Prepared by
Roughan & O'Donovan
Arena House, Arena Road, Sandyford Dublin 18, D18 V8P6
Tel +353 1 294 0800 Email info@rod.ie www.rod.ie

STRATEGIC ROAD MAINTENANCE FACILITY AT DRUMFIN

Engineering Report

P01 | July 2023

An Roinn Iompair
Department of Transport

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

Sligo County Council
Comhairle Chontae Shligigh

Sligo.

ROD
ROUGHAN & O'DONOVAN

Strategic Road Maintenance Facility at Drumfin

Engineering Report

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

Sligo County Council (SCC) are seeking Part 8 planning approval to develop a Strategic Road Maintenance Facility, including Strategic Resilience Salt Barn facility, Maintenance/Operation Depot and Local Authority Municipal District Machinery Yard, with ancillary buildings and structures, to provide a range of national, regional and local road maintenance services. The regional reach will cover the whole northwest region, including counties Donegal, Sligo, Longford, Leitrim, Galway, Mayo and Roscommon.

The need for the development aligns with or supports various government policy including the National Adaptation Framework (NAF), National Investment Framework for Transport in Ireland (NIFTI), National Planning Framework (NPF) and the Government's Climate Action Plan 2023.

The proposed development site is approximately 3.1ha in size and is located within the townland of Drumfin in Co. Sligo, approximately 16km south of Sligo town and 6.0km northeast of Ballymote. It is strategically located adjacent to the N4 National Road which was recently re-aligned and upgraded to dual carriageway between Castlebaldwin and Collooney.

The Part 8 Engineering Report includes information pertaining to the nature and extent of the proposed development, the engineering design elements and traffic for the site. It provides engineering information on the main infrastructural elements proposed on the site, including:

- 4 no. Strategic Salt Barns, with capacity of 30,000 tonnes of salt, for national reserves and Resilience Salt stocks.
- Two-storey Administration Building for Maintenance/Operation activities which includes internal storage area, welfare facilities, offices and canteen facilities on the ground floor, with offices and meeting/training room on the first floor.
- Maintenance & Operation Barn including lean-to vehicle storage and secure internal storage for maintenance and operation salt supplies.
- Single-storey workshop and staff welfare facility.
- Ancillary structures and associated works.

Other proposed facilities include an internal access road, weighbridge, bunded re-fuelling area, truck washdown area, underground storage tank for collection of brine/contaminated runoff from salt containment and truck washdown, road material storage areas and a staff/visitor carpark.

Traffic impacts due to the proposed development were assessed through a Traffic Impact Assessment (TIA). Access to the site is proposed from the L3700 local road via a simple priority junction. Parking and EV charging facilities are proposed to be provided to the site. The TIA concluded that the development access as outlined in this report has sufficient capacity to accommodate both the proposed development and background traffic levels well into the future.

Wastewater treatment, surface water treatment, saltwater treatment, water supply and electricity supply are proposed to be provided to the site in accordance with the relevant standards. It is proposed to incorporate solar panel arrays on the roofs of the salt barns to generate electricity for use by the depot offices, lighting, electric vehicle charging, etc., with excess generation stored on-site through batteries with provisions in place for the excess to be fed back into the electricity grid network.

The report concludes that the proposed development will be designed in accordance with the current relevant standards and guidance documents as appropriate.

2. INTRODUCTION

Sligo County Council (SCC) proposes to construct a Strategic Road Maintenance Facility at Drumfin County Sligo, hereafter referred to as the 'proposed development'.

The proposed development includes a Strategic Resilience Salt Barn facility, a Maintenance/Operation Depot and a Local Authority Municipal District (MD) Machinery Yard, with ancillary buildings and structures, to provide a range of national, regional and local road maintenance services. The regional reach will cover the whole northwest region, including Donegal, Sligo, Longford, Leitrim, Galway, Mayo and Roscommon.

This report describes the civil engineering infrastructure, proposed and existing, that will serve the proposed development.

2.1 Need for the Development

The proposed development aligns with the Government's National Adaptation Framework (NAF), by facilitating reduced carbon footprint for road maintenance services through delivery, storage and security of salt supplies proximate to demand, thereby significantly reducing haulage distances to serve the north-western region. It will facilitate the roll out of consistent proactive network management for the entire north-western region and environs including counties Sligo, Leitrim, Longford, Galway, Donegal, Mayo, and Roscommon. Further specific benefits include:

Strategic Salt Barn Facility:

- The Strategic Salt Barn facility will ensure full control, security, and the supply of salt in the north-western region for all proximate local authorities, TII and DoT.
- A large portion of the strategic salt for the region is currently stored in the private sector. The risks and costs associated with this arrangement will be removed with the construction of the strategic salt barn facility.

Maintenance/Operation Depot:

- Provision of a Municipal District (MD) Depot for Sligo County Council will allow for efficient storage of materials and plant proximate to need.
- Local authorities are designated as the lead agency for coordinating and delivering the response to severe weather emergencies and lead the local response in collaboration with TII, DoT and other principal response agencies. The proposed integrated facility will enable coordinated management in severe weather conditions.
- The proposed Maintenance/Operation Depot will allow for the scale up to full maintenance services by TII including winter maintenance, incident response and renewals on the 24km of N4 Dual Carriageway in county Sligo and other routes in the region.

Maintenance and management of infrastructure assets has a very high priority in the National Investment Framework for Transport in Ireland (NIFTI) investment hierarchy, which is the Department of Transport's framework for prioritising future investment in the land transport network to support the delivery of National Strategic Outcomes (NSOs) identified within the National Planning Framework (NPF). The proposed development of a Strategic Road Maintenance Facility will support journey time reliability, road safety and accessibility for the north-western region by facilitating the provision of road maintenance services, including winter maintenance and incident response services. The provision of such road maintenance services supports enhanced regional connectivity which is an NSO and an investment priority of NIFTI.

Enhanced connectivity to the Northwest supports the regional balance of economic growth through providing journey time reliability for commercial activities. The proposed development also supports the Government's Climate Action Plan 2023 which sets out the Avoid-Shift-Improve framework for decarbonisation of the transport sector. The development predominantly aligns with 'Improve' measures, which are measures which aim to improve the efficiency of the vehicles and the network itself, including during periods of severe weather conditions.

2.2 Structure of The Report

The structure of this report is outlined as follows:

- Section 3 provides a description of the site of the proposed development and its immediate environs;
- Section 4 describes the proposed development;
- Section 5 describes transport infrastructure;
- Section 6 describes surface water drainage infrastructure;
- Section 7 describes water supply and wastewater infrastructure.

3. DETAILS OF SITE

3.1 Site Location and Description

The proposed development is a 3.1-hectare (ha) site (ITM coordinates of 571198 E 819452 N) within the townland of Drumfin in Co. Sligo, approximately 16km south of Sligo town and 6.0km northeast of Ballymote. It is strategically located adjacent to the N4 National Road which was recently re-aligned and upgraded to dual carriageway between Castlebaldwin and Collooney. The site location is shown in Figure 3.1 and Figure 3.2.

Figure 3.1 - Location of the proposed development site in Drumfin, Co. Sligo

Figure 3.2 - Strategic Road Maintenance Facility site (map underlay source: Bing)

The proposed development is bounded by the N4 dual carriageway to the south-west, the L1502 local road to the north-west and the L3700 to the north-east. There are two private dwellings to the north of the site and one private dwelling with ancillary farm buildings to the east. The remaining site is bounded by agricultural lands.

The western part of the site is sloping to south-west, towards the N4, and the eastern part is sloping to south-east. The levels across the site vary, with the highest point approx. 60mOD and the lowest approx. 50mOD.

The proposed site is a combination of greenfield and brownfield conditions. The brownfield section of the site is located to the south-west of the development, adjacent to the N4 dual carriageway and L1502 and extends to approx. 0.9 ha. This area comprises of a redundant and now unauthorised site compound and storage area developed for the construction of the N4 dual carriageway scheme between Castlebaldwin and Collooney. The remaining approx. 2.2 ha is a greenfield site.

The Drumfin River runs in a northerly direction approx. 90m north-east of the proposed development site, separated by a buffer of the existing L3700 road and greenfield. The Drumfin River merges with the Unshin River approx. 1.3km downstream of the proposed development site. Drainage network mapping shows the proposed development site drains towards the Drumfin River from both the eastern and western sections of the proposed development site – refer to Figure 3.3.

A drainage ditch, constructed during the N4 dual carriageway scheme, flows in a south-easterly direction along the western and southern boundary. This ditch continues parallel to the N4 before outfalling into a local watercourse network and ultimately to the Drumfin River approximately 0.5km downstream of the site.
The land is currently in private ownership; however, Sligo County Council have a draft agreement in place to purchase the lands.

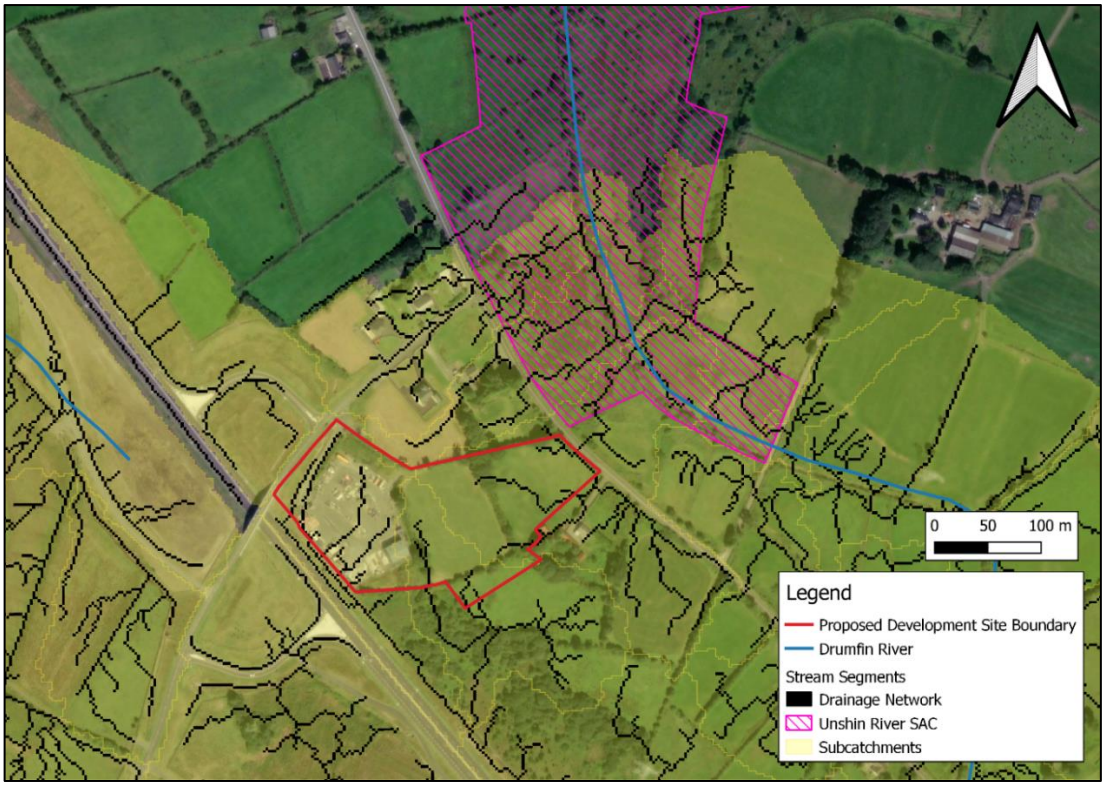


Figure 3.3 - Existing drainage network underneath proposed development site (map underlay source: ESRI World Imagery)

4. PROPOSED DEVELOPMENT

Sligo County Council proposes to construct a Strategic Road Maintenance Facility, including strategic resilience salt barns, a maintenance and operation depot and a Local Authority MD machinery yard, with ancillary buildings and structures, to provide a range of national, regional, and local road maintenance services. The regional reach will cover the whole northwest region, including counties Donegal, Sligo, Longford, Leitrim, Galway, Mayo, and Roscommon.

The main infrastructural elements proposed on the site are:

- 4 no. Strategic Resilience Salt Barns, with capacity of 30,000 tonnes of salt, for national reserves and Resilience Salt stocks.
- Two-storey Administration Building for Maintenance/Operation activities which includes internal storage area, welfare facilities, offices, and canteen facilities on the ground floor, with offices and meeting/training room on the first floor.
- Maintenance & Operation Barn including lean-to vehicle storage and secure internal storage for maintenance and operation salt supplies.
- Single-storey workshop and staff welfare facility.
- Ancillary structures and associated works.

4.1 Strategic Resilience Salt Barns

The proposed salt barn facility is a reinforced concrete plinth structure with profiled metal roof comprising of four salt barns. Each barn will be 50.9m x 20.0m x 8.8m and the total floor area of all barns will be 4,072m^2. The walls will be made of concrete and each barn entrance will have 1 No. industrial metal roller shutter. The resilience salt barns will store approx. 30,000 tons of salt supplied by TII and DoT to ensure that carriageways on the Roads network are kept free of frost, ice and snow as far as is reasonably practicable.

The barns will have an isolated drainage network, intercepting salt-contaminated runoff and outfalling to a sealed underground storage tank. This tank will be periodically emptied on an ‘as-needed’ basis, with the contents transferred to a licensed water treatment facility by an appropriately licensed Contractor.

It is proposed to incorporate solar panel arrays on the roofs of the four salt barns to generate electricity for use by the depot offices, lighting, electric vehicle charging, etc., with excess generation stored on-site through batteries with provisions in place for the excess to be fed back into the electricity grid network.

4.2 TII Maintenance/Operation Depot

TII’s maintenance and operation depot for the ongoing maintenance and operations of the National Road network extends to approximately 13,200m^2 and comprises the following:

- Two storey Administration Building for Maintenance/Operation activities which includes internal storage area, welfare facilities, offices, and canteen facilities on the ground floor, with offices and meeting/training room on the first floor.
- Maintenance & Operation Barn including lean-to vehicle storage and secure internal storage for maintenance and operation salt supplies.
- Truck washdown area with isolated drainage network for salt-contaminated runoff.
- Underground storage tank for collection of brine/contaminated runoff from salt containment and truck washdown.
- Bunded fuel storage for approximately 15,000L of on-site diesel storage tanks. The fuel storage will be bunded with the bund providing a storage capacity

equivalent to 110% of the tank capacity it protects, in compliance with the EPA 'Guidance Note on Storage and Transfer of Materials for Scheduled Activities'.
- Staff/visitor car park for Maintenance/Operation Depot with provision for EV charging points.
- Rainwater harvesting system.
- Air-source heat pump for temperature control and energy efficiency within the office building.

4.3 Sligo County Council Municipal District Depot

Sligo County Council's operational depot is approximately 3,810m^2 comprising of the following:

- Single storey Maintenance & Operation Depot Building (375m^2) which includes vehicle storage, workshop, and secure internal storage.
- Road materials storage areas for Local Authority Machinery Yard (640m^2), surrounded on 3 sides by approx. 2.5m high block walls.
- Secure storage area for Local Authority Machinery Yard.
- Parking Area for Sligo County Council staff (approx. 5-10 spaces anticipated).

4.4 Ancillary Structures and Works

Other ancillary structures and associated works at the proposed development include:

- 7.0m internal access road with access to the L3700 road via simple priority junction.
- Weighbridge for use during loading and unloading of resilience salt supplies.
- Site clearance, including removal of partly constructed access from the L1502 and removal of redundant and now unauthorised site compound, shed and all associated elements.
- Site boundary and internal boundary treatments.
- Drainage works, including surface water systems and foul wastewater treatment and outfalls.
- Lighting for internal road network and compounds.
- Landscaping for visual screening and biodiversity enhancement.

A direct access to the proposed development will be provided on the L3700. The access will be a simple priority junction.

The proposed development is further detailed in the drawings listed in section 8 of the Planning Report.

5. TRANSPORT

5.1 Traffic Impact Assessment

A Traffic Impact Assessment has been prepared and is included in Appendix A. This sets out the baseline traffic flows and the anticipated traffic flows arising from the proposed development, including those anticipated at construction stage and operational stage. An analysis of the traffic impacts for the construction stage and operational stage is included in the Traffic Impact Assessment also.

The Assessment concludes that that the proposed development will generate slight increases in through traffic and turning movements at the L1502 junction, with the highest increase occurring during the salt delivery/filling operations which are anticipated to occur for up to 30 days each year. The existing L1502 junction with the L3700 road is currently well below capacity, with no queues and delays anticipated for the Opening and Design year scenarios.

The analysis also shows that the L3700 through traffic is not impacted by the proposed development due to the low traffic volumes on this section of that road.

The proposed site access caters for turning movements of HGVs and achieves the minimum required sightlines along the left and right approaches of the L3700.

5.2 Access to the Public Road

A direct access to the proposed development will be provided via the L3700 public road. The L3700 is a local road that was previously part of the N4 national road. However, with the opening of the recently constructed N4 dual carriageway in the vicinity, this road has been re-classified as a local road and carries reduced traffic.

The access will be a simple priority junction. Given that the public road is lightly trafficked and is anticipated to have relatively low traffic flows generated by the proposed development, this junction type is of sufficient capacity to serve the development.

A Junction Visibility Assessment has been undertaken as part of the Traffic Impact Assessment to demonstrate that minimum sightlines and visibility distances are achieved.

5.3 Vulnerable Road Users

A 2m wide footpath of concrete or bituminous construction will be constructed adjacent the proposed internal access road, within the proposed development. This will run from the Local Authority Municipal District yard entrance alongside the internal access road to the main yard entrance, to cater for vulnerable road users including pedestrians within the proposed development. The proposed development will not preclude the provision of future facilities for vulnerable road users on the existing L3700.

5.4 Internal Road Network

The proposed internal road layout will facilitate access to the proposed development. The internal access roads will be of bituminous construction to TII standards. The surface of the main yards will be of concrete construction. The internal road layout has been developed in accordance with the design principles of the Design Manual for Urban Streets and Roads (DMURS).

A vehicle tracking analysis using AutoDesk Vehicle Tracking software has been undertaken for the proposed development to ensure that all delivery and emergency vehicles can access all parts of the Site.

Traffic entering the Site via the L3700 public road will include HGV delivery trucks and maintenance vehicles associated with the salt barns and maintenance depots, as well as vehicles associated with staff and visitors.

An access to the Local Authority Municipal District Yard is located close to the access from the public road. This allows the immediate segregation of traffic to this part of the proposed development, with the main Access Gate for the rest of the development just beyond this area.

A parking area for staff and visitor vehicles, with up to 15 spaces including electric vehicle charging points and 2 wheelchair accessible places, is located just beyond the main Access Gate, with access for larger maintenance and delivery vehicles located further along the access road. This allows the segregation of staff and visitor vehicles from larger delivery and maintenance vehicles.

Delivery trucks including HGVs will proceed past the car parking area and reach the weigh bridge area, where weighing operations can be completed before proceeding to the main yard.

No dedicated parking bays are defined for articulated goods vehicles associated with the delivery and taking away of salt; however areas are reserved adjacent to the salt barn to allow vehicles to queue while waiting to load or unload.

Traffic movements within the internal access roads and main yard areas will be delineated by markings and signs, which will be designed to minimise conflicting movements and provide clear unambiguous signals as to which movements are permitted or have priority. Markings and signs will also be used to delineate any permitted pedestrian routes through the yard areas.

6. SURFACE WATER DRAINAGE

6.1 Surface Water Drainage

The surface water drainage network for the proposed development was designed in accordance with IS EN 752-4: Part 4 'Drain and sewer systems outside buildings', as published by the NSAI, and using the industry-standard software package 'Microdrainage'.

As per the above standard, pipes in surface water sewers have been designed using the Modified Rational Method (Wallingford method) to calculate the volume of surface water run-off under storm conditions. The Modified Rational Method is incorporated in the software design package utilised in the design process.

Site-specific rainfall data provided by Met Eireann was used as the basis for the design of the surface water system, after first being factored up by 10% to meet the required allowance for climate change.

In accordance with IS 752-4: Part 4, the surface water drainage network was initially designed to carry a 2-year storm without surcharge. Self-cleansing flows of greater than 0.75m/s are provided generally although this is not always possible at upstream pipe-runs where contributing areas are low. In these cases, minimum gradients of 1:DN or greater are provided, thus meeting the recommendations of IS EN 752-4 for ensuring self-cleansing flow velocities.

The stormwater drainage network was assessed for compliance with the key design parameters as set out in Table 6.1.

Table 6.1 Key Design Parameters

Parameter	Value/Requirement
Minimum depth	1.2m cover under highways 0.9m elsewhere
Maximum depth	5m
Minimum sewer size	225mm
Runoff factors for pipe sizing and storage requirements	100% paved and roof surfaces 0% of previous surfaces
Max. velocity at pipe full	3.0 m/s
Min. velocity in pipe	0.75 m/s
Roughness	0.6mm
Maximum discharge rate from site	As outlined elsewhere in this report
Level of Service Critical Storm 1 in 2 yr return period	No Surcharge within the pipe network, no flooding
Level of Service Critical Storm 1 in 30 yr return period	Surcharge allowed, no flooding
Level of Service Critical Storm 1 in 100 yr return period	Surcharge allowed, no flooding

The depot sites will be drained through a series of gullies and linear drainage channels which tie into an underground network of chambers and pipes.

A swale is proposed along the internal access road to collect and attenuate runoff from the road and subsequently treat the attenuated water in accordance with the principle of SuDS. This swale will outfall to the north of the site, passing through a bypass interceptor installed downstream of the attenuation feature within the swale.

Class 1 bypass separators will be installed on each drainage run downstream of the respective attenuation systems. A forecourt separator will be provided immediately downstream of the bunded fuel area to treat contaminated storm water inflow to the storm water sewer network. The fuel tank itself is bunded to contain emergency spills and avoid contamination of storm watercourses with hydrocarbons. The fuel tank bund will be provided in accordance with the details in the Greater Dublin Strategic Drainage Study (GDSDS) stormwater management policy document and providing a storage capacity equivalent to 110% of the tank capacity it protects, in compliance with the EPA 'Guidance Note on Storage and Transfer of Materials for Scheduled Activities'. This separator is also provided in the event of a spill in the surrounding area during fuelling of vehicles or filling of the fuel tank.

Washdown separators and silt traps will be provided at the truck wash down areas to remove contaminants from the salt contaminant area, allowing the saltwater runoff from this area to be disposed of as salt water in holding tanks.

A separate collection system will be provided for the salt containment areas. These areas will be drained separately during washdown activities, and the runoff will enter holding tanks via a silt trap. A valve switch system will be in place to drain rainfall from these salt containment areas to the drainage network during normal conditions. The valves will open during washdown activities within the salt contamination areas, directing water containing contaminants to the salt-water holding tanks, the valves will otherwise remain closed. The tanks will be fitted with an alarm to inform the site operator when the tank is full to 70% to allow for arrangement of the disposal of the salt water off site.

6.2 Sustainable Drainage Systems Strategy

The principles of sustainable drainage systems (SuDS) have been adopted in the development in accordance with the recommendations of the GDSDS.

Compliance with GDSDS requires the discharge of surface water run-off to be restricted to discharge rates equal to 1-year greenfield site peak runoff rate or 2l/s/ha, whichever is the greater in accordance with Table 16.3 of the GDSDS. For the proposed development, Qbar is 16.56l/s for the TII Maintenance Depot site and 4.89/ls for the Sligo County Council depot site. These represent the maximum permissible rates of discharge of surface water run-off from the proposed development.

Discharge from the storm water network will be restricted by installing a flow control device, such as an orifice plate or a Hydro-Brake by Hydro International or similar, directly upstream of the outfalls. It will be necessary to provide attenuation storage via underground tanks upstream of the flow control device. The two tanks will provide adequate storage to ensure that all surface water attenuated during the 100-year critical storm can be stored without giving rise to flooding.

A swale is proposed along the internal access road to collect and attenuate runoff from the road and subsequently treat the attenuated water in accordance with the principle of SUDS.

Rainwater harvesting is proposed for use in the TII Administration/office building and SCC office building. Stormwater runoff from the roofs of those buildings will be collected into a rainwater harvesting system to facilitate grey water re-use, including toilet flushing, vehicle washdowns and the like.

The provision of silt traps for the salt containment areas is in keeping with the principles of SuDS.

6.3 Outfall

It is proposed that the rate at which stormwater outflows from the proposed development will be restricted to the pre-development run-off rate using a proprietary flow control device and that attenuation of the peak volume, including allowance for climate change, arising during the 1 in 100 yr critical storm event would be required. This will be done in accordance with GDSDS policy documents and the use of SuDS for the drainage will be included where possible as part of the design.

There are a series of ephemeral ditches bounding the scheme which are proposed to be utilised as outfall locations. As above, the outfall rate will be limited to existing greenfield runoff rates.

7. WASTEWATER AND WATER SUPPLY

7.1 Water Supply

There is a 90mm watermain in the verge of the L1502 road adjacent to the proposed development. This watermain belongs to the Castlebaldwin Group Water Scheme (GWS). It is proposed to connect into this watermain for water supply and a letter of consent has been obtained from the Group Water Scheme in this regard. A copy of this consent is provided in Appendix B.

It is proposed to utilise rainwater harvesting in the proposed development. Stormwater runoff from the roofs of the TII Administration/office building and SCC office building will be collected into a rainwater harvesting system to facilitate grey water re-use, including toilet flushing, vehicle washdowns and the like. Water conservation measures such as low flush toilets and tap aerators will be implemented in the office buildings also.

It is proposed to provide a looped watermain around the site. The watermains, fire hydrants and fire water storage tanks layouts are detailed on Drawing No. MCAAS2W-ROD-HDG-TO15_AE-DR-CH-300505.

The watermain will be constructed and tested in accordance with the "1998 Recommendations for Site Development Works for Housing Areas". The watermain will be sized in agreement with the GWS and will be adequate at a minimum to meet the demand of the proposed development.

The design requirement for a firefighting supply including fire hydrants and water storage tanks will be determined with specific consultation with the local Fire Department. An indicative layout is provided on the above reference drawings. Onsite firefighting storage is proposed to accommodate 45,000 litres storage in accordance with Fire Safety Engineering CIBSE Guide E.

Watermain pipe material will either be MoPVC, MDPEo, Steel or Ductile Iron.

7.2 Wastewater

A wastewater drainage system is proposed to treat and outfall the foul drainage from the proposed development through a secondary treatment system followed by a tertiary polishing filter. Wastewater is treated in a secondary treatment package plant and then polished in the tertiary treatment package. The tertiary polishing filter, such as the Ecoflo Coconut filter, is placed on a 300mm deep bed of 20mm pebble distribution gravel and effluent from this polishing filter percolates into the distribution gravel by gravity.

A Site Suitability Assessment was undertaken by Dr Eugene Bolton of Trinity Green Environmental Consultants in June 2023 which confirmed that the proposed development is suitable for such wastewater treatment. Details of this assessment and the proposed secondary treatment system are provided in Appendix C.

8. EARTHWORKS BALANCE

Preliminary ground investigations comprising of 6 nr. trial holes were undertaken within the proposed development. These indicated till as the predominant soil type. Capping and made ground was identified in the south of the proposed development, which was previously the location of a temporary site compound for the works contractor of the N4 Collooney to Castlebaldwin Road Scheme.

3D models were prepared for the finished level of the proposed development and for the existing ground level. Using these models, a comparison model was created to estimate the bulk excavation and bulk fill requirements for the proposed development.

Based on this model, it is estimated that the development will generate approximately 22,000m^3 surplus of excavated soil, some of which will be re-used for landscaping within the proposed development and the remainder removed from the Site. Surplus excavated material to be removed from the Site will be transported to licensed waste facilities for soil recovery. These surplus soils will be handled in accordance with Waste Management Regulations.

APPENDIX A

TRAFFIC IMPACT ASSESSMENT

Prepared by
Roughan & O'Donovan
Arena House, Arena Road, Sandyford Dublin 18, D18 V8P6
Tel +353 1 294 0800 Email info@rod.ie www.rod.ie

STRATEGIC ROAD MAINTENANCE FACILITY AT DRUMFIN

Traffic Impact Assessment

P01 | July 2023

An Roinn Iompair
Department of Transport

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Sligo County Council
Comhairle Chontae Shligigh

Sligo.

ROD
ROUGHAN & O'DONOVAN

STRATEGIC ROAD MAINTENANCE FACILITY AT DRUMFIN

TRAFFIC IMPACT ASSESSMENT

TABLE OF CONTENTS

APPENDICES

1. Introduction

Roughan & O'Donovan (ROD) were engaged on behalf of Sligo County Council (SCC), Transport Infrastructure Ireland (TII) and Department of Transport (DoT) to undertake a Traffic Impact Assessment for a proposed development on the L3700 at Drumfin, Co. Sligo.

Silgo County Council are seeking planning permission to develop a Strategic Road Maintenance Facility at Drumfin, Co.Sligo. It is proposed to construct a Strategic Resilience Salt Barn facility, Maintenance/Operation Depot and Local Authority Municipal District (MD) Machinery Yard, with ancillary buildings and structures, in order to provide a range of national, regional and local road maintenance services..

The proposed development is to be served by a dedicated new access off the L3700, easily accessible from the N4 compact grade-separated junction at Drumfin.

This Traffic Analysis Report has been undertaken in accordance with current best practice guidance and planning policies. The following documents have been referenced during the preparation of this report:

- TII's Traffic and Transport Assessment Guidelines, PE-PDV-02045, (May 2014)
- TII Design Manual for Roads and Bridges (DMRB)

2. Consultation with Local Authority

The scope of this traffic and transport assessment has been developed in consultation with Sligo County Council's Regional Design Office. The Local Authority has confirmed the requirement for a traffic impact assessment in line with TII standards.

3. Proposed Development

3.1 Site location

The proposed development is strategically located in Drumfin, County Sligo. The site includes a former works compound and storage area, used during the construction of the N4 Collooney to Castlebaldwin road scheme. The site is bounded by the N4 dual carriageway to the south-west, the L1502 local road to the north-west and the L3700 local road to the north-east. It is located close to the N4 compact grade separated junction as shown in the Figure 3-1 below.

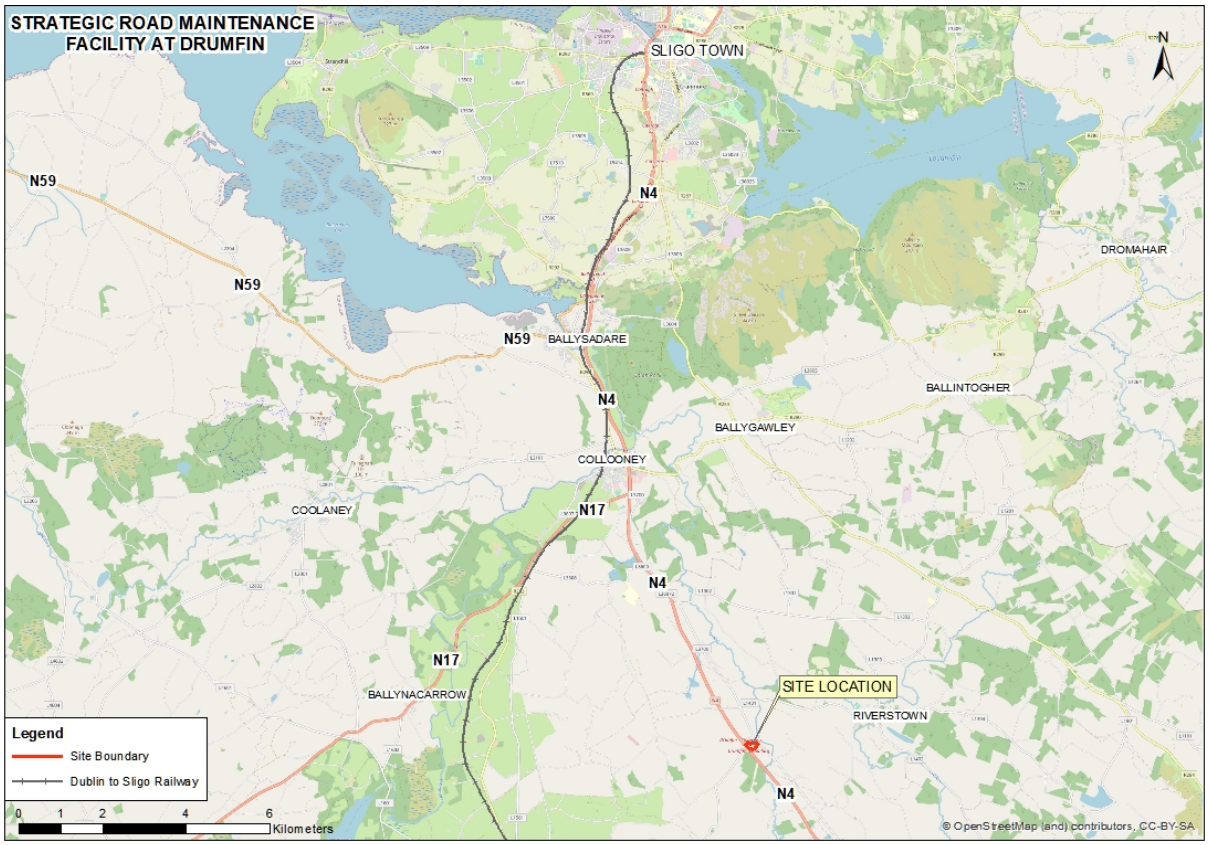


Figure 3-1 Proposed Site Location

3.2 Development Details

The proposed site boundary area is approximately 3.1ha. The main infrastructural elements proposed on the site are:

- 4 no. Strategic Salt Barns for national reserves and resilience salt stocks (30,000 tonnes).
- Two-storey Administration Building for Maintenance/Operation activities which includes internal storage area, welfare facilities, offices and canteen facilities on the ground floor, with offices and meeting/training room on the first floor.
- Maintenance & Operation Barn including lean-to vehicle storage and secure internal storage for maintenance and operation salt supplies.
- Single-storey workshop and staff welfare facility.
- Ancillary structures and associated works.

The proposed site layout is shown in Figure 3-2 below.

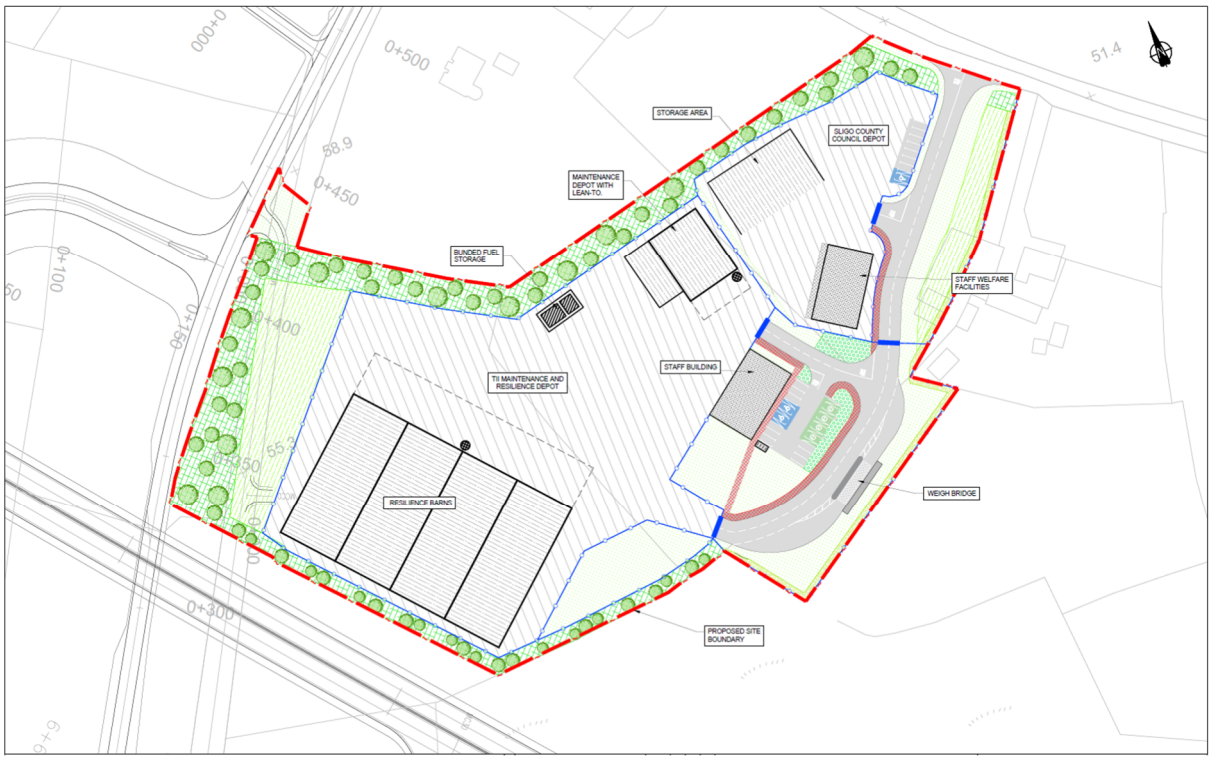


Figure 3-2 Proposed Site Layout.

4. Baseline Conditions

4.1 Surrounding Road Network

The proposed site is strategically located in Drumfin, with easy access to the N4 dual carriageway via the L3700 and L1502.

The N4 dual carriageway provides an excellent connection to the wider national and regional road network. Access to the N4 will be provided via the L3700 and L1502.

The L3700 between Castlebaldwin and Collonney was formerly part of the N4 national road prior to the opening of the new N4 route in 2021. It carries reduced traffic since its reclassification to a local road following the opening of the new N4.

A direct access to the proposed site will be provided by a simple priority junction off the L3700 road. The L3700 road is a 6.5m wide single carriageway with a hard strip of 0.5m on both sides. The vertical alignment ranges from a gentle gradient to nearly flat in the proximity of the proposed entrance. The horizontal alignment consists of a slight curvature to the right, before continuing straight northbound.

The L3700 at the proposed site access location is shown in Figure 4-1 overleaf.

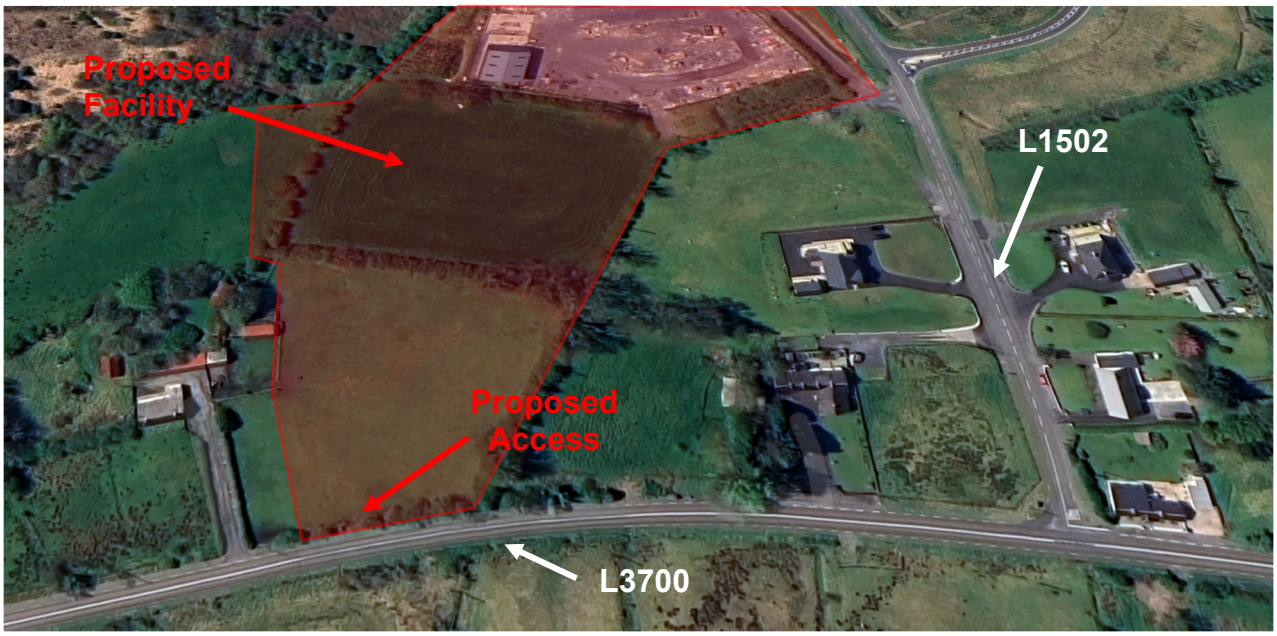


Figure 4-1 Proposed Facility Access location.

4.2 Existing Traffic

A traffic survey was carried out by Nationwide Data Collection (NDC) on the 22nd June 2023 to ascertain the existing traffic conditions in the vicinity of the site. The traffic survey consisted of:

- An Automated Traffic Count (ATC) on L3700 at the proposed site location for a 24h period;
- A Junction Turning Count (JTC) at the L1502 and L3700 priority junction during the AM and PM peak hours.

Details of the survey are shown in the **Appendix A** - Traffic Survey Data. Existing traffic survey along the L3700 and the recorded turning movements at the junction are shown in the Table 4-1 and Figure 4-2 below.

