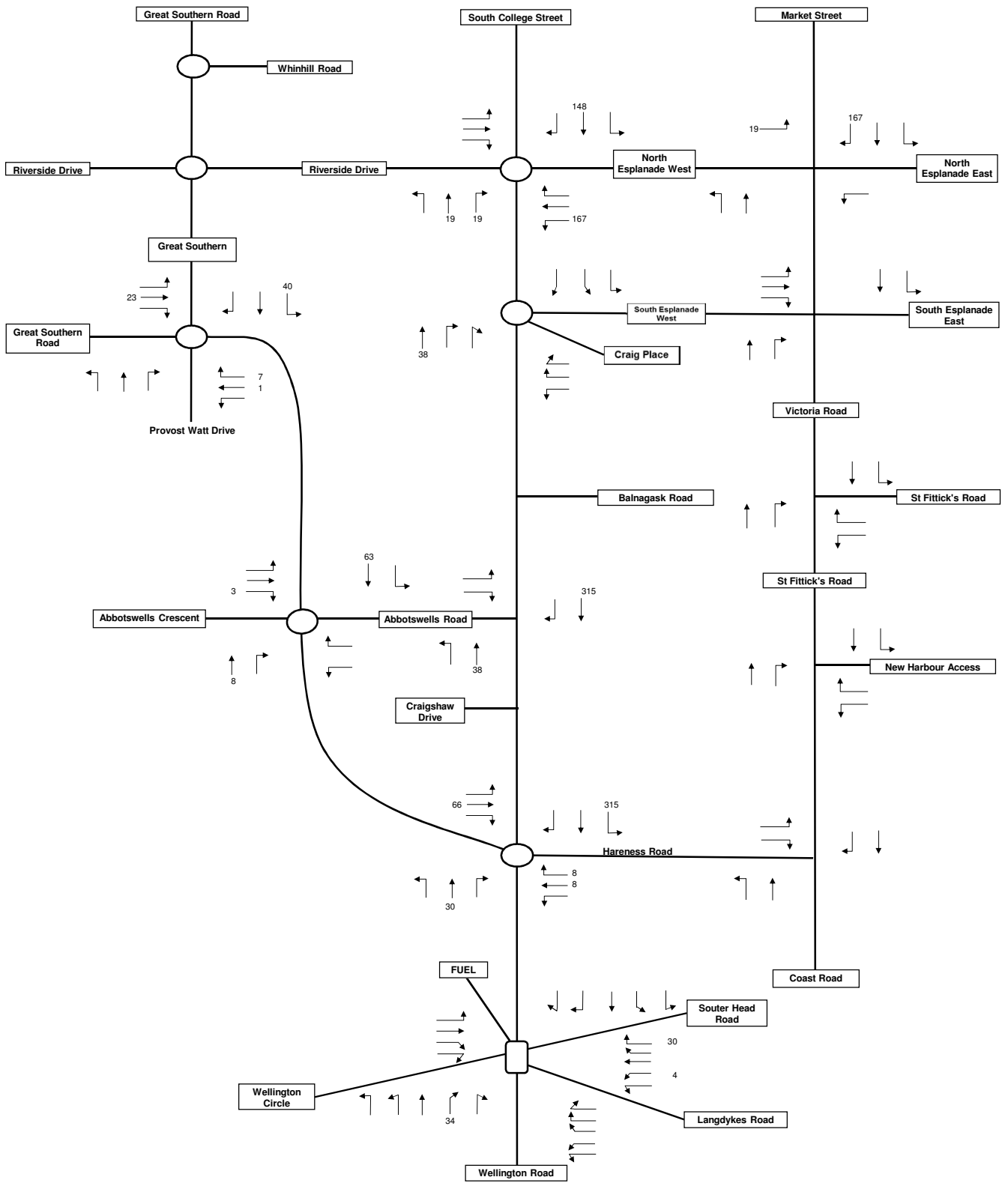


Figure 11: Proposed Office Development at Hareness Road - AM Peak Traffic Flows

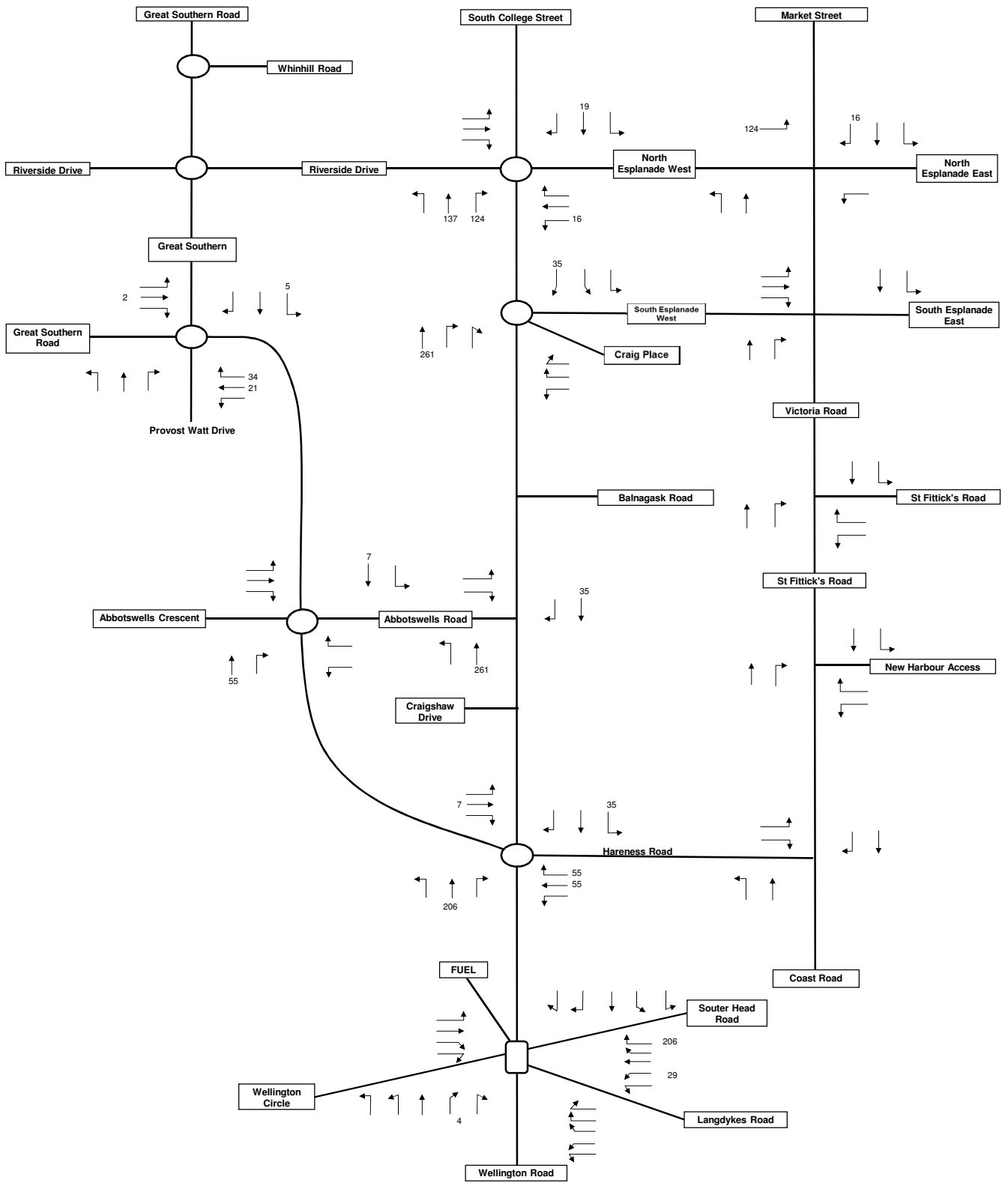


Figure 12: Proposed Office Development at Hareness Road - PM Peak Traffic Flows

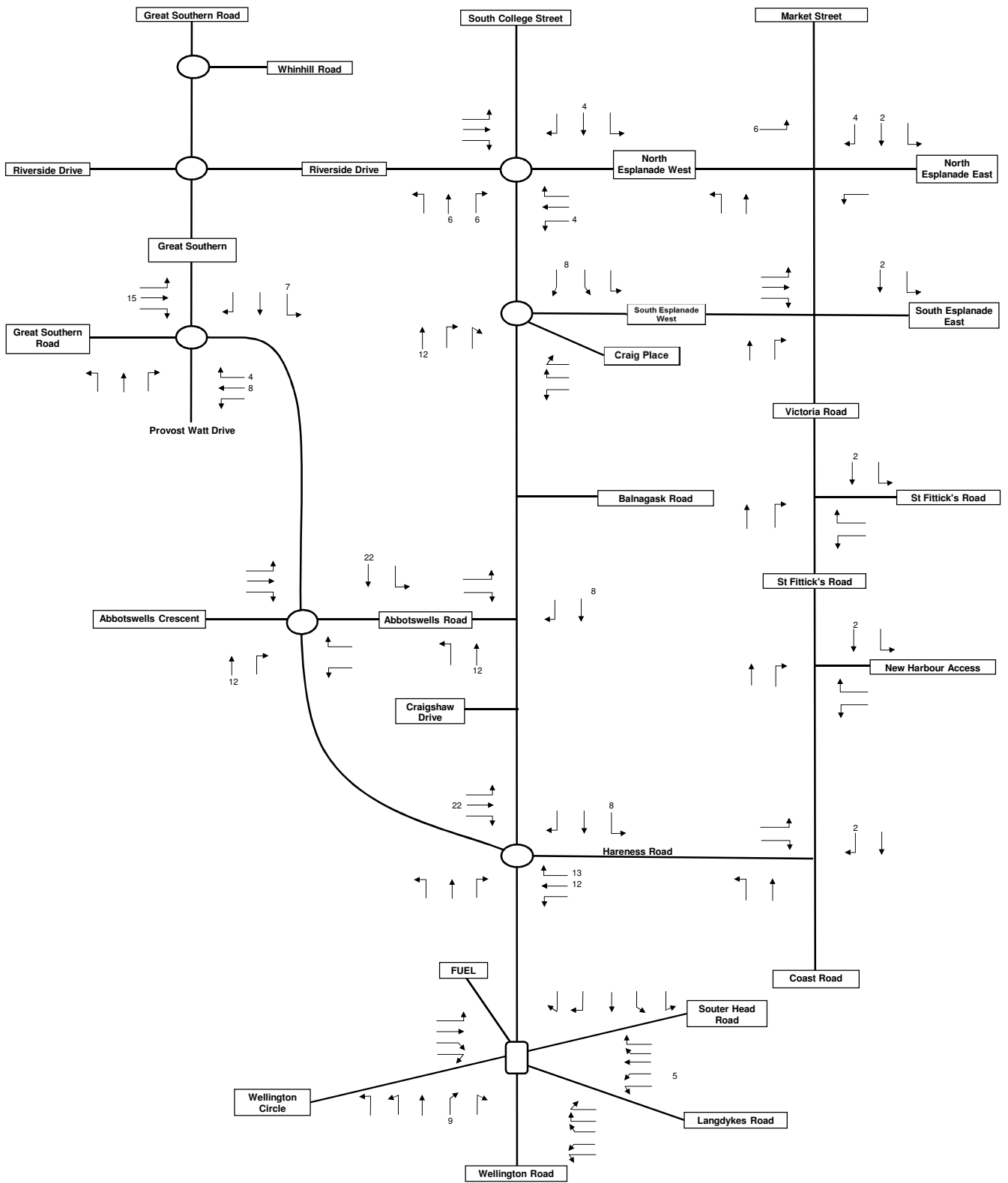


Figure 13: Proposed SITA Waste Management Centre at Hareness Place - AM Peak Traffic Flows

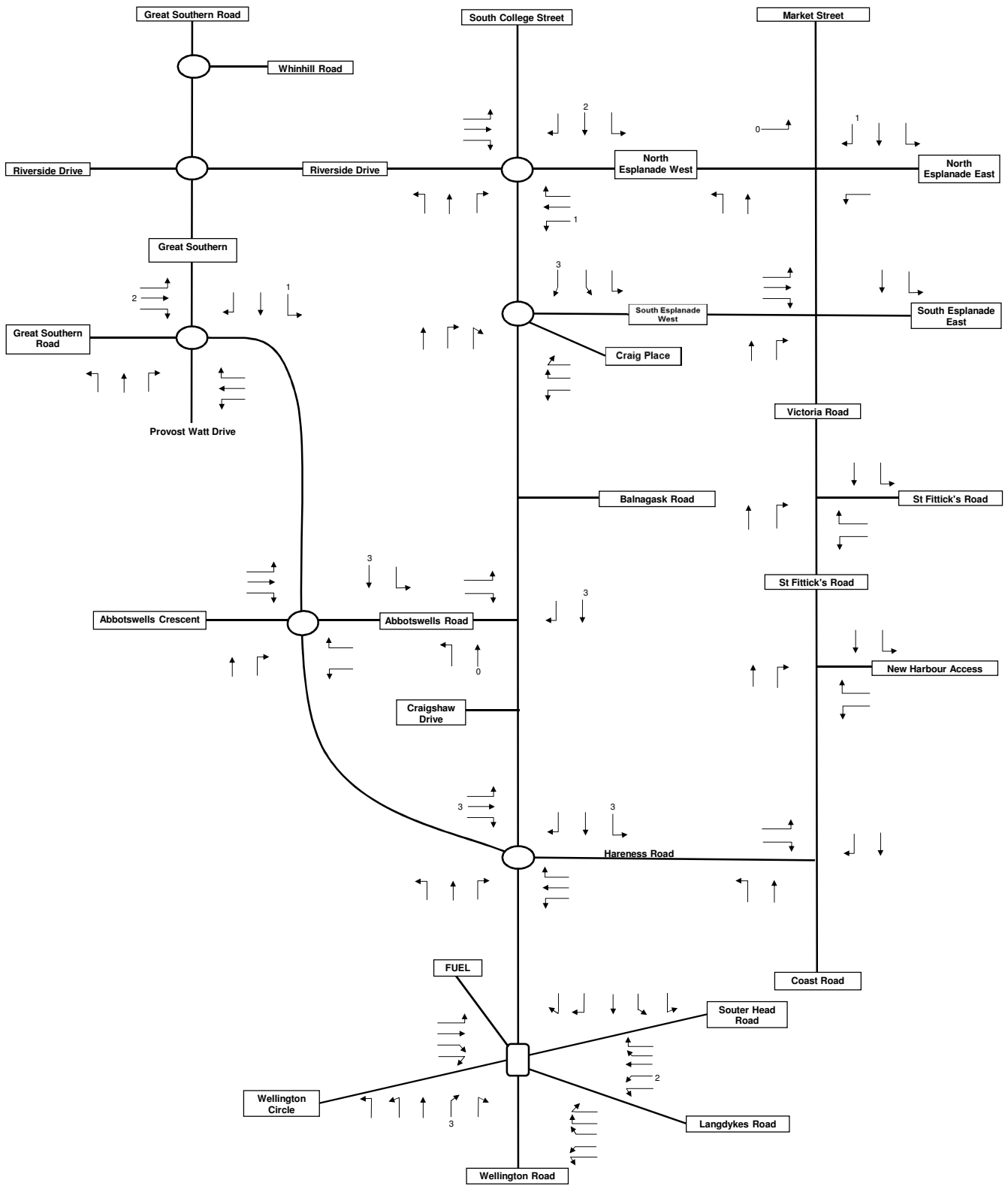


Figure 14: Proposed SITA Waste Management Centre at Hareness Place - PM Peak Traffic Flows

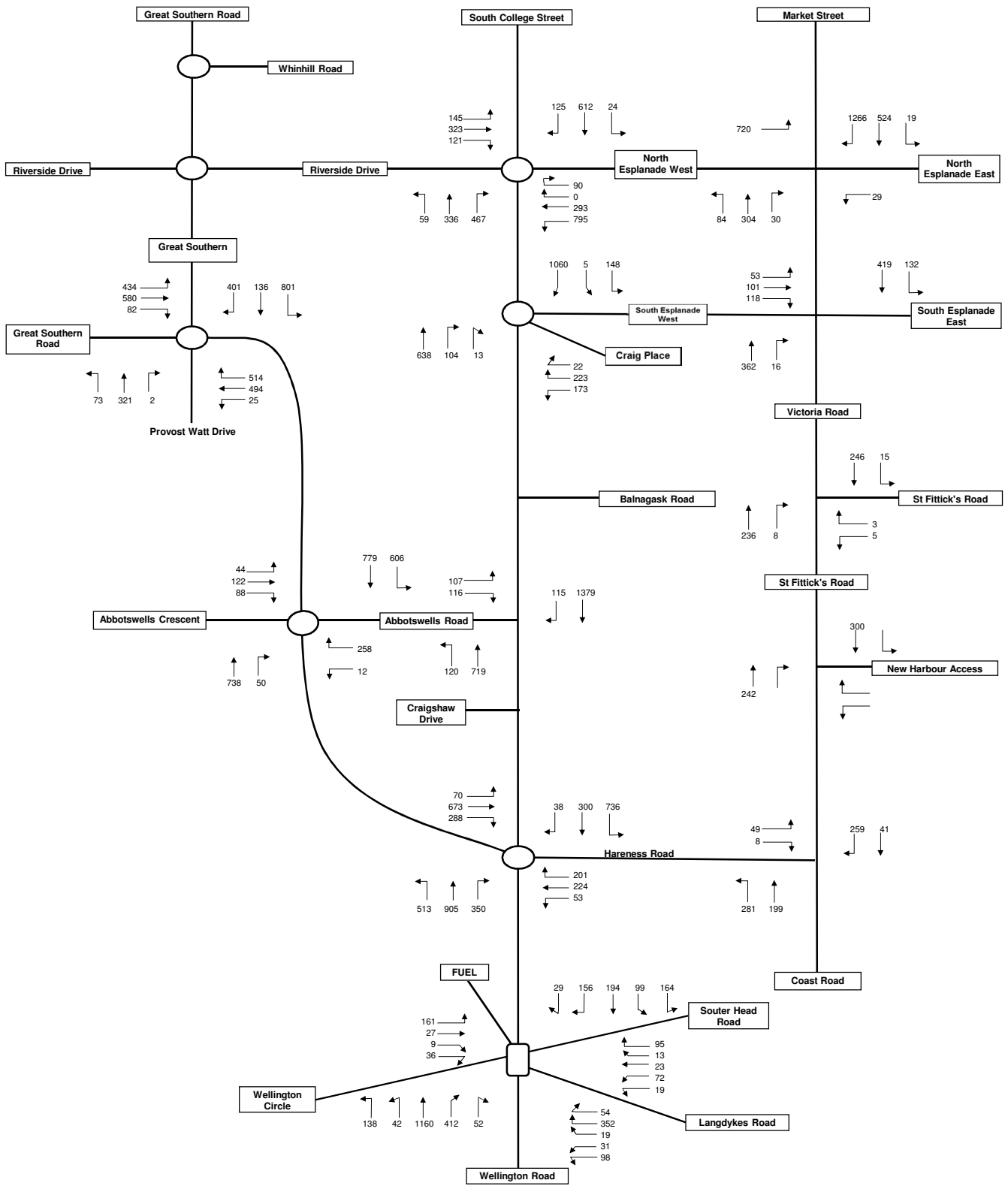


Figure 15: 2020 Paramics Base plus Committed Development Traffic - AM Peak

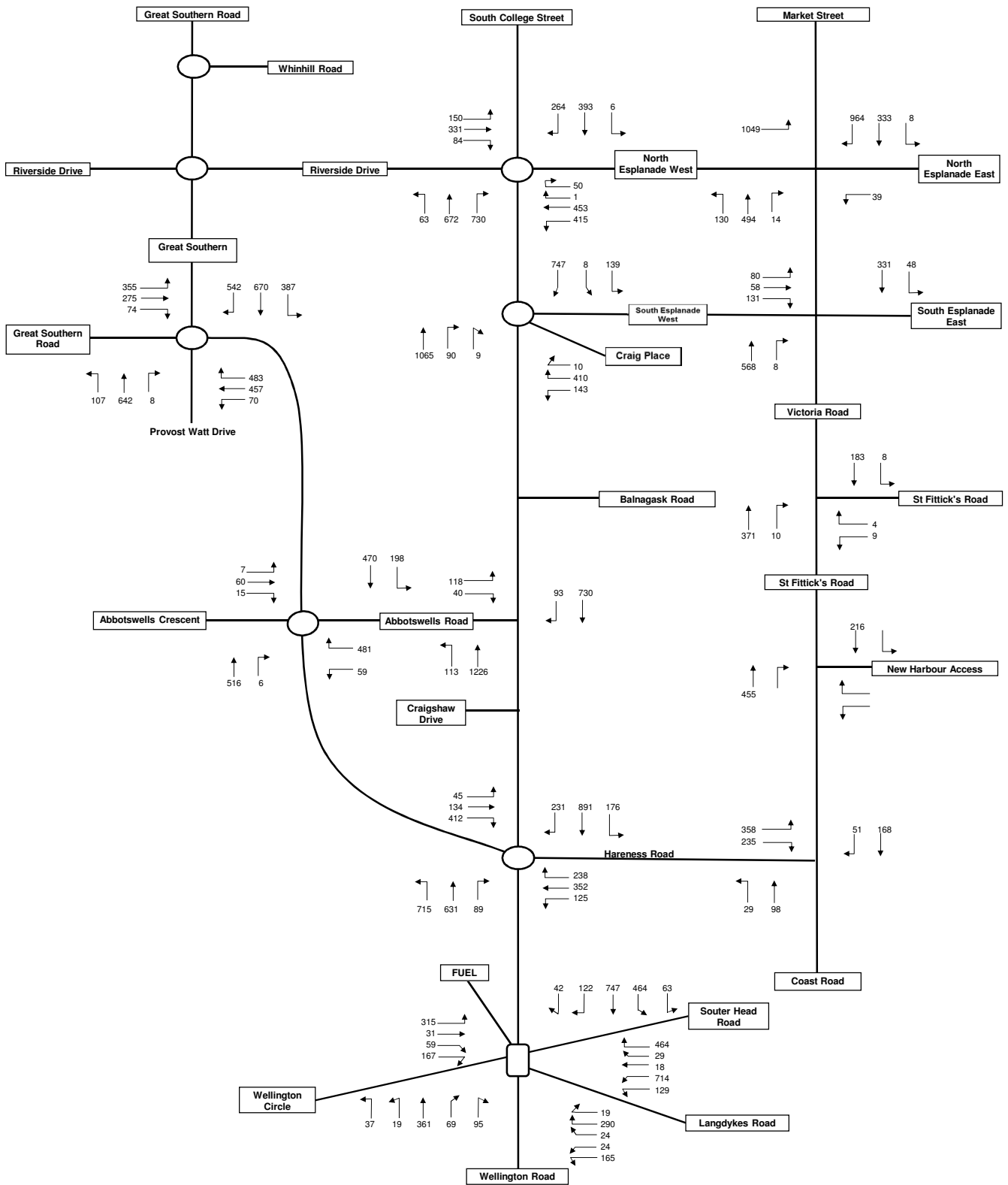


Figure 16: 2020 Paramics Base plus Committed Development Traffic - PM Peak

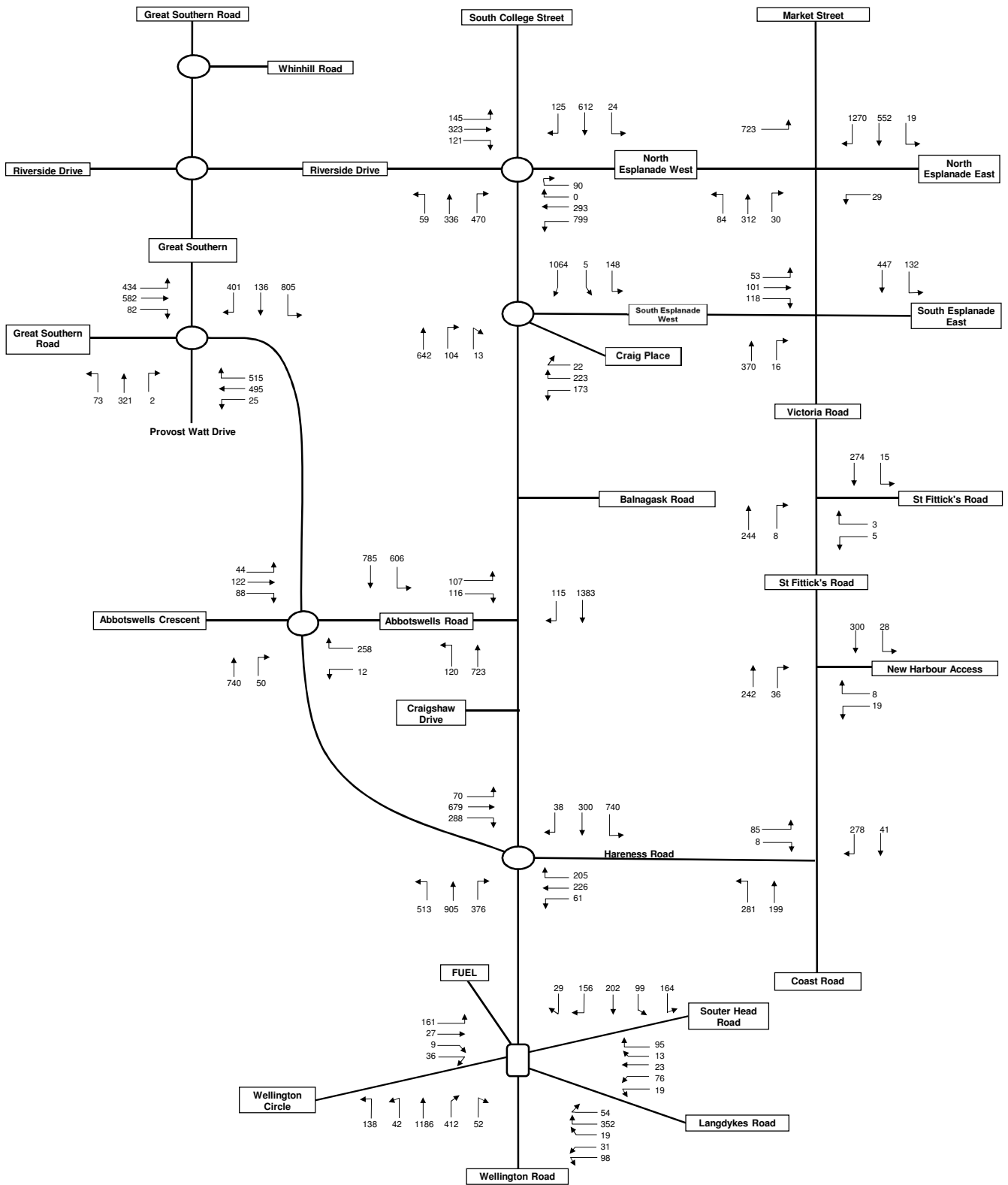


Figure 17: 2020 Paramics Base plus Committed plus Nigg Harbour Development Traffic - AM Peak

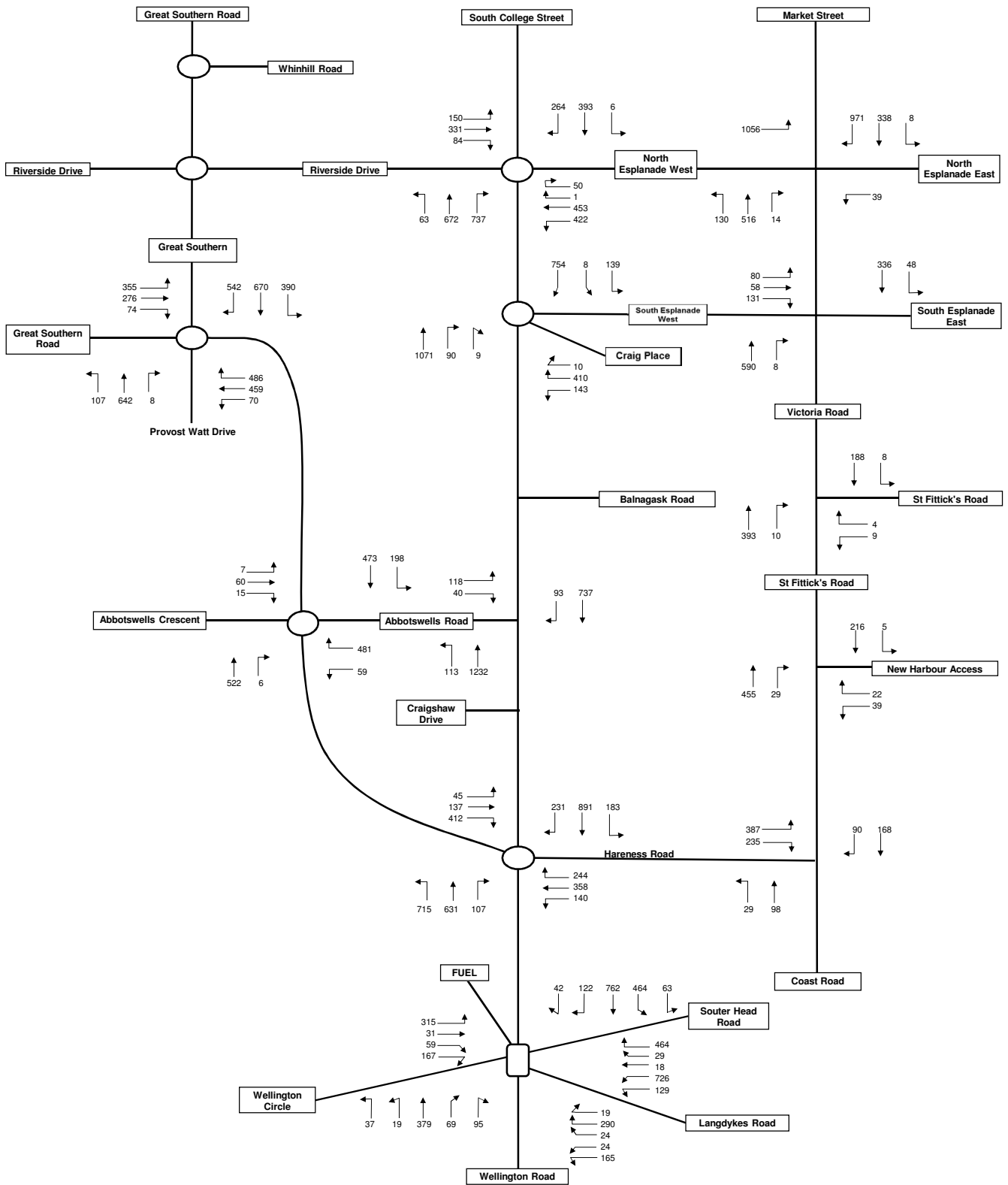
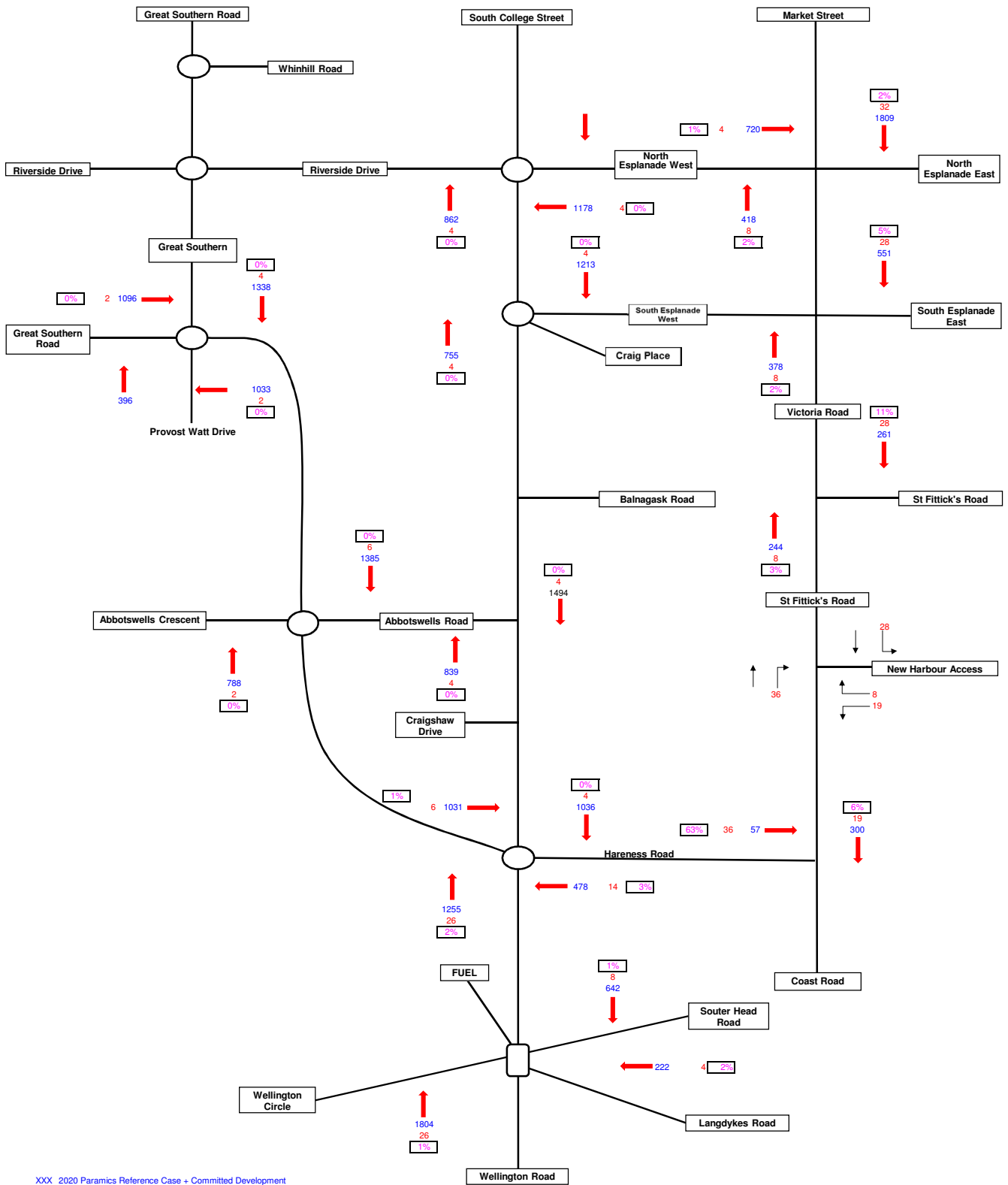
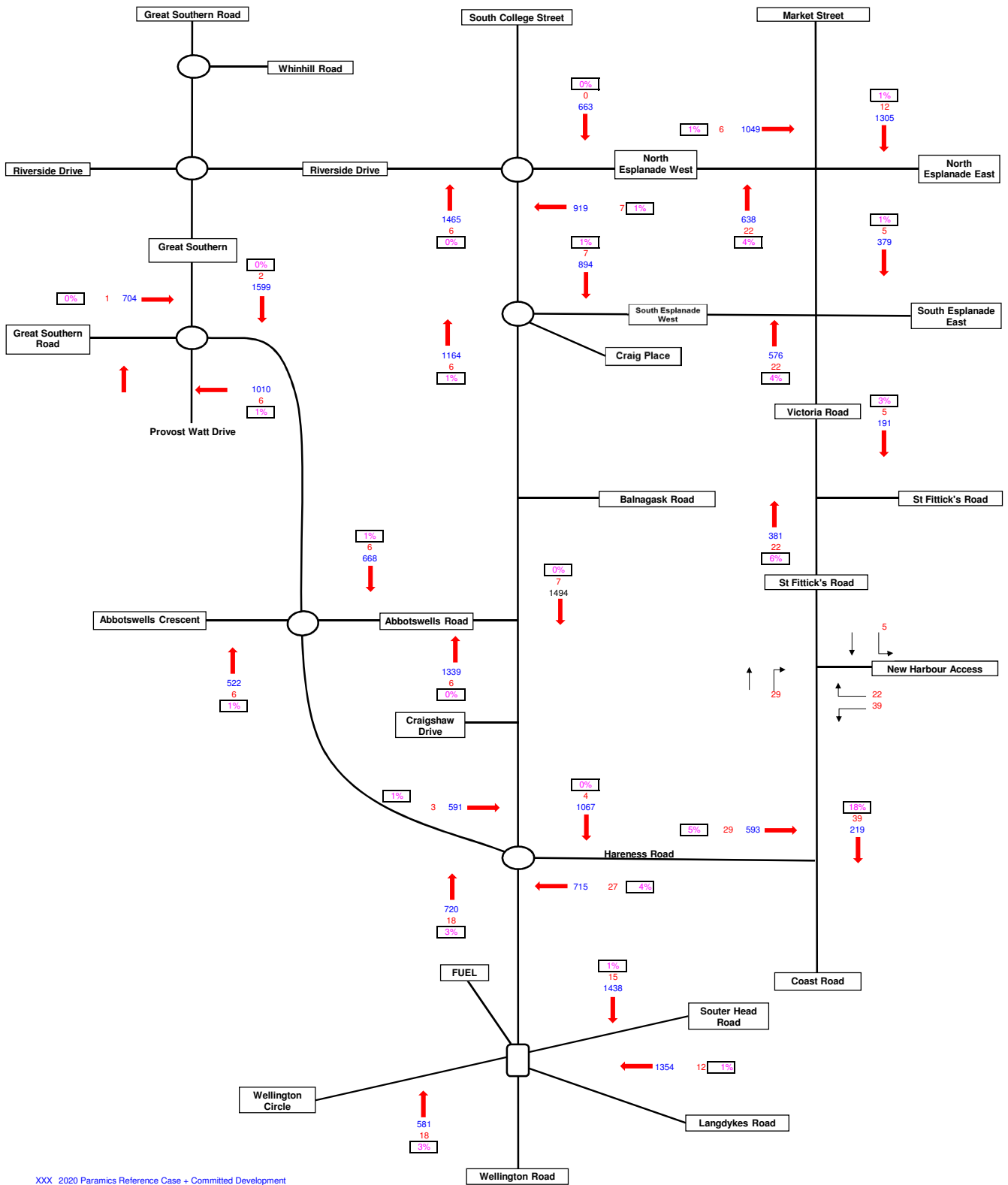


Figure 18: 2020 Paramics Base plus Committed plus Nigg Harbour Development Traffic - PM Peak



XXX 2020 Paramics Reference Case + Committed Development
 XXX Proposed Harbour Development Traffic
 XXX Development Traffic Impact

Figure 19: Development Traffic Impact - Threshold Assessment AM Peak



XXX 2020 Paramics Reference Case + Committed Development
 XXX Proposed Harbour Development Traffic
 XXX Development Traffic Impact

Figure 20: Development Traffic Impact - Threshold Assessment PM Peak

CIVIL ENGINEERING • STRUCTURAL ENGINEERING • TRANSPORTATION • ROADS & BRIDGES
PORTS & HARBOURS • GEOTECHNICAL & ENVIRONMENTAL ENGINEERING • PLANNING &
DEVELOPMENT • WATER SERVICES • CDM COORDINATOR SERVICES

www.fairhurst.co.uk

Aberdeen	Leeds
Bristol	London
Dundee	Manchester
Edinburgh	Newcastle upon Tyne
Elgin	Sheffield
Glasgow	Watford
Inverness	Wellesbourne

FAIRHURST

Ross McDonald

From: John-Paul Cleary <JCleary@aberdeencity.gov.uk>
Sent: 24 June 2015 10:05
To: Ross McDonald
Cc: [REDACTED]
Subject: RE: 108675: Nigg Harbour
WAFJob: 108675

Hi Ross

I can confirm Aberdeen City Council are in acceptance of the Scoping Statement, the distribution estimates and the amended traffic generation tables.

[REDACTED] has added that he would still expect the junctions to be analysed to remain as per the scoping statement. He also wants to note that the distribution would take a proportion of traffic along Victoria Road which is both a residential area and Noise Management Area and therefore would require consideration on that basis. There may also be wider concerns about any potential impact on Wellington Road and this is something that should be considered within the Transport Assessment.

We also note that section 1.14.1 confirms that delivery of material by sea and road will both be considered. Has the use of rail already been ruled out? Maybe it would have been appropriate to make reference to rail one way or the other in that section.

Apart from that we are happy with the contents.

Regards
John-Paul

John-Paul Cleary
Senior Programme Manager
Programme Management Office
Commercial & Procurement Service

Aberdeen City Council
Second Floor, Woodhill House, Westburn Road, Aberdeen AB16 5GB

jcleary@aberdeencity.gov.uk
01224 665810 | [REDACTED]

From: Ross McDonald [REDACTED]
Sent: 17 June 2015 18:17
To: John-Paul Cleary
Cc: [REDACTED]
Subject: 108675: Nigg Harbour
Importance: High

John-Paul,

Following agreement of the Nigg Harbour traffic generation figures earlier today, I now attach our formal Scoping Statement for the Transport Assessment. An early response from ACC confirming acceptance or otherwise of the methodology and study area proposed would be appreciated.

Regards

Ross McDonald
Technical Director

Fairhurst
engineering solutions, delivering results

88 Queens Road,
Aberdeen,
AB15 4YQ

Tel: [REDACTED]
Email: [REDACTED] Website: <http://www.fairhurst.co.uk>

This email message and accompanying data are for the sole use of the intended recipient(s) and may contain confidential information and/or copyright material. Unauthorised use, copying or disclosure of any of it is prohibited and may be unlawful. If you received this email message in error, please notify us immediately and erase all copies of this message and attachments.

Fairhurst scans and monitors incoming and outgoing mail in accordance with its Email Policy. This email has been scanned for viruses but Fairhurst accept no liability for any virus which may be attached.

A full list of partners is available for inspection at any of the firm's offices.

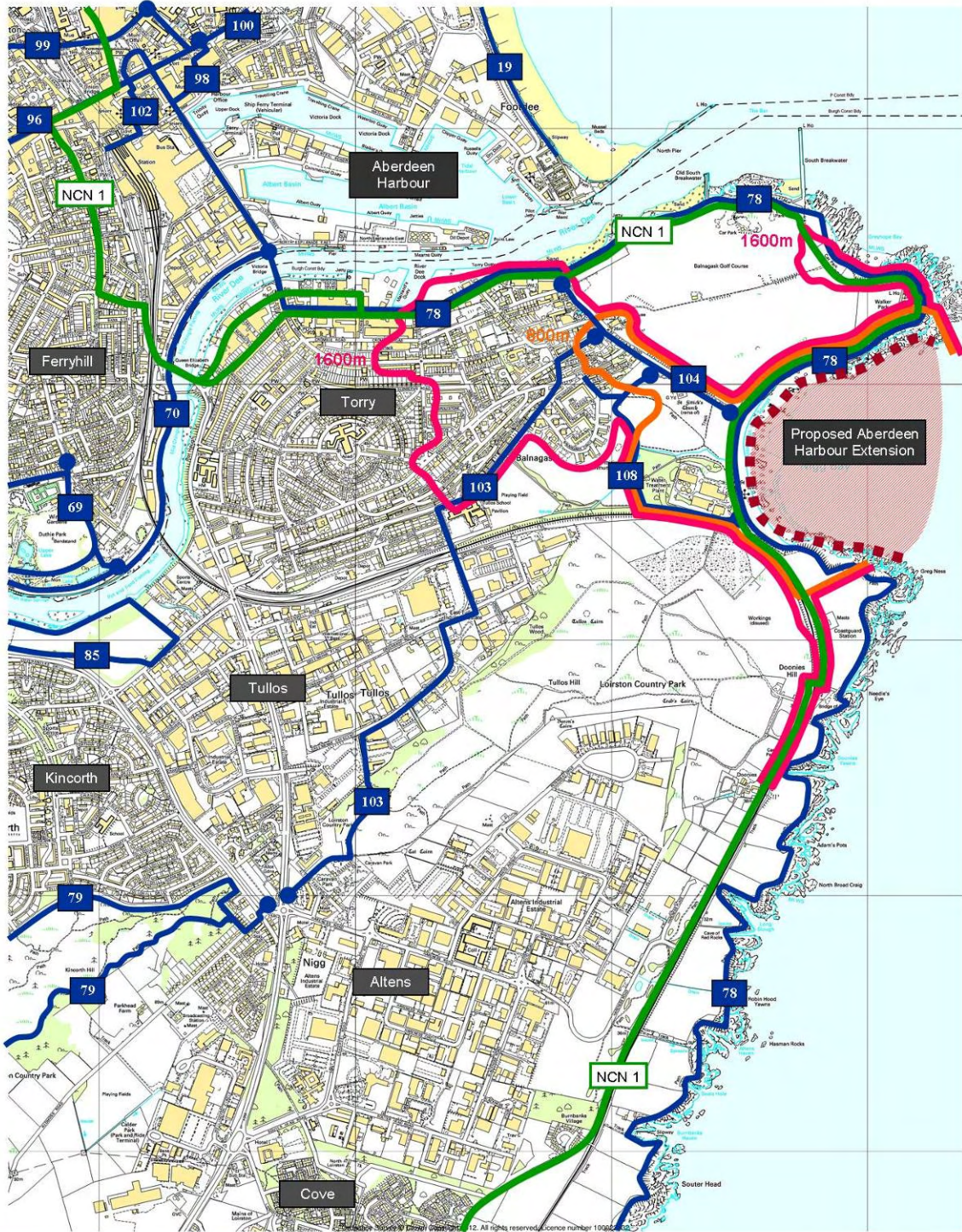
Appendix B
Sustainable Transport Maps

Key:

Walking Isochrones:
— 800 metres
— 1600 metres

Core Path Network:
— Core Path Routes
● End of Core Path
78 Core Path Route Number

Cycle Network:
— National Cycle Route 1



Client:



Aberdeen Harbour

Project Title:
 108675 Aberdeen Harbour
 Harbour Expansion at Nigg Bay

Drawing Title:
 Walking and Cycling Accessibility
 Walking Isochrones plus
 Core Paths and National Cycle Route Map

Figure 3-2

FAIRHURST

88 Queens Road, Aberdeen
 AB15 4YQ

T: 01224 321222
 F: 01224 323201

Key:

Recommended Route



Dual Use Path



On-Road Cycle Lanes



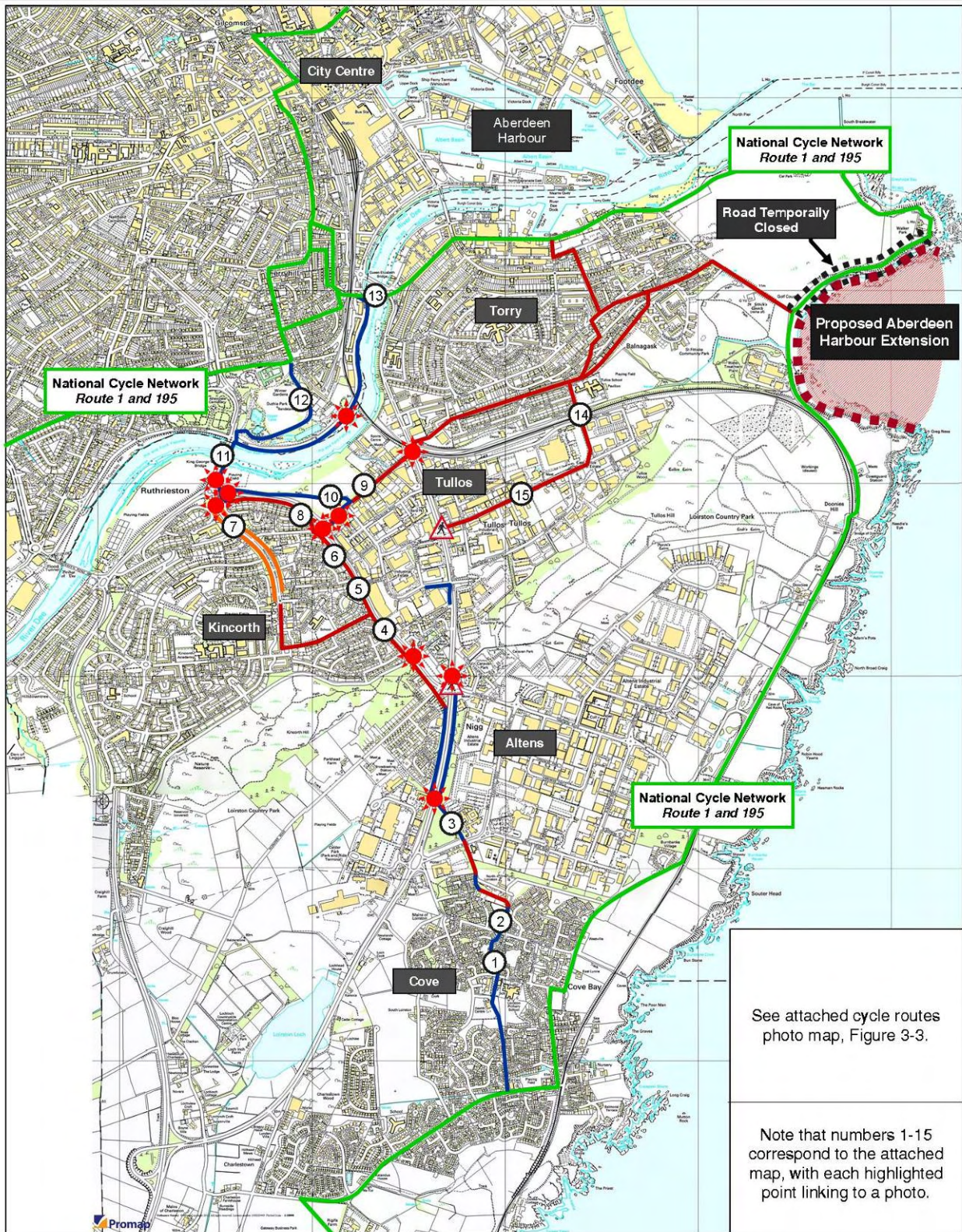
National Cycle Network
Route 1 and 195



Pedestrian Crossing



Toucan Crossing



See attached cycle routes photo map, Figure 3-3.

