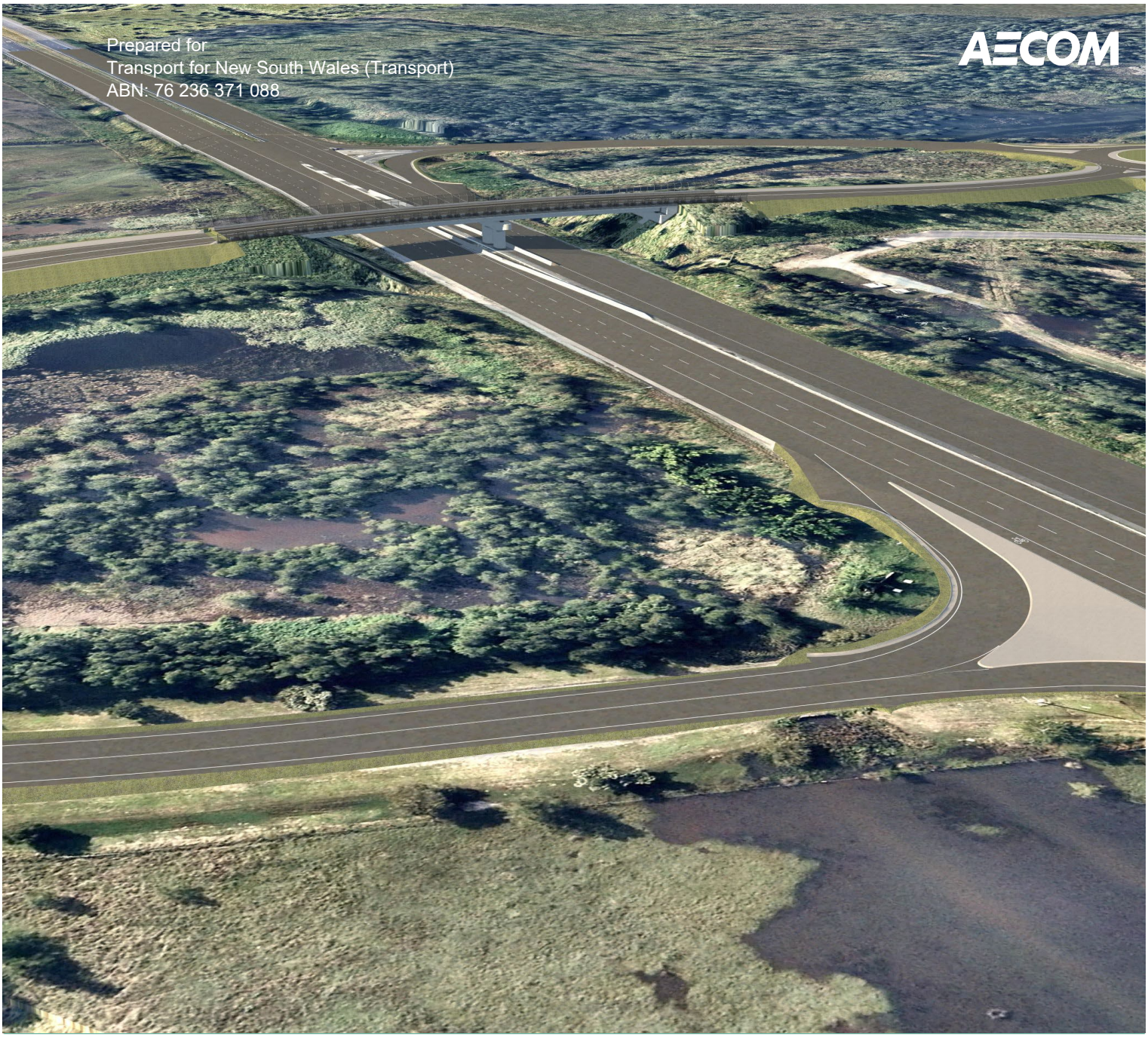

Prepared for
Transport for New South Wales (Transport)
ABN: 76 236 371 088

Traffic and Transport Assessment Report

HW10 Pacific Highway / Harrington Road Interchange Upgrade

06-Sep-2023
HW10 Pacific Highway / Harrington Road Interchange Upgrade
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Traffic and Transport Assessment Report

HW10 Pacific Highway / Harrington Road Interchange Upgrade

Client: Transport for New South Wales (Transport)

ABN: 76 236 371 088

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Quality Information

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Prepared by Ronald Galiza

Reviewed by Brian Betts

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	31-Oct-2022	First Issue - CD/REF/FBC Phase	Jarrod Pettigrew Project Manager	
B	16-Dec-2022	Final Issue - CD/REF/FBC Phase	Jarrod Pettigrew Project Manager	
C	29-Aug-2023	Final	Dan Wyse Project Manager	
D	06-Sep-2023	Final	Dan Wyse Project Manager	

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Definitions

Term	Interpretation / Description
Design Element	A specific asset class type forms a part of the project and requires design work to complete.
Concept Design	The current design stage of the project will build upon the strategic design (by others).
The Project	The project refers to the Concept Design, REF, Detailed Design, Final Business Case and Economic Appraisal for the Harrington Road Interchange Project (Transport Contract No.19.0000302650.0560-0042, AECOM project number: 60684355)
Project Specification	The Professional Services for Concept (& provisional Detailed) Design Scope and Requirements documents.
Project Team	Representatives from AECOM and all sub-consultants involved in the delivery of the project. From time to time, the Project Team may include Transport personnel as deemed appropriate to be involved by the Transport Representative.
The Plan	This document incorporates the design development plan and the project quality plan.
Hold Point	A point in which no work can proceed beyond without the written approval from the Transport Representative.
Witness Point	A point in which works are selected to be reviewed or visually inspected by the Transport representative.
Non-Conformance	An error or omission in approved or released deliverables or packages of works to the Client that are non-conforming to client expectation and/or contracts specification, AECOM quality management system requirements.

1.0 Introduction

1.1 Context and background

The Pacific Highway (A1/M1) is a 960-kilometre-long route along the central east coast of New South Wales between the Warringah Freeway in North Sydney and the Queensland state border. It is the primary north-south transport corridor that connects two major Australian cities Sydney and Brisbane. The Pacific Highway forms the East Coast National Land Transport Network (NLTN) road transport link and is a nationally significant infrastructure link. Along the corridor, the Pacific Highway provides a connection to several major regional cities including Newcastle, Port Macquarie, Coffs Harbour, Tweed Heads and many rapidly growing coastal communities.

Over a period of 30 years, the Australian and New South Wales governments have progressively completed duplication of the Pacific Highway between Hexham and the Queensland border. Following the completion of the highway's duplication in 2020, for various reasons and particularly in the southern end of the corridor, some intersections remain at grade.

In 1997, the Coopernook Bypass project planned for approximately 4.5 km of dual carriageway highway bypassing the village of Coopernook with a new bridge over the Lansdowne River. The project considered the option for grade separation of the then-proposed Pacific Highway intersection with Harrington Road. However, the assessment concluded that although grade separation would provide increased safety benefits, an at-grade solution was sufficient for the 2026 design year.

In 2002, the Pacific Highway Coopernook Bypass project commenced construction of the highway Deviation. The scope of works included the implementation of the current at-grade "staggered-T" intersection arrangement, as shown in Figure 1. In 2004, the project was delayed for the treatment and settlement of soft soils. Later, in 2005 the project scope was amended to address the need for a future grade separate interchange. As such, a strategic design was prepared, and initial pre-loading was undertaken to accommodate the approaches to a grade-separated overpass. The second stage of pre-loading was placed in 2012.

Figure 1: Pacific Highway (A1) intersection with Harrington and Coopernook Road - Current at-grade 'Staggered-T' intersection arrangement (Nearmap, 2012)

In 2016, Transport for NSW (Transport) Regional Planning prepared the draft Pacific Highway Post Duplication Strategy. The strategy includes a thorough investigation of the highway's current performance and future challenges to meet the agreed corridor vision. A key issue identified within this document was for safety at the remaining at-grade intersections along the length of the highway. Development has since continued along the coast, with the Pacific Highway remaining the primary access for inter-state and inter-regional traffic for Harrington and Coopernook. Therefore, with

increased traffic volumes it's proving more difficult for traffic to enter and exit the highway at this particular location.

The intersections of Harrington and Coopernook Road with the Pacific Highway provide a local connection between the communities of Harrington and Coopernook. Harrington is a coastal centre and popular tourist destination located 15 km north-east of Taree at the northern entrance of the Manning River. Coopernook is a small village township located 17 km north of Taree and 9 km west of Harrington. The two intersections currently operate as staggered at-grade intersections, separated by the highway. Consequently, a contributing factor for the site's high-severity crash history has been attributed to the need for local traffic to complete a weaving manoeuvre across the high-speed high-volume Pacific Highway. There have been ten crashes at this intersection between October 2016 and August 2022, including one fatality recorded in 2021.

Transport is now progressing in planning for the upgrade of the Harrington and Coopernook Road intersections with the Pacific Highway. The introduction of the grade-separated crossing is a critical element to enable a step-change improvement in safety at the interchange and enhanced connectivity for the townships of Harrington and Coopernook. Respectively, there is strong community advocacy for the proposed grade-separated upgrade and a recently announced Federal Government funding commitment of $48M towards the project, with a further $12M commitment by the State.

AECOM has been engaged by Transport to complete the Concept Design, REF, Detailed Design, Final Business Case and Economic Appraisal for the Harrington Road Interchange Project. This project involves developing the design for the grade-separated interchange at the junction between the Pacific Highway and roads connecting Harrington and Coopernook. The solution will seek to provide a safe, constructible design that addresses the safety issues inherent in the existing layout, whilst minimising environmental impacts and improving the lives of the local community.

1.2 Project objectives

The future transport outcomes and strategic directions for the project were developed through an Investment Logic Mapping exercise. The outcomes from this exercise include:

- Connecting our customers' whole lives
- Our transport networks are safe
- Successful places for communities
- Transport infrastructure makes a tangible improvement to places
- Enabling economic activity
- The transport network enables strong, sustainable economies in NSW.

1.3 Scope of work

The scope of traffic modelling works to be undertaken by AECOM includes:

- **Traffic assessment methodology, project familiarisation and data gap analysis.** Technical Report 1 has been prepared to document the traffic assessment methodology to be employed for the project. This note also includes project familiarisation information and traffic data to be used for model calibration and validation purposes.
- **Base model development and calibration.** The base model will reflect the 2022 typical weekday morning and afternoon peak traffic conditions. The existing base model will be calibrated and validated using traffic data provided by Transport. Technical Report 2 Base Model Development Report (BDMR) was prepared in accordance with RMS *Traffic Modelling Guidelines (RMS 2013)* and *Technical Direction Traffic Management TTD 2017/001 Operational Modelling Report Structure*. Vehicle parameters were sourced from MRWA 2021 Operational Modelling Guidelines as Transport does not have detailed parameters for each vehicle type.
- **Prepare Traffic and Transport Assessment Report.** Technical Report 3 (This Report), suitable to inform the REF has been prepared to support the business case for the project. The report

includes crash data analysis and future demands estimation for use in the opening year (2028), the intermediate year 2038 (ten years after opening) and design year 2048 (20 years after opening) modelling. Future traffic growth was based on an analysis of historical traffic growth, strategic model outputs and future development plans within the vicinity of the project area. Future Base Case ('do nothing') and Project Case options were developed for the 2028 opening year, the intermediate year 2038 (ten years after opening) and the design year 2048 (20 years after opening) in Aimsun. The modelling outputs will feed into the business case economic analysis. Traffic volumes for noise and pavement design will also be provided to other disciplines.

1.4 Purpose of this report

This report should be read in conjunction with the following documents:

- Technical Report 1 - Traffic Assessment Methodology Report – HW10 Pacific Highway / Harrington Road Interchange Upgrade (*Issued to Transport 27 July 2022*).
- Technical Report 2 – Base Model Development Report – HW10 Pacific Highway / Harrington Road Interchange Upgrade (*Issued to Transport 29 August 2022*).

The purpose of this Traffic and Transport Assessment Report is to document the modelling results to inform the Pacific Highway / Harrington Road Interchange Upgrade Project Concept Design, REF, Detailed Design, Final Business Case and Economic Appraisal. This Technical Report 3 is intended to:

- Analyse crash data for the study area
- Identify sources of traffic growth inputs
- Document the proposed methodology and assumptions in estimating future traffic demand for the study area.
- Document the proposed future year scenario and assumptions.
- Provide future traffic performance for both Base Case and Project Case.
- Provide modelling outputs for input to the business case economic analysis.

The future year scenarios were assessed for the:

- Pacific Highway AM peak period (two hours) between 10:00AM and 12:00PM; and
- PM peak period (two hours) between 2:15PM and 4:15PM.

In line with the project brief, three future years models will be developed including:

- Year 2028 is assumed to be the opening year of the proposed upgrade
- Year 2038, ten years after opening; and
- Year 2048, 20 years after opening.

1.5 Report outline

The report outline is as follows:

- Chapter 2.0 Crash data analysis – details the number and types of crashes within the study area for the last five years
- Chapter 3.0 Future demand growth assumptions – outlines the source and assumptions used to grow the traffic volume for the future years
- Chapter 4.0 Future demand development – presents how the 2022 calibrated demands were estimated for future years 2028, 2038 and 2048
- Chapter 5.0 Future year Aimsun scenario definition – describes the future Aimsun scenarios for the Base and Project Case

- Chapter 6.0 Aimsun modelling outputs – presents the network performance comparison and economic analysis inputs
- Chapter 7.0 Summary and conclusions – presents key findings and conclusions.

2.0 Crash data analysis

A review of crash data within the study area indicates ten reported crashes between 1 October 2016 and 26 August 2022, as shown in Figure 2. These include one fatal crash, six injury crashes, two non-casualty crashes and one minor/other crash. The crashes are classified as shown in Table 1 below. A fatal crash occurred within around five years in the project extent at the Harrington Road / Pacific Highway. The crash RUM code was 13 (right near crashes) meaning this occurred from a right-turn vehicle being hit on the driver's side of the vehicle. The crash report detailed that the vehicle was turning right from Harrington Road and was hit by another vehicle going southbound on the Pacific Highway. The crash occurred on a Monday at 1pm on an overcast, dry day. One person was killed in this fatal accident and three were not injured.