Table 4-1 Recorded ATC traffic along the L3700

ATC	Northbound	Southbound
24h (veh)	542	551
12h (7AM-7PM veh)	448	468
HGV (%)	13	11.6
85%ile speed (km/h)	89.7	88.7

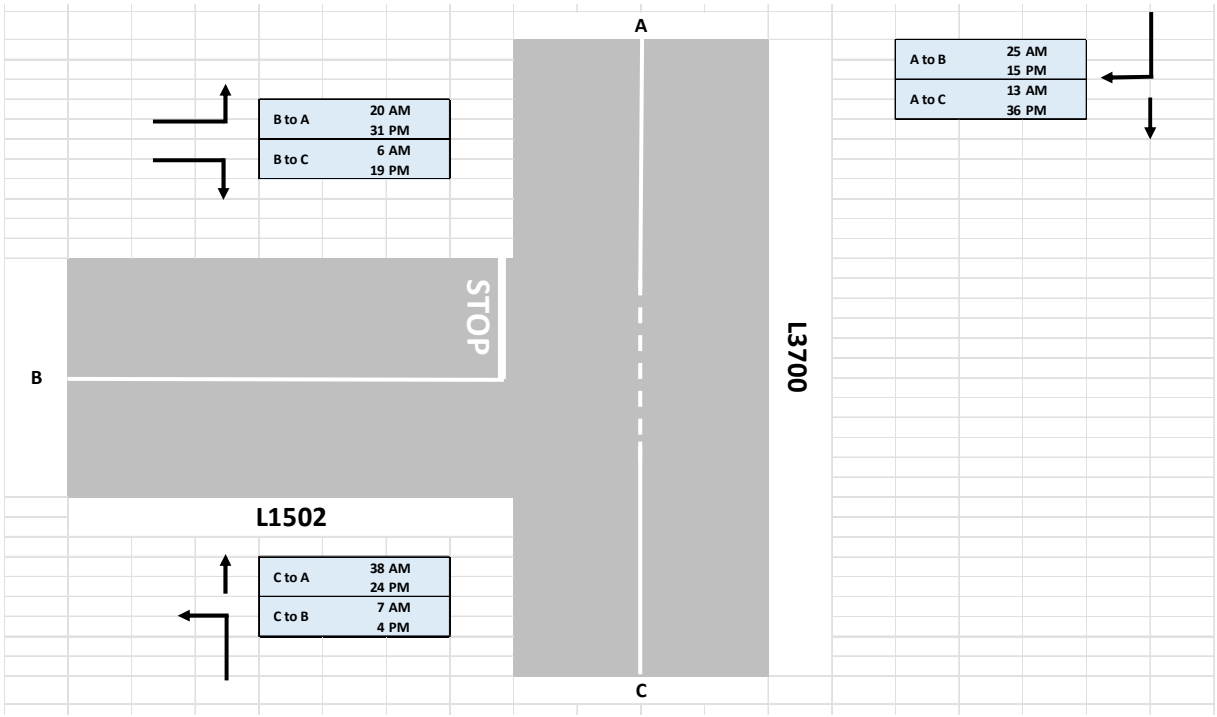


Figure 4-2 Existing Traffic recorded at Peak times at existing L1502 junction.

The ATC found that the L3700 has a daily average traffic flow of 1,100 vehicles per day. It also found that the L3700 has a flat traffic profile with traffic flows evenly spread over 07:00 to 12:00 with a maximum of 107 vehicles per hour and 13:00 to 20:00 with a maximum of 117 vehicles per hour. HGVs make up 12% of the traffic composition and the 85%ile traffic speed is 89kph.

4.3 Opening and Design Year Traffic

The opening year for the development is 2025, and the design year is 15 years after the development has been completed. For this TIA, the design year is taken from 2025 to 2040, and the growth factors are taken from the *TII Publications PE-PAG-02017 / Table 5.3.2: Link-Based Growth Rates: Annual Growth Factors – for the region 6 / Central Growth.* The growth factors used for the analysis are the Central Growth Rates for the Sligo County and the results are shown in Table 4-2 below.

Table 4-2 Estimated Traffic Flows along the L3700

Scenarios	L3700 Northbound		L3700 Southbound	
	AM peak (veh)	PM peak (veh)	AM peak (veh)	PM peak (veh)
Base Year	34	31	18	44
Opening Year	38	46	33	48
Design Year	43	50	35	54

4.4 Road Safety: Collision Data

The Road Safety Authority's Ireland Road Collisions database for the period between 2004 – 2016 shows that there are no recent collisions within the study area.

An extract from the collision map at the site's location is shown in Figure 4-3 below.

Figure 4-3 RSA Road Collision Records 2004 - 2016. Fatal collisions are shown in red, serious collisions are shown in yellow, minor collisions are shown in green.

Two minor collisions were recorded along the L3700 road in proximity of the proposed development occurred between 2015 and 2013, prior to the opening of the N4 Castlebaldwin to Collooney road scheme.

One fatal collision is recorded in 2010 in proximity of L1502 priority junction and two minor collisions recorded in 2004 and 2006.

5. Traffic Demand Generation

5.1. Construction Stage Traffic Demand Estimation

The construction of the proposed development is anticipated to take 6 to 9 months from the commence date. The most concentrated movement of vehicles to and from the development is anticipated to occur during the site clearance which will include the removal of excavated material away from the site. The Table 5-1 below presents the data used to estimate the peak number of HGVs generated during the construction stage.

Table 5-1 Construction Stage– Estimated Peak Construction Stage Truck Movements.

Duration of Site Clearance Activities (working days)	Excavated Material to be Exported [(i)] (m^3)	Total HGVs Required during Site Clearance [(ii)]	Daily One Way [(ii)] HGV Trips (HGV/ day)	Avg. One Way HGV/ hr[(iv)]
30	20,000	2,500	83	9

Table Notes:

(i) The table considers all cut material will be exported from the site in a worst-case scenario.

(ii) A conservative estimate of 8m^3/HGV has been used in the calculations.

(iii) One-way trips are in one direction (inbound or outbound)

(iv) The HGV/hr calculation assumes a 10-hour day during site clearing activities.

The proposed development is anticipated to generate a peak average of approximately 9 inbound and 9 outbound HGVs per hour.

The peak number of vehicular trips generated by the site considering both the arrival and departure of site operatives and site clearing activities are presented in the Table 5-2 below.

Table 5-2 Construction Stage– Estimated Peak Construction Stage Vehicular Movements.

	AM Peak		PM Peak	
	Inbound (PCU /hour)	Outbound (PCU /hour)	Inbound (PCU /hour)	Outbound (PCU /hour)
Site Operatives	10	0	0	10
HGV Traffic	21	21	21	21
Total Peak hour traffic	31	21	21	31

Table Notes:

(i) TII PE-PAG-02016 conversion rates used: Passenger Car/ LGV = 1.0 PCU, HGV = 2.3 PCU

The calculations found that the proposed site is anticipated to generate a peak of 31 inbound and 21 outbound PCUs per hour in the AM peak and 21 inbound and 31 outbound PCUs per hour in the PM peak during the construction stage.

5.2. Operational Stage Traffic Demand Estimation

The proposed facility is anticipated to generally operate between 08:00 and 17:00 from Monday to Friday. The initial data provided by the Local Authority foresees a small number of staff and maintenance vehicles entering and exiting the site throughout the day. It is expected that the main trafficking of the site will occur during the filling of the resilience barns.

The traffic generated by the proposed Strategic Road Maintenance Facility has been estimated based on the following information as shown in the Tables 5-3 and 5-4 below.

Table 5-3 Filling Operation – Estimate Truck Movements.

Filling Operation					
Full Depot (t)	30000	Truck load (t)	30	Days for filling	30
Filling rate (t/day)	1000	Estimated trucks/day	33	Trucks/hour	4

Table 5-4 Estimated Vehicle Movements at Peak Times During Filling Operations.

PCU	Arrivals	Departures	Peaks
AM	**20**	**9**	**08:00-09:00**
PM	**9**	**20**	**16:00-17:00**

The information above refers to traffic generated during filling operations when daily traffic movements are at their peak. These traffic movements are only anticipated to occur for approximately 30 days per year. Typical daily traffic generated by the development will be significantly less than this, with the arrival and departure of administration staff and occasional service vehicles.

The information provided indicates that the arrival and departure of trucks will be spread out over the day with an average of 4 trucks/hour. The estimated traffic demand generation makes an allowance for overlap between staff and trucks arriving / departing the site.

5.3. Trip Assignments

The turning movements of traffic generated during the operational and construction stages of the proposed development have been assigned to the surrounding road network as shown in the Figures 5-1 and 5-2 overleaf.

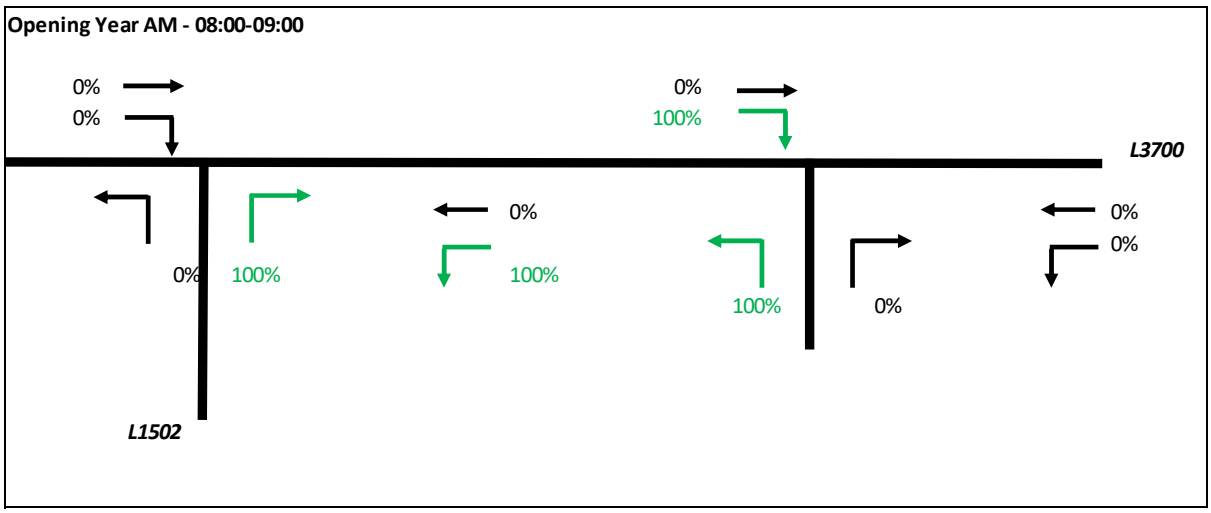


Figure 5-1 Turning Movement Diagram for AM peak at Opening Year.

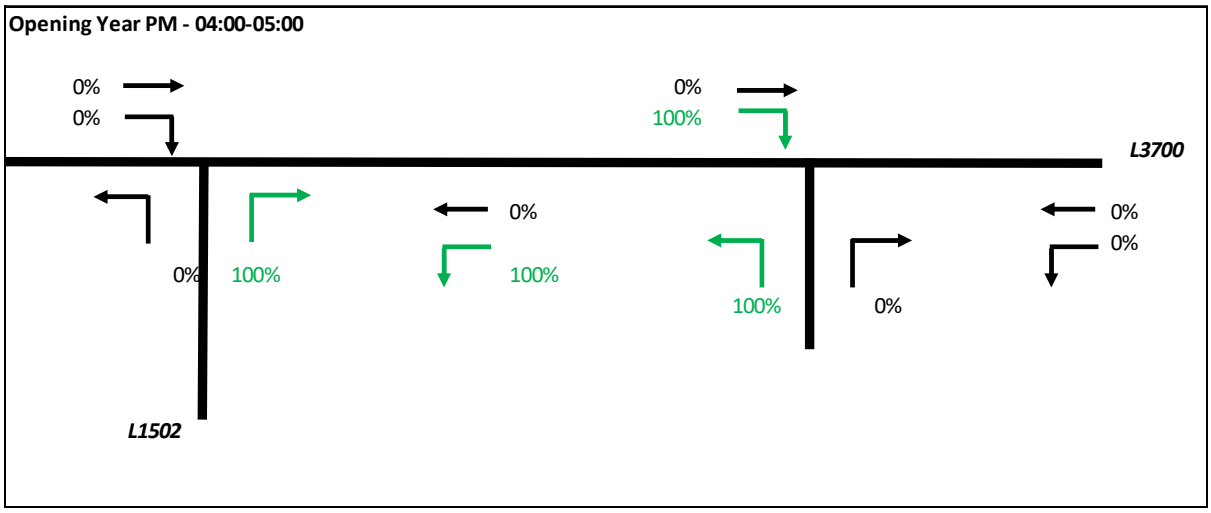


Figure 5-2 Turning Movement Diagram for PM peak at Opening Year.

It is anticipated that all peak, operational traffic generated by the proposed development will arrive and depart the site via the L3700, L1502 and N4.

6. TRAFFIC IMPACT ANALYSIS

6.1. Overview

A junction capacity analysis of the anticipated construction stage and operational stage impacts was carried out using Linsig. The analysis included the following junctions giving their proximity to the proposed site. These are:

- The existing L3700/ L1502 Priority Controlled Junction
- The proposed Site Access/ L3700 Priority Controlled Junction

Beyond these junctions the traffic generated by the development is considered to have dissipated into the surround network with minimal impacts.

The capacity analysis considered the following scenarios in the assessment of the Proposed Site Access Junction:

- Opening Year 2025 with traffic data and TII growth factors, without the proposed development;
- Design Year 2040 with traffic data and TII growth factors, with the proposed development;

The capacity analysis considered the following scenarios in the assessment of the L3700/ L1502 Priority Junction:

- Base Year 2023 with baseline traffic data obtained from the traffic surveys;
- Construction Stage with traffic data and TII growth factors;
- Opening Year 2025 with traffic data and TII growth factors without proposed development;
- Opening Year 2025 with traffic data and TII growth factors with the proposed development;
- Design Year 2040 with traffic data and TII growth factors without the proposed development;
- Design Year 2040 with traffic data and TII growth factors with the proposed development;

6.2. Proposed Site Access Junction Analysis

The proposed facility includes a new direct access junction onto the L3700 road which will provide easy and direct access to the N4 via the L1502 road.

The proposed access road will be a 7m wide single carriageway with 10m corner radii to cater for the HGVs turning movements into the site.

The proposed Facility access junction was modelled in Linsig as a single approaching lane for each arm as shown in Figure 6-1 overleaf, therefore the right-turning traffic (A to C) will block the straight-ahead traffic (A to B).

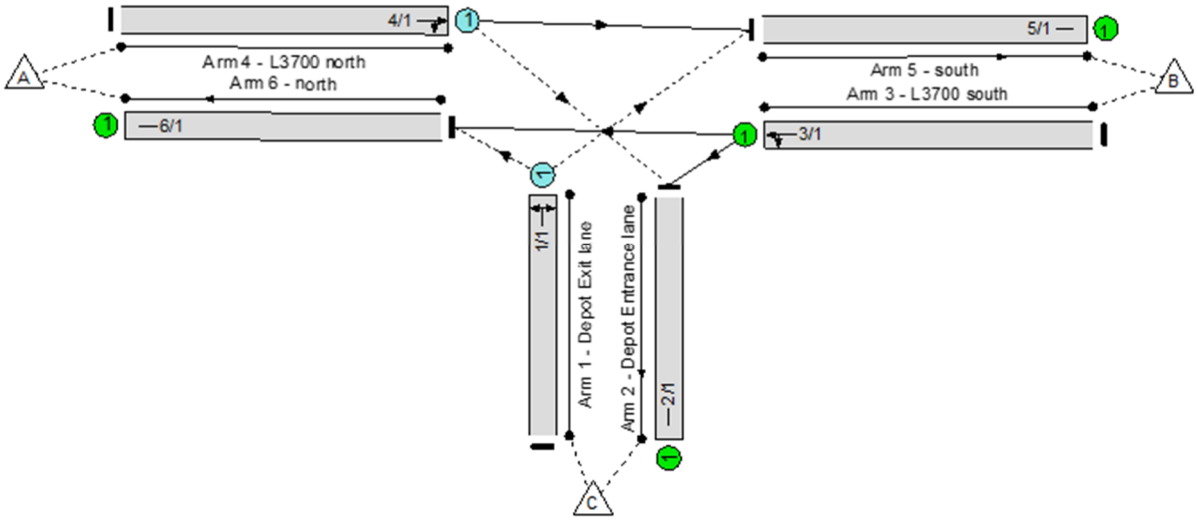


Figure 6-1 Proposed Depot Facility Access Model in Linsig.

The results of the traffic analysis for each analysed scenario are shown in the Table 6-1 below. Full analysis results are shown in the **Appendix B** of the report.

Table 6-1 Proposed Depot Facility Access Analysis Results for Each Traffic Scenarios.

Scenario	Construction Stage DoS (%)	Operational Stage DoS (%)
Opening Year AM	**4.3**	2.4
Opening Year PM	**4.3**	3.1
Design Year AM	-	2.5
Design Year PM	-	3.4

It is possible to observe the junction is operating well below capacity, with very low queuing and delays for the Construction, Opening and Design Year scenarios. The analysis results show the proposed Facility access will have low to no impact on the existing traffic.

6.3. Existing L3700/ L1502 Priority Junction Analysis

The existing priority junction consists of a simple T junction between the L1502 and L3700 local roads. The junction was modelled in Linsig as a single approaching lane for each arm as shown in the Figure 6-2 overleaf, therefore the right turning traffic (B to C) will block the left turning traffic (B to A).

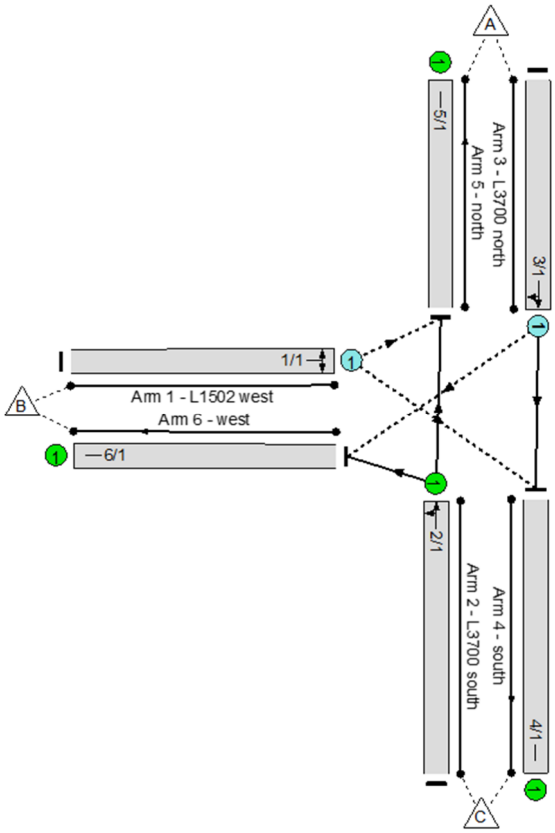


Figure 6-2 Priority junction model in Linsig

The results of the traffic analysis for each analysed scenario are shown in the Table 6-2 overleaf. Full analysis results are shown in the **Appendix B** of the report.

Table 6-2 Priority junction analysis results for each traffic scenarios in relation to L1502 approach

Scenario	Degree of Saturation without Development (%)	Degree of Saturation with Development (%)	DoS Variations (%)
Base Year AM	**1.9**	**-**	**-**
Base Year PM	**3.6**	**-**	**-**
	Construction Stage Analysis		
Opening Year AM	**1.9**	**4.2**	**+2.3**
Opening Year PM	**3.6**	**5.1**	**+1.5**
	Operational Stage Analysis		
Opening Year AM	**1.9**	**3.4**	**+1.5**
Opening Year PM	**3.7**	**4.4**	**+0.7**
Design Year AM	**2.2**	**3.7**	**+1.5**
Design Year PM	**4.1**	**4.8**	**+0.7**

It is possible to observe the junction is operating well below capacity, with very low queuing and delays for the Opening and Design Year scenarios.

The existing priority junction currently has a maximum Degree of Saturation (DoS) of 3.6% at PM peak time. This maximum DoS is anticipated to increase to 4.4% and 4.8% in the Opening and Design Years with general background traffic growth, and up to 5.1% during the Construction stage (Refer to Section 4.3).

The additional traffic generated by the development will increase the DoS by 1.5% to 5.1% in the Construction.

An increase of 1.5% during the daily peak is considered negligible. The junction will continue to operate well within capacity and thus, the proposed development is considered to have an imperceptible traffic impact on the junction. Is it anticipated that the additional traffic will not cause any congestion.

7. PROPOSED LAYOUT

7.1. Site Access Junction Visibility

The junction visibility assessment has been carried out using TII publication (DN-GEO-03060) which sets out the required visibility standards for a single carriageway road as shown in the extracts below.

Table 7-1 X Distances on the minor road for visibility measurements (extracted from TII DN-GEO-03060)

Major road use	Minor road use	Standard	'x' Distance(m)
All roads	All junctions and accesses, Stop control	Desirable Minimum	3.0
All roads	Cycleway	Desirable Minimum	4.0
All roads	Cycleway	Absolute Minimum	2.0
National roads	Simple Junctions, Stop control	Relaxation	2.4*
Regional & Local Roads	All junctions and accesses, Yield control (where there are no relaxations associated with the junction layout)	Desirable Minimum	Max. 9.0
Regional & Local Roads	Accesses, Lightly trafficked	Relaxation	2.0
All roads	All junctions and accesses	Desirable Maximum	9.0

Table 7-2 Y Visibility distances from the minor road (extracted from TII DN-GEO-03060)

Design Speed of major road(km/h)	'y' Distance(m)
42	50
50	70
60	90
70	120
85	160
100	215
120	295

The ATC found that the 85%ile traffic speed was 89 km/h on the L3700. The standard required visibility 'y' distance is therefore 160m based on a 85km/h design speed from a required 'x' distance of 3m.

These visibility requirements were verified using a combination of on-site observations and mapping out the visibility splays on AutoCAD. Extracts from AutoCAD and photos from the on-site observations are provided in the Figures 7-1, 7-2 and 7-3 overleaf.

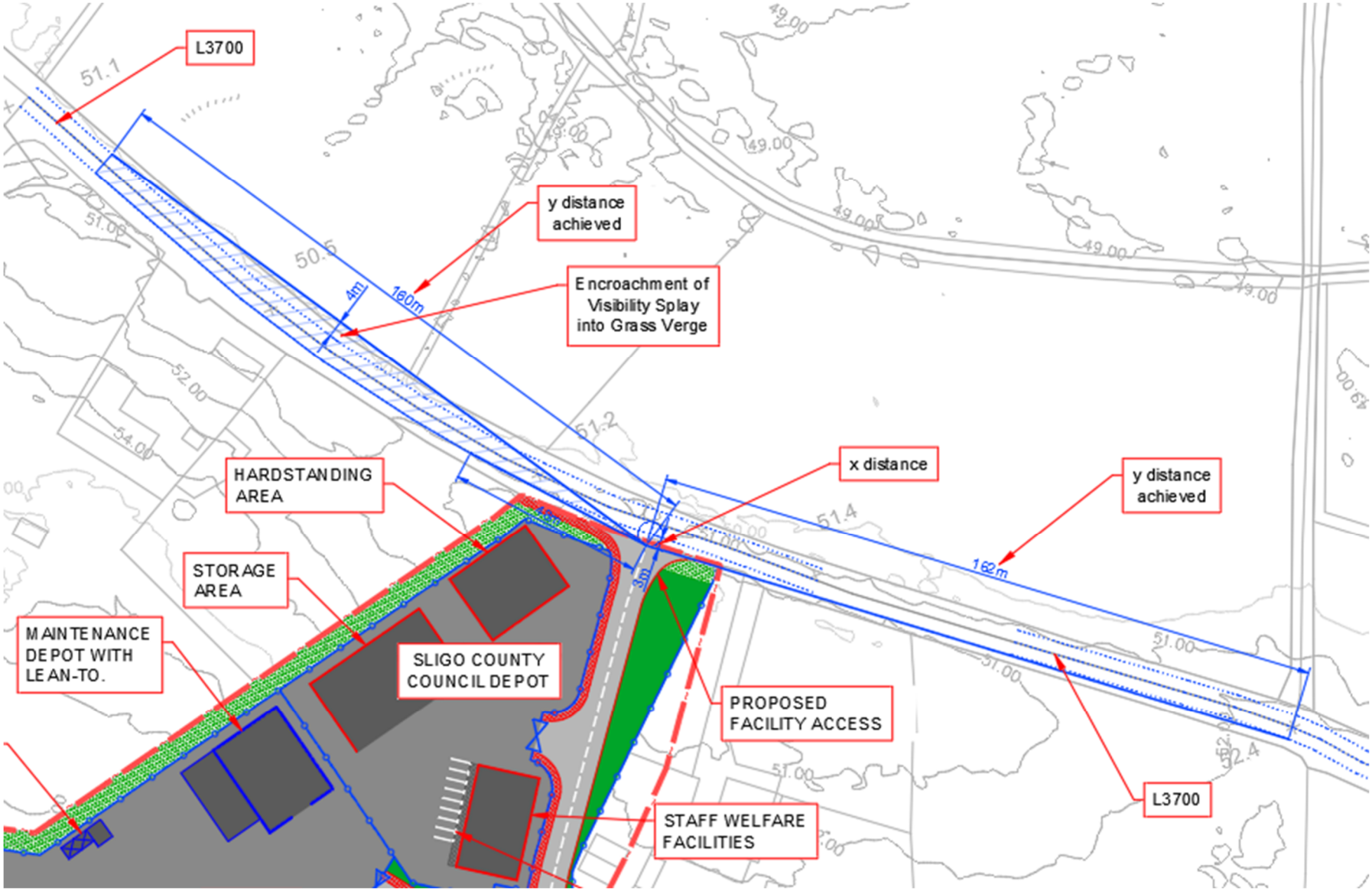


Figure 7-1 Sightlines and Visibility Distances from Proposed Facility Access Road

Figure 7-2 Sightlines and Visibility Distances from Proposed Facility Access Road

Figure 7-3 Sightlines and Visibility Distances from Proposed Facility Access Road

The proposed Facility access road provides a junction visibility to the right of at least 162m, achieving the minimum visibility required.

The visibility to the left is also achieved, ensuring a minimum visibility splay of 160m. Because of the curved alignment of the L3700, the first visibility line was taken as tangential to the edge of the carriageway, the second visibility line was taken as the line along the opposite edge of the carriageway tangential to the existing private property boundary fence.

All approaching traffic included within these two lines will be visible to the left on condition the verge is kept free of obstruction and regularly maintained along the northeast side of the road. The existing property fence line is located tangential to the visibility line along the northeast verge, outside the visibility splay.

7.2. Internal Layout

The proposed development will include the construction of a new internal access road from the L3700 direct access. A 2m wide footpath will be provided along part of the access road, commencing at the Sligo County Council Depot (Local Authority Municipal District Yard) entrance, approximately 50m from the main L3700 access and running adjacent to the rest of the internal access road. This will cater for internal pedestrian circulation.

The proposed car park and internal road layout has been developed in line with the Design Manual for Urban Streets and Roads (DMURS) which provides guidance relating to urban or low speed roads with a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to such road networks and individual roads.

A vehicle tracking analysis using AutoDesk Vehicle Tracking software has been undertaken for the proposed development to ensure that all service and emergency vehicles can access the site. The critical movements for a standard HGV vehicle are shown in Figures 7-4 and 7-5 below. The HGVs and delivery trucks will access through the L3700 and proceed to the weigh bridge area where weighing operations can be completed before proceeding to the main yard.

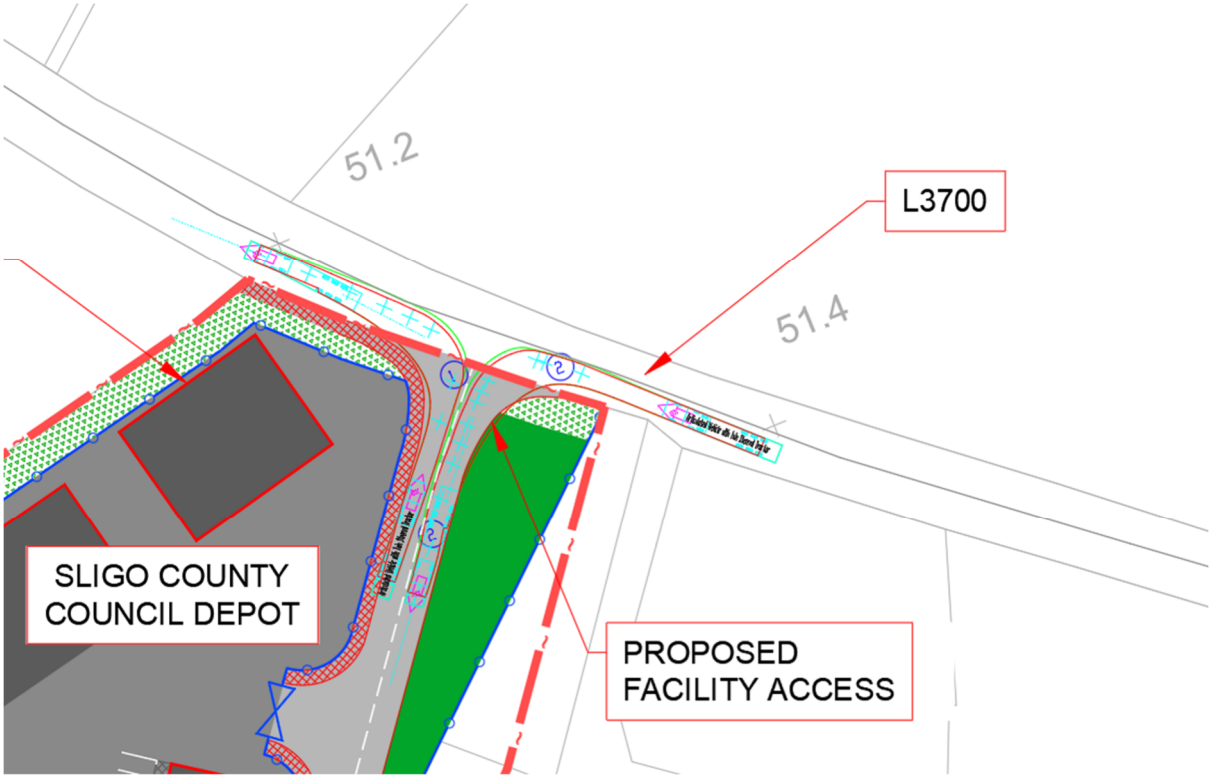


Figure 7-4 Proposed Depot Internal Street Layout

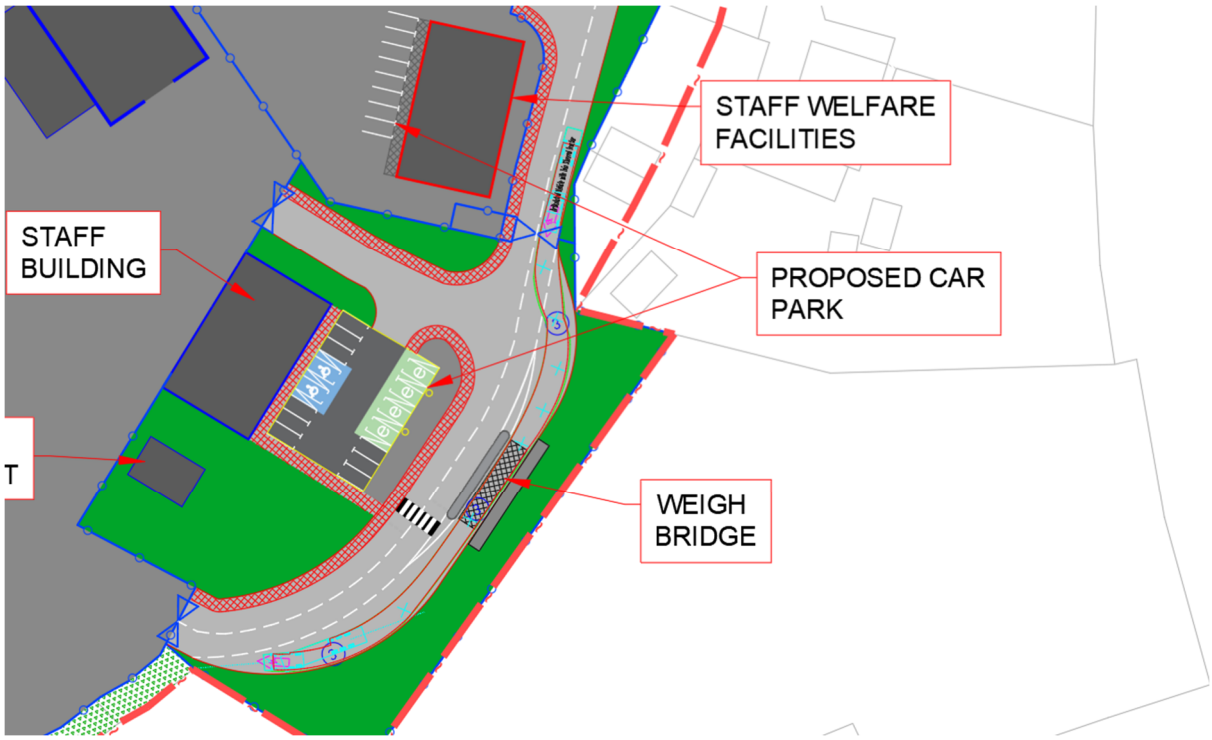


Figure 7-5 Proposed Vehicle Tracking access to weighbridge

An access to the Local Authority Municipal District Yard (Sligo County Council Depot) is located close to the access from the public road. This allows the immediate segregation of traffic to this part of the proposed development, with the main Access Gate for the rest of the development just beyond this area.

A parking area for staff and visitor vehicles, with up to 15 spaces including electric vehicle charging points and 2 wheelchair accessible places, is located close to the main Access Gate, with access for larger maintenance and delivery vehicles located further along the access road. This allows the segregation of staff and visitor vehicles from larger delivery and maintenance vehicles.

Delivery trucks including HGVs will proceed past the car parking area and reach the weigh bridge area, where weighing operations can be completed before proceeding to the main yard.

No dedicated parking bays are defined for articulated goods vehicles associated with the delivery and taking away of salt; however areas are reserved adjacent to the salt barn to allow vehicles to queue while waiting to load or unload.

8. Summary Conclusions

The proposed Strategic Road Maintenance Facility is located in Drumfin, Co. Sligo and it consists of a Strategic Salt Barn facility, Maintenance/Operation Depot and Local Authority Municipal District (MD) Depot.

A direct access to the proposed development will be provided on the L3700. The access will be a simple priority junction.

It is anticipated that the proposed development will generate slight increase in through traffic and turning movements at the L1502 junction, with the highest increase occurring during the salt delivery/filling operations which are anticipated to occur for up to 30 days each year.

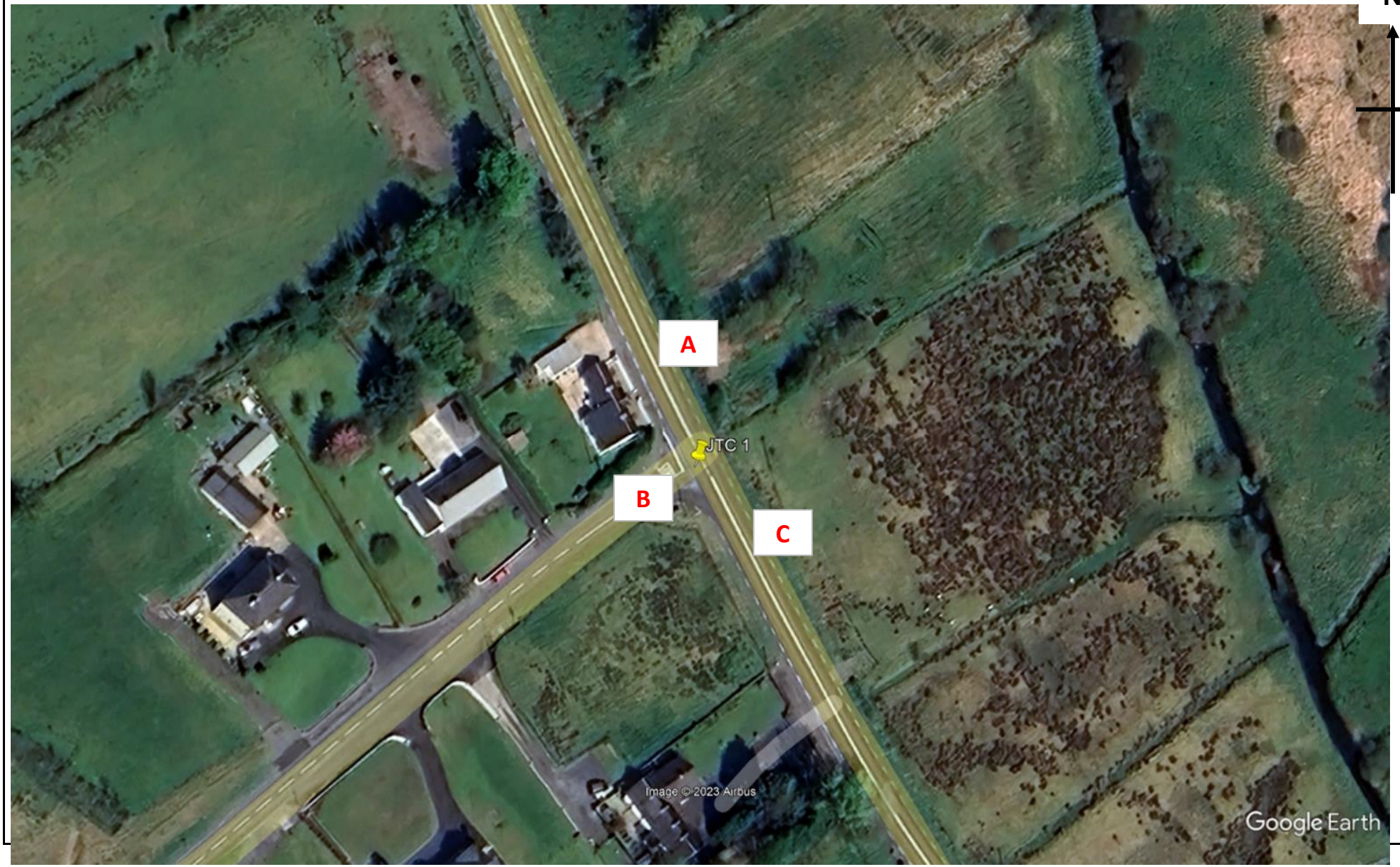
The existing L1502 junction with the L3700 road is currently well below capacity with no queues and delays foreseen for the Opening and Design year scenarios.

The analysis also shows that the L3700 through traffic is not impacted by the proposed development due to the low traffic volumes on this section of that road.

The proposed site access is considered generous and caters for HGV turning movements. It achieves the minimum required sightlines along the left and right approaches of the L3700.