Note that numbers 1-15 correspond to the attached map, with each highlighted point linking to a photo.

Client:



Aberdeen Harbour

Project Title:

108675 Aberdeen Harbour
Harbour Expansion at Nigg Bay

Drawing Title:

Cycle Accessibility
Cycle Routes Overview
Proposed Alternative Cycle Routes

Figure 3-3

FAIRHURST

88 Queens Road, Aberdeen
AB15 4YQ

T: 01224 321222

F: 01224 323201

Key:

Photos correspond to Figure 3-2, Appendix B.
 Note that numbers 1 to 15 match with points highlighted on the associated map.



Client:



Aberdeen Harbour

Project Title:
 108675 Aberdeen Harbour
 Harbour Expansion at Nigg Bay

Drawing Title:
 Cycle Accessibility
 Cycle Routes Overview
 Proposed Alternative Cycle Routes

Figure 3-4

FAIRHURST

88 Queens Road, Aberdeen
 AB15 4YQ

T: 01224 321222
 F: 01224 323201

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller: Her Majesty's Stationary Office. © Crown Copyright 2015. All rights reserved. License number: 109905.

FAIRHURST



1. 2. **Bus Only Lane on Menzies Road**

Menzies Road is designated as a one way road, accommodating southbound movement. However there is an allocated bus only lane, 'no entry expect for buses' allowing buses to head northbound through Menzies Road.



3. 4. **Bus Stops on Victoria Road**

Bus stops are primarily made up of bus shelters in the area and include timetable information boards.

The bus stops are served by;

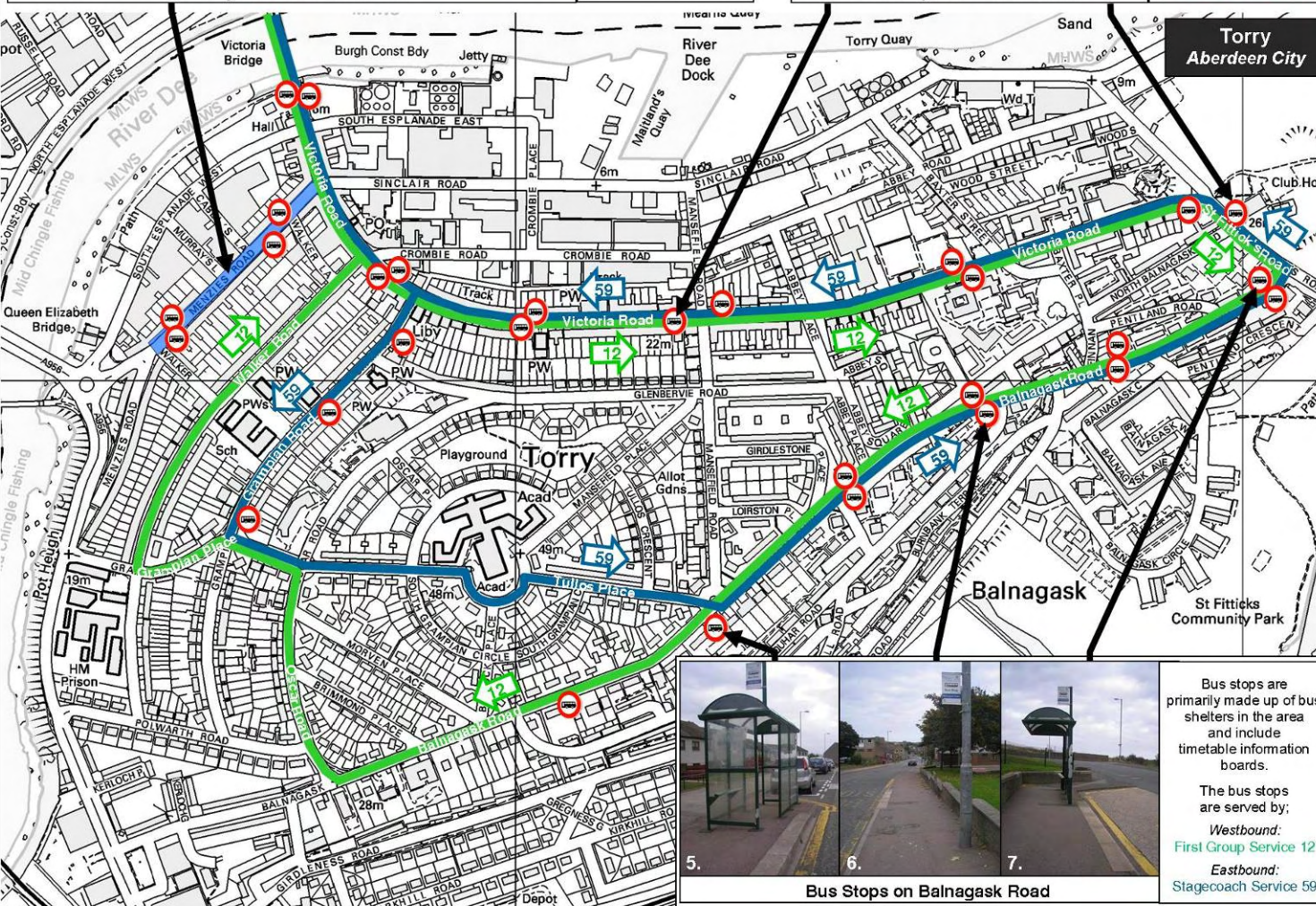
Westbound:
Stagecoach Service 59

Eastbound:
First Group Service 12

FAIRHURST

Project Title:
108675 Aberdeen Harbour
Harbour Expansion at Nigg Bay

Drawing Title:
Torry Accessibility Study
Existing Bus Network and Facilities
Figure 3-5



KEY:

- Bus Stops
 - Bus Only Lane (Northbound)
- Bus Routes Through Torry**
- Service 12
First Group
Torry to Heathryhold
 - Service 59
Stagecoach
Torry to Northfield
- Direction of Bus Route



5. 6. 7. **Bus Stops on Balnagask Road**

Bus stops are primarily made up of bus shelters in the area and include timetable information boards.

The bus stops are served by;

Westbound:
First Group Service 12

Eastbound:
Stagecoach Service 59

Client:
 Aberdeen Harbour

Drawn by: KC

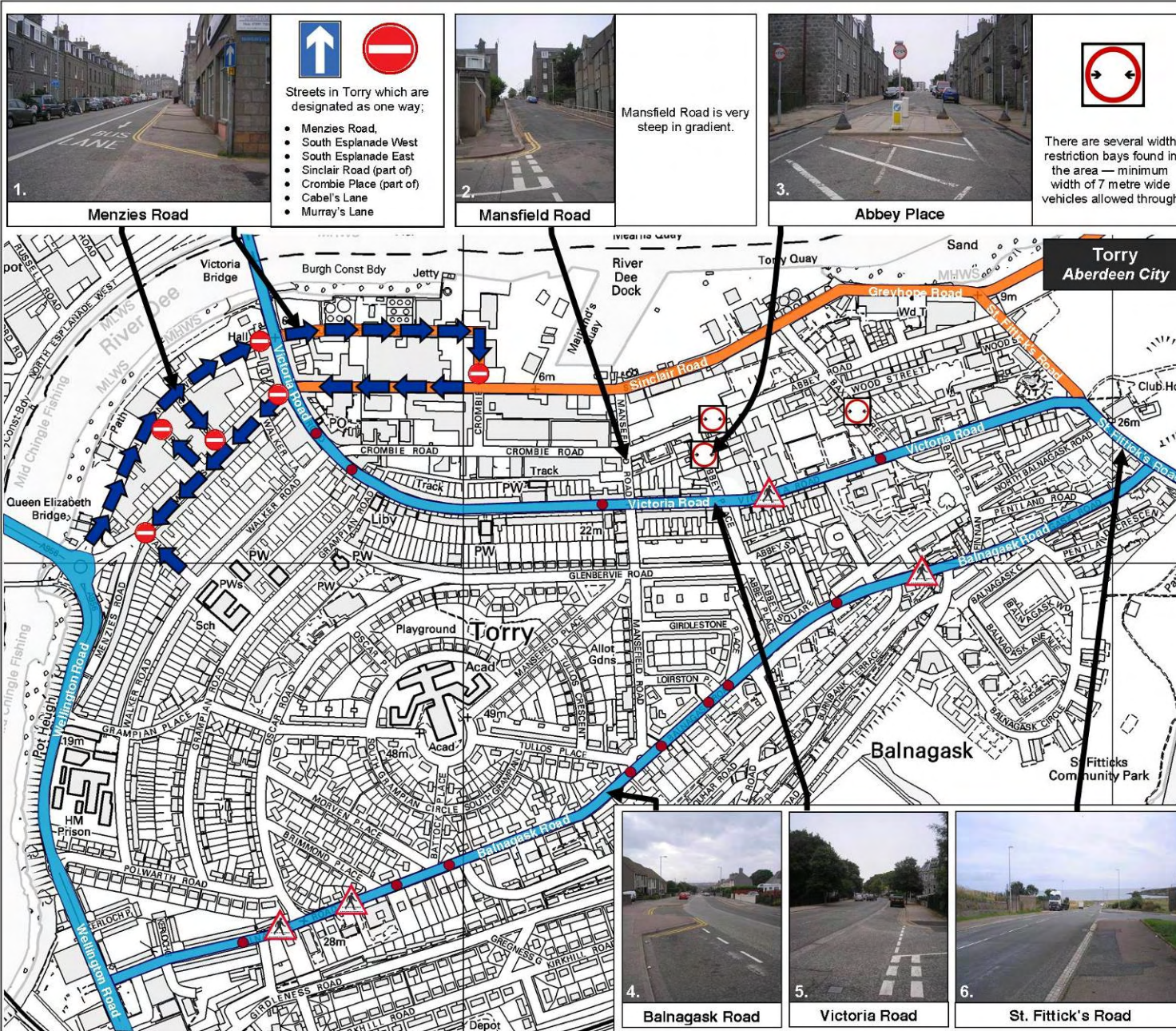
Date: 12/05/15

88 Queens Road
Aberdeen
AB15 4YQ

T: 01224 321222
F: 01224 323201

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright 2015. All rights reserved. Licence number: 100005


FAIRHURST



Project Title:
108675 Aberdeen Harbour
Harbour Expansion at Nigg Bay

Drawing Title:
Torry Accessibility Study
Existing Road Network and
Road Restrictions
Figure 3-6

Client:



Drawn by: KC

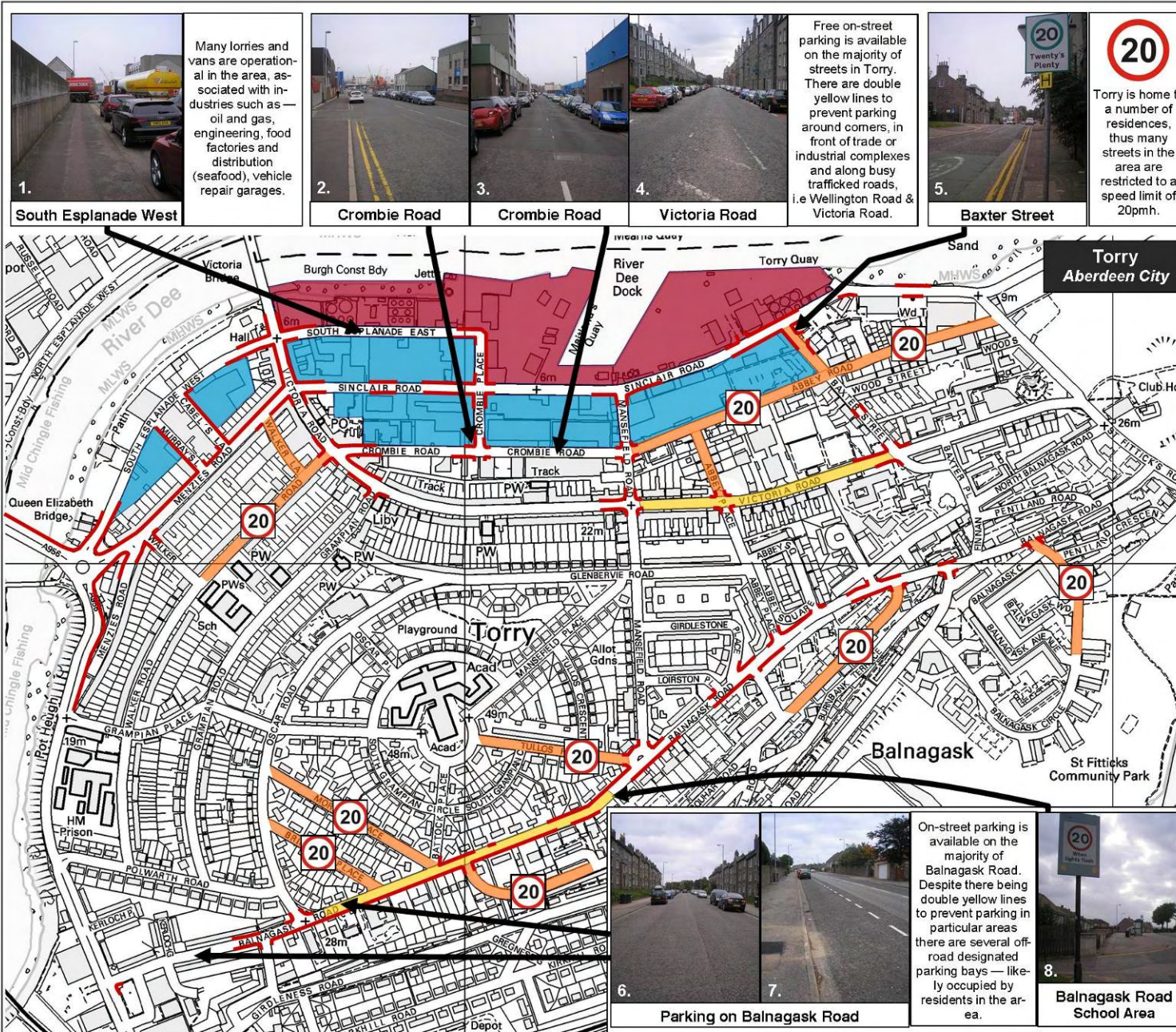
Date: 12/05/15

**88 Queens Road
Aberdeen
AB15 4YQ**

**T: 01224 321222
F: 01224 323201**

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller: Her Majesty's Stationary Office. © Crown Copyright 2015. All rights reserved. License number: 109505

FAIRHURST



FAIRHURST

Project Title:
108675 Aberdeen Harbour
Harbour Expansion at Nigg Bay

Drawing Title:
Torry Accessibility Study
Heavy Industrial/Trade Activity,
Parking Restrictions and Speed Zones
Figure 3-7

- KEY:**
- No Parking
(Double Yellow Lines)
 - 20 20 mph Speed
Restriction Zone
 - 20 20 mph School
Speed Restriction Zone
Applies When Lights Flash
 - Harbour Activity
 - Industrial/Trade Area;
Oil and Gas
Food Factories/Distribution
Engineering
Vehicle Repair Garages

Client:  Aberdeen Harbour

Drawn by: KC

Date: 12/05/15

88 Queens Road
Aberdeen
AB15 4YQ

T: 01224 321222
F: 01224 323201

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright 2015. All rights reserved. License number: 10005

Appendix C
Traffic Survey Data

100011 Aberdeen Junction Counts

Report Id 818
 Site Name Site 1 of 9
 Description St. Fittick's Road, 20m south of Victoria Road
 Direction Southbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
0000 - 0100	13	7	3	2	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	2	3	8	0	0	0	0	0	0	0	0	28.4	25.2	3.8
0100 - 0200	7	2	2	1	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	0	0	-	26.9	3.4	
0200 - 0300	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	-	29.4	1.6		
0300 - 0400	5	3	2	0	0	0	0	3	0	1	1	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	-	23.6	5.9		
0400 - 0500	2	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	-	22.9	5.9			
0500 - 0600	12	1	2	5	4	0	0	10	0	2	0	0	0	0	0	0	0	0	0	1	3	7	1	0	0	0	0	0	28.0	26.1	3.8			
0600 - 0700	27	3	4	9	11	0	0	24	0	3	0	0	0	0	0	0	0	0	3	2	6	11	3	2	0	0	0	0	30.4	25.5	6.2			
0700 - 0800	58	5	13	21	19	0	1	49	1	6	0	0	0	1	0	0	0	0	0	11	16	27	4	0	0	0	0	0	28.6	24.7	4.2			
0800 - 0900	48	13	11	11	13	0	0	36	0	11	0	0	0	0	1	0	0	0	5	8	18	16	1	0	0	0	0	0	27.5	22.7	4.7			
0900 - 1000	54	14	10	13	17	0	0	44	0	9	0	1	0	0	0	0	0	0	1	8	22	22	1	0	0	0	0	0	28.2	24.0	4.2			
1000 - 1100	78	20	14	19	25	0	0	64	0	8	0	3	0	0	1	2	0	0	3	5	15	35	17	3	0	0	0	0	26.8	21.8	5.4			
1100 - 1200	109	21	26	24	38	0	1	95	1	9	1	1	0	0	1	0	0	1	4	21	45	32	6	0	0	0	0	0	27.1	23.2	4.6			
1200 - 1300	109	21	27	34	27	0	0	99	0	5	4	0	0	0	1	0	0	0	6	25	42	33	3	0	0	0	0	0	26.2	22.3	4.6			
1300 - 1400	123	35	36	17	35	1	0	113	0	6	1	0	0	0	1	1	0	0	9	20	48	42	4	0	0	0	0	0	27.5	23.1	4.4			
1400 - 1500	116	20	33	33	30	0	2	110	0	4	0	0	0	0	0	0	0	0	4	20	45	45	1	1	0	0	0	0	27.1	23.4	4.3			
1500 - 1600	107	25	26	24	32	0	2	97	1	5	0	1	0	0	1	0	0	1	7	30	46	19	2	1	0	1	0	0	25.7	21.4	5.4			
1600 - 1700	96	19	26	24	27	0	0	88	0	5	1	0	0	0	0	2	0	0	11	33	30	18	4	0	0	0	0	0	26.4	21.0	5.2			
1700 - 1800	86	21	27	20	18	2	0	79	0	4	1	0	0	0	0	0	0	1	2	14	34	30	5	0	0	0	0	0	27.3	23.3	4.6			
1800 - 1900	88	18	31	13	26	0	0	83	0	2	1	1	0	0	1	0	0	0	5	17	37	28	1	0	0	0	0	0	26.4	22.6	4.3			
1900 - 2000	59	15	13	17	14	0	0	51	0	5	0	1	0	0	1	1	0	0	3	13	24	19	0	0	0	0	0	0	26.2	22.1	4.3			
2000 - 2100	51	14	13	11	13	0	0	48	0	1	0	1	0	0	0	1	0	0	2	8	29	11	1	0	0	0	0	0	25.7	22.6	4.0			
2100 - 2200	33	8	7	10	8	0	1	30	0	2	0	0	0	0	0	0	0	0	2	1	20	10	0	0	0	0	0	0	27.3	23.7	3.9			
2200 - 2300	29	6	11	6	6	0	0	29	0	0	0	0	0	0	0	0	0	0	2	7	10	9	1	0	0	0	0	0	27.5	23.1	4.8			
2300 - 0000	19	5	5	2	7	0	0	19	0	0	0	0	0	0	0	0	0	0	1	2	3	12	1	0	0	0	0	0	28.2	25.2	3.9			
0700 - 1900	1072	232	280	253	307	3	6	957	3	74	9	7	0	0	7	6	0	0	6	59	222	418	329	35	2	0	1	0	0	27.3	22.7	4.8		
0600 - 2200	1242	272	317	300	353	3	7	1110	3	85	9	9	0	0	8	8	0	0	6	69	246	497	380	39	4	0	1	0	0	27.3	22.7	4.7		
0600 - 0000	1290	283	333	308	366	3	7	1158	3	85	9	9	0	0	8	8	0	0	6	72	255	510	401	41	4	0	1	0	0	27.3	22.8	4.7		
0000 - 0000	1331	297	343	317	374	3	8	1194	3	88	10	9	0	0	8	8	0	0	6	72	260	519	424	45	4	0	1	0	0	27.5	22.9	4.7		

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation	
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph
0000 - 0100	18	6	4	6	2	0	0	18	0	0	0	0	0	0	0	0	0	0	2	1	1	9	5	0	0	0	0	0	0	25.5	21.3	6.3
0100 - 0200	8	1	5	1	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	1	0	0	0	0	0	-	24.4	4.0
0200 - 0300	5	2	2	0	1	0	0	4	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	-	22.3	8.6	
0300 - 0400	10	0	4	5	1	0	1	9	0	0	0	0	0	0	0	0	0	0	0	0	2	7	1	0	0	0	0	0	-	27.6	3.9	
0400 - 0500	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-	23.2	-	
0500 - 0600	3	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	-	24.1	2.7	
0600 - 0700	6	0	0	2	4	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	-	23.0	4.5	
0700 - 0800	17	4	4	7	2	0	0	16	0	1	0	0	0	0	0	0	0	0	1	0	2	8	4	2	0	0	0	0	27.1	22.9	5.8	
0800 - 0900	17	4	6	5	2	0	0	14	1	2	0	0	0	0	0	0	0	0	2	1	6	7	1	0	0	0	0	0	26.8	23.2	4.7	
0900 - 1000	24	7	2	7	8	0	0	20	0	4	0	0	0	0	0	0	0	0	3	2	9	10	0	0	0	0	0	0	26.6	22.6	4.4	
1000 - 1100	56	7	17	17	15	0	0	50	1	4	1	0	0	0	0	0	0	0	4	9	26	16	1	0	0	0	0	0	26.6	22.8	4.1	
1100 - 1200	59	8	9	24	18	0	0	55	0	3	0	0	0	1	0	0	0	0	5	14	30	9	1	0	0	0	0	0	25.1	21.4	4.3	
1200 - 1300	82	15	19	22	26	0	1	75	0	4	2	0	0	0	0	0	0	0	1	12	39	28	2	0	0	0	0	0	26.6	23.6	3.5	
1300 - 1400	82	17	27	18	20	0	0	79	0	2	1	0	0	0	0	0	0	0	1	10	23	43	5	0	0	0	0	0	28.0	24.9	3.9	
1400 - 1500	100	25	22	18	35	0	1	93	1	4	0	0	0	0	0	1	0	0	2	7	16	42	28	4	1	0	0	0	27.1	22.7	5.2	
1500 - 1600	78	22	23	14	19	1	0	72	0	3	0	0	0	0	1	1	0	0	1	7	12	24	30	4	0	0	0	0	27.5	23.0	5.2	
1600 - 1700	85	23	16	16	30	0	0	80	0	3	1	0	0	0	0	1	0	0	4	7	42	28	4	0	0	0	0	0	27.5	24.1	3.9	
1700 - 1800	83	28	27	17	11	0	1	78	0	3	0	1	0	0	0	0	0	0	1	1	7	40	30	4	0	0	0	0	28.9	24.3	4.0	
1800 - 1900	75	29	12	14	20	0	1	72	0	2	0	0	0	0	0	0	0	0	4	7	23	40	1	0	0	0	0	0	27.5	24.3	4.0	
1900 - 2000	55	11	18	12	14	0	0	53	0	2	0	0	0	0	0	0	0	0	2	1	7	20	24	1	0	0	0	0	26.8	23.0	5.3	
2000 - 2100	38	14	11	10	3	0	0	36	0	2	0	0	0	0	0	0	0	0	1	1	19	13	4	0	0	0	0	0	27.5	25.2	3.8	
2100 - 2200	33	10	9	4	10	0	0	29	0	2	1	1	0	0	0	0	0	0	1	0	5	13	11	3	0	0	0					

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation									
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph						
0000 - 0100	7	1	4	2	0	0	0	5	0	1	1	0	0	0	0	0	0	0	0	1	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	18.8	4.0
0100 - 0200	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	21.7	-
0200 - 0300	4	1	0	0	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	17.0	0.6	
0300 - 0400	2	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.4	1.6	
0400 - 0500	2	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-	26.0	3.0	
0500 - 0600	14	3	2	4	5	1	0	11	1	1	0	0	0	0	0	0	0	0	0	1	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	22.6	4.1		
0600 - 0700	28	2	4	9	13	0	0	20	0	3	3	1	0	0	0	1	0	0	0	2	3	14	9	0	0	0	0	0	0	0	0	0	0	0	0	25.7	22.2	4.0		
0700 - 0800	194	14	43	56	81	2	2	159	0	16	12	2	0	0	0	1	0	0	2	2	4	103	78	5	0	0	0	0	0	0	0	0	0	0	26.8	24.4	3.3			
0800 - 0900	233	54	66	74	39	0	3	205	0	15	7	1	1	0	0	1	0	0	0	2	29	127	71	4	0	0	0	0	0	0	0	0	0	0	26.8	23.5	3.2			
0900 - 1000	100	33	29	17	21	0	0	76	0	18	4	0	0	0	1	1	0	0	0	6	11	46	35	2	0	0	0	0	0	0	0	0	0	27.1	23.3	4.1				
1000 - 1100	94	27	21	24	22	2	1	72	0	16	0	1	0	0	2	0	0	0	3	14	16	33	26	2	0	0	0	0	0	0	0	0	0	26.4	21.1	5.3				
1100 - 1200	119	21	35	33	30	2	5	86	0	14	11	0	0	0	0	1	0	0	1	4	21	53	36	4	0	0	0	0	0	0	0	0	0	27.1	23.0	4.5				
1200 - 1300	120	35	26	31	28	0	1	99	0	6	8	4	0	1	1	0	0	0	1	3	24	46	40	6	0	0	0	0	0	0	0	0	0	27.5	23.3	4.3				
1300 - 1400	87	19	25	20	23	1	0	62	0	11	5	2	0	0	1	5	0	0	0	3	18	39	23	4	0	0	0	0	0	0	0	0	26.2	22.8	4.3					
1400 - 1500	99	23	21	35	20	3	0	76	0	12	7	0	0	0	0	1	0	0	0	7	22	40	29	1	0	0	0	0	0	0	0	0	26.6	22.2	4.5					
1500 - 1600	152	38	32	41	41	1	1	121	1	18	7	0	0	0	0	2	1	0	2	2	14	70	61	3	0	0	0	0	0	0	0	0	27.5	23.9	3.8					
1600 - 1700	252	92	55	49	56	4	3	205	0	13	27	0	0	0	0	0	0	0	2	4	19	79	132	15	1	0	0	0	0	0	0	0	28.6	25.2	4.0					
1700 - 1800	218	56	48	64	50	0	2	178	1	13	23	0	0	0	0	1	0	0	1	4	22	96	89	6	0	0	0	0	0	0	0	0	27.3	24.0	3.7					
1800 - 1900	129	42	39	19	29	0	1	107	0	13	7	1	0	0	0	0	0	0	1	1	19	54	51	2	1	0	0	0	0	0	0	0	26.8	23.7	4.0					
1900 - 2000	65	17	19	14	15	0	0	56	0	2	5	2	0	0	0	0	0	0	0	4	6	32	19	4	0	0	0	0	0	0	0	0	27.7	23.4	4.6					
2000 - 2100	38	8	10	9	11	1	1	26	0	2	7	0	0	0	0	1	0	0	1	1	7	16	7	4	0	0	0	0	0	0	0	2	29.8	26.9	17.1					
2100 - 2200	19	9	3	4	3	0	0	17	0	0	2	0	0	0	0	0	0	0	0	1	3	7	5	1	0	2	0	0	0	0	0	0	28.2	25.4	7.2					
2200 - 2300	10	4	3	2	1	0	0	5	0	2	2	1	0	0	0	0	0	0	0	0	5	3	2	0	0	0	0	0	0	0	0	0	-	21.2	4.0					
2300 - 0000	9	2	5	1	1	0	0	6	0	1	2	0	0	0	0	0	0	0	0	0	2	5	2	0	0	0	0	0	0	0	0	0	-	22.3	3.5					
0700 - 1900	1797	454	440	463	440	15	19	1446	2	165	118	11	1	1	5	13	1	0	13	52	219	786	671	54	2	0	0	0	0	0	2	27.3	23.7	4.1						
0600 - 2200	1947	490	476	499	482	16	20	1565	2	172	135	14	1	1	5	15	1	0	14	60	238	855	711	63	2	2	0	0	0	0	2	27.3	23.7	4.7						
0600 - 0000	1966	496	484	502	484	16	20	1576	2	175	139	15	1	1	5	15	1	0	14	60	245	863	715	63	2	2	0	0	0	0	2	27.3	23.7	4.7						
0000 - 0000	1996	502	491	508	495	17	20	1599	3	177	142	15	1	1	5	15	1	0	14	62	252	880	719	63	2	2	0	0	0	0	2	27.3	23.7	4.7						

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph		
0000 - 0100	4	1	1	2	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	-	25.1	6.3
0100 - 0200	2	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	-	20.2	1.4
0200 - 0300	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-	25.9	-	
0300 - 0400	3	2	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	-	24.7	3.2	
0400 - 0500	3	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	-	20.5	2.3	
0500 - 0600	12	2	2	4	4	0	0	10	1	1	0	0	0	0	0	0	0	0	0	1	3	6	2	0	0	0	0	0	0	0	0	22.8	20.6	4.4		
0600 - 0700	34	3	9	11	11	0	0	28	0	3	3	0	0	0	0	0	0	0	1	0	11	14	7	1	0	0	0	0	0	0	0	25.7	21.8	4.6		
0700 - 0800	177	25	43	50	59	0	1	151	1	13	9	1	0	0	0	1	0	0	0	3	6	82	78	5	3	0	0	0	0	0	0	27.3	24.7	3.6		
0800 - 0900	229	68	62	56	43	1	1	184	1	23	16	1	0	1	1	0	0	0	3	8	15	102	97	4	0	0	0	0	0	0	27.1	23.9	3.9			
0900 - 1000	100	26	20	21	33	1	0	72	0	18	6	1	0	2	0	0	0	0	3	2	12	55	26	2	0	0	0	0	0	0	26.6	23.0	4.5			
1000 - 1100	84	26	18	21	19	0	1	54	1	19	7	0	0	0	1	1	0	0	0	4	14	39	27	0	0	0	0	0	0	0	25.9	22.7	3.5			
1100 - 1200	97	19	28	26	24	0	0	69	0	22	5	0	0	0	0	1	0	0	0	5	18	38	35	1	0	0	0	0	0	0	26.6	23.0	4.2			
1200 - 1300	107	35	24	27	21	1	0	83	0	14	6	0	0	0	0	3	0	0	0	3	18	41	37	8	0	0	0	0	0	0	27.3	23.8	4.2			
1300 - 1400	100	28	27	30	15	4	1	62	1	26	3	1	1	0	1	0	0	0	3	5	17	43	31	1	0	0	0	0	0	0	27.3	22.4	4.9			
1400 - 1500	113	33	19	25	36	2	0	88	0	18	3	0	0	0	1	1	0	0	1	1	15	53	40	3	0	0	0	0	0	0	27.3	23.7	3.9			
1500 - 1600	140	24	33	39	44	4	0	105	0	20	9	1	0	0	0	1	0	0	2	10	18	50	54	5	1	0	0	0	0	0	27.5	23.3	4.9			
1600 - 1700	240	75	54	50	61	3	1	206	0	10	13	2	0	0	1	4	0	0	0	3	22	92	106	14	0	0	3	0	0	0	28.4	25.0	4.7			
1700 - 1800	189	36																																		

100011 Aberdeen Junction Counts

Report Id 817
 Site Name Site 2 of 9
 Description Victoria Road, 20m west of St. Fittick's Road
 Direction Eastbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation										
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph							
0000 - 0100	12	7	2	2	1	0	0	11	0	1	0	0	0	0	0	0	0	0	0	2	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.2	26.9	5.1
0100 - 0200	6	2	2	1	1	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	27.8	7.8	
0200 - 0300	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	29.2	0.6		
0300 - 0400	5	3	2	0	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-	28.3	5.0		
0400 - 0500	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	27.7	1.7		
0500 - 0600	15	2	3	6	4	0	0	13	0	2	0	0	0	0	0	0	0	0	1	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	30.2	26.3	5.2		
0600 - 0700	36	3	6	12	15	0	0	33	0	3	0	0	0	0	0	0	0	0	3	4	6	15	7	0	1	0	0	0	0	0	0	0	0	0	0	0	32.2	25.8	6.5		
0700 - 0800	69	13	13	22	21	0	1	57	0	8	1	1	0	1	0	0	0	0	3	13	21	21	11	0	0	0	0	0	0	0	0	0	0	0	0	0	30.2	23.9	5.6		
0800 - 0900	47	14	13	7	13	0	0	36	0	9	1	0	0	0	1	0	0	0	2	6	15	18	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29.5	24.4	4.9		
0900 - 1000	53	14	10	9	20	0	0	42	0	9	1	1	0	0	0	0	0	0	1	9	18	19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29.5	24.3	4.9		
1000 - 1100	69	16	15	18	20	1	0	53	0	9	3	1	0	0	1	1	0	1	4	12	25	21	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29.1	23.7	5.3		
1100 - 1200	108	22	30	28	28	0	1	89	0	15	0	1	0	0	1	1	0	0	3	15	37	43	10	0	0	0	0	0	0	0	0	0	0	0	0	0	28.9	24.5	4.3		
1200 - 1300	94	19	28	27	20	1	0	85	0	7	1	0	0	0	0	0	0	0	8	10	25	40	11	0	0	0	0	0	0	0	0	0	0	0	0	0	29.8	24.8	5.3		
1300 - 1400	109	35	30	17	27	0	0	97	0	10	1	0	0	0	0	1	0	2	8	13	28	44	14	0	0	0	0	0	0	0	0	0	0	0	0	0	29.8	24.3	5.6		
1400 - 1500	97	19	18	33	27	2	0	88	0	6	0	0	0	0	1	0	0	2	1	11	21	52	9	1	0	0	0	0	0	0	0	0	0	0	0	0	29.1	25.2	4.7		
1500 - 1600	78	17	13	21	27	0	2	69	0	7	0	0	0	0	0	0	0	0	2	9	18	40	7	1	1	0	0	0	0	0	0	0	0	0	0	0	28.4	25.3	4.8		
1600 - 1700	76	19	20	16	21	1	0	68	0	6	1	0	0	0	0	0	0	1	4	13	17	31	9	0	1	0	0	0	0	0	0	0	0	0	0	0	29.1	24.0	5.9		
1700 - 1800	74	16	23	21	14	0	0	64	0	9	1	0	0	0	0	0	0	0	7	5	21	31	9	1	0	0	0	0	0	0	0	0	0	0	0	0	29.8	25.1	5.2		
1800 - 1900	70	9	25	12	24	0	0	66	0	4	0	0	0	0	0	0	0	0	0	15	24	29	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	23.7	4.1		
1900 - 2000	56	14	13	15	14	0	0	47	0	8	1	0	0	0	0	0	0	0	2	15	12	25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.0	23.1	4.9		
2000 - 2100	41	10	10	10	11	0	0	36	0	3	2	0	0	0	0	0	0	0	2	8	13	16	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	23.3	4.8		
2100 - 2200	34	7	7	10	10	1	1	29	0	3	0	0	0	0	0	0	0	1	1	3	13	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	28.9	24.7	5.3		
2200 - 2300	28	6	8	7	7	0	0	25	0	3	0	0	0	0	0	0	0	0	1	3	9	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	24.6	4.6		
2300 - 0000	22	5	6	4	7	0	0	21	0	1	0	0	0	0	0	0	0	0	1	2	5	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	30.4	26.2	5.7		
0700 - 1900	944	213	238	231	262	5	4	814	0	99	10	4	0	1	4	3	0	6	43	131	270	389	100	3	2	0	0	0	0	0	0	0	0	0	0	0	29.1	24.5	5.1		
0600 - 2200	1111	247	274	278	312	6	5	959	0	116	13	4	0	1	4	3	0	7	51	161	314	457	115	3	3	0	0	0	0	0	0	0	0	0	0	0	29.1	24.4	5.1		
0600 - 0000	1161	258	288	289	326	6	5	1005	0	120	13	4	0	1	4	3	0	7	53	166	328	478	123	3	3	0	0	0	0	0	0	0	0	0	0	0	29.3	24.4	5.1		
0000 - 0000	1203	273	297	299	334	6	5	1043	0	124	13	4	0	1	4	3	0	7	55	170	332	499	132	5	3	0	0	0	0	0	0	0	0	0	0	0	29.5	24.5	5.1		

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation								
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph					
0000 - 0100	13	4	4	4	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	1	3	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	30.0	26.4	4.2
0100 - 0200	7	1	4	1	1	0	0	6	0	0	1	0	0	0	0	0	0	0	0	0	1	4	1	1	0	0	0	0	0	0	0	0	0	0	0	-	29.2	4.1	
0200 - 0300	5	2	2	0	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-	28.3	7.7	
0300 - 0400	12	0	4	7	1	0	1	11	0	0	0	0	0	0	0	0	0	0	0	1	5	3	2	0	0	0	0	0	0	0	0	0	0	0	0	32.2	28.4	5.6	
0400 - 0500	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	24.1	-	
0500 - 0600	4	0	1	2	1	0	0	4	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-	22.2	8.1	
0600 - 0700	5	0	0	2	3	0	0	4	0	1	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-	24.8	5.4	
0700 - 0800	19	4	3	10	2	0	0	17	0	2	0	0	0	0	0	0	0	0	2	8	1	7	1	0	0	0	0	0	0	0	0	0	0	0	0	28.9	21.7	6.5	
0800 - 0900	13	3	6	2	2	0	0	10	0	3	0	0	0	0	0	0	0	0	0	5	3	2	3	0	0	0	0	0	0	0	0	0	0	0	0	30.2	23.5	5.9	
0900 - 1000	27	7	4	6	10	0	0	23	0	4	0	0	0	0	0	0	0	0	0	8	5	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	23.5	4.9
1000 - 1100	47	5	15	14	13	0	0	41	1	5	0	0	0	0	0	0	0	0	2	4	16	19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29.5	24.4	4.6
1100 - 1200	47	7	8	15	17	0	0	43	0	4	0	0	0	0	0	0	0	0	2	7	15	19	4	0	0	0	0	0	0	0	0	0	0	0	0	0	28.2	24.1	4.9
1200 - 1300	83	16	18	23	26	0	0	75	0	7	1	0	0	0	0	0	0	0	4	11	23	37	8	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	24.5	4.7
1300 - 1400	76	17	24	18	17	0	0	72	0	4	0	0</																											

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph			
		0000 - 0100	3	2	1	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0				0	0	0	0	0
0700 - 1900	806	183	204	218	201	6	8	680	0	72	15	5	0	5	10	5	0	0	5	56	155	296	205	74	13	2	0	0	0	0	0	0	0	0	28.6	23.2	5.6
0600 - 2200	858	195	217	231	215	7	10	726	0	74	15	5	0	6	10	5	0	0	6	69	170	308	211	77	14	3	0	0	0	0	0	0	0	0	28.6	23.1	5.8
0600 - 0000	868	198	217	233	220	7	10	735	0	74	15	5	0	7	10	5	0	0	6	69	170	313	212	79	14	4	1	0	0	0	0	0	0	0	28.6	23.1	5.9
0000 - 0000	881	200	220	237	224	7	10	744	0	77	15	5	0	7	11	5	0	0	6	71	175	317	213	80	14	4	1	0	0	0	0	0	0	28.6	23.1	5.9	

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph				
		0000 - 0100	2	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0				0	0	0	0	0	0
0700 - 1900	742	208	168	188	178	0	6	615	5	74	20	2	0	5	11	4	0	0	3	53	145	252	204	68	12	5	0	0	0	0	0	0	0	0	29.1	23.4	5.7	
0600 - 2200	788	222	181	200	185	1	6	655	6	75	22	2	0	6	11	4	0	0	3	64	161	259	213	71	12	5	0	0	0	0	0	0	0	0	0	29.1	23.2	5.8
0600 - 0000	798	224	185	201	188	1	6	664	6	75	23	2	0	6	11	4	0	0	3	65	165	259	215	73	12	5	0	0	0	0	0	1	0	0	29.1	23.3	6.1	
0000 - 0000	811	228	186	205	192	1	6	674	6	75	23	2	1	8	11	4	0	0	4	67	166	264	217	74	13	5	0	0	0	0	1	0	0	0	29.1	23.3	6.1	

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph			
		0000 - 0100	3	2	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0				0	0	0	0	0
0700 - 1900	336	74	96	88	78	6	9	276	0	32	11	2	0	0	0	0	0	0	0	0	49	143	104	22	11	2	0	0	0	0	0	0	0	0	28.4	24.5	4.8
0600 - 2200	406	98	113	113	82	6	11	335	0	36	15	3	0	0	0	0	0	0	0	0	53	175	126	31	14	2	0	0	0	0	0	0	0	0	28.9	24.7	4.8
0600 - 0000	420	101	116	120	83	7	13	345	0	37	15	3	0	0	0	0	0	0	0	0	57	183	128	31	14	2	0	0	0	0	0	0	0	0	28.6	24.7	4.7
0000 - 0000	427	104	116	120	87	7	13	351	0	38	15	3	0	0	0	0	0	0	0	0	57	185	132	32	14	2	0	0	0	0	0	0	0	0	28.6	24.7	4.7

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph				
		0000 - 0100	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0				0	0	0	0	0	0
0700 - 1900	310	66	81	87	76	8	1	267	0	27	6	0	1	0	0	0	0	0	0	0	47	169	72	17	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0600 - 2200	351	82	89	100	80	8	1	306	0	29	6	0	1	0	0	0	0	0	0	0	52	188	84	21	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0600 - 0000	362	85	92	103	82	8	1	316	0	29	7	0	1	0	0	0	0	0	0	0	53	192	88	23	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0000 - 0000	365	85	94	103	83	8	1	319	0	29	7	0	1	0	0	0	0	0	0	0	53	195	88	23	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9