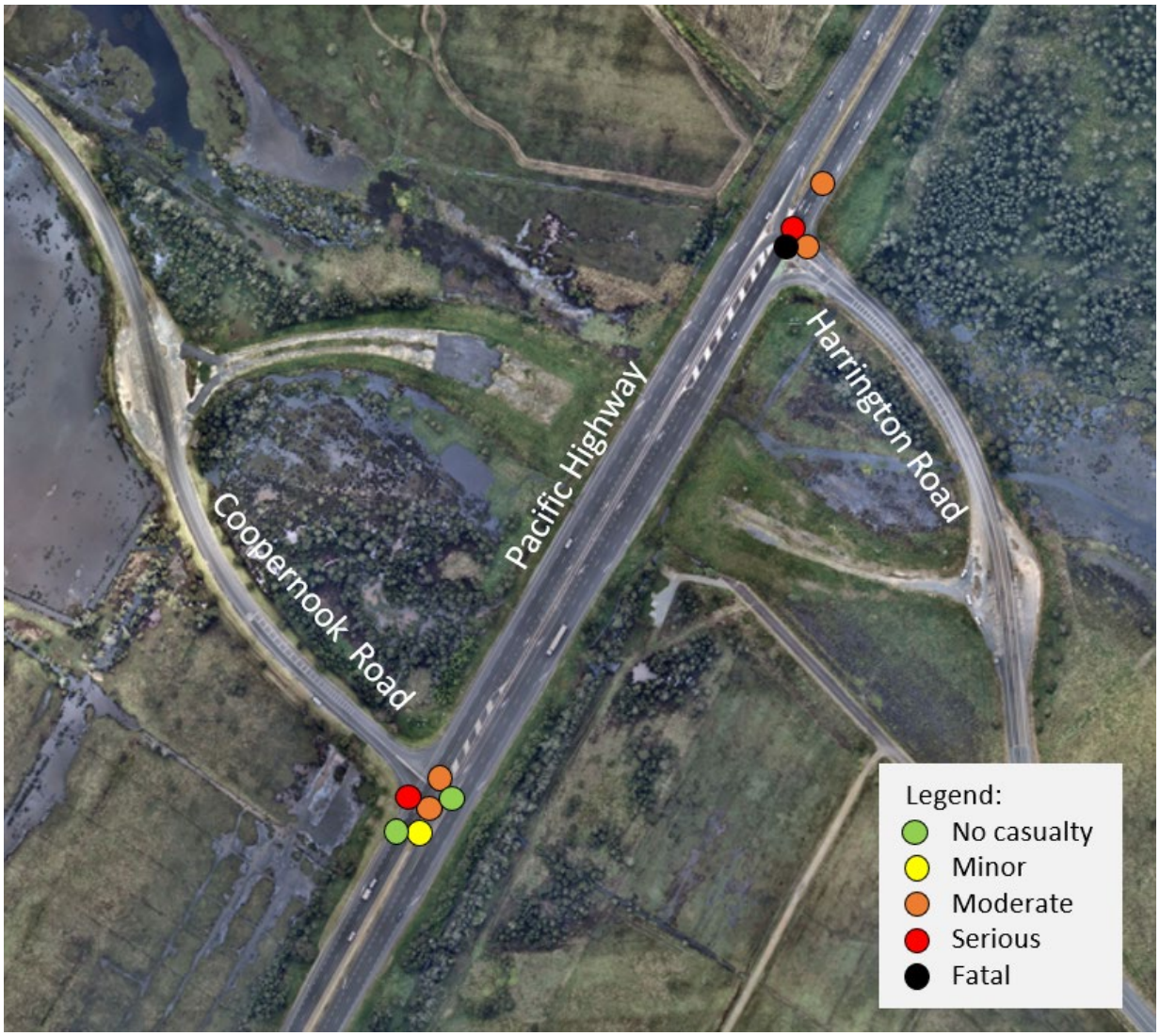


Figure 2: Crash severities across the study area (2016-2022)

Table 1: Reported crashes by severity – Harrington Road Study Area (1 October 2016 to 26 August 2022)

Metric	Crash severity					
	Fatal	Serious Injury	Moderate Injury	Minor / Other Injury	No Casualty	Total
Number of Crashes	1	2	4	1	2	10
Percentage of Crashes	10%	20%	40%	10%	20%	100%

Over the five years, five out of the ten crashes (50%) were vehicles involving crossing traffic (RUM code 13 or 10) as shown in Figure 3. Of this RUM code right near were the most common crash type (3 out of ten crashes, 30%). The high number of right near and cross traffic crashes in the study area indicates that there is difficulty finding a safe gap in the main traffic (Pacific Highway) to cross from the minor road resulting in risk-taking which leads to these kinds of crashes. For more details on the study area crashes, refer to Appendix A – Crash Analysis Data.

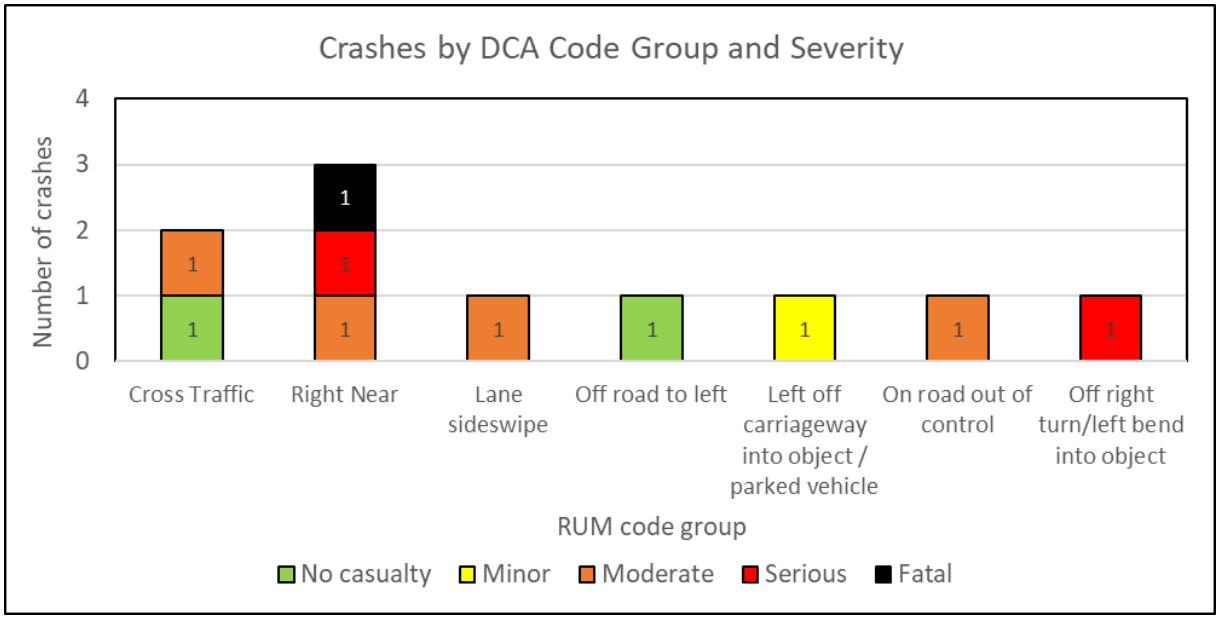


Figure 3: Crashes by DCA code group and severity

3.0 Future demand growth assumptions

3.1 Pacific Highway traffic growth

3.1.1 Historical traffic growth

The closest Transport permanent count location to the study area is located 220 m north of Jack Wards Road, Kiwarrak (Station ID: 6120-PR) on the Pacific Highway. The site is located around 21 kilometres south of the study area as shown in Figure 4. The counts from this location were be used as a sensitivity check for traffic growth along the Pacific Highway. Table 2 lists the daily traffic volumes (in both directions) for the Pacific Highway (Site 6120-PR) between 2015 and 2022, as shown in Figure 5. A significant drop in daily traffic volume can be observed in 2020 which may be the effect of COVID-19 as people travelled less. The average annual growth rate between 2015 and 2022 for this segment of the Pacific Highway is 2.6%.

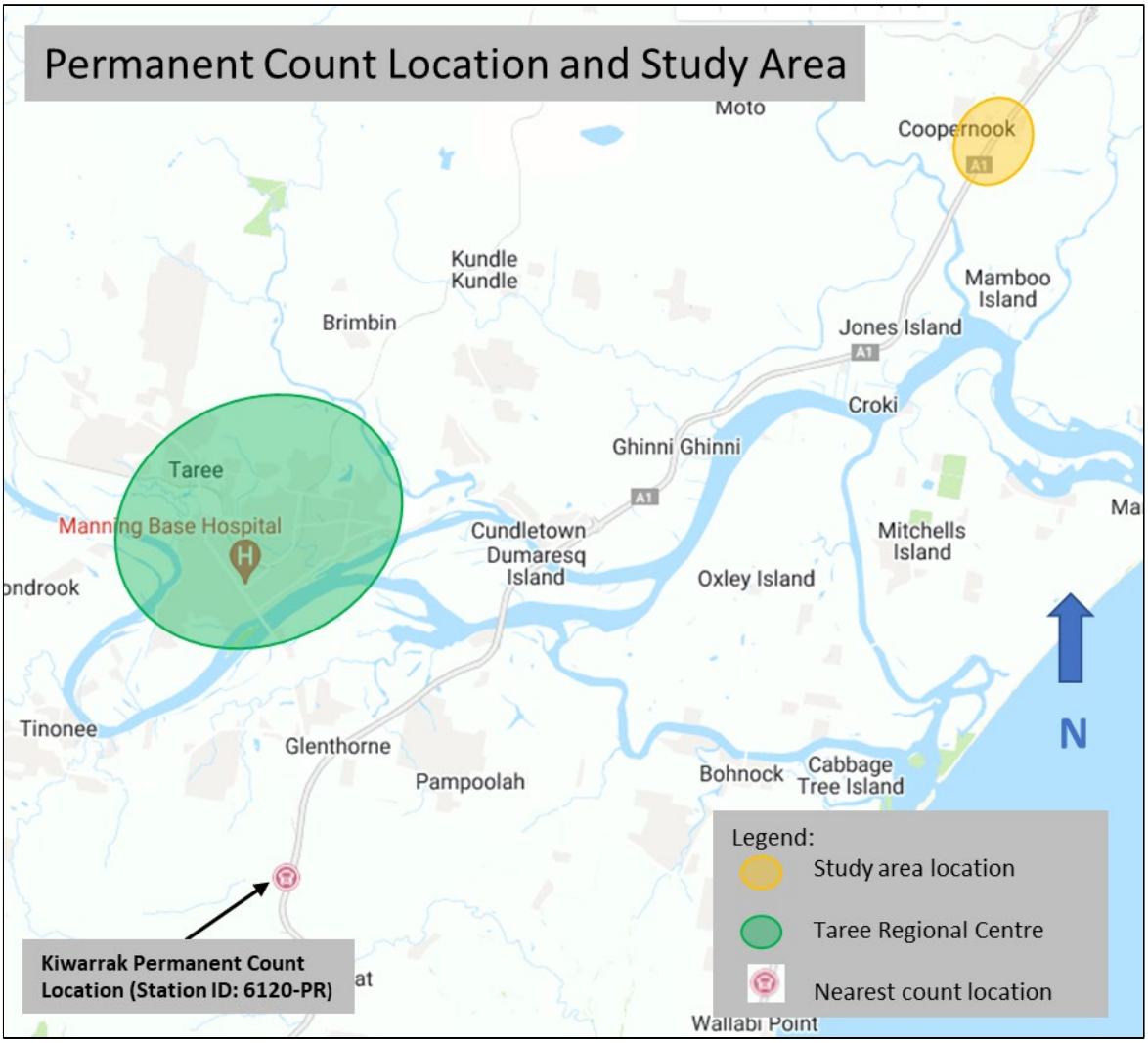


Figure 4: Permanent count location and study area

Table 2: Pacific Highway (Site 6120-PR) daily traffic volumes - both directions

Year	Both Directions			Year on growth, %
	Light Vehicles	Heavy Vehicles	All Vehicles	
2015	16,040	3,342	19,347	-
2016	16,651	3,562	20,189	4.4%
2017	16,923	3,720	20,614	2.1%
2018	17,523	4,067	21,565	4.6%
2019	17,516	4,115	21,591	0.1%
2020	16,498	4,272	20,749	-3.9%
2021	16,399	4,590	20,965	1.0%
2022	18,385	4,757	23,116	10.3%
2022 - 2015 growth, %	**14.6%**	**42.3%**	**19.5%**	**19.5%**
Ave annual growth, %	**2.0%**	**5.2%**	**2.6%**	**2.6%**

Source: Transport, Traffic Volume Viewer (accessed 24/10/2022)

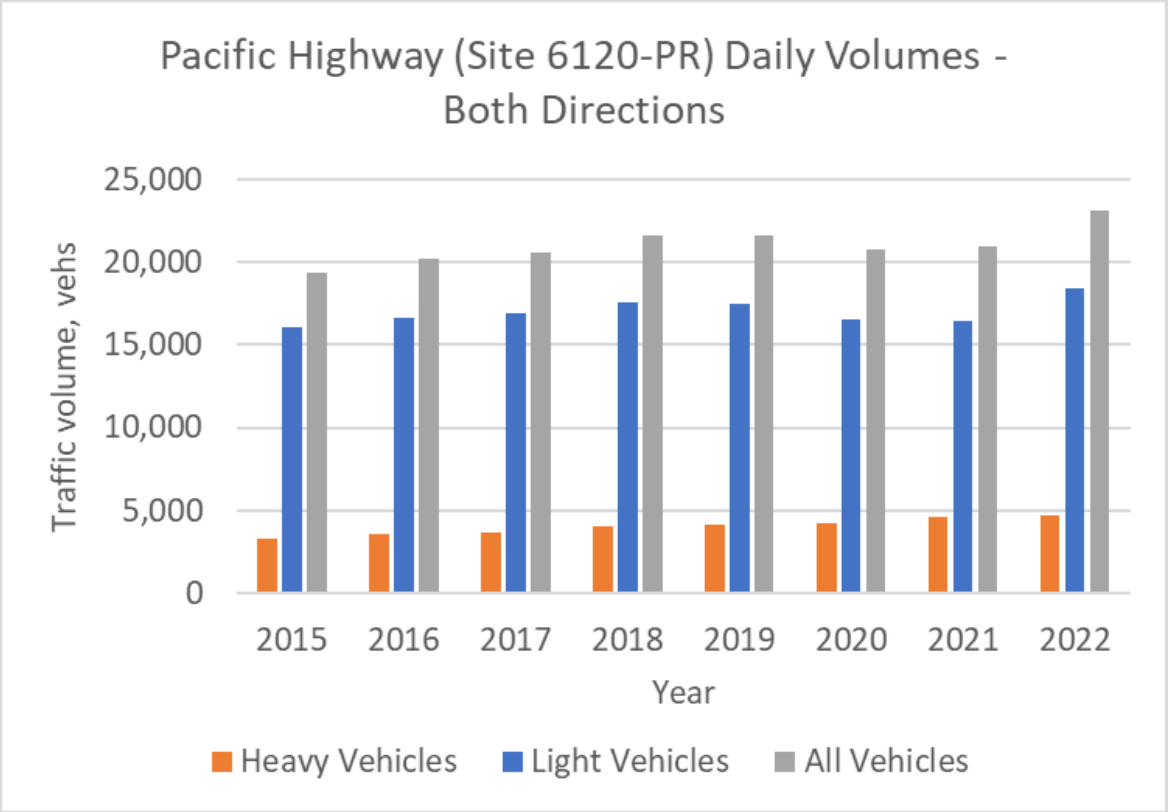


Figure 5: Pacific Highway (Site 6120-PR) daily traffic volumes by vehicle type – both directions

3.1.2 Transport's regional models (strategic models)

Transport's Advanced Analytics and Insights (AAI) provided future growth rates derived from the Regional Traffic Model (RTM) and Regional Freight Model (RFM). The only available road in the study area from the regional models is the Pacific Highway as shown in Figure 6. Table 3 provides an indication of growth rates in light vehicles (from RTM) and heavy vehicles (from RFM) along the Pacific Highway within the study area. These rates were used to forecast the 2022 calibrated passenger and heavy vehicle traffic volumes using the Pacific Highway for the 2028, 2038 and 2048 future years using linear interpolation.

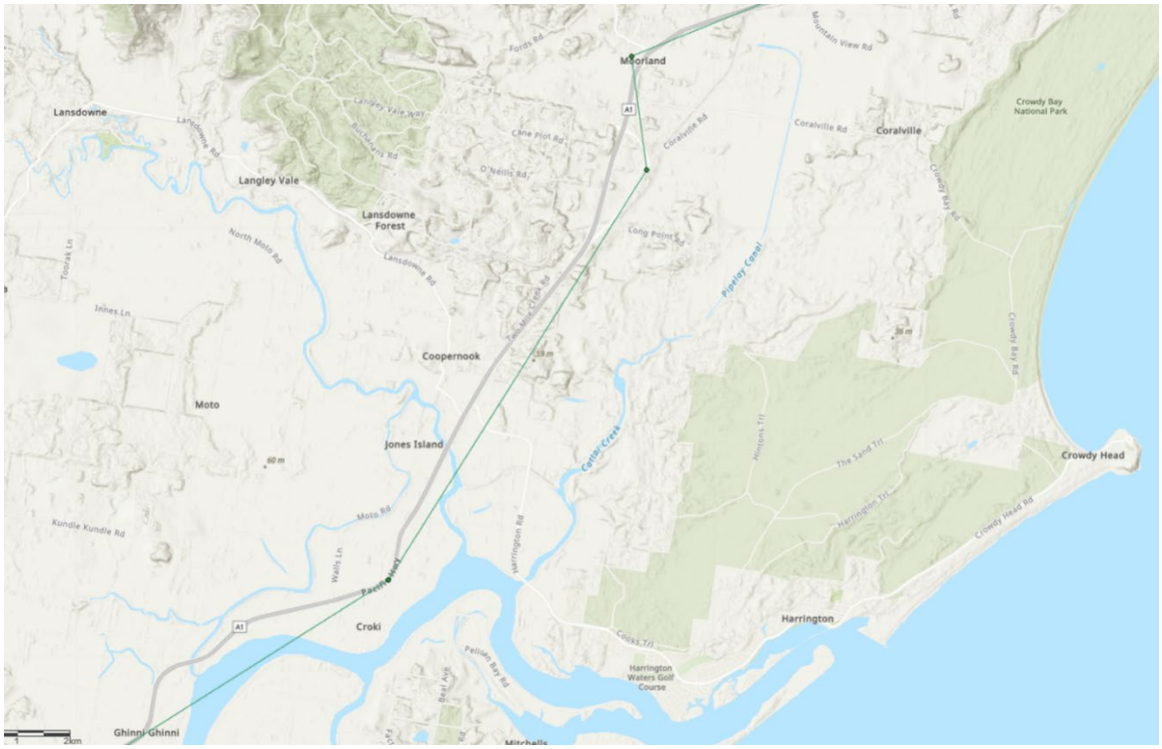


Figure 6: RFM and RTM model coverage in the study area (Source: Transport Region Models)

Table 3: Pacific Highway - Coopernook traffic growth (RTM and RFM models)

Year	Annual Growth Rate	
	Light Vehicles	Heavy Vehicles
2016 - 2026	1.17%	1.53%
2026 - 2036	1.17%	1.41%
2036 - 2046	0.50%	1.25%
2046 - 2056	0.33%	1.94%

Source: Transport Region Models (RFM and RTM)

The historical growth rates in Table 2 show that over the past seven years growth on the Pacific Highway has been 2% for light vehicles cars and 5.2% pa for heavy vehicles while the projection in the RTM and RFM are lower, ranging from 0.33% to 1.17% pa for light vehicles and 1.25% to 1.94% pa for heavy vehicles depending on the forecast interval. This decline in the regional model annual growth rates is noted as a key assumption in the development of the Aimsun forecasts traffic demand estimation. The presence of a regional centre between the permanent count site and the study area as shown in Figure 4 points to higher growth at the count site and therefore may not be representative of the highway growth at the study area.