APPENDIX A
TRAFFIC SURVEY DATA

14277 / Drumfin Sligo
June 2023
General Location Plan



Site No. 1
Location L3700 Carrowkeel(N) / L1502 Newpark / L3700 Carrowkeel(S)
Date 22 June 2023

Time	A to C - L3700 Carrowkeel(N) to L3700 Carrowkeel(S)		Veh. Total	A to B - L3700 Carrowkeel(N) to L1502 Newpark		Veh. Total
	LV	HV		LV	HV	
07:00	7	0	7	0	0	0
07:15	3	0	3	2	0	2
07:30	0	1	1	5	0	5
07:45	4	0	4	10	0	10
08:00	4	0	4	4	0	4
08:15	3	1	4	5	1	6
08:30	2	2	4	4	1	5
08:45	3	1	4	3	1	4
09:00	4	1	5	8	0	8
09:15	3	0	3	8	0	8
09:30	7	0	7	4	0	4
09:45	2	0	2	4	1	5
Total	42	6	48	57	4	61
Peak Hour	07:30	to	08:30			
07:30	0	1	1	5	0	5
07:45	4	0	4	10	0	10
08:00	4	0	4	4	0	4
08:15	3	1	4	5	1	6
Total	11	2	13	24	1	25

Site No. 1
Location L3700 Carrowkeel(N) / L1502 Newpark / L3700 Carrowkeel(S)
Date 22 June 2023

Time	B to A - L1502 Newpark to L3700 Carrowkeel(N)		Veh. Total	B to C - L1502 Newpark to L3700 Carrowkeel(S)	
	LV	HV		LV	HV
07:00	0	0	0	0	0
07:15	2	0	2	1	0
07:30	1	2	3	0	0
07:45	4	0	4	2	3
08:00	5	0	5	0	0
08:15	8	0	8	0	1
08:30	3	0	3	0	0
08:45	9	1	10	1	0
09:00	6	0	6	2	0
09:15	4	1	5	2	0
09:30	6	0	6	1	0
09:45	2	0	2	3	0
Total	50	4	54	12	4
Peak Hour	07:30	to	08:30		
07:30	1	2	3	0	0
07:45	4	0	4	2	3
08:00	5	0	5	0	0
08:15	8	0	8	0	1
Total	18	2	20	2	4

Date 22 June 2023

Time	A to C - L3700 Carrowkeel(N) to L3700 Carrowkeel(S)		Veh. Total	A to B - L3700 Carrowkeel(N) to L1502 Newpark		Veh. Total
	LV	HV		LV	HV	
16:00	3	1	4	1	0	1
16:15	5	1	6	2	0	2
16:30	3	0	3	7	1	8
16:45	7	0	7	2	1	3
17:00	8	1	9	1	0	1
17:15	7	4	11	1	1	2
17:30	6	2	8	5	0	5
17:45	8	0	8	3	1	4
18:00	9	0	9	4	0	4
18:15	6	1	7	6	1	7
18:30	3	0	3	2	0	2
18:45	7	0	7	4	0	4
Total	72	10	82	38	5	43
Peak Hour	17:15	to	18:15			
17:15	7	4	11	1	1	2
17:30	6	2	8	5	0	5
17:45	8	0	8	3	1	4
18:00	9	0	9	4	0	4
Total	30	6	36	13	2	15

Date 22 June 2023

Time	B to A - L1502 Newpark to L3700 Carrowkeel(N)		Veh. Total	B to C - L1502 Newpark to L3700 Carrowkeel(S)	
	LV	HV		LV	HV
16:00	3	0	3	5	0
16:15	11	0	11	3	0
16:30	6	0	6	5	0
16:45	7	0	7	7	0
17:00	4	3	7	1	0
17:15	7	0	7	6	0
17:30	7	2	9	4	0
17:45	9	0	9	4	0
18:00	5	1	6	5	0
18:15	6	0	6	3	0
18:30	4	0	4	3	0
18:45	5	0	5	3	0
Total	74	6	80	49	0
Peak Hour	17:15	to	18:15		
17:15	7	0	7	6	0
17:30	7	2	9	4	0
17:45	9	0	9	4	0
18:00	5	1	6	5	0
Total	28	3	31	19	0

Site No. 1
Location L3700 Carrowkeel(N) / L1502 Newpark / L3700 Carrowkeel(S)
Date 22 June 2023

Site No. 1
Location L3700 Carrowkeel(N) / L1502 Newpark / L3700 Carrowkeel(S)
Date 22 June 2023

Veh. Total	Time	C to B - L3700 Carrowkeel(S) to L1502 Newpark		Veh. Total	C to A - L3700 Carrowkeel(S) to L3700 Carrowkeel(N)		Veh. Total	Time	To Arm A - L3700 Carrowkeel(N)		Veh. Total	From Arm A - L370
		LV	HV		LV	HV			LV	HV		LV
0	07:00	4	0	4	2	0	2	07:00	2	0	2	7
1	07:15	2	0	2	4	0	4	07:15	6	0	6	5
0	07:30	2	0	2	12	1	13	07:30	13	3	16	5
5	07:45	2	1	3	15	0	15	07:45	19	0	19	14
0	08:00	1	0	1	6	0	6	08:00	11	0	11	8
1	08:15	1	0	1	3	1	4	08:15	11	1	12	8
0	08:30	4	0	4	8	0	8	08:30	11	0	11	6
1	08:45	3	0	3	5	0	5	08:45	14	1	15	6
2	09:00	3	0	3	4	3	7	09:00	10	3	13	12
2	09:15	2	0	2	3	1	4	09:15	7	2	9	11
1	09:30	3	0	3	3	0	3	09:30	9	0	9	11
3	09:45	2	0	2	2	0	2	09:45	4	0	4	6
16	Total	29	1	30	67	6	73	Total	117	10	127	99
	Peak Hour	07:30	to	08:30				Peak Hour	07:30	to	08:30	
0	07:30	2	0	2	12	1	13	07:30	13	3	16	5
5	07:45	2	1	3	15	0	15	07:45	19	0	19	14
0	08:00	1	0	1	6	0	6	08:00	11	0	11	8
1	08:15	1	0	1	3	1	4	08:15	11	1	12	8
6	Total	6	1	7	36	2	38	Total	54	4	58	35

Date 22 June 2023

Date 22 June 2023

Veh. Total	Time	C to B - L3700 Carrowkeel(S) to L1502 Newpark		Veh. Total	C to A - L3700 Carrowkeel(S) to L3700 Carrowkeel(N)		Veh. Total	Time	To Arm A - L3700 Carrowkeel(N)		Veh. Total	From Arm A - L370
		LV	HV		LV	HV			LV	HV		LV
5	16:00	0	0	0	7	0	7	16:00	10	0	10	4
3	16:15	3	0	3	4	1	5	16:15	15	1	16	7
5	16:30	4	0	4	5	2	7	16:30	11	2	13	10
7	16:45	2	0	2	3	0	3	16:45	10	0	10	9
1	17:00	1	0	1	4	0	4	17:00	8	3	11	9
6	17:15	2	0	2	5	0	5	17:15	12	0	12	8
4	17:30	1	0	1	4	0	4	17:30	11	2	13	11
4	17:45	0	0	0	6	2	8	17:45	15	2	17	11
5	18:00	1	0	1	7	0	7	18:00	12	1	13	13
3	18:15	4	0	4	6	0	6	18:15	12	0	12	12
3	18:30	0	0	0	3	0	3	18:30	7	0	7	5
3	18:45	0	0	0	7	3	10	18:45	12	3	15	11
49	Total	18	0	18	61	8	69	Total	135	14	149	110
	Peak Hour	17:15	to	18:15				Peak Hour	17:15	to	18:15	
6	17:15	2	0	2	5	0	5	17:15	12	0	12	8
4	17:30	1	0	1	4	0	4	17:30	11	2	13	11
4	17:45	0	0	0	6	2	8	17:45	15	2	17	11
5	18:00	1	0	1	7	0	7	18:00	12	1	13	13
19	Total	4	0	4	22	2	24	Total	50	5	55	43

Site No. 1
Location L3700 Carrowkeel(N) / L1502 Newpark / L3700 Carrowkeel(S)
Date 22 June 2023

00 Carrowkeel(N)	Veh. Total	Time	To Arm B - L1502 Newpark		Veh. Total	From Arm B - L1502 Newpark		Veh. Total	Time	To Arm C - L3700 Carrowkeel(S)		Veh. Total
HV			LV	HV		LV	HV			LV	HV	
0	7	07:00	4	0	4	0	0	0	07:00	7	0	7
0	5	07:15	4	0	4	3	0	3	07:15	4	0	4
1	6	07:30	7	0	7	1	2	3	07:30	0	1	1
0	14	07:45	12	1	13	6	3	9	07:45	6	3	9
0	8	08:00	5	0	5	5	0	5	08:00	4	0	4
2	10	08:15	6	1	7	8	1	9	08:15	3	2	5
3	9	08:30	8	1	9	3	0	3	08:30	2	2	4
2	8	08:45	6	1	7	10	1	11	08:45	4	1	5
1	13	09:00	11	0	11	8	0	8	09:00	6	1	7
0	11	09:15	10	0	10	6	1	7	09:15	5	0	5
0	11	09:30	7	0	7	7	0	7	09:30	8	0	8
1	7	09:45	6	1	7	5	0	5	09:45	5	0	5
10	109	Total	86	5	91	62	8	70	Total	54	10	64
		Peak Hour	07:30	to	08:30				Peak Hour	07:30	to	08:30
1	6	07:30	7	0	7	1	2	3	07:30	0	1	1
0	14	07:45	12	1	13	6	3	9	07:45	6	3	9
0	8	08:00	5	0	5	5	0	5	08:00	4	0	4
2	10	08:15	6	1	7	8	1	9	08:15	3	2	5
3	38	Total	30	2	32	20	6	26	Total	13	6	19

Date 22 June 2023

00 Carrowkeel(N)	Veh. Total	Time	To Arm B - L1502 Newpark		Veh. Total	From Arm B - L1502 Newpark		Veh. Total	Time	To Arm C - L3700 Carrowkeel(S)		Veh. Total
HV			LV	HV		LV	HV			LV	HV	
1	5	16:00	1	0	1	8	0	8	16:00	8	1	9
1	8	16:15	5	0	5	14	0	14	16:15	8	1	9
1	11	16:30	11	1	12	11	0	11	16:30	8	0	8
1	10	16:45	4	1	5	14	0	14	16:45	14	0	14
1	10	17:00	2	0	2	5	3	8	17:00	9	1	10
5	13	17:15	3	1	4	13	0	13	17:15	13	4	17
2	13	17:30	6	0	6	11	2	13	17:30	10	2	12
1	12	17:45	3	1	4	13	0	13	17:45	12	0	12
0	13	18:00	5	0	5	10	1	11	18:00	14	0	14
2	14	18:15	10	1	11	9	0	9	18:15	9	1	10
0	5	18:30	2	0	2	7	0	7	18:30	6	0	6
0	11	18:45	4	0	4	8	0	8	18:45	10	0	10
15	125	Total	56	5	61	123	6	129	Total	121	10	131
		Peak Hour	17:15	to	18:15				Peak Hour	17:15	to	18:15
5	13	17:15	3	1	4	13	0	13	17:15	13	4	17
2	13	17:30	6	0	6	11	2	13	17:30	10	2	12
1	12	17:45	3	1	4	13	0	13	17:45	12	0	12
0	13	18:00	5	0	5	10	1	11	18:00	14	0	14
8	51	Total	17	2	19	47	3	50	Total	49	6	55

eel(S)

From Arm C - L3700 Carrowkeel(S)		Veh. Total
LV	HV	
6	0	6
6	0	6
14	1	15
17	1	18
7	0	7
4	1	5
12	0	12
8	0	8
7	3	10
5	1	6
6	0	6
4	0	4
96	7	103

14	1	15
17	1	18
7	0	7
4	1	5
42	3	45

From Arm C - L3700 Carrowkeel(S)		Veh. Total
LV	HV	
7	0	7
7	1	8
9	2	11
5	0	5
5	0	5
7	0	7
5	0	5
6	2	8
8	0	8
10	0	10
3	0	3
7	3	10
79	8	87

7	0	7
5	0	5
6	2	8
8	0	8
26	2	28


N
ATC 1
Image © 2023 Airbus
Google Earth

Site No.	Location.	Direction.	Speed Limit - PSL (km/h)	Start Date.	End Date.	Total Vehicles.	5 Day Ave.	7 Day Ave.	No. > Speed Limit.	%. > Speed Limit.	No. > Speed Limit1 (+5km/h).	%. > Speed Limit1 (+5km/h).	No. > Speed Limit1 (+10km/h).	%. > Speed Limit1 (+10km/h).	Mean Speed	85%ile Speed
1	L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark	Northbound	100	Thursday 22 June 2023		542	542	542	20	3.7	9	1.7	3	0.6	76.3	89.7
		Southbound	100	Thursday 22 June 2023		551	551	551	24	4.4	14	2.5	8	1.5	74.7	88.7
		Northbound / Southbound	100	Thursday 22 June 2023		1093	1093	1093	44	4.0	23	2.1	11	1.0	75.5	89.4

14277 / Drumfin Sligo 1
June 2023 L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark
Automatic Traffic Count Northbound

Thursday 22 June 2023

Time	Total	Classification 1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	]PSL 100	]PSL% 100	]SL1 105 +5kph	]SL1% 105 +5kph	]SL2 110 +10kph	]SL2% 110 +10kph	Mean	Vpp 85
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	72.3	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50.0	1	50.0	0	0.0	91.2	-
0600	10	1	9	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	86.4	-
0700	**46**	**1**	**40**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**6.5**	**2**	**4.3**	**1**	**2.2**	**82.2**	**95.4**
0800	34	2	28	0	4	0	0	0	0	0	0	0	0	3	8.8	1	2.9	0	0.0	80	95.4
0900	26	0	19	0	5	1	0	0	0	0	1	0	0	2	7.7	1	3.8	1	3.8	77.6	87.3
1000	34	0	26	1	6	0	0	1	0	0	0	0	0	1	2.9	0	0.0	0	0.0	79.1	86.9
1100	39	0	28	1	7	2	0	0	0	1	0	0	0	1	2.6	1	2.6	0	0.0	73.8	87.7
1200	45	1	36	2	3	0	0	2	1	0	0	0	0	0	0.0	0	0.0	0	0.0	75.9	90
1300	38	0	34	1	3	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	74.8	85.6
1400	31	0	26	1	3	1	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	75.7	92.2
1500	**66**	**1**	**54**	**4**	**3**	**0**	**1**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**68.9**	**79.6**
1600	31	0	23	1	6	0	0	0	0	1	0	0	0	0	0.0	0	0.0	0	0.0	74.4	86.3
1700	26	1	21	0	1	1	1	1	0	0	0	0	0	1	3.8	1	3.8	0	0.0	78.7	90.4
1800	32	0	27	3	2	0	0	0	0	0	0	0	0	6	18.8	1	3.1	0	0.0	81.2	101.4
1900	30	1	25	1	3	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	71.8	86.4
2000	24	0	23	1	0	0	0	0	0	0	0	0	0	1	4.2	1	4.2	1	4.2	79.7	90.6
2100	12	0	11	0	0	1	0	0	0	0	0	0	0	1	8.3	0	0.0	0	0.0	72.7	93.8
2200	11	0	10	0	0	1	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	72.1	87.3
2300	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	72.6	-
07-19	**448**	**6**	**362**	**14**	**48**	**5**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**17**	**3.8**	**7**	**1.6**	**2**	**0.4**	**76.3**	**89.7**
06-22	**524**	**8**	**430**	**16**	**51**	**6**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**19**	**3.6**	**8**	**1.5**	**3**	**0.6**	**76.3**	**89.7**
06-00	**539**	**8**	**444**	**16**	**51**	**7**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**19**	**3.5**	**8**	**1.5**	**3**	**0.6**	**76.2**	**89.7**
00-00	**542**	**8**	**447**	**16**	**51**	**7**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**20**	**3.7**	**9**	**1.7**	**3**	**0.6**	**76.3**	**89.7**

Thursday 22 June 2023

Time	Speed Bins (km/h) 0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
0000	0	0	0	0	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	0	0	0	0	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	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	0	0	0
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
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
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	2	2	2	0	0	0	0	0	0	0	0
0700	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**5**	**6**	**9**	**10**	**4**	**4**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
0800	0	0	0	0	0	2	0	0	0	0	0	1	0	3	2	6	7	7	1	2	2	1	0	0	0	0	0	0
0900	0	0	0	0	0	0	0	0	0	0	0	1	3	4	2	7	3	3	1	0	1	0	1	0	0	0	0	0
1000	0	0	0	0	0	0	0	0	0	0	0	0	2	5	4	5	6	11	0	0	1	0	0	0	0	0	0	0
1100	0	0	0	0	0	1	2	0	1	0	0	0	2	6	6	8	4	5	2	1	0	1	0	0	0	0	0	0
1200	0	0	0	0	0	0	0	1	0	0	1	1	3	6	10	6	7	4	3	3	0	0	0	0	0	0	0	0
1300	0	0	0	0	0	0	0	0	0	2	0	0	3	8	10	4	5	2	1	3	0	0	0	0	0	0	0	0
1400	0	0	0	0	0	0	0	0	0	2	2	0	5	4	3	0	3	4	7	1	0	0	0	0	0	0	0	0
1500	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**8**	**3**	**2**	**5**	**13**	**11**	**13**	**2**	**3**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1600	0	0	0	0	0	0	0	0	0	2	1	2	0	5	5	7	4	3	1	1	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0	0	0	0	2	6	5	1	3	3	4	1	0	1	0	0	0	0	0	0
1800	0	0	0	0	0	0	0	2	1	0	0	0	0	2	1	8	5	4	3	0	5	1	0	0	0	0	0	0
1900	0	0	0	0	0	0	1	1	1	1	0	1	3	2	4	7	3	4	1	1	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	1	0	1	3	1	1	6	2	6	1	1	0	0	0	0	0	1	0	0
2100	0	0	0	0	0	0	1	0	0	1	0	1	1	1	0	2	1	2	1	0	1	0	0	0	0	0	0	0
2200	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	0	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**3**	**5**	**14**	**9**	**8**	**25**	**62**	**64**	**71**	**58**	**59**	**29**	**18**	**10**	**5**	**1**	**1**	**0**	**0**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**0**	**3**	**5**	**4**	**6**	**17**	**9**	**11**	**32**	**67**	**69**	**88**	**65**	**73**	**34**	**22**	**11**	**5**	**1**	**1**	**0**	**1**	**0**	**0**
06-00	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**4**	**6**	**18**	**9**	**11**	**32**	**70**	**69**	**92**	**67**	**77**	**34**	**22**	**11**	**5**	**1**	**1**	**0**	**1**	**0**	**0**
00-00	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**4**	**6**	**18**	**9**	**11**	**32**	**70**	**70**	**93**	**67**	**77**	**34**	**22**	**11**	**6**	**1**	**1**	**0**	**1**	**0**	**0**

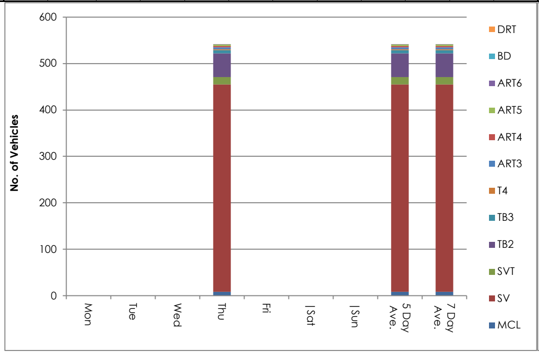
Virtual Week (1)

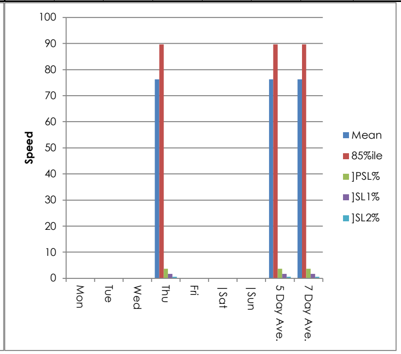
Time	Total	Classification 1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	]PSL 100	]PSL% 100	]SL1 105 +5kph	]SL1% 105 +5kph	]SL2 110 +10kph	]SL2% 110 +10kph	Mean	Vpp 85
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Thu	542	8	447	16	51	7	2	4	3	3	1	0	0	20	3.7	9	1.7	3	0.6	76.3	89.7
Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
5 Day Ave.	**542**	**8**	**447**	**16**	**51**	**7**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**20**	**3.7**	**9**	**1.7**	**3**	**0.6**	**76.3**	**89.7**
7 Day Ave.	**542**	**8**	**447**	**16**	**51**	**7**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**20**	**3.7**	**9**	**1.7**	**3**	**0.6**	**76.3**	**89.7**
--	**542**	**8**	**447**	**16**	**51**	**7**	**2**	**4**	**3**	**3**	**1**	**0**	**0**	**20**	**3.7**	**9**	**1.7**	**3**	**0.6**	**76.3**	**89.7**

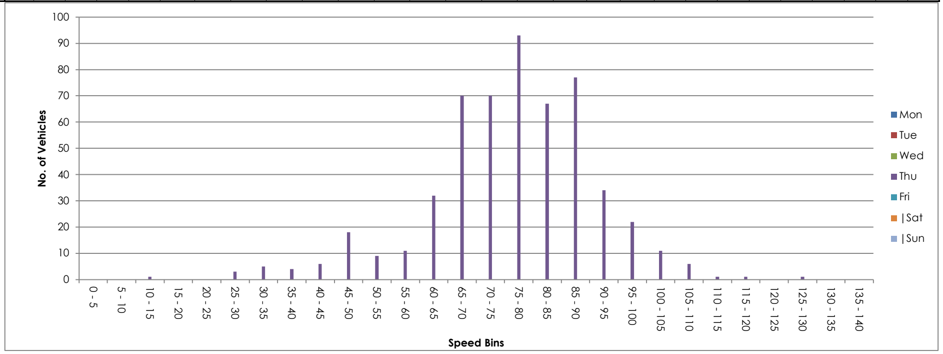
Virtual Week (1)

Time	Speed Bins (km/h) 0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	0	0	1	0	0	3	5	4	6	18	9	11	32	70	70	93	67	77	34	22	11	6	1	1	0	1	0	0
Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**4**	**6**	**18**	**9**	**11**	**32**	**70**	**70**	**93**	**67**	**77**	**34**	**22**	**11**	**6**	**1**	**1**	**0**	**1**	**0**	**0**
7 Day Ave.	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**4**	**6**	**18**	**9**	**11**	**32**	**70**	**70**	**93**	**67**	**77**	**34**	**22**	**11**	**6**	**1**	**1**	**0**	**1**	**0**	**0**
--	**0**	**0**	**1**	**0**	**0**	**3**	**5**	**4**	**6**	**18**	**9**	**11**	**32**	**70**	**70**	**93**	**67**	**77**	**34**	**22**	**11**	**6**	**1**	**1**	**0**	**1**	**0**	**0**

Summary Graphs







Site 1
Location L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark
Direction Southbound

1
L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark
Southbound

14277 / Drumfin Sligo
June 2023
Automatic Traffic Count

Thursday 22 June 2023

Time	Total	Classification 1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	]PSL 100	]PSL% 100	]SL1 105 +5kph	]SL1% 105 +5kph	]SL2 110 +10kph	]SL2% 110 +10kph	Mean	Vpp 85
0000	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	64.3	-
0100	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	83.4	-
0200	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	62	-
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	61.8	-
0500	2	0	2	0	0	0	0	0	0	0	0	0	0	1	50.0	0	0.0	0	0.0	96.1	-
0600	4	0	2	0	0	0	2	0	0	0	0	0	0	1	25.0	1	25.0	0	0.0	69.2	-
0700	21	1	14	3	2	0	0	0	0	0	1	0	0	1	4.8	0	0.0	0	0.0	70.7	91.8
0800	18	1	11	1	3	2	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	70.6	85.7
0900	25	0	21	1	2	0	0	0	0	0	1	0	0	1	4.0	0	0.0	0	0.0	71	80.8
1000	34	0	26	0	5	1	0	0	1	0	1	0	0	0	0.0	0	0.0	0	0.0	70.4	87.6
1100	**46**	**1**	**35**	**2**	**7**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4.3**	**0**	**0.0**	**0**	**0.0**	**75**	**85.9**
1200	**62**	**0**	**55**	**0**	**5**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**6.5**	**2**	**3.2**	**0**	**0.0**	**78.4**	**93.9**
1300	31	1	25	0	4	0	0	1	0	0	0	0	0	1	3.2	1	3.2	1	3.2	75.6	86.1
1400	43	0	38	3	2	0	0	0	0	0	0	0	0	1	2.3	1	2.3	0	0.0	76.3	92.7
1500	51	2	42	1	4	0	0	0	2	0	0	0	0	1	2.0	1	2.0	1	2.0	74.9	90
1600	44	2	40	0	2	0	0	0	0	0	0	0	0	2	4.5	1	2.3	1	2.3	75.1	90.2
1700	51	1	41	4	5	0	0	0	0	0	0	0	0	2	3.9	1	2.0	0	0.0	76.3	88.6
1800	42	1	38	1	2	0	0	0	0	0	0	0	0	3	7.1	3	7.1	2	4.8	74.5	87.5
1900	23	0	20	0	2	0	0	1	0	0	0	0	0	0	0.0	0	0.0	0	0.0	74.1	87
2000	14	0	13	0	1	0	0	0	0	0	0	0	0	1	7.1	1	7.1	1	7.1	78.6	95.7
2100	15	0	15	0	0	0	0	0	0	0	0	0	0	2	13.3	1	6.7	1	6.7	77.5	102.3
2200	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	64.9	-
2300	10	0	9	0	0	0	0	1	0	0	0	0	0	1	10.0	1	10.0	1	10.0	70.3	-
07-19	**468**	**10**	**386**	**16**	**43**	**4**	**1**	**2**	**3**	**0**	**3**	**0**	**0**	**18**	**3.8**	**10**	**2.1**	**5**	**1.1**	**74.8**	**88.4**
06-22	**524**	**10**	**436**	**16**	**46**	**4**	**3**	**3**	**3**	**0**	**3**	**0**	**0**	**22**	**4.2**	**13**	**2.5**	**7**	**1.3**	**74.9**	**88.7**
06-00	**540**	**10**	**451**	**16**	**46**	**4**	**3**	**4**	**3**	**0**	**3**	**0**	**0**	**23**	**4.3**	**14**	**2.6**	**8**	**1.5**	**74.7**	**88.5**
00-00	**551**	**10**	**461**	**16**	**47**	**4**	**3**	**4**	**3**	**0**	**3**	**0**	**0**	**24**	**4.4**	**14**	**2.5**	**8**	**1.5**	**74.7**	**88.7**

Thursday 22 June 2023

Time	Speed Bins (km/h) 0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
0000	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
0200	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
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
0400	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
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
0600	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
0700	0	0	0	0	0	0	0	0	1	3	2	1	1	0	4	1	4	1	1	1	1	0	0	0	0	0	0	0
0800	0	0	0	0	1	0	0	0	1	0	0	1	3	0	3	3	2	3	1	0	0	0	0	0	0	0	0	0
0900	0	0	0	0	0	0	0	0	0	0	0	4	3	5	7	2	2	1	0	0	1	0	0	0	0	0	0	0
1000	0	0	0	0	0	1	0	0	0	0	3	4	6	1	6	4	2	4	2	1	0	0	0	0	0	0	0	0
1100	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**3**	**6**	**10**	**12**	**3**	**3**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1200	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**5**	**12**	**8**	**6**	**12**	**5**	**3**	**4**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
1300	0	0	0	0	0	0	0	0	0	0	0	1	4	6	6	6	3	2	1	1	0	0	0	1	0	0	0	0
1400	0	0	0	0	0	0	0	0	0	3	1	4	2	3	5	6	5	5	7	1	0	1	0	0	0	0	0	0
1500	0	0	0	0	0	1	0	0	0	2	0	1	10	5	7	7	6	5	3	3	0	0	0	0	0	1	0	0
1600	0	0	0	0	1	0	0	0	0	0	1	4	4	8	3	5	9	3	2	2	1	0	0	0	1	0	0	0
1700	0	0	0	0	0	0	1	1	2	1	0	0	1	8	5	9	9	8	2	2	1	1	0	0	0	0	0	0
1800	0	0	0	0	0	2	0	1	0	1	0	3	3	7	2	6	7	5	1	1	0	1	1	0	0	1	0	0
1900	0	0	0	0	0	0	0	0	0	0	1	3	3	2	3	1	5	4	1	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	1	1	2	0	2	3	0	2	1	1	0	0	0	0	1	0	0	0
2100	0	0	0	0	1	0	1	0	0	0	0	0	0	3	1	2	1	1	2	1	1	0	0	0	1	0	0	0
2200	0	0	0	0	0	0	0	0	1	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0
2300	0	0	0	0	0	0	0	0	0	0	1	0	4	1	2	0	1	0	0	0	0	0	1	0	0	0	0	0
07-19	**0**	**0**	**0**	**0**	**3**	**4**	**1**	**2**	**4**	**11**	**9**	**26**	**45**	**61**	**66**	**67**	**64**	**45**	**23**	**19**	**8**	**5**	**1**	**1**	**1**	**2**	**0**	**0**
06-22	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**5**	**11**	**11**	**31**	**50**	**66**	**73**	**73**	**70**	**52**	**27**	**21**	**9**	**6**	**1**	**1**	**3**	**2**	**0**	**0**
06-00	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**6**	**11**	**12**	**32**	**54**	**68**	**77**	**74**	**71**	**52**	**27**	**21**	**9**	**6**	**2**	**1**	**3**	**2**	**0**	**0**
00-00	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**6**	**12**	**12**	**33**	**56**	**68**	**79**	**75**	**72**	**52**	**28**	**22**	**10**	**6**	**2**	**1**	**3**	**2**	**0**	**0**

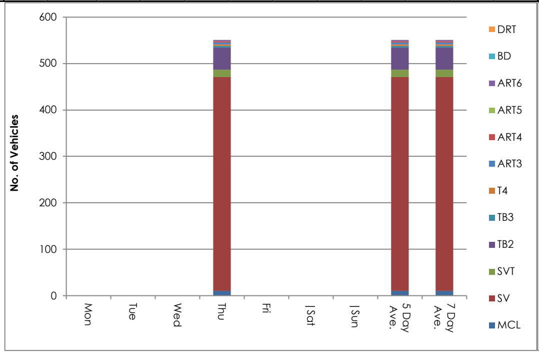
Virtual Week (1)

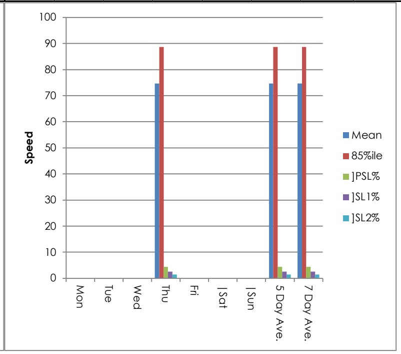
Time	Total	Classification 1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	]PSL 100	]PSL% 100	]SL1 105 +5kph	]SL1% 105 +5kph	]SL2 110 +10kph	]SL2% 110 +10kph	Mean	Vpp 85
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
Thu	551	10	461	16	47	4	3	4	3	0	3	0	0	24	4.4	14	2.5	8	1.5	74.7	88.7
Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-
5 Day Ave.	**551**	**10**	**461**	**16**	**47**	**4**	**3**	**4**	**3**	**0**	**3**	**0**	**0**	**24**	**4.4**	**14**	**2.5**	**8**	**1.5**	**74.7**	**88.7**
7 Day Ave.	**551**	**10**	**461**	**16**	**47**	**4**	**3**	**4**	**3**	**0**	**3**	**0**	**0**	**24**	**4.4**	**14**	**2.5**	**8**	**1.5**	**74.7**	**88.7**
--	**551**	**10**	**461**	**16**	**47**	**4**	**3**	**4**	**3**	**0**	**3**	**0**	**0**	**24**	**4.4**	**14**	**2.5**	**8**	**1.5**	**74.7**	**88.7**

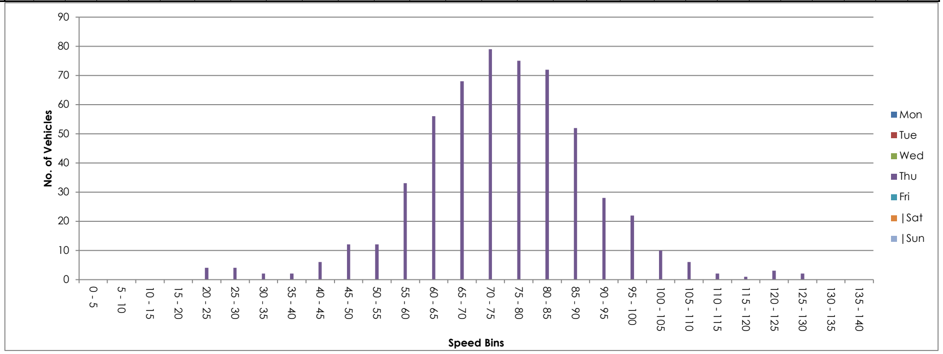
Virtual Week (1)

Time	Speed Bins (km/h) 0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	0	0	0	0	4	4	2	2	6	12	12	33	56	68	79	75	72	52	28	22	10	6	2	1	3	2	0	0
Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
|Sat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
|Sun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**6**	**12**	**12**	**33**	**56**	**68**	**79**	**75**	**72**	**52**	**28**	**22**	**10**	**6**	**2**	**1**	**3**	**2**	**0**	**0**
7 Day Ave.	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**6**	**12**	**12**	**33**	**56**	**68**	**79**	**75**	**72**	**52**	**28**	**22**	**10**	**6**	**2**	**1**	**3**	**2**	**0**	**0**
--	**0**	**0**	**0**	**0**	**4**	**4**	**2**	**2**	**6**	**12**	**12**	**33**	**56**	**68**	**79**	**75**	**72**	**52**	**28**	**22**	**10**	**6**	**2**	**1**	**3**	**2**	**0**	**0**

Summary Graphs







Site 1
Location L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark
Direction Northbound / Southbound

14277 / Drumfin Sligo 1
June 2023 L3700 Carrowkeel, 180 metres South of junction with L1502 Newpark
Automatic Traffic Count Northbound / Southbound

14277 / Drumfin Sligo
June 2023
Automatic Traffic Count

Thursday 22 June 2023

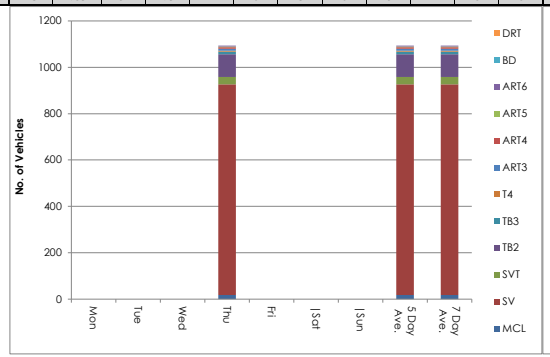
Time	Total	Classification												JPSL	JPSL%	JSL1	JSL1%	JSL2	JSL2%	Mean	Vpp	Speed Bins (km/h)																																					
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	100	100	105 +5kph	105 +5kph	110 +10kph	110 +10kph		85	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
0000	4	0	3	0	1	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	64.3	-	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0100	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	83.4	-	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0200	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	67.1	-	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	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	61.8	-	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	0	0
0500	4	0	4	0	0	0	0	0	0	0	0	0	0	2	50.0	1	25.0	0	0.0	93.7	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0
0600	14	1	11	0	0	0	2	0	0	0	0	0	0	1	7.1	1	7.1	0	0.0	81.5	99.8	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	2	1	2	2	2	0	1	0	0	0	0	0	0	0
0700	67	2	54	3	7	0	0	0	0	0	1	0	0	4	6.0	2	3.0	1	1.5	78.6	94.2	0	0	0	0	0	0	0	0	0	3	3	4	2	1	0	9	7	13	11	5	5	2	1	0	1	0	0	0	0
0800	52	3	39	1	7	2	0	0	0	0	0	0	0	3	5.8	1	1.9	0	0.0	76.7	89.7	0	0	0	0	1	2	0	0	1	0	0	2	3	3	5	9	9	10	2	2	2	1	0	0	0	0	0	0	0
0900	51	0	40	1	7	1	0	0	0	0	2	0	0	3	5.9	1	2.0	1	2.0	74.4	85.2	0	0	0	0	0	0	0	0	0	0	0	5	6	9	9	9	5	4	1	0	2	0	1	0	0	0	0	0	0
1000	68	0	52	1	11	1	0	1	1	0	1	0	0	1	1.5	0	0.0	0	0.0	74.8	86.9	0	0	0	0	0	1	0	0	0	0	3	4	8	6	10	9	8	15	2	1	1	0	0	0	0	0	0	0	0
1100	**85**	**1**	**63**	**3**	**14**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**3.5**	**1**	**1.2**	**0**	**0.0**	**74.5**	**87.6**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**1**	**1**	**5**	**12**	**16**	**20**	**7**	**8**	**2**	**4**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1200	107	1	91	2	8	1	0	3	1	0	0	0	0	4	3.7	2	1.9	0	0.0	77.3	91	0	0	0	0	0	0	0	1	0	0	2	3	8	18	18	12	19	9	6	7	2	2	0	0	0	0	0	0	0
1300	69	1	59	1	7	0	0	1	0	0	0	0	0	1	1.4	1	1.4	1	1.4	75.1	85.5	0	0	0	0	0	0	0	0	0	2	0	1	7	14	16	10	8	4	2	4	0	0	0	1	0	0	0	0	0
1400	74	0	64	4	5	1	0	0	0	0	0	0	0	1	1.4	1	1.4	0	0.0	76.1	92.3	0	0	0	0	0	0	0	0	0	5	3	4	7	7	8	6	8	9	14	2	0	1	0	0	0	0	0	0	0
1500	**117**	**3**	**96**	**5**	**7**	**0**	**1**	**0**	**4**	**1**	**0**	**0**	**0**	**1**	**0.9**	**1**	**0.9**	**1**	**0.9**	**71.6**	**85.8**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**10**	**3**	**3**	**15**	**18**	**18**	**20**	**8**	**8**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
1600	75	2	63	1	8	0	0	0	0	1	0	0	0	2	2.7	1	1.3	1	1.3	74.8	86.4	0	0	0	0	0	1	0	0	0	0	2	2	6	4	13	8	12	13	6	3	3	1	0	0	0	1	0	0	0
1700	77	2	62	4	6	1	1	1	0	0	0	0	0	3	3.9	2	2.6	0	0.0	77.1	90.1	0	0	0	0	0	0	0	1	1	2	1	0	0	3	14	10	10	12	11	6	3	1	2	0	0	0	0	0	0
1800	74	1	65	4	4	0	0	0	0	0	0	0	0	9	12.2	4	5.4	2	2.7	77.4	92.8	0	0	0	0	0	2	0	3	1	1	0	3	3	9	3	14	12	9	4	1	5	2	1	0	0	1	0	0	0
1900	53	1	45	1	5	0	0	1	0	0	0	0	0	0	0.0	0	0.0	0	0.0	72.8	86.6	0	0	0	0	0	0	0	1	1	1	1	1	4	6	4	7	8	8	8	2	1	0	0	0	0	0	0	0	0
2000	38	0	36	1	1	0	0	0	0	0	0	0	0	2	5.3	2	5.3	2	5.3	79.3	93.4	0	0	0	0	0	0	0	0	0	1	1	2	5	1	3	9	2	8	2	2	0	0	0	0	1	1	0	0	0
2100	27	0	26	0	0	1	0	0	0	0	0	0	0	3	11.1	1	3.7	1	3.7	75.4	98.5	0	0	0	0	1	0	2	0	0	1	0	1	1	4	1	4	2	3	3	1	2	0	0	0	1	0	0	0	0
2200	17	0	16	0	0	1	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	69.6	86	0	0	1	0	0	0	0	0	0	1	0	0	1	0	4	2	4	0	4	0	0	0	0	0	0	0	0	0	0
2300	14	0	13	0	0	0	0	1	0	0	0	0	0	1	7.1	1	7.1	1	7.1	70.9	81.7	0	0	0	0	0	0	0	0	0	1	1	0	4	1	2	1	3	0	0	0	0	0	1	0	0	0	0	0	0
07-19	**916**	**16**	**748**	**30**	**91**	**9**	**3**	**6**	**6**	**3**	**4**	**0**	**0**	**35**	**3.8**	**17**	**1.9**	**7**	**0.8**	**75.5**	**89.1**	**0**	**0**	**0**	**0**	**3**	**7**	**4**	**5**	**9**	**25**	**18**	**34**	**70**	**123**	**130**	**138**	**122**	**104**	**52**	**37**	**18**	**10**	**2**	**2**	**1**	**2**	**0**	**0**
06-22	**1048**	**18**	**866**	**32**	**97**	**10**	**5**	**7**	**6**	**3**	**4**	**0**	**0**	**41**	**3.9**	**21**	**2.0**	**10**	**1.0**	**75.6**	**89.4**	**0**	**0**	**0**	**0**	**4**	**7**	**7**	**6**	**11**	**28**	**20**	**42**	**82**	**133**	**142**	**161**	**135**	**125**	**61**	**43**	**20**	**11**	**2**	**2**	**3**	**3**	**0**	**0**
06-00	**1079**	**18**	**895**	**32**	**97**	**11**	**5**	**8**	**6**	**3**	**4**	**0**	**0**	**42**	**3.9**	**22**	**2.0**	**11**	**1.0**	**75.5**	**89.2**	**0**	**0**	**1**	**0**	**4**	**7**	**7**	**6**	**12**	**29**	**21**	**43**	**86**	**138**	**146**	**166**	**138**	**129**	**61**	**43**	**20**	**11**	**3**	**2**	**3**	**3**	**0**	**0**
00-00	**1093**	**18**	**908**	**32**	**98**	**11**	**5**	**8**	**6**	**3**	**4**	**0**	**0**	**44**	**4.0**	**23**	**2.1**	**11**	**1.0**	**75.5**	**89.4**	**0**	**0**	**1**	**0**	**4**	**7**	**7**	**6**	**12**	**30**	**21**	**44**	**88**	**138**	**149**	**168**	**139**	**129**	**62**	**44**	**21**	**12**	**3**	**2**	**3**	**3**	**0**	**0**

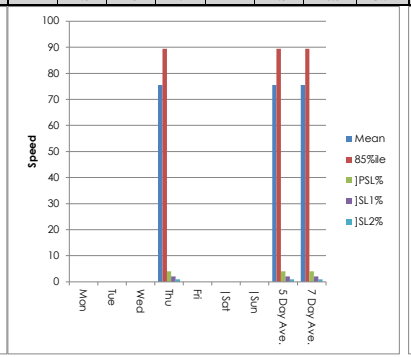
Virtual Week (1)

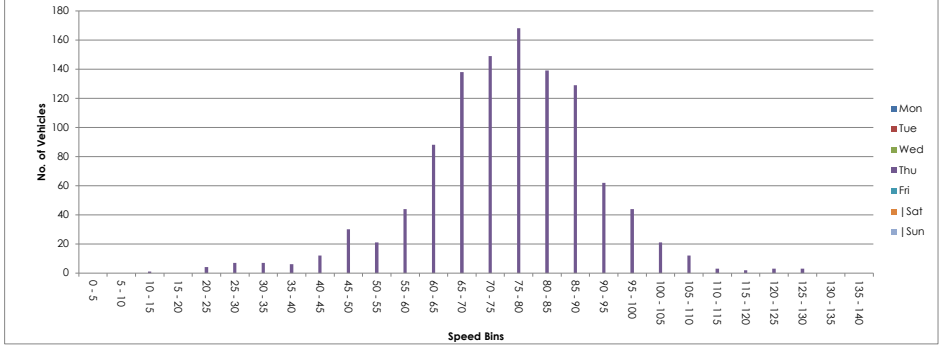
Virtual Week (1)

Time	Total	Classification												JPSL	JPSL%	JSL1	JSL1%	JSL2	JSL2%	Mean	Vpp	Speed Bins (km/h)																																					
		1 MCL	2 SV	3 SVT	4 TB2	5 TB3	6 T4	7 ART3	8 ART4	9 ART5	10 ART6	11 BD	12 DRT	100	100	105 +5kph	105 +5kph	110 +10kph	110 +10kph		85	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100	100 - 105	105 - 110	110 - 115	115 - 120	120 - 125	125 - 130	130 - 135	135 - 140
Mon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thu	1093	18	908	32	98	11	5	8	6	3	4	0	0	44	4.0	23	2.1	11	1.0	75.5	89.4	0	0	1	0	4	7	7	6	12	30	21	44	88	138	149	168	139	129	62	44	21	12	3	2	3	3	0	0
Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JSat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JSun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0.0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Day Ave.	**1093**	**18**	**908**	**32**	**98**	**11**	**5**	**8**	**6**	**3**	**4**	**0**	**0**	**44**	**4.0**	**23**	**2.1**	**11**	**1.0**	**75.5**	**89.4**	**0**	**0**	**1**	**0**	**4**	**7**	**7**	**6**	**12**	**30**	**21**	**44**	**88**	**138**	**149**	**168**	**139**	**129**	**62**	**44**	**21**	**12**	**3**	**2**	**3**	**3**	**0**	**0**
7 Day Ave.	**1093**	**18**	**908**	**32**	**98**	**11**	**5**	**8**	**6**	**3**	**4**	**0**	**0**	**44**	**4.0**	**23**	**2.1**	**11**	**1.0**	**75.5**	**89.4**	**0**	**0**	**1**	**0**	**4**	**7**	**7**	**6**	**12**	**30**	**21**	**44**	**88**	**138**	**149**	**168**	**139**	**129**	**62**	**44**	**21**	**12**	**3**	**2**	**3**	**3**	**0**	**0**
--	**1093**	**18**	**908**	**32**	**98**	**11**	**5**	**8**	**6**	**3**	**4**	**0**	**0**	**44**	**4.0**	**23**	**2.1**	**11**	**1.0**	**75.5**	**89.4**	**0**	**0**	**1**	**0**	**4**	**7**	**7**	**6**	**12**	**30**	**21**	**44**	**88**	**138**	**149**	**168**	**139**	**129**	**62**	**44**	**21**	**12**	**3**	**2**	**3**	**3**	**0**	**0**

Summary Graphs







APPENDIX B
TRAFFIC ANALYSIS

First Principle Analysis

Filling Operation					
Full Depot (t)	30000	Truck load (t)	30	Days for filling	30
Filling rate (t/day)	1000	Estimated trucks/day	33	Trucks/hour	4

Estimated Staff/maintenance
15

Vehicles	Arrivals	Departures	Peaks
AM	**15**	**4**	**08:00-09:00**
PM	**4**	**15**	**16:00-17:00**

PCU	Arrivals	Departures	Peaks
AM	**20**	**9**	**08:00-09:00**
PM	**9**	**20**	**16:00-17:00**

TII projected filliing patterns

	Trucks				Staff/Maintenance			
	arriving		departing		arriving		departing	
07:30-08:00	0%	0	0%	0	**30%**	**5**	0%	0
08:00-08:30	6%	2	6%	2	**40%**	**6**	0%	0
08:30-09:00	6%	2	6%	2	**30%**	**5**	0%	0
09:00-09:30	6%	2	6%	2	0%	0	0%	0
09:30-10:00	6%	2	6%	2	0%	0	0%	0
10:00-10:30	6%	2	6%	2	0%	0	0%	0
10:30-11:00	6%	2	6%	2	0%	0	0%	0
11:00-11:30	5%	2	5%	2	0%	0	0%	0
11:30-12:00	5%	2	5%	2	0%	0	0%	0
12:00-12:30	5%	2	5%	2	0%	0	0%	0
12:30-13:00	5%	2	5%	2	0%	0	0%	0
13:00-13:30	5%	2	5%	2	0%	0	0%	0
13:30-14:00	5%	2	5%	2	0%	0	0%	0
14:00-14:30	5%	2	5%	2	0%	0	0%	0
14:30-15:00	5%	2	5%	2	0%	0	0%	0
15:00-15:30	6%	2	6%	2	0%	0	0%	0
15:30-16:00	6%	2	6%	2	0%	0	0%	0
16:00-16:30	6%	2	6%	2	0%	0	**20%**	3
16:30-17:00	6%	2	6%	2	0%	0	**50%**	8
17:00-17:30	0%	0	0%	0	0%	0	**30%**	5
	100%		**100%**		**100%**	**15**	**100%**	**15**

*** The peak time considered for this analysis is 8:00-9:00 for AM and 16:00-17:00 for PM. Survey data are referred to the recorded peak times which are different for each location and bound.**

Table 1: Passenger Car Unit (PCU) values for various vehicle types.