Friday 20 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45				MPH 50	MPH 55	MPH 60	MPH 65
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																				
0000 - 0100	6	1	2	2	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	-	28.3	4.8
0100 - 0200	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	-	29.9	0.7	
0200 - 0300	2	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	23.0	6.2		
0300 - 0400	3	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	-	30.5	1.9		
0400 - 0500	4	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	-	29.7	3.1		
0500 - 0600	27	4	4	8	11	0	0	19	0	6	0	1	0	0	0	1	0	0	0	0	7	15	4	1	0	0	0	0	0	30.0	27.6	3.7		
0600 - 0700	148	11	17	47	73	0	1	135	0	12	0	0	0	0	0	0	0	0	0	5	72	63	7	1	0	0	0	0	32.7	30.0	3.0			
0700 - 0800	435	90	107	122	116	1	3	396	0	31	1	2	0	0	0	1	0	0	0	2	46	257	117	10	3	0	0	0	31.5	28.7	3.3			
0800 - 0900	247	88	77	52	30	0	2	225	1	14	1	1	0	0	2	1	0	0	0	2	24	109	103	9	0	0	0	0	32.4	29.4	3.4			
0900 - 1000	100	35	17	24	24	1	0	73	2	19	0	2	0	1	0	2	0	0	0	4	18	46	24	6	2	0	0	0	32.4	28.1	4.8			
1000 - 1100	91	18	35	23	15	0	1	67	0	18	1	1	0	1	1	0	0	1	0	3	17	46	22	2	1	0	0	0	31.3	28.0	3.9			
1100 - 1200	118	26	26	33	33	0	1	96	0	17	1	1	0	0	2	0	0	0	0	2	26	53	32	5	0	0	0	0	31.5	28.0	3.9			
1200 - 1300	142	31	31	37	43	0	3	112	0	24	0	0	0	1	2	0	0	0	1	4	25	62	42	7	1	0	0	0	32.4	28.4	4.6			
1300 - 1400	127	29	24	46	28	0	2	101	1	18	1	0	0	0	2	2	0	0	0	4	18	59	35	6	5	0	0	0	32.2	28.8	4.8			
1400 - 1500	167	37	31	50	49	1	2	134	1	23	0	0	0	0	4	2	0	0	0	6	37	70	47	6	1	0	0	0	32.0	27.8	4.6			
1500 - 1600	155	42	39	39	35	0	0	130	0	20	1	0	0	0	2	0	0	0	0	2	25	64	52	9	2	1	0	0	32.9	29.0	4.3			
1600 - 1700	224	55	53	61	55	0	1	200	2	18	0	1	0	0	1	1	0	0	0	1	25	125	65	7	1	0	0	0	31.8	28.7	3.4			
1700 - 1800	167	52	47	38	30	1	3	144	0	16	2	1	0	0	0	0	0	0	1	0	20	81	55	7	1	2	0	0	32.9	29.2	4.4			
1800 - 1900	61	23	14	15	9	0	0	60	0	1	0	0	0	0	0	0	0	0	0	6	24	25	5	1	0	0	0	0	33.6	30.0	3.9			
1900 - 2000	70	12	22	21	15	0	0	61	0	7	0	0	0	0	2	0	0	0	0	1	15	25	26	3	0	0	0	0	32.0	28.2	4.2			
2000 - 2100	31	10	7	7	7	0	0	30	0	0	0	0	0	0	0	1	0	0	0	1	4	17	6	3	0	0	0	0	32.0	28.5	4.2			
2100 - 2200	22	6	7	4	5	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	6	9	5	1	1	0	0	0	34.0	28.9	5.5			
2200 - 2300	28	4	10	5	9	0	0	27	0	0	0	0	0	0	0	1	0	0	0	1	3	10	11	3	0	0	0	0	34.7	29.8	4.8			
2300 - 0000	15	2	6	4	3	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	9	5	0	1	0	0	0	34.0	30.3	4.2			
0700 - 1900	2034	526	501	540	467	4	18	1738	7	219	8	9	0	2	13	15	0	1	0	2	30	287	996	619	79	18	3	0	0	32.2	28.7	4.0		
0600 - 2200	2305	565	554	619	567	4	19	1986	7	238	8	9	0	2	15	16	0	1	0	2	32	317	1119	719	93	20	3	0	0	32.4	28.8	4.0		
0600 - 0000	2348	571	570	628	579	4	19	2028	7	238	8	9	0	2	15	17	0	1	0	2	33	320	1138	735	96	21	3	0	0	32.4	28.8	4.0		
0000 - 0000	2392	579	576	641	596	4	19	2063	7	244	8	10	0	2	15	19	0	1	0	2	34	328	1161	746	97	21	3	0	0	32.4	28.8	4.0		

Virtual Day (7.00 Partial Days)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45				MPH 50	MPH 55	MPH 60	MPH 65
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																				
0000 - 0100	6	2	2	2	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	1	0	0	0	0	-	29.5	5.3		
0100 - 0200	2	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	-	29.1	5.5		
0200 - 0300	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	24.5	7.5			
0300 - 0400	3	0	1	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	-	28.6	3.5			
0400 - 0500	4	1	1	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	-	28.8	3.1			
0500 - 0600	20	2	3	5	11	0	0	17	0	3	0	0	0	0	0	0	0	0	0	0	0	2	11	7	1	0	0	0	32.2	29.1	3.3			
0600 - 0700	125	9	20	38	58	0	0	112	0	11	0	0	0	0	0	1	0	0	0	0	8	61	50	5	1	0	0	0	32.7	29.7	3.3			
0700 - 0800	361	74	91	99	98	1	4	326	0	27	1	1	0	0	0	1	0	0	0	3	38	212	97	8	2	0	0	0	31.3	28.7	3.8			
0800 - 0900	238	88	74	45	31	1	2	214	0	15	1	1	0	0	2	2	0	0	0	0	3	25	123	78	8	1	0	0	0	31.8	28.8	3.6		
0900 - 1000	83	24	19	20	21	0	0	61	0	17	1	1	0	0	0	1	0	0	0	0	3	17	39	21	3	1	0	0	0	31.8	27.9	4.3		
1000 - 1100	89	18	25	22	23	0	1	67	0	14	1	2	0	0	1	2	0	0	0	0	4	22	42	18	2	1	0	0	0	31.1	27.2	4.3		
1100 - 1200	100	26	22	26	26	0	1	79	0	15	1	1	0	0	1	2	0	0	0	0	4	21	50	22	2	1	0	0	0	31.3	27.4	4.1		
1200 - 1300	121	26	25	33	37	0	1	103	0	13	1	1	0	0	1	1	0	0	0	0	3	25	56	31	5	1	0	0	0	32.4	28.1	4.3		
1300 - 1400	119	31	28	30	29	0	1	98	0	14	1	0	0	0	1	2	0	0	0	0	3	27	57	26	4	1	0	0	0	31.3	27.7	4.4		
1400 - 1500	126	29	27	32	38	0	1	103	1	17	1	0	0	0	2	1	0	0	0	1	5	30	58	28	4	1	0	0	0	31.5	27.4	4.4		
1500 - 1600	137	34	30	36	37	0	1	112	0	20	0	1	0	0	2	1	0	0	0	0	5	27	70	30	5	1	0	0	0	31.3	27.8	4.1		
1600 - 1700	190	40	46	43	61	0	2	165	1	17	1	1	0	0	2	1	0	0	0	0	3	29	103	48	6	1	0	0	0	31.8	28.2	3.8		
1700 - 1800	182	56	51	43	32	1	2	163	1	12	1	0	0	0	1	1	0	0	0	1	2	24	91	57	7	1	0	0	0	31.8	28.6	3.8		
1800 - 1900	85	25	23	20	18	0	1	79	0	4	0	0	0	0	1	1	0	0	0	0	2	12	40	26	4	1	0	0	0	32.7	28.7	4.3		
1900 - 2000	58	14	16	15	13	0	1	51	0	4	0	0	0	0	1	0	0	0	0	0	2	12	25	17	2	0	0	0	0	32.2	28.0	4.4		
2000 - 2100	34	11	8	9	6	0	0	32	0	1	0	0	0	0	0	1	0	0	0	0	5	17	9	2	1	0								

100011 Aberdeen Junction Counts

Report Id 820
 Site Name Site 5 of 9
 Description Coast Road, 20m south of St. Fittick's Road
 Direction Northbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph		
		0000 - 0100	6	0	1	2	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0				0	0	0	0
0100 - 0200	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	-	32.3	0.6
0200 - 0300	3	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	-	33.0	3.1	
0300 - 0400	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	32.2	-	
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0500 - 0600	7	0	3	1	3	0	0	6	1	0	0	0	0	0	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	0	0	-	32.3	6.2		
0600 - 0700	22	3	7	5	7	1	1	15	0	5	0	0	0	0	0	0	0	0	0	0	2	11	3	5	0	1	0	0	0	0	0	37.4	30.9	6.1		
0700 - 0800	23	5	7	1	10	0	0	20	0	3	0	0	0	0	0	0	0	0	0	0	1	8	8	5	1	0	0	0	0	0	0	37.1	31.9	4.9		
0800 - 0900	53	12	11	17	13	0	0	47	0	2	2	0	0	2	0	0	0	0	0	1	5	11	19	15	2	0	0	0	0	0	0	36.5	32.1	4.8		
0900 - 1000	61	15	16	15	15	1	0	53	0	6	1	0	0	0	0	0	0	0	0	1	5	11	31	11	2	0	0	0	0	0	0	36.0	31.6	4.7		
1000 - 1100	84	21	15	30	18	1	2	73	0	4	2	1	0	0	1	0	0	0	1	5	34	30	14	0	0	0	0	0	0	0	0	34.9	30.5	4.4		
1100 - 1200	90	30	22	12	26	0	1	79	1	4	1	0	0	0	3	1	0	0	0	4	14	30	30	11	0	1	0	0	0	0	34.0	29.3	5.1			
1200 - 1300	101	31	22	20	28	3	1	92	1	1	0	0	0	2	1	0	0	0	0	4	13	24	47	10	3	0	0	0	0	0	34.7	30.5	5.2			
1300 - 1400	64	20	14	15	15	1	1	59	0	3	0	0	0	0	0	0	0	0	2	3	22	29	7	1	0	0	0	0	0	0	34.0	30.2	4.2			
1400 - 1500	72	12	12	25	23	3	0	62	0	5	1	0	0	1	0	0	0	0	1	5	5	20	33	8	0	0	0	0	0	0	34.7	29.6	5.4			
1500 - 1600	70	15	14	25	16	3	0	63	0	3	0	0	0	1	0	0	0	0	5	7	25	24	8	1	0	0	0	0	0	0	34.4	29.4	5.4			
1600 - 1700	77	19	29	17	12	1	3	68	0	4	1	0	0	0	0	0	0	0	1	2	28	29	11	6	0	0	0	0	0	0	36.7	31.7	5.2			
1700 - 1800	68	21	18	15	14	2	1	60	0	3	0	0	1	1	0	0	0	0	2	4	19	29	10	4	0	0	0	0	0	0	35.8	31.2	5.2			
1800 - 1900	52	12	19	12	9	0	0	49	0	2	0	0	0	1	0	0	0	0	0	2	16	19	12	3	0	0	0	0	0	0	35.8	32.1	4.3			
1900 - 2000	45	15	14	7	9	0	1	41	0	3	0	0	0	0	0	0	0	0	1	6	19	12	7	0	0	0	0	0	0	0	33.6	29.4	4.9			
2000 - 2100	25	8	5	5	7	0	0	22	0	1	2	0	0	0	0	0	0	0	0	4	13	8	0	0	0	0	0	0	0	0	0	31.3	28.8	3.0		
2100 - 2200	15	5	4	2	4	0	0	13	0	2	0	0	0	0	0	0	0	0	0	1	6	4	4	0	0	0	0	0	0	0	35.6	31.1	5.0			
2200 - 2300	11	4	2	2	3	0	0	11	0	0	0	0	0	0	0	0	0	0	0	1	4	2	3	1	0	0	0	0	0	0	36.9	31.9	6.1			
2300 - 0000	6	3	1	1	1	0	0	5	0	1	0	0	0	0	0	0	0	0	0	2	3	0	0	1	0	0	0	0	0	0	-	28.7	7.6			
0700 - 1900	815	213	199	204	199	15	9	725	2	40	8	1	0	1	11	3	0	0	0	3	24	66	248	328	122	23	1	0	0	0	35.1	30.7	5.0			
0600 - 2200	922	244	229	223	226	16	11	816	2	51	10	1	0	1	11	3	0	0	0	3	25	79	297	355	138	23	2	0	0	0	35.3	30.6	5.0			
0600 - 0000	939	251	232	226	230	16	11	832	2	52	10	1	0	1	11	3	0	0	0	3	25	82	304	357	141	25	2	0	0	0	35.3	30.6	5.0			
0000 - 0000	958	254	237	231	236	16	11	850	3	52	10	1	0	1	11	3	0	0	0	3	25	84	306	367	144	27	2	0	0	0	35.3	30.6	5.0			

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	2	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0				0	0
0100 - 0200	8	1	4	0	3	0	0	7	0	1	0	0	0	0	0	0	0	0	0	0	2	4	2	0	0	0	0	0	0	0	-	32.3	3.5	
0200 - 0300	4	1	2	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	-	32.4	4.4	
0300 - 0400	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	-	31.2	1.0	
0400 - 0500	2	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	-	28.9	6.8	
0500 - 0600	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	34.0	9.3	
0600 - 0700	2	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	29.2	2.2	
0700 - 0800	10	0	3	6	1	0	0	6	0	4	0	0	0	0	0	0	0	0	0	0	1	2	5	2	0	0	0	0	0	0	-	31.4	4.3	
0800 - 0900	16	3	2	7	4	0	0	13	0	3	0	0	0	0	0	0	0	0	0	0	1	5	7	3	0	0	0	0	0	0	35.8	31.2	4.4	
0900 - 1000	19	2	6	3	8	0	0	17	0	1	0	0	0	1	0	0	0	0	0	0	1	4	10	3	1	0	0	0	0	0	35.6	31.8	4.4	
1000 - 1100	34	6	15	6	7	0	0	31	0	3	0	0	0	0	0	0	0	0	0	2	14	15	3	0	0	0	0	0	0	0	33.1	30.0	3.2	
1100 - 1200	46	11	9	15	11	0	0	43	0	2	0	0	0	1	0	0	0	0	3	3	9	20	9	2	0	0	0	0	0	0	37.1	31.0	5.7	
1200 - 1300	53	11	17	15	10	0	0	51	0	2	0	0	0	0	0	0	0	0	0	3	20	19	8	2	1	0	0	0	0	0	35.8	31.2	5.	

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph			
		0000 - 0100	3	2	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0				0	0	0	0	0
0700 - 1900	336	74	96	88	78	6	9	276	0	32	11	2	0	0	0	0	0	0	0	0	49	143	104	22	11	2	0	0	0	0	0	0	0	0	28.4	24.5	4.8
0600 - 2200	406	98	113	113	82	6	11	335	0	36	15	3	0	0	0	0	0	0	0	0	53	175	126	31	14	2	0	0	0	0	0	0	0	0	28.9	24.7	4.8
0600 - 0000	420	101	116	120	83	7	13	345	0	37	15	3	0	0	0	0	0	0	0	0	57	183	128	31	14	2	0	0	0	0	0	0	0	0	28.6	24.7	4.7
0000 - 0000	427	104	116	120	87	7	13	351	0	38	15	3	0	0	0	0	0	0	0	0	57	185	132	32	14	2	0	0	0	0	0	0	0	0	28.6	24.7	4.7

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph				
		0000 - 0100	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0				0	0	0	0	0	0
0700 - 1900	310	66	81	87	76	8	1	267	0	27	6	0	1	0	0	0	0	0	0	0	47	169	72	17	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0600 - 2200	351	82	89	100	80	8	1	306	0	29	6	0	1	0	0	0	0	0	0	0	52	188	84	21	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0600 - 0000	362	85	92	103	82	8	1	316	0	29	7	0	1	0	0	0	0	0	0	0	53	192	88	23	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9
0000 - 0000	365	85	94	103	83	8	1	319	0	29	7	0	1	0	0	0	0	0	0	0	53	195	88	23	2	0	0	0	0	0	0	0	0	0	0	26.6	23.4	3.9

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme														Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph				MPH 65 <140mph			
		0000 - 0100	2	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0				0	0	0	0
0700 - 1900	2476	685	615	616	560	3	23	2159	12	184	21	23	0	6	25	18	2	0	3	10	84	433	1297	593	44	10	2	0	0	0	0	0	0	0	31.1	27.6	4.0
0600 - 2200	2649	740	655	652	602	3	27	2312	12	193	24	24	0	8	26	18	2	0	3	11	90	478	1377	626	50	12	2	0	0	0	0	0	0	0	31.1	27.6	4.0
0600 - 0000	2676	745	660	661	610	3	27	2338	12	193	24	24	0	8	26	19	2	0	3	11	92	488	1386	630	52	12	2	0	0	0	0	0	0	0	31.1	27.6	4.0
0000 - 0000	2694	749	665	668	612	3	27	2352	12	194	24	26	0	8	27	19	2	0	3	12	92	492	1394	635	52	12	2	0	0	0	0	0	0	31.1	27.6	4.1	

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme														Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph				MPH 65 <140mph				
		0000 - 0100	4	1	3	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	1	0	0	0				0	0	0	0	0
0700 - 1900	2430	657	563	621	589	5	9	2170	8	173	14	20	0	7	13	10	1	0	4	7	71	415	1301	579	49	3	1	0	0	0	0	0	0	0	31.1	27.7	3.8	
0600 - 2200	2577	705	594	656	622	5	9	2307	8	179	16	20	0	8	13	11	1	0	4	9	77	450	1369	613	51	3	1	0	0	0	0	0	0	0	0	31.1	27.7	3.9
0600 - 0000	2602	709	599	665	629	5	9	2331	8	180	16	20	0	8	13	11	1	0	4	9	78	452	1382	618	54	4	1	0	0	0	0	0	0	0	0	31.1	27.7	3.9
0000 - 0000	2628	714	606	672	636	5	9	2354	8	181	17	20	0	9	13	11	1	0	4	10	82	458	1390	624	55	4	1	0	0	0	0	0	0	0	0	31.1	27.7	3.9

Report Id 824
 Site Name Site 6 of 9
 Description St. Fittick's Road, 20m west of Greyhope Road
 Direction Eastbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph	
0000 - 0100	12	3	5	4	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	4	2	0	0	0	0	38.3	32.0	7.9		
0100 - 0200	3	1	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	-	35.7	5.6			
0200 - 0300	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	-	31.9	2.9			
0300 - 0400	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-	26.5	-			
0400 - 0500	4	0	1	1	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	-	34.4	4.3			
0500 - 0600	14	1	3	2	8	0	0	11	0	3	0	0	0	0	0	0	0	0	0	0	0	3	6	5	0	0	0	0	0	37.1	33.3	4.0			
0600 - 0700	30	3	1	13	13	0	0	28	0	2	0	0	0	0	0	0	0	0	0	0	0	1	4	10	10	4	1	0	0	41.8	34.9	5.6			
0700 - 0800	67	6	12	24	25	0	1	56	1	6	1	1	0	1	0	0	0	0	0	0	0	4	19	22	15	5	2	0	0	38.5	32.9	5.4			
0800 - 0900	49	15	11	9	14	0	0	41	0	6	1	0	0	0	0	1	0	0	0	0	1	4	13	11	17	2	1	0	0	38.3	32.4	6.0			
0900 - 1000	56	13	12	13	18	0	0	45	1	9	1	0	0	0	0	0	0	0	0	0	1	0	4	14	22	12	1	2	0	0	36.0	32.0	5.5		
1000 - 1100	89	21	25	26	17	0	0	79	0	4	1	1	0	0	2	2	0	0	0	0	0	2	11	33	27	14	2	0	0	35.3	30.0	5.0			
1100 - 1200	99	26	16	25	32	0	2	87	0	7	0	1	0	0	1	1	0	0	0	0	1	2	7	42	28	17	1	1	0	0	35.3	30.2	5.1		
1200 - 1300	107	19	32	28	28	0	0	100	0	4	1	0	0	0	1	1	0	0	0	0	2	2	13	41	26	17	5	0	0	35.8	30.3	6.0			
1300 - 1400	116	34	30	16	36	1	0	102	0	8	4	0	0	0	0	1	0	0	0	1	1	3	20	37	37	11	4	1	0	34.9	29.4	6.4			
1400 - 1500	107	24	21	34	28	0	2	100	0	3	1	0	0	0	1	0	0	0	0	1	0	0	16	43	38	7	2	0	0	33.6	29.2	4.7			
1500 - 1600	86	18	19	23	26	0	0	79	0	5	1	0	0	0	0	1	0	0	0	0	2	7	34	30	11	1	0	0	34.4	30.3	5.7				
1600 - 1700	90	21	25	19	25	0	0	83	0	3	1	0	0	0	2	1	0	0	0	0	1	13	31	26	16	3	0	0	36.9	30.5	5.3				
1700 - 1800	83	20	29	19	15	0	0	81	0	2	0	0	0	0	0	0	0	0	0	0	1	1	2	27	38	12	2	0	0	35.3	31.1	4.8			
1800 - 1900	80	18	21	13	28	0	0	76	0	2	0	0	0	0	1	1	0	0	0	0	0	1	7	30	31	10	1	0	0	34.2	30.2	4.5			
1900 - 2000	51	13	14	15	9	0	0	45	0	4	0	0	0	0	1	1	0	0	0	0	1	0	9	14	22	3	2	0	0	33.6	29.7	5.5			
2000 - 2100	32	8	6	7	11	0	0	28	0	1	2	0	0	0	0	1	0	0	0	0	1	0	2	12	9	7	1	0	0	36.5	30.7	5.6			
2100 - 2200	23	5	6	8	4	0	1	21	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	8	6	0	0	0	0	35.1	31.0	4.1			
2200 - 2300	18	4	5	3	6	0	0	17	0	1	0	0	0	0	0	0	0	0	0	0	2	0	9	2	3	2	0	0	0	37.6	30.3	7.4			
2300 - 0000	17	3	3	2	9	0	0	16	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2	6	7	1	0	0	38.7	33.1	6.6			
0700 - 1900	1029	235	253	249	292	1	5	929	2	59	12	3	0	1	8	9	0	0	0	2	6	15	108	364	336	159	29	7	1	1	1	0	35.8	30.5	5.5
0600 - 2200	1165	264	280	292	329	1	6	1051	2	67	14	3	0	1	9	11	0	0	0	2	8	15	123	402	383	185	36	8	1	1	1	0	36.0	30.6	5.5
0600 - 0000	1200	271	288	297	344	1	6	1084	2	68	14	4	0	1	9	11	0	0	0	2	11	15	123	413	391	195	39	8	1	1	1	0	36.0	30.6	5.6
0000 - 0000	1236	277	298	306	355	1	7	1115	2	72	14	4	0	1	9	11	0	0	0	2	11	16	125	421	400	208	42	8	1	1	1	0	36.0	30.7	5.6

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph			
0000 - 0100	16	8	3	3	2	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	2	5	3	4	2	0	0	0	39.8	33.1	6.2					
0100 - 0200	5	1	3	1	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	-	30.7	4.5					
0200 - 0300	3	2	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	-	32.4	6.1					
0300 - 0400	6	0	2	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	-	38.2	4.8					
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-			
0500 - 0600	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.0	0.2
0600 - 0700	4	0	0	3	1	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	-	31.1	4.3				
0700 - 0800	11	2	1	6	2	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	2	1	0	0	35.1	32.5	5.6					
0800 - 0900	12	2	5	3	2	0	0	10	0	1	0	0	0	0	1	0	0	0	0	0	0	1	2	3	4	1	1	0	0	34.7	29.5	6.4					
0900 - 1000	21	3	4	5	9	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	7	1	0	0	0	0	33.3	30.0	2.9					
1000 - 1100	54	7	12	20	15	0	0	52	0	2	0	0	0	0	0	0	0	0	0	0	0	1	7	27	14	5	0	0	0	32.2	28.9	4.0					
1100 - 1200	57	5	13	23	16	0	0	54	0	2	0	0	0	0	1	0	0	0	0	0	0	0	8	30	10	6	3	0	0	32.7	29.1	5.0					
1200 - 1300	88	19	16	26	27	0	0	84	0	4	0	0	0	0	0	0	0	0	0	0	1	2	11	32	28	14	0	0	0	35.1	29.3	5.2					
1300 - 1400	90	16	24	19	31	0	1	85	0	2	2	0	0	0	0	0	0	0	0	0	1	3	10	35	28	12	1	0	0	34.7	29.7	5.1					
1400 - 1500	85	18	18	18	31	0	0	81	0	3	0	0	0	0	0	1	0	0	0	0	0	2	22	27	26	7	1	0	0	33.6	28.4	5.0					
1500 - 1600	84	23	23	15	23	0	1	78	0	2	0	0	0	1	2	0	0	0	0	0	0	2	14	30	27	8	2	1	0	34.0	29.6	5.3					
1600 - 1700	86	24	16	18	28	0																															

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph				
		0000 - 0100	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0				0	0	0	0	0	0
0700 - 1900	2307	619	623	553	512	7	17	1936	3	272	17	9	1	5	14	22	1	3	5	2	35	230	808	877	293	50	7	0	0	0	0	0	0	0	34.9	30.3	4.8	
0600 - 2200	2612	665	687	637	623	7	20	2212	3	294	18	10	1	5	14	24	1	3	5	3	37	252	883	1000	359	61	10	2	0	0	0	0	0	35.1	30.5	4.9		
0600 - 0000	2634	670	696	641	627	7	20	2233	3	294	18	10	1	5	14	25	1	3	5	3	37	252	890	1008	363	63	11	2	0	0	0	0	0	35.3	30.6	4.9		
0000 - 0000	2664	672	700	652	640	7	20	2262	3	295	18	10	1	5	14	25	1	3	5	3	37	253	897	1020	370	65	12	2	0	0	0	0	0	35.3	30.6	4.9		

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation						
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph				
		0000 - 0100	5	1	1	2	1	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	0	0				0	0	0	0	0	0
0700 - 1900	2226	585	547	537	557	7	22	1834	12	278	19	7	2	3	18	23	0	1	1	4	33	169	665	887	393	60	14	0	0	0	0	0	0	0	35.6	31.2	4.9	
0600 - 2200	2544	642	616	624	662	9	26	2119	12	300	19	8	2	3	20	25	0	1	1	5	33	194	742	1023	451	80	15	0	0	0	0	0	0	0	35.8	31.3	4.9	
0600 - 0000	2572	649	625	634	664	9	26	2146	12	300	19	8	2	3	20	26	0	1	1	5	33	195	751	1027	461	83	15	1	0	0	0	0	0	0	36.0	31.3	5.0	
0000 - 0000	2614	655	634	647	678	9	26	2181	12	305	19	8	2	3	20	28	0	1	1	5	33	197	758	1044	475	85	15	1	0	0	0	0	0	0	36.0	31.3	5.0	

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation																				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph																		
		0000 - 0100	4	1	1	1	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 1900	2260	557	599	563	541	10	22	1869	5	278	17	19	0	4	11	23	0	2	2	3	24	147	663	890	446	66	15	2	0	0	0	2	2	36.2	31.6	5.1																
0600 - 2200	2581	605	677	655	644	10	26	2153	6	304	18	19	0	4	11	28	0	2	2	4	25	166	724	1047	512	77	19	3	0	0	2	36.2	31.7	5.1																		
0600 - 0000	2613	614	687	661	651	10	28	2180	6	305	18	19	0	4	11	30	0	2	2	4	25	168	731	1060	520	79	19	3	0	0	2	36.2	31.7	5.0																		
0000 - 0000	2652	620	692	668	672	10	28	2212	6	310	19	20	0	4	11	30	0	2	2	4	25	168	738	1076	534	81	19	3	0	0	2	36.2	31.8	5.0																		

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation																	
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph															
		0000 - 0100	4	2	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 1900	2237	564	538	571	564	8	17	1856	5	276	12	10	0	2	29	22	0	0	5	2	33	233	810	812	296	42	4	0	0	0	0	0	34.9	30.2	4.8														
0600 - 2200	2540	618	602	653	667	9	18	2127	5	302	12	11	0	2	29	25	0	0	5	2	33	246	888	942	358	60	6	0	0	0	0	0	35.1	30.5	4.8														
0600 - 0000	2571	628	610	662	671	9	18	2157	5	302	12	11	0	2	29	26	0	0	5	2	33	248	897	950	364	62	8	1	1	0	0	35.3	30.5	4.9															
0000 - 0000	2617	632	622	671	692	9	18	2197	5	307	12	11	0	2	29	27	0	0	5	2	33	249	906	970	378	63	9	1	1	0	0	35.3	30.6	4.9															

100011 Aberdeen Junction Counts

Report Id 821
 Site Name Site 7 of 9
 Description Coast Road, 40m north of Hareness Road
 Direction Southbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	13	4	4	4	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	3				0	2	3
0700 - 1900	997	247	233	226	291	5	9	891	3	64	1	2	0	2	13	7	0	0	2	3	6	9	24	103	199	199	192	113	77	30	40	54.4	44.6	10.3
0600 - 2200	1126	278	255	262	331	5	10	1007	3	70	3	2	0	2	14	10	0	0	2	3	6	9	30	117	225	220	215	131	88	35	45	54.4	44.7	10.3
0600 - 0000	1157	288	262	266	341	5	10	1037	3	71	3	2	0	2	14	10	0	0	2	3	6	9	31	119	229	229	220	133	93	37	46	55.0	44.7	10.3
0000 - 0000	1196	295	269	278	354	5	11	1071	3	75	3	2	0	2	14	10	0	0	2	3	6	9	31	125	232	239	226	137	96	43	47	55.0	44.8	10.3

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	13	4	4	4	1	0	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	6				0	1	2
0700 - 1900	688	174	162	171	181	1	5	650	2	23	0	0	0	2	3	2	0	0	0	2	1	3	17	77	154	159	126	79	41	16	13	52.6	43.7	8.9
0600 - 2200	778	203	183	195	197	1	6	734	2	28	0	0	0	2	3	2	0	0	0	3	2	4	19	91	162	175	147	87	49	22	17	52.8	43.9	9.4
0600 - 0000	799	207	187	202	203	1	6	755	2	28	0	0	0	2	3	2	0	0	0	3	2	4	19	94	163	177	151	88	53	24	21	53.2	44.1	9.5
0000 - 0000	826	213	195	210	208	1	6	780	2	29	1	0	0	2	3	2	0	0	0	3	2	4	20	95	166	184	159	89	55	26	23	53.5	44.2	9.6

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
0000 - 0100	5	1	1	1	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	1	-	55.3	17.3	
0100 - 0200	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	-	48.1	-	
0200 - 0300	2	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	-	39.5	8.2		
0300 - 0400	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-	37.7	-		
0400 - 0500	5	3	1	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	0	0	0	-	39.2	8.8		
0500 - 0600	19	1	2	3	13	0	0	15	0	4	0	0	0	0	0	0	0	0	0	0	1	2	0	8	5	0	1	2	0	47.4	44.7	9.0		
0600 - 0700	160	16	21	41	82	0	1	143	0	16	0	0	0	0	0	0	0	0	0	0	0	13	57	48	30	11	0	1	0	47.9	41.8	5.4		
0700 - 0800	480	101	116	125	138	0	7	426	2	42	0	1	0	0	2	0	0	0	0	0	3	73	224	124	36	10	4	2	4	43.8	39.6	5.5		
0800 - 0900	362	115	115	71	61	0	4	316	2	33	1	3	1	0	1	0	0	0	0	5	1	4	38	147	87	53	18	6	3	0	47.2	40.6	6.4	
0900 - 1000	98	27	23	22	26	0	0	58	0	31	2	3	0	1	2	1	0	0	0	0	0	6	12	35	32	7	3	0	0	44.3	39.8	6.3		
1000 - 1100	93	20	24	21	28	0	0	61	1	20	3	4	0	0	2	2	0	0	0	0	0	10	37	19	16	5	3	2	1	48.5	42.2	7.1		
1100 - 1200	105	22	33	23	27	0	1	78	0	26	0	0	0	0	0	0	0	0	0	0	2	4	26	40	21	6	5	0	1	49.0	43.3	6.5		
1200 - 1300	117	18	30	26	43	1	1	93	0	15	1	2	0	1	1	2	0	0	0	1	0	3	19	40	30	9	3	3	0	47.0	40.6	7.6		
1300 - 1400	121	27	33	39	22	0	0	95	1	21	0	1	0	1	1	1	0	0	0	0	0	9	32	52	10	11	6	0	1	49.7	42.8	6.4		
1400 - 1500	139	25	37	37	40	0	2	99	0	33	2	1	0	2	0	0	0	0	0	0	0	3	28	48	29	17	10	3	1	0	46.8	40.4	6.4	
1500 - 1600	154	36	38	42	38	0	0	118	1	30	1	3	0	0	1	0	0	0	0	1	0	1	14	48	56	21	8	2	3	0	46.3	41.5	6.4	
1600 - 1700	226	41	63	43	79	0	2	186	0	32	1	0	0	0	2	0	0	0	0	0	2	5	24	50	73	37	21	8	3	3	49.9	43.0	7.8	
1700 - 1800	232	67	61	60	44	3	3	203	0	19	0	0	0	0	1	1	1	1	3	0	2	3	6	18	55	78	43	15	5	3	1	48.3	41.6	8.6
1800 - 1900	106	29	25	23	29	0	2	92	0	11	1	0	0	0	0	0	0	0	0	0	0	6	16	17	18	25	13	6	5	57.7	48.8	9.0		
1900 - 2000	73	14	24	18	17	0	2	67	0	4	0	0	0	0	0	0	0	0	0	0	1	3	4	12	26	17	5	3	0	2	48.8	43.6	8.8	
2000 - 2100	36	10	8	9	9	0	0	34	0	1	0	0	0	1	0	0	0	0	0	0	0	2	6	12	5	7	0	2	0	51.9	44.3	8.0		
2100 - 2200	36	7	12	10	7	0	0	33	0	2	0	0	0	0	1	0	0	0	0	0	0	5	7	9	4	4	2	2	3	57.9	46.2	10.4		
2200 - 2300	16	4	6	4	2	0	0	15	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	1	3	5	1	2	1	60.4	50.2	9.9		
2300 - 0000	12	6	4	2	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	1	0	3	0	2	57.7	49.1	11.7		
0700 - 1900	2233	528	598	532	575	4	22	1825	7	313	12	18	1	5	12	12	1	1	3	1	8	6	33	255	758	637	288	141	61	26	16	47.9	41.4	7.2
0600 - 2200	2538	575	663	610	690	4	25	2102	7	336	12	18	1	6	13	12	1	1	3	1	8	7	38	279	840	732	344	168	66	31	21	48.3	41.6	7.2
0600 - 0000	2566	585	673	616	692	4	25	2129	7	337	12	18	1	6	13	12	1	1	3	1	8	7	38	281	845	735	348	173	70	33	24	48.3	41.7	7.3
0000 - 0000	2599	590	678	621	710	4	25	2158	7	341	12	18	1	6	13	12	1	1	3	1	8	7	40	284	848	745	358	173	72	35	25	48.3	41.8	7.4

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
0000 - 0100	2	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	-	52.7	11.4		
0100 - 0200	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	-	55.0	0.4		
0200 - 0300	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	-	40.6	-		
0300 - 0400	3	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	-	40.7	6.9		
0400 - 0500	3	0	1	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	-	39.8	8.1		
0500 - 0600	26	2	3	6	15	0	0	21	0	5	0	0	0	0	0	0	0	0	0	0	0	3	4	6	7	2	0	2	2	52.6	47.0	12.5		
0600 - 0700	151	13	31	37	70	0	0	137	0	14	0	0	0	0	0	0	0	0	0	0	0	5	52	72	13	6	3	0	0	44.3	41.3	4.5		
0700 - 0800	474	91	137	115	131	0	2	416	2	45	1	5	0	0	1	1	0	1	0	0	0	14	89	237	93	23	13	3	2	0	42.7	38.4	5.2	
0800 - 0900	349	130	98	68	53	1	4	313	1	28	1	0	0	0	1	0	0	0	0	0	2	3	54	139	88	43	12	2	1	2	45.6	39.7	6.2	
0900 - 1000	91	24	27	25	15	0	0	66	1	19	3	0	0	0	2	0	0	0	0	0	0	6	12	36	19	15	3	0	0	0	45.9	39.4	5.9	
1000 - 1100	91	12	25	22	32	0	0	58	0	28	0	2	0	0	3	0	0	0	0	0	0	1	18	32	20	11	6	3	0	0	46.1	40.2	6.6	
1100 - 1200	99	26	18	28	27	0	1	72	0	22	1	0	0	0	3	0	0	0	0	0	1	2	9	12	31	24	14	5	1	0	0	45.9	39.1	7.0
1200 - 1300	130	29	30	29	42	0	0	98	2	22	1	2	1	3	1	0	0	0	0	0	0	4	14	39	33	21	8	8	3	0	49.7	42.3	7.5	
1300 - 1400	119	25	35	25	34	0	4	93	0	18	0	0	0	0	4	0	0	0	0	0	0	1	16	38	41	16	5	1	1	0	45.9	40.8	5.5	
1400 - 1500	129	29	20	34	46	0	2	103	0	18	0	0	0	0	5	1	0	0	0	0	0	4	9	34	36	24	9	8	4	1	50.8	43.4	7.7	
1500 - 1600	157	39	39	33	46	0	0	109	0	39	0	0	0	2	5	2	0	0	0	0	0	4	15	63	45	19	9	2	0	0	46.1	40.5	5.7	
1600 - 1700	230	46	60	56	68	0	2	191	1	32	0	0	0	0	3	0	0	1	0	0	0	3	31	55	81	33	12	12	3	0	48.1	42.0	7.0	
1700 - 1800	225	63	63	51	48	1	1	193	2	23	1	1	0	2	1	0	0	0	0	0	1	0	1	12	66	65	44	28	5	2	1	50.3	43.2	6.8
1800 - 1900	102	26	29	30	17	0	0	88	2	9	1	0	0	0	2	0	0	0	0	0	0	4	13	13	22	18	6	2	2	52.6	44.9	8.6		
1900 - 2000	55	13	14	13	15	0	1	48	0	6	0	0	0	0	0	0	0	0	0	1	0	1	0	4	7	18	10	6						

Friday 20 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	5	1	2	1	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3				1	0
0700 - 1900	2068	509	520	538	501	7	103	1668	9	235	12	16	0	2	8	6	0	2	3	2	9	80	270	455	591	348	141	87	30	19	33	44.7	37.8	10.5
0600 - 2200	2327	545	572	605	605	7	142	1867	10	251	15	17	0	2	8	6	0	2	3	2	19	102	311	481	657	397	164	101	34	19	37	45.0	37.7	10.4
0600 - 0000	2373	552	589	615	617	7	153	1900	10	252	15	17	1	2	8	6	0	2	3	2	20	106	326	491	664	400	167	102	34	19	39	45.0	37.6	10.4
0000 - 0000	2414	558	595	625	636	7	153	1935	10	258	15	17	1	2	8	6	0	2	3	2	20	107	326	494	672	412	175	107	36	20	40	45.2	37.7	10.5

Virtual Day (7.00 Partial Days)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	6	2	2	2	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0				1	1
2300 - 0000	12	3	5	2	2	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	2	3	2	2	0	1	1	57.0	43.9	12.9

Virtual Week (1.00 Partial Weeks)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
		Mon	2603	629	636	700	638	5	25	2187	5	312	13	6	2	7	26	15	0	0	3	5	6	8	44	314	837	722	378				162	69
Sun	826	213	195	210	208	1	6	780	2	29	1	0	0	2	3	2	0	0	0	3	2	4	20	95	166	184	159	89	55	26	23	53.5	44.2	9.6

One of the tubes came loose causing the spacing to change, as well as registering double hits.