3.2 Future land-use

The MidCoast Regional Strategy 2006-36 prepared by the New South Wales (NSW) government sets out the known likely extent of urban development of each settlement to provide certainty for landowners and developers over what land can be considered for rezoning for urban purposes and the priority and timeframes for this land to be rezoned. The primary purpose of the Regional Strategy is to ensure that adequate land is available and appropriately located to accommodate the projected housing and employment of the projected housing and employment needs for the Region's population over the next 25 years. The Strategy sets the policy to govern where and how growth can occur. The Regional Strategy represents an agreed NSW government position on the future of the MidCoast. It is the pre-eminent planning document for the MidCoast and complements and informs other relevant State planning instruments. The MidCoast Council provided an estimate of future dwellings in Coopernook and Harrington in Table 4. The timing for the development becoming online was not specified in the strategy. The following assumptions were made regarding when the future dwellings were to be online:

- The Manor Road (aged care facility) will be fully developed between 2028 and 2038
- 50% of all other developments (for both Harrington and Coopernook) will be developed between 2028 and 2038
- The remaining developments will be fully developed by 2048.

Table 4: Estimated future dwellings in Harrington and Coopernook

Locality	Location	Zone	Estimated dwellings
Harrington	Manor Road – Aged care facility	Large Lot Residential	293
	Harrington Waters (vacant lot)	General Residential	317
	Harrington Blue Waters Estate (constrained)	General Residential	25
	Urban release area – to be rezoned	Primary Production	29
	Total		**664**
Coopernook	Urban release area	General Residential	101
	Vacant residential zoned land	General Residential	80
	Rural residential zoned land	General Residential	80
	Total		**261**

Source: MidCoast Council

To determine the weekday peak hour trips generated by the future developments in Table 4, the following rates were sourced from *RTA Guide to Traffic Generating Developments (RTA October 2002)* and are listed in Table 5. The resulting total peak hour trips (listed in Table 6) are assumed to be light vehicles (LV) and were distributed to the Pacific Highway-AM (PH-AM) and PM peaks (at 15-minute intervals) according to the timing assumptions listed above. It is assumed that the development trips attracted and generated on the Coopernook Road and Harrington Road zones of the Aimsun model.

Table 5: Peak hour traffic generation rates by development type

Type of Development	Weekday peak hour vehicle trips per dwelling, trips/hr
Large Lot Residential	0.2
General Residential	0.85
Primary Production	0.65

Source: RTA Guide to Traffic Generating Developments (RTA October 2002)

Table 6: Estimated future trip generations for Coopernook and Harrington from future dwellings

Locality	Location	Zone	Estimated dwellings	Weekday peak hour vehicle trips per dwelling, trips/hr	Peak hour trip generation, veh/hr
Harrington	Manor Road – Aged care facility	Large Lot Residential	293	0.2	59
	Harrington Waters (vacant lot)	General Residential	317	0.85	269
	Harrington Blue Waters Estate (constrained)	General Residential	25	0.85	21
	Urban release area – to be rezoned	Primary Production	29	0.65	19
	Total		**664**	N/A	**368**
Coopernook	Urban release area	General Residential	101	0.85	86
	Vacant residential zoned land	General Residential	80	0.85	68
	Rural residential zoned land	General Residential	80	0.85	68
	Total		**261**	N/A	**222**

3.3 Background traffic growth – minor roads

Table 7 list the background traffic growth assumptions for the minor roads (excluding Pacific Highway) within the study area and is illustrated in Figure 7. It should be noted that the background traffic growth does not include the development traffic described in section 3.2. The trips from the development traffic are added as per the schedule described in the same section. The background traffic growth represents the increase in the amount of traffic that will be on the roadway network without any proposed development. It is assumed that the background traffic growth for LV on the minor roads for 2022 to 2028 is 2%, for medium vehicles (MV) it is 1% and no growth for heavy vehicles (HV). For 2028 to 2038 and 2038 to 2048, the growth for LV and MV is assumed to be 1% and 0% for HV. To avoid double counting of traffic growth, the growth in background traffic in 2028 to 2038 and 2038 to 2048 is reduced to 1% because the trips from future developments are assumed to enter during this period.

Table 7: Background traffic growth rates(pa) for minor roads in study area by vehicle type

Aimsun zone (minor roads)	2022 2028			2028 2038			2038 2048		
	LV	MV	HV	LV	MV	HV	LV	MV	HV
Harrington Road	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0%
Coopernook Road	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0%
George Gibson Drive	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0%
Springhill Road	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0%

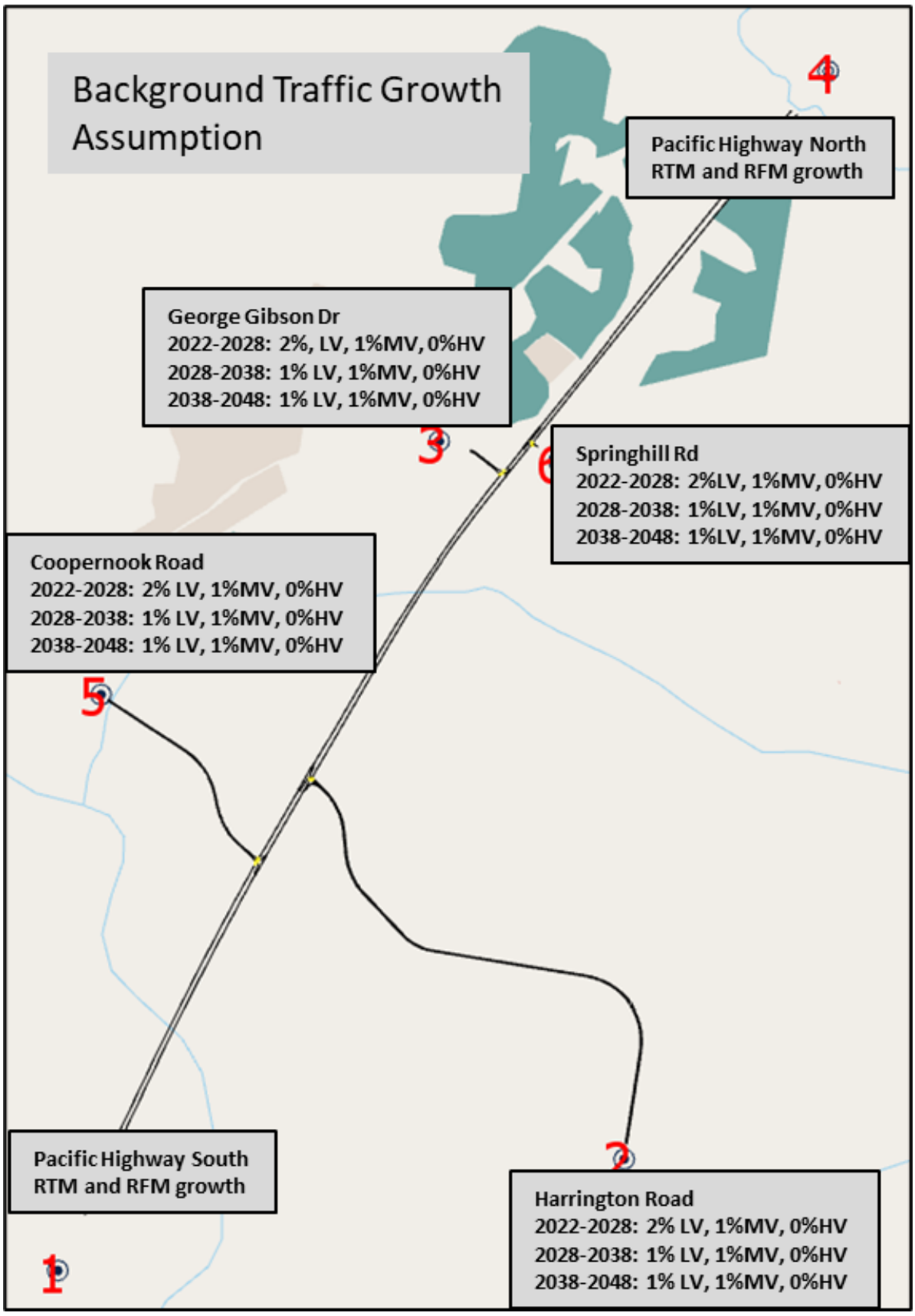


Figure 7: Background traffic growth for minor roads in study area by vehicle type (excluding future developments)

4.0 Future demand development

4.1 2022 calibrated Aimsun demands

2022 calibrated Aimsun demand matrices were developed as part of the base year model development. Demand matrices were calibrated using classified turn counts within the project area. Demands were segmented into three vehicle types: cars, medium commercial and heavy commercial vehicles and profiled into 15-minute intervals for the Local Road-AM (LR-AM, 7:30-9:30am), Pacific Highway-AM (PH-AM, 10:00am-12:00pm) and PM (2:15-4:15pm) peak periods. The 2022 demands form the basis for estimating future traffic demands for traffic modelling. For the future year demands and scenarios, the PH-AM was progressed because of higher overall traffic within the study area (especially the Pacific Highway) along with the PM peak period.

4.2 Future traffic demand estimation

Using the future growth demand sources and assumptions in section 3.0, future year demands in 2028, 2038 and 2048 were estimated and are summarised in Table 8.

Table 8 Summary of future demand growth rates (pa) for the study area

Aimsun zone	2022 2028			2028 2038			2038 2048		
	LV	MV	HV	LV	MV	HV	LV	MV	HV
Harrington Road	2.0%	1.0%	0.0%	1% + 50%Devt	1.0%	0.0%	1% + 50%Devt	1.0%	0.0 %
Coopernook Road	2.0%	1.0%	0.0%	1% + 50%Devt	1.0%	0.0%	1% + 50%Devt	1.0%	0.0 %
George Gibson Drive	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0 %
Springhill Road	2.0%	1.0%	0.0%	1.0%	1.0%	0.0%	1.0%	1.0%	0.0 %
Pacific Highway North	RTM	RFM	RFM	RTM	RFM	RFM	RTM	RFM	RFM
Pacific Highway South	RTM	RFM	RFM	RTM	RFM	RFM	RTM	RFM	RFM

Using the below rates, resulting demands for future years 2028, 2038 and 2048 (including calibrated 2022) are compared for the PH-AM and PM peaks in Figure 8 and Figure 9 respectively. The PH-AM peak demand is anticipated to increase to 4,981 vehicles (from 3,470 in 2022) in 2048 (an increase of around 44%). In the PM peak, it increases to 5,067 vehicles (from 3,397 in 2022) in 2048 (an increase of around 49%). Table 9 also shows the average annual growth rate for the Project Case and PM peaks.

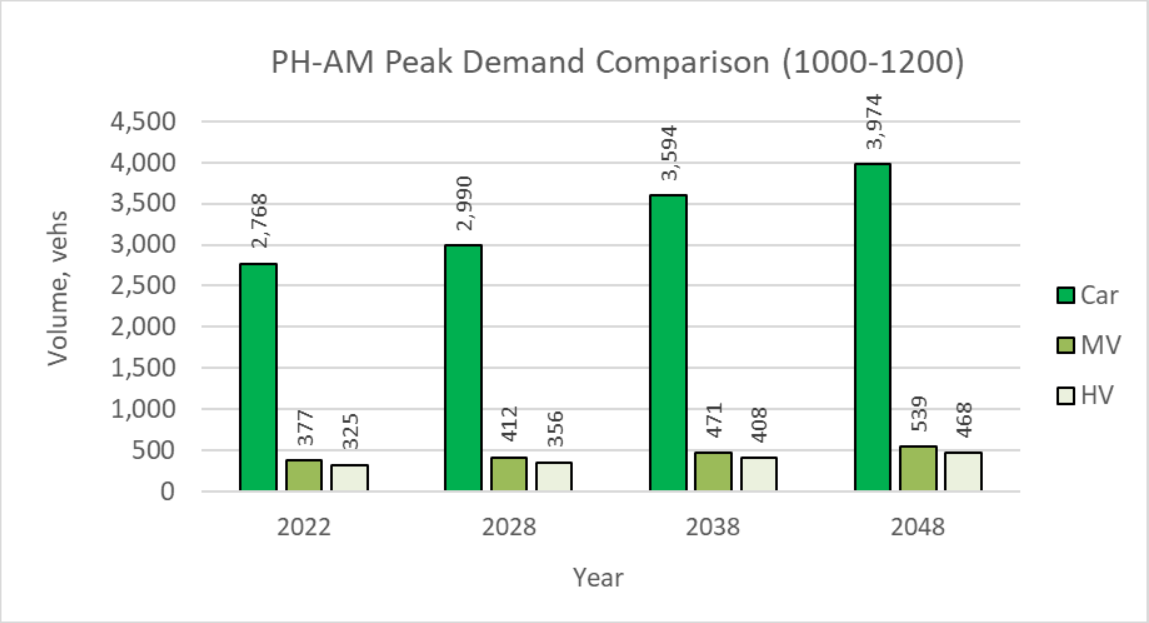


Figure 8: 2-hour PH-AM peak Aimsun demand comparison

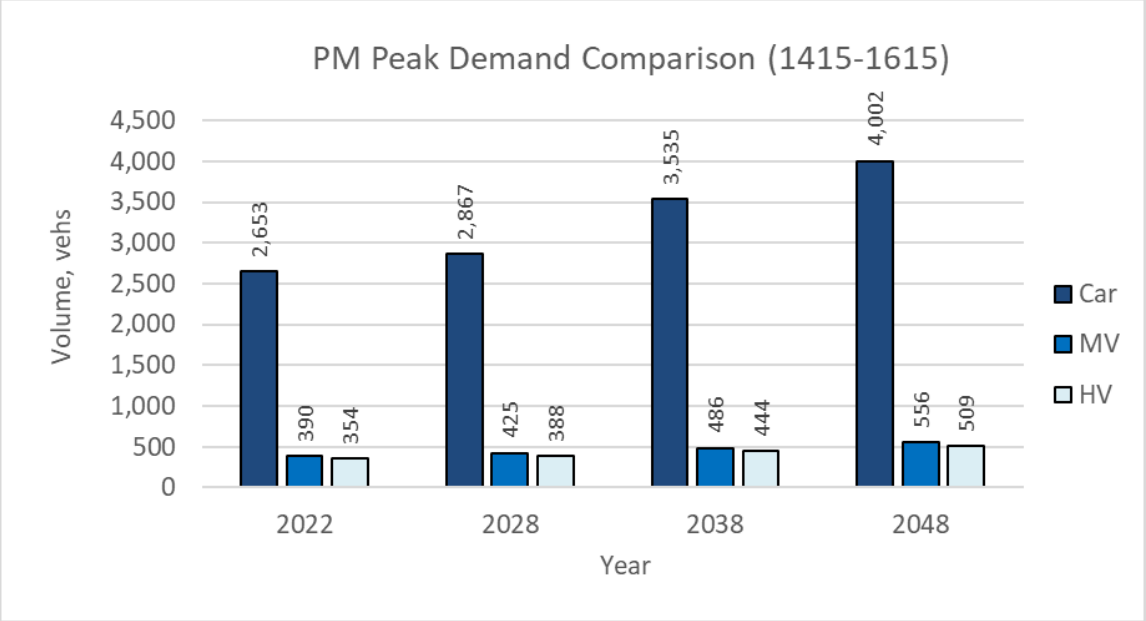


Figure 9: 2-hour PM peak Aimsun demand comparison

Table 9: Study area demand average annual growth rate

Year	PH AM peak		PM peak	
	Total Demand	Ave annual growth (from 2022),%	Total Demand	Ave annual growth (from 2022), %
2022	3,470		3,397	
2028	3,758	1.4%	3,680	1.4%
2038	4,473	1.8%	4,465	2.0%
2048	4,981	1.7%	5,067	1.9%

5.0 Future year Aimsun scenario definition

The following future Aimsun scenarios for 2028, 2038 and 2048 for the study area were developed using the 2022 base year Aimsun model network as a starting point.