Vehicle Type	PCU Value
Pedal Cycle	0.2
Motor Cycle	0.4
Passenger Car	1.0
Light Goods Vehicle (LGV)	1.0
Medium Goods Vehicle (MGV)	1.5
Buses & Coaches	2.0
Heavy Goods Vehicle (HGV)	2.3
Articulated Buses	*3.2**

** Recent research conducted for TfL has suggested this to be an appropriate PCU value for articulated buses*[56].

"BLUEY"
Holds 2 – 6 metres, up to maximum load weight of 3.5 tonnes. Small tip truck, good for tight access.

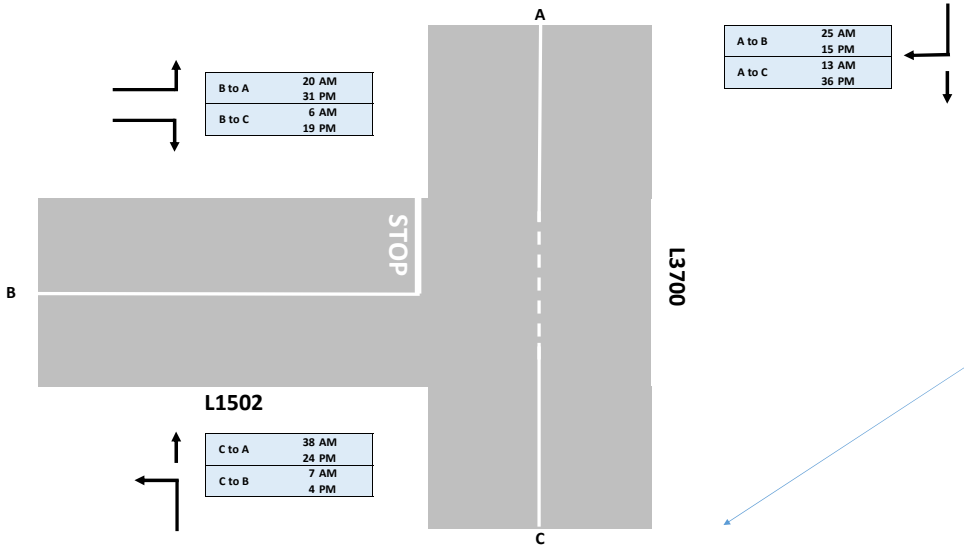
END TIPPERS – 8 TONNE
8 tonne load capacity trucks, hold 18 – 20 cubic metres each. Large tip truck.

END TIPPER – 13 TONNE
Holds up to 33 cubic metres, up to maximum load weight of 13 Tonnes. Large high sided tip truck. Truck only carries "clean" product.

WALKING FLOOR TRUCKS
Hold up to 35 cubic metres, up to maximum load weight of 12 tonnes. These are a walking floor truck, allowing unloading inside sheds with a clearance height of over 3.2 metres. These trucks only carry "clean" product

"TRUE BLUE"
Holds up to 80 cubic metres, up to a maximum load weight of 24 Tonnes. Two different trailers available, one is a large semi tipper, other is a large walking floor trailer. Walking floor trailer can unload inside sheds with height clearance of 4.3 metres. Walking Floor trailer only carries "clean" product.

L1502 - L3700 junction - Base Year 2023



OD matrix - Initial traffic data

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

L3700 - 150m south of L1502 junction

Southbound Traffic	Northbound Traffic
19 AM	45 AM
55 PM	28 PM

Design Speed of major road(km/h)	'y' Distance(m)
42	50
50	70
60	90
70	120
85	160
100	215
120	295

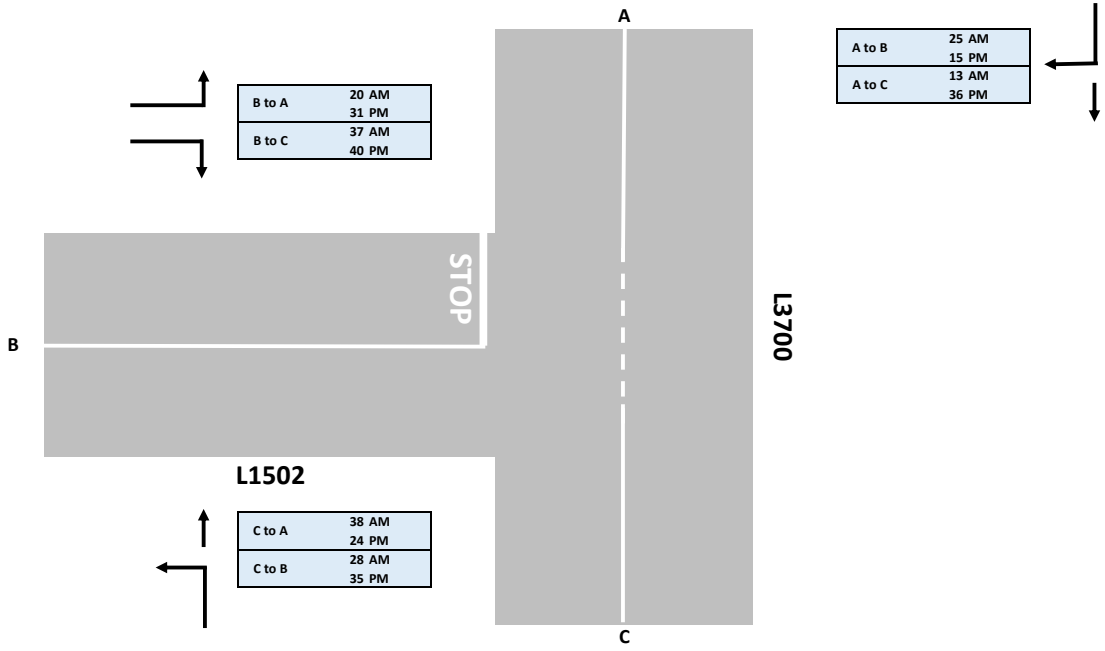
Junction Geometry

	L3700	L1502	
Width	6m	6m	
Shoulder	no	no	
Footpath	no	no	
Flare	n/a	no	
Right vis	n/a	95m	*215m achievable due to no obstruction along embankments
Left vis	n/a	215m	* might be slighlty reduced due to crest

Major road use	Minor road use	Standard	'x' Distance(m)
All roads	All junctions and accesses, Stop control	Desirable Minimum	3.0
All roads	Cycleway	Desirable Minimum	4.0
All roads	Cycleway	Absolute Minimum	2.0
National roads	Simple Junctions, Stop control	Relaxation	2.4*
Regional & Local Roads	All junctions and accesses, Yield control (where there are no relaxations associated with the junction layout)	Desirable Minimum	Max. 9.0
Regional & Local Roads	Accesses, Lightly trafficked	Relaxation	2.0
All roads	All junctions and accesses	Desirable Maximum	9.0

*** Data are referred to the recorded Survey Peak time was recorded between 7:30-8:30 for the AM and between 17:15-18:15 for the PM. However, for the purpose of this analysis, the standard Peak hours were set as 8:00-9:00 for the AM and 16:00-17:00 for the PM.**

L1502 - L3700 junction - Construction Stage 2024



*** Data are referred to the recorded Survey Peak time was recorded between 7:30-8:30 for the AM and between 17:15-18:15 for the PM. However, for the purpose of this analysis, the standard Peak hours were set as 8:00-9:00 for the AM and 16:00-17:00 for the PM.**

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

Construction stage				
	AM		PM	
	Inbound	Outbound	Inbound	Outbound
HGV	21	21	21	21
Site Staff	10	0	0	10
tot	31	21	21	31

PCU	2.3

1. Assuming 1.7t/m3 and each truck carrying up to 8m3

OD matrix - growth factor + Depot

AM Peak

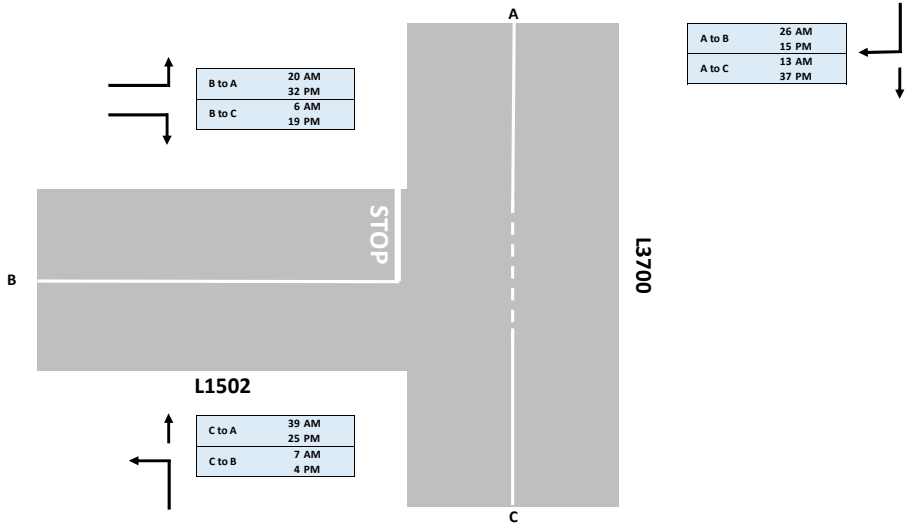
O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	37	57
C	38	28	0	67
Dep	59	53	50	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	52
B	31	0	40	72
C	24	35	0	59
Dep	56	50	77	

Central Growth		
	LV	HV
2023-2024	1.0115	1.0323

L1502 - L3700 junction - Opening Year 2025 without Development (baseline)



OD matrix - Initial traffic data

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

1. Traffic data at junction were taken from JTC survey carried out 2023;
2. Growth factor applied to these traffic data;

OD matrix - growth factor + Depot

AM Peak

O/D	A	B	C	Arr
A	0	26	13	39
B	20	0	6	27
C	39	7	0	46
Dep	59	33	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	37	52
B	32	0	19	51
C	25	4	0	29
Dep	56	19	56	

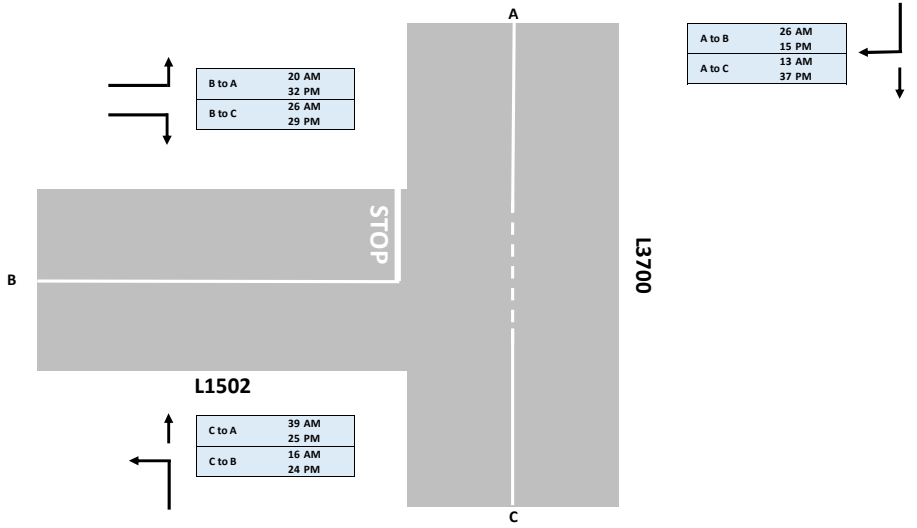
Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

Central Growth

	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

L1502 - L3700 junction - Opening Year 2025



OD matrix - Initial traffic data

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

1. Traffic data at junction were taken from JTC survey carried out 2023;
2. Growth factor applied to these traffic data;
3. Development traffic estimated from First Principle;
4. Assumed 1HGV=2.3PCU;

OD matrix - growth factor + Depot

AM Peak

O/D	A	B	C	Arr
A	0	26	13	39
B	20	0	26	46
C	39	16	0	55
Dep	59	42	39	

PM Peak

O/D	A	B	C	Arr
A	0	15	37	52
B	32	0	29	60
C	25	24	0	48
Dep	56	39	65	

Depot Traffic

AM Peak

O/D	A	B	C
A	0	0	0
B	0	0	20
C	0	9	0

PM Peak

O/D	A	B	C
A	0	0	0
B	0	0	9
C	0	20	0

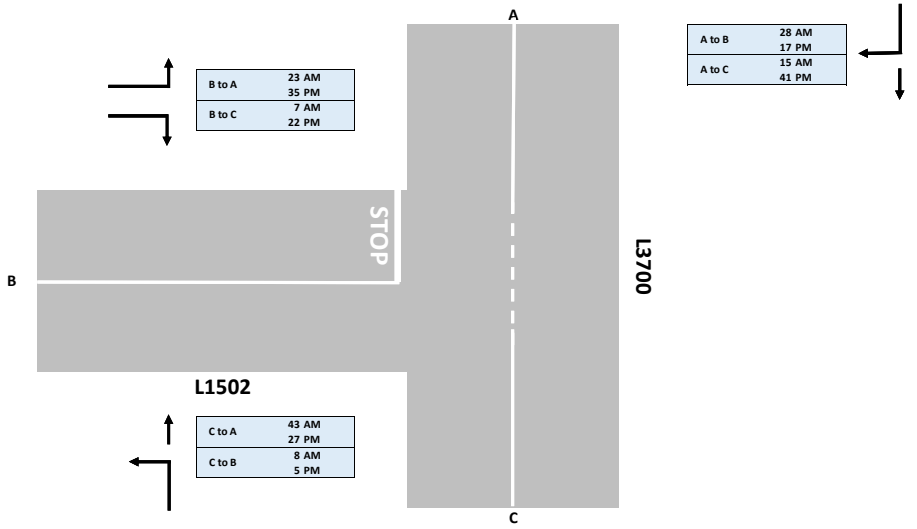
*Assuming worst scenario when all Depot traffic will turn into L1502 towards the N4.

Central Growth	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

L1502 - L3700 junction - Desing Year 2040 without Development (baseline)



OD matrix - Initial traffic data

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

1. Traffic data at junction were taken from JTC survey carried out 2023;
2. Growth factor applied to these traffic data;

OD matrix - growth factor + Depot

AM Peak

O/D	A	B	C	Arr
A	0	28	15	43
B	23	0	7	30
C	43	8	0	51
Dep	66	36	22	

PM Peak

O/D	A	B	C	Arr
A	0	17	41	58
B	35	0	22	57
C	27	5	0	32
Dep	62	22	62	

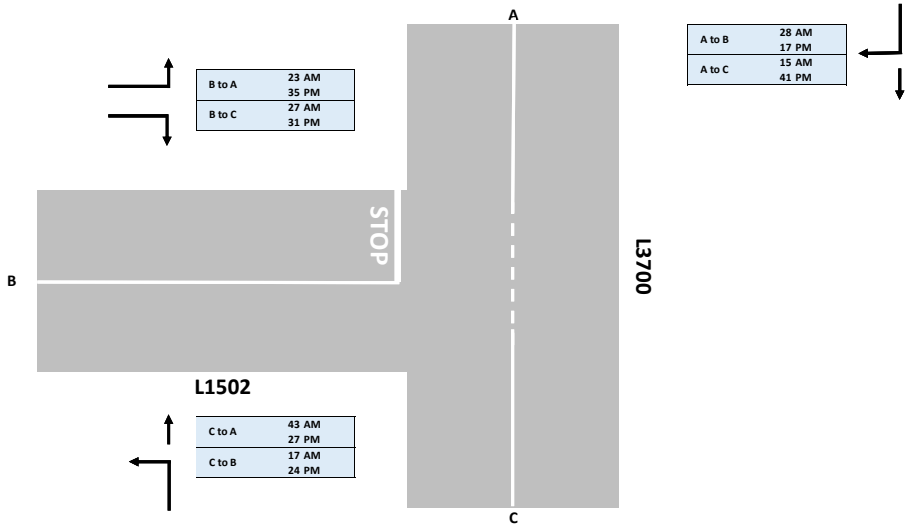
Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

Central Growth

	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

L1502 - L3700 junction - Desing Year 2040



OD matrix - Initial traffic data

AM Peak

O/D	A	B	C	Arr
A	0	25	13	38
B	20	0	6	26
C	38	7	0	45
Dep	58	32	19	

PM Peak

O/D	A	B	C	Arr
A	0	15	36	51
B	31	0	19	50
C	24	4	0	28
Dep	55	19	55	

1. Traffic data at junction were taken from JTC survey carried out 2023;
2. Growth factor applied to these traffic data;
3. Development traffic estimated from First Principle;

OD matrix - growth factor + Depot

AM Peak

O/D	A	B	C	Arr
A	0	28	15	43
B	23	0	27	49
C	43	17	0	60
Dep	66	46	41	

PM Peak

O/D	A	B	C	Arr
A	0	17	41	58
B	35	0	31	66
C	27	24	0	51
Dep	62	41	72	

Depot Traffic

AM Peak

O/D	A	B	C
A	0	0	0
B	0	0	20
C	0	9	0

PM Peak

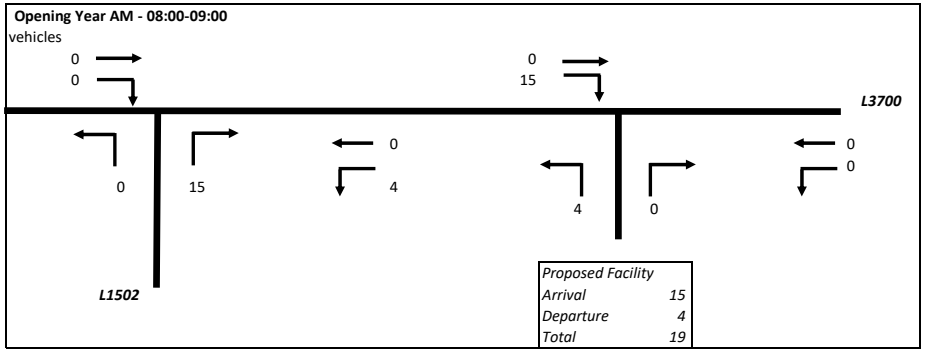
O/D	A	B	C
A	0	0	0
B	0	0	9
C	0	20	0

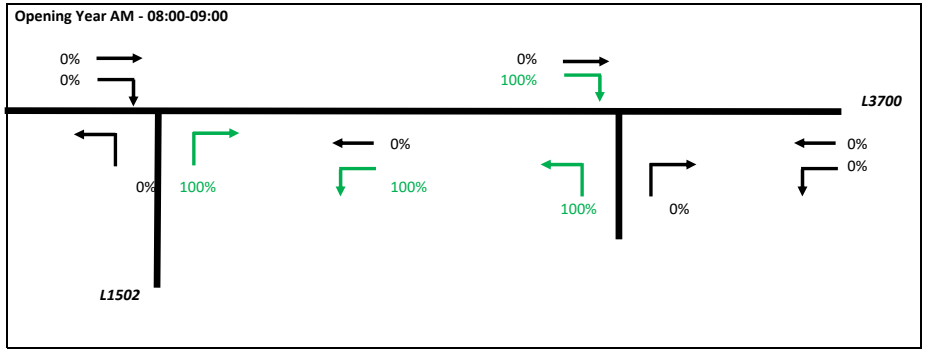
*Assuming worst scenario when all Depot traffic will turn into L1502 towards the N4.

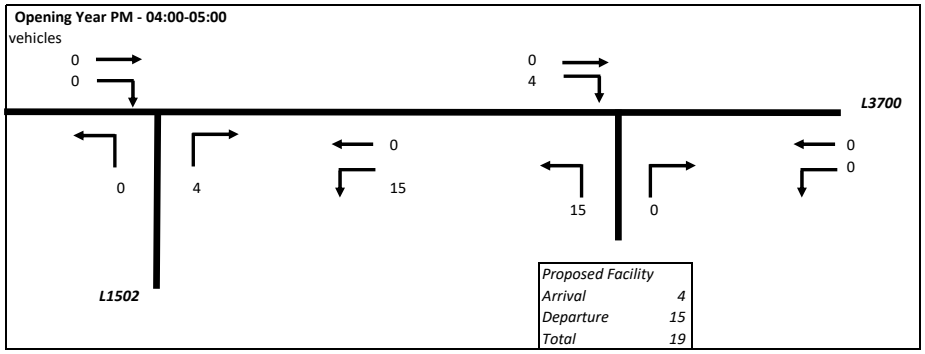
Central Growth	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

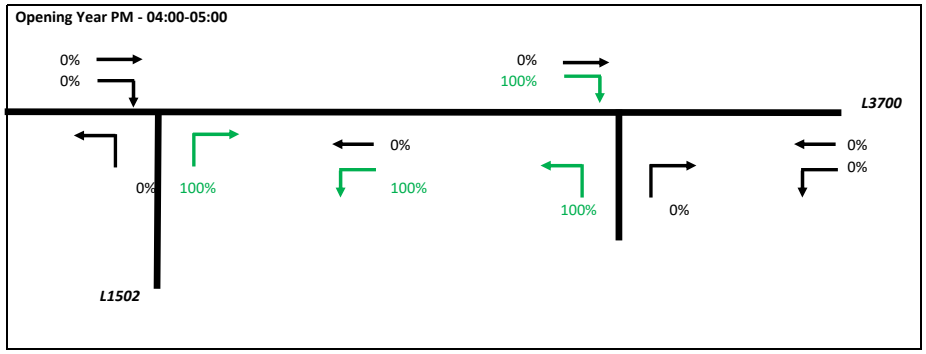
Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

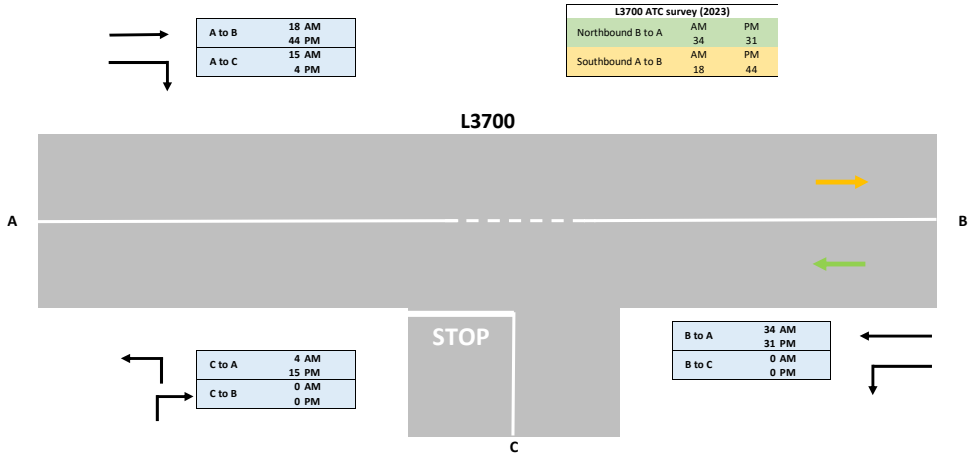

Opening Year AM - 08:00-09:00
vehicles
0
0
0
15
L3700
0
15
0
4
4
0
0
0
L1502
Proposed Facility
Arrival 15
Departure 4
Total 19


Opening Year AM - 08:00-09:00
0%
0%
0%
100%
L3700
0%
100%
0%
100%
100%
0%
0%
0%
L1502


Opening Year PM - 04:00-05:00
vehicles
0
0
0
4
L3700
0
4
0
15
15
0
0
0
L1502
Proposed Facility
Arrival 4
Departure 15
Total 19


Opening Year PM - 04:00-05:00
0%
0%
0%
100%
L3700
0%
100%
0%
100%
100%
0%
0%
0%
L1502

Proposed Depot Acces along L3700 - Construction 2024



L3700 ATC survey (2023)		
Northbound B to A	AM 34	PM 31
Southbound A to B	AM 18	PM 44

* Data represent Vehicles
* *Data are referred to the recorded traffic which might not be the recorded peak. For the purpose of this analysis, the standard Peak hours were set as 8:00-9:00 for the AM and 16:00-17:00 for the PM.

OD matrix - ATC data with growth factor and depot

AM Peak

O/D	A	B	C	Arr
A	0	18	46	64
B	34	0	0	34
C	25	0	0	25
Dep	59	18	46	

PM Peak

O/D	A	B	C	Arr
A	0	45	25	70
B	31	0	0	31
C	46	0	0	46
Dep	77	45	25	

1. Traffic data along L3700 were taken from ATC survey carried out 2023;
2. Growth factor applied to these traffic data;
3. Development traffic estimated from First Principle;
4. All Depot traffic is turning north (towards N4 junction);

Construction stage	AM		PM	
	Inbound	Outbound	Inbound	Outbound
HGV	21	21	21	21
Site Staff	10	0	0	10
tot	31	21	21	31

PCU	2.3

1. Assuming 1.7t/m3 and each truck carrying up to 8m3

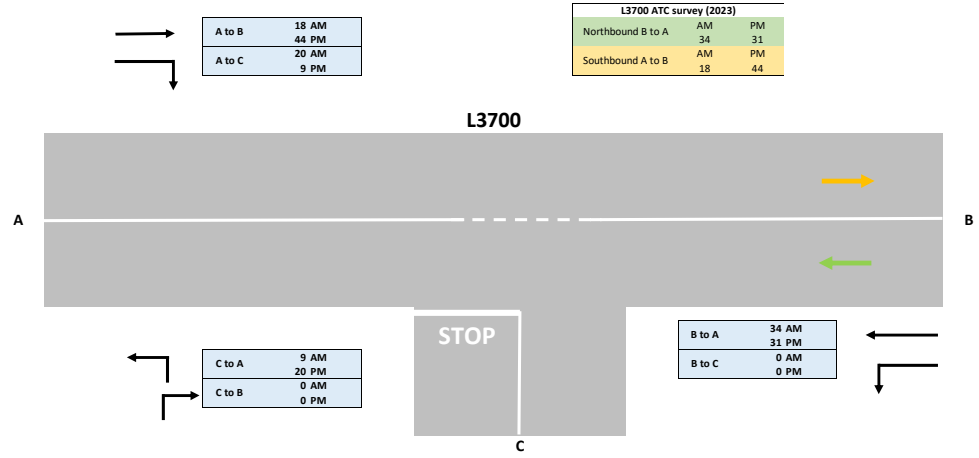
TII Publications — *PE-PAG-02017*
Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections — *October 2021*

Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

Central Growth	LV	HV
2023-2024	1.0115	1.0323

Proposed Depot Acces along L3700 - Opening Year 2025



L3700 ATC survey (2023)		
Northbound B to A	AM	PM
	34	31
Southbound A to B	AM	PM
	18	44

OD matrix - ATC data with growth factor and depot

AM Peak

O/D	A	B	C	Arr
A	0	18	20	38
B	35	0	0	35
C	9	0	0	9
Dep	44	18	20	

PM Peak

O/D	A	B	C	Arr
A	0	45	9	54
B	32	0	0	32
C	20	0	0	20
Dep	51	45	9	

1. Traffic data along L3700 were taken from ATC survey carried out 2023;
2. Growth factor applied to these traffic data;
3. Development traffic estimated from First Principle;
4. All Depot traffic is turning north (towards N4 junction);
5. Assumed 1HGV=2.3PCU;

* Data represent Vehicles
* *Data are referred to the recorded traffic which might not be the recorded peak. For the purpose of this analysis, the standard Peak hours were set as 8:00-9:00 for the AM and 16:00-17:00 for the PM.

Design Speed of major road(km/h)	'y' Distance(m)
42	50
50	70
60	90
70	120
85	160
100	215
120	295

Junction Geometry	L3700	Depot Access	
Width	6m	7m	
Shoulder	no	no	
Footpath	no	2m, one side	
Flare	n/a	no	
Right vis	n/a	162m	*200 achievable if considering no obstuction on verge
Left vis	n/a	40m	*71m achievable considering road is on curve

Major road use	Minor road use	Standard	'x' Distance(m)
All roads	All junctions and accesses, Stop control	Desirable Minimum	3.0
All roads	Cycleway	Desirable Minimum	4.0
All roads	Cycleway	Absolute Minimum	2.0
National roads	Simple Junctions, Stop control	Relaxation	2.4*
Regional & Local Roads	All junctions and accesses, Yield control (where there are no relaxations associated with the junction layout)	Desirable Minimum	Max. 9.0
Regional & Local Roads	Accesses, Lightly trafficked	Relaxation	2.0
All roads	All junctions and accesses	Desirable Maximum	9.0

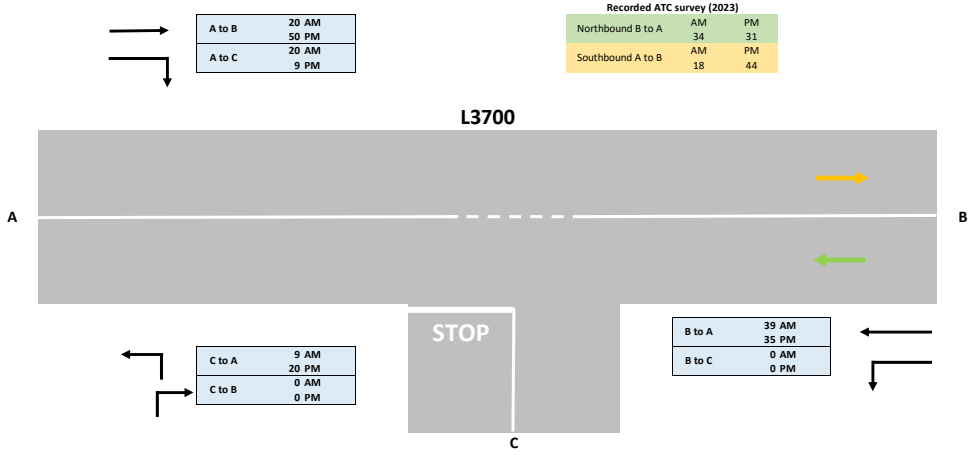
TII Publications
Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections
PE-PAG-02017
October 2021

Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

Central Growth	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

Proposed Depot Acces along L3700 - Design Year 2040



Recorded ATC survey (2023)

	AM	PM
Northbound B to A	34	31
Southbound A to B	18	44

OD matrix - ATC data with growth factor and depot

AM Peak

O/D	A	B	C	Arr
A	0	20	20	40
B	39	0	0	39
C	9	0	0	9
Dep	48	20	20	

PM Peak

O/D	A	B	C	Arr
A	0	50	9	59
B	35	0	0	35
C	20	0	0	20
Dep	55	50	9	

1. Traffic data along L3700 were taken from ATC survey carried out 2023;
2. Growth factor applied to these traffic data;
3. Development traffic assumed to remain the same - Depot Capacity unchanged.
4. All Depot traffic is turning north (towards N4 junction);
5. Assumed 1HGV=2.3PCU;

* Data represent Vehicles
* *Data are referred to the recorded traffic which might not be the recorded peak. For the purpose of this analysis, the standard Peak hours were set as 8:00-9:00 for the AM and 16:00-17:00 for the PM.

Design Speed of major road(km/h)	'y' Distance(m)
42	50
50	70
60	90
70	120
85	160
100	215
120	295

Junction Geometry	L3700	Depot Access	
Width	6m	7m	
Shoulder	no	no	
Footpath	no	2m, one side	
Flare	n/a	no	
Right vis	n/a	162m	*200 achievable if considering no obstuction on verge
Left vis	n/a	40m	*71m achievable considering road is on curve

Major road use	Minor road use	Standard	'x' Distance(m)
All roads	All junctions and accesses, Stop control	Desirable Minimum	3.0
All roads	Cycleway	Desirable Minimum	4.0
All roads	Cycleway	Absolute Minimum	2.0
National roads	Simple Junctions, Stop control	Relaxation	2.4*
Regional & Local Roads	All junctions and accesses, Yield control (where there are no relaxations associated with the junction layout)	Desirable Minimum	Max. 9.0
Regional & Local Roads	Accesses, Lightly trafficked	Relaxation	2.0
All roads	All junctions and accesses	Desirable Maximum	9.0

TII Publications
Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections
PE-PAG-02017
October 2021

Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)

County	Low Sensitivity Growth Rates						Central Growth Rates						High Sensitivity Growth Rates					
	2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050		2016-2030		2030-2040		2040-2050	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0163	1.0303	1.0046	1.0123	1.0036	1.0143	1.0180	1.0317	1.0062	1.0139	1.0050	1.0158	1.0211	1.0348	1.0100	1.0170	1.0099	1.0250
Kildare	1.0180	1.0363	1.0044	1.0135	1.0035	1.0169	1.0197	1.0378	1.0062	1.0155	1.0053	1.0187	1.0229	1.0413	1.0098	1.0191	1.0107	1.0283
Laois	1.0130	1.0265	1.003	1.0105	1.0018	1.0136	1.0147	1.0280	1.0047	1.0125	1.0036	1.0155	1.0179	1.0314	1.0082	1.0160	1.0090	1.0248
Longford	1.0119	1.0298	1.0019	1.0104	1.0000	1.0138	1.0134	1.0313	1.0038	1.0124	1.0027	1.0157	1.0167	1.0347	1.0072	1.0161	1.0073	1.0256
Louth	1.0134	1.0347	1.0054	1.0153	1.0048	1.0180	1.0148	1.0363	1.0070	1.0174	1.0063	1.0198	1.0177	1.0397	1.0100	1.0211	1.0103	1.0295
Meath	1.0156	1.0349	1.0052	1.0164	1.0043	1.0189	1.0173	1.0365	1.0070	1.0186	1.0059	1.0207	1.0205	1.0400	1.0108	1.0226	1.0116	1.0304
Offlay	1.0103	1.0307	1.0021	1.0119	1.0014	1.0158	1.0118	1.0323	1.0042	1.0139	1.0033	1.0176	1.0152	1.0357	1.0081	1.0176	1.0100	1.0272
Westmeath	1.0145	1.0300	1.0042	1.0126	1.0033	1.0156	1.0161	1.0316	1.0062	1.0147	1.0053	1.0176	1.0194	1.0352	1.0101	1.0185	1.0100	1.0279
Wicklow	1.0140	1.0361	1.0033	1.0153	1.0029	1.0185	1.0157	1.0377	1.0051	1.0173	1.0047	1.0204	1.0189	1.0412	1.0091	1.0211	1.0110	1.0305
Cavan	1.0098	1.0295	1.0024	1.0108	1.0010	1.0140	1.0112	1.0311	1.0041	1.0127	1.0028	1.0158	1.0141	1.0345	1.0076	1.0164	1.0084	1.0256
Donegal	1.0097	1.0270	1.0024	1.0123	1.0017	1.0142	1.0111	1.0286	1.0039	1.0141	1.0035	1.0161	1.0139	1.0320	1.0072	1.0178	1.0094	1.0258
Galway	1.0243	1.0430	1.0087	1.0177	1.0088	1.0218	1.0259	1.0446	1.0109	1.0198	1.0105	1.0236	1.0294	1.0480	1.0148	1.0236	1.0181	1.0336
Leitrim	1.0044	1.0299	0.9973	1.0105	0.9927	1.0140	1.0060	1.0313	0.9990	1.0124	0.9971	1.0157	1.0090	1.0348	1.0025	1.0161	1.0029	1.0257
Mayo	1.0111	1.0314	1.0009	1.0128	1.0005	1.0173	1.0127	1.0330	1.0028	1.0148	1.0026	1.0192	1.0161	1.0364	1.0063	1.0186	1.0097	1.0290
Monaghan	1.0103	1.0236	1.0032	1.0093	1.0021	1.0119	1.0115	1.0252	1.0047	1.0112	1.0041	1.0138	1.0141	1.0285	1.0079	1.0147	1.0080	1.0234
Roscommon	1.0092	1.0267	1.0012	1.0115	1.0001	1.0152	1.0107	1.0284	1.0031	1.0135	1.0022	1.0172	1.0142	1.0318	1.0069	1.0174	1.0075	1.0270
Sligo	1.0133	1.0307	1.0028	1.0118	1.0018	1.0154	1.0147	1.0323	1.0045	1.0136	1.0041	1.0171	1.0178	1.0357	1.0082	1.0173	1.0107	1.0268
Carlow	1.0116	1.0309	1.0027	1.0124	1.0016	1.0161	1.0133	1.0324	1.0047	1.0144	1.0034	1.0178	1.0165	1.0359	1.0085	1.0180	1.0093	1.0275
Clare	1.0139	1.0402	1.0019	1.0138	1.0011	1.0179	1.0156	1.0417	1.0038	1.0157	1.0029	1.0197	1.0191	1.0451	1.0075	1.0193	1.0105	1.0292
Cork	1.0173	1.0361	1.0067	1.0141	1.0059	1.0181	1.0189	1.0377	1.0087	1.0160	1.0078	1.0200	1.0223	1.0411	1.0124	1.0197	1.0154	1.0297
Kerry	1.0094	1.0269	0.9990	1.0094	0.9983	1.0129	1.0111	1.0285	1.0011	1.0113	1.0000	1.0146	1.0144	1.0319	1.0048	1.0150	1.0079	1.0245
Kilkenny	1.0108	1.0253	1.0016	1.0109	1.0006	1.0147	1.0124	1.0268	1.0037	1.0129	1.0027	1.0166	1.0157	1.0302	1.0075	1.0166	1.0087	1.0261
Limerick	1.0199	1.0307	1.0071	1.0110	1.0069	1.0158	1.0215	1.0323	1.0092	1.0130	1.0088	1.0177	1.0249	1.0357	1.0129	1.0167	1.0163	1.0274
Tipperary	1.0102	1.0290	1.0019	1.0096	1.0008	1.0136	1.0119	1.0306	1.0037	1.0116	1.0027	1.0155	1.0152	1.0340	1.0073	1.0152	1.0084	1.0250
Waterford	1.0154	1.0342	1.0059	1.0157	1.0053	1.0203	1.0171	1.0358	1.0079	1.0179	1.0073	1.0220	1.0205	1.0393	1.0119	1.0218	1.0143	1.0319
Wexford	1.0051	1.0196	0.9999	1.0096	0.9989	1.0122	1.0068	1.0211	1.0022	1.0116	1.0006	1.0140	1.0100	1.0245	1.0060	1.0152	1.0077	1.0232

Central Growth

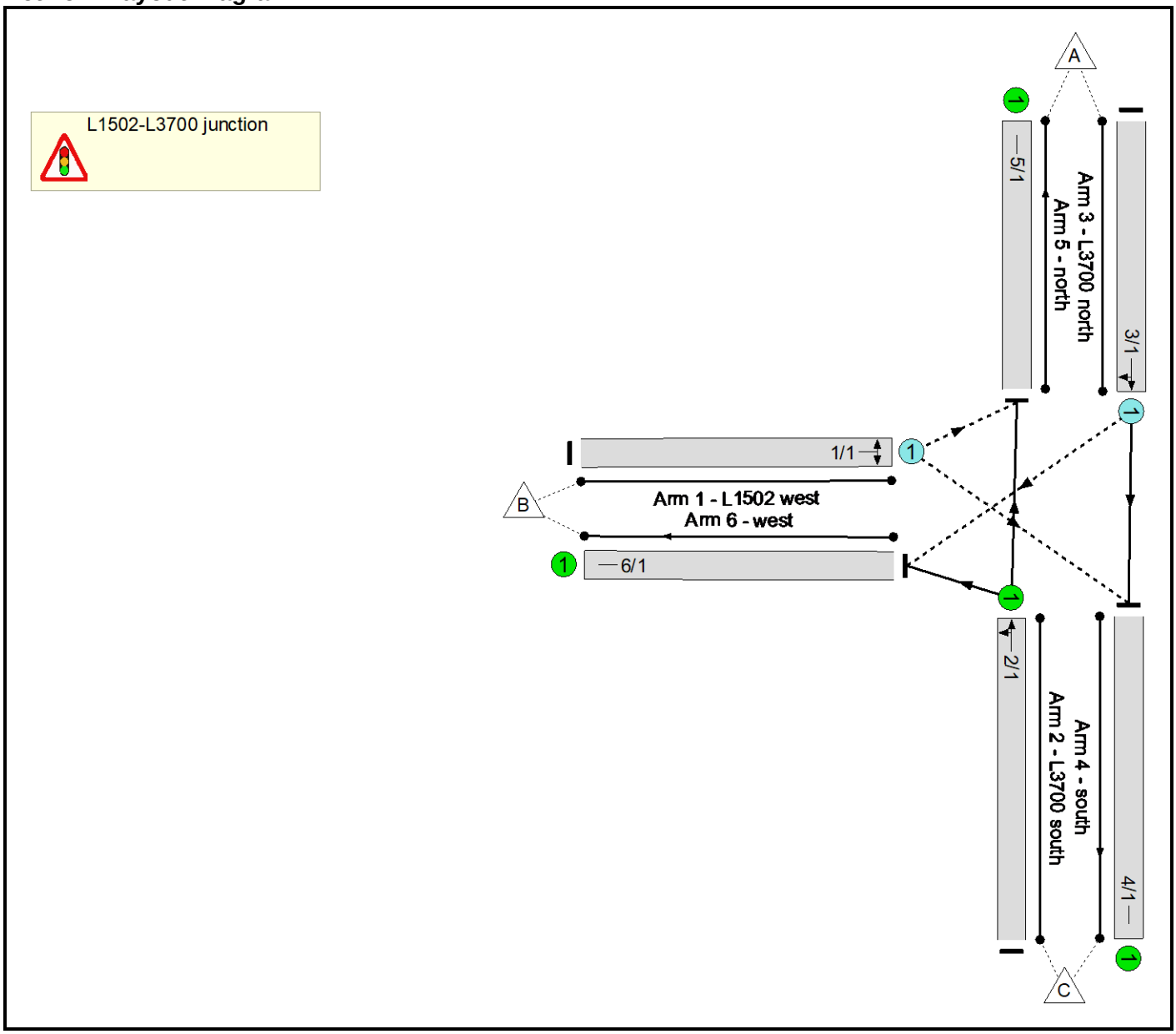
	LV	HV
2023-2025	1.023132	1.065643
2025-2030	1.058838	1.172275
2030-2040	1.048007	1.144632

Full Input Data And Results

User and Project Details

Project:	**21.114 MCAAS - TO15**
Title:	**TO-155 Salt Barn Depot**
Location:	
Client:	TII
Additional detail:	
File name:	TO-15 Existing junction (model).lsg3x
Author:	EP
Company:	ROD
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min

Phase Intergreens Matrix

	Starting Phase
Terminating Phase	This View cannot be shown as there are currently no Phases defined.