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph				MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	3	1	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0				0	1	0	0	0
0700 - 1900	2442	716	553	648	525	3	24	2087	4	249	12	6	2	6	31	17	0	1	105	24	22	59	180	416	618	530	278	120	62	18	10	47.0	37.6	10.7
0600 - 2200	2589	761	585	678	565	3	28	2213	4	262	13	7	2	6	32	18	0	1	105	24	22	59	186	439	657	554	299	137	70	23	14	47.2	38.0	10.8
0600 - 0000	2602	763	590	682	567	3	28	2226	4	262	13	7	2	6	32	18	0	1	105	24	22	59	186	441	662	555	301	139	70	24	14	47.4	38.0	10.8
0000 - 0000	2615	767	593	685	570	3	28	2238	5	262	13	7	2	6	32	18	0	1	105	24	22	59	186	443	665	557	303	141	71	25	14	47.4	38.0	10.8

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph				MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	3	2	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0				0	1	0	0	0
0700 - 1900	2489	741	588	624	536	4	21	2090	12	291	7	6	2	6	34	14	1	1	52	40	32	69	202	365	725	493	279	135	61	25	11	46.8	38.1	10.0
0600 - 2200	2645	783	625	652	585	4	22	2229	12	303	9	7	2	6	35	14	1	1	52	40	32	70	213	386	760	534	297	151	66	29	15	47.0	38.3	10.1
0600 - 0000	2664	785	630	659	590	4	22	2245	12	306	9	7	2	6	35	14	1	1	52	40	32	70	213	390	763	540	299	153	67	30	15	47.0	38.4	10.1
0000 - 0000	2686	793	633	666	594	4	22	2265	13	307	9	7	2	6	35	14	1	1	52	40	32	71	213	394	766	545	303	157	68	30	15	47.0	38.4	10.1

Friday 20 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation							
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph				MPH 65 <140mph						
0000 - 0100	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	37.5	-
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0200 - 0300	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	42.6	-		
0300 - 0400	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-	43.1	-		
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-		
0500 - 0600	8	4	2	1	1	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	4	1	0	0	0	0	0	0	0	-	48.7	8.2			
0600 - 0700	28	4	4	8	12	0	0	25	0	3	0	0	0	0	0	0	0	0	0	0	2	4	5	5	6	4	1	1	0	0	0	0	0	0	55.7	47.8	9.2			
0700 - 0800	198	23	39	63	73	0	2	163	0	25	3	1	0	0	3	1	0	0	0	0	1	0	10	21	31	45	48	26	11	5	0	0	0	51.9	43.6	8.3				
0800 - 0900	191	52	63	45	31	0	2	159	1	22	0	2	0	1	2	2	0	0	0	0	0	3	4	17	36	40	43	29	11	6	2	0	0	52.8	44.5	8.5				
0900 - 1000	105	29	22	27	27	0	2	67	0	31	1	2	0	0	2	0	0	0	0	0	1	0	1	4	8	17	21	20	8	3	1	1	0	0	48.5	40.0	10.1			
1000 - 1100	112	24	23	30	35	0	4	81	0	20	1	1	0	1	3	1	0	0	0	0	0	1	2	8	25	27	26	14	5	4	0	0	0	46.1	38.9	7.7				
1100 - 1200	107	25	26	21	35	0	0	82	0	19	3	1	0	0	1	1	0	0	0	0	0	3	10	28	25	21	7	7	4	1	1	0	0	45.9	38.7	8.7				
1200 - 1300	153	51	42	21	39	0	3	135	1	11	1	0	0	0	2	0	0	0	0	0	2	5	5	32	44	29	17	9	7	2	1	0	0	48.5	39.9	8.6				
1300 - 1400	141	46	28	30	37	0	0	87	2	45	2	0	0	1	1	3	0	0	0	0	0	1	5	10	21	29	32	21	9	7	6	0	0	55.0	46.7	11.2				
1400 - 1500	153	46	24	52	31	0	0	52	1	93	5	0	0	0	2	0	0	0	0	0	1	0	7	16	26	28	27	16	11	21	0	0	63.1	51.7	12.7					
1500 - 1600	202	45	46	47	64	1	3	121	1	70	2	1	0	1	0	2	0	0	0	0	0	0	10	22	35	33	26	14	11	5	39	0	0	68.0	49.4	19.3				
1600 - 1700	414	127	73	150	64	1	11	244	2	146	6	2	0	1	0	1	0	0	0	0	3	4	13	35	31	43	65	71	60	47	20	22	0	0	57.3	45.4	12.4			
1700 - 1800	265	127	47	49	42	0	1	179	0	78	6	0	0	0	0	1	0	0	0	0	0	4	2	8	27	46	47	41	16	14	13	47	0	0	66.4	49.8	18.5			
1800 - 1900	71	34	24	9	4	0	0	37	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	8	13	9	6	7	24	0	0	80.3	61.8	20.3				
1900 - 2000	64	18	16	17	13	0	6	34	0	23	1	0	0	0	0	0	0	0	0	0	0	1	4	10	6	3	6	2	4	1	26	0	0	107.1	57.1	33.8				
2000 - 2100	20	10	4	3	3	0	4	12	0	4	0	0	0	0	0	0	0	0	0	0	0	3	0	3	4	4	3	3	0	0	0	0	0	47.4	39.5	9.1				
2100 - 2200	26	4	11	8	3	0	4	14	0	7	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	6	0	1	0	14	0	0	123.7	70.8	34.8				
2200 - 2300	7	1	2	2	2	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	1	0	1	1	0	0	0	-	49.8	19.4				
2300 - 0000	10	2	1	4	3	0	3	6	0	1	0	0	0	0	0	0	0	0	0	0	0	2	4	1	1	0	0	1	0	1	0	0	0	-	34.5	14.0				
0700 - 1900	2112	629	457	544	482	2	28	1407	8	594	30	10	0	5	16	12	0	0	0	1	3	14	40	103	239	347	389	360	231	143	78	164	57.3	45.8	14.0					
0600 - 2200	2250	665	492	580	513	2	42	1492	8	631	32	10	0	5	16	12	0	0	1	3	15	49	113	251	359	405	376	244	149	80	205	57.7	46.4	15.5						
0600 - 0000	2267	668	495	586	518	2	45	1504	8	633	32	10	0	5	16	12	0	0	1	3	15	51	117	253	362	406	376	246	149	82	206	57.7	46.3	15.5						
0000 - 0000	2278	673	497	587	521	2	45	1514	9	633	32	10	0	5	16	12	0	0	1	3	15	51	117	254	363	409	377	250	150	82	206	57.7	46.3	15.5						

Virtual Day (7.00 Partial Days)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed												P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph				MPH 65 <140mph		
0000 - 0100	3	1	1	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	-	46.3	11.7
0100 - 0200	2	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-	48.4	16.5
0200 - 0300	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	-	40.8	8.2	
0300 - 0400	2	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	37.0	9.6	
0400 - 0500	2	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	36.7	7.9	
0500 - 0600	8	1	2	2	2	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	2	1	1	1	0	0	-	48.1	8.6		
0600 - 0700	28	3	5	7	13	0	0	22	0	3	1	0	0	0	0	0	0	0	0	0	0	1	2	6	6	4	5	2	1	1	0	54.8	45.4	8.9		
0700 - 0800	163	19	33	47	64	0	2	139	0	17	2	1	0	0	1	1	0	0	0	0	0	6	16	22	46	40	20	9	4	1	51.9	44.2	7.9			
0800 - 0900	187	57	57	43	29	0	1	161	1	19	1	1	0	1	2	1	0	0	0	0	0	2	6	13	34	47	45	24	10	4	1	51.4	44.1	7.9		
0900 - 1000	96	27	23	21	25	0	1	70	0	19	1	1	0	0	2	1	0	0	0	0	0	2	6	13	22	21	15	9	5	3	1	51.4	42.0	9.4		
1000 - 1100	87	22	19	22	24	0	1	65	0	16	1	0	0	0	2	0	0	0	0	0	0	1	2	6	15	21	20	12	6	4	1	0	48.5	40.4	8.4	
1100 - 1200	92	24	20	23	25	0	1	70	0	15	1	1	0	0	3	1	0	0	0	0	0	1	2	6	17	25	18	11	6	4	1	1	49.0	40.2	9.2	
1200 - 1300	118	38	27	27	26	0	1	103	0	10	0	0	0	0	2	1	0	0	0	0	0	1	8	20	35	26	15	6	4	1	1	47.9	40.2	8.6		
1300 - 1400	93	25	23	23	22	0	0	70	0	18	1	1	0	0	1	1	0	0	0	0	0	0	2	6	16	24	17	13	9	3	2	2	50.6	41.1	9.8	
1400 - 1500	108	32	21	32	23	0	2	75	0	27	1	0	0	0	2	1	0	0	0	0	0	2	2	7	13	26	25	15	7	5	2	4	50.8	41.9	10.9	
1500 - 1600	148	29	30	39	51	1	2	113	1	25	1	1	0	0	3	2	0	0	0	0	0	1	3	10	20	45	32	16	6	5	3	6	48.5	41.4	11.7	
1600 - 1700	386	114	78	128	66	1	4	332	1	40	1																									

100011 Aberdeen Junction Counts

Report Id 823
 Site Name Site 8 of 9
 Description Coast Road, 40m south of Hareness Road
 Direction Southbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph	
		0000 - 0100	13	5	3	4	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	1				2	2	0
0100 - 0200	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-	56.7	5.9			
0200 - 0300	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	-	58.1	3.8		
0300 - 0400	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	62.3	-		
0400 - 0500	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	31.5	-		
0500 - 0600	4	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	0	-	47.4	14.7		
0600 - 0700	8	1	0	2	5	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3	1	1	0	-	48.1	14.2			
0700 - 0800	12	1	2	7	2	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	1	2	2	0	1	55.3	48.4	10.6			
0800 - 0900	21	6	3	6	6	0	1	18	0	1	0	1	0	0	0	0	0	0	0	0	1	1	3	3	3	1	3	2	0	56.8	42.3	13.0			
0900 - 1000	36	8	7	9	12	1	0	32	0	2	0	0	0	1	0	0	0	0	0	1	0	0	4	6	6	11	2	2	1	3	56.1	45.4	10.6		
1000 - 1100	73	13	25	10	25	0	0	72	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	15	15	18	12	2	6	0	51.9	45.5	8.2		
1100 - 1200	69	20	9	14	26	1	1	65	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	4	8	13	15	9	5	3	9	61.7	48.9	12.7	
1200 - 1300	101	21	25	34	21	0	0	98	0	3	0	0	0	0	0	0	0	0	0	0	0	3	7	21	18	17	20	7	3	4	54.8	45.9	9.7		
1300 - 1400	93	27	27	11	28	1	4	86	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	6	19	17	24	16	7	0	2	53.2	45.4	9.4	
1400 - 1500	95	23	19	26	27	1	2	90	0	2	0	0	0	0	0	0	0	0	0	1	0	0	2	5	18	22	21	14	7	4	1	53.9	45.1	9.0	
1500 - 1600	74	21	10	18	25	0	2	71	0	1	0	0	0	0	0	0	0	0	0	0	0	2	7	18	14	15	8	5	2	3	53.9	45.0	9.7		
1600 - 1700	93	24	23	17	29	1	0	90	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	3	4	13	26	22	11	4	7	2	53.5	46.0	9.9
1700 - 1800	80	19	29	17	15	0	1	78	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2	8	22	23	6	9	3	5	57.3	47.9	9.8		
1800 - 1900	70	10	26	15	19	0	1	69	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	12	18	15	7	8	3	1	56.4	45.6	8.8	
1900 - 2000	42	15	10	8	9	0	0	41	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	7	11	3	10	2	3	1	54.1	46.0	9.3		
2000 - 2100	25	9	4	8	4	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8	5	4	2	1	1	54.1	47.5	9.3			
2100 - 2200	12	2	3	4	3	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	0	1	1	1	0	53.9	43.1	10.0		
2200 - 2300	8	2	4	1	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	1	0	0	-	48.5	5.7		
2300 - 0000	19	7	3	2	7	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	2	1	4	3	2	1	59.3	48.4	11.5		
0700 - 1900	817	193	205	184	235	5	12	781	1	15	0	2	0	0	1	0	0	0	0	0	3	4	3	17	50	143	178	183	110	61	34	31	55.3	46.0	9.9
0600 - 2200	904	220	222	206	256	6	12	866	1	16	0	2	0	0	1	0	0	0	0	0	3	5	3	17	58	157	201	192	128	67	40	33	55.3	46.0	9.9
0600 - 0000	931	229	229	209	264	6	12	893	1	16	0	2	0	0	1	0	0	0	0	0	3	5	3	18	60	160	206	196	133	71	42	34	55.5	46.1	9.9
0000 - 0000	954	236	233	218	267	6	13	915	1	16	0	2	0	0	1	0	0	0	0	0	3	5	3	19	63	162	206	201	136	74	48	55.9	46.2	9.9	

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph	
		0000 - 0100	12	3	4	4	1	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2	3	0				1	0	54.1
0100 - 0200	4	1	1	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	-	45.0	5.1			
0200 - 0300	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	-	51.1	16.5			
0300 - 0400	4	0	2	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	-	55.4	5.4		
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
0500 - 0600	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-	37.9	-		
0600 - 0700	3	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	-	45.0	2.7			
0700 - 0800	4	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	-	39.0	5.4				
0800 - 0900	7	0	3	2	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	0	0	0	-	37.2	4.8			
0900 - 1000	12	2	2	3	5	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	3	0	1	0	52.1	45.7	8.3			
1000 - 1100	42	7	7	16	12	0	0	41	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	4	6	15	11	2	2	1	0	48.5	42.9	7.2	
1100 - 1200	43	11	12	11	9	0	0	42	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	9	13	11	3	2	1	1	49.9	44.5	7.8	
1200 - 1300	69	17	15	20	17	0	0	68	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	7	13	22	12	7	2	1	1	50.1	42.5	8.5
1300 - 1400	77	17	22	18	20	0	1	76	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	14	20	14	11	6	3	2	53.7	45.6	9.2
1400 - 1500	63	17	17	9	20	0	0	61	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	16	13	21	8	2	0	0	50.3	44.1	6.4	
1500 - 1600	67	16	17	17	17	0	2	64	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	16	11	13	8	5	4	2	55.9	44.9	9.7
1600 - 1700	71	23	9	19	20	1	0	69	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6	14	23	12	7	4	5	0	51.2	44.7			

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation			
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph	
		0000 - 0100	4	1	1	1	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0				0	0	0
0700 - 1900	1259	319	292	344	304	3	13	1164	1	73	0	1	0	3	1	0	0	0	1	4	3	24	125	237	328	288	133	73	28	15	51.9	44.0	8.1		
0600 - 2200	1406	351	328	379	348	6	14	1302	1	78	0	1	0	3	1	0	0	0	0	3	5	5	31	133	255	361	323	155	81	33	21	52.1	44.1	8.5	
0600 - 0000	1435	361	339	385	350	6	14	1331	1	78	0	1	0	3	1	0	0	0	0	3	5	5	31	134	259	367	329	158	86	36	22	52.1	44.2	8.5	
0000 - 0000	1447	364	341	388	354	6	14	1342	1	79	0	1	0	3	1	0	0	0	0	3	5	5	31	135	260	369	331	159	87	38	24	52.3	44.3	8.6	

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0				0	0
0700 - 1900	1286	334	311	321	320	1	13	1186	2	75	1	5	1	2	0	0	0	0	0	1	3	6	29	121	296	361	258	134	51	23	3	50.3	43.0	7.4
0600 - 2200	1419	367	337	353	362	1	14	1310	2	82	2	5	1	2	0	0	0	0	0	1	3	6	33	129	315	389	279	159	63	31	11	51.0	43.5	7.9
0600 - 0000	1440	375	343	356	366	1	14	1331	2	82	2	5	1	2	0	0	0	0	0	1	3	6	33	129	318	391	284	165	65	31	14	51.2	43.6	7.9
0000 - 0000	1452	376	344	363	369	1	14	1343	2	82	2	5	1	2	0	0	0	0	0	1	3	6	33	129	319	393	289	165	68	31	15	51.4	43.7	8.0

100011 Aberdeen Junction Counts

Report Id 823
 Site Name Site 8 of 9
 Description Coast Road, 40m south of Hareness Road
 Direction Northbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph
0000 - 0100	4	0	1	0	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	-	50.5	14.8		
0100 - 0200	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	-	63.2	32.0		
0200 - 0300	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-	29.7	-			
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-			
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-			
0500 - 0600	8	0	4	1	3	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	2	1	0	-	50.8	8.2			
0600 - 0700	21	4	6	5	6	1	0	18	0	2	0	0	0	0	0	0	0	0	0	1	0	0	1	8	3	2	3	2	1	59.7	47.7	10.7		
0700 - 0800	25	5	7	4	9	0	0	23	0	1	0	0	0	0	0	1	0	0	0	0	0	1	6	1	4	4	4	2	3	61.1	50.3	10.4		
0800 - 0900	43	8	9	12	14	2	0	38	0	3	0	0	0	0	0	0	0	0	0	2	0	0	2	9	11	9	6	1	3	56.1	48.6	10.4		
0900 - 1000	51	8	17	15	11	0	0	50	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	14	11	8	4	4	4	59.7	49.3	9.3		
1000 - 1100	56	15	11	18	12	1	1	54	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5	13	11	11	6	2	3	56.4	47.3	10.2		
1100 - 1200	56	18	7	14	17	1	0	55	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	8	14	11	7	3	2	56.4	46.5	10.4		
1200 - 1300	70	14	20	15	21	2	1	65	0	2	0	0	0	0	0	0	0	0	0	2	1	2	12	15	12	11	7	6	2	57.3	46.6	10.3		
1300 - 1400	47	11	12	15	9	2	0	45	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	10	6	10	3	0	2	53.7	44.8	11.0		
1400 - 1500	53	11	11	20	11	2	1	48	0	2	0	0	0	0	0	0	0	0	0	2	0	2	4	9	10	12	8	3	2	52.6	43.9	10.6		
1500 - 1600	47	7	15	9	16	1	3	43	0	0	0	0	0	0	0	0	0	0	0	1	0	2	6	8	12	9	7	0	1	52.1	42.6	9.4		
1600 - 1700	55	9	25	11	10	0	0	53	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	9	7	8	11	3	6	64.9	50.7	11.5		
1700 - 1800	46	15	13	10	8	1	1	44	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	5	5	16	8	5	2	55.3	46.9	9.5		
1800 - 1900	38	9	11	9	9	0	1	37	0	0	0	0	0	0	0	0	0	0	0	0	1	3	7	6	8	4	5	3	1	57.5	46.6	9.7		
1900 - 2000	30	9	8	7	6	0	0	28	0	2	0	0	0	0	0	0	0	0	0	0	0	6	3	7	9	2	1	0	2	53.7	45.0	10.3		
2000 - 2100	17	3	4	4	6	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4	4	2	0	1	54.6	48.7	8.7		
2100 - 2200	9	3	2	1	3	0	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	1	1	1	-	53.0	10.3			
2200 - 2300	7	2	1	2	2	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	1	-	52.0	14.3		
2300 - 0000	5	3	0	1	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	-	44.8	25.7			
0700 - 1900	587	130	158	152	147	12	8	555	0	11	0	0	0	0	0	1	0	0	0	1	11	2	10	28	86	112	123	98	53	32	31	57.0	46.9	10.4
0600 - 2200	664	149	178	169	168	13	8	626	0	16	0	0	0	0	0	1	0	0	0	1	11	3	10	34	93	131	144	106	60	35	36	57.0	47.0	10.4
0600 - 0000	676	154	179	172	171	13	8	638	0	16	0	0	0	0	0	1	0	0	0	1	11	4	10	36	95	132	144	108	62	35	38	57.0	47.0	10.6
0000 - 0000	691	156	184	174	177	13	8	652	1	16	0	0	0	0	0	1	0	0	0	1	11	4	11	37	96	135	146	109	65	36	40	57.3	47.1	10.7

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation	
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph
0000 - 0100	7	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	-	36.4	-		
0100 - 0200	1	1	5	1	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0	0	1	-	51.5	16.7	
0200 - 0300	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	-	55.3	21.8		
0300 - 0400	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	-	42.8	6.0		
0400 - 0500	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	-	51.1	-		
0500 - 0600	3	1	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	-	53.6	13.7		
0600 - 0700	3	1	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	-	52.4	6.4	
0700 - 0800	12	1	4	4	3	0	0	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	2	2	2	0	59.1	51.5	6.8	
0800 - 0900	12	2	1	7	2	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	4	2	0	1	55.0	49.9	10.2	
0900 - 1000	17	1	6	4	6	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	2	6	3	1	1	58.2	51.5	7.7	
1000 - 1100	25	5	9	4	7	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	5	3	8	4	0	0	50.6	44.0	8.1	
1100 - 1200	39	8	9	15	7	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	4	9	6	7	5	2	60.2	52.0	12.9	
1200 - 1300	43	12	12	11	8	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9	6	12	7	2	4	56.4	46.9	9.0	
1300 - 1400	47	7	13	15	12	0	1	44	0	2	0	0	0	0	0	0	0	0	0	0	0	4	7	5	12	10	8	0	1	55.9	47.3	8.0	
1400 - 1500	56	17	9	17	13	0	3	52	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	12	12	10	4	9	3	59.1	47.5	10.0	
1500 - 1600	33	4	7	10	12	0	1	32	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11	8	5	1	4	1	0	50.6	43.3	8.2	
1600 - 1700	40	16	4	10	10	1	0	39	0	0	0	0	0	0	0	0	0	0	0	0	2	5	2	5	10	3	4	5	3	1	56.8	43.8	12.1
1700 - 1800	37	12	7	6	12	0	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	11	9	3	1	3	56.1	49.5	9.2	
1800 - 1900	50	21	9	9	11	0	2	47	0	1	0	0	0	0	0	0	0	0	0	0	2	1	2	7	13	14	4	2	3	54.4			

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph	
		0000 - 0100	3	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1				0	0	0	0
0700 - 1900	1439	373	392	328	346	2	14	1318	3	97	2	1	0	2	0	0	0	0	0	3	3	30	131	317	396	315	141	56	30	17	50.3	43.6	7.9		
0600 - 2200	1534	396	406	356	376	2	18	1404	3	102	2	1	0	2	0	0	0	0	0	3	5	34	140	330	403	343	152	63	35	26	50.8	43.8	8.2		
0600 - 0000	1542	399	410	357	376	2	18	1412	3	102	2	1	0	2	0	0	0	0	0	3	5	34	140	332	404	345	154	63	36	26	51.0	43.8	8.2		
0000 - 0000	1554	404	413	359	378	2	18	1423	4	102	2	1	0	2	0	0	0	0	0	3	5	34	143	333	405	348	155	65	37	26	51.0	43.9	8.2		

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme												Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph		
		0000 - 0100	2	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0				0	0	0	0	0
0700 - 1900	1464	361	383	329	391	5	14	1338	3	96	0	3	2	1	2	0	0	0	0	2	1	3	21	99	326	430	307	148	74	33	20	51.2	44.1	7.8		
0600 - 2200	1567	380	407	353	427	5	18	1432	3	101	0	3	2	1	2	0	0	0	0	2	2	3	31	107	343	446	324	167	79	36	27	51.4	44.1	8.2		
0600 - 0000	1578	382	410	357	429	5	18	1443	3	101	0	3	2	1	2	0	0	0	0	2	2	3	31	108	344	447	327	169	80	37	28	51.7	44.2	8.2		
0000 - 0000	1593	387	412	360	434	5	18	1457	4	101	0	3	2	1	2	0	0	0	0	2	2	3	32	110	347	448	331	170	82	37	29	51.7	44.2	8.2		

Wednesday 18 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph		
0000 - 0100	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	-	47.8	19.3
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-		
0300 - 0400	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-	32.8	-		
0400 - 0500	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	-	34.5	1.0		
0500 - 0600	12	1	1	5	5	0	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	4	3	0	2	2	0	0	59.9	48.7	9.7			
0600 - 0700	36	3	4	11	18	0	2	31	0	3	0	0	0	0	0	0	0	0	0	0	0	1	10	5	6	5	7	0	2	56.1	47.4	9.4				
0700 - 0800	380	41	63	98	178	2	6	348	1	22	0	1	0	0	0	0	0	0	0	0	0	10	75	144	81	42	17	7	2	50.8	44.5	6.5				
0800 - 0900	369	124	136	64	45	1	2	347	0	19	0	0	0	0	0	0	0	0	0	0	2	27	79	104	93	37	18	8	0	50.3	44.0	6.9				
0900 - 1000	76	33	27	8	8	0	1	68	0	6	0	1	0	0	0	0	0	0	0	0	1	4	10	14	17	18	8	2	2	55.0	47.5	8.2				
1000 - 1100	58	21	8	16	13	1	0	50	0	7	0	0	0	0	0	0	0	0	0	1	0	7	6	19	12	5	4	4	0	52.8	44.7	8.4				
1100 - 1200	55	11	15	14	15	0	3	44	1	7	0	0	0	0	0	0	0	0	0	0	1	7	13	11	8	4	1	2	54.4	44.4	10.2					
1200 - 1300	73	13	18	20	22	0	0	66	1	5	0	0	0	0	1	0	0	0	0	0	1	6	20	22	11	8	1	1	3	51.4	43.9	10.4				
1300 - 1400	70	28	14	12	16	0	0	59	0	9	0	2	0	0	0	0	0	0	0	0	6	7	14	14	12	10	7	0	0	53.5	43.2	8.6				
1400 - 1500	49	15	13	10	11	0	1	43	0	3	1	0	0	0	1	0	0	0	0	0	3	10	12	10	8	5	1	0	0	48.8	40.4	7.5				
1500 - 1600	60	13	18	15	14	0	1	50	0	9	0	0	0	0	0	0	0	0	0	0	2	9	12	13	11	8	3	2	57.5	48.3	9.2					
1600 - 1700	69	26	14	11	18	1	0	55	1	12	0	0	0	0	0	0	0	0	0	1	0	1	2	13	15	17	12	5	1	2	53.5	45.8	8.5			
1700 - 1800	92	28	29	18	17	0	0	85	0	7	0	0	0	0	0	0	0	0	0	0	4	11	22	22	16	10	4	3	0	51.2	42.8	8.1				
1800 - 1900	61	15	23	10	13	1	1	57	0	2	0	0	0	0	0	0	0	0	0	1	1	9	5	11	10	17	4	2	1	54.4	45.4	9.8				
1900 - 2000	45	16	16	6	7	1	1	41	0	1	0	1	0	0	0	0	0	0	0	0	2	1	5	5	10	4	2	1	53.9	45.2	11.4					
2000 - 2100	18	5	2	7	4	0	0	17	0	1	0	0	0	0	0	0	0	0	0	0	1	0	4	1	2	2	1	1	57.5	43.6	14.5					
2100 - 2200	15	6	3	4	2	0	0	13	0	2	0	0	0	0	0	0	0	0	0	0	0	3	4	1	4	1	1	1	58.8	50.3	11.4					
2200 - 2300	8	2	4	1	1	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	2	1	0	0	0	-	43.2	8.5				
2300 - 0000	5	1	0	3	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2	0	0	-	56.4	8.3				
0700 - 1900	1412	368	378	296	370	6	15	1272	4	108	1	4	0	0	1	1	0	0	0	1	2	3	20	102	278	398	298	183	81	32	14	51.9	44.5	7.9		
0600 - 2200	1526	398	403	324	401	7	18	1374	4	115	1	5	0	0	1	1	0	0	0	1	3	5	22	112	297	421	311	204	95	36	19	52.3	44.6	8.2		
0600 - 0000	1539	401	407	328	403	8	18	1386	4	115	1	5	0	0	1	1	0	0	0	1	3	6	22	112	297	426	313	205	97	38	19	52.3	44.6	8.3		
0000 - 0000	1556	404	408	333	411	8	18	1402	4	116	1	5	0	0	1	1	0	0	0	1	3	6	22	116	298	430	316	205	99	41	19	52.6	44.6	8.3		

Thursday 19 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation	
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph
0000 - 0100	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	-	55.8	18.0	
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0200 - 0300	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-	60.0	-	
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0400 - 0500	2	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	-	41.8	7.0	
0500 - 0600	9	1	2	4	2	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	1	1	0	-	47.9	9.2		
0600 - 0700	52	5	4	12	31	0	1	46	0	4	1	0	0	0	0	0	0	0	0	0	3	13	10	9	8	7	0	2	55.0	46.8	8.6		
0700 - 0800	371	29	69	115	158	1	2	342	0	26	0	0	0	0	0	0	0	0	0	0	10	83	142	76	41	14	2	2	50.1	44.0	6.4		
0800 - 0900	365	127	130	71	37	0	2	339	1	23	0	0	0	0	0	0	0	0	0	0	2	17	23	85	91	77	49	11	8	2	51.0	43.2	7.8
0900 - 1000	81	33	21	9	18	0	3	72	0	6	0	0	0	0	0	0	0	0	0	0	1	1	2	18	14	24	10	6	4	0	51.4	45.0	8.2
1000 - 1100	49	11	15	12	11	0	0	43	0	6	0	0	0	0	0	0	0	0	0	0	1	0	3	12	12	11	6	4	0	0	52.6	43.7	7.6
1100 - 1200	47	12	8	14	13	0	0	45	0	2	0	0	0	0	0	0	0	0	0	0	1	7	6	17	9	3	3	1	0	49.0	42.7	7.7	
1200 - 1300	86	18	13	29	26	0	1	78	0	7	0	0	0	0	0	0	0	0	0	1	4	3	10	11	24	20	9	4	0	0	49.9	41.8	8.6
1300 - 1400	69	19	16	15	19	0	1	62	0	5	0	0	0	0	1	0	0	0	0	0	1	8	5	19	16	13	6	0	1	47.4	41.0	8.1	
1400 - 1500	41	10	11	11	9	0	0	39	0	2	0	0	0	0	0	0	0	0	0	0	0	4	6	13	9	6	3	0	0	51.7	44.4	6.8	
1500 - 1600	42	6	10	10	16	0	0	38	0	4	0	0	0	0	0	0	0	0	0	0	0	4	8	16	5	3	0	1	51.7	44.0	8.2		
1600 - 1700	76	24	12	24	16	1	0	64	0	11	0	0	0	0	0	0	0	0	0	0	1	2	6	12	20	16	14	1	3	1	51.4	44.3	8.4
1700 - 1800	84	20	23	21	20	1	0	76	0	7	0	0	0	0	0	0	0	0	0	0	1	0	3	10	25	23	13	7	2	0	53.5	45.9	7.4
1800 - 1900	73	31	15	15	12	0	0	65	0	8	0	0	0	0	0	0	0	0	0	0	3	2	15	10	13	16	9	3	2	56.8	47.4	9.6	
1900 - 2000	29	13	9	2	5	0	0	27	1	1	0	0	0	0	0	0	0	0	0	0	1	2	3	6	4	3	6	1	0	57.3	45.0	10.3	
2000 - 2100	13	3	5	2	3	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	2	3	1	2	0</					

Friday 20 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45	MPH 50	MPH 55				MPH 60	MPH 65		
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																						
0000 - 0100	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	43.5	-
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
0200 - 0300	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.0	-	
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0400 - 0500	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-	34.2	-	
0500 - 0600	11	4	2	4	1	0	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	3	1	1	1	1	0	53.9	45.8	9.1		
0600 - 0700	43	4	2	15	22	0	1	40	0	2	0	0	0	0	0	0	0	0	0	0	0	2	11	6	10	5	6	2	1	56.6	46.7	9.2				
0700 - 0800	291	35	54	86	116	1	1	264	0	25	0	0	0	0	0	0	0	0	1	0	0	0	11	57	83	80	35	17	5	2	51.0	45.1	6.8			
0800 - 0900	229	64	93	46	26	1	4	210	3	10	0	0	0	0	0	1	0	0	0	0	1	4	14	32	63	61	22	18	10	4	53.5	45.7	8.3			
0900 - 1000	74	26	14	15	19	0	1	65	1	6	0	1	0	0	0	0	0	0	0	1	0	4	4	11	17	21	9	4	2	1	51.2	44.6	8.7			
1000 - 1100	53	12	9	18	14	0	3	48	0	2	0	0	0	0	0	0	0	0	0	0	0	6	10	16	8	4	6	3	0	56.1	44.9	8.6				
1100 - 1200	60	18	11	13	18	0	0	55	0	5	0	0	0	0	0	0	0	0	0	0	0	6	18	9	10	9	5	3	0	53.7	44.8	8.7				
1200 - 1300	84	15	20	18	31	1	2	74	0	7	0	0	0	0	0	0	0	0	0	0	1	6	6	19	21	18	5	6	1	1	49.7	42.6	8.4			
1300 - 1400	90	28	19	18	25	0	4	79	0	5	0	0	0	0	1	1	0	0	0	0	2	4	1	11	16	23	14	12	2	3	2	51.7	42.4	9.8		
1400 - 1500	51	18	11	13	9	0	3	45	0	3	0	0	0	0	0	0	0	0	0	0	1	4	12	15	9	7	0	3	55.7	48.9	8.3					
1500 - 1600	48	8	11	10	19	1	0	44	0	2	0	1	0	0	0	0	0	0	0	0	1	1	2	1	8	16	8	5	4	2	0	52.8	44.1	9.2		
1600 - 1700	69	27	10	15	17	1	1	59	0	8	0	0	0	0	0	0	0	0	0	0	1	1	4	13	18	11	9	8	3	1	55.7	45.7	8.7			
1700 - 1800	77	16	25	13	23	1	2	72	0	2	0	0	0	0	0	0	0	0	0	0	3	0	3	11	9	20	12	10	5	1	57.0	46.6	11.3			
1800 - 1900	59	17	17	19	6	1	0	58	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	5	9	12	7	8	6	6	60.8	49.6	12.5		
1900 - 2000	38	17	5	5	11	1	1	36	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	10	11	4	1	1	3	51.4	46.9	12.3			
2000 - 2100	13	4	3	3	3	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	2	1	2	0	58.2	49.7	8.3				
2100 - 2200	12	1	6	2	3	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	3	3	1	62.2	55.3	11.5				
2200 - 2300	8	1	3	2	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	2	0	2	0	0	-	46.7	8.9				
2300 - 0000	9	2	1	3	3	0	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	1	1	0	1	-	48.9	11.1				
0700 - 1900	1185	284	294	284	323	7	21	1073	4	75	0	2	0	1	2	0	0	0	0	1	8	9	23	69	204	296	278	138	95	43	21	53.7	45.3	8.8		
0600 - 2200	1291	310	310	309	362	8	23	1174	4	77	0	2	0	1	2	0	0	0	0	1	8	9	26	72	220	319	303	150	106	51	26	54.1	45.5	9.0		
0600 - 0000	1308	313	314	314	367	8	23	1190	4	78	0	2	0	1	2	0	0	0	0	1	8	9	26	73	222	323	308	151	109	51	27	54.1	45.5	9.0		
0000 - 0000	1322	317	317	319	369	8	23	1202	5	78	1	2	0	1	2	0	0	0	0	1	8	10	27	74	224	326	311	152	110	52	27	54.1	45.5	9.1		

Virtual Day (7.00 Partial Days)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45	MPH 50	MPH 55				MPH 60	MPH 65
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																				
0000 - 0100	2	1	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-	48.9	13.8	
0100 - 0200	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	54.1	19.1	
0200 - 0300	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	44.5	-		
0300 - 0400	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	35.2	-		
0400 - 0500	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	39.4	-		
0500 - 0600	9	1	2	3	3	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	1	1	0	-	47.7	9.1		
0600 - 0700	32	3	4	9	16	0	1	29	0	2	0	0	0	0	0	0	0	0	0	0	0	1	7	5	7	5	4	1	2	56.1	47.4	9.3		
0700 - 0800	260	27	46	74	113	1	2	240	0	17	0	0	0	0	0	0	0	0	0	0	9	59	90	57	27	11	4	1	50.3	44.2	6.6			
0800 - 0900	262	87	94	51	30	1	2	244	1	14	0	0	0	0	0	0	0	0	0	0	5	19	55	76	59	28	12	5	2	50.6	43.8	7.4		
0900 - 1000	66	23	17	11	14	0	1	61	0	4	0	0	0	0	0	0	0	0	0	0	1	3	10	14	18	10	6	3	1	54.6	46.6	8.5		
1000 - 1100	49	13	10	14	12	0	1	44	0	4	0	0	0	0	0	0	0	0	0	0	1	5	9	12	10	6	4	2	1	53.5	44.6	8.6		
1100 - 1200	53	13	12	14	14	0	1	48	0	4	0	0	0	0	0	0	0	0	0	0	1	4	10	12	11	6	5	3	2	56.1	45.6	10.2		
1200 - 1300	74	15	18	19	22	0	1	67	0	5	0	0	0	0	0	0	0	0	0	0	1	1	2	6	15	18	15	7	4	2	1	51.7	43.6	9.3
1300 - 1400	64	17	17	15	15	0	1	59	0	4	0	0	0	0	0	0	0	0	0	0	1	1	3	6	14	14	12	9	3	1	2	52.6	43.5	9.2
1400 - 1500	53	16	13	13	12	0	1	48	0	3	0	0	0	0	0	0	0	0	0	0	2	5	9	13	11	6	4	1	1	52.8	44.5	9.3		
1500 - 1600	51	10	14	12	15	0	1	45	0	4	0	0	0	0	0	0	0	0	0	0	1	3	10	13	10	5	4	2	2	54.6	45.0	9.5		
1600 - 1700	66	21	15	15	15	1	1	57	0	8	0	0	0	0	0	0	0	0	0	0	1	2	5	13	13	12	10	4	3	2	54.4	45.3	9.8	
1700 - 1800	71																																	

100011 Aberdeen Junction Counts

Report Id 822
 Site Name Site 9 of 9
 Description Hareness Road, 20m west of Coast Road
 Direction Westbound

Saturday 14 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation									
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph						
		0000 - 0100	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.7	-
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0300 - 0400	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	18.6	-	
0400 - 0500	3	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.1	1.1	
0500 - 0600	12	1	2	3	6	0	0	9	0	3	0	0	0	0	0	0	0	0	0	0	3	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23.0	21.4	2.5	
0600 - 0700	27	0	2	14	11	0	0	25	0	1	0	1	0	0	0	0	0	0	0	0	2	18	6	0	1	0	0	0	0	0	0	0	0	0	0	0	25.9	24.0	3.3	
0700 - 0800	51	8	8	13	22	0	0	42	0	7	1	1	0	0	0	0	0	0	0	0	8	27	16	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	23.1	2.8	
0800 - 0900	28	13	5	3	7	1	0	18	0	5	2	0	0	1	0	0	0	0	0	2	2	16	8	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2	22.6	3.8	
0900 - 1000	33	5	9	8	11	0	0	22	0	9	1	1	0	0	0	0	0	0	0	0	7	21	4	1	0	0	0	0	0	0	0	0	0	0	0	0	24.8	22.5	3.2	
1000 - 1100	23	5	5	6	7	0	0	18	0	2	0	1	0	0	0	2	0	0	0	2	8	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	19.6	2.5	
1100 - 1200	31	7	4	17	3	0	0	27	0	2	0	1	0	0	1	0	0	0	0	0	14	14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.7	3.1	
1200 - 1300	37	9	8	9	11	0	0	34	0	3	0	0	0	0	0	0	0	0	0	2	11	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	21.0	3.1	
1300 - 1400	19	5	6	5	3	0	0	15	0	3	0	0	0	0	0	1	0	0	0	0	8	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.6	20.4	2.4	
1400 - 1500	20	6	3	6	5	0	0	15	0	3	0	0	0	0	2	0	0	0	0	2	5	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	20.8	3.6	
1500 - 1600	31	6	12	9	4	0	0	25	0	5	1	0	0	0	0	0	0	0	0	2	13	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	20.0	3.4	
1600 - 1700	24	7	4	4	9	0	0	18	0	3	2	0	0	0	1	0	0	0	0	9	8	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	17.8	4.0	
1700 - 1800	17	5	3	1	8	1	0	14	0	2	0	0	0	0	0	0	0	0	0	1	3	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	20.7	3.3	
1800 - 1900	11	5	2	3	1	0	1	7	0	1	0	0	0	0	1	1	0	0	0	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	19.2	3.2	
1900 - 2000	12	5	1	0	6	0	0	9	0	2	0	0	0	0	0	1	0	0	0	0	7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	21.0	19.6	3.0	
2000 - 2100	16	0	6	1	9	0	0	12	0	1	2	1	0	0	0	0	0	0	0	0	7	9	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	19.7	2.6		
2100 - 2200	4	1	1	1	1	0	1	2	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-	19.5	5.6		
2200 - 2300	4	2	0	1	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.1	1.6		
2300 - 0000	3	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.1	0.3		
0700 - 1900	325	81	69	84	91	2	1	255	0	45	7	4	0	1	5	5	0	0	0	21	92	173	38	1	0	0	0	0	0	0	0	0	0	0	0	24.4	21.0	3.5		
0600 - 2200	384	87	79	100	118	2	2	303	0	49	9	7	0	1	5	6	0	0	0	22	108	207	45	1	1	0	0	0	0	0	0	0	0	0	0	24.6	21.1	3.5		
0600 - 0000	391	89	79	101	122	2	2	310	0	49	9	7	0	1	5	6	0	0	0	22	108	214	45	1	1	0	0	0	0	0	0	0	0	0	0	24.4	21.2	3.5		
0000 - 0000	409	90	83	105	131	2	2	324	0	53	9	7	0	1	5	6	0	0	0	22	112	226	47	1	1	0	0	0	0	0	0	0	0	0	0	24.4	21.2	3.5		

Sunday 15 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed										P-Tile 85%	Average Speed	Standard deviation								
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph				MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph					
		0000 - 0100	2	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-	16.9	-	
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0300 - 0400	4	0	3	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-	20.3	3.9	
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
0600 - 0700	2	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	-	21.8	4.9	
0700 - 0800	12	3	1	4	4	0	0	11	0	1	0	0	0	0	0	0	0	0	0	0	1	6	4	1	0	0	0	0	0	0	0	0	0	0	0	26.2	23.9	4.0	
0800 - 0900	7	3	3	1	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	-	22.8	3.2	
0900 - 1000	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	-	25.3	0.1	
1000 - 1100	21	5	4	7	5	0	0	18	0	2	1	0	0	0	0	0	0	0	0	0	9	8	4	0	0	0	0	0	0	0	0	0	0	0	0	25.7	21.8	3.2	
1100 - 1200	8	1	2	3	2	0	0	6	0	1	0	0	0	0	1	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	-	20.4	2.9	
1200 - 1300	20	4	6	3	7	0	0	18	0	2	0	0	0	0	0	0	0	0	0	0	14	5	1	0	0	0	0	0	0	0	0	0	0	0	0	21.9	19.6	2.6	
1300 - 1400	16	2	5	7	2	0	0	14	0	2	0	0	0	0	0	0	0	0	0	1	4	10	1	0	0	0	0	0	0	0	0	0	0	0	0	23.9	21.3	3.4	
1400 - 1500	21	8	2	5	6	0	0	20	0	1	0	0	0	0</																									

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation					
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph				MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph	
		0000 - 0100	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-		
0300 - 0400	4	1	1	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	-	23.4	0.6			
0400 - 0500	3	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	-	22.2	1.9			
0500 - 0600	11	1	1	4	5	0	0	10	0	1	0	0	0	0	0	0	0	0	0	3	8	0	0	0	0	0	0	0	0	22.6	21.1	1.4			
0600 - 0700	148	9	29	41	69	0	1	134	0	12	1	0	0	0	0	0	0	0	3	24	100	20	1	0	0	0	0	0	24.4	22.2	2.9				
0700 - 0800	622	107	131	181	203	0	6	564	2	41	9	0	0	0	0	0	0	0	1	98	429	88	6	0	0	0	0	0	24.8	22.5	2.6				
0800 - 0900	572	187	195	136	54	0	6	522	1	30	5	2	1	0	2	3	0	3	10	100	372	85	2	0	0	0	0	24.8	22.1	3.0					
0900 - 1000	94	27	22	20	25	0	0	72	0	14	4	1	1	0	0	2	0	0	1	24	54	15	0	0	0	0	0	25.1	22.1	3.0					
1000 - 1100	69	14	15	25	15	1	0	48	0	17	1	1	0	0	1	0	0	1	2	21	40	5	0	0	0	0	0	23.5	21.0	3.2					
1100 - 1200	80	23	18	18	21	0	1	60	0	16	1	0	0	0	1	1	0	0	4	16	58	2	0	0	0	0	0	23.7	21.1	2.8					
1200 - 1300	131	20	25	36	50	1	2	102	0	23	2	0	0	0	1	0	0	1	8	32	73	16	1	0	0	0	0	24.6	21.3	4.1					
1300 - 1400	95	24	29	25	17	0	1	75	0	15	0	0	0	1	2	1	0	0	1	24	61	8	1	0	0	0	0	24.4	21.6	3.0					
1400 - 1500	88	25	27	9	27	0	0	59	0	23	4	1	0	0	0	1	0	2	9	27	37	13	0	0	0	0	0	24.8	20.5	4.5					
1500 - 1600	68	16	18	17	17	0	0	43	0	19	0	0	0	0	1	2	0	1	2	24	37	4	0	0	0	0	0	23.5	20.7	3.1					
1600 - 1700	98	15	27	23	33	3	1	73	0	17	2	0	0	0	1	1	0	2	2	33	58	3	0	0	0	0	0	23.3	20.3	3.9					
1700 - 1800	90	30	29	15	16	2	2	70	0	9	1	1	0	0	3	2	0	4	7	25	43	10	1	0	0	0	0	24.4	20.2	5.1					
1800 - 1900	38	9	16	4	9	0	1	27	0	6	1	0	0	0	1	2	0	0	3	13	19	3	0	0	0	0	0	23.3	20.4	3.6					
1900 - 2000	19	5	2	7	5	0	1	14	0	3	1	0	0	0	0	0	0	1	8	8	2	0	0	0	0	0	0	22.8	20.3	3.9					
2000 - 2100	16	4	4	6	2	0	0	15	0	1	0	0	0	0	0	0	0	0	4	6	6	0	0	0	0	0	0	26.4	22.6	3.7					
2100 - 2200	9	2	2	4	1	0	0	9	0	0	0	0	0	0	0	0	0	0	4	4	1	0	0	0	0	0	0	-	21.2	2.6					
2200 - 2300	3	1	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	-	21.4	3.5					
2300 - 0000	3	1	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	-	24.0	1.8					
0700 - 1900	2045	497	552	509	487	7	23	1715	3	230	30	6	2	1	13	15	0	14	50	437	1281	252	11	0	0	0	0	24.6	21.8	3.3					
0600 - 2200	2237	517	589	567	564	7	25	1887	3	246	32	6	2	1	13	15	0	14	54	477	1399	281	12	0	0	0	0	24.6	21.8	3.3					
0600 - 0000	2243	519	590	569	565	7	25	1893	3	246	32	6	2	1	13	15	0	14	54	478	1403	282	12	0	0	0	0	24.6	21.8	3.3					
0000 - 0000	2262	522	592	576	572	7	25	1911	3	247	32	6	2	1	13	15	0	14	54	482	1418	282	12	0	0	0	0	24.6	21.8	3.3					

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme											Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation				
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph				MPH 50 <55mph	MPH 55 <60mph	MPH 60 <65mph	MPH 65 <140mph
		0000 - 0100	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0				0	0	0	0
0100 - 0200	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-	22.9	-			
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-			
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-			
0400 - 0500	4	2	1	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	-	22.3	2.2			
0500 - 0600	20	2	2	4	12	0	0	16	0	4	0	0	0	0	0	0	0	0	0	2	16	2	0	0	0	0	0	0	24.6	22.1	2.4			
0600 - 0700	157	14	23	51	69	0	1	140	0	13	1	0	0	0	0	2	0	0	1	19	110	25	1	1	0	0	0	25.1	22.7	2.9				
0700 - 0800	618	100	135	168	215	1	7	567	0	35	5	1	0	0	1	1	0	1	3	103	411	94	6	0	0	0	0	25.1	22.5	2.8				
0800 - 0900	489	178	181	81	49	2	4	445	2	28	4	1	0	1	0	2	0	0	13	68	318	78	11	1	0	0	0	25.3	22.6	3.3				
0900 - 1000	109	35	19	28	27	0	1	80	0	26	2	0	0	0	0	0	0	0	3	29	59	18	0	0	0	0	0	25.1	21.4	3.3				
1000 - 1100	100	28	27	25	20	0	0	68	0	23	2	0	0	0	2	3	0	1	4	24	57	14	0	0	0	0	0	24.8	21.4	3.6				
1100 - 1200	74	24	13	15	22	1	3	47	0	19	1	0	0	0	1	2	0	0	6	14	48	6	0	0	0	0	0	24.4	21.2	3.7				
1200 - 1300	117	16	21	38	42	0	0	97	0	17	1	0	0	0	1	1	0	0	3	15	80	18	1	0	0	0	0	24.8	22.2	3.2				
1300 - 1400	109	25	37	19	28	0	0	83	0	20	0	0	0	0	1	5	0	0	2	25	64	16	2	0	0	0	0	25.3	22.1	3.4				
1400 - 1500	54	13	8	11	22	0	1	37	0	13	2	1	0	0	0	0	0	1	2	13	28	6	1	3	0	0	0	25.1	22.0	5.1				
1500 - 1600	92	22	20	29	21	0	1	60	0	21	3	5	0	1	1	0	0	0	4	28	52	8	0	0	0	0	0	23.7	21.0	3.1				
1600 - 1700	86	20	22	20	24	0	1	58	0	22	4	0	0	0	0	1	0	0	1	31	46	8	0	0	0	0	0	23.7	21.3	2.8				
1700 - 1800	63	23	15	14	11	0	0	50	0	10	2	0	0	0	1	0	0	0	0	8	44	11	0	0	0	0	0	25.3	22.7	2.6				
1800 - 1900	24	5	10	4	5	0	0	18	0	4	0	0	0	0	2	0	0	0	2	8	10	3	1	0	0	0	0	24.6	21.5	3.9				
1900 - 2000	24	4	8	4	8	0	0	17	0	6	0	0	0	0	1	0	0	0	0	8	13	3	0	0	0	0	0	24.4	21.5	3.2				
2000 - 2100	11	5	1	2	3	0	0	10	0	0	0	0	0	0	1	0	0	0	0	5	1	0	0	0	0	0	0	22.8	20.8	2.9				
2100 - 2200	13	0	7	3	3	0	0	13	0	0	0	0	0	0	0	0	0	0	0	8	5	0	0	0	0	0	0	21.7	19.8	2.2				
2200 - 2300	4	1	1	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	-	24.1	1.3				
2300 - 0000	2	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	-	22.5	5.7				
0700 - 1900	1935	489	508	452																														