- Base Case – reflects the existing network layout
- Project Case – grade-separated interchange with roundabout intersections on either side of the Pacific Highway. The intersections of Harrington Road and Coopernook Road with Pacific Highway are reconfigured as left-in left-out (LILO).

The future scenarios were used to estimate traffic benefits associated with the proposed interchange upgrade, which will feed into the BC economics analysis. Future demands for both Base and Project Case are assumed the same for the future years 2028, 2038 and 2048.

5.1 Future Base Case

The two intersections currently operate as staggered at-grade intersections, separated by the highway as shown in Figure 10 with current safety issues retained. The future years 2028, 2038 and 2048 demands were used to predict the performance of the interchange if it were not upgraded.

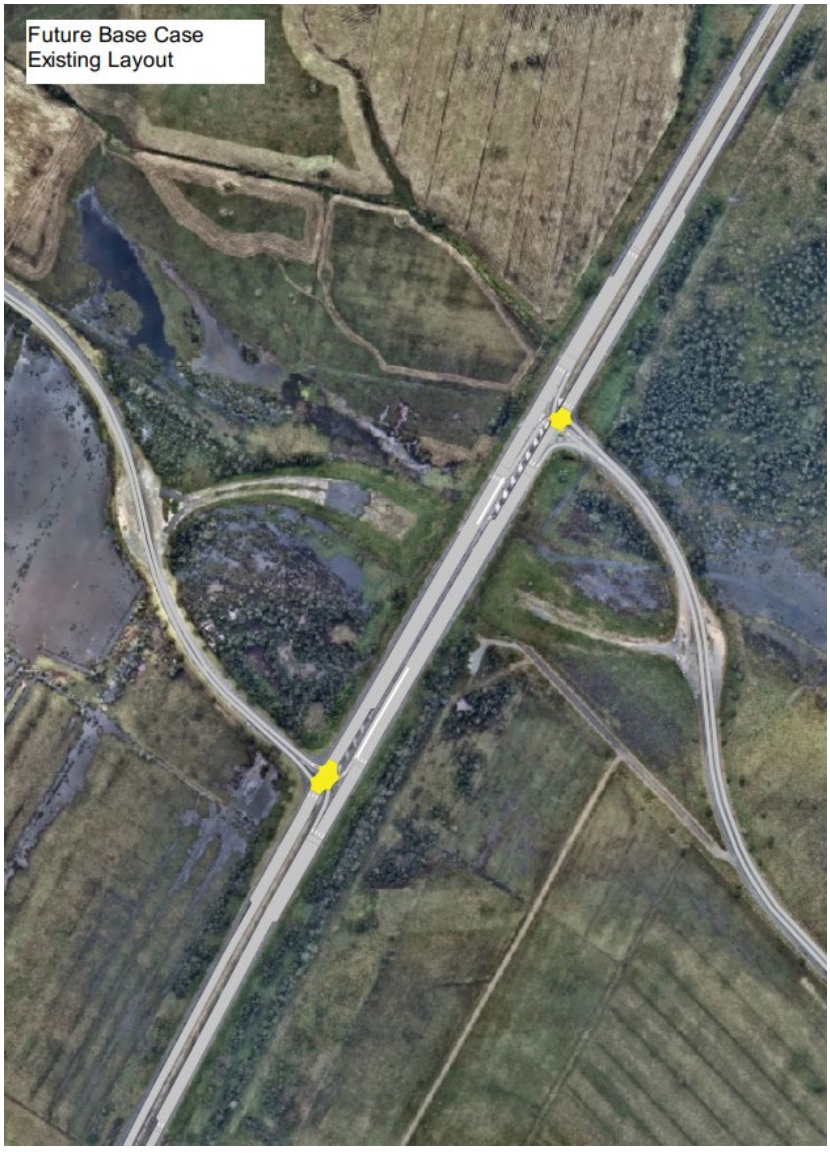


Figure 10: Future Base Case configuration (as current layout)

5.2 Project Case

The Project Case features the following to address safety and operational concerns for the interchange (shown in Figure 11):

- Grade-separation across the Pacific Highway
- Roundabout intersections on either side of the Pacific Highway to connect Harrington and Coopernook Roads
- The intersections of Harrington Road and Coopernook Road with Pacific Highway are reconfigured as left-in left-out (LILO).

The future years 2028, 2038 and 2048 demands were used to predict the performance and potential benefits of the proposed interchange upgrade.

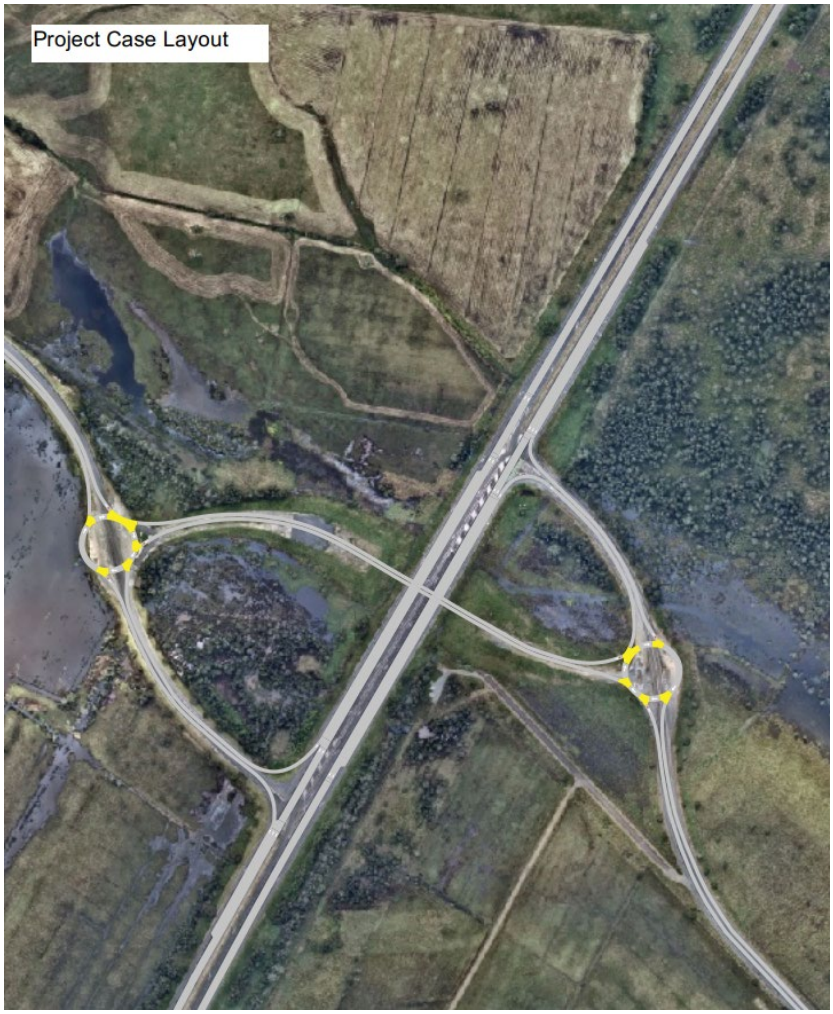


Figure 11: Project Case configuration (concept design)

6.0 Aimsun modelling outputs

Performance of the future Base and Project Case for the future years 2028, 2038 and 2048 Aimsun models have been analysed in relation to:

- Overall network performance metrics, including average delay, average density, average speed, vehicle hours travelled (VHT), vehicle kilometres travelled (VKT) and total vehicles.
- Traffic volumes on key locations comparison.
- Average speeds on key routes comparison.
- Economic analysis inputs from overall network performance metrics segmented into vehicle type and peak periods.

It should be noted the Aimsun modelling results were the average of the five seed model runs from the RMS Modelling Guide.

6.1 Network performance comparison

Table 10 and Table 11 shows the network performance comparison between the Base and Project Case for the PH-AM and PM peaks respectively across the future years 2028, 2038 and 2048. The following key trends in overall network performance can be observed:

PH-AM peak

- Project Case average vehicle delays are lower compared with the Base Case across years
- Average vehicle densities for both scenarios are similar
- Project Case average vehicle speeds are higher compared with the Base Case across years
- Vehicle hours travelled for both scenarios are similar
- Vehicle kilometres travelled for the Project Case has slightly higher than the Base Case because of re-routing of some local traffic through the upgraded interchange
- Total vehicles (demands) for both scenarios are similar and no vehicles waiting to enter, across all years.

Table 10: Network performance comparison - PH-AM peak

Network Performance Measure	2028		2038		2048	
	Base	Project	Base	Project	Base	Project
Vehicle Delay - ALL, sec/km	2.4	2.1	2.9	2.4	3.2	2.6
Vehicle Density - ALL, veh/km	3.1	3.2	3.7	3.8	4.2	4.2
Vehicle Speed - ALL, km/h	93.7	94.3	92.3	93.1	91.2	92.2
Vehicle Hours Travelled - ALL, hrs	170.8	171.5	204.8	205.2	228.6	228.6
Vehicle Kilometres Travelled - ALL, km	15,968	16,096	18,868	19,027	20,800	20,992
Vehicles Outside - All	3,725	3,727	4,443	4,442	4,937	4,935
Vehicles Waiting to Enter - All	0	0	0	0	0	0

PM peak

- Project Case average vehicle delays are lower compared with the Base Case across years
- Average vehicle densities for both scenarios are similar
- Project Case average vehicle speeds are higher compared with the Base Case across years
- Vehicle hours travelled for Project Case were slightly higher compared with Base Case across years

- Vehicle kilometres travelled for the Project Case were slightly higher than the Base Case because of re-routing of some local traffic through the upgraded interchange
- Total vehicles (demands) for both scenarios are similar and no vehicles waiting to enter across years all years.

Table 11: Network performance comparison - PM peak

Network Performance Measure	2028		2038		2048	
	Base	Project	Base	Project	Base	Project
Vehicle Delay - ALL, sec/km	2.7	2.4	3.2	2.8	3.7	3.2
Vehicle Density - ALL, veh/km	3.0	3.1	3.7	3.8	4.3	4.4
Vehicle Speed - ALL, km/h	92.5	92.9	90.9	91.3	89.4	89.9
Vehicle Hours Travelled - ALL, hrs	167.4	169.0	204.8	206.9	234.5	236.7
Vehicle Kilometres Travelled - ALL, km	15,473	15,632	18,585	18,776	20,947	21,180
Vehicles Outside - All	3,675	3,675	4,460	4,456	5,083	5,083
Vehicles Waiting to Enter - All	0	0	0	0	0	0

For more details on network performance, refer to Appendix C – Network Performance Measures (Base and Project).

6.2 Traffic volume comparison

A comparison of traffic volume between the Base and Project Case for the locations shown in Figure 12 are listed in Table 12. Given that the same demand matrices were used for both Base and Project Case for the future years, traffic volumes on common sections (PH_1, PH_3, H_1 and C_1) shaded green (in Table 12) have similar volumes for corresponding years and time periods. For location PH_2, traffic volumes for the Project Case are lower for the northbound direction compared with the Base because traffic is diverted to the Link Road. For location PH_2 southbound, traffic volumes for the Base and Project Case across years and time periods are generally similar. For the Link Road (LR), eastbound traffic volumes (toward Harrington) are significantly higher compared with westbound traffic (toward Coopernook). For more details on link traffic volumes, refer to Appendix E – Volume Plots (Base and Project).

It should also be noted that delays across the Base and Project Case across future years and time periods are not excessive resulting in traffic volumes not being constrained (similar volumes). For more details on link traffic volumes, refer to Appendix G – Delay Plots (Base and Project).

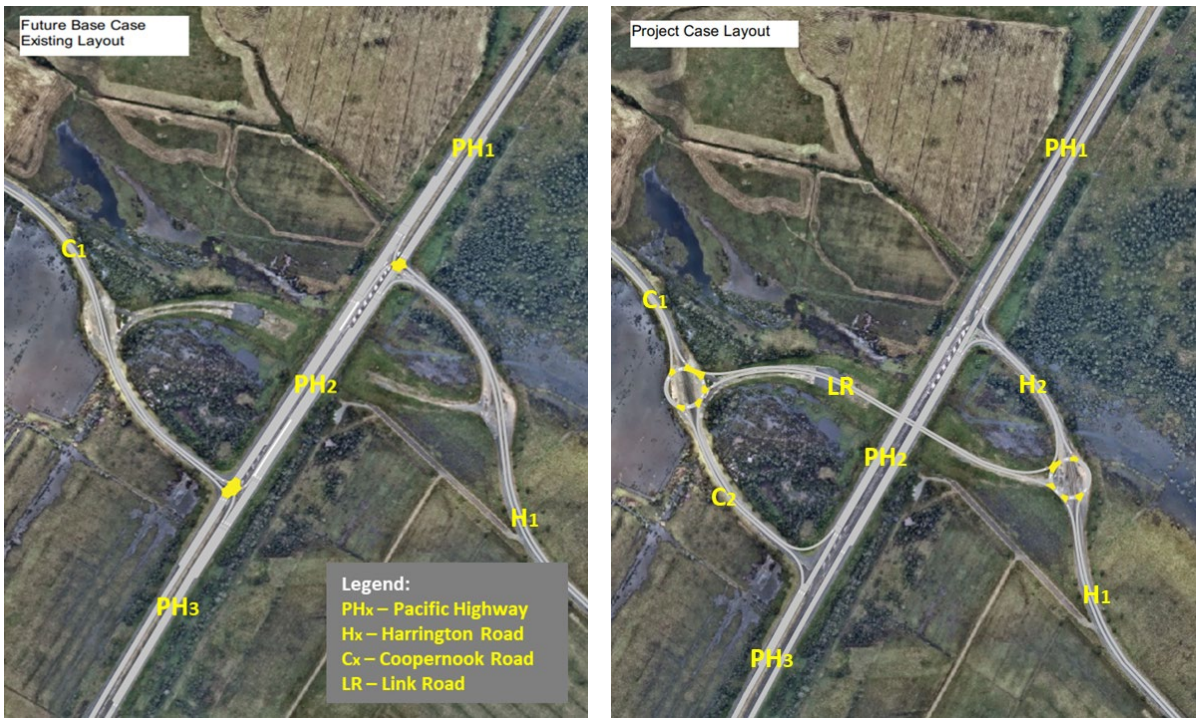


Figure 12: Traffic volume comparisons at key locations in the study area

Table 12:Traffic volume comparison at key locations (veh/hr) – 2028, 2038 and 2048