Phases in Stage

Stage No.	Phases in Stage

Full Input Data And Results

Stage Diagram

There are no Stages to display

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage
From Stage	This View cannot be shown as there are currently no Stages defined.

Full Input Data And Results

Give-Way Lane Input Data

Junction: L1502-L3700 junction											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/1 (L1502 west)	4/1 (Right)	1439	0	2/1	1.09	To 5/1 (Ahead)	-	-	-	-	-
				3/1	1.09	All					
	5/1 (Left)	1439	0	2/1	1.09	To 5/1 (Ahead)					
3/1 (L3700 north)	6/1 (Right)	1439	0	2/1	1.09	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: L1502-L3700 junction												
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 (L1502 west)	O		2	3	60.0	User	1800	-	-	-	-	-
2/1 (L3700 south)	U		2	3	60.0	User	1800	-	-	-	-	-
3/1 (L3700 north)	O		2	3	60.0	User	1800	-	-	-	-	-
4/1 (south)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (north)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (west)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'BY Flow AM'	08:00	09:00	01:00	
2: 'BY Flow PM'	16:00	17:00	01:00	
3: 'OY Flow AM'	08:00	09:00	01:00	
4: 'OY Flow PM'	16:00	17:00	01:00	
5: 'DY Flow AM'	08:00	09:00	01:00	
6: 'DY Flow PM'	16:00	17:00	01:00	
7: 'OY no Dev Flow AM'	08:00	09:00	01:00	
8: 'DY no Dev Flow AM'	08:00	09:00	01:00	
9: 'OY no Dev Flow PM'	16:00	17:00	01:00	
10: 'DY no Dev Flow PM'	16:00	17:00	01:00	
11: 'Construction AM'	08:00	09:00	01:00	
12: 'Construction PM'	16:00	17:00	01:00	

Scenario 1: 'BY scenario AM' (FG1: 'BY Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	25	13	38
	B	20	0	6	26

	C	38	7	0	45
	Tot.	58	32	19	109

Traffic Lane Flows

Lane	Scenario 1: BY scenario AM
Junction: L1502-L3700 junction	
1/1	26
2/1	45
3/1	38
4/1	19
5/1	58
6/1	32

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'BY scenario PM' (FG2: 'BY Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	15	36	51
	B	31	0	19	50
	C	24	4	0	28
	Tot.	55	19	55	129

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: BY scenario PM
Junction: L1502-L3700 junction	
1/1	50
2/1	28
3/1	51
4/1	55
5/1	55
6/1	19

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'OY Dev scenario AM' (FG3: 'OY Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	26	13	39
	B	20	0	26	46
	C	39	16	0	55
	Tot.	59	42	39	140

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: OY Dev scenario AM
Junction: L1502-L3700 junction	
1/1	46
2/1	55
3/1	39
4/1	39
5/1	59
6/1	42

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'OY Dev scenario PM' (FG4: 'OY Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	15	37	52
	B	32	0	29	61
	C	25	24	0	49
	Tot.	57	39	66	162

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: OY Dev scenario PM
Junction: L1502-L3700 junction	
1/1	61
2/1	49
3/1	52
4/1	66
5/1	57
6/1	39

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'DY Dev scenario AM' (FG5: 'DY Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	28	15	43
	B	23	0	27	50
	C	43	17	0	60
	Tot.	66	45	42	153

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: DY Dev scenario AM
Junction: L1502-L3700 junction	
1/1	50
2/1	60
3/1	43
4/1	42
5/1	66
6/1	45

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'DY Dev scenario PM' (FG6: 'DY Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	17	41	58
	B	35	0	31	66
	C	27	24	0	51
	Tot.	62	41	72	175

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: DY Dev scenario PM
Junction: L1502-L3700 junction	
1/1	66
2/1	51
3/1	58
4/1	72
5/1	62
6/1	41

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 7: 'OY no Dev scenario AM' (FG7: 'OY no Dev Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	26	13	39
	B	20	0	6	26
	C	39	7	0	46
	Tot.	59	33	19	111

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: OY no Dev scenario AM
Junction: L1502-L3700 junction	
1/1	26
2/1	46
3/1	39
4/1	19
5/1	59
6/1	33

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 8: 'OY no Dev scenario PM' (FG9: 'OY no Dev Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	15	37	52
	B	32	0	19	51
	C	25	4	0	29
	Tot.	57	19	56	132

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: OY no Dev scenario PM
Junction: L1502-L3700 junction	
1/1	51
2/1	29
3/1	52
4/1	56
5/1	57
6/1	19

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 9: 'DY no Dev scenario AM' (FG8: 'DY no Dev Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	28	15	43
	B	23	0	7	30
	C	43	8	0	51
	Tot.	66	36	22	124

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 9: DY no Dev scenario AM
Junction: L1502-L3700 junction	
1/1	30
2/1	51
3/1	43
4/1	22
5/1	66
6/1	36

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 10: 'DY no Dev scenario PM' (FG10: 'DY no Dev Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	17	41	58
	B	35	0	22	57
	C	27	5	0	32
	Tot.	62	22	63	147

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 10: DY no Dev scenario PM
Junction: L1502-L3700 junction	
1/1	57
2/1	32
3/1	58
4/1	63
5/1	62
6/1	22

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 11: 'Construction AM' (FG11: 'Construction AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	25	13	38
	B	20	0	37	57
	C	38	28	0	66
	Tot.	58	53	50	161

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 11: Construction AM
Junction: L1502-L3700 junction	
1/1	57
2/1	66
3/1	38
4/1	50
5/1	58
6/1	53

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 12: 'Construction PM' (FG12: 'Construction PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	15	36	51
	B	31	0	40	71
	C	24	35	0	59
	Tot.	55	50	76	181

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 12: Construction PM
Junction: L1502-L3700 junction	
1/1	71
2/1	59
3/1	51
4/1	76
5/1	55
6/1	50

Lane Saturation Flows

Junction: L1502-L3700 junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (L1502 west Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
3/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (west Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'BY scenario AM' (FG1: 'BY Flow AM', Plan 1: 'Network Control Plan 1')

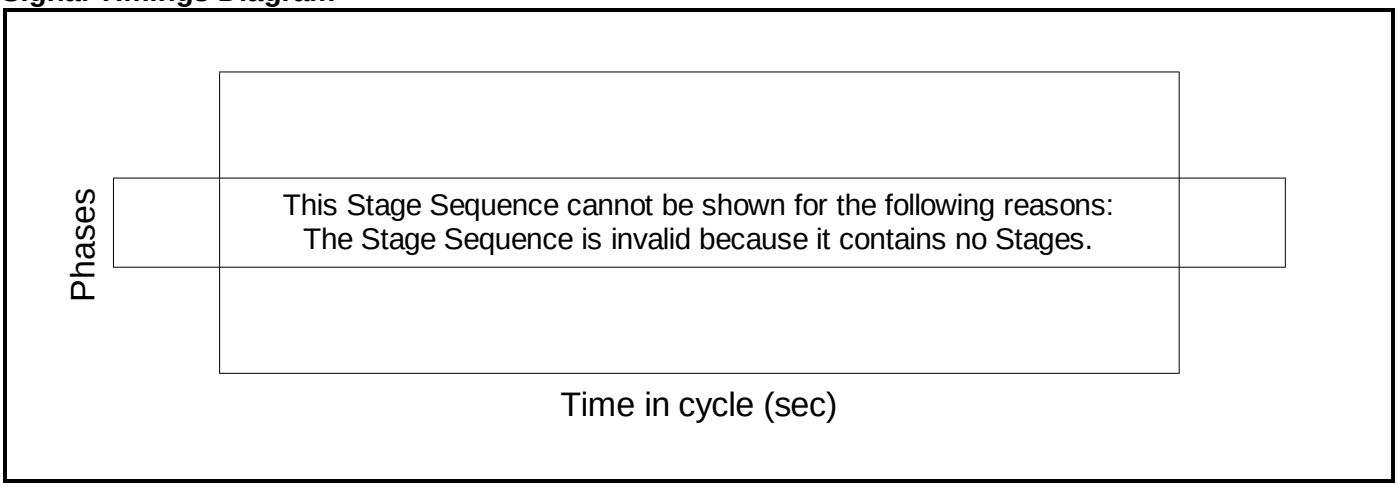
Stage Sequence Diagram

Full Input Data And Results

Stage Timings

Stage
Duration
Change Point

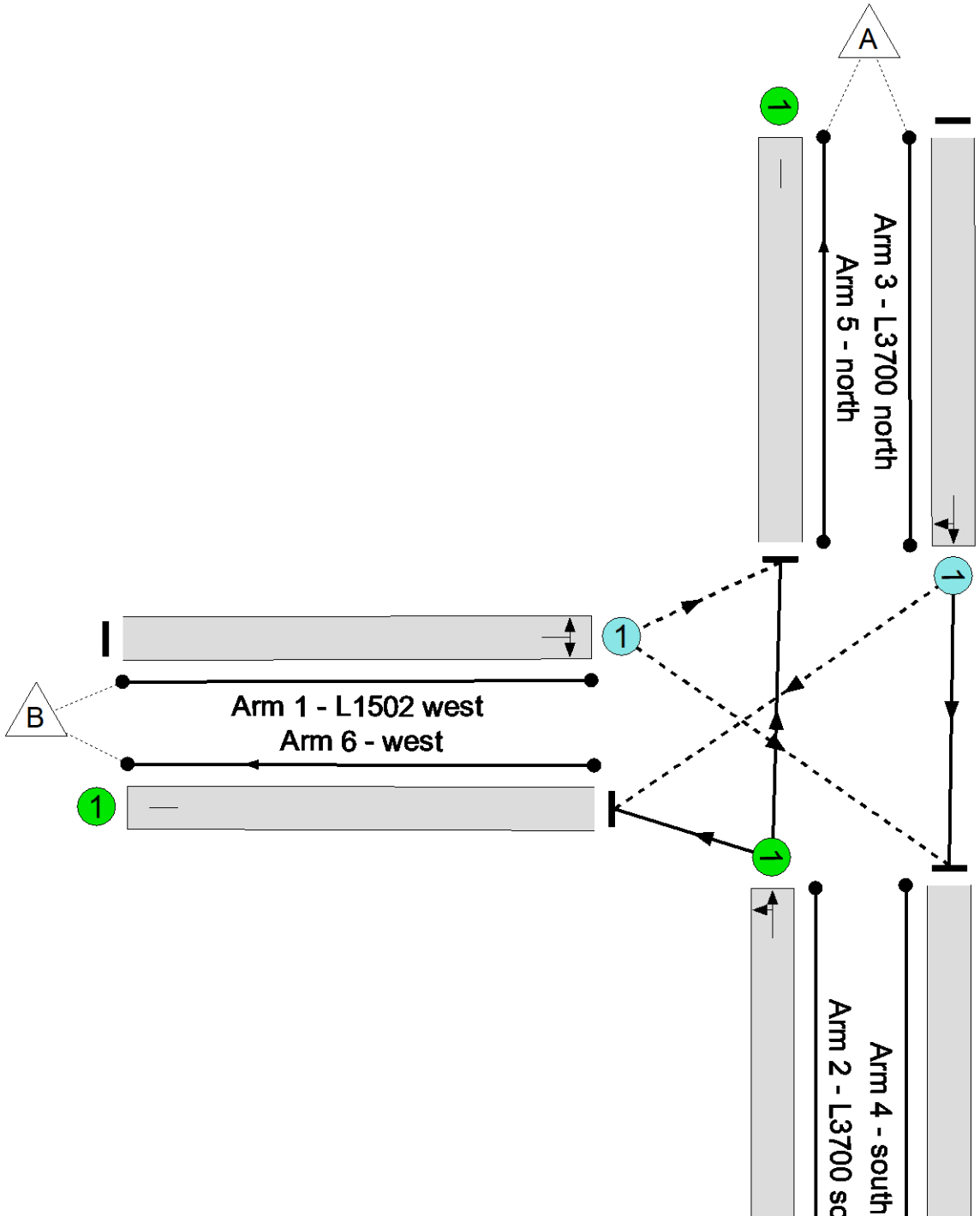
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 3470.1 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.5%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.5%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	26	1800	1388	1.9%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	45	1800	1800	2.5%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	38	1800	1507	2.5%
4/1	south	U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	32	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**51**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**51**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	26	26	26	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	45	45	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	38	38	25	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	32	32	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

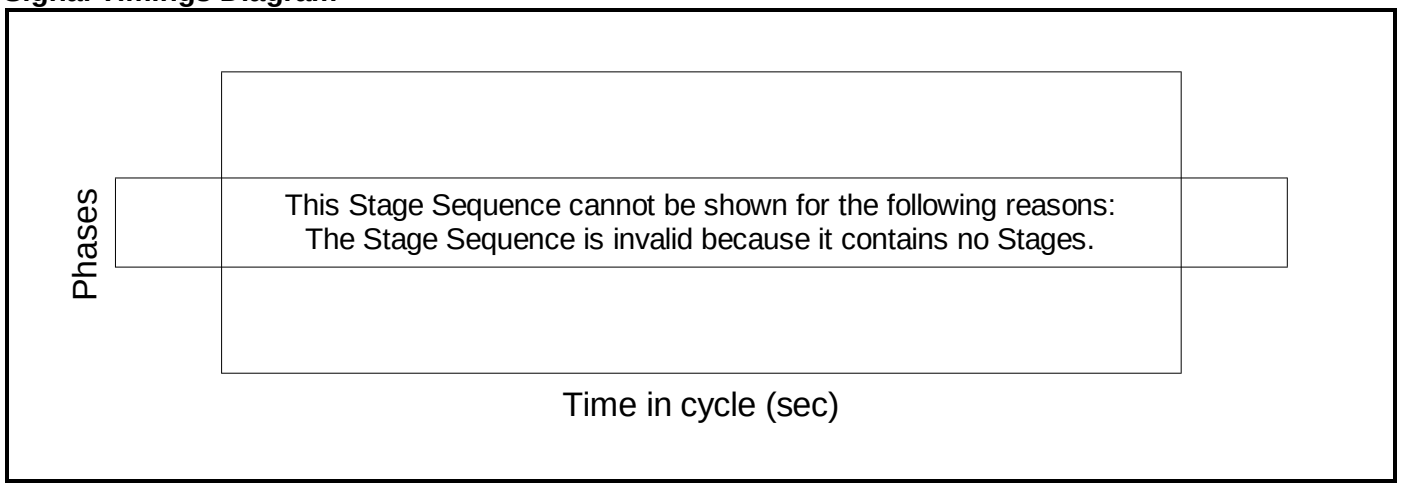
C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 3470.1 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.04 Cycle Time (s): 90

Scenario 2: 'BY scenario PM' (FG2: 'BY Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

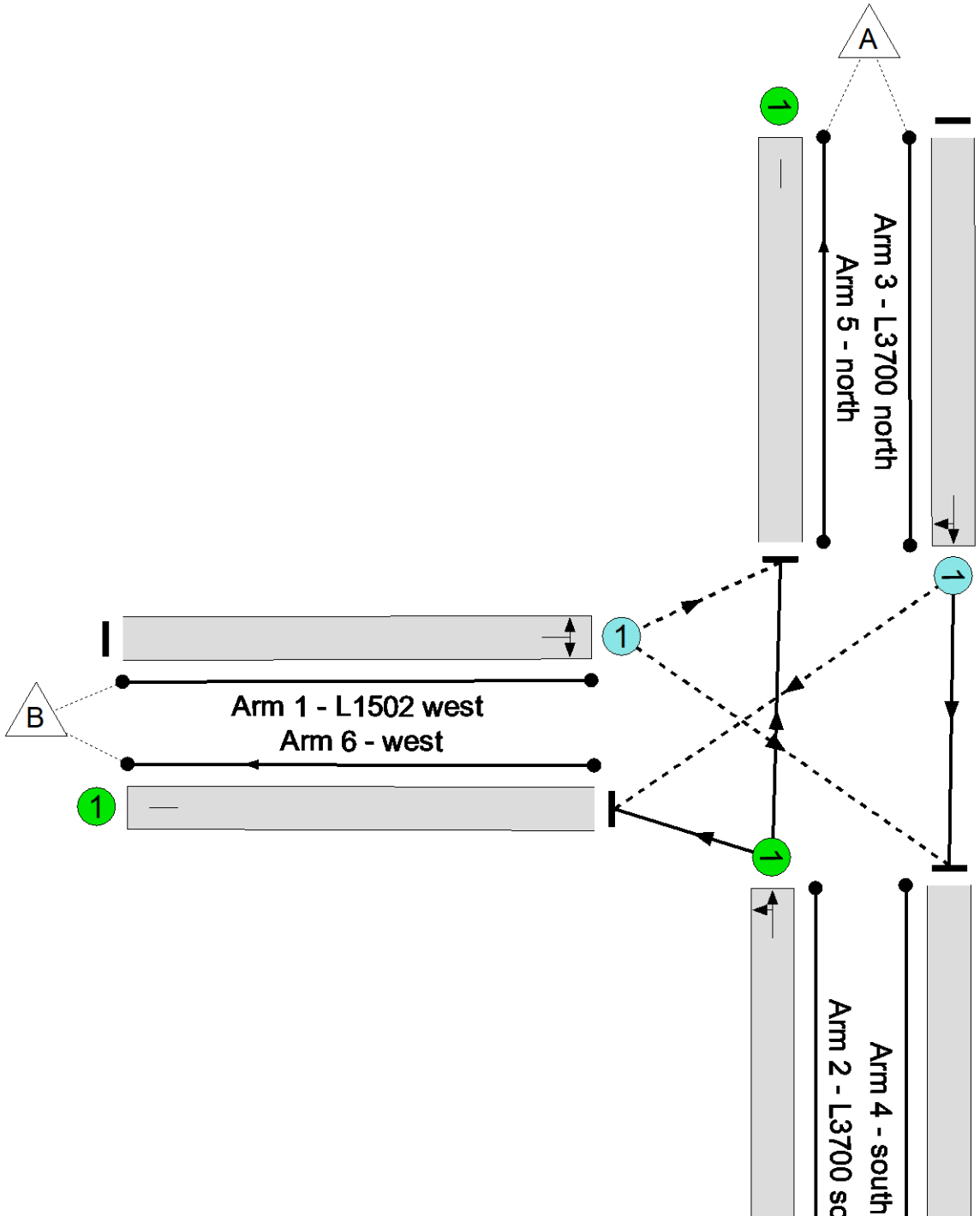
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2404.0 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.6%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.6%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	50	1800	1391	3.6%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	28	1800	1800	1.6%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	51	1800	1664	3.1%
4/1	south	U	N/A	N/A	-		-	-	-	55	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	55	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**65**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**65**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	50	50	50	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	28	28	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	51	51	15	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	55	55	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	55	55	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

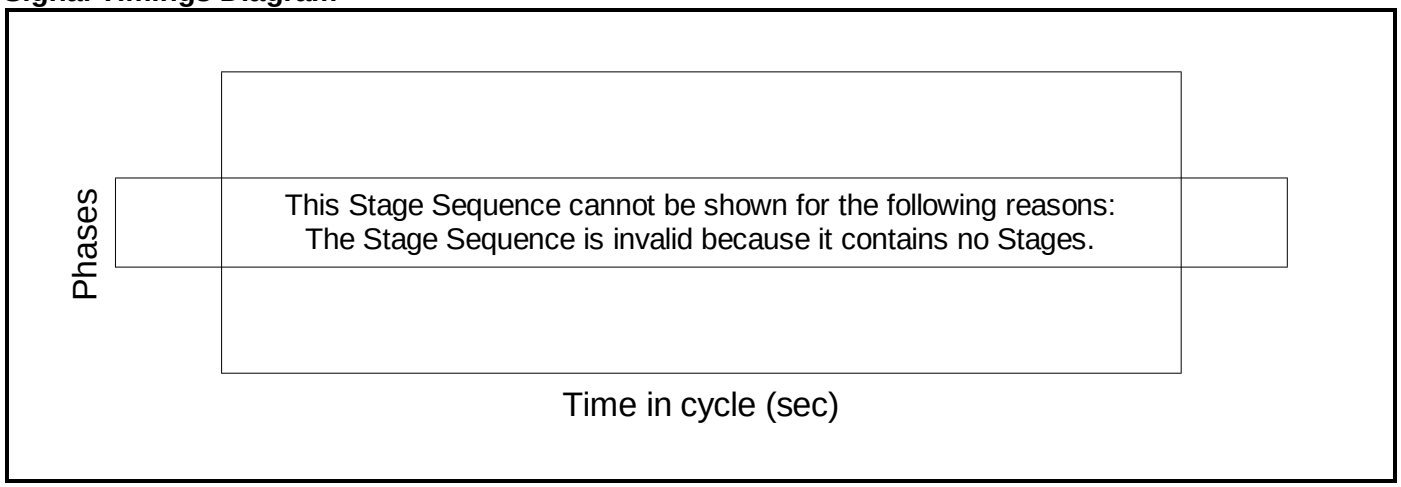
C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 2404.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.04 Cycle Time (s): 90

Scenario 3: 'OY Dev scenario AM' (FG3: 'OY Flow AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

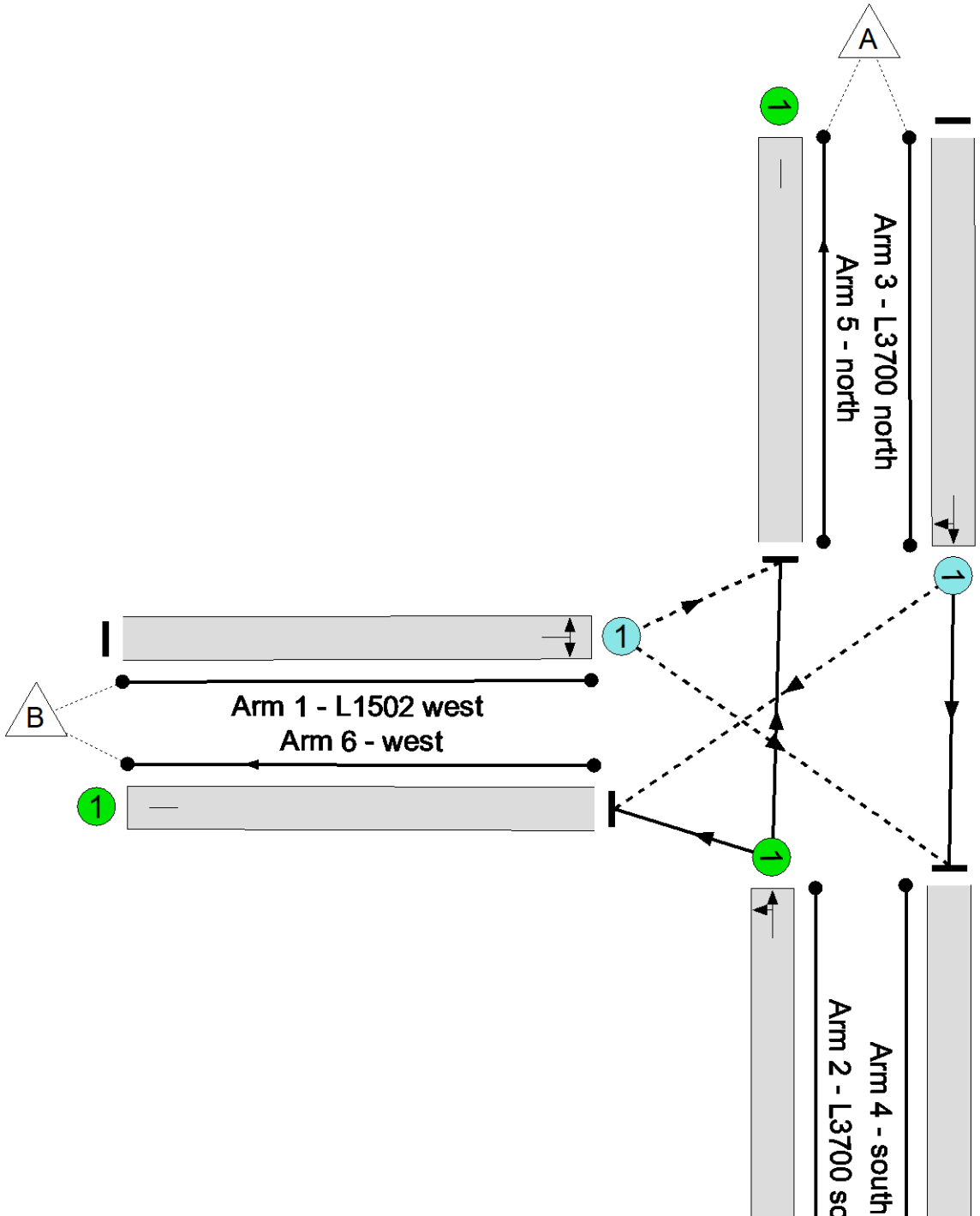
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2584.5 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	46	1800	1372	3.4%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	55	1800	1800	3.1%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	39	1800	1496	2.6%
4/1	south	U	N/A	N/A	-		-	-	-	39	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	59	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**72**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**72**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	46	46	46	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	55	55	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	39	39	26	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	39	39	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	59	59	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

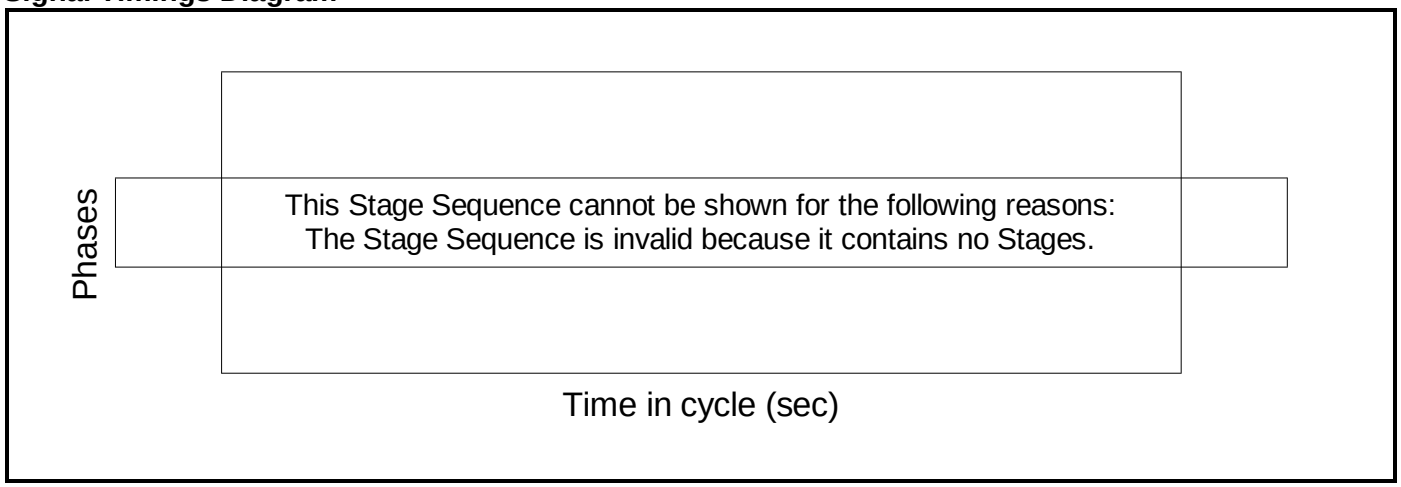
C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 2584.5 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.05 Cycle Time (s): 90

Full Input Data And Results
Scenario 4: 'OY Dev scenario PM' (FG4: 'OY Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

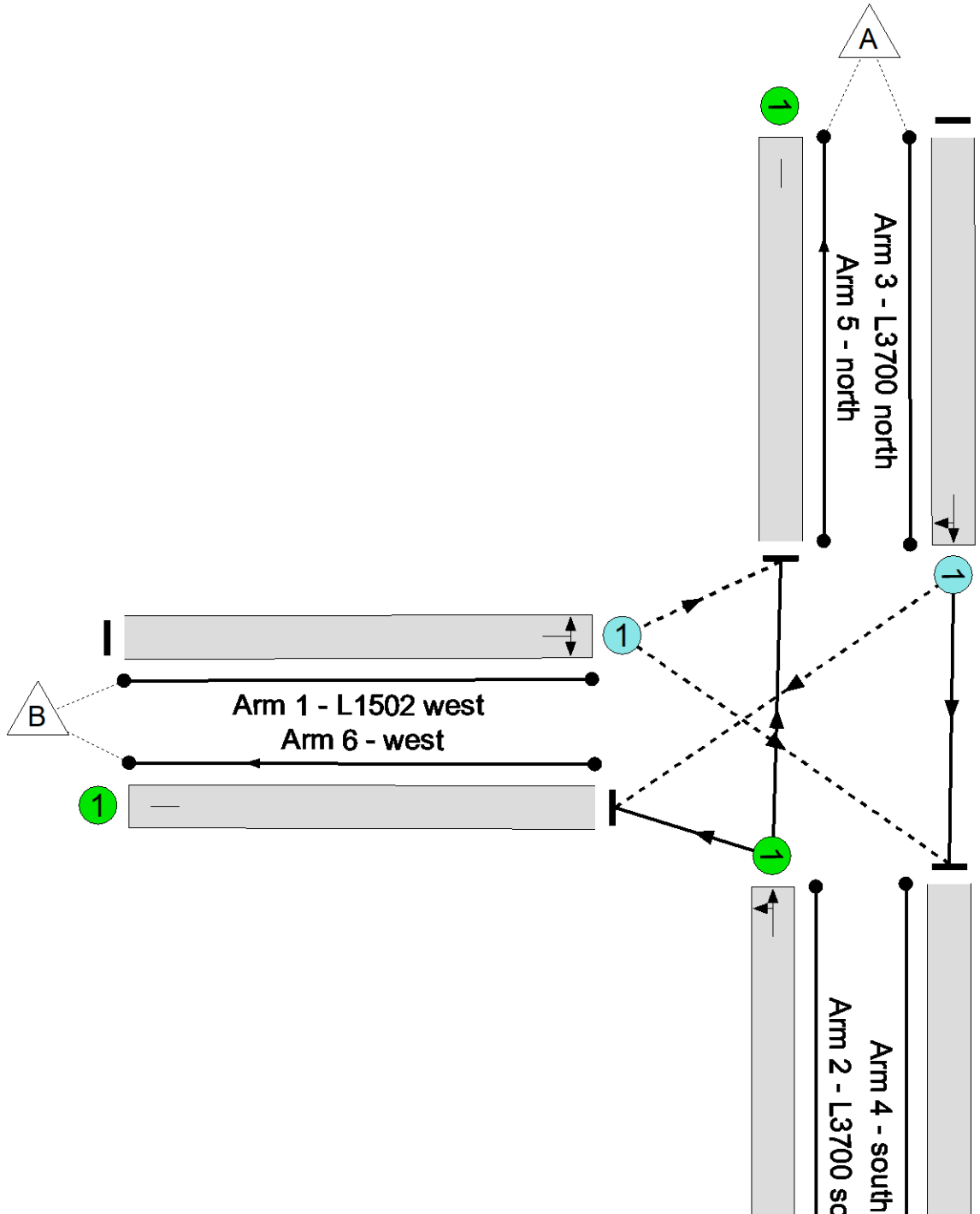
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 1942.2 %
Total Traffic Delay: 0.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.4%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.4%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	61	1800	1384	4.4%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	49	1800	1800	2.7%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	52	1800	1657	3.1%
4/1	south	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	57	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	39	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**76**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**76**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	61	61	61	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	49	49	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	52	52	15	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	66	66	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	57	57	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	39	39	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

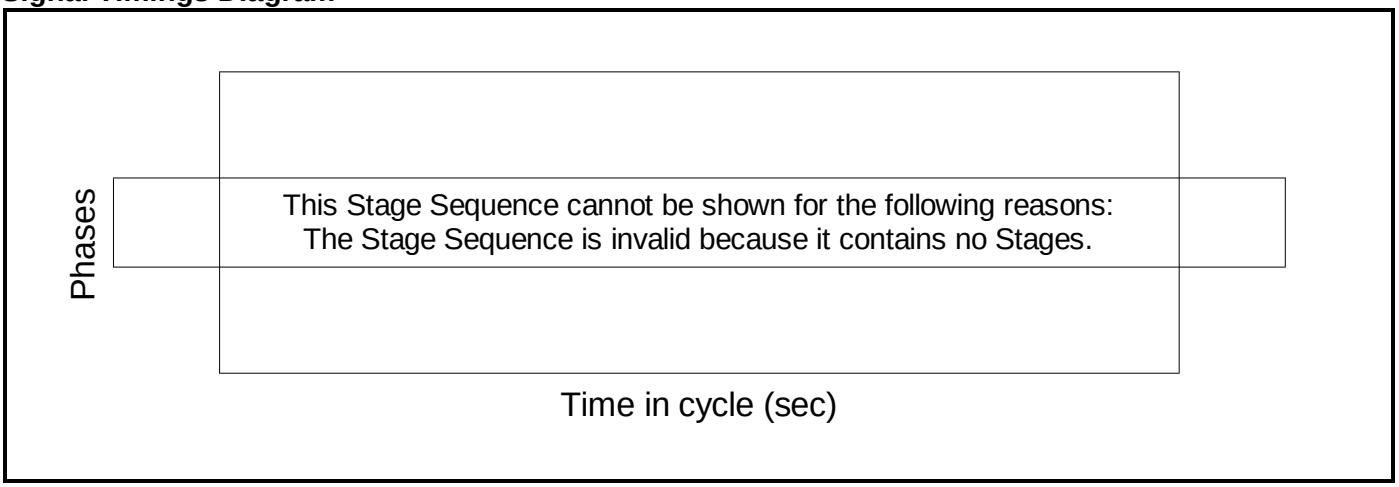
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 1942.2 Total Delay Over All Lanes(pcuHr): 0.05

Scenario 5: 'DY Dev scenario AM' (FG5: 'DY Flow AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

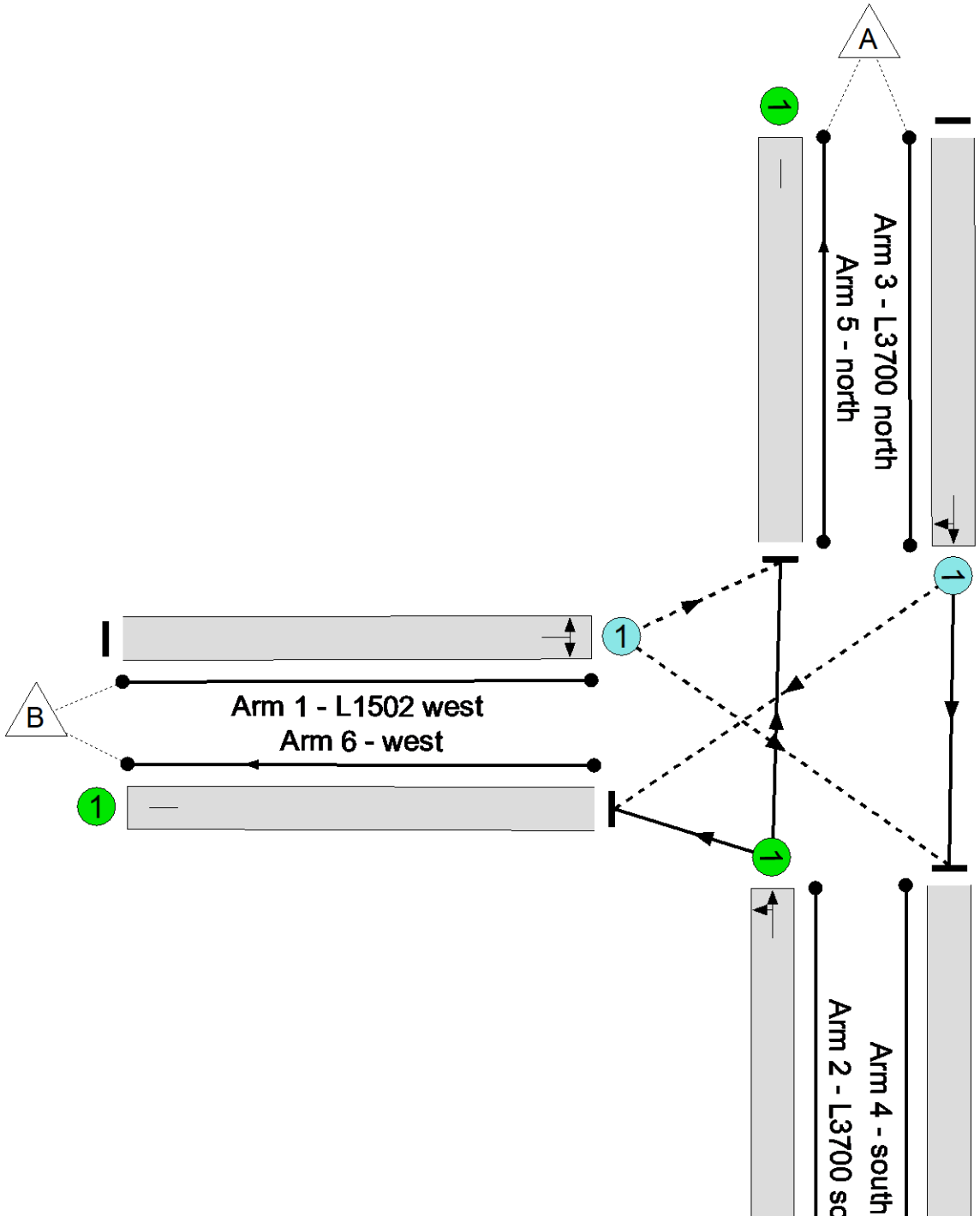
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2359.4 %
Total Traffic Delay: 0.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	50	1800	1366	3.7%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	60	1800	1800	3.3%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	43	1800	1497	2.9%
4/1	south	U	N/A	N/A	-		-	-	-	42	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	45	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**78**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**78**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	50	50	50	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	60	60	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	43	43	28	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	42	42	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	66	66	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	45	45	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