Monday 16 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation								
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph						
		0000 - 0100	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0
0100 - 0200	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	20.0	-
0200 - 0300	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.3	-	
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0400 - 0500	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	18.9	-	
0500 - 0600	2	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	25.0	1.4	
0600 - 0700	13	2	4	3	4	0	0	10	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	23.6	1.9	
0700 - 0800	69	8	21	17	23	0	1	49	0	14	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.3	19.6	3.5	
0800 - 0900	84	20	28	16	20	0	1	58	0	18	4	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	20.5	3.7	
0900 - 1000	65	20	15	15	15	0	0	34	0	25	2	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	21.3	3.6	
1000 - 1100	62	19	10	13	20	0	1	39	0	21	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	21.8	2.8	
1100 - 1200	88	16	20	17	35	1	1	56	0	22	4	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.9	3.5	
1200 - 1300	134	46	25	32	31	0	1	122	0	9	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	21.9	3.4	
1300 - 1400	79	28	15	14	22	0	0	55	0	21	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	20.3	3.5	
1400 - 1500	81	29	16	21	15	0	0	59	0	20	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	22.5	2.9	
1500 - 1600	162	27	27	39	69	1	2	132	1	21	1	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	22.1	3.9	
1600 - 1700	655	158	128	257	112	2	8	610	0	27	5	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23.5	19.1	7.0	
1700 - 1800	443	202	91	92	58	1	2	398	2	37	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	18.2	6.0	
1800 - 1900	124	52	30	27	15	1	3	104	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.4	23.6	3.4	
1900 - 2000	47	18	10	9	10	0	4	38	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	22.8	3.2	
2000 - 2100	26	8	8	2	8	0	0	22	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	22.7	3.5	
2100 - 2200	6	1	2	3	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.3	3.0		
2200 - 2300	6	1	0	3	2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.6	2.0		
2300 - 0000	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	16.6	-		
0700 - 1900	2046	625	426	560	435	6	20	1716	3	249	23	8	1	4	9	7	0	0	88	253	515	953	220	9	1	2	0	0	0	0	0	0	5	24.4	20.1	5.6				
0600 - 2200	2138	654	450	577	457	6	24	1791	3	258	26	9	1	4	9	7	0	0	88	253	537	1005	236	11	1	2	0	0	0	0	0	0	5	24.4	20.2	5.6				
0600 - 0000	2145	655	451	580	459	6	24	1798	3	258	26	9	1	4	9	7	0	0	88	253	538	1010	237	11	1	2	0	0	0	0	0	0	5	24.4	20.2	5.6				
0000 - 0000	2151	656	453	582	460	6	24	1804	3	258	26	9	1	4	9	7	0	0	88	253	540	1013	238	11	1	2	0	0	0	0	0	0	5	24.4	20.2	5.6				

Tuesday 17 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation							
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0 <10mph	MPH 10 <15mph	MPH 15 <20mph	MPH 20 <25mph	MPH 25 <30mph	MPH 30 <35mph	MPH 35 <40mph	MPH 40 <45mph	MPH 45 <50mph	MPH 50 <55mph	MPH 55 <60mph				MPH 60 <65mph	MPH 65 <140mph					
		0000 - 0100	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0
0100 - 0200	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.3	-	
0200 - 0300	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	24.6	-	
0300 - 0400	2	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	20.9	1.0	
0400 - 0500	3	0	2	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	18.4	3.4	
0500 - 0600	3	1	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.0	0.9	
0600 - 0700	14	0	2	3	9	0	1	11	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	21.4	3.1	
0700 - 0800	52	13	10	18	11	0	1	35	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	21.8	3.0	
0800 - 0900	85	30	18	17	20	0	1	56	0	25	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	21.3	3.7
0900 - 1000	93	23	17	23	30	0	2	50	1	34	2	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	21.2	3.4
1000 - 1100	86	25	20	15	26	0	1	53	0	30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.7	3.4
1100 - 1200	89	23	18	23	25	0	0	64	0	23	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	22.1	3.2
1200 - 1300	143	47	32	41	23	0	0	117	0	23	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	22.4	3.8
1300 - 1400	89	28	23	24	14	0	1	61	0	25	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	21.7	3.5
1400 - 1500	95	31	19	28	17	0	4	69																															

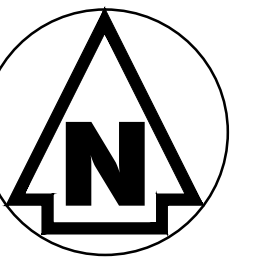
Friday 20 September 2013

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45	MPH 50	MPH 55				MPH 60	MPH 65
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																				
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
0200 - 0300	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	20.7	-	
0300 - 0400	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	21.7	-	
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	
0500 - 0600	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	24.8	-	
0600 - 0700	7	2	2	1	2	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.3	2.1	
0700 - 0800	68	8	13	26	21	0	1	50	0	14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	20.7	3.9		
0800 - 0900	69	23	12	19	15	0	1	46	0	15	2	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.9	3.2		
0900 - 1000	65	15	16	17	17	0	1	30	0	33	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	21.9	2.9		
1000 - 1100	93	16	23	22	32	0	1	62	0	24	2	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.9	22.2	4.3		
1100 - 1200	84	13	27	16	28	0	0	60	1	17	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.8	3.8		
1200 - 1300	165	68	39	24	34	0	2	148	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	21.9	3.6		
1300 - 1400	119	46	24	18	31	0	2	105	0	8	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	21.6	4.4		
1400 - 1500	125	31	20	46	28	0	0	95	0	26	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.4	22.7	3.8		
1500 - 1600	194	45	42	46	61	2	1	165	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	23.0	2.9		
1600 - 1700	444	125	87	167	65	2	7	408	0	22	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	21.1	4.0		
1700 - 1800	235	121	38	50	26	1	5	214	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	22.2	3.5		
1800 - 1900	49	20	9	12	8	0	1	41	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	22.9	3.1		
1900 - 2000	31	5	10	12	4	0	1	26	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	21.7	2.5		
2000 - 2100	15	11	2	1	1	1	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.0	20.9	3.0		
2100 - 2200	8	4	1	3	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	21.0	3.3		
2200 - 2300	3	1	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	22.4	2.0		
2300 - 0000	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	26.8	-		
0700 - 1900	1710	531	350	463	366	5	22	1424	1	220	20	8	1	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3	21.8	3.8		
0600 - 2200	1771	553	365	480	373	6	23	1476	1	227	20	8	1	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	21.8	3.7		
0600 - 0000	1775	554	365	482	374	6	23	1480	1	227	20	8	1	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	21.8	3.7		
0000 - 0000	1778	556	365	482	375	6	23	1483	1	227	20	8	1	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	21.8	3.7		

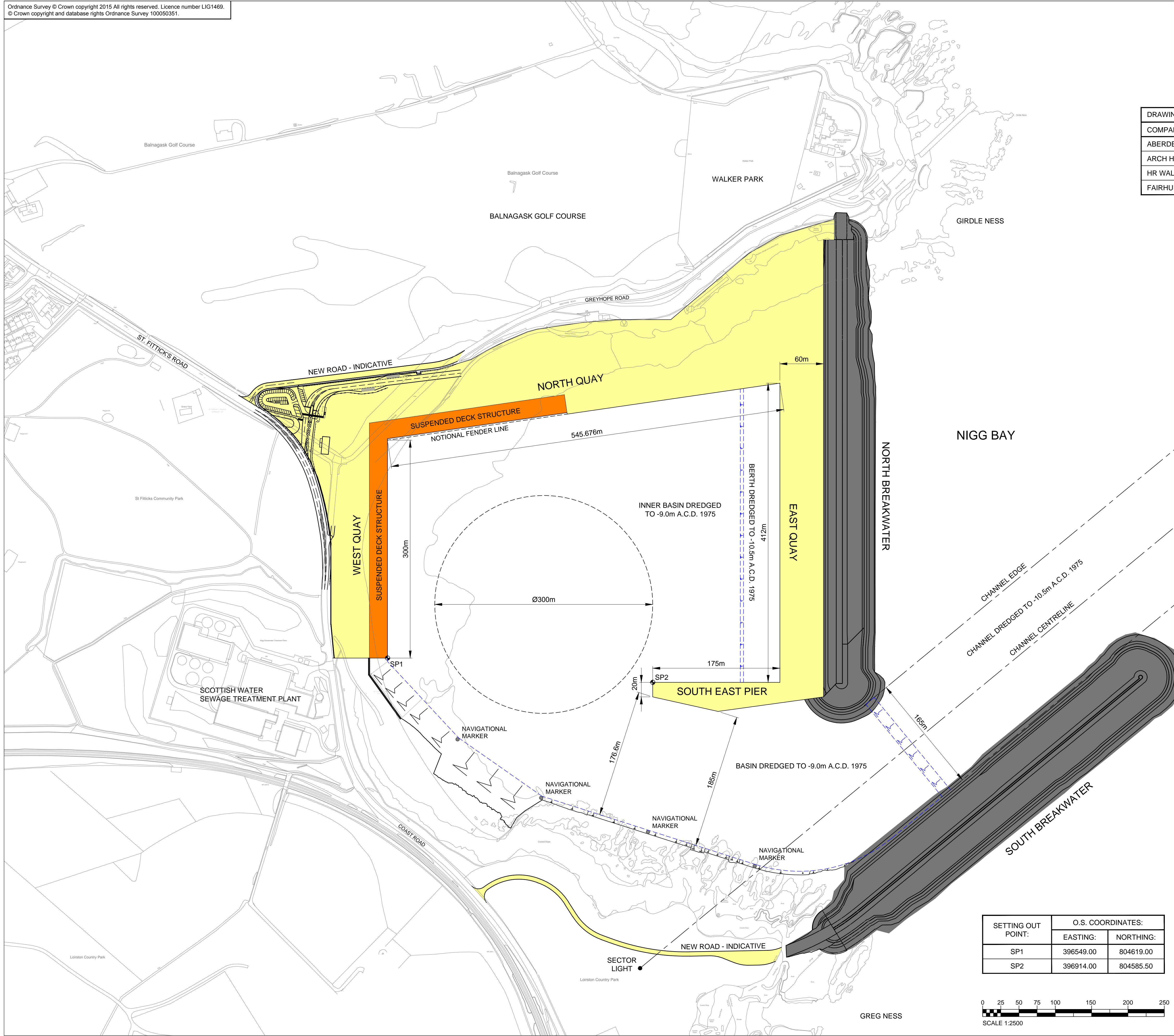
Virtual Day (7.00 Partial Days)

Time	Hourly Totals	15 Minute Bin Drops				Number Vehicle Classes ARX Scheme													Vehicle Speed											P-Tile 85%	Average Speed	Standard deviation		
		00-15	15-30	30-45	45-00	Cycles	Motor Cycles	Car Van	Car Van Towing	2 Axle Van Lorry	3 Axle Rigid	4 Axle Rigid	3 Axle Artic	4 Axle Artic	5 Axle Artic	6 Axle Artic	Double Road Train	Triple Road Train	MPH 0	MPH 10	MPH 15	MPH 20	MPH 25	MPH 30	MPH 35	MPH 40	MPH 45	MPH 50	MPH 55				MPH 60	MPH 65
		<10mph	<15mph	<20mph	<25mph	<30mph	<35mph	<40mph	<45mph	<50mph	<55mph	<60mph	<65mph	<140mph																				
0000 - 0100	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	21.1	-		
0100 - 0200	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	21.8	-		
0200 - 0300	2	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.5	3.2			
0300 - 0400	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	19.4	2.9			
0400 - 0500	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	17.6	-			
0500 - 0600	2	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	23.1	2.6			
0600 - 0700	11	1	2	3	4	0	0	7	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	22.0	3.0		
0700 - 0800	45	6	10	13	15	0	1	30	0	11	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.7	20.7	3.3		
0800 - 0900	60	20	14	14	12	0	0	41	0	14	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	20.9	3.7		
0900 - 1000	55	13	12	14	16	0	0	31	0	20	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	21.3	3.3		
1000 - 1100	61	14	13	14	19	0	1	40	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	21.5	3.5		
1100 - 1200	66	17	15	15	20	0	0	46	0	15	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.4	21.3	3.5		
1200 - 1300	114	40	26	26	23	0	0	100	0	11	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	21.8	3.7		
1300 - 1400	72	24	16	16	16	0	1	55	0	13	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.8	21.3	3.8		
1400 - 1500	79	22	15	25	18	0	1	57	0	17	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5	22.1	3.8		
1500 - 1600	125	25	23	32	46	1	1	102	0	19	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	22.2	3.8		
1600 - 1700	426	113	80	159	73	1	4	393	0	22	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2	20.0	5.0		
1700 - 1800	287	136	62	57	33	2	3	259	1	21	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24.6	20.3	4.8		
1800 - 1900	84	34	20	19	12	1	2	73	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2	23.0	4.7		
1900 - 2000	35	12	9	8	7	0	1	30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.7	22.3	3.5		
2000 - 2100	20	8	5	3	4	0	0	17	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.1	21.6	3.6		
2100 - 2200	6	2	1	1	1	0	0																											

Appendix D
Site Layout, Site Access and Coastal Path Diversion Drawings



DRAWING REFERENCES:	
COMPANY:	DRAWING NUMBER:
ABERDEEN HARBOUR BOARD	2015001-002A
ARCH HENDERSON	121106-2502A
HR WALLINGFORD	DKR5379/100/D010 REV04
FAIRHURST	100011-1909F

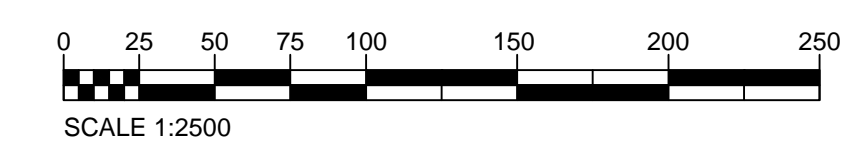


B	15/10/15	Slope arrangement at south end of West Quay updated as per Arch Henderson drawing number 121106 - 2502A. Harbour Revision Order limit added to entrance channel.	S.B.
A	09/09/15	External Boundary Amended. Channel Dredge Limits Amended to suit HRW drawing Fairhurst drawing updated.	S.B.
Rev:	Date:	Revision:	By:

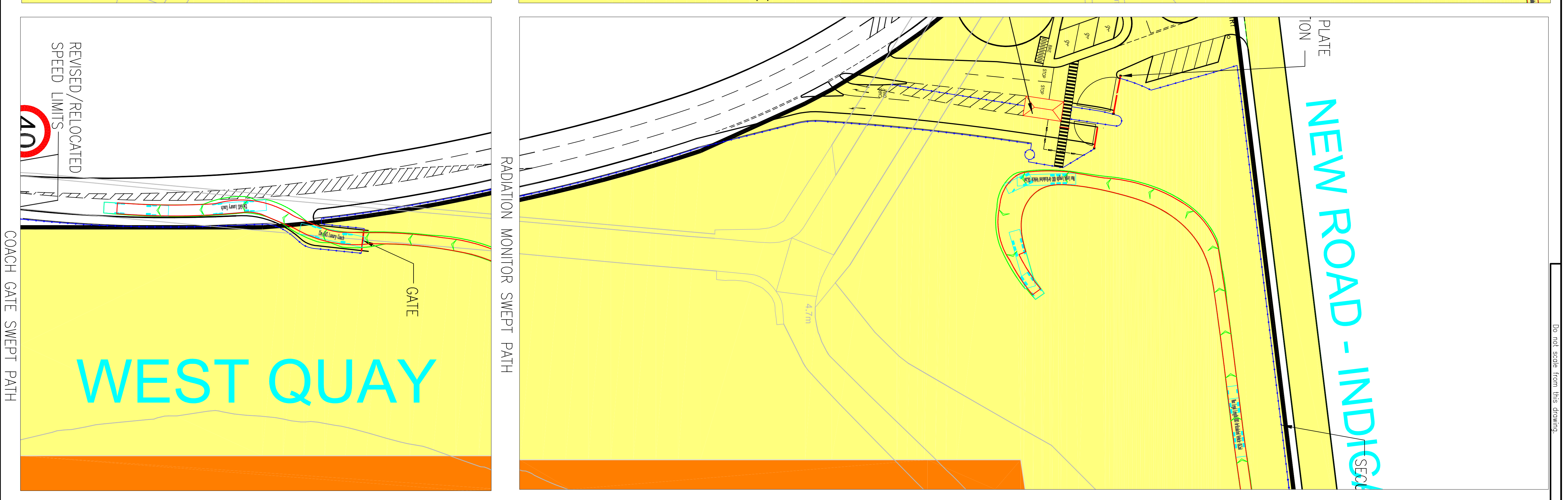
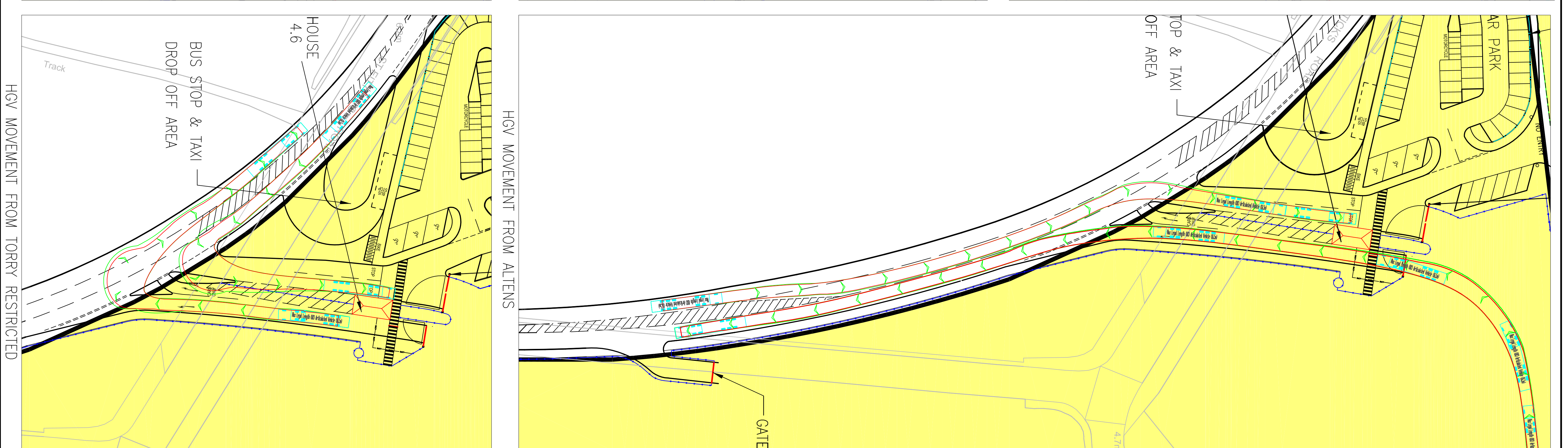
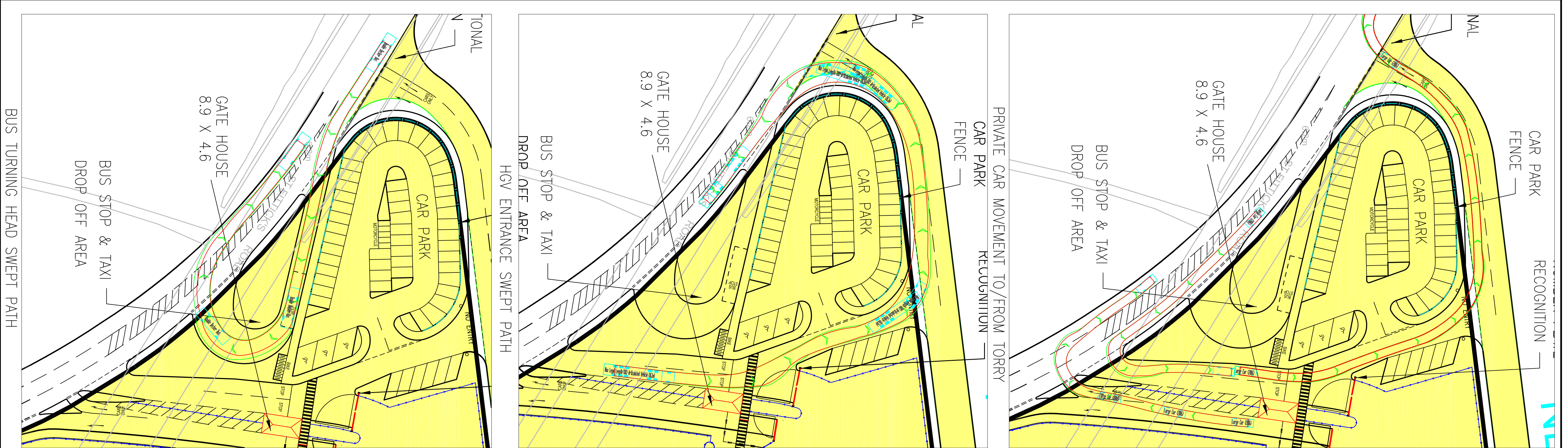
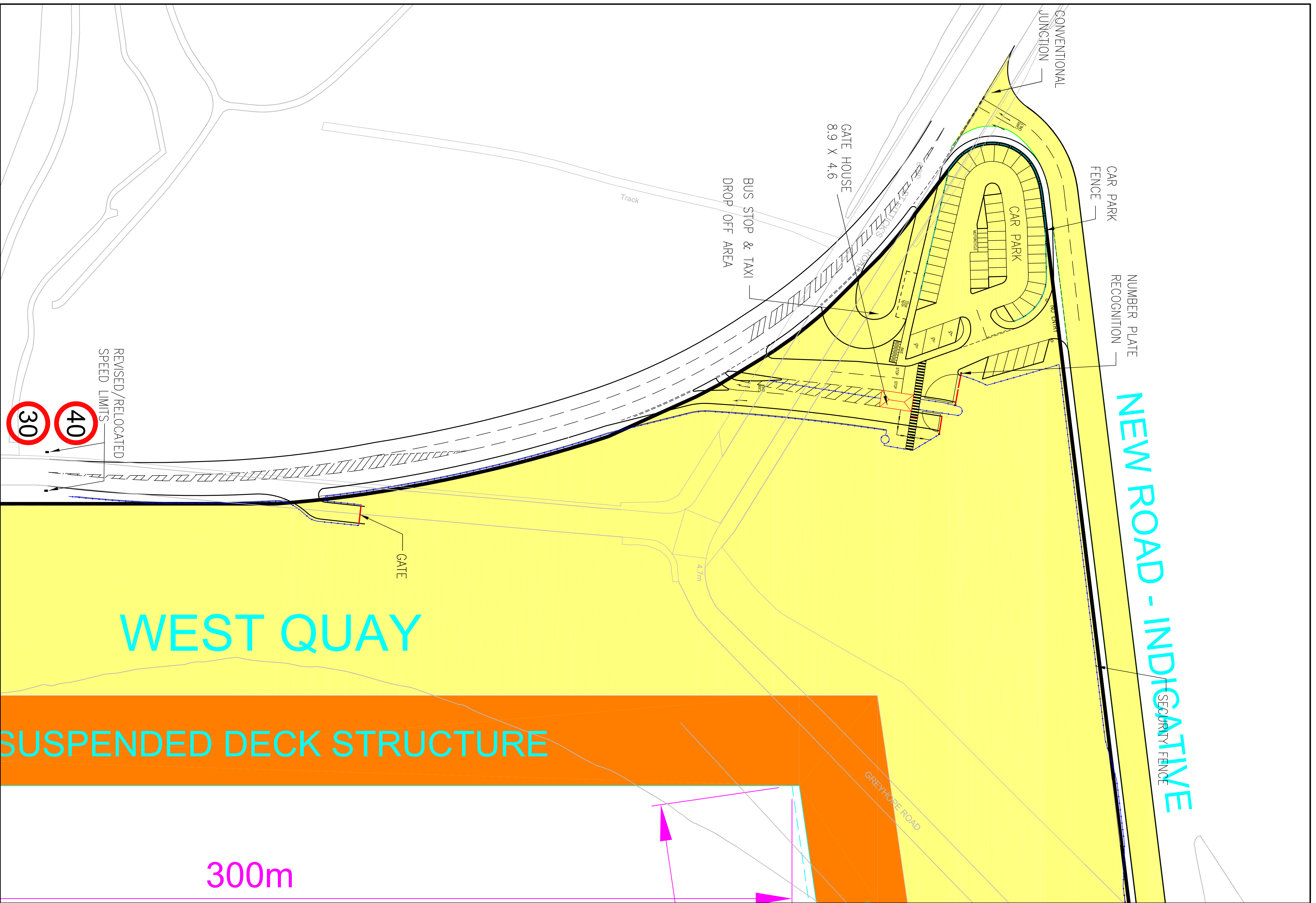
Aberdeen Harbour Board
 16 Regent Quay
 Aberdeen AB11 5SS
 t: 01224 597000
 f: 01224 571507
 www.aberdeen-harbour.co.uk

Title: **Aberdeen Harbour Expansion Project**
Overall Layout 6

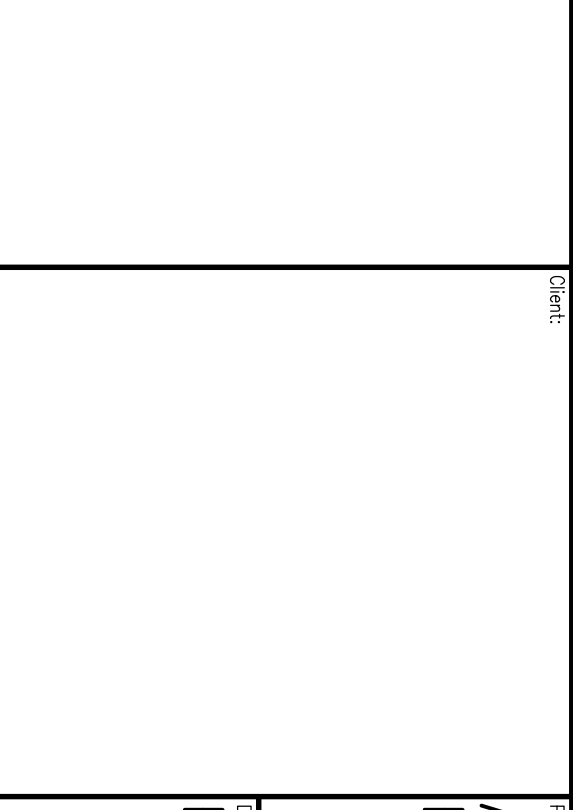
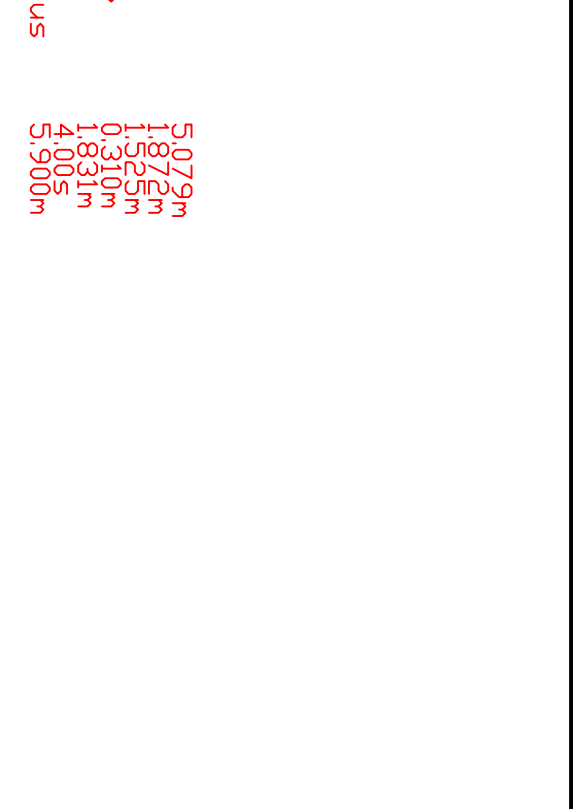
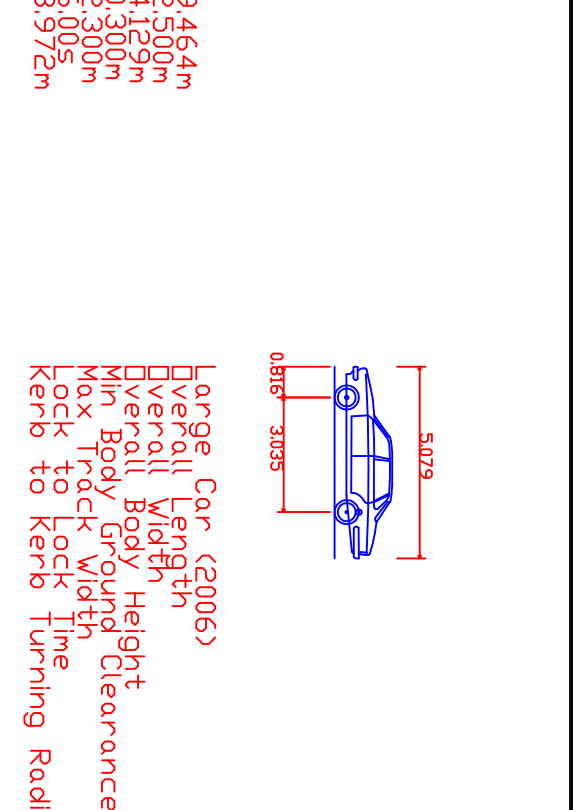
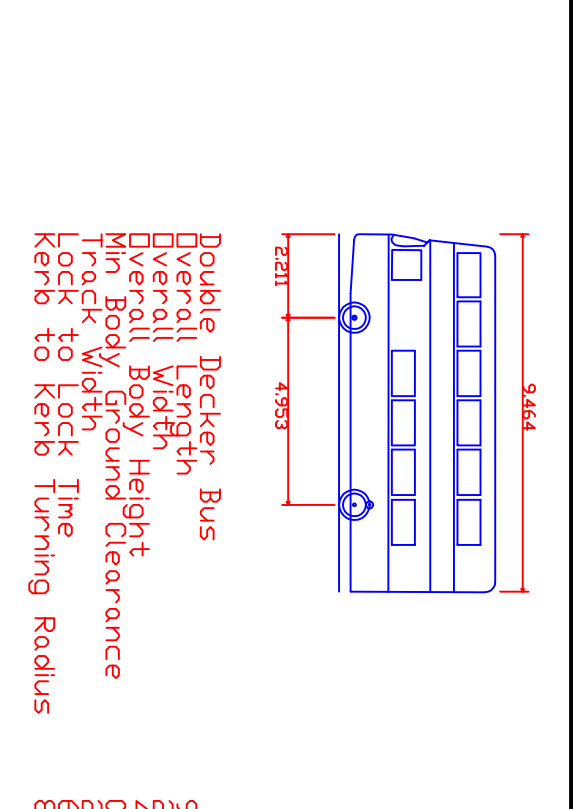
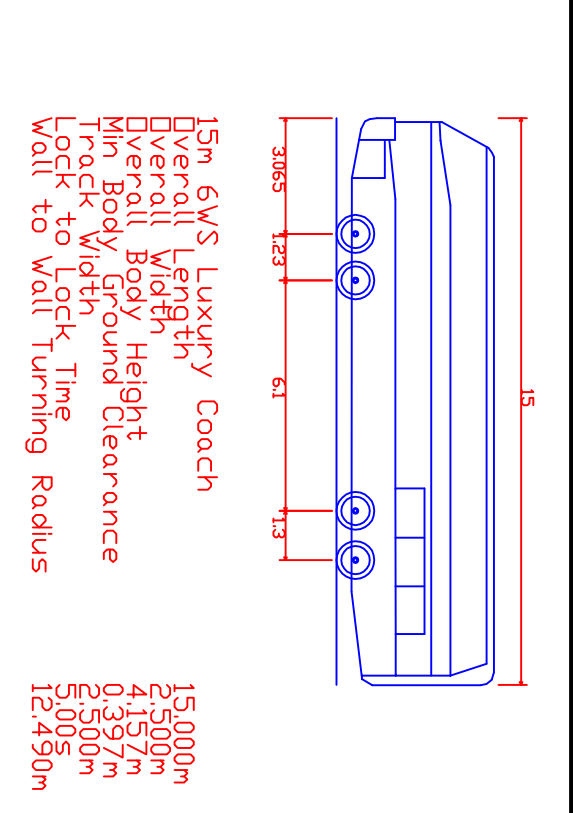
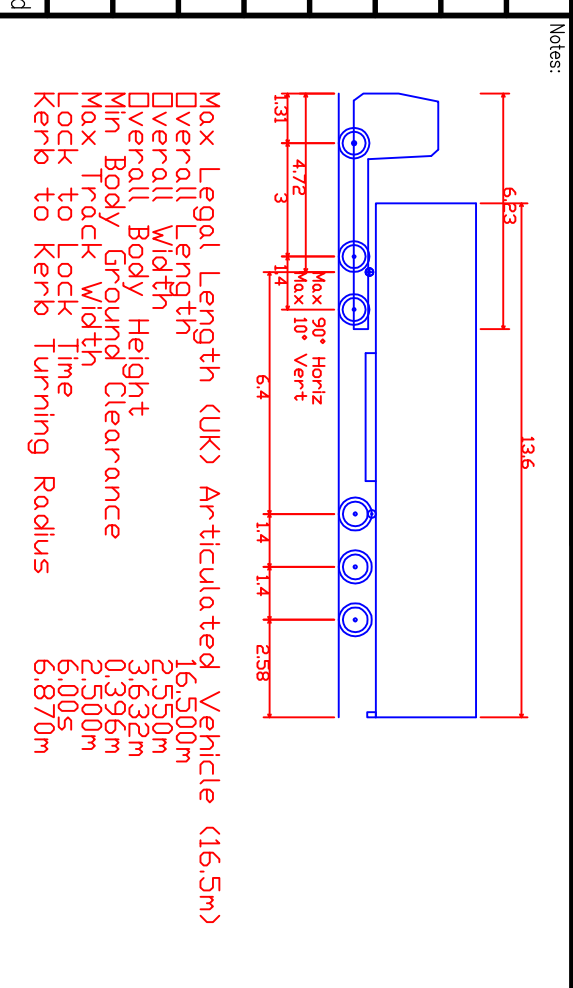
SETTING OUT POINT:	O.S. COORDINATES:	
	EASTING:	NORTHING:
SP1	396549.00	804619.00
SP2	396914.00	804585.50



Date:	Designed by:	Drawing Number:
29/05/2015	Drawn by: S. Buchan	2015001-002-B
Scale(s):	Checked by: J. Wilson	
1:2500 (A1)	Approved by: K. Young	



Rev	Date	Description	Drawn	Checked	Approved
G	27/07/15	INTERNAL GATE DETAILS REVISIONS	RAW	RAW	RAW
F	27/07/15	SEE LAYOUT REVISIONS	WZ	RAW	RAW
E	23/07/15	REVISIONS TO GATE HOUSE BUILDING REVISIONS	WZ	RAW	RAW
D	17/07/15	REVISIONS TO GATE HOUSE BUILDING REVISIONS	WZ	RAW	RAW
C	20/07/15	REVISIONS TO GATE HOUSE BUILDING REVISIONS	WZ	RAW	RAW
B	27/07/15	REVISIONS TO GATE HOUSE BUILDING REVISIONS	WZ	RAW	RAW
A	27/07/15	REVISIONS TO GATE HOUSE BUILDING REVISIONS	WZ	RAW	RAW



Project Name: **ABERDEEN HARBOUR EXPANSION PROJECT**

Proposed Entrance Layout

Scale: 1:1000

Drawn: WZ

Checked: RAW

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

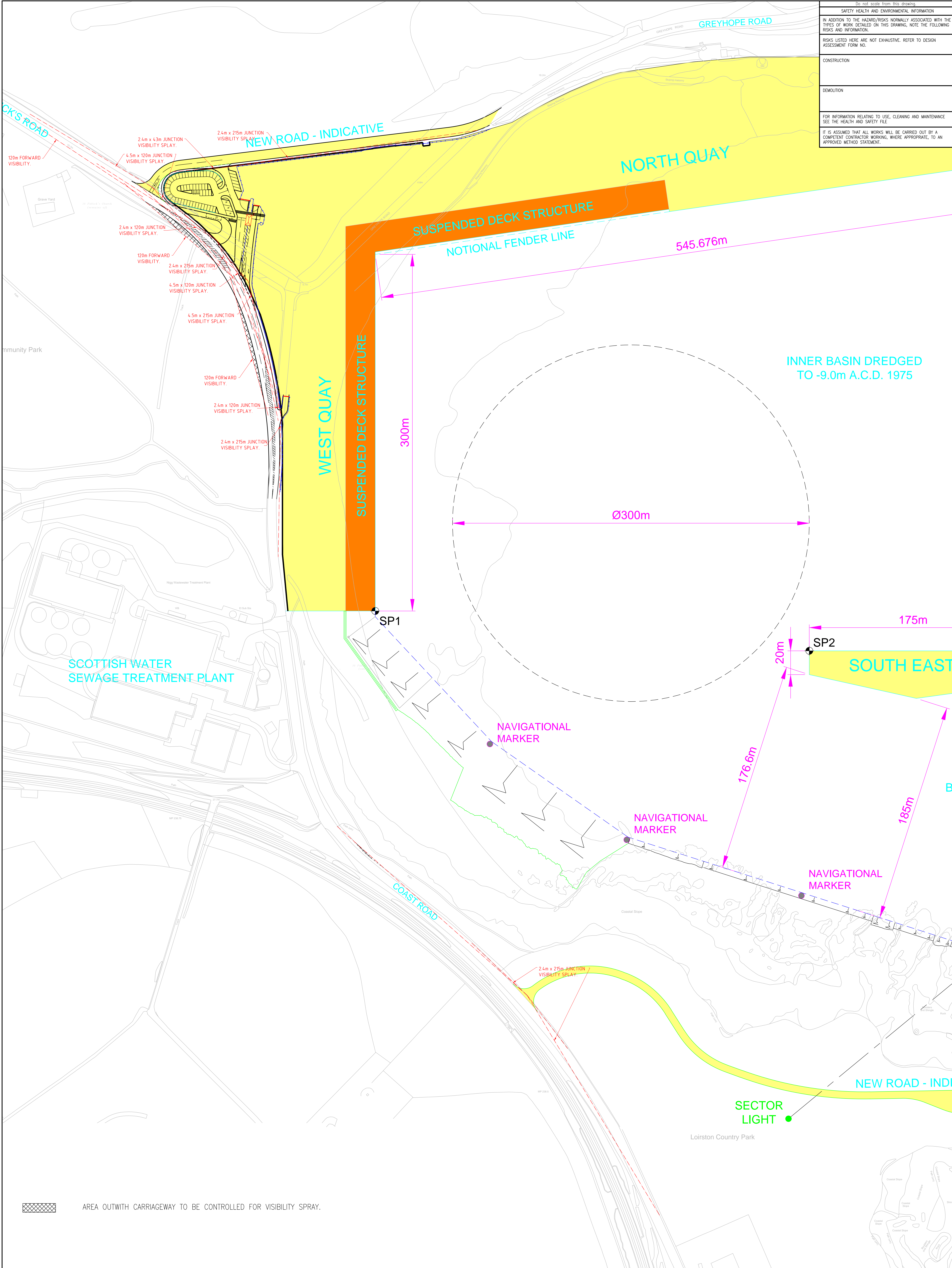
RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO.

CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



SCOTTISH WATER SEWAGE TREATMENT PLANT

INNER BASIN DREDGED TO -9.0m A.C.D. 1975

SOUTH EAST QUAY

NEW ROAD - INDICATIVE

AREA OUTWITH CARRIAGEWAY TO BE CONTROLLED FOR VISIBILITY SPRAY.

Rev.	Date	Description	Drawn	Checked	Approved
B	22/07/15	INTERNAL QUAY DETAILS REMOVED.	RAW	RW	RW
A	26/06/15	HARBOUR LAYOUT REVISED TO UP TO DATE VERSION. FENCELINES AMENDED TO BE 2M SET BACK FROM ROAD CHANNELS.	WZ	RMCD	ASK

Project Title:	ABERDEEN HARBOUR EXPANSION PROJECT
Client:	
Project File:	
Scale of A3:	1:1000
Drawn:	WZ
Checked:	RMCD
Date:	28/07/15
Project Information:	
For Information:	
Checked:	ASK
Approved:	
Date:	28/07/15
Project No.:	100011/1910
Revision:	B

FAIRHURST

85 Queens Road
ABERDEEN, AB15 4UG
Tel: 01224 321 322 Fax: 01224 323 291

Scale of A3: 1:1000

Drawn: WZ

Checked: RMCD

Date: 28/07/15

Project Information:

For Information:

Checked: ASK

Approved:

Date: 28/07/15

Project No.: 100011/1910

Revision: B

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

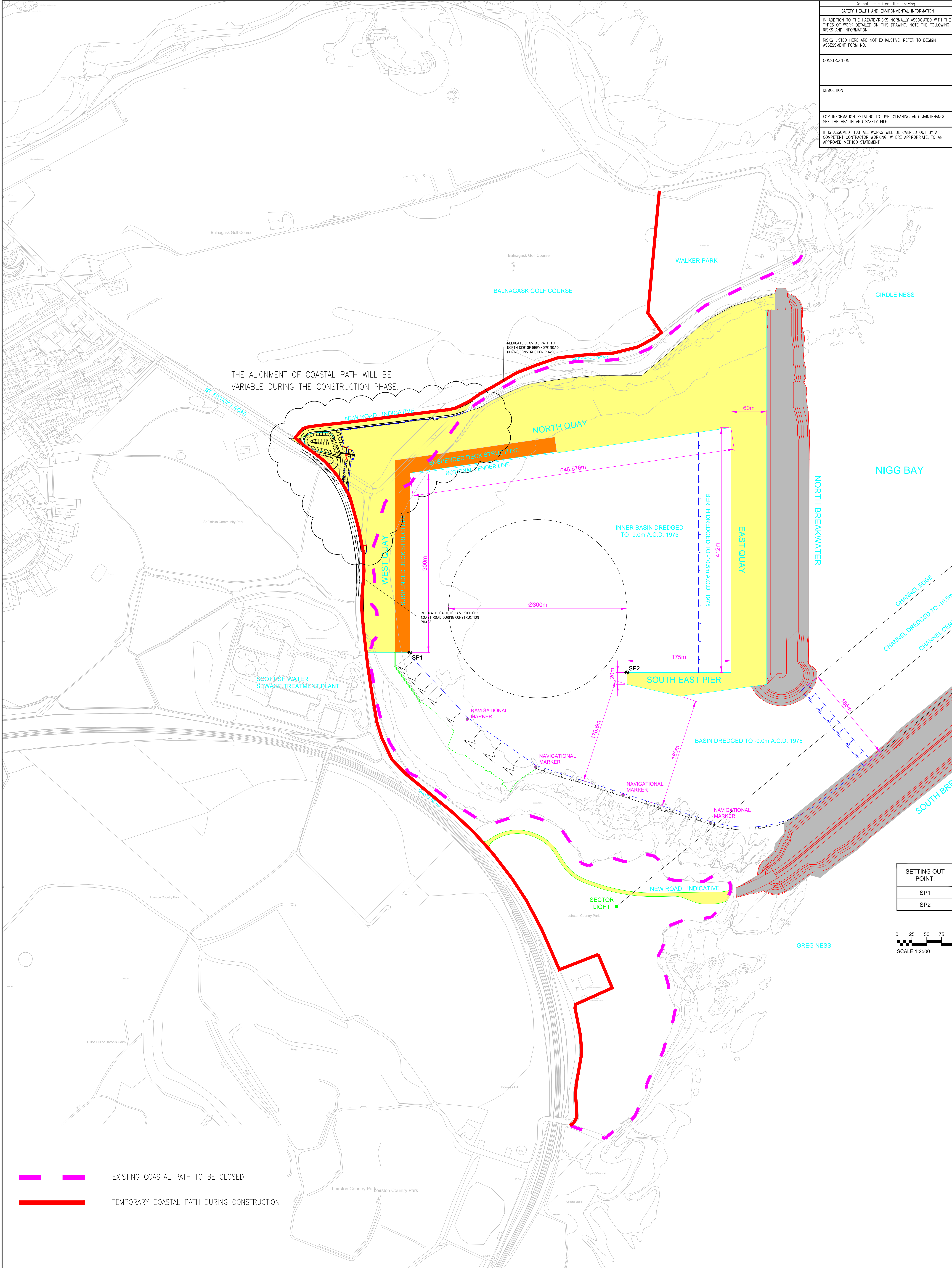
RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO.

CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



THE ALIGNMENT OF COASTAL PATH WILL BE VARIABLE DURING THE CONSTRUCTION PHASE.