Location	Direction	PH AM 1000 1100		PH AM 1100 1200		PM 1415 1515		PM 1515 1615	
		Base	Project	Base	Project	Base	Project	Base	Project
2028									
PH1	Northbound	764	765	733	732	785	785	769	768
	Southbound	735	735	749	749	585	585	638	638
PH2	Northbound	866	765	844	731	908	786	934	769
	Southbound	846	853	841	833	697	710	729	741
PH3	Northbound	868	868	853	853	934	933	960	960
	Southbound	852	852	836	833	708	707	741	740
H1	Eastbound	167	169	175	174	192	191	229	230
	Westbound	179	179	156	156	181	181	156	157
H2	Eastbound		31		32		38		43
	Westbound		149		117		162		146
LR	Eastbound		165		166		187		226
	Westbound		59		62		53		50
C1	Eastbound	51	51	44	43	51	51	56	56
	Westbound	47	48	58	59	64	65	68	69
C2	Eastbound		40		34		46		38
	Westbound		144		155		193		229
2038									
PH1	Northbound	898	897	850	849	877	874	883	883
	Southbound	804	805	846	846	691	691	737	737
PH2	Northbound	1011	897	976	849	1100	874	1160	882
	Southbound	1001	1002	1028	1026	815	814	829	821
PH3	Northbound	998	998	958	958	1156	1156	1209	1209
	Southbound	1002	1001	1027	1026	815	813	819	819
H1	Eastbound	199	200	211	213	314	315	374	377
	Westbound	285	285	269	269	213	213	191	191

Location	Direction	PH AM 1000 1100		PH AM 1100 1200		PM 1415 1515		PM 1515 1615	
		Base	Project	Base	Project	Base	Project	Base	Project
H2	Eastbound		32		30		67		71
	Westbound		231		212		186		157
LR	Eastbound		212		225		296		345
	Westbound		99		99		74		74
C1	Eastbound	88	88	91	91	66	66	65	65
	Westbound	72	73	72	74	124	126	121	122
C2	Eastbound		62		64		42		46
	Westbound		161		174		324		372
2048									
PH1	Northbound	977	975	910	908	967	965	963	959
	Southbound	873	874	908	908	764	763	807	807
PH2	Northbound	1106	976	1050	908	1257	966	1307	958
	Southbound	1126	1147	1132	1142	899	870	922	893
PH3	Northbound	1071	1071	1011	1011	1343	1343	1388	1388
	Southbound	1149	1146	1144	1141	872	871	894	892
H1	Eastbound	231	231	245	247	403	406	455	458
	Westbound	359	360	324	323	253	253	228	228
H2	Eastbound		36		35		87		83
	Westbound		312		268		194		169
LR	Eastbound		268		271		370		423
	Westbound		116		117		108		107
C1	Eastbound	138	138	131	132	79	79	80	80
	Westbound	76	79	80	82	191	192	190	192
C2	Eastbound		81		77		52		56
	Westbound		174		181		429		485

6.3 Key routes average speed comparison

Figure 13 and Table 13 to Table 15 compares the average vehicle speeds for key routes within the study area for the Base and Project Case across future years and time periods. The highlighted (in grey) rows are the routes significantly impacted by the upgrade. Average speed is compared rather than travel time because most route lengths are different between the Base and Project Cases. The following key trends in overall network performance can be observed from the tables:

Route 1: Coopernook Road to Harrington Road

- Average speed increases in the Project Case compared with the Base Case across periods and years
- Speed increases between 1.9 and 3.9 km/h
- Eliminates the weaving movement and right turn crossing movement delay with the Pacific Highway southbound through traffic

Route 3: Coopernook Road to Pacific Highway South

- Average speed increases in the Project Case compared with the Base Case across periods and years
- Speed increases between 6.5 and 10.6 km/h
- Eliminates the right turn crossing movement delay with the Pacific Highway northbound through traffic

Route 4: Harrington Road to Coopernook Road

- Average speed is generally higher in the Project Case compared with the Base Case across periods and years

- Speed increases up to 2.4 km/h
- Eliminates the weaving movement and right turn crossing movement delay with the Pacific Highway northbound through traffic

Route 5: Harrington Road to Pacific Highway North

- Average speed increases in the Project Case compared with the Base Case across periods and years
- Speed increases between 0.5 and 5.0 km/h
- Eliminates the right turn crossing movement delay with the Pacific Highway southbound through traffic

Route 7: Pacific Highway North to Coopernook Road

- Average speed decreases in the Project Case compared with the Base Case across periods and years
- Speed decreases between 3.6 and 4.8 km/h
- Eliminates the right turn crossing movement delay with the Pacific Highway northbound through traffic but diversion length/time increases

Route 11: Pacific Highway South to Harrington Road

- Average speed decreases in the Project Case compared with the Base Case across periods and years
- Speed decreases between 3.9 and 6.0 km/h
- Eliminates the right turn crossing movement delay with the Pacific Highway southbound through traffic but diversion length/time increases.

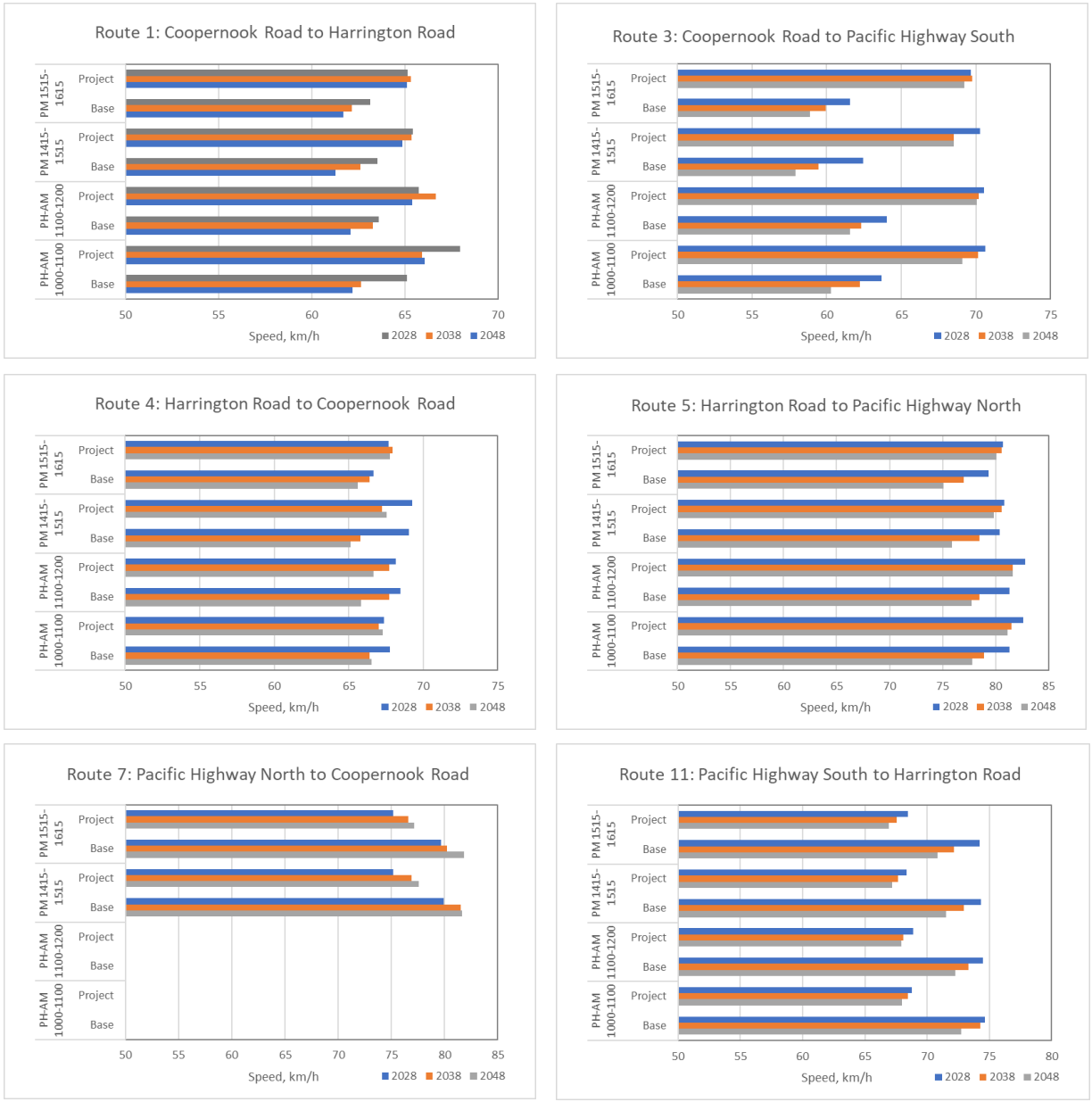


Figure 13: Six key routes average speed comparison

Table 13: Key routes average speed comparison (km/h) – 2028

From	To	Route #	PH AM 1000 1100		PH AM 1100 1200		PM 1415 1515		PM 1515 1615	
			Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Road	Harrington Rd	1	65.1	68.0	63.6	65.7	63.5	65.4	63.2	65.1
	Pacific Hwy North	2	83.9	85.6	84.9	86.7	81.4	83.3	79.6	81.4
	Pacific Hwy South	3	63.7	70.6	64.0	70.5	62.5	70.3	61.5	69.7
Harrington Road	Coopernook Rd	4	67.8	67.4	68.5	68.2	69.0	69.3	66.7	67.7
	Pacific Hwy North	5	81.3	82.6	81.3	82.8	80.4	80.8	79.4	80.7
	Pacific Hwy South	6	77.8	78.3	77.8	78.3	78.1	78.8	78.2	78.7
Pacific Highway North	Coopernook Rd	7	No data	No data	No data	No data	79.9	75.1	79.7	75.2
	Harrington Rd	8	84.7	84.0	85.0	84.5	85.1	84.4	85.3	84.5
	Pacific Hwy South	9	97.2	98.9	97.6	99.3	97.9	99.6	97.5	99.1
Pacific Highway South	Coopernook Rd	10	71.1	68.5	70.0	67.1	68.8	66.4	69.6	67.0
	Harrington Rd	11	74.6	68.8	74.5	68.9	74.3	68.4	74.2	68.4
	Pacific Hwy North	12	97.1	98.2	97.4	98.5	96.6	97.8	96.6	97.8

Table 14: Key routes average speed comparison (km/h) – 2038

From	To	Route #	PH AM 1000 1100		PH AM 1100 1200		PM 1415 1515		PM 1515 1615	
			Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Road	Harrington Rd	1	62.7	65.9	63.3	66.7	62.6	65.4	62.2	65.3
	Pacific Hwy North	2	81.2	83.6	83.2	85.4	78.1	80.6	82.3	84.1
	Pacific Hwy South	3	62.2	70.2	62.3	70.2	59.4	68.5	59.9	69.8
Harrington Road	Coopernook Rd	4	66.4	67.0	67.7	67.7	65.8	67.2	66.4	67.9
	Pacific Hwy North	5	78.9	81.5	78.5	81.6	78.5	80.6	77.0	80.5
	Pacific Hwy South	6	77.4	78.0	77.5	78.3	77.3	77.9	77.9	78.5
Pacific Highway North	Coopernook Rd	7	No data	No data	No data	No data	81.5	76.9	80.2	76.6
	Harrington Rd	8	85.1	84.4	84.3	83.4	84.7	83.7	84.4	83.3
	Pacific Hwy South	9	97.1	98.9	97.4	99.2	97.6	99.4	96.9	98.7
Pacific Highway South	Coopernook Rd	10	69.8	67.5	70.2	67.5	69.5	66.9	69.5	66.6
	Harrington Rd	11	74.3	68.4	73.3	68.1	72.9	67.7	72.2	67.6
	Pacific Hwy North	12	96.8	97.9	97.0	98.1	95.9	97.2	96.2	97.5

Table 15: Key routes average speed comparison (km/h) – 2048

From	To	Route #	PH AM 1000 1100		PH AM 1100 1200		PM 1415 1515		PM 1515 1615	
			Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Road	Harrington Rd	1	62.2	66.1	62.1	65.4	61.3	64.9	61.7	65.1
	Pacific Hwy North	2	82.2	84.4	81.8	83.5	79.2	81.9	79.4	82.3
	Pacific Hwy South	3	60.3	69.1	61.6	70.0	57.9	68.5	58.9	69.2
Harrington Road	Coopernook Rd	4	66.5	67.3	65.8	66.7	65.1	67.5	65.6	67.8
	Pacific Hwy North	5	77.8	81.1	77.7	81.6	75.9	79.8	75.1	80.1
	Pacific Hwy South	6	77.0	77.7	77.0	77.7	77.6	78.2	76.8	77.5
Pacific Highway North	Coopernook Rd	7	No data	No data	No data	No data	81.6	77.6	81.8	77.1
	Harrington Rd	8	83.8	83.3	84.4	83.5	84.5	83.2	83.8	82.5
	Pacific Hwy South	9	96.5	98.4	97.1	99.0	97.0	98.9	96.6	98.6
Pacific Highway South	Coopernook Rd	10	69.7	66.6	70.1	67.0	68.8	66.0	69.0	66.3
	Harrington Rd	11	72.8	68.0	72.3	67.9	71.5	67.2	70.9	66.9
	Pacific Hwy North	12	96.2	97.5	96.6	97.7	95.4	96.8	95.4	96.8

For more details on key routes travel times and speeds, refer to Appendix D – Key Routes Travel Time and Speed Comparison

6.4 Economic analysis inputs

To be able to quantify the benefits of the Pacific Highway / Harrington Road Interchange Upgrade, the traffic performance of the study area is measured to estimate project benefits.

Traffic performance in terms of traffic volume, average delay, average speed, VHT and VKT are presented in Table 16 across scenarios, periods and future years for each vehicle type.

The following key trends can be observed:

- Project Case volumes are similar to the corresponding Base Case for all future years across PH-AM and PM peaks and vehicle types.
- Project Case average delays are generally lower compared with the corresponding Base Case for all future years across PH-AM and PM peaks and vehicle types.
- Project Case average speeds are generally higher compared with the corresponding Base Case for all future years across PH-AM and PM peaks and vehicle types.
- Project Case VHTs are generally higher compared with corresponding Base Case for LVs for all future years across PH-AM. Project Case VHT is generally lower for MVs and HVs.
- Project Case VKTs are generally higher compared with corresponding Base Case for all future years across PH-AM and PM peaks and vehicle types.

Overall, the Project Case provides improvements (compared with the Base) in terms of traffic performance. Additionally, the Project Case eliminates the weaving manoeuvre between Coopernook and Harrington Roads along with crossing traffic to and from the same roads. Further traffic performance (in addition to the above table) are plotted in Appendices E to G.

Table 16: Network traffic performance for economic analysis by vehicle type

Year	Scenario	Vehicle Type	PH AM (1000 1200)					PM (1415 1615)				
			Volume, veh	Ave delay, s	Ave speed,	VHT, hrs	VKT, km	Volume, veh	Ave delay, s	Ave speed,	VHT, hrs	VKT, km
2028	Base	LV	2,958	2.5	94.4	133.0	12,532	2,853	2.8	93.2	126.8	11,816
		MV	405	2.0	90.8	19.8	1,798	433	2.2	90.0	21.3	1,912
		HV	361	1.9	91.4	17.9	1,632	385	2.1	90.7	19.1	1,731
	Project	LV	2,960	2.2	94.9	134.0	12,651	2,852	2.5	93.4	128.6	11,955
		MV	405	1.6	91.9	19.7	1,805	433	1.8	91.1	21.2	1,928
		HV	360	1.6	92.5	17.7	1,633	385	1.7	92.0	18.9	1,735
2038	Base	LV	3,573	3.1	92.7	161.6	14,961	3,514	3.5	91.2	157.9	14,377
		MV	457	2.1	90.5	22.6	2,040	496	2.4	89.6	24.5	2,188
		HV	412	2.1	90.9	20.5	1,861	446	2.3	90.3	22.3	2,007
	Project	LV	3,573	2.6	93.4	162.4	15,110	3,511	3.0	91.3	160.4	14,548
		MV	456	1.7	91.7	22.4	2,047	496	1.9	90.8	24.4	2,205
		HV	411	1.7	92.3	20.2	1,863	446	1.8	91.6	22.0	2,008
2048	Base	LV	3,950	3.5	91.4	179.6	16,382	4,004	4.0	89.4	180.7	16,142
		MV	522	2.2	90.3	25.8	2,324	572	2.6	89.1	28.4	2,530
		HV	462	2.2	90.6	23.1	2,088	503	2.4	89.9	25.2	2,262
	Project	LV	3,949	2.8	92.3	180.2	16,565	4,005	3.5	89.6	183.5	16,351
		MV	522	1.7	91.6	25.5	2,330	572	1.9	90.7	28.2	2,549
		HV	462	1.8	92.1	22.8	2,091	502	1.9	91.6	24.8	2,265

7.0 Summary and conclusions

This report has been prepared to document the traffic modelling undertaken to estimate future traffic performance and traffic benefits for the Pacific Highway / Harrington Road Interchange Upgrade.