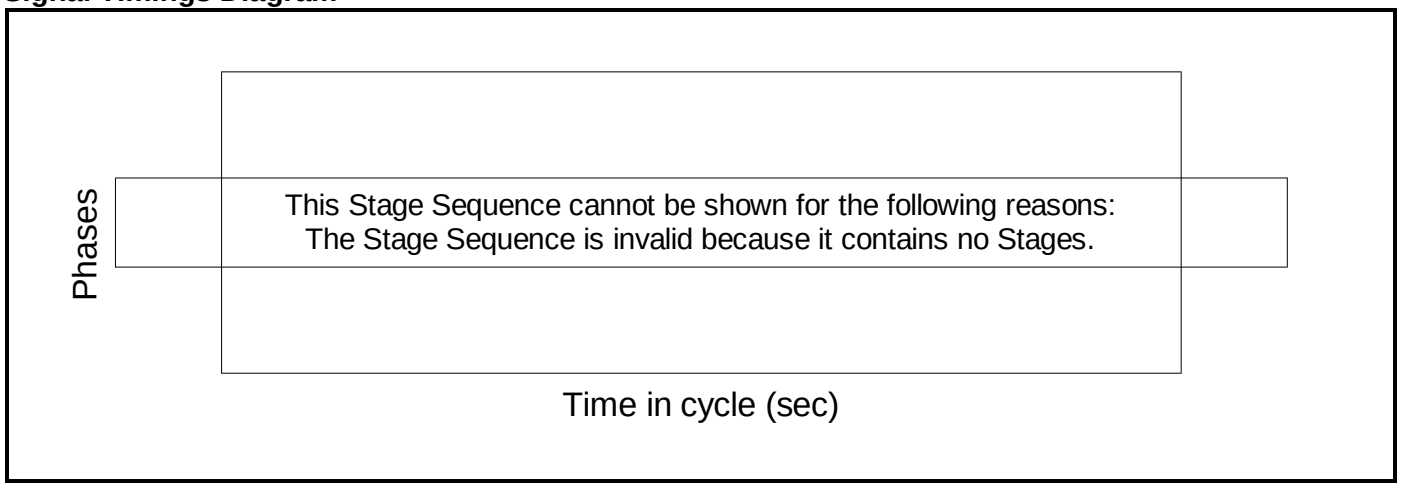
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2359.4 Total Delay Over All Lanes(pcuHr): 0.05

Scenario 6: 'DY Dev scenario PM' (FG6: 'DY Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

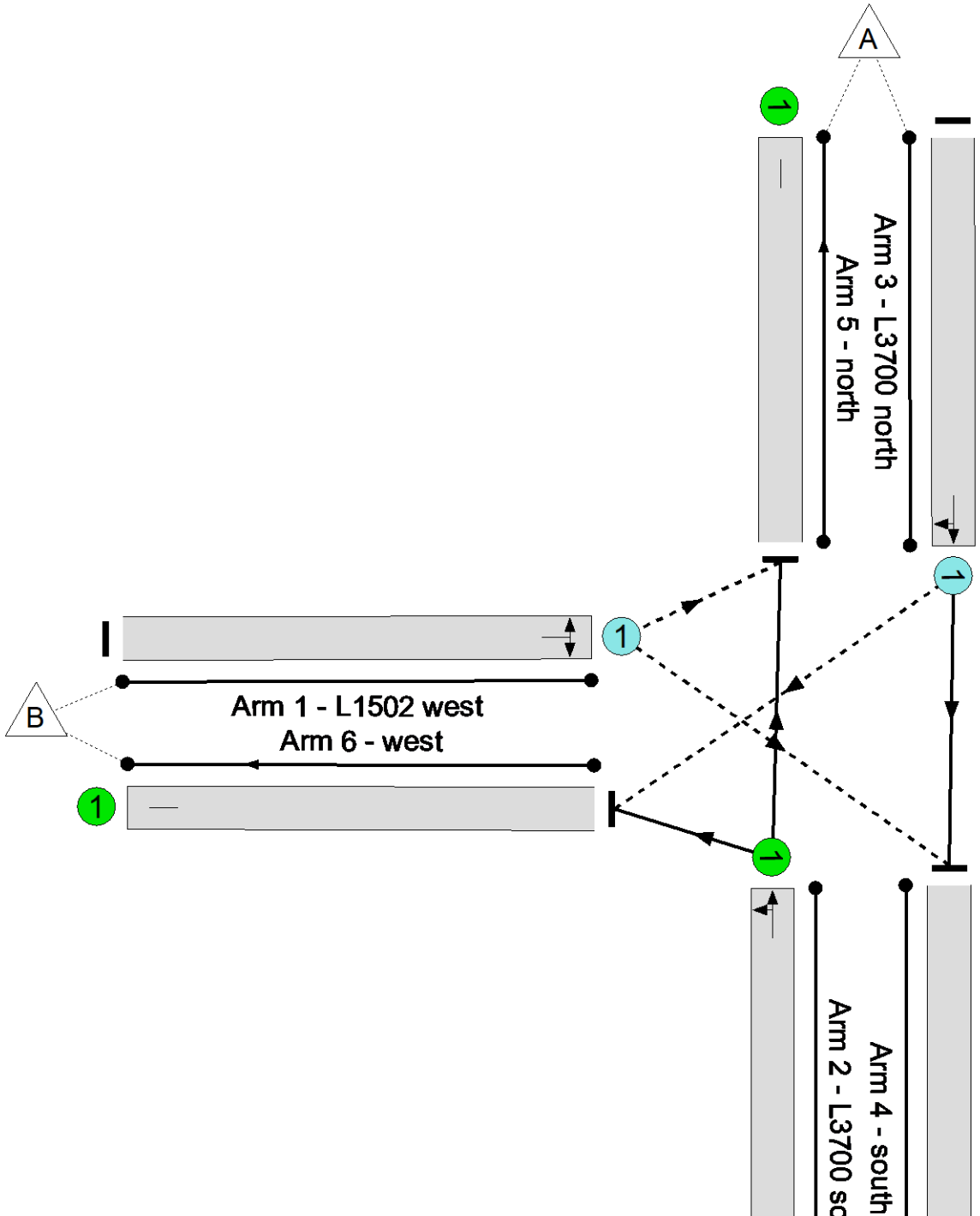
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 1780.6 %
Total Traffic Delay: 0.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.8%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.8%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	66	1800	1379	4.8%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	51	1800	1800	2.8%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	58	1800	1654	3.5%
4/1	south	U	N/A	N/A	-		-	-	-	72	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	62	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	41	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**83**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**83**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	66	66	66	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	51	51	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	58	58	17	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	72	72	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	62	62	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	41	41	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

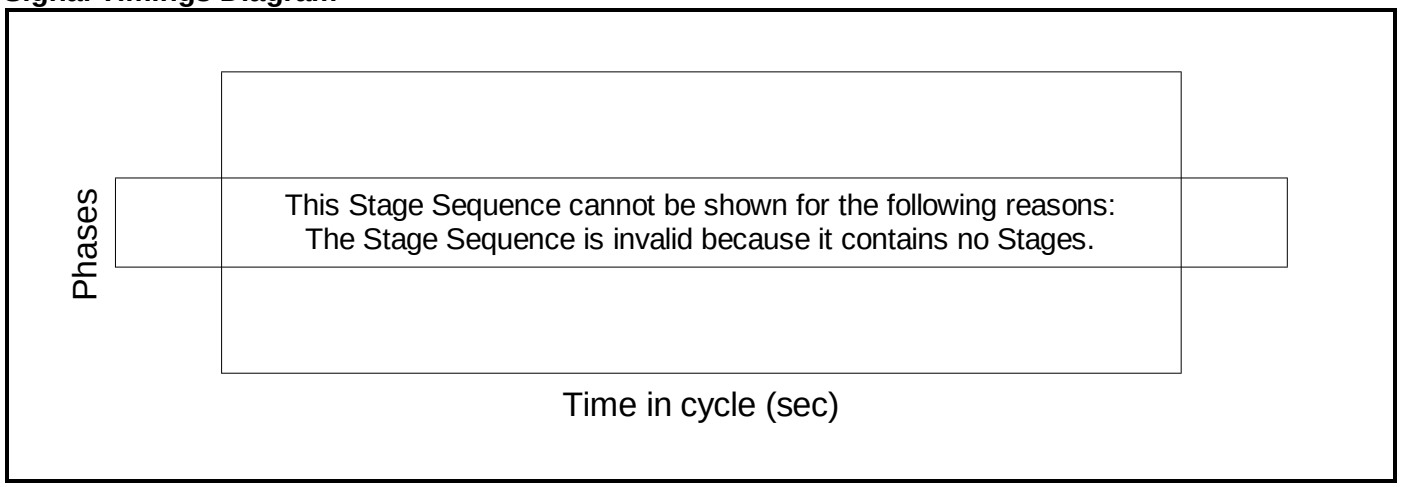
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 1780.6 Total Delay Over All Lanes(pcuHr): 0.06

Scenario 7: 'OY no Dev scenario AM' (FG7: 'OY no Dev Flow AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

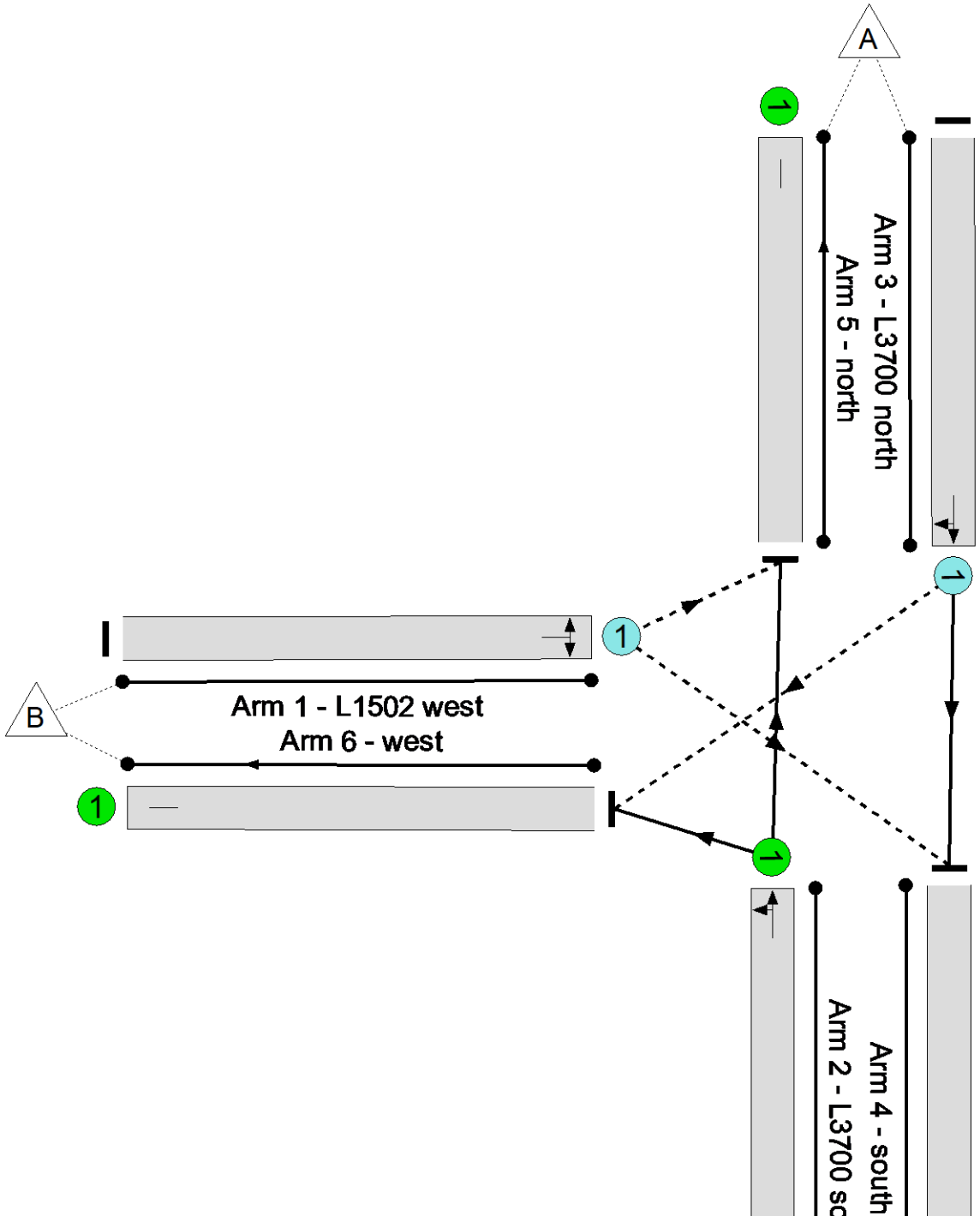
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 3369.1 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.6%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.6%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	26	1800	1386	1.9%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	46	1800	1800	2.6%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	39	1800	1503	2.6%
4/1	south	U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	59	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	33	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**52**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**52**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	26	26	26	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	46	46	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	39	39	26	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	59	59	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	33	33	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

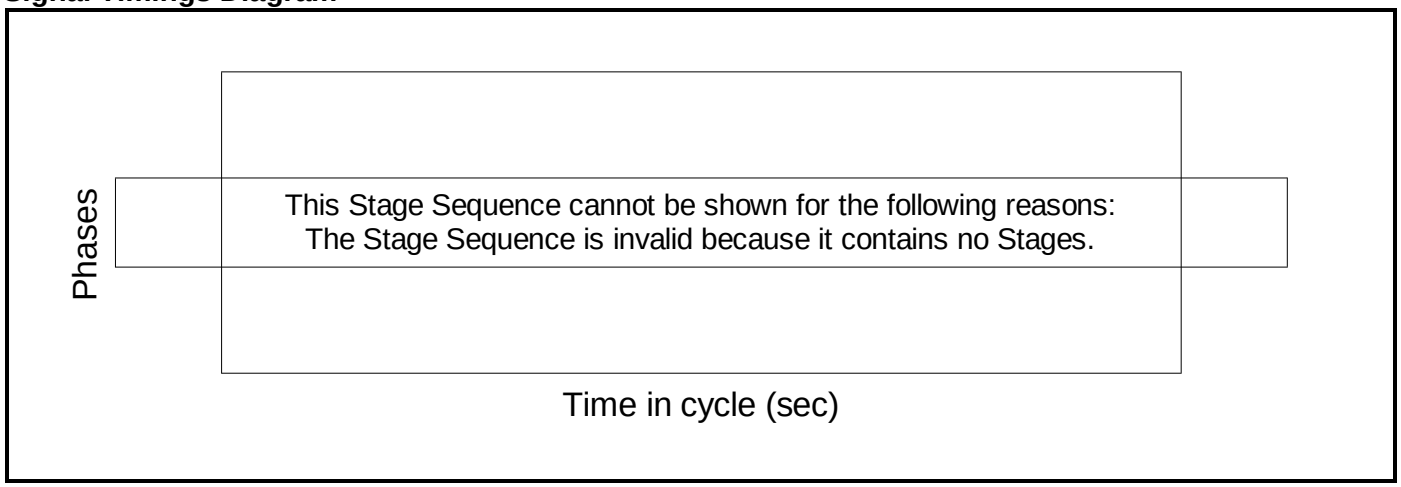
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 3369.1 Total Delay Over All Lanes(pcuHr): 0.04

Scenario 8: 'OY no Dev scenario PM' (FG9: 'OY no Dev Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

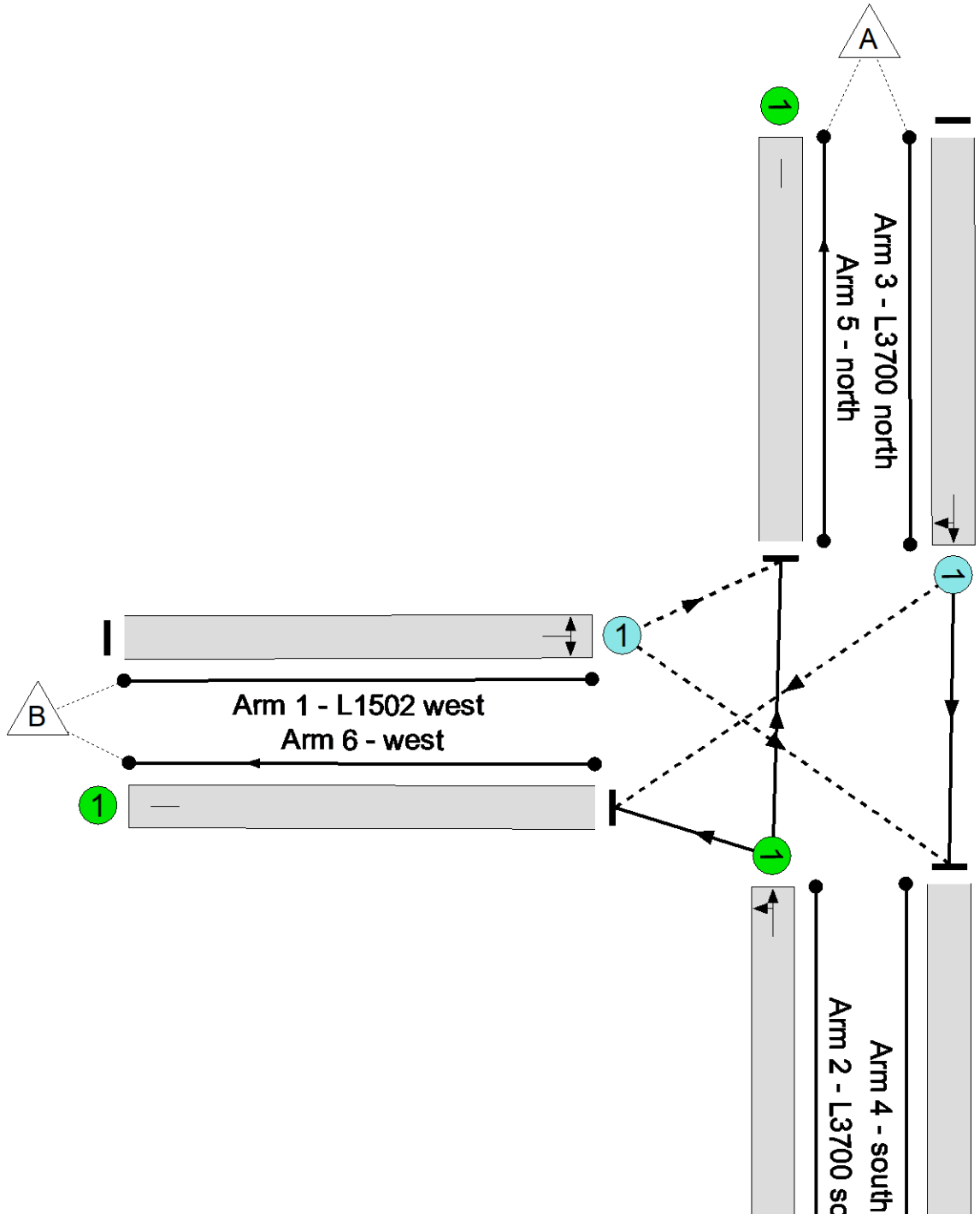
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2353.0 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.7%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	51	1800	1390	3.7%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	29	1800	1800	1.6%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	52	1800	1666	3.1%
4/1	south	U	N/A	N/A	-		-	-	-	56	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	57	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**66**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**66**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	51	51	51	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	29	29	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	52	52	15	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	56	56	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	57	57	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

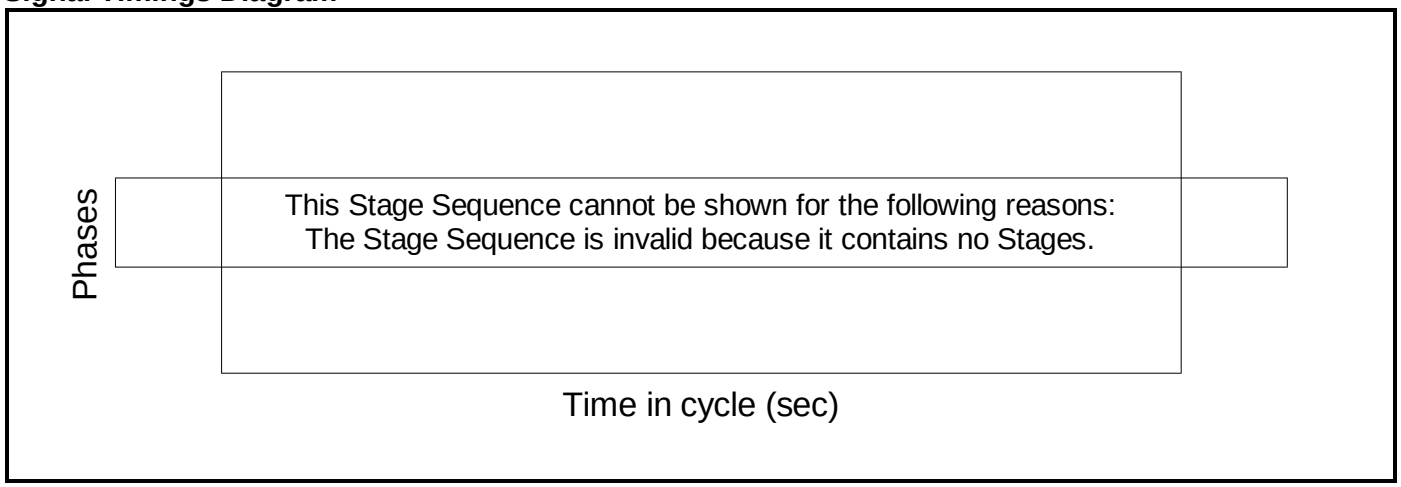
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2353.0 Total Delay Over All Lanes(pcuHr): 0.04

Scenario 9: 'DY no Dev scenario AM' (FG8: 'DY no Dev Flow AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

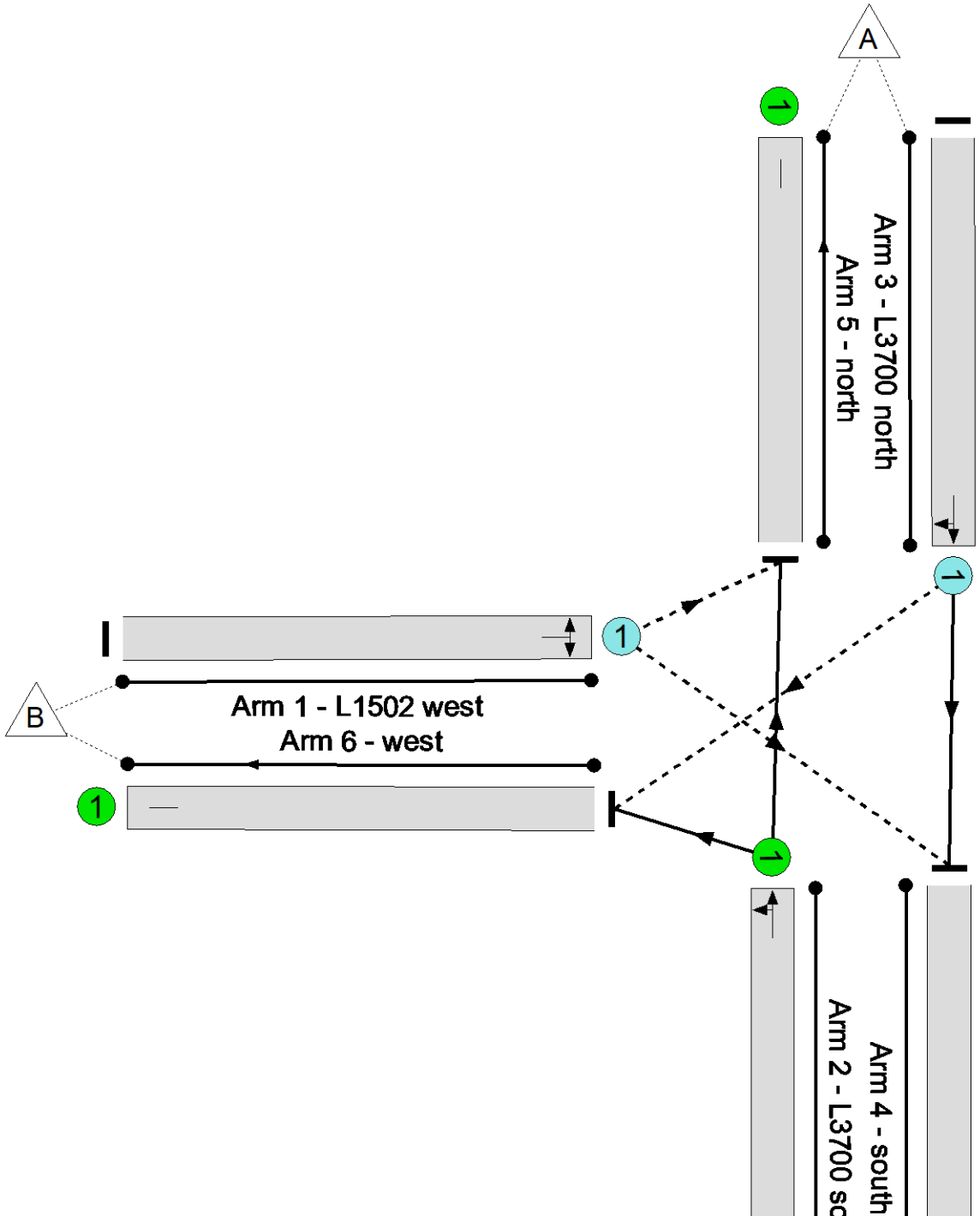
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 3049.7 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.9%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.9%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	30	1800	1381	2.2%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	51	1800	1800	2.8%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	43	1800	1505	2.9%
4/1	south	U	N/A	N/A	-		-	-	-	22	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	36	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**58**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**58**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	30	30	30	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	51	51	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	43	43	28	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	22	22	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	66	66	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	36	36	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

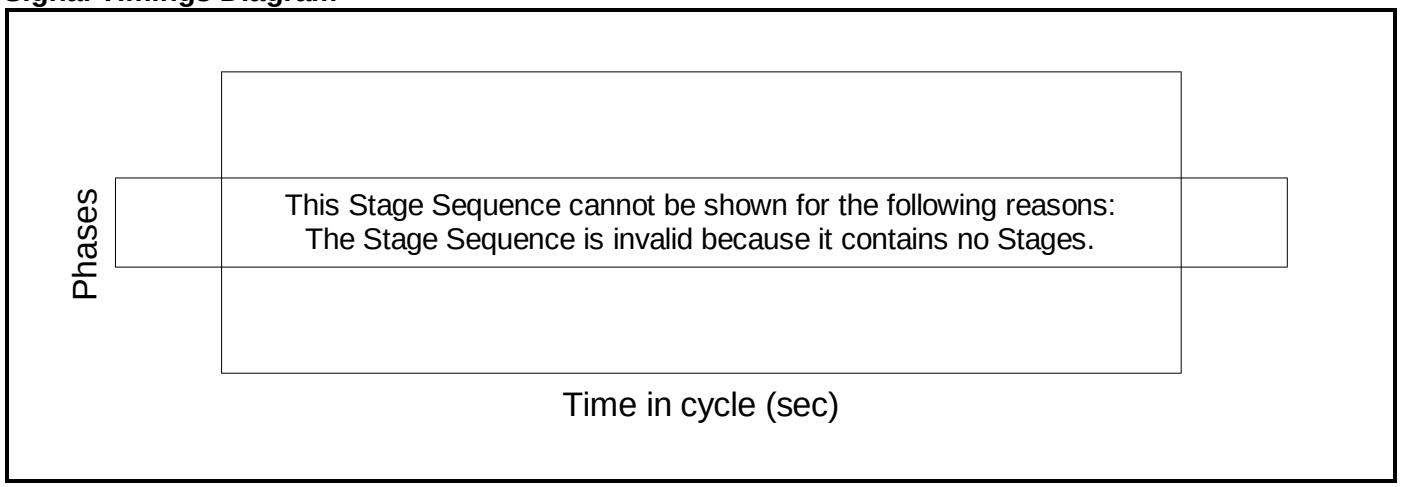
C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 3049.7 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.04 Cycle Time (s): 90

Scenario 10: 'DY no Dev scenario PM' (FG10: 'DY no Dev Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

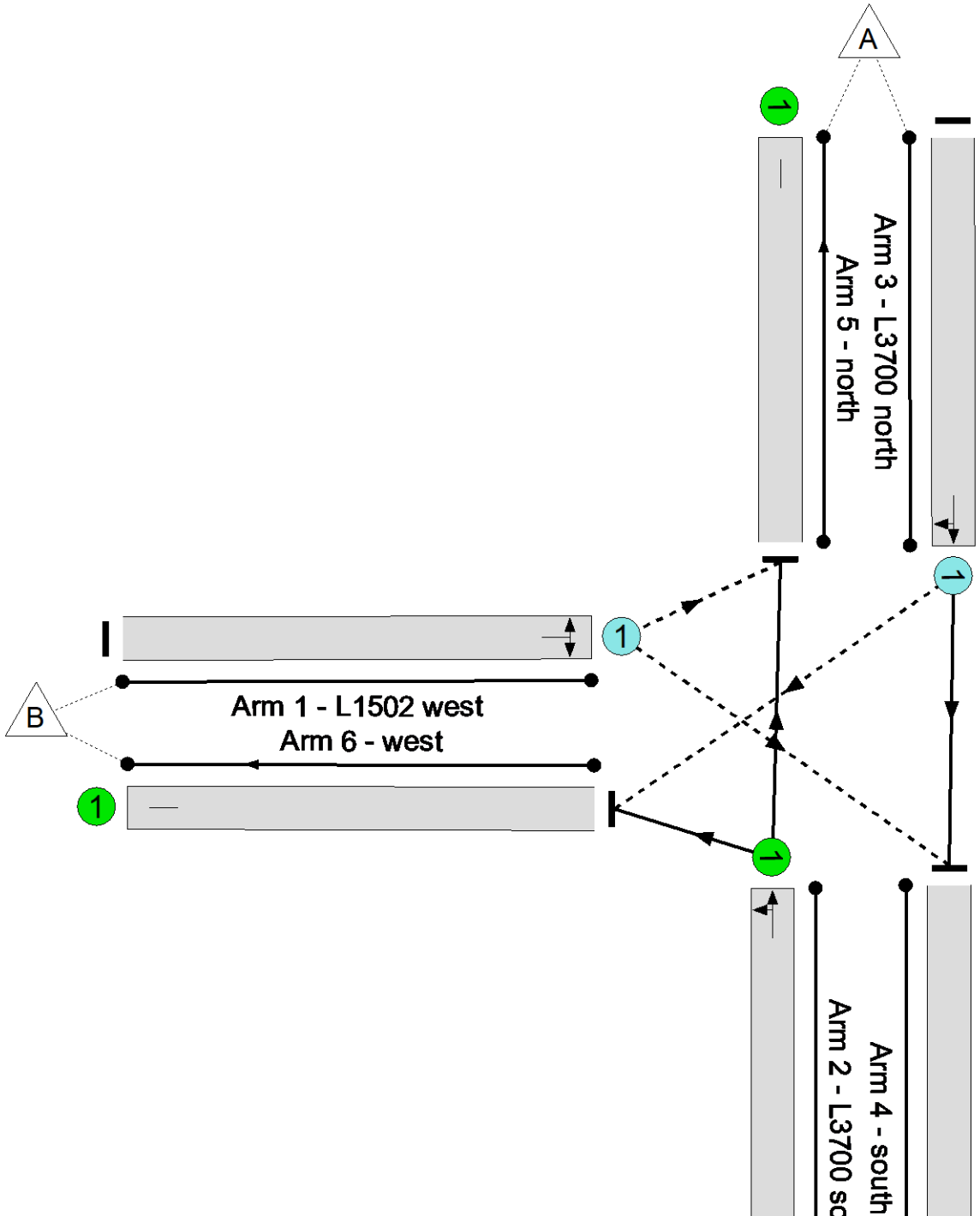
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2085.9 %
Total Traffic Delay: 0.0 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.1%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.1%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	57	1800	1384	4.1%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	32	1800	1800	1.8%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	58	1800	1663	3.5%
4/1	south	U	N/A	N/A	-		-	-	-	63	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	62	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	22	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**74**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**74**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	57	57	57	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	32	32	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	58	58	17	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	63	63	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	62	62	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	22	22	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

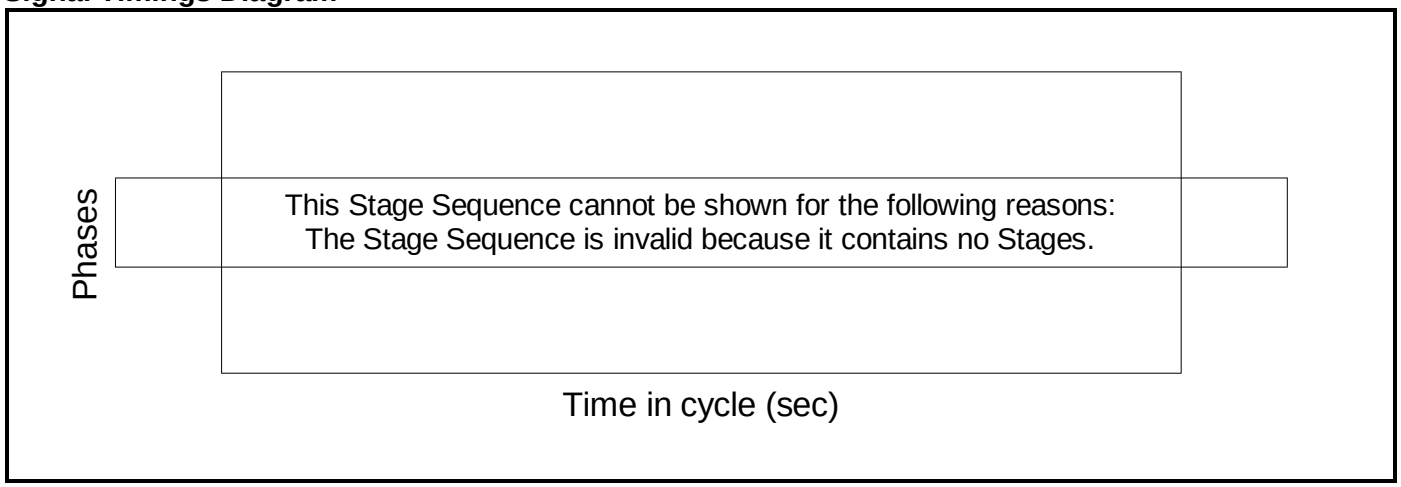
C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 2085.9 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.05 Cycle Time (s): 90

Scenario 11: 'Construction AM' (FG11: 'Construction AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

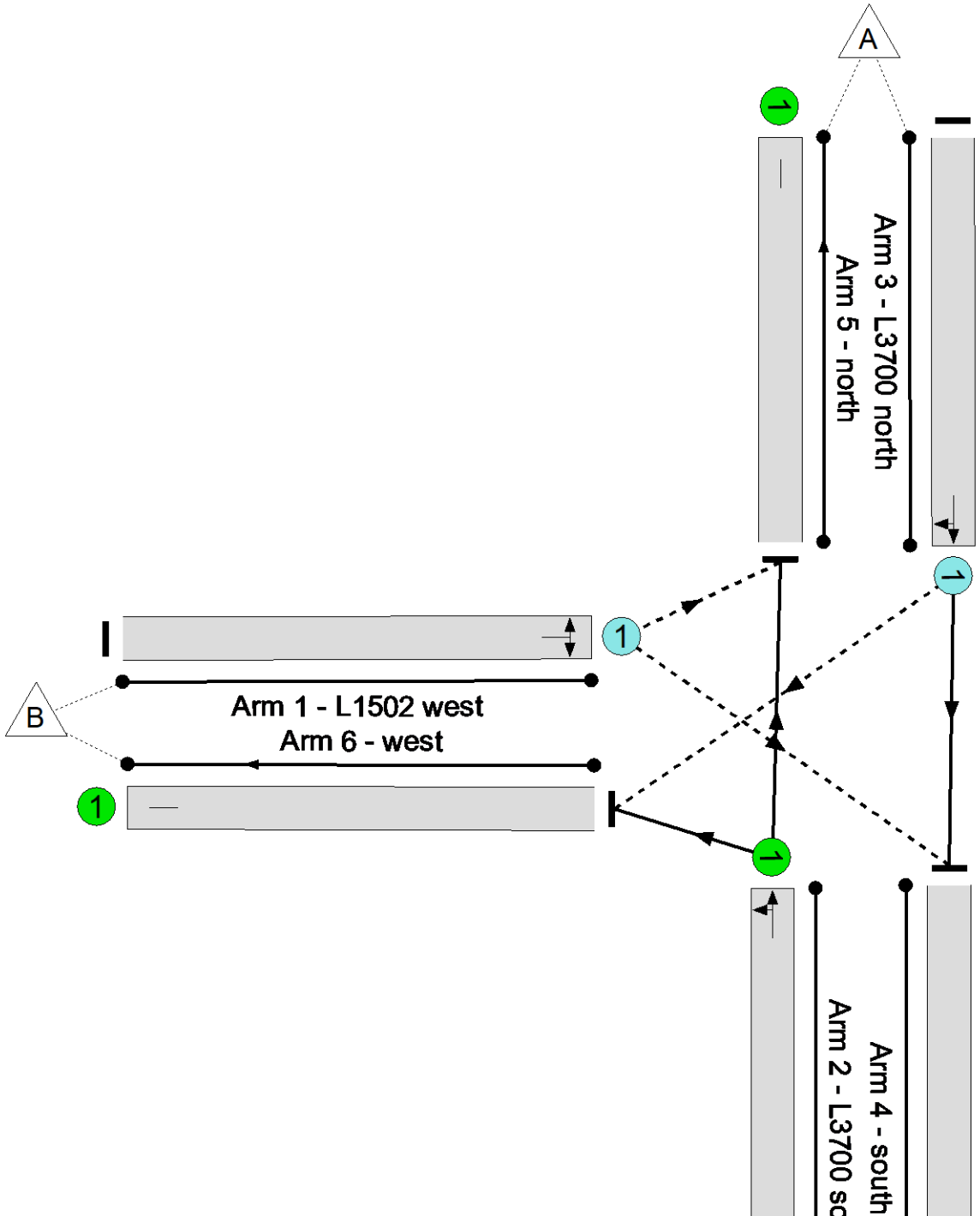
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 2063.7 %
Total Traffic Delay: 0.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.2%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.2%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	57	1800	1370	4.2%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	66	1800	1800	3.7%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	38	1800	1490	2.6%
4/1	south	U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	53	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**82**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**82**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	57	57	57	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	66	66	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	38	38	25	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
4/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	53	53	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

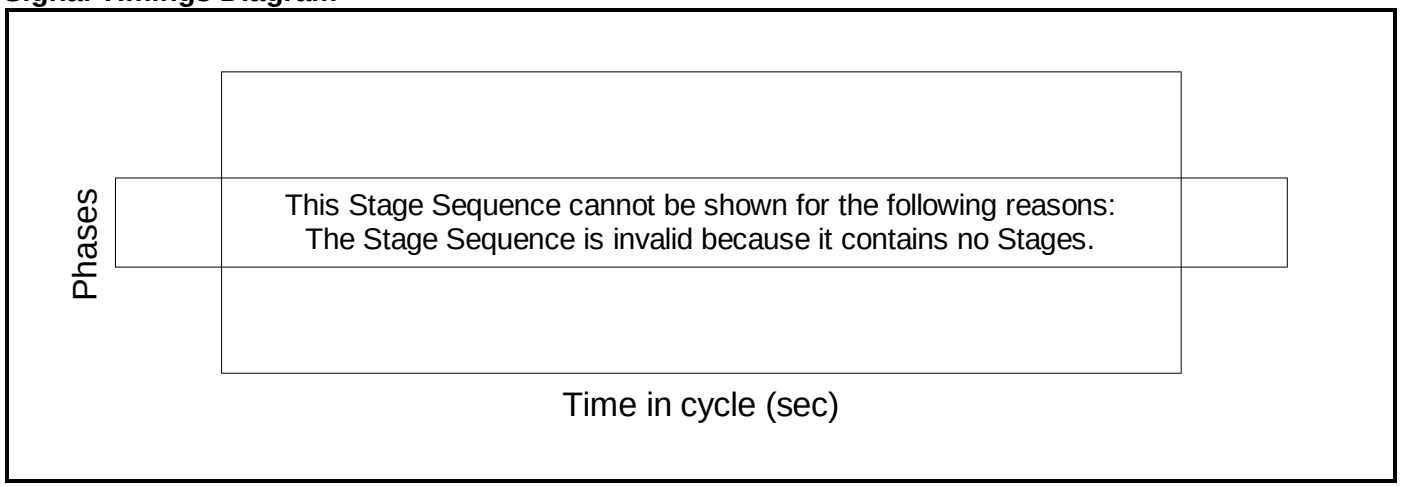
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2063.7 Total Delay Over All Lanes(pcuHr): 0.05

Scenario 12: 'Construction PM' (FG12: 'Construction PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

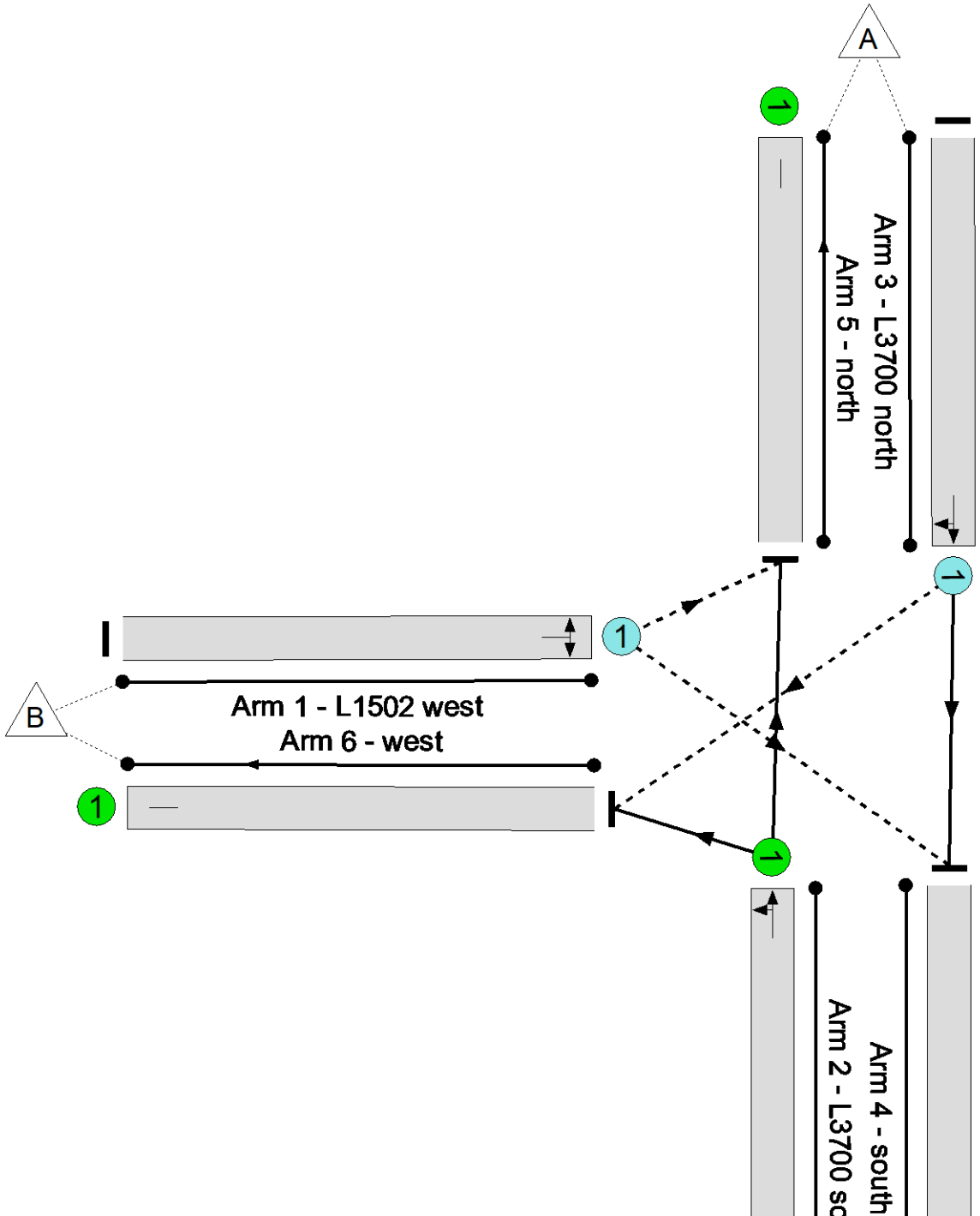
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