--- EXISTING COASTAL PATH TO BE CLOSED

--- TEMPORARY COASTAL PATH DURING CONSTRUCTION

SETTING OUT POINT:

SP1

SP2



Rev.	Date	Description	Drawn	Checked	Approved
C	22/10/15	INTERNAL QUAY DETAILS REMOVED.	RAW	RW	RW
B	04/09/15	TEMPORARY COASTAL PATH ROUTE REVISED AS PER COMMENTS.	WZ	RMCD	ASK
A	27/08/15	TEMPORARY COASTAL PATH ROUTE AMENDED AS PER COMMENTS. WEIGHBRIDGE & WELFARE BUILDING RELOCATED FROM EXISTING DRAINAGE.	WZ	RMCD	ASK

Notes:

Client:

Project Title:

FAIRHURST

85 Queens Road, Aberdeen, AB10 1JG
Tel: 01224 331 332 Fax: 01224 333 301

Scale of A3: 1:2000 For Information

Drawn: WZ Checked: RMCD Approved: ASK

Date: 28/07/15 Date: 28/07/15 Date: 28/07/15

Drawing No: 100011/1911 Revision: C

ABERDEEN HARBOUR EXPANSION PROJECT

TEMPORARY REROUTING OF COASTAL PATH DURING CONSTRUCTION PHASE

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

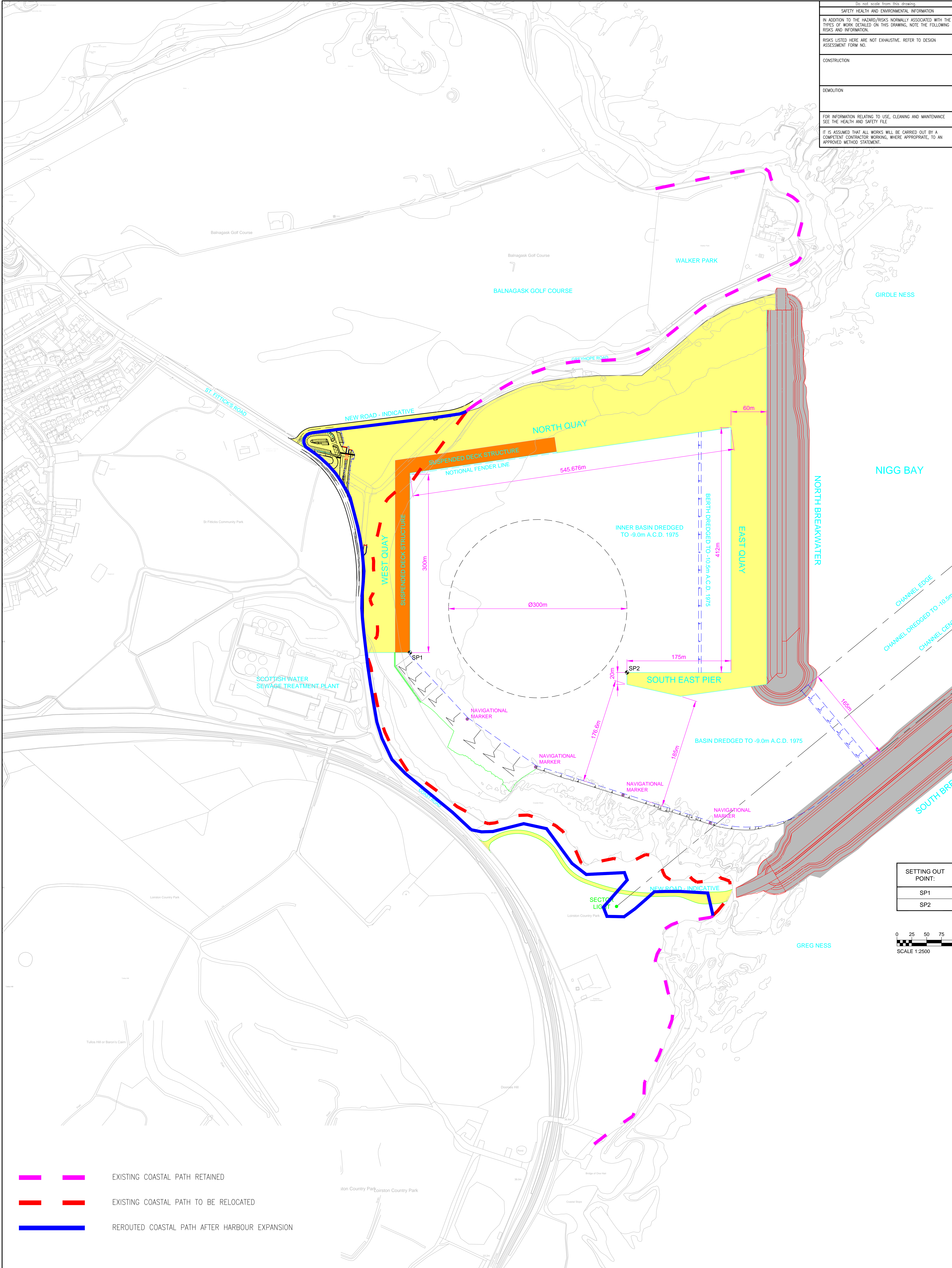
RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO.

CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



SETTING OUT POINT:
SP1
SP2



- EXISTING COASTAL PATH RETAINED
- EXISTING COASTAL PATH TO BE RELOCATED
- REROUTED COASTAL PATH AFTER HARBOUR EXPANSION

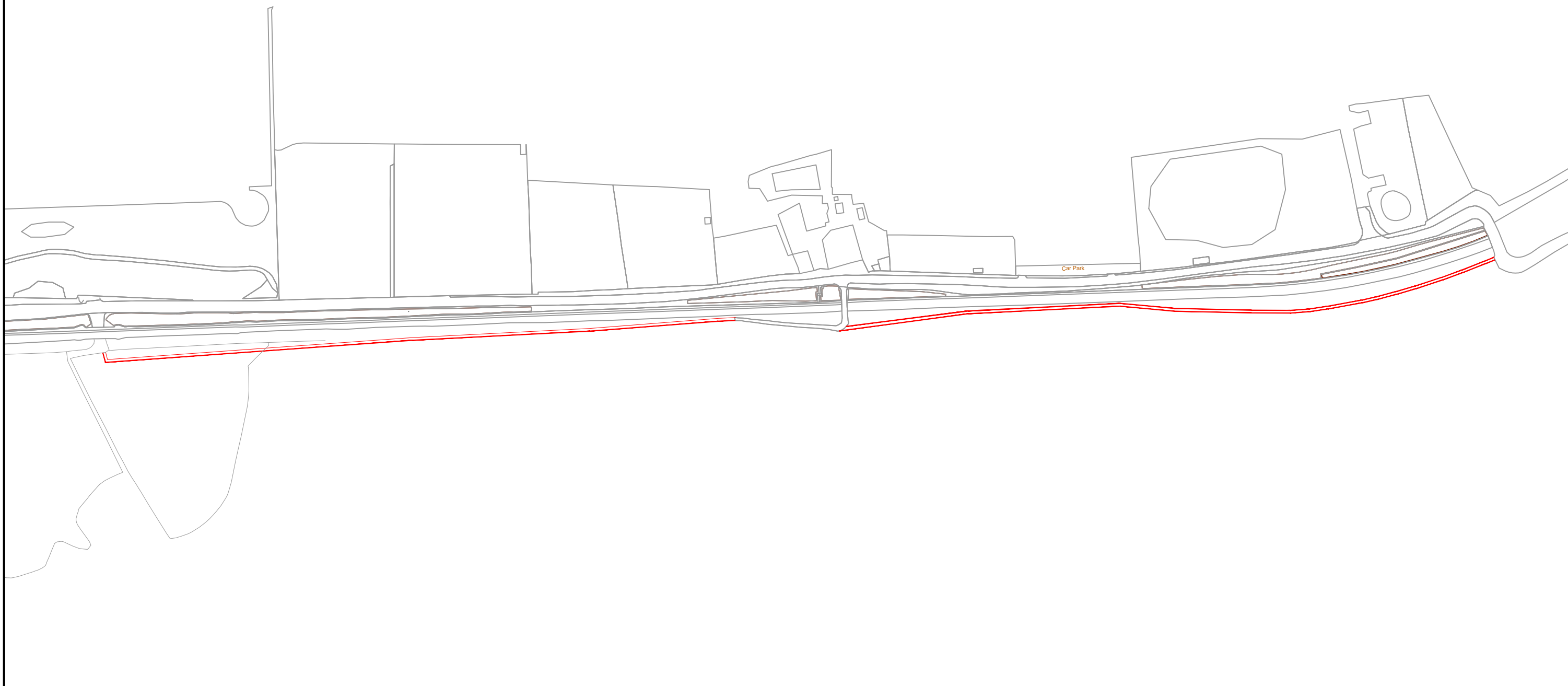
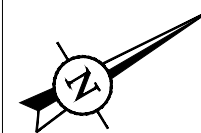
Rev.	Date	Description	Drawn	Checked	Approved
B	22/10/15	INTERNAL QUAY DETAILS REMOVED.	RALW	RW	RW
A	27/08/15	ROUTING OF COASTAL PATH REVISED AS PER COMMENTS. WEIGHBRIDGE & WELFARE BUILDING RELOCATED FROM EXISTING DRAINAGE.	WZ	RMCD	ASK

Project Title:	ABERDEEN HARBOUR EXPANSION PROJECT
Client:	
Project File:	ABERDEEN HARBOUR EXPANSION PROJECT
Drawing Title:	REROUTING OF COASTAL PATH AFTER HARBOUR EXPANSION

		Scale of A3:	1:2000	Status:	For Information
		Drawn:	WZ	Checked:	RMCD
Date:	28/07/15	Date:	28/07/15	Date:	28/07/15
Drawing No.:	100011/1912	Revision:	A		

Appendix E
Proposed Off-Road Cyclepath Adjacent to Coast Road

Do not scale from this drawing.



CYCLING BY DESIGN SPECIFICATION:

2M WIDE SHARED PEDESTRIAN / CYCLEWAY AS PER TABLE 6.2
(ABSOLUTE MINIMUM OF 2.0M FOR COMBINED FLOWS OF UP TO 200 PER HOUR)

UNBOUND SURFACING AS PER TABLE 10.2
(RUNNING SURFACE - 75MM BINDING MATERIAL CI 920; SUB-BASE - 150MM TYPE 1 GRANULAR MATERIAL CI 830)

Notes:  INDICATIVE CYCLEWAY ALIGNMENT

Client:
ABERDEEN HARBOUR BOARD

Project Title:
ABERDEEN HARBOUR EXTENSION

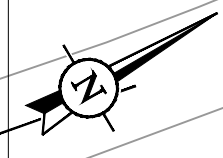
Drawing Title:
COAST ROAD CYCLEWAY INDICATIVE CYCLEWAY ALIGNMENT

FAIRHURST

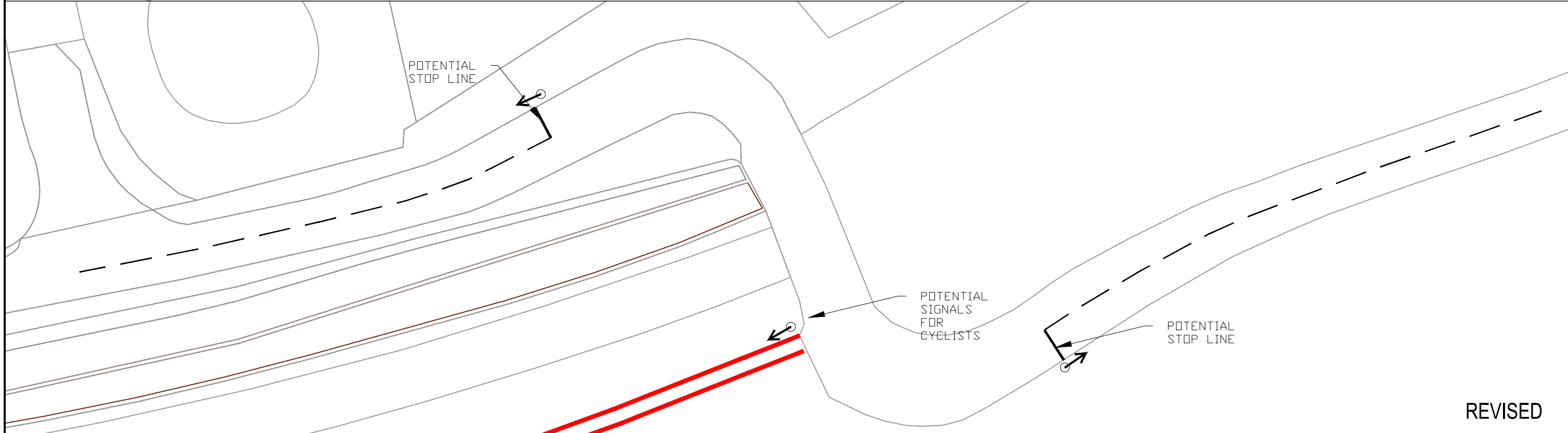
43 George Street,
EDINBURGH, EH2 2HT
Tel: 0131 225 6741 Fax: 0844 381 4412

Scale at A3: NTS	Status: For Information	
Drawn: CJ	Checked: MT	Approved: RM
Date: 15/10/15	Date: 15/10/15	Date: 15/10/15
Drawing No.: 108675/sk8011		Revision: A

Do not scale from this drawing.



EXISTING



REVISED

CYCLING BY DESIGN SPECIFICATION:

2M WIDE SHARED PEDESTRIAN / CYCLEWAY AS PER TABLE 6.2
(ABSOLUTE MINIMUM OF 2.0M FOR COMBINED FLOWS OF UP TO 200 PER HOUR)

UNBOUND SURFACING AS PER TABLE 10.2
(RUNNING SURFACE - 75MM BINDING MATERIAL CI 920; SUB-BASE - 150MM TYPE 1 GRANULAR MATERIAL CI 830)

- Notes:
- INDICATIVE CYCLEWAY ALIGNMENT
 - ↓ INDICATIVE TRAFFIC SIGNALS

Client:
ABERDEEN HARBOUR BOARD

Project Title:
ABERDEEN HARBOUR EXTENSION

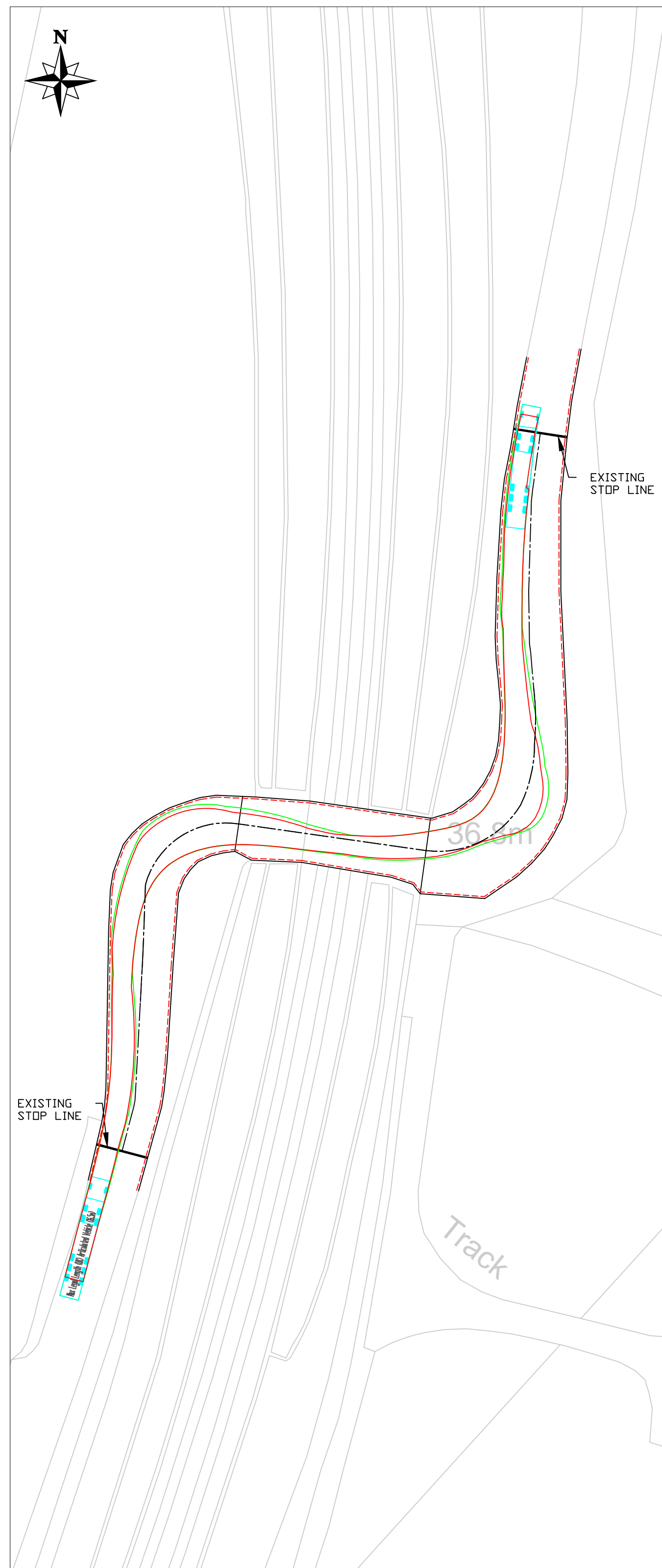
FAIRHURST

43 George Street,
EDINBURGH, EH2 2HT
Tel: 0131 225 6741 Fax: 0844 381 4412

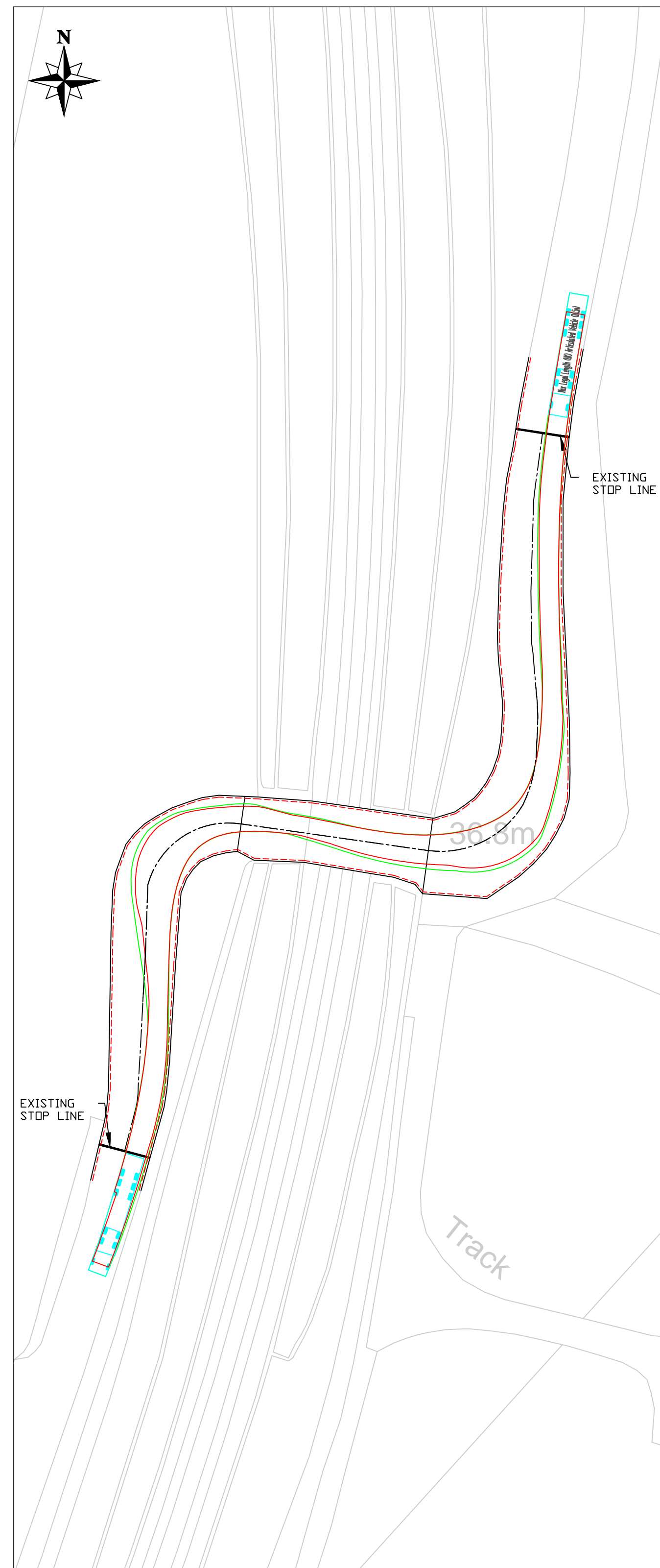
Scale at A3: NTS		Status: For Information
Drawn: CJ	Checked: MT	Approved: RM
Date: 15/10/15	Date: 15/10/15	Date: 15/10/15
Drawing No.: 108675/sk8012		Revision: A

Drawing Title:
**COAST ROAD CYCLEWAY
INDICATIVE EXISTING & REVISED
STOPLINE LOCATIONS**

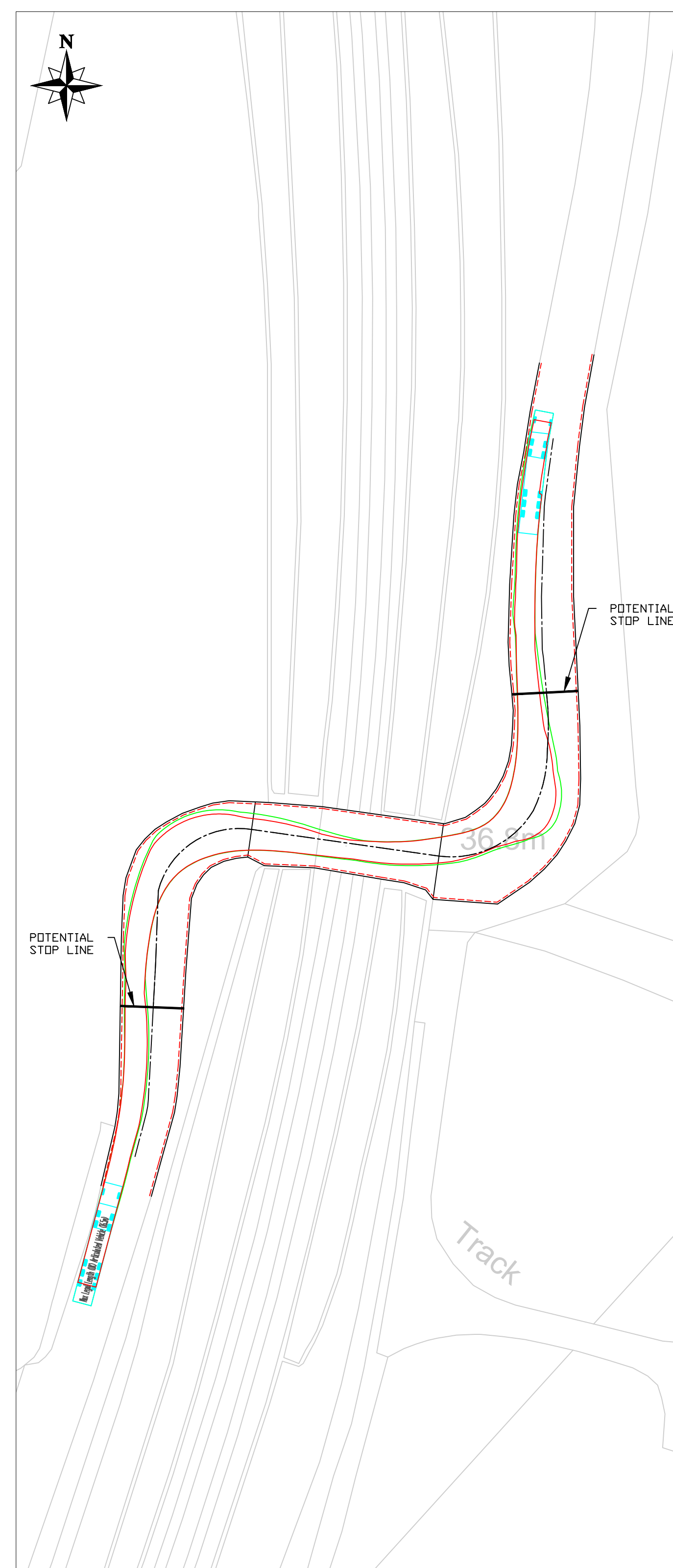
Appendix F
Swept Path Analysis



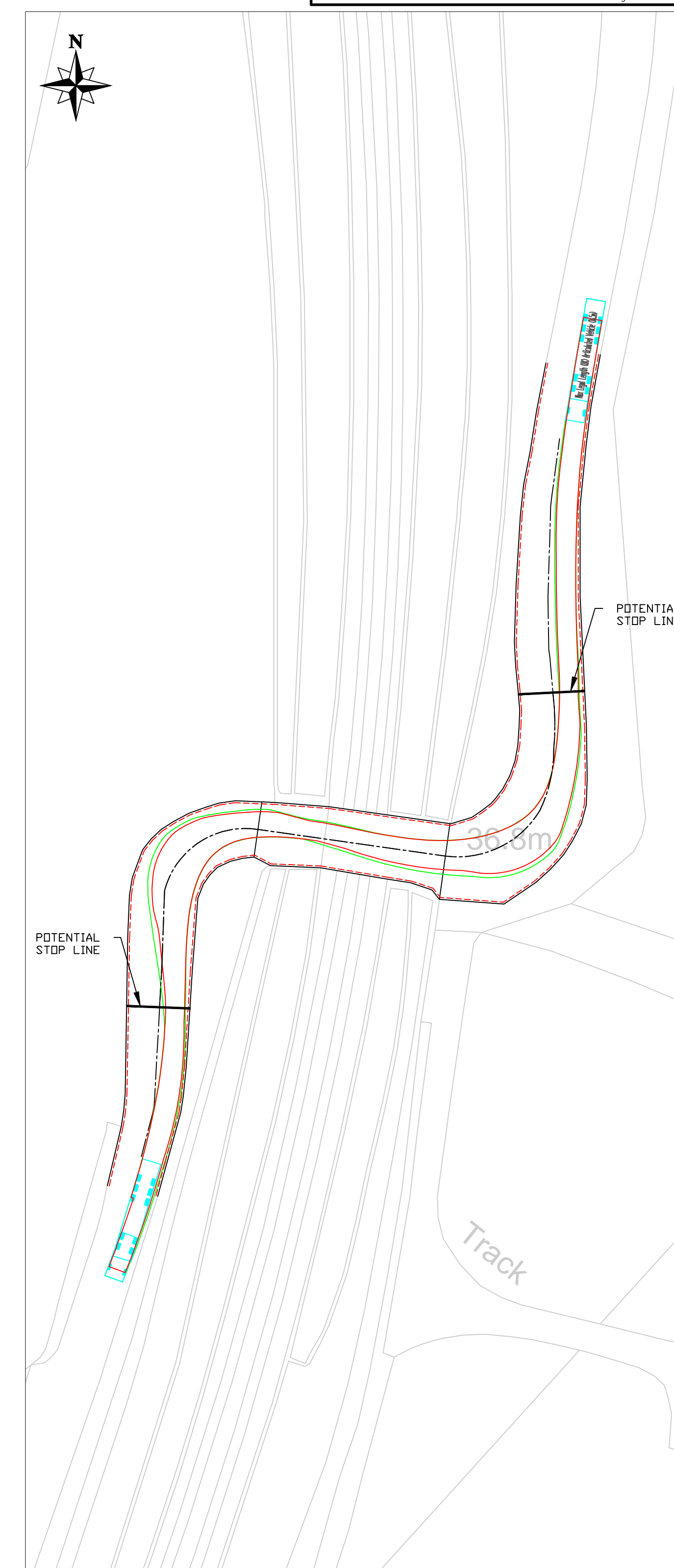
EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 980mm



EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 670mm



POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 1260mm



POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 1280mm

Notes:

LEGEND
 - - - - - 250mm OFFSET

Client:

Project Title:

ABERDEEN HARBOUR BOARD
 BAY OF NIGG HARBOUR
 DEVELOPMENT

FAIRHURST

88 Queens Road,
 ABERDEEN, AB15 4YQ
 Tel: 01224 321 222 Fax: 01224 323 201

Scale at A1: 1:250 Status: For Approval

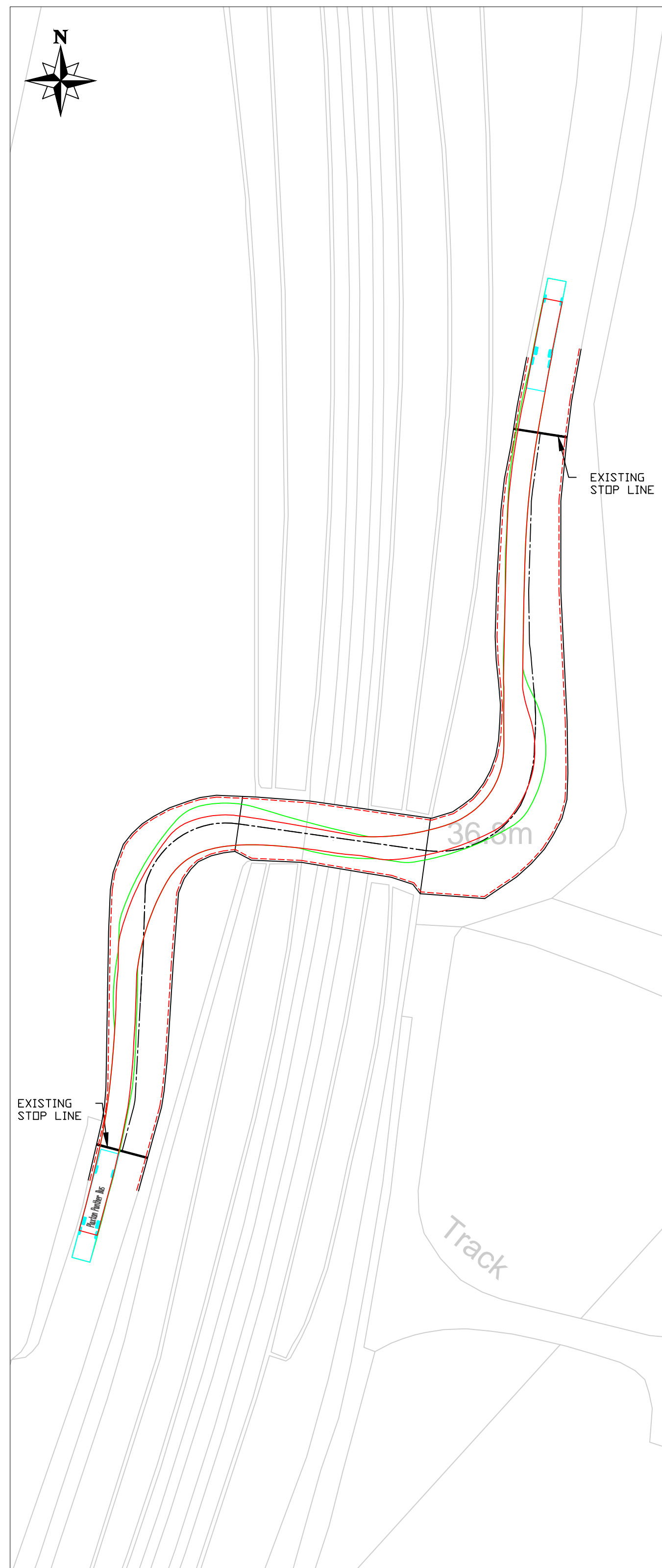
Drawing Title:
 POTENTIAL RELOCATION OF STOP
 LINES AND TRAFFIC SIGNALS
 ON EXISTING ROAD LAYOUT

Drawn: FM Checked: Approved:

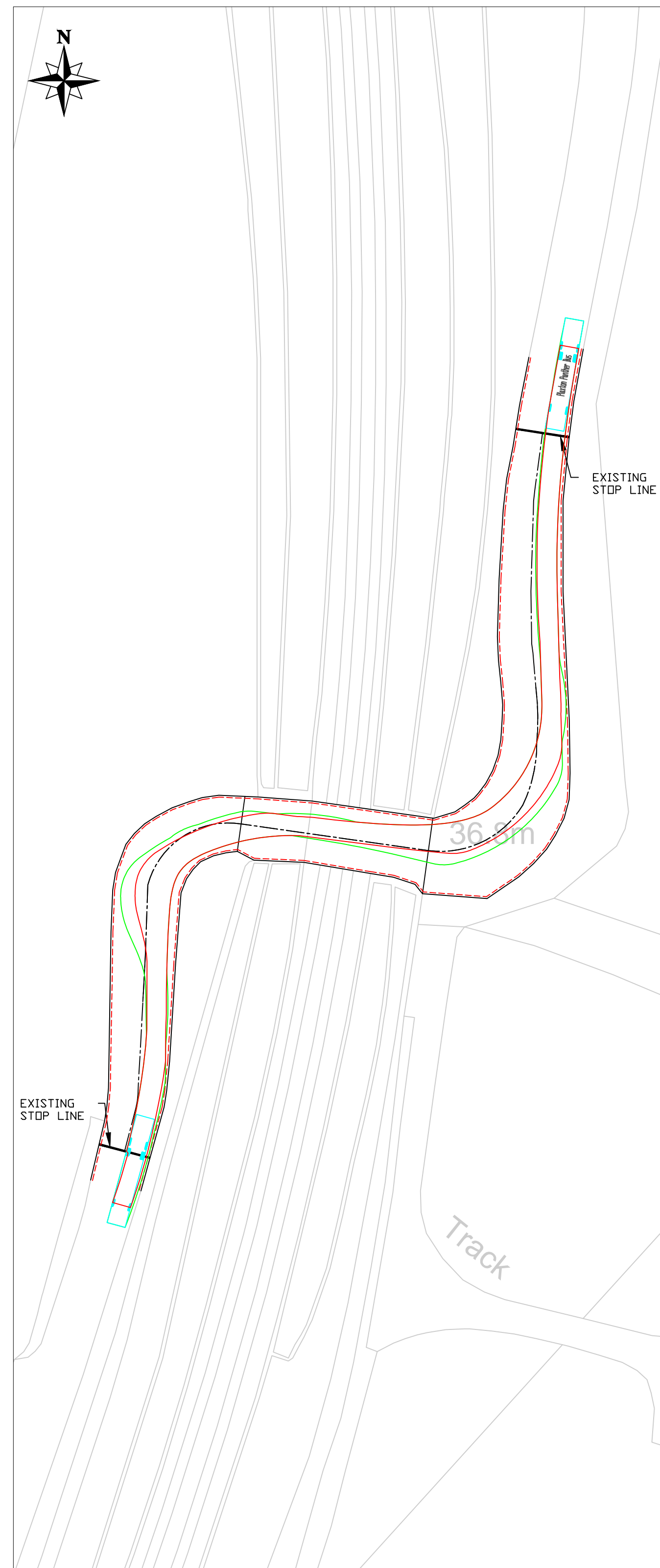
Date: 07/08/14 Date: Date:

Drawing No.: 100011/1904 Revision: A

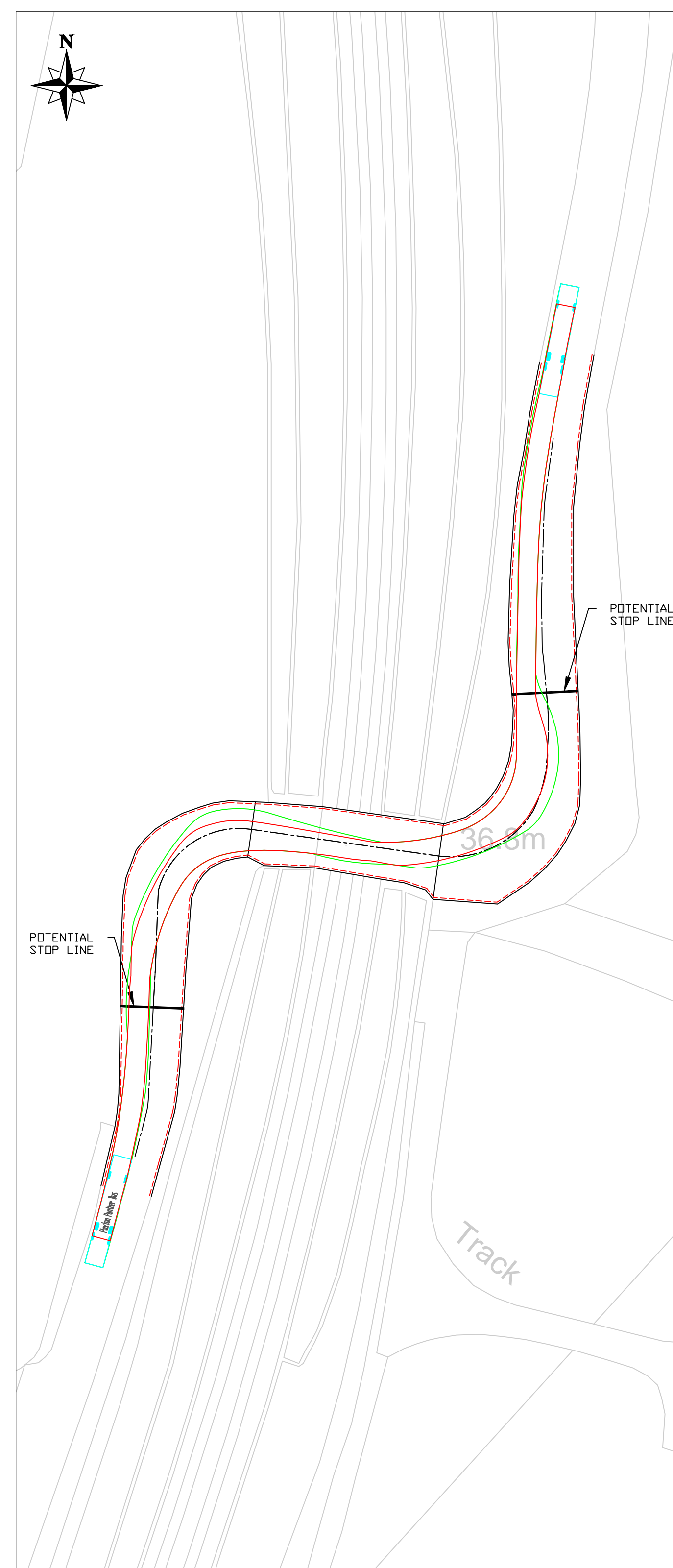
Rev.	Date	Description	Drawn	Checked	Approved
A	26/01/15	REVISED FOLLOWING COMMENTS RECEIVED	FM	RMCD	ASK



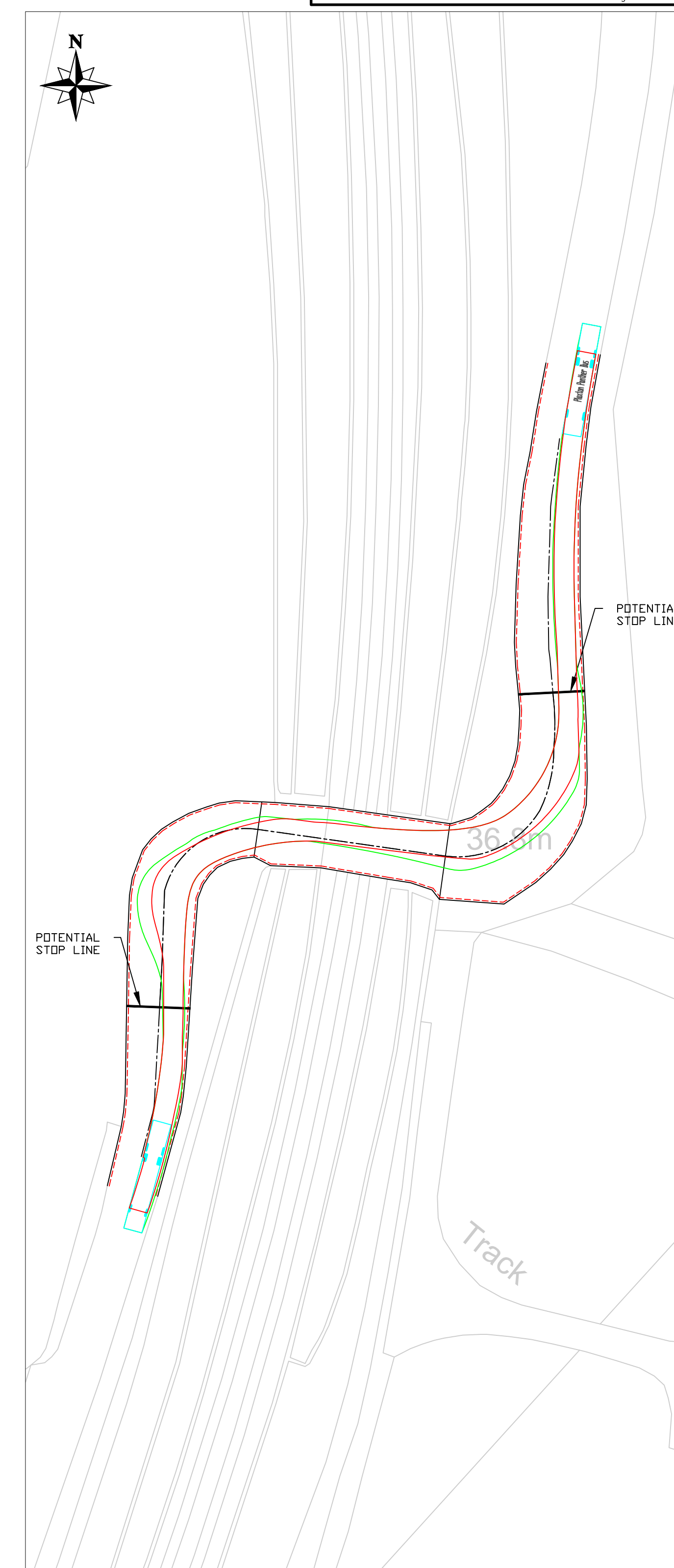
EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 980mm



EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 670mm



POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 1260mm



POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 1280mm

Rev.	Date	Description	Drawn	Checked	Approved

Notes:

LEGEND

----- 250mm OFFSET



NOTE:

DISTANCE BETWEEN PROPOSED STOP LINES BASED ON HGV REQUIREMENTS. REFER TO TRACKING DRAWING 100011/1904A FOR DETAILS.