Crash data analysis

Review of crash data includes:

- Ten crashes were reported between 1 October 2016 to 26 August 2022
- One fatal crash with type right near (RUM code 13)
- Five out of ten crashes (50%) involved crossing traffic (RUM code 1)
- Project Case potentially eliminates crashes arising from crossing traffic.

Future demand forecasts

Future demand forecasts used for modelling include:

- Pacific Highway growth from Transport RTM and RFM models
- Harrington and Coopernook development traffic from MidCoast Regional Strategy 2006-36
- Timing of development traffic becoming online is assumed to be 50% for both 2028 to 2038 and 2038 to 2048
- Background traffic growth for minor roads is assumed to avoid double-counting of development traffic.

Future scenario network assumptions

In terms of network configurations, the following assumptions were adopted:

- Base Case – reflects the existing network layout
- Project Case – grade-separated interchange with roundabout intersections on either side of the Pacific Highway. The intersections of Harrington Road and Coopernook Road with Pacific Highway are reconfigured as left-in left-out (LILO).

Future year demands (2028, 2038 and 2048) are assumed to be the same for both Base and Project Case.

Future scenario analysis

The following key trends in network-level traffic performance were observed:

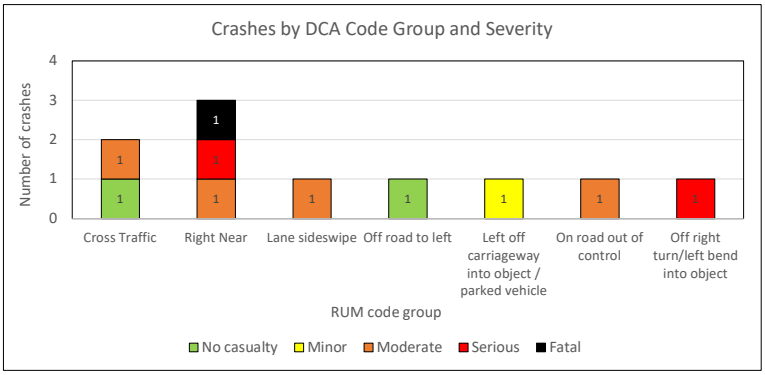
- Project Case average delays are generally lower compared with the Base Case across years and periods
- Average vehicle densities for both scenarios are generally similar across years and periods
- Project Case average speeds are generally higher compared with the Base Case across years and periods
- VHTs for both scenarios are generally similar across years and periods
- VKTs for the Project Case are generally slightly higher than the Base Case because of the re-routing of some local traffic through the upgraded interchange across years and periods.

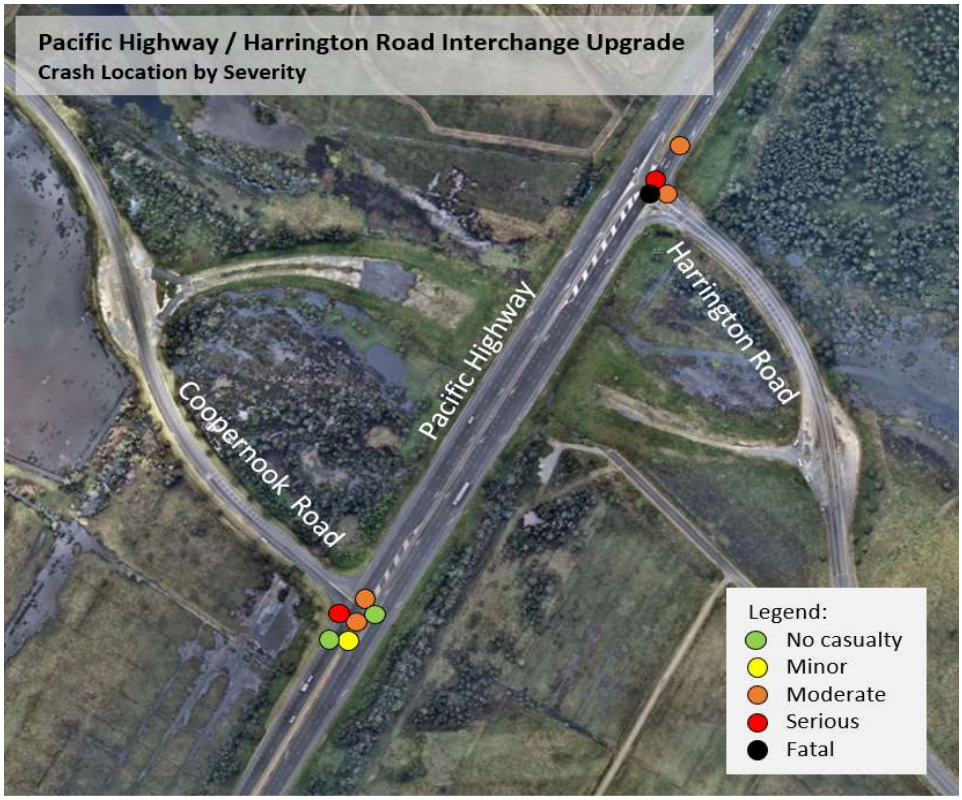
Overall, the Project Case provides improvements (compared with the Base Case) in terms of traffic performance. Additionally, the Project Case eliminates the weaving manoeuvre between Coopernook and Harrington Roads along with crossing traffic to and from the same roads.

Appendix A – Crash Analysis Data

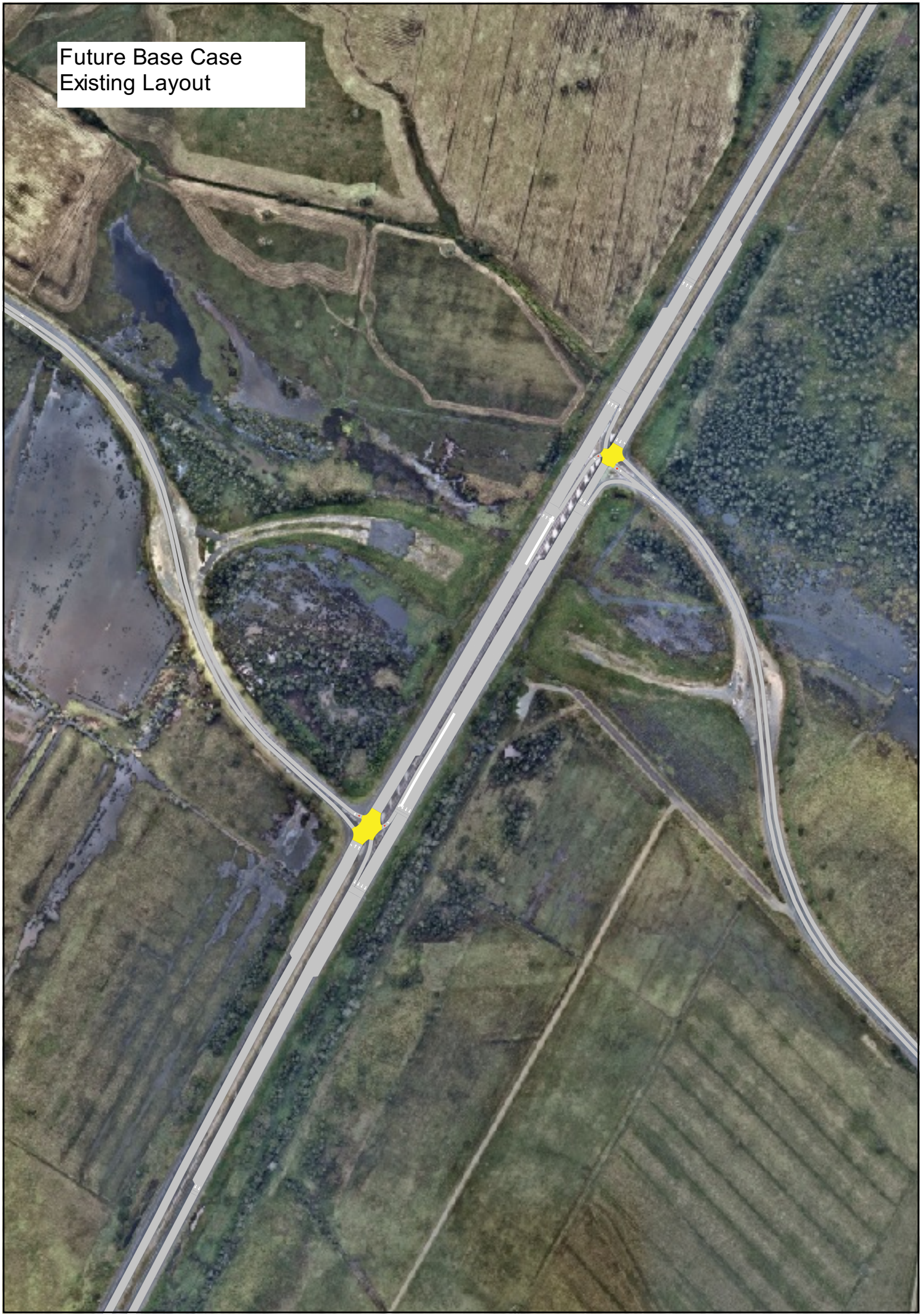
Year	Month	Day	Hour	Severity	Major Street	Intersecting street	Lighting	Atmospheric condition	RUM code group	RUM code group description
2017	August	Sunday	8	Moderate	Pacific Highway	N/A	Daylight	Fine	33	Lane sideswipe
2018	March	Saturday	11	Moderate	Pacific Highway	Harrington Road	Daylight	Fine	10	Cross Traffic
2018	April	Sunday	13	Serious	Pacific Highway	Coopernook Road	Cloudy	Overcast	85	Off right turn/left bend into object
2018	December	Wednesday	15	Serious	Pacific Highway	Harrington Road	Daylight	Fine	13	Right near
2020	October	Tuesday	13	Moderate	Pacific Highway	Coopernook Road	Daylight	Fine	13	Right Near
2020	November	Tuesday	16	Minor	Pacific Highway	N/A	Unknown	Unknown	71	Left off carriageway into object / parked vehicle
2020	December	Friday	9	Moderate	Pacific Highway	Coopernook Road	Daylight	Fine	74	On road out of control
2021	February	Monday	13	Fatal	Pacific Highway	Harrington Road	Daylight	Overcast	13	Right Near
2021	February	Friday	13	No casualty	Pacific Highway	Coopernook Road	Daylight	Fine	70	Off road to left
2022	April	Friday	18	No casualty	Pacific Highway	Coopernook Road	Cloudy	Rain	13	Cross Traffic

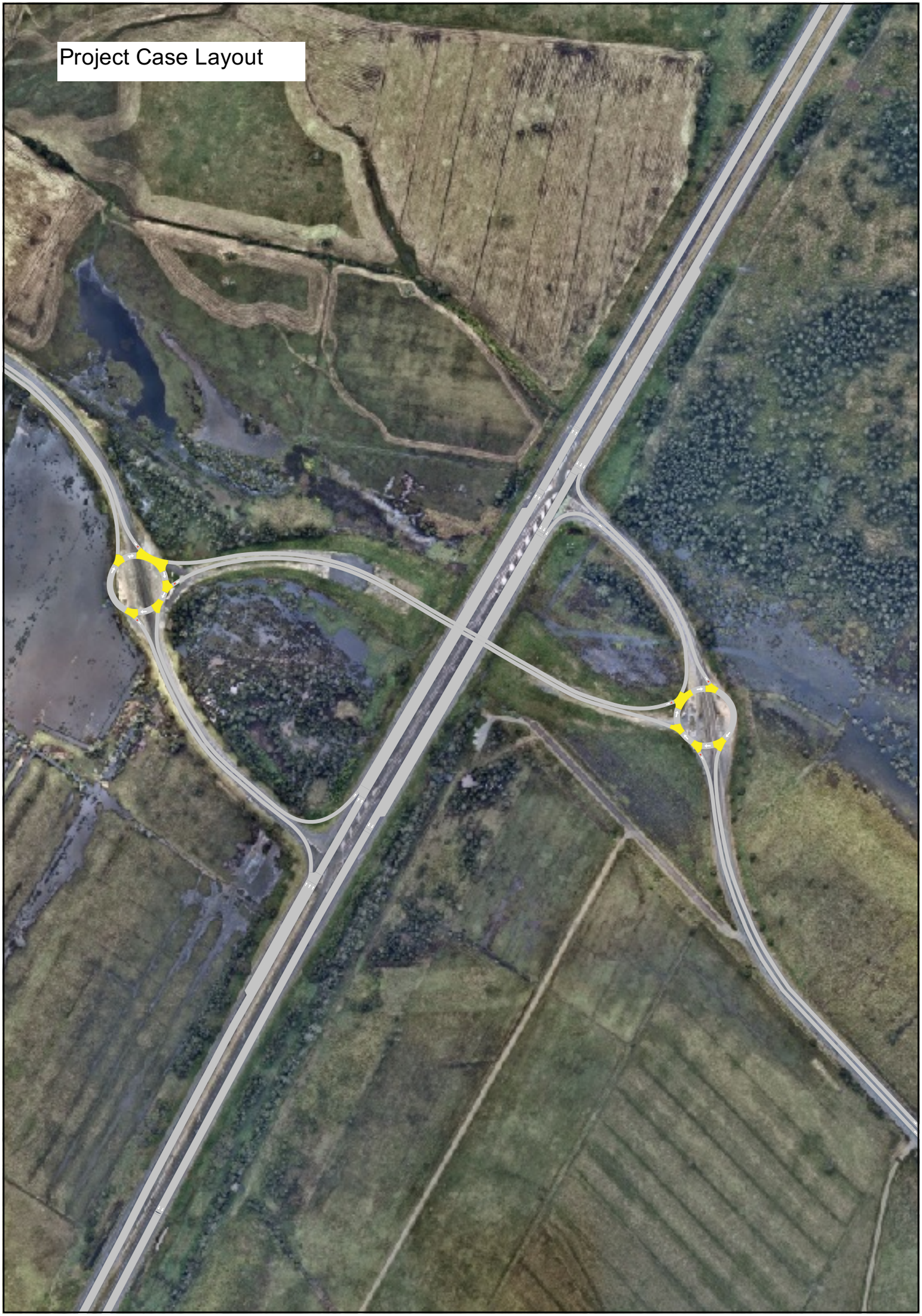
Collection Date: 1 Oct 2016 to 26 August 2022





Appendix B – Future Base and Project Case Layout


Future Base Case
Existing Layout


Project Case Layout

Appendix C – Network Performance Measures (Base and Project)