L1502-L3700 junction
PRC: 1650.4 %
Total Traffic Delay: 0.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: TO-155 Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**5.1%**
L1502-L3700 junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**5.1%**
1/1	L1502 west Right Left	O	N/A	N/A	-		-	-	-	71	1800	1381	5.1%
2/1	L3700 south Ahead Left	U	N/A	N/A	-		-	-	-	59	1800	1800	3.3%
3/1	L3700 north Ahead Right	O	N/A	N/A	-		-	-	-	51	1800	1650	3.1%
4/1	south	U	N/A	N/A	-		-	-	-	76	Inf	Inf	0.0%
5/1	north	U	N/A	N/A	-		-	-	-	55	Inf	Inf	0.0%
6/1	west	U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: TO-155 Salt Barn Depot	**-**	**-**	**86**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
L1502-L3700 junction	**-**	**-**	**86**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	71	71	71	0	0	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
2/1	59	59	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/1	51	51	15	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
4/1	76	76	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	55	55	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

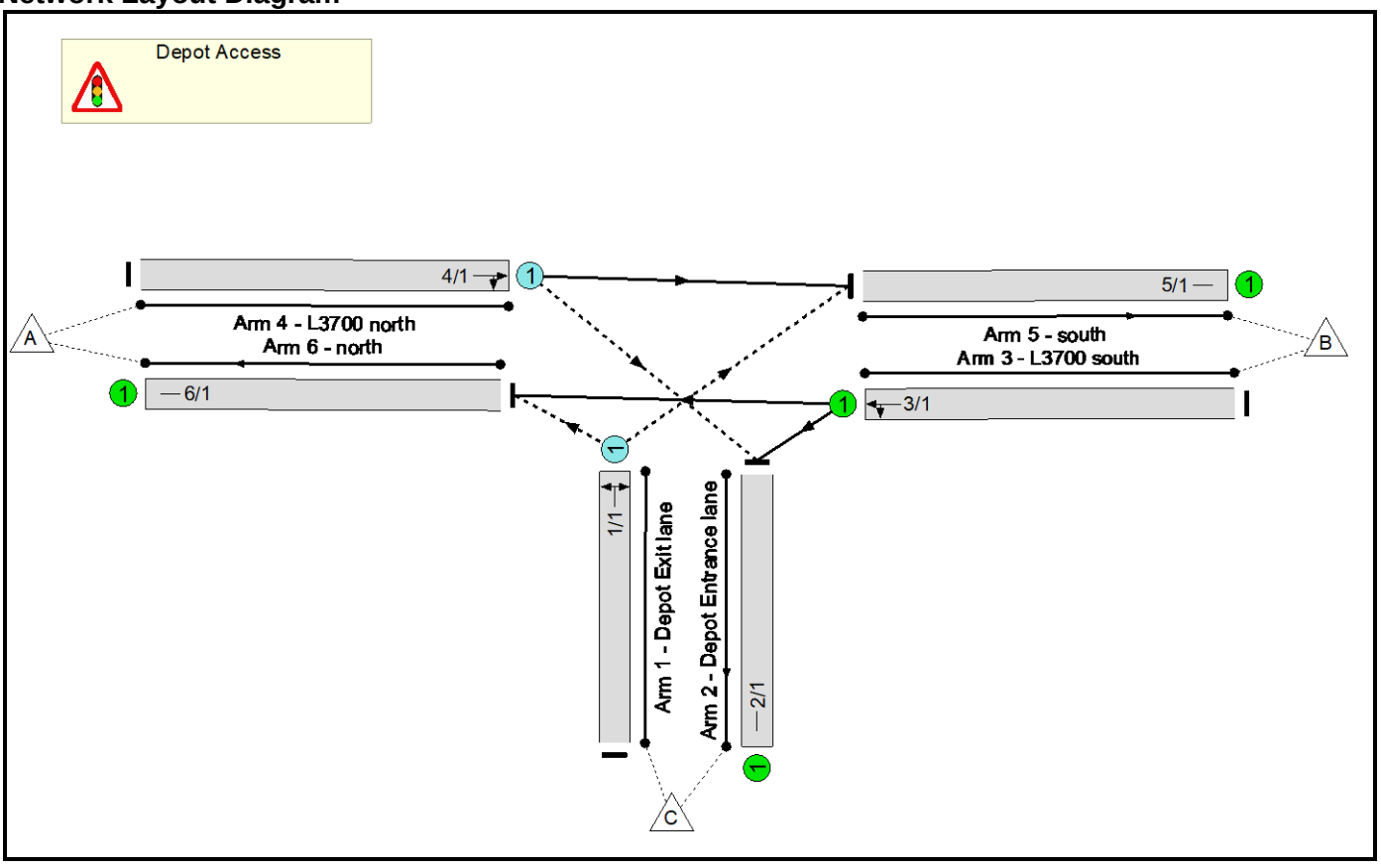
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 1650.4 Total Delay Over All Lanes(pcuHr): 0.06

Full Input Data And Results

User and Project Details

Project:	**21.114 MCAAS - TO15**
Title:	**Salt Barn Depot**
Location:	
Client:	TII
Additional detail:	
File name:	TO-15 Proposed depot access (model).lsg3x
Author:	EP
Company:	ROD
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min

Phase Intergreens Matrix

	Starting Phase
Terminating Phase	This View cannot be shown as there are currently no Phases defined.

Phases in Stage

Stage No.	Phases in Stage

Full Input Data And Results

Stage Diagram

There are no Stages to display

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage
From Stage	This View cannot be shown as there are currently no Stages defined.

Full Input Data And Results

Give-Way Lane Input Data

Junction: Depot Access											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/1 (Depot Exit lane)	5/1 (Right)	1439	0	4/1	1.09	All	-	-	-	-	-
				3/1	1.09	To 6/1 (Ahead)					
	6/1 (Left)	1439	0	3/1	1.09	To 6/1 (Ahead)					
4/1 (L3700 north)	2/1 (Right)	1439	0	3/1	1.09	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: Depot Access												
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 (Depot Exit lane)	O		2	3	60.0	User	1800	-	-	-	-	-
2/1 (Depot Entrance lane)	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (L3700 south)	U		2	3	60.0	User	1800	-	-	-	-	-
4/1 (L3700 north)	O		2	3	60.0	User	1800	-	-	-	-	-
5/1 (south)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (north)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'OY Flow AM'	08:00	09:00	01:00	
2: 'OY Flow PM'	16:00	17:00	01:00	
3: 'DY Flow AM'	08:00	09:00	01:00	
4: 'DY Flow PM'	16:00	17:00	01:00	
5: 'Construction AM'	08:00	09:00	01:00	
6: 'Construction PM'	16:00	17:00	01:00	

Scenario 1: 'OY scenario AM' (FG1: 'OY Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	18	20	38
	B	35	0	0	35
	C	9	0	0	9
	Tot.	44	18	20	82

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: OY scenario AM
Junction: Depot Access	
1/1	9
2/1	20
3/1	35
4/1	38
5/1	18
6/1	44

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'OY scenario PM' (FG2: 'OY Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	45	9	54
	B	32	0	0	32
	C	20	0	0	20
	Tot.	52	45	9	106

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: OY scenario PM
Junction: Depot Access	
1/1	20
2/1	9
3/1	32
4/1	54
5/1	45
6/1	52

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'DY scenario AM' (FG3: 'DY Flow AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	20	20	40
	B	39	0	0	39
	C	9	0	0	9
	Tot.	48	20	20	88

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: DY scenario AM
Junction: Depot Access	
1/1	9
2/1	20
3/1	39
4/1	40
5/1	20
6/1	48

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'DY scenario PM' (FG4: 'DY Flow PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	50	9	59
	B	35	0	0	35
	C	20	0	0	20
	Tot.	55	50	9	114

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: DY scenario PM
Junction: Depot Access	
1/1	20
2/1	9
3/1	35
4/1	59
5/1	50
6/1	55

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'Construction AM' (FG5: 'Construction AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	18	46	64
	B	34	0	0	34
	C	25	0	0	25
	Tot.	59	18	46	123

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: Construction AM
Junction: Depot Access	
1/1	25
2/1	46
3/1	34
4/1	64
5/1	18
6/1	59

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Construction PM' (FG6: 'Construction PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	45	25	70
	B	31	0	0	31
	C	46	0	0	46
	Tot.	77	45	25	147

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Construction PM
Junction: Depot Access	
1/1	46
2/1	25
3/1	31
4/1	70
5/1	45
6/1	77

Lane Saturation Flows

Junction: Depot Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Depot Exit lane Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (Depot Entrance lane Lane 1)	Infinite Saturation Flow						Inf	Inf
3/1 (L3700 south Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/1 (L3700 north Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (south Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (north Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'OY scenario AM' (FG1: 'OY Flow AM', Plan 1: 'Network Control Plan 1')

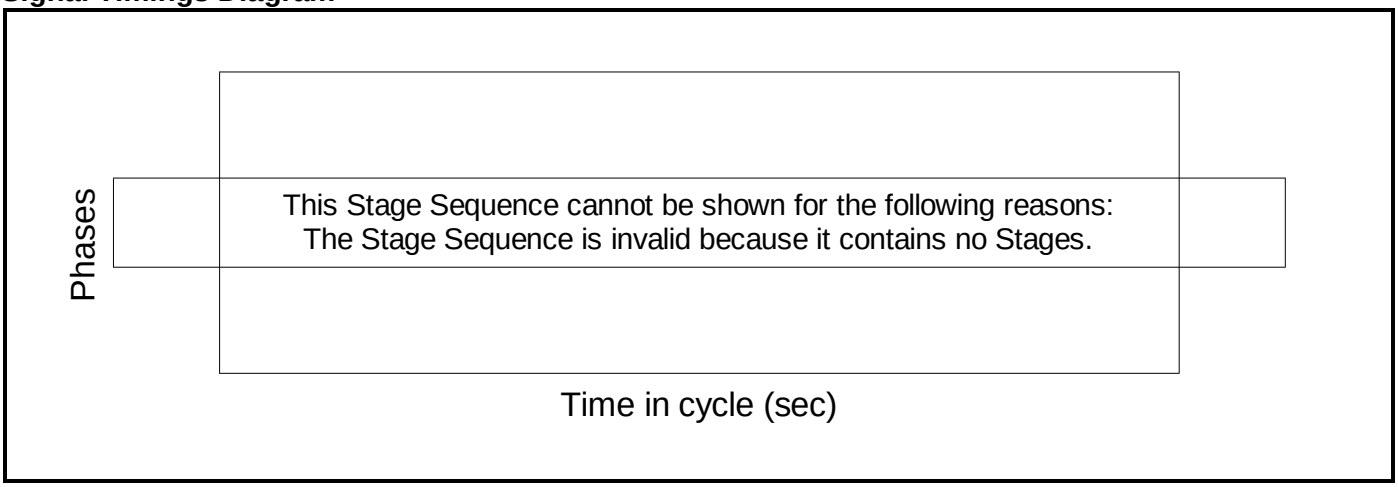
Stage Sequence Diagram

Full Input Data And Results

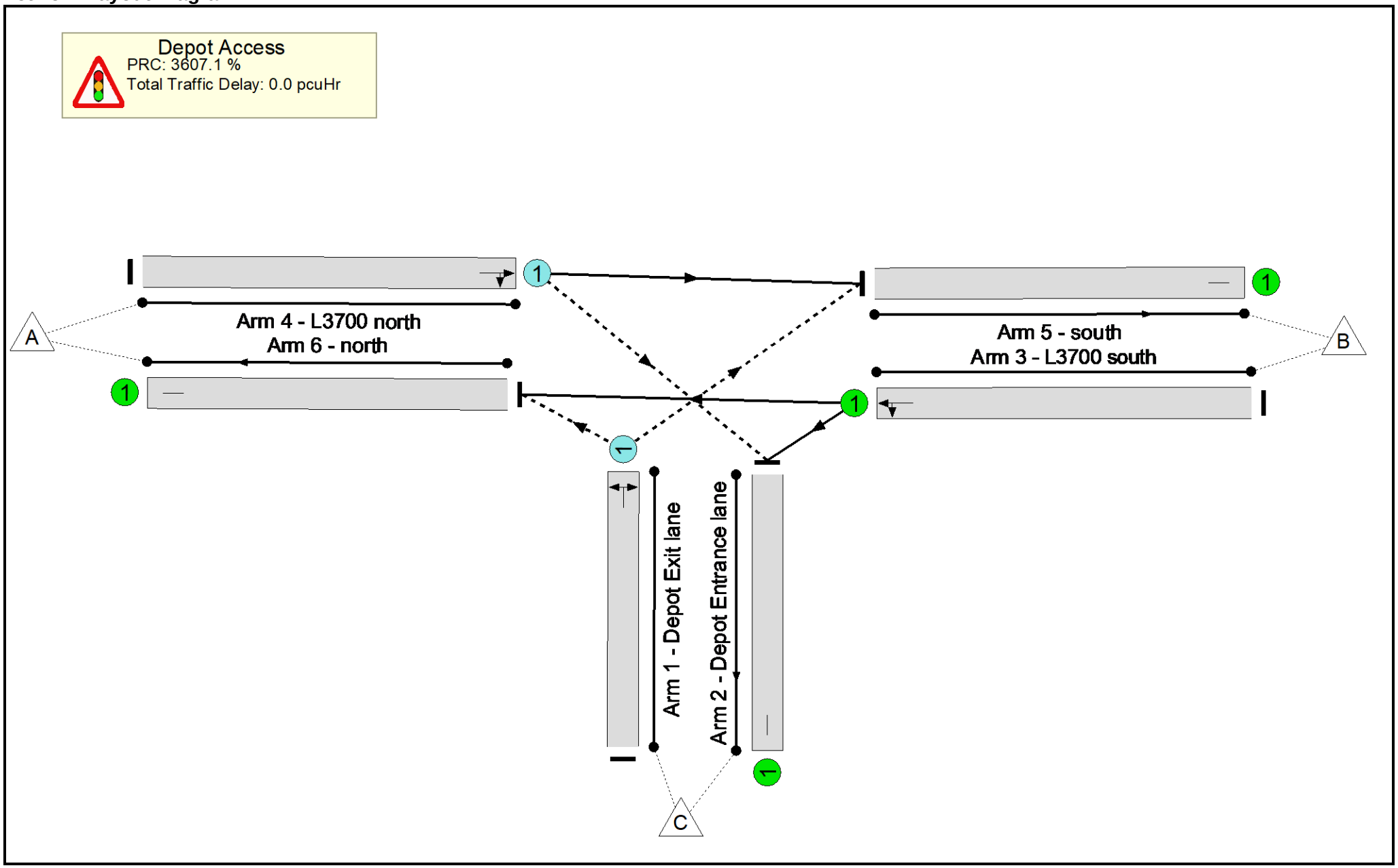
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.4%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.4%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	9	1800	1401	0.6%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	20	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	35	1800	1800	1.9%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	38	1800	1565	2.4%
5/1	south	U	N/A	N/A	-		-	-	-	18	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	44	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	9	9	9	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	20	20	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	35	35	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	38	38	20	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
5/1	18	18	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	44	44	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

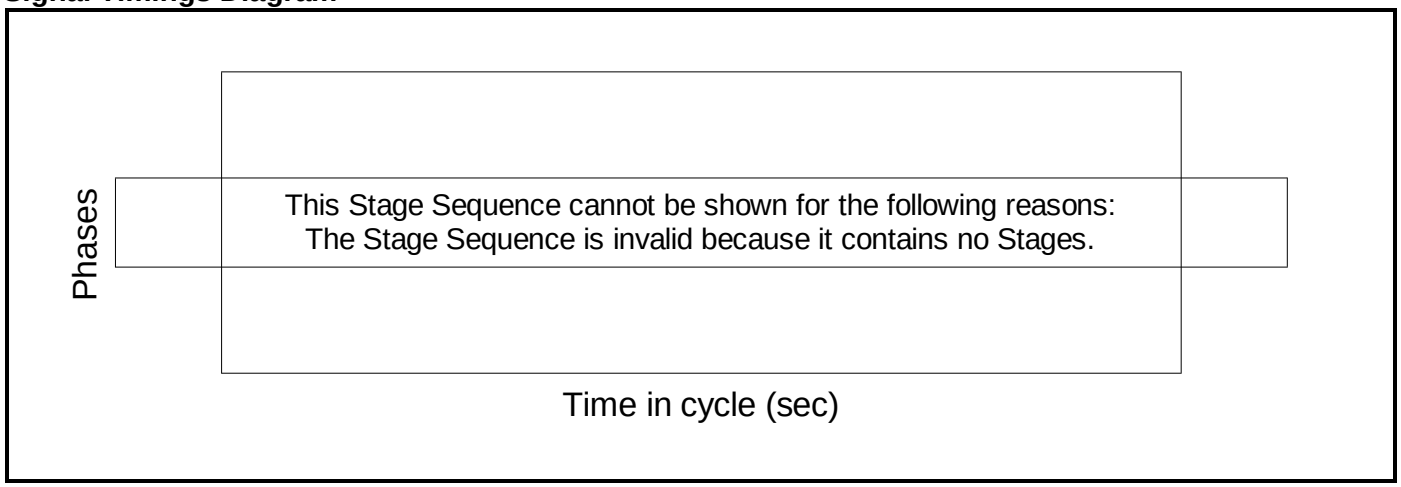
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 3607.1 Total Delay Over All Lanes(pcuHr): 0.03

Scenario 2: 'OY scenario PM' (FG2: 'OY Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

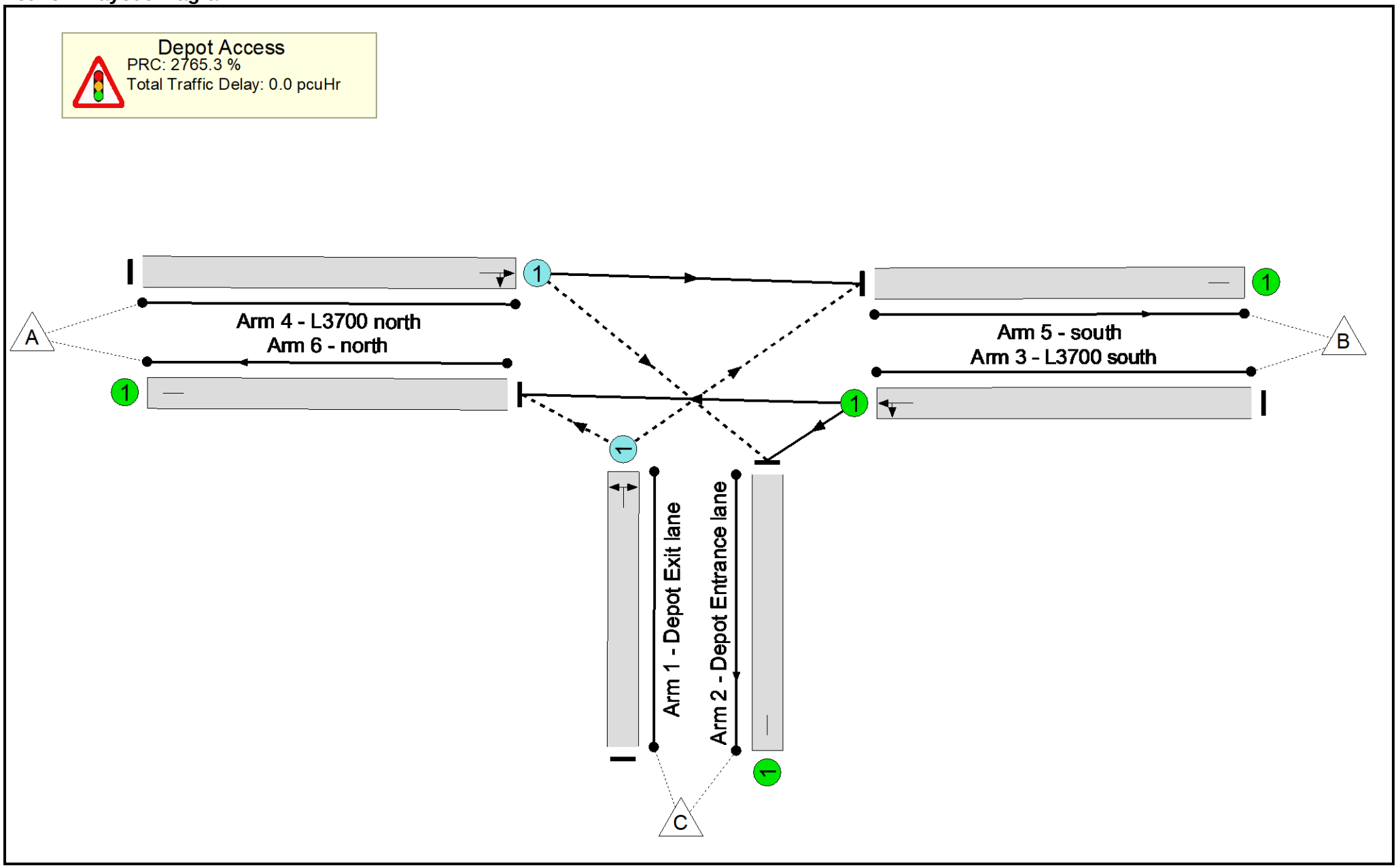
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.1%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.1%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	20	1800	1404	1.4%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	9	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	32	1800	1800	1.8%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	54	1800	1719	3.1%
5/1	south	U	N/A	N/A	-		-	-	-	45	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	52	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	20	20	20	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	32	32	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	54	54	9	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
5/1	45	45	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	52	52	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

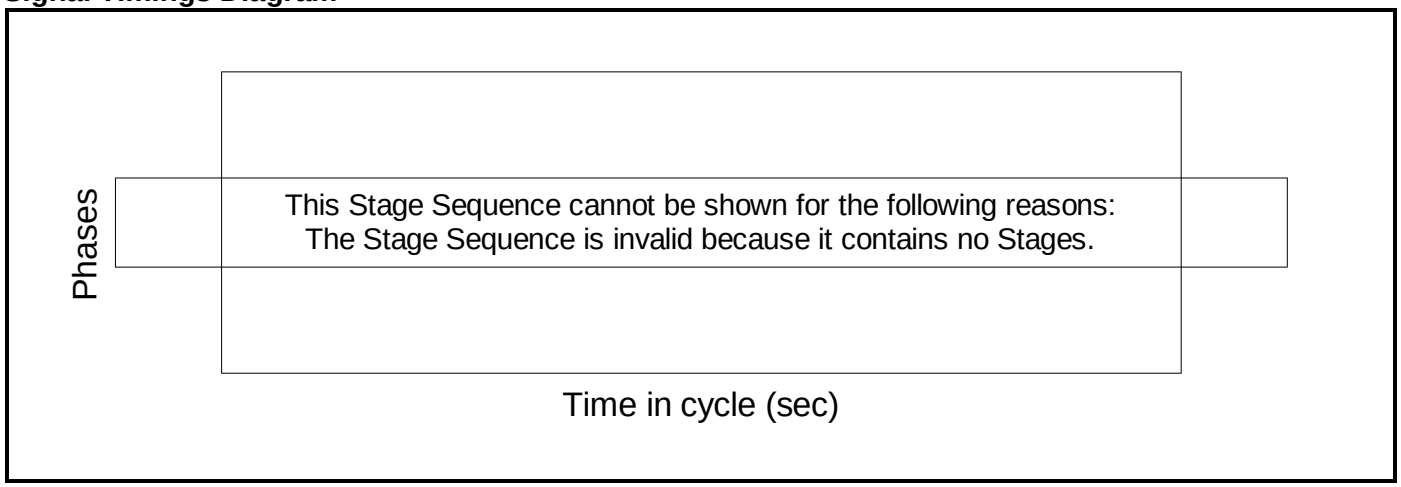
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2765.3 Total Delay Over All Lanes(pcuHr): 0.03

Scenario 3: 'DY scenario AM' (FG3: 'DY Flow AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

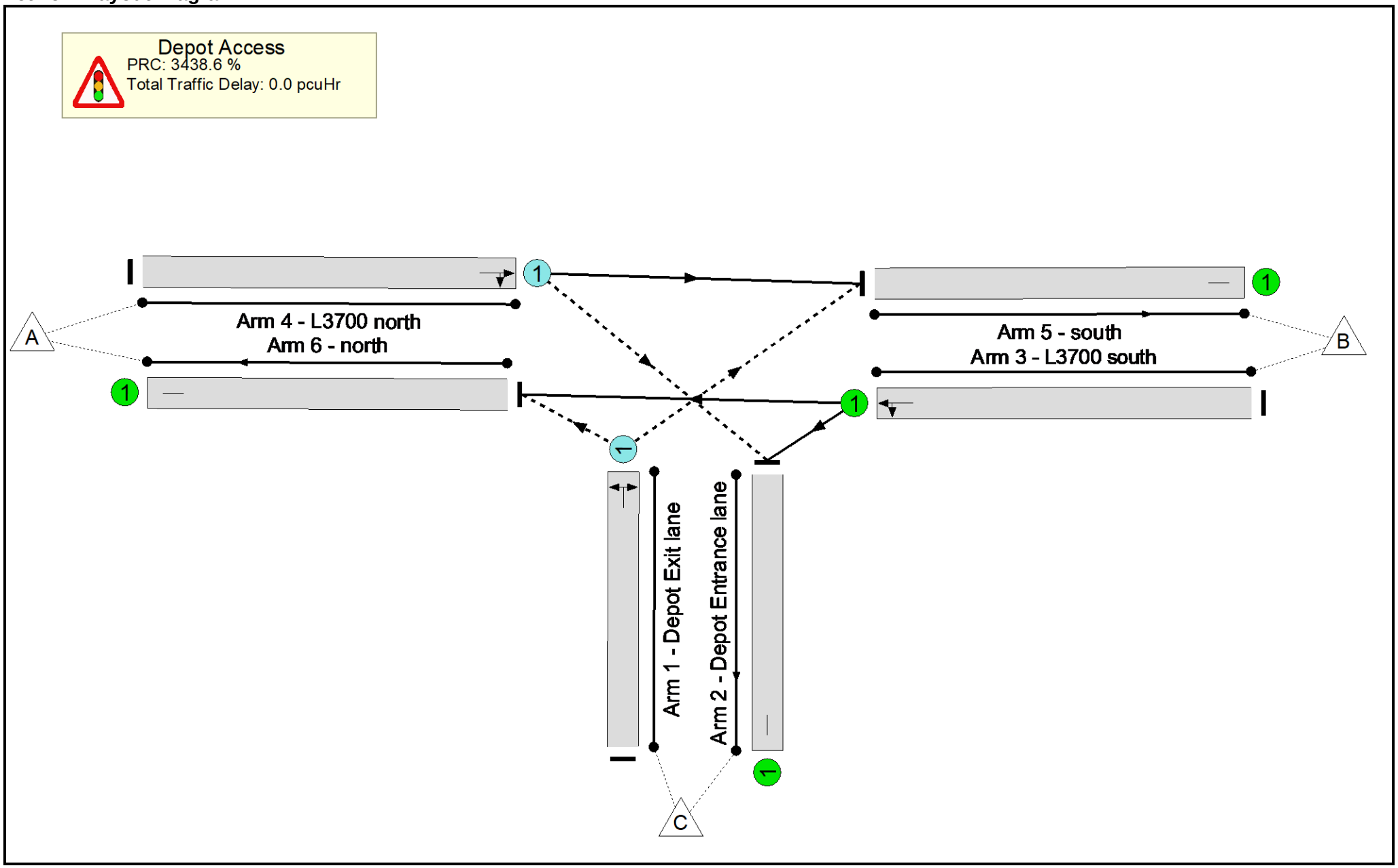
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.5%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**2.5%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	9	1800	1396	0.6%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	20	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	39	1800	1800	2.2%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	40	1800	1573	2.5%
5/1	south	U	N/A	N/A	-		-	-	-	20	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	9	9	9	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	20	20	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	39	39	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	40	40	20	0	0	0.0	0.0	-	0.0	1.2	0.0	0.0	0.0
5/1	20	20	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

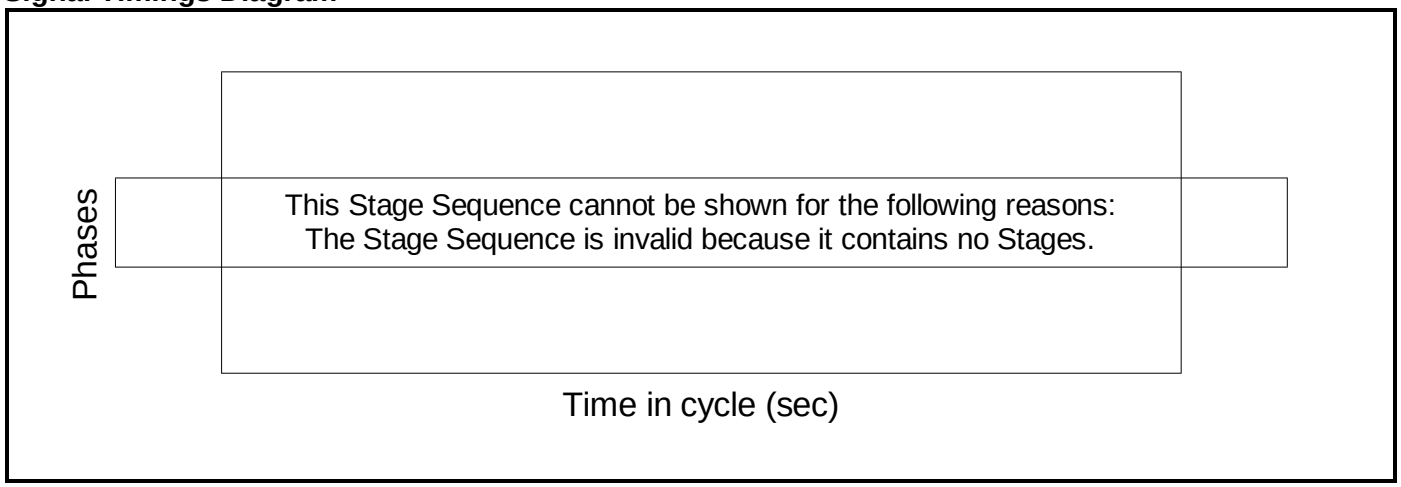
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 3438.6 Total Delay Over All Lanes(pcuHr): 0.03

Scenario 4: 'DY scenario PM' (FG4: 'DY Flow PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

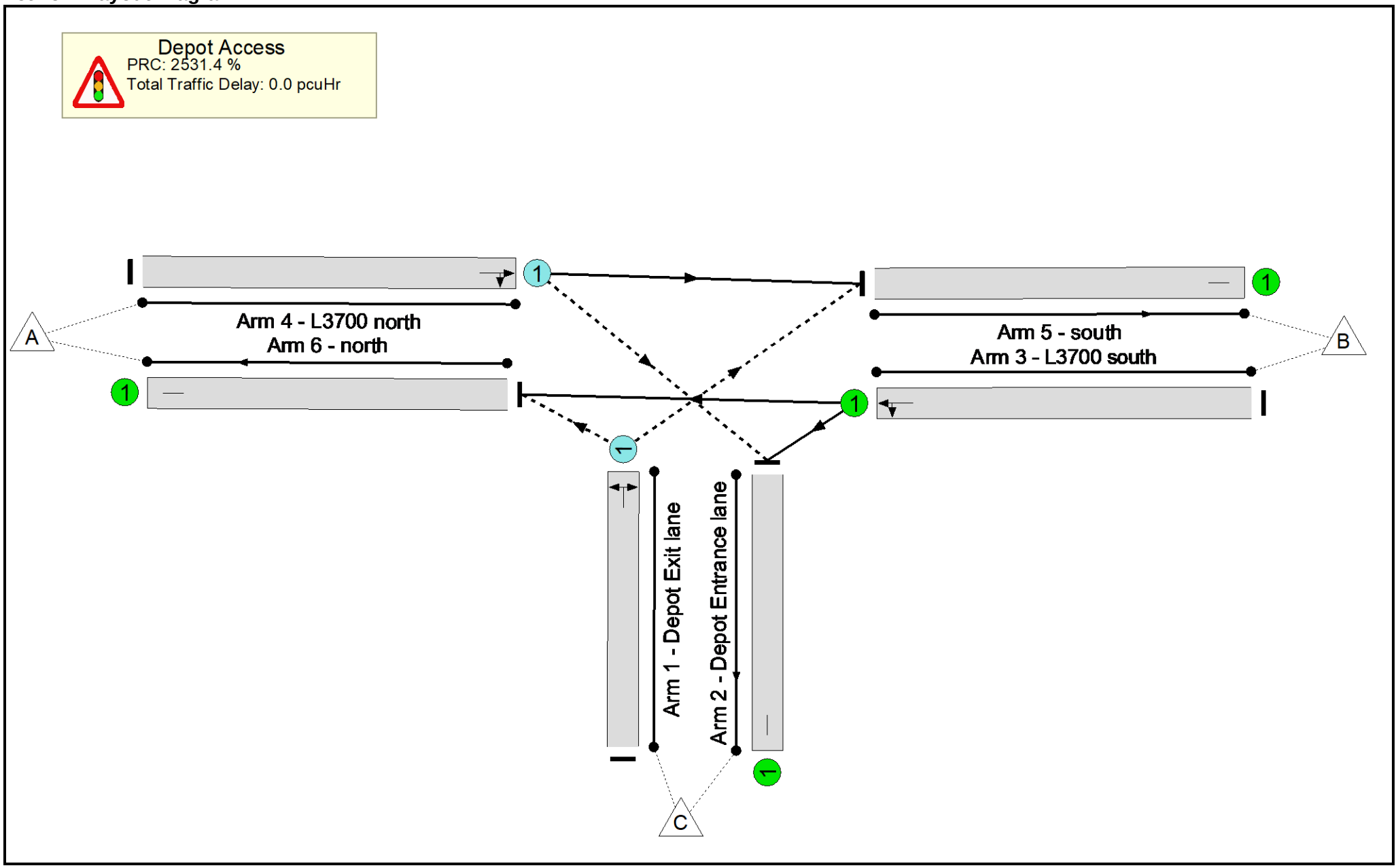
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**3.4%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	20	1800	1401	1.4%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	9	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	35	1800	1800	1.9%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	59	1800	1725	3.4%
5/1	south	U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	55	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**29**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	20	20	20	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	35	35	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	59	59	9	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
5/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	55	55	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

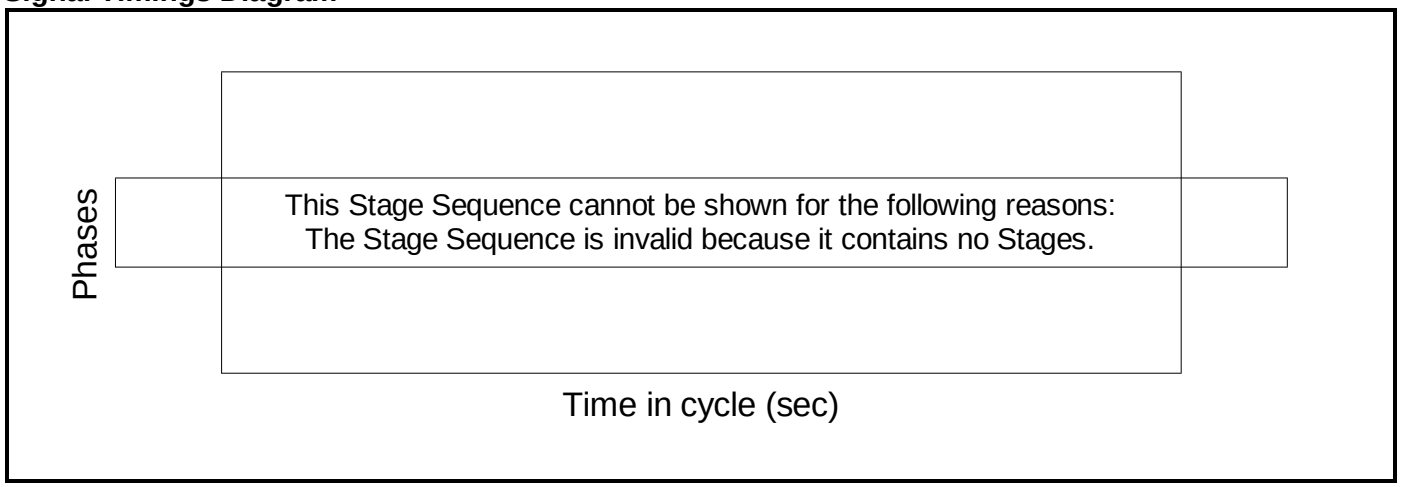
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2531.4 Total Delay Over All Lanes(pcuHr): 0.03

Scenario 5: 'Construction AM' (FG5: 'Construction AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

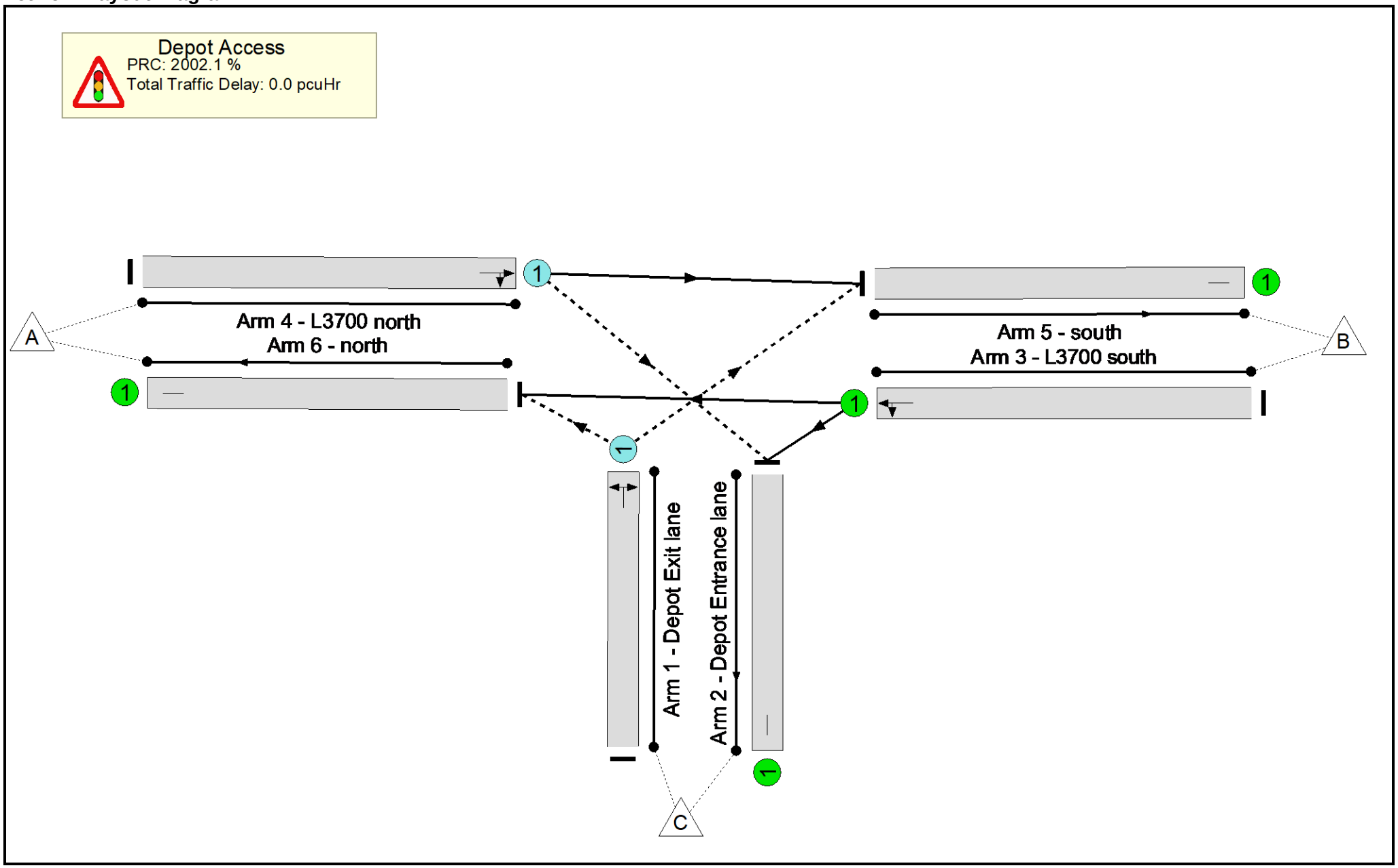
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.3%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.3%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	25	1800	1402	1.8%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	46	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	34	1800	1800	1.9%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	64	1800	1495	4.3%
5/1	south	U	N/A	N/A	-		-	-	-	18	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	59	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**71**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**71**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	25	25	25	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	46	46	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	34	34	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	64	64	46	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
5/1	18	18	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	59	59	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