Project Title:

ABERDEEN HARBOUR BOARD
 BAY OF NIGG HARBOUR
 DEVELOPMENT

Drawing Title:

LUXURY COACH
 VEHICLE TRACKING
 ON EXISTING ROAD LAYOUT

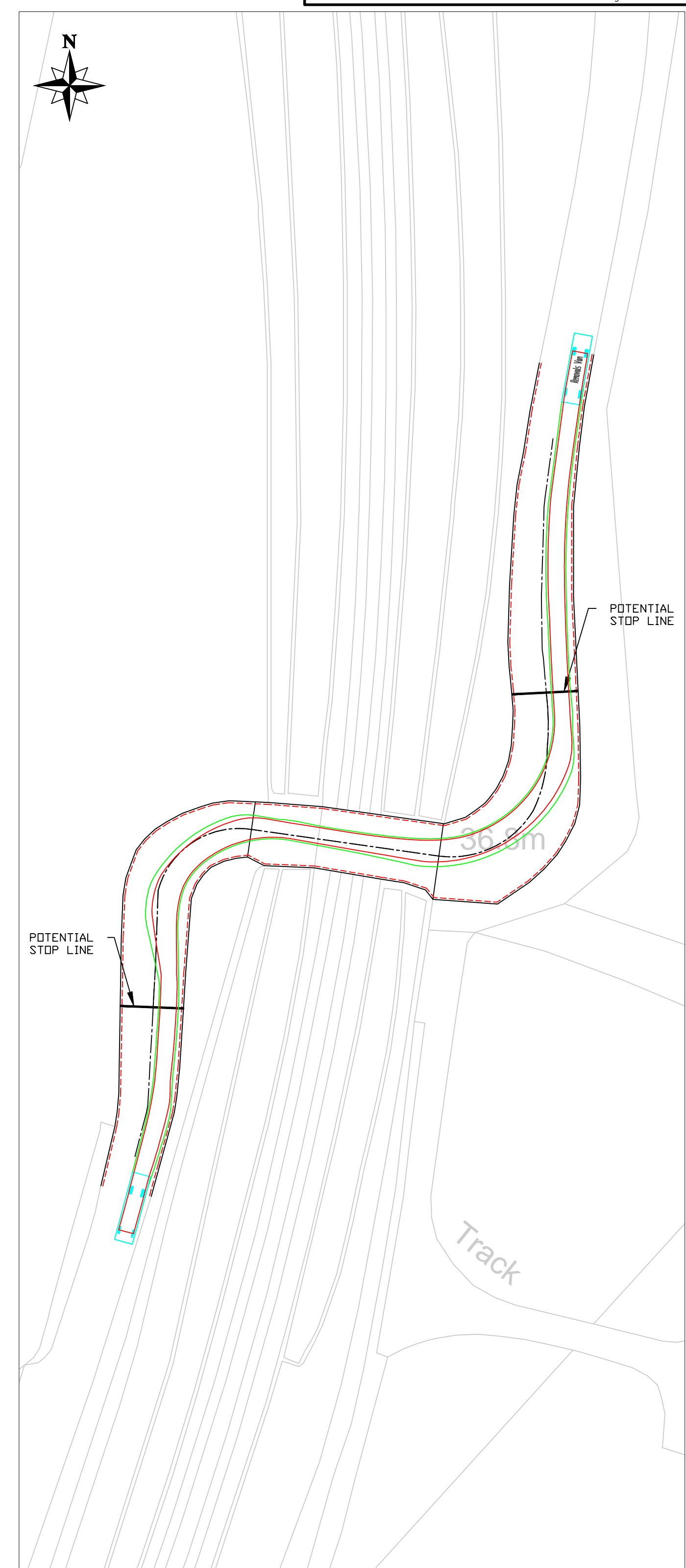
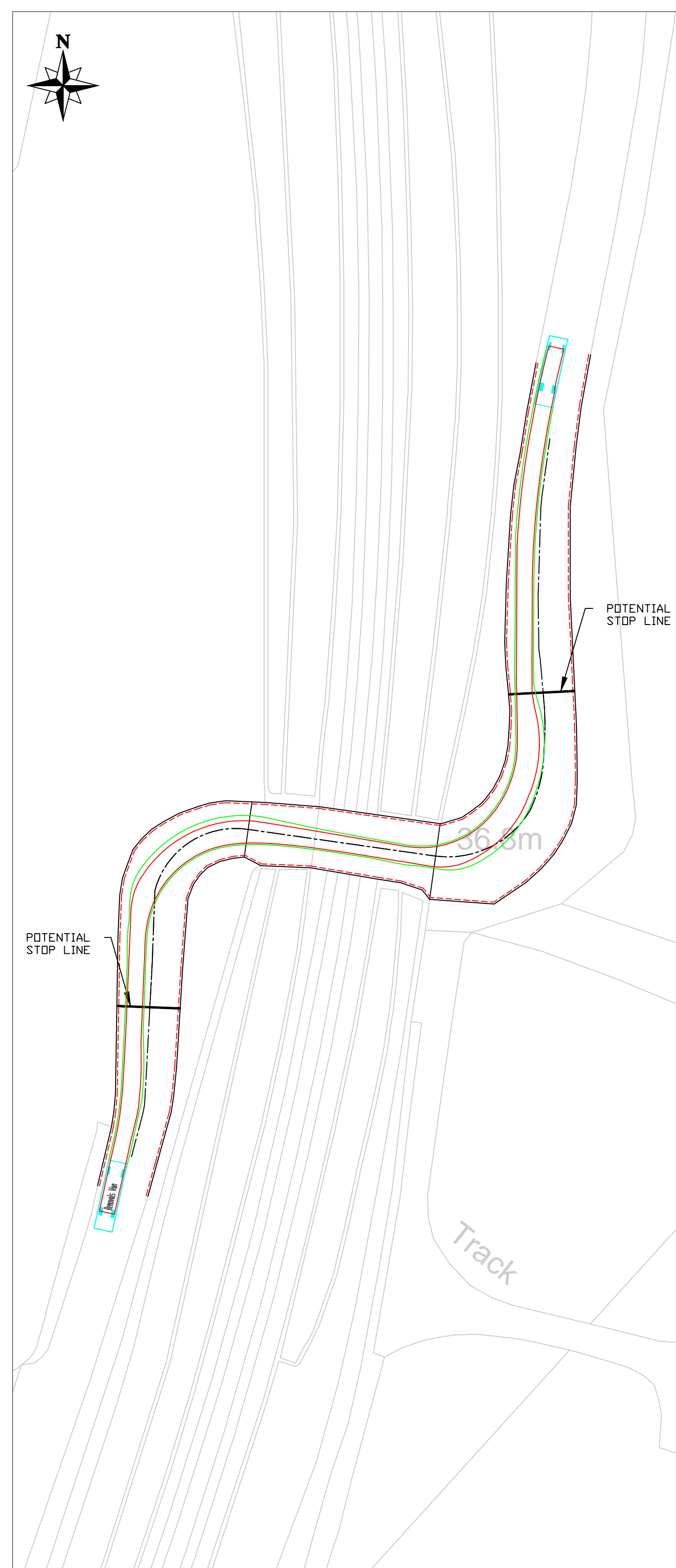
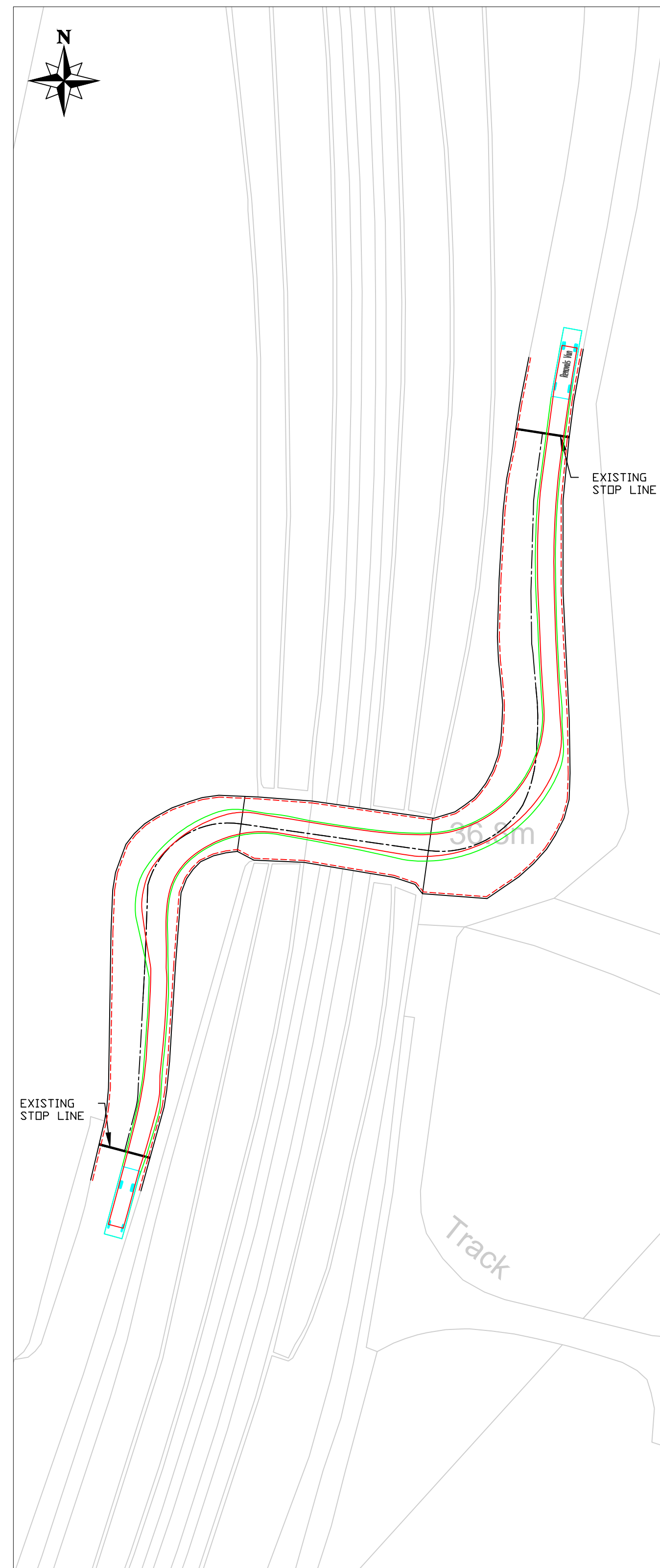
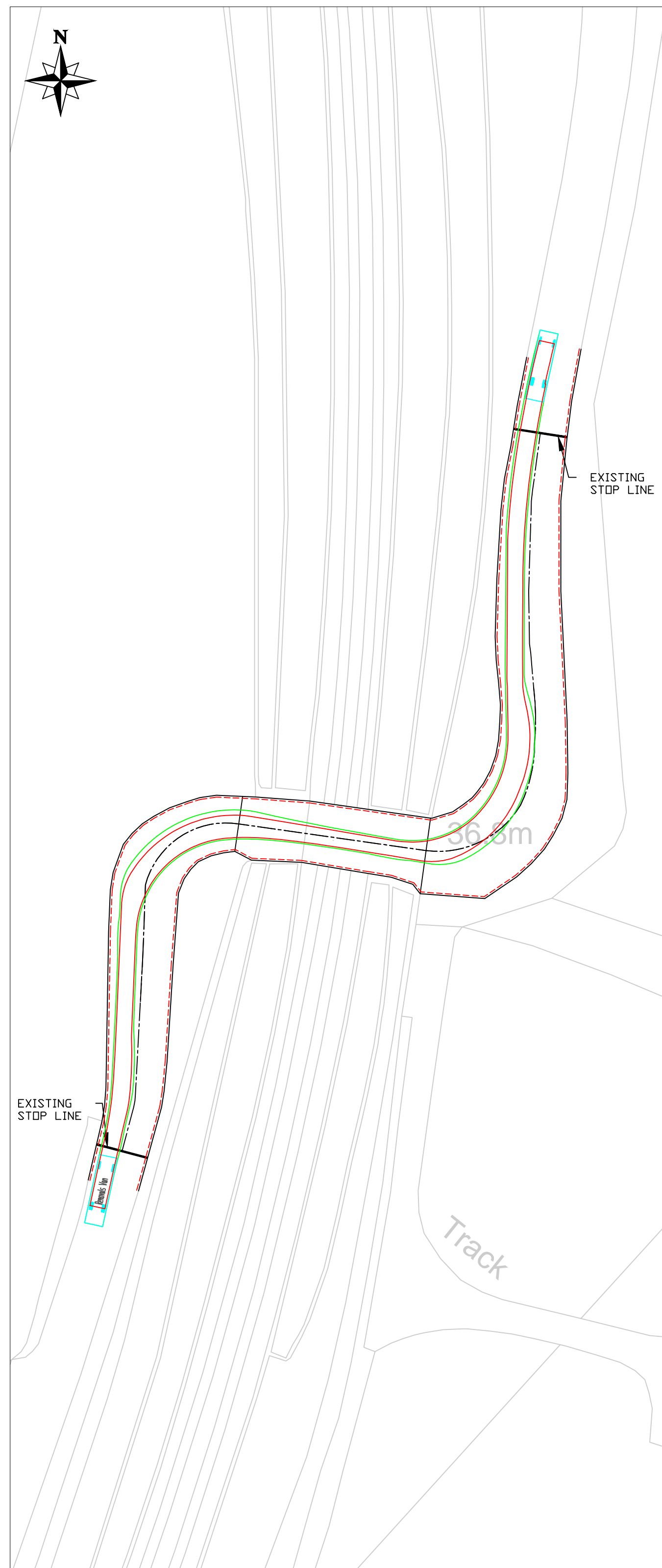
FAIRHURST

88 Queens Road,
 ABERDEEN, AB15 4YD
 Tel: 01224 321 222 Fax: 01224 323 201

Scale of A1: 1:250	Status: For Approval
Drawn: FM	Checked: RMC
Date: 18/02/15	Approved: ASK
Date: 18/02/15	Date: 18/02/15
Date: 18/02/15	Date: 18/02/15

Drawing No.: 100011/1905

Revision: -



EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 980mm

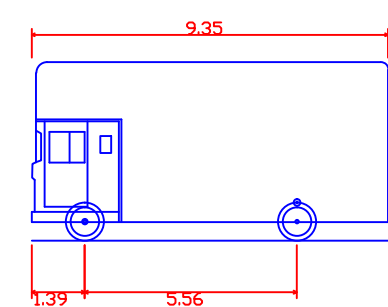
EXISTING STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 142.7m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 670mm

POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, NORTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT NORTH STOP LINE, 1260mm

POTENTIAL STOP LINES AND TRAFFIC SIGNALS IN RELATION TO EXISTING ROAD LAYOUT, SOUTHBOUND.
 DISTANCE BETWEEN STOP LINES, 88.3m
 DISTANCE BETWEEN VEHICLES AT SOUTH STOP LINE, 1280mm

Notes:

LEGEND
 - - - - - 250mm OFFSET



Removals Van
 Overall Length 9.350m
 Overall Width 2.460m
 Overall Body Height 4.680m
 Min Body Ground Clearance 0.491m
 Track Width 2.060m
 Lock to Lock Time 5.00s
 Kerb to Kerb Turning Radius 10.900m

NOTE:

DISTANCE BETWEEN PROPOSED STOP LINES BASED ON HGV REQUIREMENTS. REFER TO TRACKING DRAWING 100011/1904A FOR DETAILS.

Rev.	Date	Description	Drawn	Checked	Approved

Project Title:
 ABERDEEN HARBOUR BOARD
 BAY OF NIGG HARBOUR
 DEVELOPMENT

Drawing Title:
 PANTECHNICON
 VEHICLE TRACKING
 ON EXISTING ROAD LAYOUT

FAIRHURST

88 Queens Road,
 ABERDEEN, AB15 4YD
 Tel: 01224 321 222 Fax: 01224 323 201

Scale of A1:
 1:250

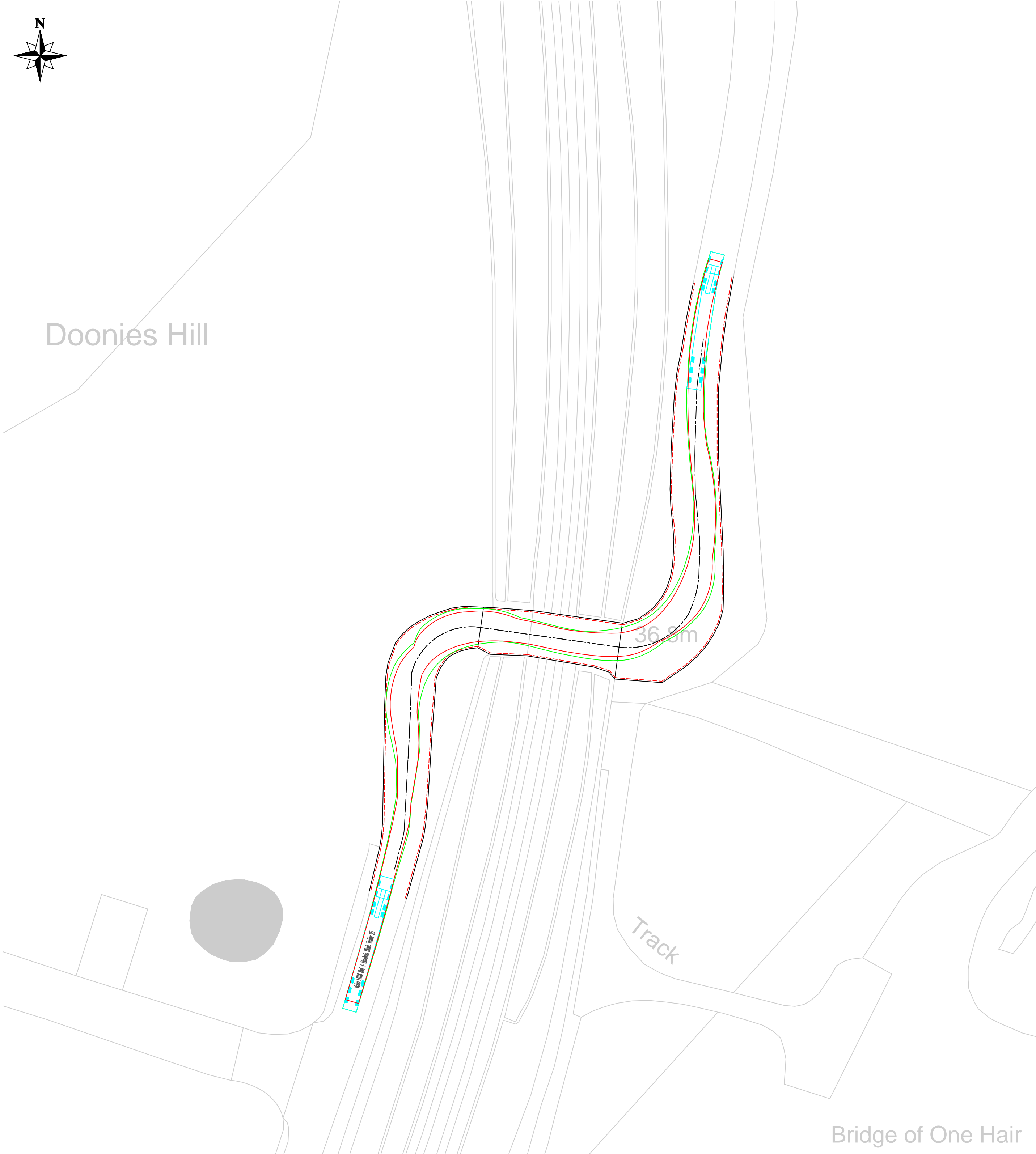
Status:
 For Approval

Drawn:
 FM

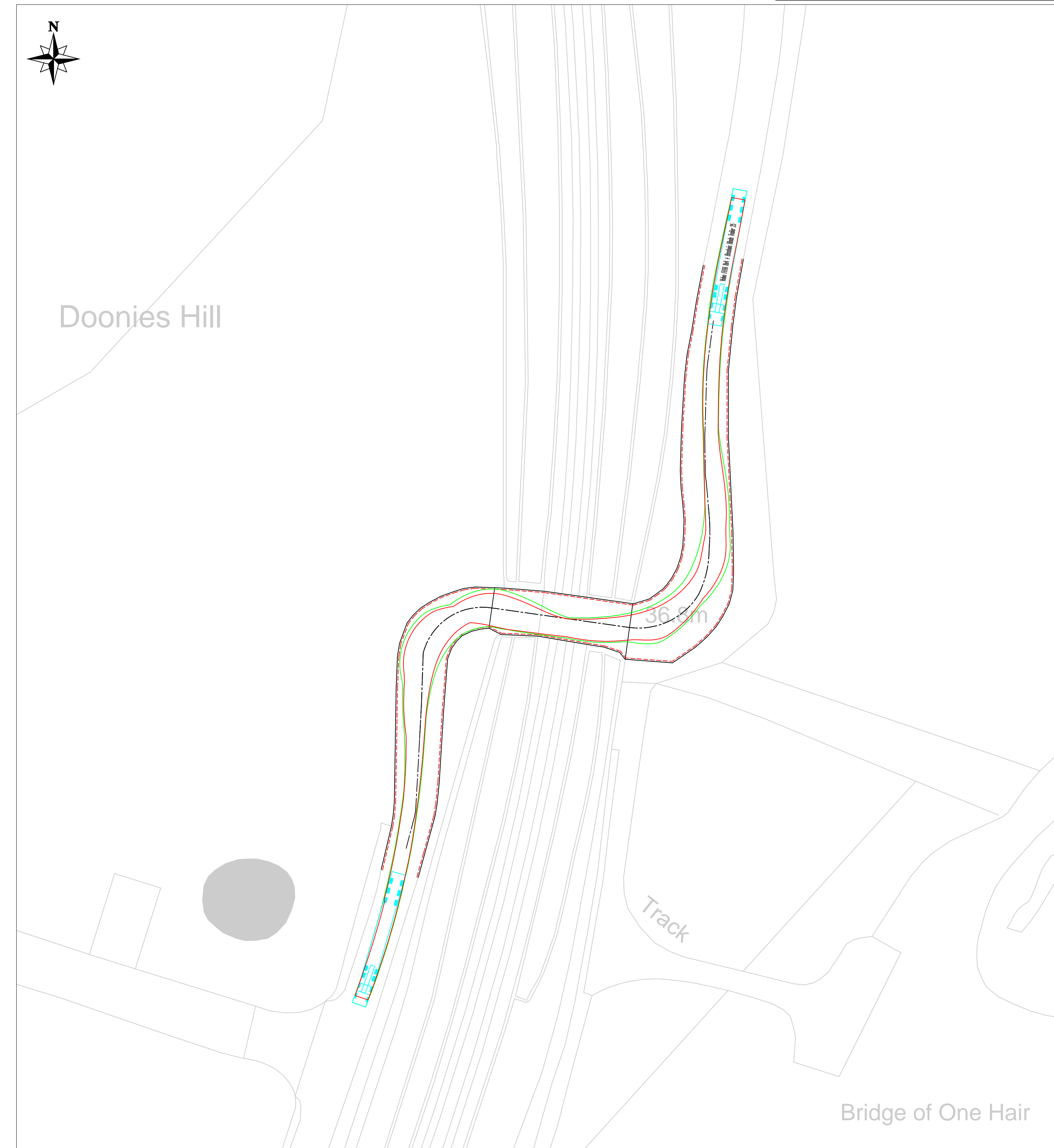
Date:
 18/02/15

Drawing No.:
 100011/1906

Revision:
 -

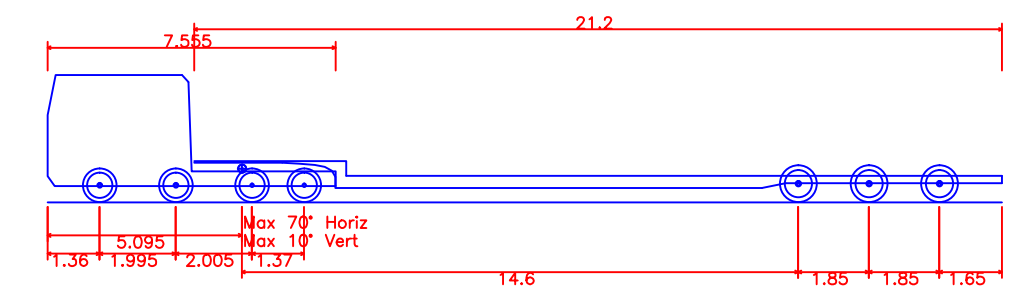


ABNORMAL LOAD ON EXISTING ROAD LAYOUT, NORTHBOUND.



ABNORMAL LOAD ON EXISTING ROAD LAYOUT, SOUTHBOUND.

LEGEND
 - - - - - 250mm OFFSET



Volvo FH16 8x4 + Broshuis Blade Trailer 25
 Overall Length 21.20m
 Overall Width 2.500m
 Overall Body Height 4.800m
 Min Body Ground Clearance 0.370m
 Track Width 2.500m
 Lock to Lock Time 6.00s
 Wall to Wall Turning Radius 9.800m

Rev.	Date	Description	Drawn	Checked	Approved

Notes:

Client:

Project Title:
**ABERDEEN HARBOUR BOARD
 BAY OF NIGG HARBOUR
 DEVELOPMENT**

Drawing Title:
**ABNORMAL LOAD
 VEHICLE TRACKING
 ON EXISTING ROAD LAYOUT**

FAIRHURST
 88 Queens Road,
 ABERDEEN, AB15 4YD
 Tel: 01224 321 222 Fax: 01224 323 201

Scale of A1: 1:250	Status: For Approval	
Drawn: FM	Checked: RMcD	Approved: ASK
Date: 10/03/15	Date: 10/03/15	Date: 10/03/15
Drawing No.: 100011/1908		Revision: -

Appendix G
PICADY / LinSig Output

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 108675 Coast Rd_Greyhope Rd_St Fitticks Rd.arc8

Path: X:\105000-109999\108000-108999\108675\Modelling

Report generation date: 29/07/2015 08:54:02

» (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM

» (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Summary of junction performance

	AM					PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	
A1 - 2020 Reference Case + Nigg Harbour											
Stream B-C	0.06	9.56	0.03	A	A	0.11	9.26	0.07	A	A	
Stream B-A	0.02	9.51	0.02	A		0.07	9.94	0.06	A		
Stream C-AB	0.00	0.00	0.00	A		0.00	0.00	0.00	A		
Stream C-A	-	-	-	-		-	-	-	-		-
Stream A-B	-	-	-	-		-	-	-	-		-
Stream A-C	-	-	-	-		-	-	-	-		-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D2 - 2020 Reference Case + Nigg Harbour, AM " model duration: 07:15 - 08:45

"D4 - 2020 Reference Case + Nigg Harbour, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.4.487 at 29/07/2015 08:54:02

File summary

Title	Coast Rd_Greyhope Rd_St Fitticks Rd
Location	Aberdeen
Site Number	
Date	25/06/2015
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	108675
Enumerator	
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, AM	2020 Reference Case + Nigg Harbour	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Rd - Greyhope Road	T-Junction	Two-way	A,B,C		9.54	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
St Fittick's Road	A	St Fittick's Road		Major
Greyhope Rd	B	Greyhope Rd		Minor
Coast Road	C	Coast Road		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road	8.75		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Greyhope Rd	One lane plus flare				10.00	9.00	6.30	5.00	4.40	✓	3.00	25	33

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	488.353	0.078	0.198	0.125	0.283
1	B-C	722.789	0.098	0.247	-	-
1	C-B	631.874	0.216	0.216	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
St Fittick's Road	ONE HOUR	✓	328.00	100.000
Greyhope Rd	ONE HOUR	✓	27.00	100.000
Coast Road	ONE HOUR	✓	242.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.000	28.000	300.000
	Greyhope Rd	8.000	0.000	19.000
	Coast Road	242.000	0.000	0.000

Turning Proportions (PCU) - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.00	0.09	0.91
	Greyhope Rd	0.30	0.00	0.70
	Coast Road	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	1.000	1.000	1.000
	Greyhope Rd	1.000	1.000	1.630
	Coast Road	1.000	1.000	1.000

Heavy Vehicle Percentages - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.0	0.0	0.0
	Greyhope Rd	0.0	0.0	63.0
	Coast Road	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	9.56	0.06	A	17.43	26.15	4.02	9.23	0.04	4.02	9.23
B-A	0.02	9.51	0.02	A	7.34	11.01	1.66	9.05	0.02	1.66	9.05
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	222.06	333.10	-	-	-	-	-
A-B	-	-	-	-	25.69	38.54	-	-	-	-	-
A-C	-	-	-	-	275.29	412.93	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, PM	2020 Reference Case + Nigg Harbour	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Rd - Greyhope Road	T-Junction	Two-way	A,B,C		9.51	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
St Fittick's Road	A	St Fittick's Road		Major
Greyhope Rd	B	Greyhope Rd		Minor
Coast Road	C	Coast Road		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road	8.75		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Greyhope Rd	One lane plus flare				10.00	9.00	6.30	5.00	4.40	✓	3.00	25	33

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	498.507	0.080	0.202	0.127	0.289
1	B-C	709.745	0.096	0.242	-	-
1	C-B	631.874	0.216	0.216	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
St Fittick's Road	ONE HOUR	✓	221.00	100.000
Greyhope Rd	ONE HOUR	✓	61.00	100.000
Coast Road	ONE HOUR	✓	455.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.000	5.000	216.000
	Greyhope Rd	22.000	0.000	39.000
	Coast Road	455.000	0.000	0.000

Turning Proportions (PCU) - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.00	0.02	0.98
	Greyhope Rd	0.36	0.00	0.64
	Coast Road	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	1.000	1.000	1.000
	Greyhope Rd	1.000	1.000	1.540
	Coast Road	1.000	1.000	1.000

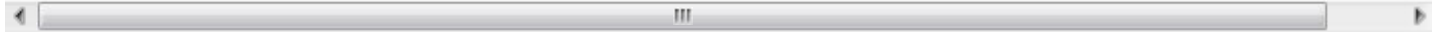
Heavy Vehicle Percentages - Coast Rd - Greyhope Road (for whole period)

		To		
		St Fittick's Road	Greyhope Rd	Coast Road
From	St Fittick's Road	0.0	0.0	0.0
	Greyhope Rd	0.0	0.0	54.0
	Coast Road	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.07	9.26	0.11	A	35.79	53.68	7.99	8.93	0.09	7.99	8.93
B-A	0.06	9.94	0.07	A	20.19	30.28	4.72	9.34	0.05	4.72	9.34
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	417.52	626.27	-	-	-	-	-
A-B	-	-	-	-	4.59	6.88	-	-	-	-	-
A-C	-	-	-	-	198.21	297.31	-	-	-	-	-



Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 108675 Coast Road - Hareness Road.arc8
Path: X:\105000-109999\108000-108999\108675\Modelling
Report generation date: 29/07/2015 08:55:19

- » (Default Analysis Set) - 2020 Reference Case, AM
- » (Default Analysis Set) - 2020 Reference Case, PM
- » (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM
- » (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Summary of junction performance

	AM					PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	
A1 - 2020 Reference Case											
Stream B-C	0.10	6.63	0.08	A	B	2.32	21.90	0.70	C	C	
Stream B-A	0.03	13.91	0.03	B		1.62	23.25	0.62	C		
Stream C-AB	1.12	14.29	0.50	B		0.12	7.53	0.08	A		
Stream C-A	-	-	-	-		-	-	-	-		-
Stream A-B	-	-	-	-		-	-	-	-		-
Stream A-C	-	-	-	-		-	-	-	-		-
A1 - 2020 Reference Case + Nigg Harbour											
Stream B-C	0.19	7.24	0.14	A	B	3.13	27.72	0.76	D	D	
Stream B-A	0.03	14.33	0.03	B		1.87	27.01	0.66	D		
Stream C-AB	1.18	14.06	0.53	B		0.11	7.07	0.08	A		
Stream C-A	-	-	-	-		-	-	-	-		-
Stream A-B	-	-	-	-		-	-	-	-		-
Stream A-C	-	-	-	-		-	-	-	-		-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D2 - 2020 Reference Case, AM " model duration: 07:15 - 08:45
 "D5 - 2020 Reference Case, PM" model duration: 16:15 - 17:45
 "D7 - 2020 Reference Case + Nigg Harbour, AM" model duration: 07:15 - 08:45
 "D9 - 2020 Reference Case + Nigg Harbour, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.4.487 at 29/07/2015 08:55:18

File summary

Title	Coast Road - Hareness Road
Location	
Site Number	
Date	18/11/2013
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	108675
Enumerator	
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Reference Case, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case, AM	2020 Reference Case	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Hareness Road	T-Junction	Two-way	A,B,C		13.09	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road (S)	A	Coast Road (S)		Major
Hareness Road	B	Hareness Road		Minor
Coast Road (N)	C	Coast Road (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road (N)	6.00		0.00	✓	3.50	100.00	✓	12.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Hareness Road	One lane plus flare				10.00	9.00	6.00	4.70	4.10	✓	3.00	43	51

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	499.352	0.091	0.230	0.145	0.328
1	B-C	771.647	0.118	0.299	-	-
1	C-B	721.275	0.279	0.279	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road (S)	ONE HOUR	✓	480.00	100.000
Hareness Road	ONE HOUR	✓	57.00	100.000
Coast Road (N)	ONE HOUR	✓	300.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.000	281.000	199.000
	Hareness Road	8.000	0.000	49.000
	Coast Road (N)	41.000	259.000	0.000

Turning Proportions (PCU) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.00	0.59	0.41
	Hareness Road	0.14	0.00	0.86
	Coast Road (N)	0.14	0.86	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	1.000	1.000	1.005
	Hareness Road	1.200	1.000	1.125
	Coast Road (N)	1.073	1.146	1.000

Heavy Vehicle Percentages - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.0	0.0	0.5
	Hareness Road	20.0	0.0	12.5
	Coast Road (N)	7.3	14.6	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.08	6.63	0.10	A	44.96	67.44	7.13	6.34	0.08	7.13	6.34
B-A	0.03	13.91	0.03	B	7.34	11.01	2.32	12.66	0.03	2.32	12.66
C-AB	0.50	14.29	1.12	B	237.67	356.50	70.89	11.93	0.79	70.91	11.93
C-A	-	-	-	-	37.62	56.43	-	-	-	-	-
A-B	-	-	-	-	257.85	386.78	-	-	-	-	-
A-C	-	-	-	-	182.61	273.91	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case, PM	2020 Reference Case	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Hareness Road	T-Junction	Two-way	A,B,C		21.25	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road (S)	A	Coast Road (S)		Major
Hareness Road	B	Hareness Road		Minor
Coast Road (N)	C	Coast Road (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road (N)	6.00		0.00	✓	3.50	100.00	✓	12.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Hareness Road	One lane plus flare				10.00	9.00	6.00	4.70	4.10	✓	3.00	43	51

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	532.726	0.097	0.245	0.154	0.350
1	B-C	729.272	0.112	0.283	-	-
1	C-B	721.275	0.279	0.279	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road (S)	ONE HOUR	✓	127.00	100.000
Hareness Road	ONE HOUR	✓	593.00	100.000
Coast Road (N)	ONE HOUR	✓	219.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.000	29.000	98.000
	Hareness Road	235.000	0.000	358.000
	Coast Road (N)	168.000	51.000	0.000

Turning Proportions (PCU) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.00	0.23	0.77
	Hareness Road	0.40	0.00	0.60
	Coast Road (N)	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	1.000	1.030	1.010
	Hareness Road	1.009	1.000	1.044
	Coast Road (N)	1.012	1.310	1.000

Heavy Vehicle Percentages - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.0	3.0	1.0
	Hareness Road	0.9	0.0	4.4
	Coast Road (N)	1.2	31.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.70	21.90	2.32	C	328.51	492.76	122.55	14.92	1.36	122.58	14.93
B-A	0.62	23.25	1.62	C	215.64	323.46	89.53	16.61	0.99	89.56	16.61
C-AB	0.08	7.53	0.12	A	46.80	70.20	8.60	7.35	0.10	8.60	7.35
C-A	-	-	-	-	154.16	231.24	-	-	-	-	-
A-B	-	-	-	-	26.61	39.92	-	-	-	-	-
A-C	-	-	-	-	89.93	134.89	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, AM	2020 Reference Case + Nigg Harbour	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Hareness Road	T-Junction	Two-way	A,B,C		12.51	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road (S)	A	Coast Road (S)		Major
Hareness Road	B	Hareness Road		Minor
Coast Road (N)	C	Coast Road (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road (N)	6.00		0.00	✓	3.50	100.00	✓	12.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Hareness Road	One lane plus flare				10.00	9.00	6.00	4.70	4.10	✓	3.00	43	51

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	496.050	0.090	0.228	0.144	0.326
1	B-C	766.331	0.117	0.297	-	-
1	C-B	721.275	0.279	0.279	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road (S)	ONE HOUR	✓	480.00	100.000
Hareness Road	ONE HOUR	✓	93.00	100.000
Coast Road (N)	ONE HOUR	✓	319.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.000	281.000	199.000
	Hareness Road	8.000	0.000	85.000
	Coast Road (N)	41.000	278.000	0.000

Turning Proportions (PCU) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.00	0.59	0.41
	Hareness Road	0.09	0.00	0.91
	Coast Road (N)	0.13	0.87	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	1.000	1.000	1.005
	Hareness Road	1.200	1.000	1.140
	Coast Road (N)	1.073	1.046	1.000

Heavy Vehicle Percentages - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.0	0.0	0.5
	Hareness Road	20.0	0.0	14.0
	Coast Road (N)	7.3	4.6	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.14	7.24	0.19	A	78.00	117.00	13.34	6.84	0.15	13.34	6.84
B-A	0.03	14.33	0.03	B	7.34	11.01	2.38	12.98	0.03	2.38	12.98
C-AB	0.53	14.06	1.18	B	255.10	382.66	73.53	11.53	0.82	73.55	11.53
C-A	-	-	-	-	37.62	56.42	-	-	-	-	-
A-B	-	-	-	-	257.85	386.78	-	-	-	-	-
A-C	-	-	-	-	182.61	273.91	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, PM	2020 Reference Case + Nigg Harbour	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Hareness Road	T-Junction	Two-way	A,B,C		25.91	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road (S)	A	Coast Road (S)		Major
Hareness Road	B	Hareness Road		Minor
Coast Road (N)	C	Coast Road (N)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road (N)	6.00		0.00	✓	3.50	100.00	✓	12.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
Hareness Road	One lane plus flare				10.00	9.00	6.00	4.70	4.10	✓	3.00	43	51

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	530.169	0.097	0.244	0.154	0.349
1	B-C	732.519	0.112	0.284	-	-
1	C-B	721.275	0.279	0.279	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road (S)	ONE HOUR	✓	127.00	100.000
Hareness Road	ONE HOUR	✓	622.00	100.000
Coast Road (N)	ONE HOUR	✓	219.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.000	29.000	98.000
	Hareness Road	235.000	0.000	387.000
	Coast Road (N)	168.000	51.000	0.000

Turning Proportions (PCU) - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.00	0.23	0.77
	Hareness Road	0.38	0.00	0.62
	Coast Road (N)	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	1.000	1.030	1.010
	Hareness Road	1.009	1.000	1.065
	Coast Road (N)	1.012	1.230	1.000

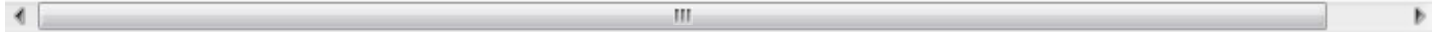
Heavy Vehicle Percentages - Coast Road - Hareness Road (for whole period)

		To		
		Coast Road (S)	Hareness Road	Coast Road (N)
From	Coast Road (S)	0.0	3.0	1.0
	Hareness Road	0.9	0.0	6.5
	Coast Road (N)	1.2	23.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.76	27.72	3.13	D	355.12	532.68	154.40	17.39	1.72	154.44	17.40
B-A	0.66	27.01	1.87	D	215.64	323.46	96.76	17.95	1.08	96.79	17.95
C-AB	0.08	7.07	0.11	A	46.80	70.20	8.08	6.91	0.09	8.08	6.91
C-A	-	-	-	-	154.16	231.24	-	-	-	-	-
A-B	-	-	-	-	26.61	39.92	-	-	-	-	-
A-C	-	-	-	-	89.93	134.89	-	-	-	-	-



Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 108675 Coast Road - Nigg Harbour Access.arc8
Path: X:\105000-109999\108000-108999\108675\Modelling
Report generation date: 29/07/2015 08:52:50

- » Existing Junction - 2020 Reference Case + Nigg Harbour, AM
- » Existing Junction - 2020 Reference Case + Nigg Harbour, PM

Summary of junction performance

	AM						PM						
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	
Existing Junction - 2020 Reference Case + Nigg Harbour													
Stream B-C	0.05	9.23	0.03	A	8.92	A	0.11	9.03	0.07	A	10.05	B	
Stream B-A	0.02	9.79	0.02	A			0.07	10.15	0.06	B			
Stream C-AB	0.09	8.57	0.07	A			0.10	11.36	0.05	B			
Stream C-A	-	-	-	-			-	-	-	-			-
Stream A-B	-	-	-	-			-	-	-	-			-
Stream A-C	-	-	-	-			-	-	-	-			-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D1 - 2020 Reference Case + Nigg Harbour, AM " model duration: 07:15 - 08:45

"D2 - 2020 Reference Case + Nigg Harbour, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.4.487 at 29/07/2015 08:52:49

File summary

Title	Coast Road - Nigg Harbour
Location	Coast Road, Torry
Site Number	
Date	30/06/2015
Version	
Status	
Identifier	
Client	
Jobnumber	108675
Enumerator	
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Existing Junction - 2020 Reference Case + Nigg Harbour, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Junction	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, AM	2020 Reference Case + Nigg Harbour	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Nigg Harbour Access	T-Junction	Two-way	A,B,C		8.92	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road north	A	Coast Road north		Major
New Harbour Access	B	New Harbour Access		Minor
Coast Road south	C	Coast Road south		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road south	7.30		0.00	✓	3.00	90.00	✓	13.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
New Harbour Access	One lane plus flare				10.00	6.50	6.00	5.95	5.40	✓	3.00	60	60

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	495.885	0.085	0.215	0.136	0.308
1	B-C	751.586	0.109	0.275	-	-
1	C-B	680.595	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road north	ONE HOUR	✓	300.00	100.000
New Harbour Access	ONE HOUR	✓	27.00	100.000
Coast Road south	ONE HOUR	✓	278.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.000	0.000	300.000
	New Harbour Access	8.000	0.000	19.000
	Coast Road south	242.000	36.000	0.000

Turning Proportions (PCU) - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.00	0.00	1.00
	New Harbour Access	0.30	0.00	0.70
	Coast Road south	0.87	0.13	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	1.000	1.000	1.060
	New Harbour Access	1.000	1.000	1.630
	Coast Road south	1.070	1.330	1.000

Heavy Vehicle Percentages - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.0	0.0	6.0
	New Harbour Access	0.0	0.0	63.0
	Coast Road south	7.0	33.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	9.23	0.05	A	17.43	26.15	3.88	8.90	0.04	3.88	8.90
B-A	0.02	9.79	0.02	A	7.34	11.01	1.70	9.24	0.02	1.70	9.24
C-AB	0.07	8.57	0.09	A	33.03	49.55	6.84	8.29	0.08	6.84	8.29
C-A	-	-	-	-	222.06	333.10	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	275.29	412.93	-	-	-	-	-

Existing Junction - 2020 Reference Case + Nigg Harbour, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Junction	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, PM	2020 Reference Case + Nigg Harbour	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Coast Road - Nigg Harbour Access	T-Junction	Two-way	A,B,C		10.05	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Coast Road north	A	Coast Road north		Major
New Harbour Access	B	New Harbour Access		Minor
Coast Road south	C	Coast Road south		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
Coast Road south	7.30		0.00	✓	3.00	90.00	✓	13.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
New Harbour Access	One lane plus flare				10.00	6.50	6.00	5.95	5.40	✓	3.00	60	60

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	512.077	0.088	0.222	0.140	0.318
1	B-C	731.248	0.106	0.267	-	-
1	C-B	680.595	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Coast Road north	ONE HOUR	✓	216.00	100.000
New Harbour Access	ONE HOUR	✓	61.00	100.000
Coast Road south	ONE HOUR	✓	484.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.000	0.000	216.000
	New Harbour Access	22.000	0.000	39.000
	Coast Road south	455.000	29.000	0.000

Turning Proportions (PCU) - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.00	0.00	1.00
	New Harbour Access	0.36	0.00	0.64
	Coast Road south	0.94	0.06	0.00

Vehicle Mix

Average PCU Per Vehicle - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	1.000	1.000	1.116
	New Harbour Access	1.000	1.000	1.540
	Coast Road south	1.024	1.860	1.000

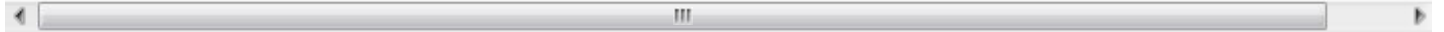
Heavy Vehicle Percentages - Coast Road - Nigg Harbour Access (for whole period)

		To		
		Coast Road north	New Harbour Access	Coast Road south
From	Coast Road north	0.0	0.0	11.6
	New Harbour Access	0.0	0.0	54.0
	Coast Road south	2.4	86.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.07	9.03	0.11	A	35.79	53.68	7.79	8.70	0.09	7.79	8.70
B-A	0.06	10.15	0.07	B	20.19	30.28	4.77	9.46	0.05	4.77	9.46
C-AB	0.05	11.36	0.10	B	26.61	39.92	7.37	11.07	0.08	7.37	11.07
C-A	-	-	-	-	417.52	626.27	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	198.21	297.31	-	-	-	-	-

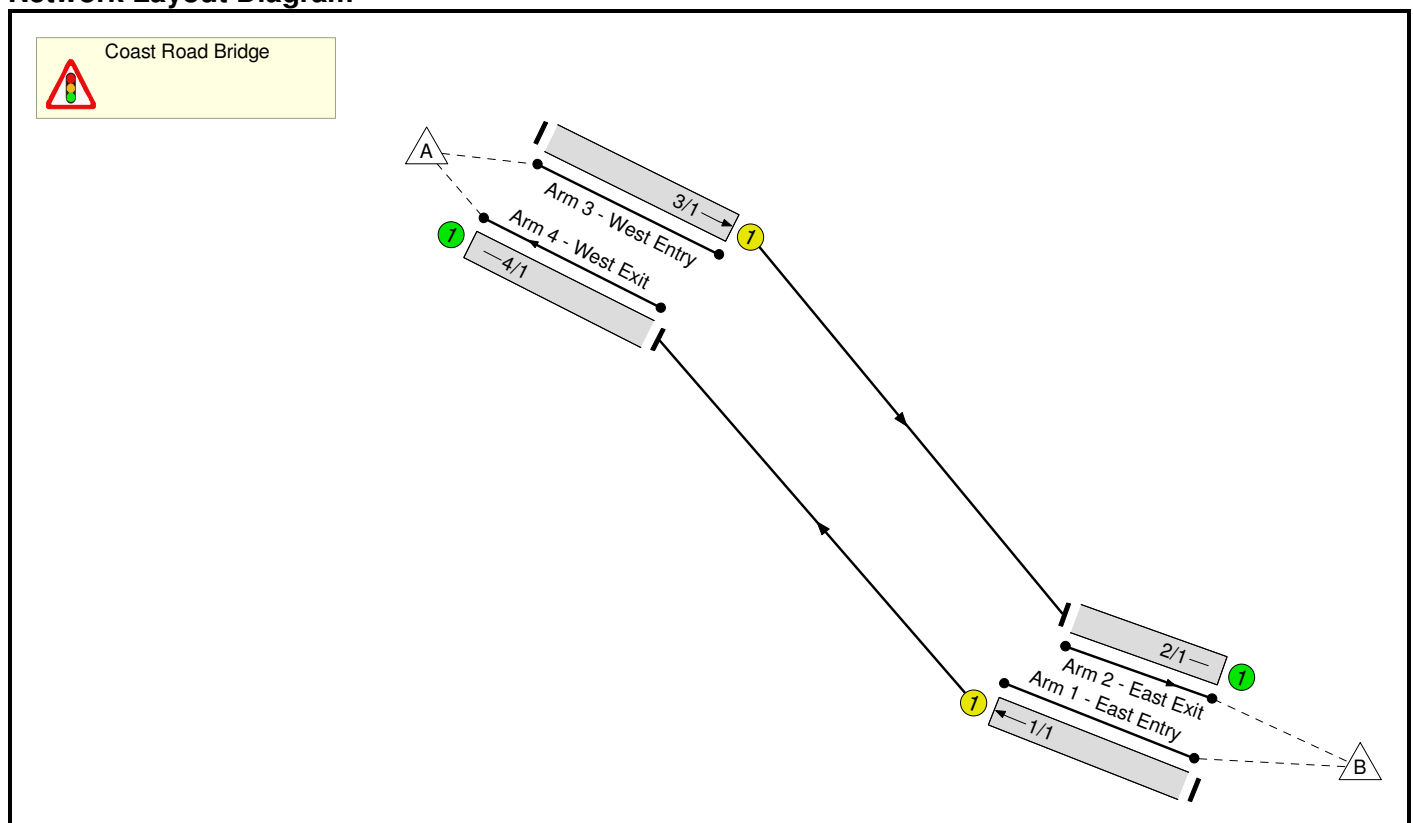


Full Input Data And Results
Full Input Data And Results

User and Project Details

Project:	Aberdeen Harbour
Title:	Coast Road Railway Overbridge
Location:	
File name:	108675 Coast Road Railway Bridge Signals - Reduced Intergreen.lsg3x
Author:	
Company:	
Address:	
Notes:	

Network Layout Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7

Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase	Starting Phase	
	A	B
	A	10
	B	10

Phases in Stage

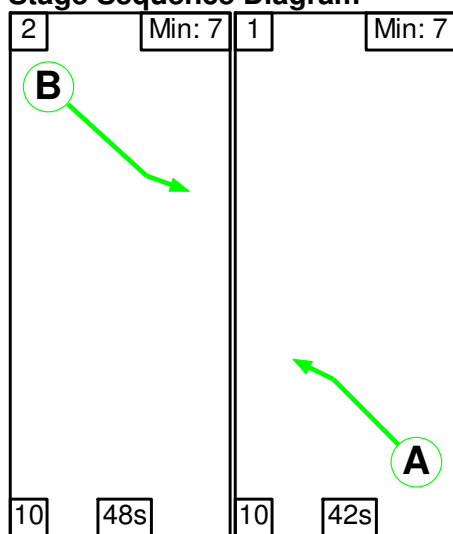
Stage No.	Phases in Stage
1	A
2	B

Lane Input Data

Junction: Coast Road Bridge												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (East Entry)	U	A	2	3	173.9	Geom	-	3.50	0.00	Y	Arm 4 Ahead	7.00
2/1 (East Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		
3/1 (West Entry)	U	B	2	3	173.9	Geom	-	3.45	0.00	Y	Arm 2 Ahead	7.00
4/1 (West Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		