2028 PH-AM

Time Series	Value	Standard D	Units
Delay Time - All	2.39	0.05	sec/km
Delay Time - Bus	11.4	2.12	sec/km
Delay Time - LV	2.51	0.05	sec/km
Delay Time - MV	1.96	0.12	sec/km
Delay Time - HV	1.89	0.09	sec/km
Density - All	3.1	0.03	veh/km
Density - Bus	0	0	veh/km
Density - LV	2.42	0.04	veh/km
Density - MV	0.36	0.01	veh/km
Density - HV	0.32	0.01	veh/km
Flow - All	1862.6	16.53	veh/h
Flow - Bus	1	0	veh/h
Flow - LV	1478.9	22.2	veh/h
Flow - MV	202.4	3.31	veh/h
Flow - HV	180.3	7.56	veh/h
Harmonic Speed - All	92.28	0.28	km/h
Harmonic Speed - Bus	60.08	1.95	km/h
Harmonic Speed - LV	92.8	0.28	km/h
Harmonic Speed - MV	90.03	0.56	km/h
Harmonic Speed - HV	90.92	0.33	km/h
Input Count - All	3723.4	39.18	veh
Input Count - Bus	2	0	veh
Input Count - LV	2961.6	53.14	veh
Input Count - MV	400.2	8.67	veh
Input Count - HV	359.6	17.16	veh
Input Flow - All	1861.7	19.59	veh/h
Input Flow - Bus	1	0	veh/h
Input Flow - LV	1480.8	26.57	veh/h
Input Flow - MV	200.1	4.34	veh/h
Input Flow - HV	179.8	8.58	veh/h
Max. Virtual Queue - All	4.8	1.3	veh
Max. Virtual Queue - Bus	0	0	veh
Max. Virtual Queue - LV	3.8	1.3	veh
Max. Virtual Queue - MV	2.2	0.45	veh
Max. Virtual Queue - HV	2	0	veh
Mean Queue - All	0.2	0.01	veh
Mean Queue - Bus	0	0	veh
Mean Queue - LV	0.18	0.01	veh
Mean Queue - MV	0.01	0.01	veh
Mean Queue - HV	0	0	veh
Mean Virtual Queue - All	0.09	0.01	veh
Mean Virtual Queue - Bus	0	0	veh
Mean Virtual Queue - LV	0.04	0	veh
Mean Virtual Queue - MV	0.03	0	veh
Mean Virtual Queue - HV	0.02	0	veh
Missed Turns - All	3	1.87	
Missed Turns - Bus	0	0	
Missed Turns - LV	2.8	1.64	
Missed Turns - MV	0.2	0.45	
Missed Turns - HV	0	0	
Number of Lane Changes - All	255.55	4.84	#/km
Number of Lane Changes - Bus	0.17	0.02	#/km
Number of Lane Changes - LV	220.29	5.6	#/km
Number of Lane Changes - MV	19.7	0.8	#/km
Number of Lane Changes - HV	15.38	0.78	#/km
Number of Stops - All	0	0	#/veh/km
Number of Stops - Bus	0.03	0.01	#/veh/km
Number of Stops - LV	0	0	#/veh/km
Number of Stops - MV	0	0	#/veh/km
Number of Stops - HV	0	0	#/veh/km
Speed - All	93.66	0.28	km/h
Speed - Bus	60.2	1.96	km/h
Speed - LV	94.36	0.29	km/h
Speed - MV	90.79	0.43	km/h
Speed - HV	91.36	0.27	km/h
Stop Time - All	0.16	0.01	sec/km
Stop Time - Bus	2.55	1.55	sec/km
Stop Time - LV	0.19	0.01	sec/km
Stop Time - MV	0.1	0.03	sec/km
Stop Time - HV	0.04	0.03	sec/km
Total Distance Travelled - All	15968.41	184.39	km
Total Distance Travelled - Bus	5.55	0	km
Total Distance Travelled - LV	12532.33	214.16	km
Total Distance Travelled - MV	1798.45	22.25	km
Total Distance Travelled - HV	1632.08	69.69	km
Total Distance Travelled (Vehicles Inside)	190.48	8.36	km
Total Distance Travelled (Vehicles Inside)	0	0	km
Total Distance Travelled (Vehicles Inside)	156.61	10.25	km
Total Distance Travelled (Vehicles Inside)	15.82	4.38	km
Total Distance Travelled (Vehicles Inside)	18.05	6.49	km
Total Number of Lane Changes - All	7037.4	133.37	
Total Number of Lane Changes - Bus	4.8	0.45	
Total Number of Lane Changes - LV	6066.4	154.33	
Total Number of Lane Changes - MV	542.6	21.93	
Total Number of Lane Changes - HV	423.6	21.51	
Total Number of Stops - All	281	6.36	
Total Number of Stops - Bus	1.6	0.55	
Total Number of Stops - LV	258.8	3.96	
Total Number of Stops - MV	15.6	5.32	
Total Number of Stops - HV	5	2.12	
Total Travel Time - All	170.79	1.61	h
Total Travel Time - Bus	0.09	0	h
Total Travel Time - LV	132.99	2.08	h
Total Travel Time - MV	19.81	0.25	h
Total Travel Time - HV	17.89	0.75	h
Total Travel Time (Vehicles Inside) - All	2.2	0.12	h
Total Travel Time (Vehicles Inside) - Bus	0	0	h
Total Travel Time (Vehicles Inside) - LV	1.79	0.14	h
Total Travel Time (Vehicles Inside) - MV	0.19	0.05	h
Total Travel Time (Vehicles Inside) - HV	0.22	0.08	h
Total Travel Time (Waiting Out) - All	0	0	h
Total Travel Time (Waiting Out) - Bus	0	0	h
Total Travel Time (Waiting Out) - LV	0	0	h
Total Travel Time (Waiting Out) - MV	0	0	h
Total Travel Time (Waiting Out) - HV	0	0	h
Travel Time - All	39.01	0.12	sec/km
Travel Time - Bus	59.92	1.94	sec/km
Travel Time - LV	38.79	0.12	sec/km
Travel Time - MV	39.99	0.25	sec/km
Travel Time - HV	39.6	0.15	sec/km
Vehicles Inside - All	82.8	4.44	veh
Vehicles Inside - Bus	0	0	veh
Vehicles Inside - LV	68.2	6.5	veh
Vehicles Inside - MV	6.8	1.1	veh
Vehicles Inside - HV	7.8	3.35	veh
Vehicles Lost Inside - All	0.8	1.3	veh
Vehicles Lost Inside - Bus	0	0	veh
Vehicles Lost Inside - LV	0.8	1.3	veh
Vehicles Lost Inside - MV	0	0	veh
Vehicles Lost Inside - HV	0	0	veh
Vehicles Lost Outside - All	3	1.87	veh
Vehicles Lost Outside - Bus	0	0	veh
Vehicles Lost Outside - LV	2.8	1.64	veh
Vehicles Lost Outside - MV	0.2	0.45	veh
Vehicles Lost Outside - HV	0	0	veh
Vehicles Outside - All	3725.2	33.06	veh
Vehicles Outside - Bus	2	0	veh
Vehicles Outside - LV	2957.8	44.4	veh
Vehicles Outside - MV	404.8	6.61	veh
Vehicles Outside - HV	360.6	15.13	veh
Vehicles Waiting to Enter - All	0	0	veh
Vehicles Waiting to Enter - Bus	0	0	veh
Vehicles Waiting to Enter - LV	0	0	veh
Vehicles Waiting to Enter - MV	0	0	veh
Vehicles Waiting to Enter - HV	0	0	veh
Waiting Time in Virtual Queue - All	0.19	0.01	sec
Waiting Time in Virtual Queue - Bus	0	0	sec
Waiting Time in Virtual Queue - LV	0.12	0.01	sec
Waiting Time in Virtual Queue - MV	0.52	0.06	sec
Waiting Time in Virtual Queue - HV	0.42	0.05	sec

2028 PM

Time Serie	Value	Standard D	Units
Delay Time	2.69	0.06	sec/km
Delay Time	9.43	1.5	sec/km
Delay Time	2.84	0.07	sec/km
Delay Time	2.17	0.06	sec/km
Delay Time	2.07	0.05	sec/km
Density - A	3.04	0.05	veh/km
Density - B	0	0	veh/km
Density - L	2.31	0.05	veh/km
Density - M	0.39	0.03	veh/km
Density - H	0.35	0.02	veh/km
Flow - All	1837.3	33	veh/h
Flow - Bus	2	0	veh/h
Flow - LV	1426.3	32.52	veh/h
Flow - MV	216.5	13.73	veh/h
Flow - HV	192.5	9.6	veh/h
Harmonic S	91.03	0.26	km/h
Harmonic S	64.13	1.9	km/h
Harmonic S	91.5	0.34	km/h
Harmonic S	89.15	0.27	km/h
Harmonic S	90.11	0.17	km/h
Input Cour	3685	64.11	veh
Input Cour	4	0	veh
Input Cour	2861.2	61.78	veh
Input Cour	433.8	28.7	veh
Input Cour	386	17.93	veh
Input Flow	1842.5	32.06	veh/h
Input Flow	2	0	veh/h
Input Flow	1430.6	30.89	veh/h
Input Flow	216.9	14.35	veh/h
Input Flow	193	8.97	veh/h
Max. Virtua	5.8	1.3	veh
Max. Virtua	0.8	0.45	veh
Max. Virtua	4.2	0.84	veh
Max. Virtua	2	0	veh
Max. Virtua	2	0	veh
Mean Queu	0.21	0.02	veh
Mean Queu	0	0	veh
Mean Queu	0.19	0.02	veh
Mean Queu	0.02	0	veh
Mean Queu	0	0	veh
Mean Virtu	0.11	0.01	veh
Mean Virtu	0	0	veh
Mean Virtu	0.05	0.01	veh
Mean Virtu	0.03	0	veh
Mean Virtu	0.03	0	veh
Missed Tu	2.6	0.89	
Missed Tu	0	0	
Missed Tu	2.6	0.89	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	253.96	6.51	#/km
Number of	0.34	0.02	#/km
Number of	214.46	5.06	#/km
Number of	21.93	2.42	#/km
Number of	17.23	0.76	#/km
Number of	0	0	#/veh/km
Number of	0.02	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	92.51	0.24	km/h
Speed - Bu	64.72	1.66	km/h
Speed - LV	93.17	0.3	km/h
Speed - MV	90.04	0.19	km/h
Speed - HV	90.7	0.15	km/h
Stop Time	0.2	0.02	sec/km
Stop Time	2.02	1.15	sec/km
Stop Time	0.23	0.02	sec/km
Stop Time	0.15	0.02	sec/km
Stop Time	0.06	0.04	sec/km
Total Dista	15472.93	245.28	km
Total Dista	12.99	0	km
Total Dista	11816.21	255.27	km
Total Dista	1912.36	118.68	km
Total Dista	1731.38	89.09	km
Total Dista	207.37	4.31	km
Total Dista	0	0	km
Total Dista	151.24	13.75	km
Total Dista	28.06	12.89	km
Total Dista	28.07	7.07	km
Total Numl	6993.6	179.32	
Total Numl	9.4	0.55	
Total Numl	5905.8	139.46	
Total Numl	604	66.62	
Total Numl	474.4	20.82	
Total Numl	320.6	19.68	
Total Numl	2.4	1.14	
Total Numl	289.4	19.73	
Total Numl	21.6	2.7	
Total Numl	7.2	5.07	
Total Trave	167.39	2.95	h
Total Trave	0.2	0.01	h
Total Trave	126.83	2.91	h
Total Trave	21.25	1.34	h
Total Trave	19.11	0.98	h
Total Trave	2.44	0.05	h
Total Trave	0	0	h
Total Trave	1.77	0.15	h
Total Trave	0.33	0.14	h
Total Trave	0.33	0.08	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	39.55	0.11	sec/km
Travel Tim	56.14	1.61	sec/km
Travel Tim	39.34	0.15	sec/km
Travel Tim	40.38	0.12	sec/km
Travel Tim	39.95	0.08	sec/km
Vehicles In	92.6	5.46	veh
Vehicles In	0	0	veh
Vehicles In	69.6	6.62	veh
Vehicles In	10.6	3.85	veh
Vehicles In	12.4	1.82	veh
Vehicles Lo	0.2	0.45	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0.2	0.45	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles Lo	2.4	1.14	veh
Vehicles Lo	0	0	veh
Vehicles Lo	2.4	1.14	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles Ou	3674.6	66.01	veh
Vehicles Ou	4	0	veh
Vehicles Ou	2852.6	65.04	veh
Vehicles Ou	433	27.47	veh
Vehicles Ou	385	19.2	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.23	0.02	sec
Waiting Tir	0.14	0.17	sec
Waiting Tir	0.16	0.02	sec
Waiting Tir	0.47	0.04	sec
Waiting Tir	0.51	0.07	sec

2038 PH-AM

Time Serie	Value	Standard D	Units
Delay Time	2.86	0.07	sec/km
Delay Time	12.01	1.01	sec/km
Delay Time	3.05	0.07	sec/km
Delay Time	2.1	0.04	sec/km
Delay Time	2.08	0.09	sec/km
Density - A	3.72	0.03	veh/km
Density - B	0	0	veh/km
Density - L	2.93	0.03	veh/km
Density - M	0.41	0.02	veh/km
Density - H	0.37	0.01	veh/km
Flow - All	2221.5	17.61	veh/h
Flow - Bus	1	0	veh/h
Flow - LV	1786.3	20.35	veh/h
Flow - MV	228.4	9.31	veh/h
Flow - HV	205.8	3.25	veh/h
Harmonic S	90.69	0.31	km/h
Harmonic S	59.47	0.93	km/h
Harmonic S	90.88	0.35	km/h
Harmonic S	89.7	0.22	km/h
Harmonic S	90.41	0.4	km/h
Input Cour	4437.2	38.39	veh
Input Cour	2	0	veh
Input Cour	3566.8	48.31	veh
Input Cour	455	16.67	veh
Input Cour	413.4	6.23	veh
Input Flow	2218.6	19.19	veh/h
Input Flow	1	0	veh/h
Input Flow	1783.4	24.16	veh/h
Input Flow	227.5	8.34	veh/h
Input Flow	206.7	3.11	veh/h
Max. Virtua	5.2	0.45	veh
Max. Virtua	0	0	veh
Max. Virtua	3.8	0.84	veh
Max. Virtua	2.6	0.55	veh
Max. Virtua	2.4	0.55	veh
Mean Queu	0.4	0.04	veh
Mean Queu	0	0	veh
Mean Queu	0.37	0.03	veh
Mean Queu	0.02	0.01	veh
Mean Queu	0	0	veh
Mean Virtu	0.14	0.01	veh
Mean Virtu	0	0	veh
Mean Virtu	0.07	0	veh
Mean Virtu	0.04	0	veh
Mean Virtu	0.03	0	veh
Missed Tu	4.8	2.05	
Missed Tu	0	0	
Missed Tu	4.8	2.05	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	327.57	4.54	#/km
Number of	0.17	0.02	#/km
Number of	284.84	5.72	#/km
Number of	23.73	1.23	#/km
Number of	18.83	0.69	#/km
Number of	0	0	#/veh/km
Number of	0.03	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	92.31	0.25	km/h
Speed - Bu	59.58	0.97	km/h
Speed - LV	92.72	0.28	km/h
Speed - MV	90.52	0.2	km/h
Speed - HV	90.88	0.35	km/h
Stop Time	0.26	0.02	sec/km
Stop Time	2.75	0.66	sec/km
Stop Time	0.3	0.02	sec/km
Stop Time	0.13	0.04	sec/km
Stop Time	0.05	0.02	sec/km
Total Dista	18867.5	154.3	km
Total Dista	5.55	0	km
Total Dista	14960.87	187.18	km
Total Dista	2039.66	87.31	km
Total Dista	1861.42	27.05	km
Total Dista	198.7	22.01	km
Total Dista	0	0	km
Total Dista	159.17	27.38	km
Total Dista	21.79	4.36	km
Total Dista	17.74	2.2	km
Total Numl	9020.8	124.93	
Total Numl	4.6	0.55	
Total Numl	7844	157.42	
Total Numl	653.6	33.83	
Total Numl	518.6	18.93	
Total Numl	450.2	19.34	
Total Numl	1.6	0.55	
Total Numl	421.6	14.26	
Total Numl	20.2	5.72	
Total Numl	6.8	3.03	
Total Trave	204.81	1.45	h
Total Trave	0.09	0	h
Total Trave	161.63	1.76	h
Total Trave	22.57	0.93	h
Total Trave	20.51	0.31	h
Total Trave	2.36	0.27	h
Total Trave	0	0	h
Total Trave	1.87	0.34	h
Total Trave	0.27	0.05	h
Total Trave	0.22	0.03	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	39.69	0.13	sec/km
Travel Tim	60.53	0.95	sec/km
Travel Tim	39.61	0.15	sec/km
Travel Tim	40.14	0.1	sec/km
Travel Tim	39.82	0.17	sec/km
Vehicles In	90.6	8.08	veh
Vehicles In	0	0	veh
Vehicles In	72.2	8.98	veh
Vehicles In	9.6	1.52	veh
Vehicles In	8.8	1.1	veh
Vehicles Lo	0.4	0.55	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0.2	0.45	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0.2	0.45	veh
Vehicles Lo	5	1.87	veh
Vehicles Lo	0	0	veh
Vehicles Lo	5	1.87	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles Ou	4443	35.21	veh
Vehicles Ou	2	0	veh
Vehicles Ou	3572.6	40.7	veh
Vehicles Ou	456.8	18.62	veh
Vehicles Ou	411.6	6.5	veh
Vehicles W	0.2	0.45	veh
Vehicles W	0	0	veh
Vehicles W	0.2	0.45	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.24	0.01	sec
Waiting Tir	0	0	sec
Waiting Tir	0.17	0.01	sec
Waiting Tir	0.56	0.05	sec
Waiting Tir	0.54	0.02	sec