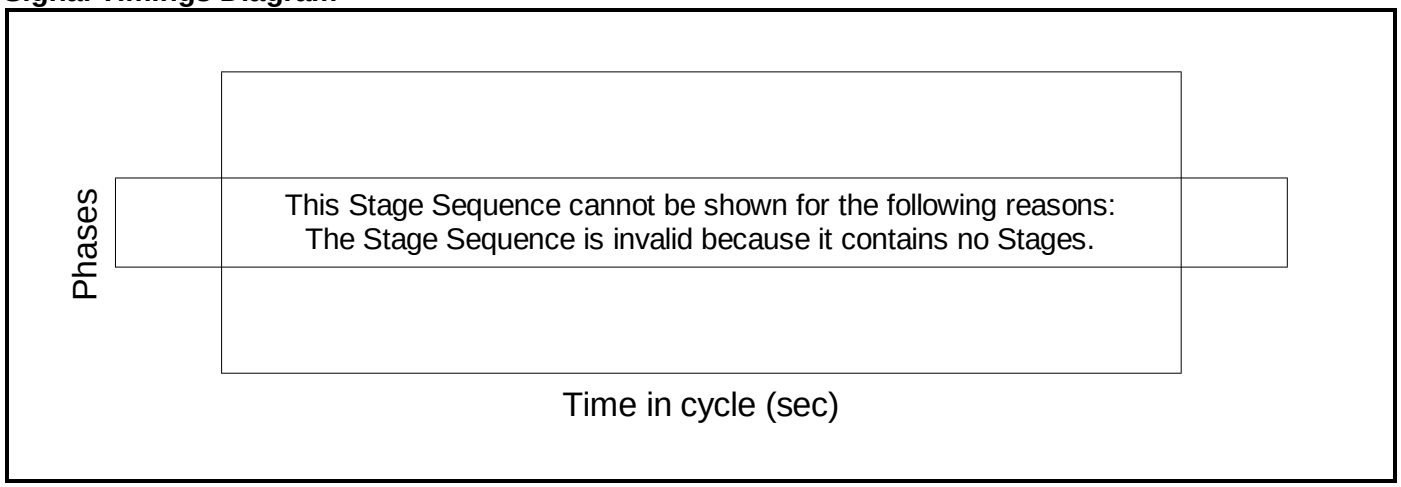
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2002.1 Total Delay Over All Lanes(pcuHr): 0.04

Full Input Data And Results
Scenario 6: 'Construction PM' (FG6: 'Construction PM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

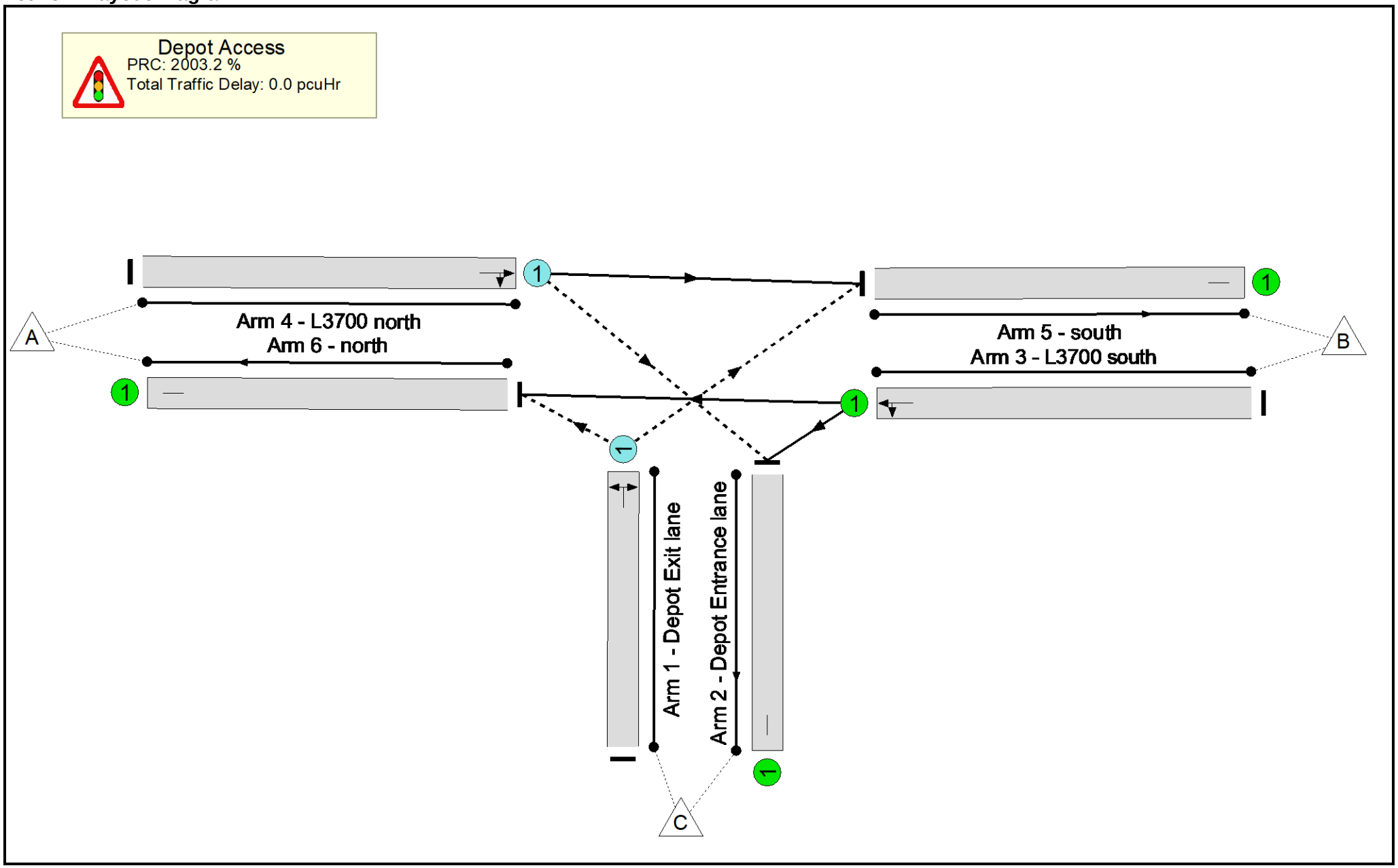
Stage Timings

Stage
Duration
Change Point

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Salt Barn Depot	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.3%**
Depot Access	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**4.3%**
1/1	Depot Exit lane Right Left	O	N/A	N/A	-		-	-	-	46	1800	1405	3.3%
2/1	Depot Entrance lane	U	N/A	N/A	-		-	-	-	25	Inf	Inf	0.0%
3/1	L3700 south Left Ahead	U	N/A	N/A	-		-	-	-	31	1800	1800	1.7%
4/1	L3700 north Right Ahead	O	N/A	N/A	-		-	-	-	70	1800	1636	4.3%
5/1	south	U	N/A	N/A	-		-	-	-	45	Inf	Inf	0.0%
6/1	north	U	N/A	N/A	-		-	-	-	77	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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: Salt Barn Depot	**-**	**-**	**71**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
Depot Access	**-**	**-**	**71**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**
1/1	46	46	46	0	0	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
2/1	25	25	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	31	31	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	70	70	25	0	0	0.0	0.0	-	0.0	1.1	0.0	0.0	0.0
5/1	45	45	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	77	77	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 2003.2 Total Delay Over All Lanes(pcuHr): 0.05

APPENDIX B

WATER SUPPLY

CASTLEBALDWIN

GROUP WATER SUPPLY SCHEME LIMITED

Highwood Community Centre, Highwood, Kilmactranny,
Via Boyle, Co. Sligo. F52 C677
Tel - 085-2561868
E.Mail – castlebaldwinwater@gmail.com

07th September 2022

To Whom It May Concern,

This letter is to confirm that a supply of water from the Castlebaldwin Group Water Supply Scheme is available for the proposed property for Sligo County Council at Cloonlurg, Drumfin, Co.Sligo.

The granting of supply will be subject to the terms and conditions of Castlebaldwin Group Water Supply Scheme Ltd as they apply at the time.

Yours faithfully,

Mary Moran
Manager.

APPENDIX C

WASTEWATER

Trinity Green
Environmental Consultants

Clonfert
Maynooth
Co. Kildare
t: 01-6290616
m: 086-2434828
Vat No. 3251411B

Site Characterisation Report

By

Dr. Eugene Bolton

Applicant: Sligo County Council

Clonfert,
Maynooth
Co. Kildare
Email: info@trinitygreen.ie
Mobile 086-2434828

APPENDIX A: SITE CHARACTERISATION FORM

File Reference:

1.0 GENERAL DETAILS (From planning application)

Prefix: First Name: Sligo County Council Surname:

Address:

Site Location and Townland: Drumfin, Co. Sligo

Number of Bedrooms: 1 Maximum Number of Residents: 4

Comments on population equivalent

The development is a compound where there will be a maximum of 8 workers (Similar to Open Industrial site).
Allow 40 litres and 25 grams BOD gives 320 litres and 200m grams BOD - Equating to 3 PE (Hydraulic) andf 4PE (Organic)

Proposed Water Supply:

Mains ✓ Private Well/Borehole ☐ Group Well/Borehole ☐

2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type): Shales and Sandstone Till (Namurian)

Subsoil, (Specify Type): Till derived from Namurian sandstones and shales

Bedrock Type: Dinantian Pure Bedded Limestone (Conduit)

Aquifer Category: Regionally Important Rk Locally Important Poor

Vulnerability: Extreme ☐ High ☐ Moderate ☐ Low ✓

Groundwater Body: Ballymote Status Good

Name of Public/Group Scheme Water Supply within 1 km:

Source Protection Area: ZOC ☐ SI ☐ SO ☐ Groundwater Protection Response: R1

Presence of Significant Sites (Archaeological, Natural & Historical):

Past experience in the area: Good soakage

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

Bedrock Aquifer is Rkc - Vulnerability is Low - Groundwater will be a target at low risk. Appropriate response is R1

Note: Only information available at the desk study stage should be used in this section.

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment

Landscape Position: Relatively Flat

Slope: Steep (>1:5) ☐ Shallow (1:5-1:20) ☐ Relatively Flat (<1:20) ☑

Slope Comment

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses:

House to East at 150m
2 Houses to North at 200m
House to Northwest at 150m

Existing Land Use:

Former Depot

Vegetation Indicators:

Nothing to suggest poor soakage

Groundwater Flow Direction: Likely to east

Ground Condition:

Dry

Site Boundaries:

Post & Wire

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment (contd.)

Roads:

N4 to Southwest border
Road to Northwest

Outcrops (Bedrock And/Or Subsoil):

None

Surface Water Ponding:

None

Lakes:

None within 500m

Beaches/Shellfish Areas:

None

Wetlands:

None

Karst Features:

None within 500m - There are enclosed depressions to Southeast of site at about 600m away

Watercourses/Streams:*

Murillyroe Stream 200m west
Turnalaydan 500m Southwest

***Note and record** water level

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment (contd.)

Drainage Ditches:*

No ditches bordering site

Springs:*

None

Wells:*

area on mains

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

Site is in dry land with no vegetation to suggest reduced drainage. There are no surface water drains or streams bordering the site suggesting there may be good soakage. It is located where the underlying aquifer is regionally important but with low vulnerability the groundwater will be at low risk.
This site should be suitable for an on-site wastewater treatment system

***Note and record** water level

3.2 Trial Hole (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas which are at or adjacent to significant sites, (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m): 3.0

Depth from ground surface to bedrock (m) (if present):

Depth from ground surface to water table (m) (if present):

Depth of water ingress:

Rock type (if present):

Date and time of excavation: 23-Jun-2023

Date and time of examination: 23-Jun-2023

Depth of Surface and Subsurface Percolation Tests	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m	Made Ground Gravely Clayey fill with high angular cobble content	No trds or Ribs	Structureless	Hard	Grey/Brown	None
0.2 m						
0.3 m						
0.4 m						
0.5 m						
0.6 m						
0.7 m	---	---	---	---	---	
0.8 m	CLAY	Not Dilatant Trds = 14,12,12 Ribs = 130,130,120	Massigve	Stiff to Hard	Yellow/Brown	
0.9 m						
1.0 m						
1.1 m						
1.2 m	---	---	---	---	---	
1.3 m	Gravely Sandy SILT with cobbles - localised high content of cobbles	Slowly Dilatant Trds = 1,3,3 Ribs = 40,30,20	Blocky	Firm	Brown	
1.4 m						
1.5 m						
1.6 m						
1.7 m						
1.8 m						
1.9 m						
2.0 m						
2.1 m						
2.2 m						
2.3 m						
2.4 m						
2.5 m						
2.6 m	---	---	---	---	---	
2.7 m	Gravely SILT/CLAY	Slowly Dilatant Trds = 5,7,4 Ribs = 50,50,80	Blocky	Firm	Brown	
2.8 m						
2.9 m	---	---	---	---	---	---
3.0 m	Base of Pit					
3.1 m						
3.2 m						
3.3 m						
3.4 m						
3.5 m						

Likely Subsurface Percolation Value: 30

Likely Surface Percolation Value:

Note: *Depth of percolation test holes should be indicated on log above. ('Enter Surface or Subsurface at depths as appropriate).

** See Appendix E for BS 5930 classification.

*** 3 samples to be tested for each horizon and results should be entered above for each horizon.

**** All signs of mottling should be recorded.

3.2 Trial Hole (contd.) Evaluation:

Due to the fact that access to teh site was limited to one day the trial pit was opened and examined on the same day.

Upper 700m is a very compacted fill that overlies a compacted layer of yellow/brown CLAY that extends to about 1.2m bgl. There was ingress of water at base of fill suggesting the clay layer is largely impermeable and would restrict downward migration o effluent
Soil below this level is a mix of silt and clay with varying content of gravel and cobbles. likely to be suitable for treatment and disposal. No evidence of a watertable at 3m bgl.

3.3(a) Subsurface Percolation Test for Subsoil

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm) (A)	1,200	1,200	1,200
Depth from ground surface to base of hole (mm) (B)	1,600	1,600	1,600
Depth of hole (mm) [B - A]	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Pre-soak start	Date			
	Time			
2nd pre-soak start	Date			
	Time			

Each hole should be pre-soaked twice before the test is carried out.

Step 3: Measuring T_{100}

Percolation Test Hole No.	1	2	3
Date of test	23-06-2023	23-06-2023	23-06-2023
Time filled to 400 mm	09:11	09:12	09:13
Time water level at 300 mm	10:29	09:54	10:05
Time (min.) to drop 100 mm (T_{100})	78.00	42.00	52.00
Average T_{100}			57.33

If T_{100} > 480 minutes then Subsurface Percolation value >120 – site unsuitable for discharge to ground
If $T_{100} \leq 210$ minutes then go to Step 4;
If T_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $T_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)
1	10:29	11:56	87.00	09:54	10:48	54.00	10:05	11:24	79.00
2	11:56	14:02	126.00	10:48	11:55	67.00	11:24	13:06	102.00
3	14:02	16:33	151.00	11:55	13:18	83.00	13:06	15:22	136.00
Average Δt Value			121.33			68.00			105.67
	Average Δt/4 = [Hole No.1]		30.33 (t_1)	Average Δt/4 = [Hole No.2]		17.00 (t_2)	Average Δt/4 = [Hole No.3]		26.42 (t_3)

Result of Test: Subsurface Percolation Value = 24.58 (min/25 mm)

Comments:

Soakage is good and well within the required range. There is some variation - reflecting gravel and cobble content at different locations. Note there was no Presoaking due to limited access - but as recorded values are in the lower level of the 21-40 range it is concluded that it would be in this same range if there was a presoak

Step 5: Modified Method (where $T_{100} > 210$ minutes)

Percolation Test Hole No. 1

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 1 = (T_1)			0.00

Percolation Test Hole No. 2

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 2 = (T_2)			0.00

Percolation Test Hole No. 3

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Tim§e hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 3 = (T_2)			0.00

Result of Test: Subsurface Percolation Value = 0.00 (min/25 mm)

Comments:

3.3(b) Surface Percolation Test for Soil

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm)	0	0	0
Depth from ground surface to base of hole (mm)			
Depth of hole (mm)	0	0	0
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Pre-soak start	Date			
	Time			
2nd pre-soak start	Date			
	Time			

Each hole should be pre-soaked twice before the test is carried out.

Step 3: Measuring T_{100}

Percolation Test Hole No.	1	2	3
Date of test		21-Dec-21	21-Dec-2021
Time filled to 400 mm			
Time water level at 300 mm			
Time to drop 100 mm (T_{100})	0.00	0.00	0.00
Average T_{100}			0.00

If T_{100} > 480 minutes then Surface Percolation value >90 – site unsuitable for discharge to ground
If $T_{100} \leq$ 210 minutes then go to Step 4;
If T_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $T_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	ΔT (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	ΔT (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	ΔT (min)
1			0.00			0.00			0.00
2			0.00			0.00			0.00
3			0.00			0.00			0.00
Average ΔT Value			0.00			0.00			0.00
	Average ΔT/4 = [Hole No.1]		0.00 (T_1)	Average ΔT/4 = [Hole No.2]		0.00 (T_2)	Average ΔT/4 = [Hole No.3]		0.00 (T_3)

Result of Test: Surface Percolation Value = 0.00 (min/25 mm)

Comments:

No surface tests were completed due to presence of the clay layer at 700mm bgl all surface soil will be removed so point of infiltration will be at about 1.2m bgl

Step 5: Modified Method (where $T_{100} > 210$ minutes)

Percolation Test Hole No. 1

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 1 = (T_1)			0.00

Percolation Test Hole No. 2

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 2 = (T_2)			0.00

Percolation Test Hole No. 3

Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 3 = (T_2)			0.00

Result of Test: Surface Percolation Value = 0.00 (min/25 mm)

Comments:

4.0 CONCLUSION of SITE CHARACTERISATION

Integrate the information from the desk study and on-site assessment (i.e. visual assessment, trial hole and percolation tests) above and conclude the type of system(s) that is (are) appropriate. This information is also used to choose the optimum final disposal route of the treated wastewater.

Slope of proposed infiltration / treatment area: Flat

Are all minimum separation distances met? ✓

Depth of unsaturated soil and/or subsoil beneath invert of gravel (or drip tubing in the case of drip dispersal system)

Percolation test result: Surface: Sub-surface: 25.00

Not Suitable for Development ☐ **Suitable for Development** ✓

Identify all suitable options

1. Septic tank system (septic tank and percolation area) **(Chapter 7)** — No
2. Secondary Treatment System **(Chapters 8 and 9)** and soil polishing filter **(Section 10.1)** — Yes
3. Tertiary Treatment System and Infiltration / treatment area **(Section 10.2)** — Yes

Discharge Route [1]

Groundwater

5.0 SELECTED DWWTS

Propose to install: Tertiary Treatment System and Infiltration /treatment area

and discharge to: Ground Water

Invert level of the trench/bed gravel or drip tubing (m)

Site Specific Conditions (e.g. special works, site improvement works testing etc.

While the soil below 1.2m is suitable for a septic tank there is limited space for percolation and therefore a secondary treatment system is recommended followed by a tertiary polishing filter.
The layer of clay between 700 and 1200mm bgl is deemed unsuitable and should be removed. The point of infiltration (Base of the infiltration gravel) should be below this clay layer at the level where the permeability tests were completed.
Soil is removed down to 1.2m bgl and the area leveled. The 300mm deep, bed of distribution gravel (20mm pebble) is placed on the prepared area. The tertiary polishing filter (Ecoflo Coconut filter)is placed on this and effluent from this polishing filter percolates into the distribution gravel by gravity.
Wastewater is teated in a secondary treatment package plant. It is polished in a coconut filter that discharges direct into the infiltration gravel. The base of the gravel to be at about 1.2m bgl, - below the Yellow/brown Clay layer.
The PE is 4 - Hydraulic load is 600litres.
T-value is between 20 and 40 and as the effluent is polished in a tertiary filter it is loaded onto the gravel layer allowing 7.5 m2/PE. Area of filter is a minimum of 30m2

[1] A discharge of sewage effluent to "waters" (definition includes any or any part of any river, stream, lake, canal, reservoir, aquifer, pond, watercourse or other inland waters, whether natural or artificial) will require a licence under the Water Pollution Acts 1977-90. Refer to Section 2.4.

6.0 TREATMENT SYSTEM DETAILS

SYSTEM TYPE: Septic Tank Systems (Chapter 7)

Tank Capacity (m^3)

Percolation Area		Mounded Percolation Area	
No. of Trenches		No. of Trenches	
Length of Trenches (m)		Length of Trenches (m)	
Invert Level (m)		Invert Level (m)	

SYSTEM TYPE: Secondary Treatment System (Chapters 8 and 9) and polishing filter (Section 10.1)

Secondary Treatment Systems receiving septic tank effluent (Chapter 8)

Media Type	Area (m^2)*	Depth of Filter	Invert Level
Sand/Soil			
Soil			
Constructed Wetland			
Other			

Packaged Secondary Treatment Systems receiving raw wastewater (Chapter 9)

Type: Oakstown BAF

Capacity PE: 6

Sizing of Primary Compartment: 3.00 m^3

Polishing Filter*: (Section 10.1)

Surface Area (m^2)*

Option 1 - Direct Discharge
Surface area (m^2)

Option 2 - Pumped Discharge
Surface area (m^2)

Option 3 - Gravity Discharge
Trench length (m)

Option 4 - Low Pressure
Pipe Distribution
Trench length (m)

Option 5 - Drip Dispersal
Surface area (m^2)

SYSTEM TYPE: Tertiary Treatment System and infiltration / treatment area (Section 10.2)

Identify purpose of tertiary treatment	Provide performance information demonstrating system will provide required treatment levels	Provide design information
Reduce footprint	EPA Code of Practice 2021	PE =4 treat in a BAF and polish in Tertiary filter Discharge to ground below the clay layer which requiresn the base of the gravel to be 1.2m bgl Load soil allowing 7.5m2/PE

DISCHARGE ROUTE:

Groundwater ✓ Hydraulic Loading Rate * ($l/m^2.d$) 20.00 Surface area (m^2) 30.00

Surface Water ** Discharge Rate (m^3/hr)

* Hydraulic loading rate is determined by the percolation rate of subsoil

** Water Pollution Act discharge licence required

6.0 TREATMENT SYSTEM DETAILS

QUALITY ASSURANCE:

Installation & Commissioning

Install as specified & supervised by appropriately qualified person

On-going Maintenance

Regular desludging & Maintenance contract with supplier or installer

7.0 SITE ASSESSOR DETAILS

Company: Trinity Green

Prefix: Dr First Name: Eugene Surname: Bolton

Address: Clonfert, Maynooth, Co. Kildare

Qualifications/Experience: FETAC Site assessor, PhD Microbiology

Date of Report: 30-Jun-2023

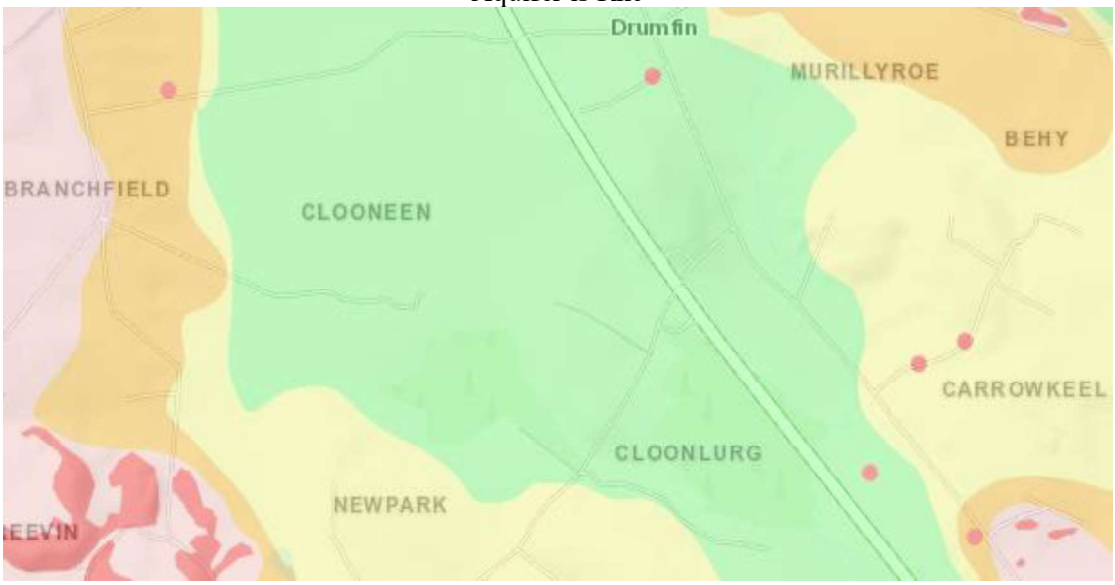
Phone: 0862434828 E-mail info@trinitygreen.ie

Indemnity Insurance Number: PI/C/12453

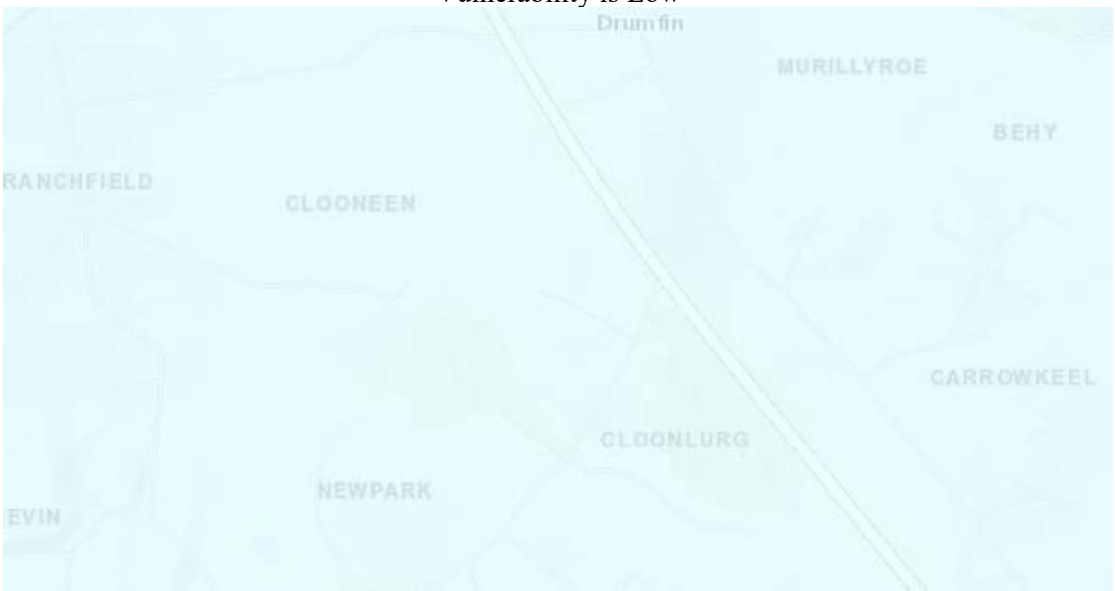
Signature: Eugene Bolton Digitally signed by Eugene Bolton
Date: 2022.01.04 15:17:00 Z

Maps – Aquifer, Vulnerability, bedrock

Aquifer is Rkc



Vulnerability is Low



Bedrock is Dinantian Pure Bedded Limestone

Soil

Parent Material	TNSSs
Parent Material Name	Till derived chiefly from Namurian rocks
Parent Material Desciption	Shales and sandstones till (Namurian)
Soil Group	Acid Brown Earths, Brown Podzolics
IFS Soil Code	AminDW
IFS Soil Description	Derived from mainly non-calcareous parent materials
County	SLIGO
Category	Deep well drained mineral (Mainly acidic)
Legend	AminDW - Deep well drained mineral (Mainly acidic)

Subsoil

Lithology	Till derived from Namurian sandstones and shales
Quaternary Sediment	TNSSs

Photos

T1

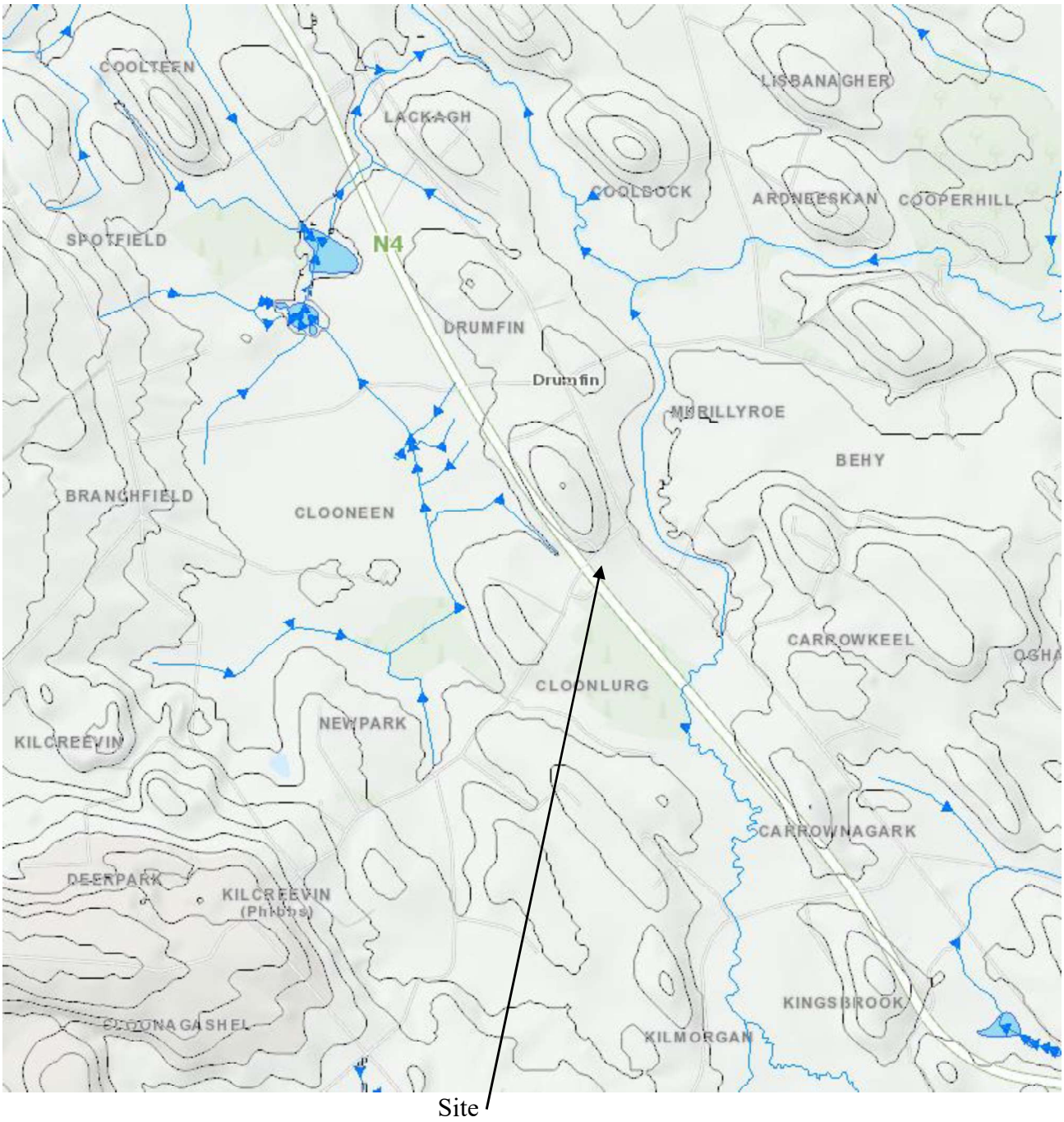
T2

T3

Trial Pit

Site Overview

Site Location



Sligo County Council,
Drumfin,
Co. Sligo

O'Reilly Oakstown Environmental

O'Reilly Oakstown Environmental

Oakstown, Trim
Co. Meath
Tel: 046 - 943 - 1389
Fax: 046 - 943 - 7054

E: info@oreillyoakstown.com
W: www.oreillyoakstown.com
V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

Date: 04th July 2023

Applicant Name: Sligo County Council

Site Address: Drumfin, Co. Sligo

Design Capacity: 8 Workers Maximum

A representative of *O'Reilly Oakstown Ltd* has assessed the Soil Test Report and confirms the suitability of their Oakstown BAF 8 PE Wastewater Treatment System to treat effluent being discharged from the above proposed dwelling based on the residential demands submitted to us above.

1. Waste Water Treatment System Design Details:

- Maximum Capacity Design Loadings:

Max No. of users	Flow Litres/day/person	Total Hydraulic Load	B0D5 (grams/day/person)	Total Organic Loading (grams/day)
8	150	1200 litres	60	480

- Maximum Daily Design Loadings as per client:

Total Organic Loading	0.42kg BOD/day
Total Hydraulic loading	1.05m³ /day

- Average treated effluent standard - see performance results on EN-12566-3 certification attached

BOD	8mg/litre
TSS	12mg/litre
Ammonia	13mg/litre

- Proposed system details: ► **Oakstown BAF 8 P.E.**

Volume of Total Plant	8m³
Volume of Primary Sedimentation Chambers	4m³
Volume of Secondary Aeration Chamber	2m³
Volume of Biomedia	1.0m³

O'Reilly Oakstown Environmental

Oakstown, Trim
Co. Meath
Tel: 046 - 943 - 1389

E: info@oreillyoakstown.com
W: www.oreillyoakstown.com
V.A.T Reg. No : IE 6401624D

2. Wastewater Treatment system description:

The Oakstown BAF 8 PE is designed to provide proven, cost effective primary and secondary wastewater treatment in robust steel reinforced concrete tanks.
The primary sedimentation chamber has substantial capacity (4m³) to allow anaerobic digestion to occur naturally while letting sludge settle on the tank floor.
Once primary treatment has taken place the effluent is further degraded in the aeration chamber where oxygen enriched wastewater provides ideal conditions for aerobic bacteria to thrive.
Before pumping to the percolation area the clear water is left to further settle in the clarifier chamber to eliminate any remaining settle able solids.

3. Guarantee and warrantees:

We provide a 24 month warranty on all parts.

4. Percolation:

The percolation area designed must conform to the requirements of Chapters 8 & 10, Table 8.1 and / or Table 10.4 of the EPA Code of Practice 2021 Wastewater Treatment and Disposal System serving single houses.

The percolation area requirements are as follows:
Groundwater Protection Response: R1
T-value: 24.58 as per Site Characterisation Form.
P-value: 0.00 as per Site Characterisation Form.
Depth from ground surface to water table: None Encountered BGL.
Depth from ground surface to bed rock: None Encountered BGL.
Depth from ground surface to mottling: None Encountered BGL.
Tertiary Treatment is achieved through a soil polishing filter sized: 30m².
Soil Polishing Filter must be covered in 12-32mm washed gravel or broken stone aggregate.
Soil Polishing Filter must be covered in geo-textile cover then in topsoil.
►See Site Characterisation report for percolation area details.

O'Reilly Oakstown Environmental

Oakstown, Trim
Co. Meath
Tel: 046 - 943 - 1389
Fax: 046 - 943 - 7054

E: info@oreillyoakstown.com
W: www.oreillyoakstown.com
V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

5. Client Responsibilities unless included in our quotation:

- Excavation and backfill.
- Construction of the percolation / polishing filter as recommended by the site engineer on the Site Characterisation report and/or drawing.
- Provision of access for delivery by hi-ab truck to within 3 metres of the excavation.
- Provision of a power ducting from the tanks to the house/garage.
- Mounting and connection of control panel to mains power in the house/garage.

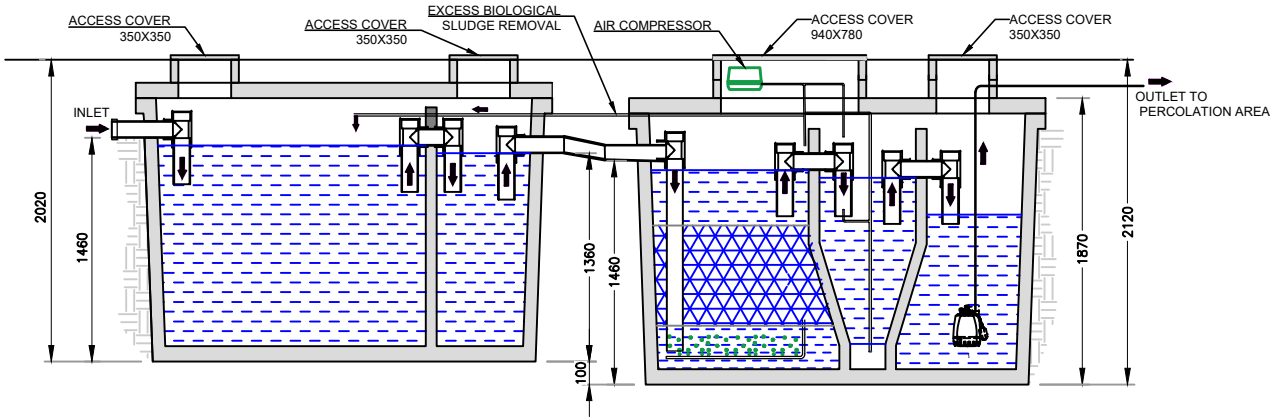
6. Operation and Maintenance:

The client is responsible for the operation and maintenance of the wastewater treatment system in accordance with the owner's manual supplied by O'Reilly Oakstown.

Please do not hesitate to contact us if there are any further queries.

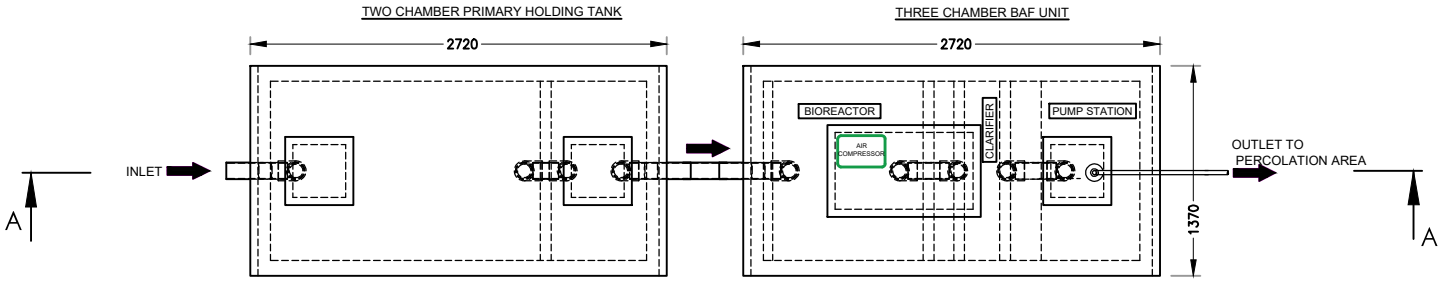
Yours sincerely

Sarah Whyte

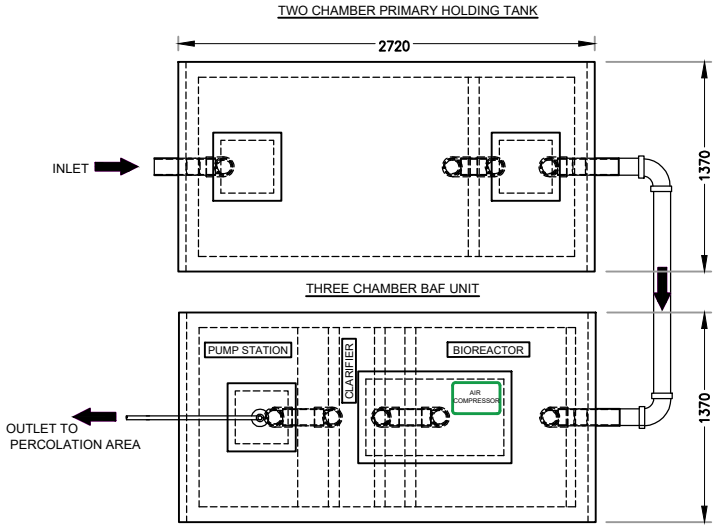


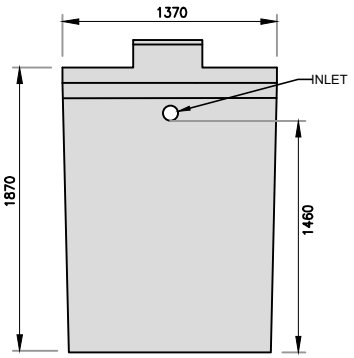
OAKSTOWN 8PE BAF SYSTEM - SECTIONAL ELEVATION A-A

WWTS LAYOUT - OPTION A



WWTS LAYOUT - OPTION B





END SECTION-INLET SIDE

NOTE: IF THE TWO TANKS ARE BEEN FITTED SIDE BY SIDE – OPTION B, THE SECOND TANK NEEDS TO BE STEPPED 150MM LOWER THAN THE FIRST TANK.

VOLUME

LITRES:8000
WEIGHT:
TANK 1:5500kg
TANK 2:6500kg

PROJECT:	SR-66 O'Reilly Oakstown
TITLE:	8PE BAF SYSTEM
DRAWN:	VISHWANATH
CHECKED:	T0M LYNAM

O' REILLY OAKSTOWN LTD.
BAF - WASTEWATER TREATMENT SYSTEMS

O'REILLY OAKSTOWN
TRIM, Co.MEATH
Email: info@oreillyoakstown.com
Tel:(046)9431389 Fax:(046)9437054

SCALE:	DWG NO:	REV:	DATE:
N.T.S.	OAKS 201702	SR66	11/01/2022