Scenario 1: '2020 Base AM + Comm + Nigg Harbour - Reduced Intergreen' (FG7: '2020 Base AM plus Comm plus Nigg Harbour', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

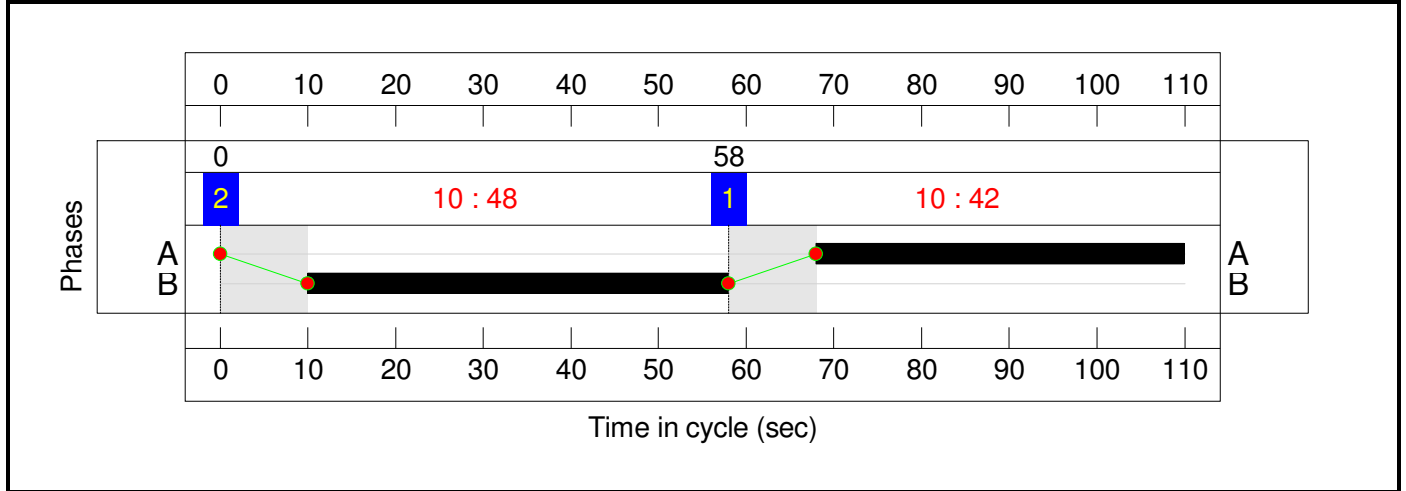


Full Input Data And Results

Stage Timings

Stage	2	1
Duration	48	42
Change Point	0	58

Signal Timings Diagram



Full Input Data And Results

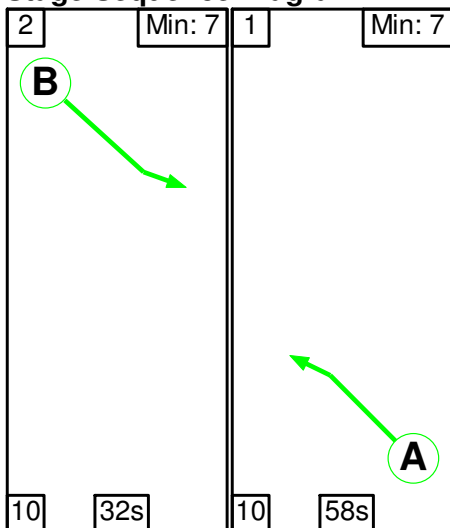
Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	46.5%	4.0	1.1	5.1	-	-	-	-
Coast Road Bridge	-	-	-	-	-	-	-	46.5%	4.0	1.1	5.1	-	-	-	-
1/1	East Entry Ahead	U	A	42	294	1618	632	46.5%	2.0	0.4	2.5	30.2	6.6	0.4	7.0
2/1	East Exit	U	-	-	334	1965	1965	17.0%	0.0	0.1	0.1	1.1	0.0	0.1	0.1
3/1	West Entry Ahead	U	B	48	334	1614	719	46.5%	2.0	0.4	2.4	26.0	7.1	0.4	7.5
4/1	West Exit	U	-	-	294	1965	1965	15.0%	0.0	0.1	0.1	1.1	0.0	0.1	0.1
C1				PRC for Signalled Lanes (%):	93.6	Total Delay for Signalled Lanes (pcuHr):		4.88	Cycle Time (s):		110				
				PRC Over All Lanes (%):	93.6	Total Delay Over All Lanes(pcuHr):		5.07							

Full Input Data And Results

Scenario 2: '2020 Base PM + Comm + Nigg Harbour - Reduced Intergreen' (FG8: '2020 Base AM plus Comm plus Nigg Harbour', Plan 1: 'Network Control Plan 1')

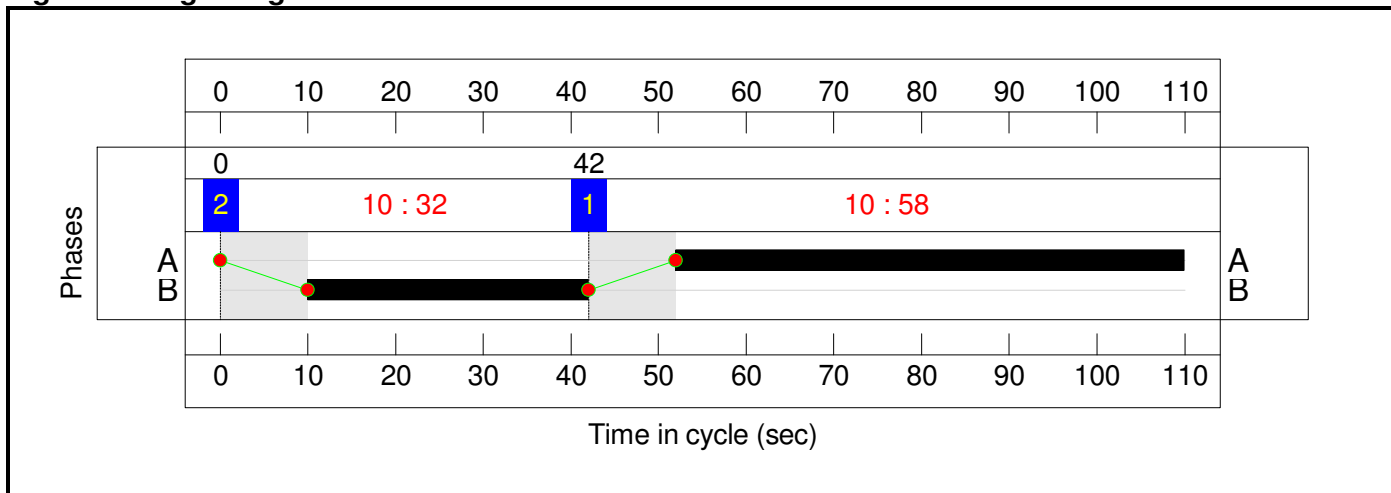
Stage Sequence Diagram



Stage Timings

Stage	2	1
Duration	32	58
Change Point	0	42

Signal Timings Diagram



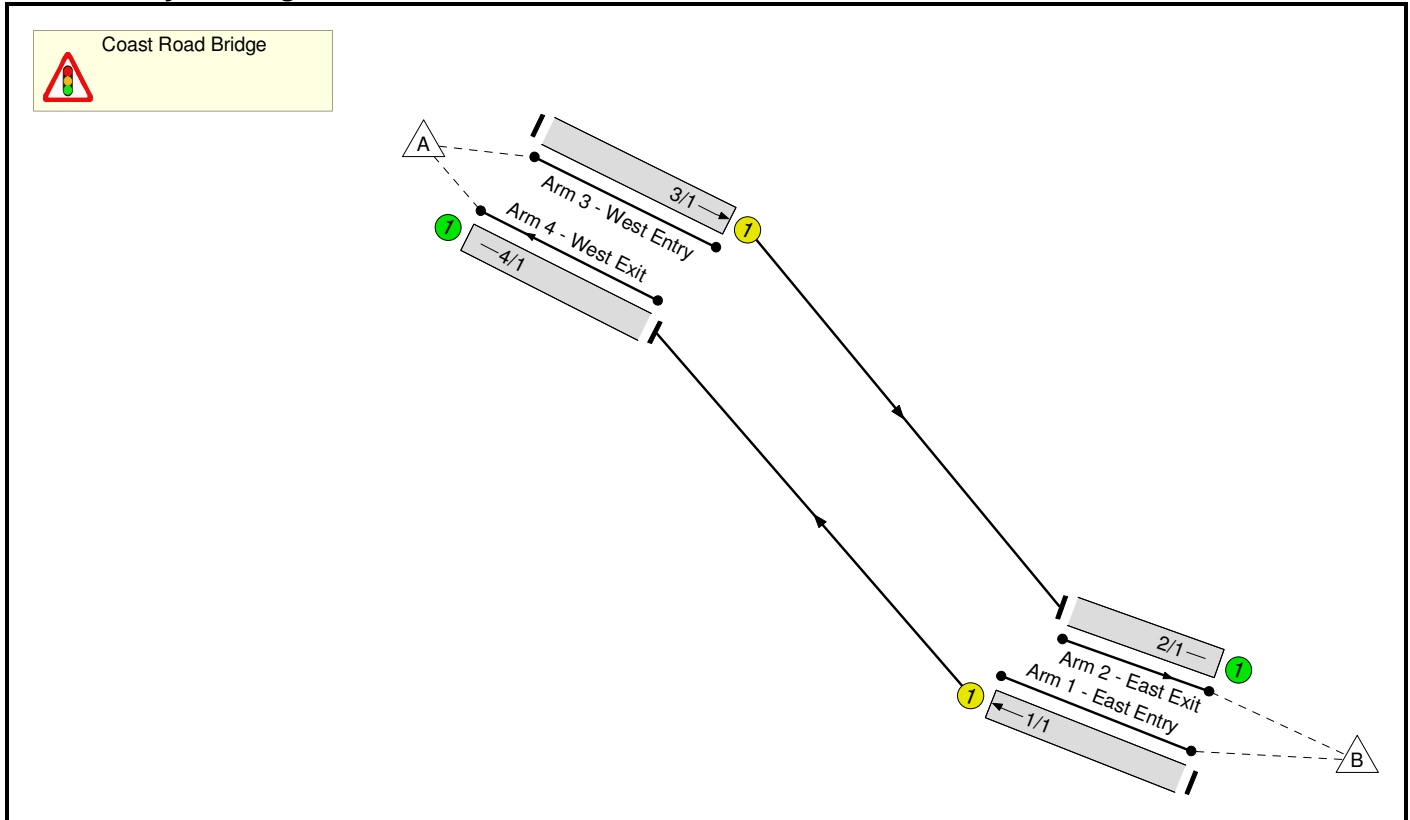
Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	59.6%	5.1	1.7	6.7	-	-	-	-
Coast Road Bridge	-	-	-	-	-	-	-	59.6%	5.1	1.7	6.7	-	-	-	-
1/1	East Entry Ahead	U	A	58	517	1618	868	59.6%	2.5	0.7	3.2	22.5	10.6	0.7	11.4
2/1	East Exit	U	-	-	282	1965	1965	14.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1
3/1	West Entry Ahead	U	B	32	282	1614	484	58.2%	2.6	0.7	3.3	41.5	7.3	0.7	8.0
4/1	West Exit	U	-	-	517	1965	1965	26.3%	0.0	0.2	0.2	1.2	0.0	0.2	0.2
		C1	PRC for Signalled Lanes (%):		51.1	Total Delay for Signalled Lanes (pcuHr):		6.48	Cycle Time (s):		110				
			PRC Over All Lanes (%):		51.1	Total Delay Over All Lanes(pcuHr):		6.74							

Full Input Data And Results
Full Input Data And Results

Network Layout Diagram



User and Project Details

Project:	Aberdeen Harbour
Title:	Coast Road Railway Overbridge
Location:	
File name:	108675 Coast Road Railway Bridge Signals - Existing Junction.lsg3x
Author:	
Company:	
Address:	
Notes:	

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7

Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase	Starting Phase	
	A	B
	A	16
	B	16

Phases in Stage

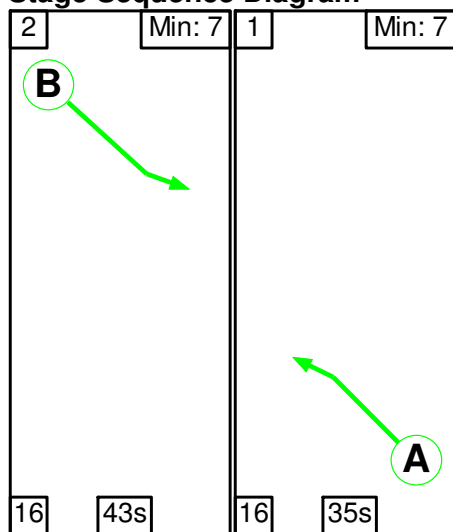
Stage No.	Phases in Stage
1	A
2	B

Lane Input Data

Junction: Coast Road Bridge												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (East Entry)	U	A	2	3	173.9	Geom	-	3.50	0.00	Y	Arm 4 Ahead	7.00
2/1 (East Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		
3/1 (West Entry)	U	B	2	3	173.9	Geom	-	3.45	0.00	Y	Arm 2 Ahead	7.00
4/1 (West Exit)	U		2	3	60.0	Geom	-	3.50	0.00	Y		

Scenario 1: '2020 Base - AM Peak' (FG1: '2020 Paramics Base plus Comm - AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

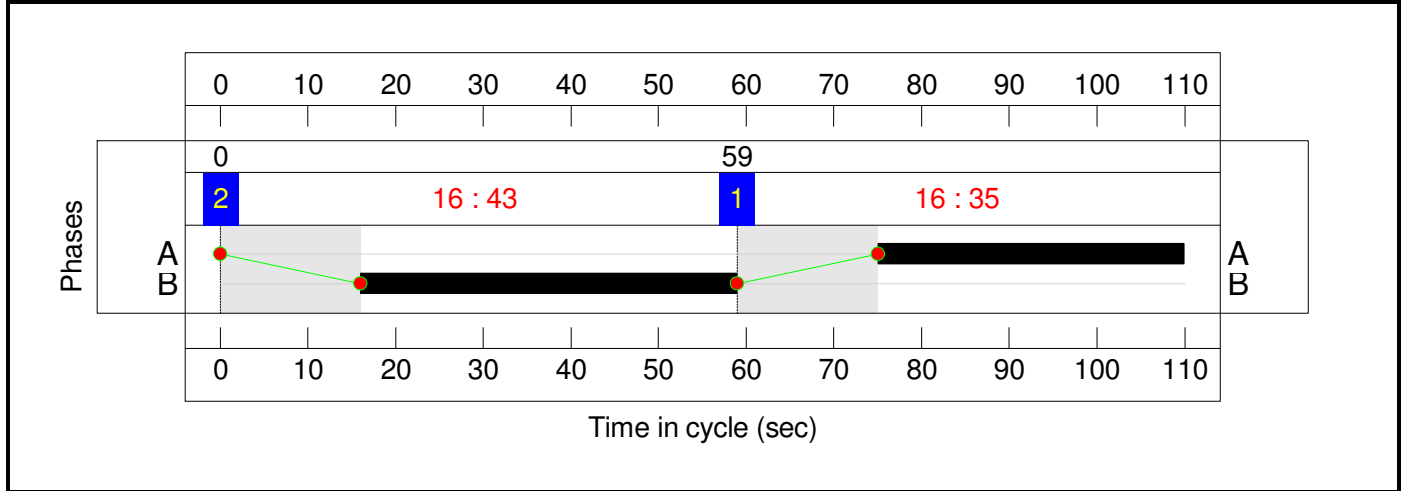


Full Input Data And Results

Stage Timings

Stage	2	1
Duration	43	35
Change Point	0	59

Signal Timings Diagram



Full Input Data And Results

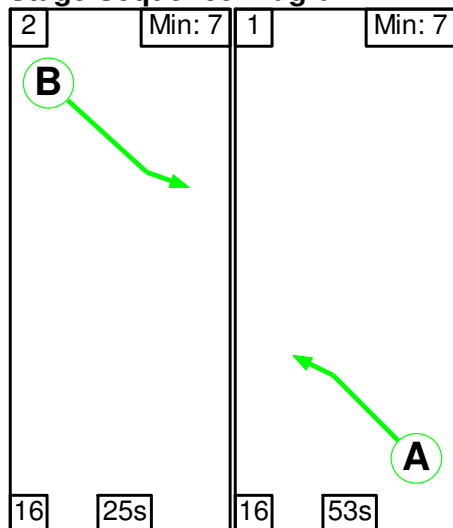
Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	46.5%	4.0	1.0	5.0	-	-	-	-
Coast Road Bridge	-	-	-	-	-	-	-	46.5%	4.0	1.0	5.0	-	-	-	-
1/1	East Entry Ahead	U	A	35	242	1618	530	45.7%	2.0	0.4	2.4	35.5	5.8	0.4	6.3
2/1	East Exit	U	-	-	300	1965	1965	15.3%	0.0	0.1	0.1	1.1	0.0	0.1	0.1
3/1	West Entry Ahead	U	B	43	300	1614	646	46.5%	2.0	0.4	2.5	29.5	6.7	0.4	7.2
4/1	West Exit	U	-	-	242	1965	1965	12.3%	0.0	0.1	0.1	1.0	0.0	0.1	0.1
		C1	PRC for Signalled Lanes (%):		93.7	Total Delay for Signalled Lanes (pcuHr):		4.85	Cycle Time (s):		110				
			PRC Over All Lanes (%):		93.7	Total Delay Over All Lanes(pcuHr):		5.01							

Full Input Data And Results

Scenario 2: '2020 Base - PM Peak' (FG2: '2020 Paramics Base plus Comm - PM Peak', Plan 1: 'Network Control Plan 1')

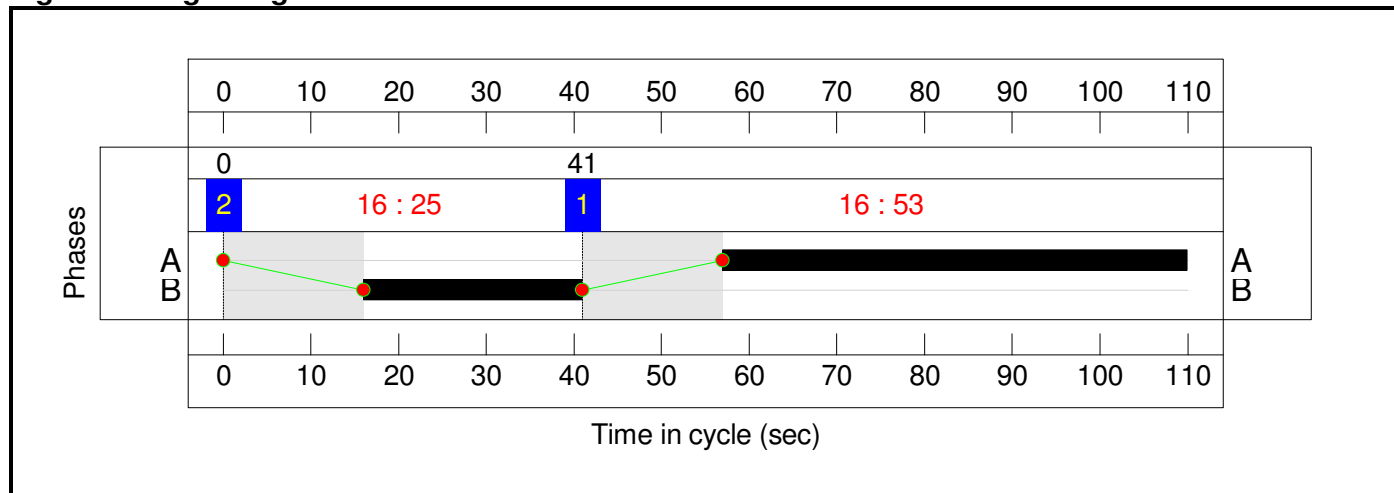
Stage Sequence Diagram



Stage Timings

Stage	2	1
Duration	25	53
Change Point	0	41

Signal Timings Diagram



Full Input Data And Results

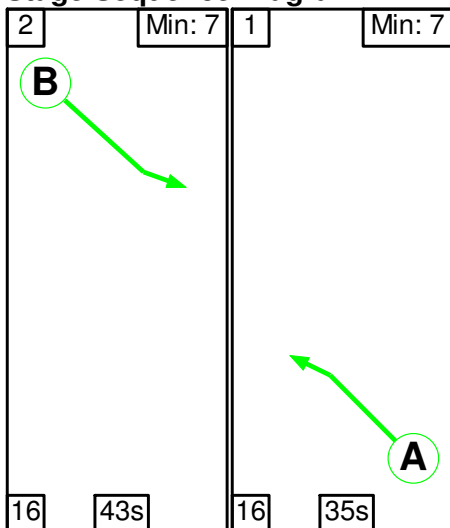
Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	57.3%	4.7	1.5	6.3	-	-	-	-
Coast Road Bridge	-	-	-	-	-	-	-	57.3%	4.7	1.5	6.3	-	-	-	-
1/1	East Entry Ahead	U	A	53	455	1618	794	57.3%	2.5	0.7	3.2	25.1	9.7	0.7	10.4
2/1	East Exit	U	-	-	216	1965	1965	11.0%	0.0	0.1	0.1	1.0	0.0	0.1	0.1
3/1	West Entry Ahead	U	B	25	216	1614	381	56.6%	2.2	0.6	2.9	47.8	5.8	0.6	6.4
4/1	West Exit	U	-	-	455	1965	1965	23.2%	0.0	0.2	0.2	1.2	0.0	0.2	0.2
		C1	PRC for Signalled Lanes (%):		57.1	Total Delay for Signalled Lanes (pcuHr):		6.04	Cycle Time (s):		110				
			PRC Over All Lanes (%):		57.1	Total Delay Over All Lanes(pcuHr):		6.26							

Full Input Data And Results

Scenario 3: '2020 Base plus Nigg Harbour Dev - AM Peak' (FG7: '2020 Base AM plus Comm plus Nigg Harbour', Plan 1: 'Network Control Plan 1')

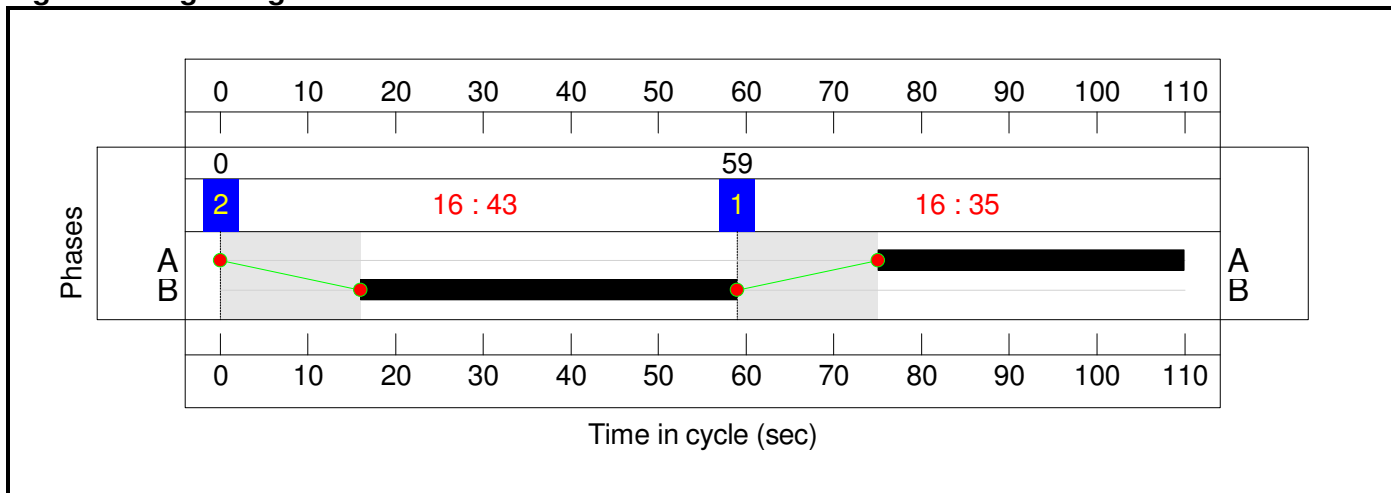
Stage Sequence Diagram



Stage Timings

Stage	2	1
Duration	43	35
Change Point	0	59

Signal Timings Diagram



Full Input Data And Results

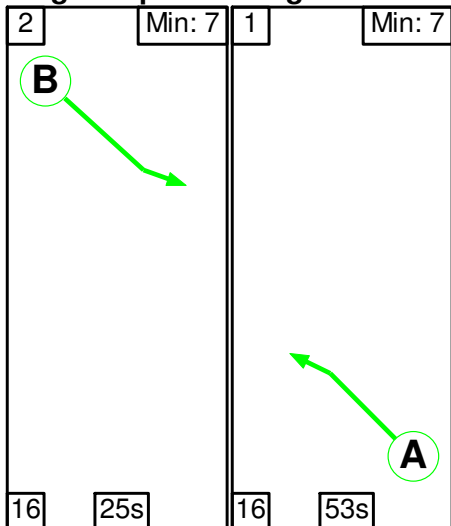
Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	55.5%	4.8	1.3	6.1	-	-	-	-	
Coast Road Bridge	-	-	-	-	-	-	-	55.5%	4.8	1.3	6.1	-	-	-	-	
1/1	East Entry Ahead	U	A	35	294	1618	530	55.5%	2.5	0.6	3.1	38.0	7.4	0.6	8.0	
2/1	East Exit	U	-	-	334	1965	1965	17.0%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	
3/1	West Entry Ahead	U	B	43	334	1614	646	51.7%	2.3	0.5	2.9	30.7	7.7	0.5	8.2	
4/1	West Exit	U	-	-	294	1965	1965	15.0%	0.0	0.1	0.1	1.1	0.0	0.1	0.1	
		C1	PRC for Signalled Lanes (%): 62.1			PRC Over All Lanes (%): 62.1			Total Delay for Signalled Lanes (pcuHr): 5.96			Total Delay Over All Lanes(pcuHr): 6.15			Cycle Time (s): 110	

Full Input Data And Results

Scenario 4: '2020 Base plus Nigg Harbour Dev - PM Peak' (FG8: '2020 Base PM plus Comm plus Nigg Harbour', Plan 1: 'Network Control Plan 1')

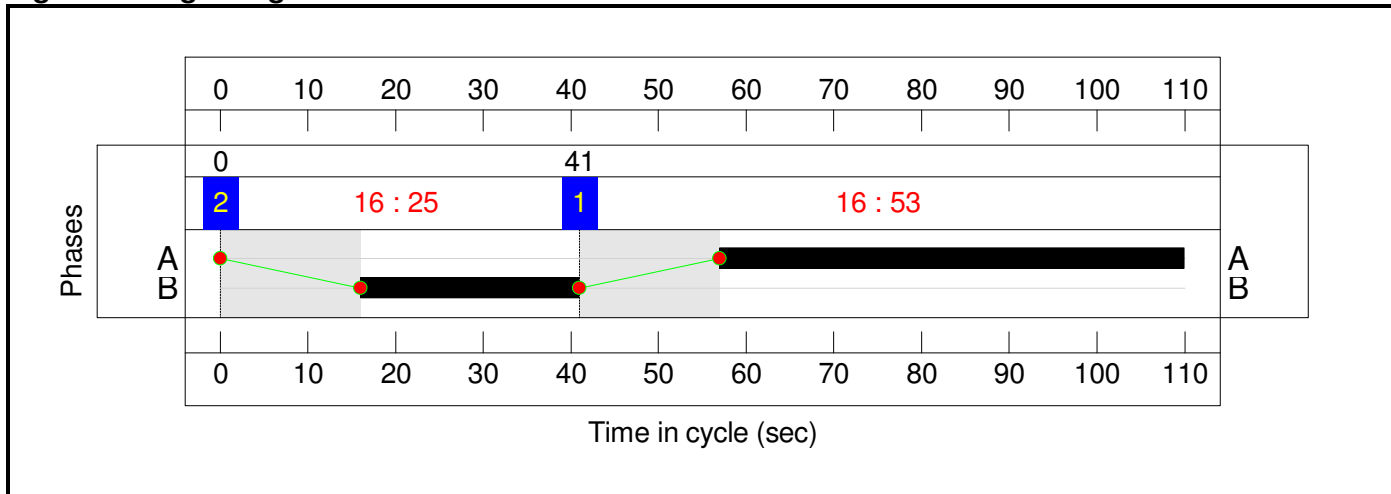
Stage Sequence Diagram



Stage Timings

Stage	2	1
Duration	25	53
Change Point	0	41

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Full Phase	Total Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Coast Road Railway Overbridge	-	-	-	-	-	-	-	73.9%	6.1	2.6	8.6	-	-	-	-
Coast Road Bridge	-	-	-	-	-	-	-	73.9%	6.1	2.6	8.6	-	-	-	-
1/1	East Entry Ahead	U	A	53	517	1618	794	65.1%	3.0	0.9	3.9	27.4	11.8	0.9	12.7
2/1	East Exit	U	-	-	282	1965	1965	14.4%	0.0	0.1	0.1	1.1	0.0	0.1	0.1
3/1	West Entry Ahead	U	B	25	282	1614	381	73.9%	3.0	1.4	4.4	56.5	7.9	1.4	9.3
4/1	West Exit	U	-	-	517	1965	1965	26.3%	0.0	0.2	0.2	1.2	0.0	0.2	0.2
		C1	PRC for Signalled Lanes (%):			21.8	Total Delay for Signalled Lanes (pcuHr):			8.36	Cycle Time (s): 110				
			PRC Over All Lanes (%):			21.8	Total Delay Over All Lanes(pcuHr):			8.62					

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 108675 St Fittick's Rd_Victoria Rd_Golf Course.arc8
Path: X:\105000-109999\108000-108999\108675\Modelling
Report generation date: 29/07/2015 08:56:31

- » (Default Analysis Set) - 2020 Reference Case, AM
- » (Default Analysis Set) - 2020 Reference Case, PM
- » (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM
- » (Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Summary of junction performance

	AM					PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	Queue (PCU)	Delay (s)	RFC	LOS	Junction LOS	
A1 - 2020 Reference Case											
Stream B-C	0.01	5.90	0.01	A	A	0.02	5.67	0.02	A	A	
Stream B-A	0.01	8.90	0.01	A		0.01	9.24	0.01	A		
Stream C-AB	0.02	5.22	0.02	A		0.03	4.73	0.02	A		
Stream C-A	-	-	-	-		-	-	-	-		-
Stream A-B	-	-	-	-		-	-	-	-		-
Stream A-C	-	-	-	-		-	-	-	-		-
A1 - 2020 Reference Case + Nigg Harbour											
Stream B-C	0.01	5.97	0.01	A	A	0.02	5.68	0.02	A	A	
Stream B-A	0.01	9.06	0.01	A		0.01	9.34	0.01	A		
Stream C-AB	0.02	5.22	0.02	A		0.03	4.68	0.02	A		
Stream C-A	-	-	-	-		-	-	-	-		-
Stream A-B	-	-	-	-		-	-	-	-		-
Stream A-C	-	-	-	-		-	-	-	-		-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

"D2 - 2020 Reference Case, AM" model duration: 07:15 - 08:45
 "D5 - 2020 Reference Case, PM" model duration: 16:15 - 17:45
 "D7 - 2020 Reference Case + Nigg Harbour, AM" model duration: 07:15 - 08:45
 "D9 - 2020 Reference Case + Nigg Harbour, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.4.487 at 29/07/2015 08:56:30

File summary

Title	Victoria Road / St Fitticks
Location	
Site Number	
Date	18/11/2013
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Reference Case, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case, AM	2020 Reference Case	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	St Fitticks Rd - Victoria Rd	T-Junction	Two-way	A,B,C		5.96	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Victoria Road (N)	A	Victoria Road (N)		Major
St Fittick's Rd (N) & Golf Course	B	St Fittick's Rd (N) & Golf Course		Minor
St Fitticks (S)	C	St Fitticks (S)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
St Fitticks (S)	9.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
St Fittick's Rd (N) & Golf Course	One lane plus flare				9.10	5.30	4.40	4.20	4.10	✓	1.00	100	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	498.236	0.079	0.199	0.125	0.285
1	B-C	681.013	0.091	0.229	-	-
1	C-B	631.874	0.213	0.213	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Victoria Road (N)	ONE HOUR	✓	261.00	100.000
St Fittick's Rd (N) & Golf Course	ONE HOUR	✓	8.00	100.000
St Fitticks (S)	ONE HOUR	✓	244.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.000	15.000	246.000
	St Fittick's Rd (N) & Golf Course	3.000	0.000	5.000
	St Fitticks (S)	236.000	8.000	0.000

Turning Proportions (PCU) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.00	0.06	0.94
	St Fittick's Rd (N) & Golf Course	0.38	0.00	0.63
	St Fitticks (S)	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	1.000	1.000	1.100
	St Fittick's Rd (N) & Golf Course	1.000	1.000	1.000
	St Fitticks (S)	1.059	1.000	1.000

Heavy Vehicle Percentages - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.0	0.0	10.0
	St Fittick's Rd (N) & Golf Course	0.0	0.0	0.0
	St Fitticks (S)	5.9	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.01	5.90	0.01	A	4.59	6.88	0.66	5.77	0.01	0.66	5.77
B-A	0.01	8.90	0.01	A	2.75	4.13	0.59	8.55	0.01	0.59	8.55
C-AB	0.02	5.22	0.02	A	10.38	15.58	1.50	5.76	0.02	1.50	5.76
C-A	-	-	-	-	213.51	320.27	-	-	-	-	-
A-B	-	-	-	-	13.76	20.65	-	-	-	-	-
A-C	-	-	-	-	225.73	338.60	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case, PM	2020 Reference Case	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	St Fitticks Rd - Victoria Rd	T-Junction	Two-way	A,B,C		5.63	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Victoria Road (N)	A	Victoria Road (N)		Major
St Fittick's Rd (N) & Golf Course	B	St Fittick's Rd (N) & Golf Course		Minor
St Fitticks (S)	C	St Fitticks (S)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
St Fitticks (S)	9.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
St Fittick's Rd (N) & Golf Course	One lane plus flare				9.10	5.30	4.40	4.20	4.10	✓	1.00	100	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	486.902	0.077	0.195	0.123	0.278
1	B-C	694.895	0.093	0.234	-	-
1	C-B	631.874	0.213	0.213	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Victoria Road (N)	ONE HOUR	✓	191.00	100.000
St Fittick's Rd (N) & Golf Course	ONE HOUR	✓	13.00	100.000
St Fitticks (S)	ONE HOUR	✓	381.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.000	8.000	183.000
	St Fittick's Rd (N) & Golf Course	4.000	0.000	9.000
	St Fitticks (S)	371.000	10.000	0.000

Turning Proportions (PCU) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.00	0.04	0.96
	St Fittick's Rd (N) & Golf Course	0.31	0.00	0.69
	St Fitticks (S)	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	1.000	1.000	1.115
	St Fittick's Rd (N) & Golf Course	1.000	1.000	1.000
	St Fitticks (S)	1.043	1.000	1.000

Heavy Vehicle Percentages - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.0	0.0	11.5
	St Fittick's Rd (N) & Golf Course	0.0	0.0	0.0
	St Fitticks (S)	4.3	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	5.67	0.02	A	8.26	12.39	1.15	5.56	0.01	1.15	5.56
B-A	0.01	9.24	0.01	A	3.67	5.51	0.81	8.84	0.01	0.81	8.84
C-AB	0.02	4.73	0.03	A	15.18	22.77	2.02	5.32	0.02	2.02	5.32
C-A	-	-	-	-	334.43	501.64	-	-	-	-	-
A-B	-	-	-	-	7.34	11.01	-	-	-	-	-
A-C	-	-	-	-	167.92	251.89	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, AM	2020 Reference Case + Nigg Harbour	AM		ONE HOUR	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	St Fitticks Rd - Victoria Rd	T-Junction	Two-way	A,B,C		6.00	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Victoria Road (N)	A	Victoria Road (N)		Major
St Fittick's Rd (N) & Golf Course	B	St Fittick's Rd (N) & Golf Course		Minor
St Fitticks (S)	C	St Fitticks (S)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
St Fitticks (S)	9.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
St Fittick's Rd (N) & Golf Course	One lane plus flare				9.10	5.30	4.40	4.20	4.10	✓	1.00	100	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	498.236	0.079	0.199	0.125	0.285
1	B-C	681.013	0.091	0.229	-	-
1	C-B	631.874	0.213	0.213	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Victoria Road (N)	ONE HOUR	✓	289.00	100.000
St Fittick's Rd (N) & Golf Course	ONE HOUR	✓	8.00	100.000
St Fitticks (S)	ONE HOUR	✓	252.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.000	15.000	274.000
	St Fittick's Rd (N) & Golf Course	3.000	0.000	5.000
	St Fitticks (S)	244.000	8.000	0.000

Turning Proportions (PCU) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.00	0.05	0.95
	St Fittick's Rd (N) & Golf Course	0.38	0.00	0.63
	St Fitticks (S)	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	1.000	1.000	1.100
	St Fittick's Rd (N) & Golf Course	1.000	1.000	1.000
	St Fitticks (S)	1.059	1.000	1.000

Heavy Vehicle Percentages - St Fitticks Rd - Victoria Rd (for whole period)

		To		
From		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
	Victoria Road (N)	0.0	0.0	10.0
	St Fittick's Rd (N) & Golf Course	0.0	0.0	0.0
	St Fitticks (S)	5.9	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.01	5.97	0.01	A	4.59	6.88	0.67	5.82	0.01	0.67	5.82
B-A	0.01	9.06	0.01	A	2.75	4.13	0.60	8.68	0.01	0.60	8.68
C-AB	0.02	5.22	0.02	A	10.53	15.79	1.52	5.78	0.02	1.52	5.78
C-A	-	-	-	-	220.71	331.07	-	-	-	-	-
A-B	-	-	-	-	13.76	20.65	-	-	-	-	-
A-C	-	-	-	-	251.43	377.14	-	-	-	-	-

(Default Analysis Set) - 2020 Reference Case + Nigg Harbour, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relati
2020 Reference Case + Nigg Harbour, PM	2020 Reference Case + Nigg Harbour	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	St Fitticks Rd - Victoria Rd	T-Junction	Two-way	A,B,C		5.60	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Name	Arm	Name	Description	Arm Type
Victoria Road (N)	A	Victoria Road (N)		Major
St Fittick's Rd (N) & Golf Course	B	St Fittick's Rd (N) & Golf Course		Minor
St Fitticks (S)	C	St Fitticks (S)		Major

Major Arm Geometry

Name	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
St Fitticks (S)	9.00		0.00		2.20	100.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Name	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
St Fittick's Rd (N) & Golf Course	One lane plus flare				9.10	5.30	4.40	4.20	4.10	✓	1.00	100	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	486.902	0.077	0.195	0.123	0.278
1	B-C	694.895	0.093	0.234	-	-
1	C-B	631.874	0.213	0.213	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Victoria Road (N)	ONE HOUR	✓	196.00	100.000
St Fittick's Rd (N) & Golf Course	ONE HOUR	✓	13.00	100.000
St Fitticks (S)	ONE HOUR	✓	403.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
From	Victoria Road (N)	0.000	8.000	188.000
	St Fittick's Rd (N) & Golf Course	4.000	0.000	9.000
	St Fitticks (S)	393.000	10.000	0.000

Turning Proportions (PCU) - St Fitticks Rd - Victoria Rd (for whole period)

		To		
		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
From	Victoria Road (N)	0.00	0.04	0.96
	St Fittick's Rd (N) & Golf Course	0.31	0.00	0.69
	St Fitticks (S)	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - St Fitticks Rd - Victoria Rd (for whole period)

		To		
		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
From	Victoria Road (N)	1.000	1.000	1.115
	St Fittick's Rd (N) & Golf Course	1.000	1.000	1.000
	St Fitticks (S)	1.043	1.000	1.000

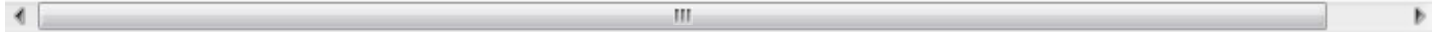
Heavy Vehicle Percentages - St Fitticks Rd - Victoria Rd (for whole period)

		To		
		Victoria Road (N)	St Fittick's Rd (N) & Golf Course	St Fitticks (S)
From	Victoria Road (N)	0.0	0.0	11.5
	St Fittick's Rd (N) & Golf Course	0.0	0.0	0.0
	St Fitticks (S)	4.3	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	5.68	0.02	A	8.26	12.39	1.15	5.57	0.01	1.15	5.57
B-A	0.01	9.34	0.01	A	3.67	5.51	0.82	8.92	0.01	0.82	8.92
C-AB	0.02	4.68	0.03	A	15.58	23.37	2.05	5.26	0.02	2.05	5.26
C-A	-	-	-	-	354.22	531.33	-	-	-	-	-
A-B	-	-	-	-	7.34	11.01	-	-	-	-	-
A-C	-	-	-	-	172.51	258.77	-	-	-	-	-



Appendix H
Typical Staff Travel Survey Questionnaire

ABERDEEN HARBOUR

YOUR JOURNEY TO WORK QUESTIONNAIRE

We are undertaking a staff travel survey and would be grateful if you could take time to answer a few questions

PLEASE BE ASSURED THAT ALL YOUR ANSWERS WILL REMAIN CONFIDENTIAL

SECTION A - PLEASE ANSWER ALL THE QUESTIONS

1. How do you normally travel to work? (Select one option)

Walk	<input type="checkbox"/> 1	Car Driver, on your own	<input type="checkbox"/> 5
Bicycle	<input type="checkbox"/> 2	Car Driver, with Passenger(s)	<input type="checkbox"/> 6
Bus	<input type="checkbox"/> 3	Car Passenger	<input type="checkbox"/> 7
Motorbike	<input type="checkbox"/> 4	Other (please specify)	_____

2. Could you have used some other form of transport to travel to work? (Select all that apply)

Yes, Walk	<input type="checkbox"/> 1	Yes, Motorbike	<input type="checkbox"/> 4
Yes, Bicycle	<input type="checkbox"/> 2	No	<input type="checkbox"/> 5
Yes, Bus	<input type="checkbox"/> 3	Other (please specify)	_____

3. How long does it normally take you to travel to work? (Select one option)

Up to 15 minutes	<input type="checkbox"/> 1	Over 30 minutes and up to one hour	<input type="checkbox"/> 3
Over 15 minutes and up to 30 minutes	<input type="checkbox"/> 2	Over one hour (please specify)	_____

4. Which of the following changes would encourage you to cycle to work?

Please select no more than 3 (If you already cycle to work which would you most like to see?)

Improved cycle paths on the journey to work	<input type="checkbox"/> 1	Improved cycle parking	<input type="checkbox"/> 4
Improved cycle changing facilities and lockers	<input type="checkbox"/> 2	Minor changes to working hours	<input type="checkbox"/> 5
Arrangement to buy a bicycle at a discount	<input type="checkbox"/> 3	None	<input type="checkbox"/> 6
Other (please specify)	_____		

5. Which of the following changes would encourage you to use public transport for your journey to work?

Please select no more than 3 (If you already use a bus to travel to work, which would you most like to see?)

More direct bus routes from home to work	<input type="checkbox"/> 1	Improved public transport information	<input type="checkbox"/> 4
Minor changes to working hours	<input type="checkbox"/> 2	Discount tickets / passes	<input type="checkbox"/> 5
Better quality waiting facilities (e.g. shelters)	<input type="checkbox"/> 3	None	<input type="checkbox"/> 6
Other (please specify)	_____		

CONTINUED OVER THE PAGE



YOUR JOURNEY TO WORK QUESTIONNAIRE

SECTION B - PLEASE COMPLETE ALL THE QUESTIONS IN SECTION B IF YOU NORMALLY USE A CAR TO TRAVEL TO WORK

6. What are the main reasons for using a car to get to work?

Dropping / Collecting Children

 ₁

Health Reasons

 ₄

Working Hours *e.g. early start / late finish*

 ₂

Convenience

 ₅

Lack of an Alternative

 ₃

Get a Lift

 ₆

Other (*please specify*)

7. Would you be prepared to car share?

Yes ₁

No ₂

If no, please say why

8. Which of the following would most encourage you to car share?

Help in finding car share partners with similar work patterns

 ₁

None

 ₄

A guaranteed ride home in the event of an emergency

 ₂

Reserved parking for car sharers

 ₃

Other (*please specify*)

SECTION C - PLEASE ANSWER ALL THE QUESTIONS IN SECTION C

9. Where do you live?

Area

Home Postcode

 ₁
 ₂

10. Please state your gender:

Male ₁

Female ₂

11. Do you have a disability which affects your travel arrangements?

Yes ₁

No ₂

12. Are you Full Time or Part Time staff?

Full Time ₁

Part Time ₂

13. Please fill in the following table for your typical working week, using the 24 hour clock?

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Start Time	:	:	:	:	:	:	:
End Time	:	:	:	:	:	:	:

Example:

	Monday
Start Time	08:45
End Time	17:00

PLEASE RETURN YOUR COMPLETED SURVEY TO THE TRAVEL PLAN CO-ORDINATOR

THANK YOU FOR YOUR COOPERATION

CIVIL ENGINEERING • STRUCTURAL ENGINEERING • TRANSPORTATION • ROADS & BRIDGES
PORTS & HARBOURS • GEOTECHNICAL & ENVIRONMENTAL ENGINEERING • PLANNING &
DEVELOPMENT • WATER SERVICES • CDM COORDINATOR SERVICES

www.fairhurst.co.uk

Aberdeen	Leeds
Bristol	London
Dundee	Manchester
Edinburgh	Newcastle upon Tyne
Elgin	Sheffield
Glasgow	Watford
Inverness	Wellesbourne

FAIRHURST