2038 PM

Time Series	Value	Standard D	Units
Delay Time - All	3.23	0.08	sec/km
Delay Time - Bus	10.15	2.28	sec/km
Delay Time - LV	3.46	0.08	sec/km
Delay Time - MV	2.39	0.1	sec/km
Delay Time - HV	2.26	0.09	sec/km
Density - All	3.72	0.06	veh/km
Density - Bus	0	0	veh/km
Density - LV	2.87	0.06	veh/km
Density - MV	0.44	0.03	veh/km
Density - HV	0.4	0.02	veh/km
Flow - All	2230	44.86	veh/h
Flow - Bus	2	0	veh/h
Flow - LV	1757	41.93	veh/h
Flow - MV	247.9	17.19	veh/h
Flow - HV	223.1	9.04	veh/h
Harmonic Speed - All	89.25	0.31	km/h
Harmonic Speed - Bus	62.96	2.35	km/h
Harmonic Speed - LV	89.31	0.32	km/h
Harmonic Speed - MV	88.68	0.5	km/h
Harmonic Speed - HV	89.72	0.27	km/h
Input Count - All	4452.6	76.91	veh
Input Count - Bus	4	0	veh
Input Count - LV	3517.8	74.14	veh
Input Count - MV	489	28.13	veh
Input Count - HV	441.8	17.46	veh
Input Flow - All	2226.3	38.45	veh/h
Input Flow - Bus	2	0	veh/h
Input Flow - LV	1758.9	37.07	veh/h
Input Flow - MV	244.5	14.07	veh/h
Input Flow - HV	220.9	8.73	veh/h
Max. Virtual Queue - All	6.2	0.45	veh
Max. Virtual Queue - Bus	0.6	0.55	veh
Max. Virtual Queue - LV	4.6	0.55	veh
Max. Virtual Queue - MV	2.6	0.55	veh
Max. Virtual Queue - HV	2.4	0.55	veh
Mean Queue - All	0.47	0.04	veh
Mean Queue - Bus	0	0	veh
Mean Queue - LV	0.42	0.04	veh
Mean Queue - MV	0.04	0.01	veh
Mean Queue - HV	0.01	0.01	veh
Mean Virtual Queue - All	0.18	0.02	veh
Mean Virtual Queue - Bus	0	0	veh
Mean Virtual Queue - LV	0.09	0.01	veh
Mean Virtual Queue - MV	0.04	0	veh
Mean Virtual Queue - HV	0.04	0.01	veh
Missed Turns - All	5	0.71	
Missed Turns - Bus	0	0	
Missed Turns - LV	4.8	1.1	
Missed Turns - MV	0	0	
Missed Turns - HV	0.2	0.45	
Number of Lane Changes - All	330.05	6.51	#/km
Number of Lane Changes - Bus	0.36	0.03	#/km
Number of Lane Changes - LV	282.86	5.99	#/km
Number of Lane Changes - MV	26.17	1.7	#/km
Number of Lane Changes - HV	20.67	1.62	#/km
Number of Stops - All	0	0	#/veh/km
Number of Stops - Bus	0.02	0.01	#/veh/km
Number of Stops - LV	0	0	#/veh/km
Number of Stops - MV	0	0	#/veh/km
Number of Stops - HV	0	0	#/veh/km
Speed - All	90.87	0.26	km/h
Speed - Bus	63.81	1.93	km/h
Speed - LV	91.16	0.27	km/h
Speed - MV	89.58	0.41	km/h
Speed - HV	90.26	0.21	km/h
Stop Time - All	0.31	0.02	sec/km
Stop Time - Bus	2.59	1.58	sec/km
Stop Time - LV	0.35	0.02	sec/km
Stop Time - MV	0.22	0.05	sec/km
Stop Time - HV	0.08	0.01	sec/km
Total Distance Travelled - All	18584.98	327.31	km
Total Distance Travelled - Bus	12.99	0	km
Total Distance Travelled - LV	14376.78	308.94	km
Total Distance Travelled - MV	2187.91	149.93	km
Total Distance Travelled - HV	2007.3	86.15	km
Total Distance Travelled (Vehicles Inside) - All	224.24	20.21	km
Total Distance Travelled (Vehicles Inside) - Bus	0	0	km
Total Distance Travelled (Vehicles Inside) - LV	174.11	27.44	km
Total Distance Travelled (Vehicles Inside) - MV	27.89	3.2	km
Total Distance Travelled (Vehicles Inside) - HV	22.24	11.09	km
Total Number of Lane Changes - All	9089	179.14	
Total Number of Lane Changes - Bus	9.8	0.84	
Total Number of Lane Changes - LV	7789.4	164.93	
Total Number of Lane Changes - MV	720.6	46.72	
Total Number of Lane Changes - HV	569.2	44.56	
Total Number of Stops - All	524.2	15.8	
Total Number of Stops - Bus	2.2	1.1	
Total Number of Stops - LV	478	17.51	
Total Number of Stops - MV	31.8	3.56	
Total Number of Stops - HV	12.2	2.28	
Total Travel Time - All	204.81	3.72	h
Total Travel Time - Bus	0.2	0.01	h
Total Travel Time - LV	157.89	3.68	h
Total Travel Time - MV	24.46	1.6	h
Total Travel Time - HV	22.26	0.94	h
Total Travel Time (Vehicles Inside) - All	2.65	0.22	h
Total Travel Time (Vehicles Inside) - Bus	0	0	h
Total Travel Time (Vehicles Inside) - LV	2.06	0.31	h
Total Travel Time (Vehicles Inside) - MV	0.33	0.04	h
Total Travel Time (Vehicles Inside) - HV	0.27	0.13	h
Total Travel Time (Waiting Out) - All	0	0	h
Total Travel Time (Waiting Out) - Bus	0	0	h
Total Travel Time (Waiting Out) - LV	0	0	h
Total Travel Time (Waiting Out) - MV	0	0	h
Total Travel Time (Waiting Out) - HV	0	0	h
Travel Time - All	40.34	0.14	sec/km
Travel Time - Bus	57.18	2.17	sec/km
Travel Time - LV	40.31	0.14	sec/km
Travel Time - MV	40.6	0.23	sec/km
Travel Time - HV	40.12	0.12	sec/km
Vehicles Inside - All	99.2	7.19	veh
Vehicles Inside - Bus	0	0	veh
Vehicles Inside - LV	77.6	11.06	veh
Vehicles Inside - MV	12.2	3.77	veh
Vehicles Inside - HV	9.4	3.78	veh
Vehicles Lost Inside - All	0.4	0.55	veh
Vehicles Lost Inside - Bus	0	0	veh
Vehicles Lost Inside - LV	0.4	0.55	veh
Vehicles Lost Inside - MV	0	0	veh
Vehicles Lost Inside - HV	0	0	veh
Vehicles Lost Outside - All	5	0.71	veh
Vehicles Lost Outside - Bus	0	0	veh
Vehicles Lost Outside - LV	4.8	1.1	veh
Vehicles Lost Outside - MV	0	0	veh
Vehicles Lost Outside - HV	0.2	0.45	veh
Vehicles Outside - All	4460	89.71	veh
Vehicles Outside - Bus	4	0	veh
Vehicles Outside - LV	3514	83.86	veh
Vehicles Outside - MV	495.8	34.38	veh
Vehicles Outside - HV	446.2	18.09	veh
Vehicles Waiting to Enter - All	0.2	0.45	veh
Vehicles Waiting to Enter - Bus	0	0	veh
Vehicles Waiting to Enter - LV	0	0	veh
Vehicles Waiting to Enter - MV	0.2	0.45	veh
Vehicles Waiting to Enter - HV	0	0	veh
Waiting Time in Virtual Queue - All	0.31	0.02	sec
Waiting Time in Virtual Queue - Bus	0.19	0.17	sec
Waiting Time in Virtual Queue - LV	0.22	0.02	sec
Waiting Time in Virtual Queue - MV	0.63	0.07	sec
Waiting Time in Virtual Queue - HV	0.68	0.11	sec

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Time Serie	Value	Standard D	Units
Delay Time	3.24	0.05	sec/km
Delay Time	14	4.35	sec/km
Delay Time	3.49	0.06	sec/km
Delay Time	2.22	0.12	sec/km
Delay Time	2.22	0.1	sec/km
Density - A	4.15	0.06	veh/km
Density - B	0	0	veh/km
Density - L	3.26	0.05	veh/km
Density - M	0.47	0.01	veh/km
Density - H	0.42	0.01	veh/km
Flow - All	2468.3	32.87	veh/h
Flow - Bus	1	0	veh/h
Flow - LV	1975.1	29.49	veh/h
Flow - MV	261.1	6.86	veh/h
Flow - HV	231.1	4.87	veh/h
Harmonic S	89.44	0.17	km/h
Harmonic S	57.65	3.23	km/h
Harmonic S	89.39	0.24	km/h
Harmonic S	89.43	0.6	km/h
Harmonic S	90.13	0.31	km/h
Input Coun	4945.6	59.45	veh
Input Coun	2	0	veh
Input Coun	3958.4	50.35	veh
Input Coun	521.4	17.27	veh
Input Coun	463.8	11.65	veh
Input Flow	2472.8	29.72	veh/h
Input Flow	1	0	veh/h
Input Flow	1979.2	25.17	veh/h
Input Flow	260.7	8.64	veh/h
Input Flow	231.9	5.82	veh/h
Max. Virtua	5.2	0.45	veh
Max. Virtua	0.2	0.45	veh
Max. Virtua	4.4	0.55	veh
Max. Virtua	2.6	0.55	veh
Max. Virtua	2	0	veh
Mean Quei	0.61	0.05	veh
Mean Quei	0	0	veh
Mean Quei	0.57	0.05	veh
Mean Quei	0.03	0.01	veh
Mean Quei	0	0.01	veh
Mean Virtu	0.18	0.01	veh
Mean Virtu	0	0	veh
Mean Virtu	0.09	0.01	veh
Mean Virtu	0.05	0	veh
Mean Virtu	0.04	0	veh
Missed Tu	8.2	0.84	
Missed Tu	0	0	
Missed Tu	8.2	0.84	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	374.58	8.91	#/km
Number of	0.18	0	#/km
Number of	324.17	8.35	#/km
Number of	28.3	0.72	#/km
Number of	21.93	1.3	#/km
Number of	0	0	#/veh/km
Number of	0.03	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	91.19	0.16	km/h
Speed - Bu	57.85	3.21	km/h
Speed - LV	91.4	0.22	km/h
Speed - MV	90.29	0.5	km/h
Speed - HV	90.61	0.23	km/h
Stop Time	0.35	0.04	sec/km
Stop Time	4.43	3.57	sec/km
Stop Time	0.41	0.04	sec/km
Stop Time	0.15	0.04	sec/km
Stop Time	0.07	0.04	sec/km
Total Dista	20799.72	308.49	km
Total Dista	5.55	0	km
Total Dista	16381.84	272.01	km
Total Dista	2323.96	54.66	km
Total Dista	2088.38	43.25	km
Total Dista	239.55	29.27	km
Total Dista	0	0	km
Total Dista	181.96	30.43	km
Total Dista	34.44	4.69	km
Total Dista	23.15	11.2	km
Total Numl	10315.2	245.42	
Total Numl	5	0	
Total Numl	8927.2	229.96	
Total Numl	779.2	19.77	
Total Numl	603.8	35.77	
Total Numl	609.8	26.38	
Total Numl	1.8	0.45	
Total Numl	572	20.16	
Total Numl	26.6	8.26	
Total Numl	9.4	4.88	
Total Trave	228.57	3.3	h
Total Trave	0.2	0.1	h
Total Trave	179.62	2.93	h
Total Trave	25.77	0.72	h
Total Trave	23.08	0.48	h
Total Trave	2.88	0.33	h
Total Trave	0	0	h
Total Trave	2.18	0.37	h
Total Trave	0.42	0.06	h
Total Trave	0.28	0.12	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	40.25	0.08	sec/km
Travel Tim	62.45	3.63	sec/km
Travel Tim	40.27	0.11	sec/km
Travel Tim	40.25	0.27	sec/km
Travel Tim	39.94	0.14	sec/km
Vehicles In	115	8.4	veh
Vehicles In	0	0	veh
Vehicles In	89.6	11.41	veh
Vehicles In	14	1.73	veh
Vehicles In	11.4	3.44	veh
Vehicles Lo	0.6	1.34	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0.6	1.34	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles Lo	8.2	0.84	veh
Vehicles Lo	0	0	veh
Vehicles Lo	8.2	0.84	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles O	4936.6	65.74	veh
Vehicles O	2	0	veh
Vehicles O	3950.2	58.98	veh
Vehicles O	522.2	13.72	veh
Vehicles O	462.2	9.73	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.28	0.01	sec
Waiting Tir	0.24	0.43	sec
Waiting Tir	0.19	0.01	sec
Waiting Tir	0.63	0.03	sec
Waiting Tir	0.61	0.04	sec

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Time Serie	Value	Standard D	Units
Delay Time	3.73	0.06	sec/km
Delay Time	12.06	1.71	sec/km
Delay Time	4.04	0.08	sec/km
Delay Time	2.6	0.1	sec/km
Delay Time	2.42	0.13	sec/km
Density - A	4.26	0.07	veh/km
Density - B	0	0	veh/km
Density - L	3.29	0.05	veh/km
Density - M	0.52	0.04	veh/km
Density - H	0.46	0.03	veh/km
Flow - All	2541.6	33.47	veh/h
Flow - Bus	2	0	veh/h
Flow - LV	2002.2	24.97	veh/h
Flow - MV	286.1	18.08	veh/h
Flow - HV	251.3	15.83	veh/h
Harmonic S	87.64	0.23	km/h
Harmonic S	60.91	2.78	km/h
Harmonic S	87.39	0.3	km/h
Harmonic S	88.16	0.42	km/h
Harmonic S	89.37	0.41	km/h
Input Coun	5090.8	68.49	veh
Input Coun	4	0	veh
Input Coun	4015	56.99	veh
Input Coun	568.2	38.38	veh
Input Coun	503.6	27.48	veh
Input Flow	2545.4	34.25	veh/h
Input Flow	2	0	veh/h
Input Flow	2007.5	28.49	veh/h
Input Flow	284.1	19.19	veh/h
Input Flow	251.8	13.74	veh/h
Max. Virtua	7	1	veh
Max. Virtua	0.8	0.45	veh
Max. Virtua	5.4	0.55	veh
Max. Virtua	2.6	0.55	veh
Max. Virtua	3	0	veh
Mean Quei	0.8	0.05	veh
Mean Quei	0	0	veh
Mean Quei	0.73	0.04	veh
Mean Quei	0.06	0.01	veh
Mean Quei	0.01	0.01	veh
Mean Virtu	0.28	0.03	veh
Mean Virtu	0	0	veh
Mean Virtu	0.15	0.02	veh
Mean Virtu	0.07	0	veh
Mean Virtu	0.06	0.01	veh
Missed Tu	10.2	2.68	
Missed Tu	0	0	
Missed Tu	10	2.55	
Missed Tu	0.2	0.45	
Missed Tu	0	0	
Number of	387.87	9.15	#/km
Number of	0.34	0.02	#/km
Number of	331.02	7.72	#/km
Number of	31.16	2.81	#/km
Number of	25.35	2.48	#/km
Number of	0	0	#/veh/km
Number of	0.03	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	89.42	0.22	km/h
Speed - Bu	61.66	2.77	km/h
Speed - LV	89.43	0.28	km/h
Speed - MV	89.11	0.33	km/h
Speed - HV	89.94	0.32	km/h
Stop Time	0.44	0.02	sec/km
Stop Time	4.09	1.55	sec/km
Stop Time	0.51	0.03	sec/km
Stop Time	0.29	0.04	sec/km
Stop Time	0.09	0.05	sec/km
Total Dista	20946.5	298.22	km
Total Dista	12.99	0	km
Total Dista	16141.54	217.5	km
Total Dista	2530.42	177.09	km
Total Dista	2261.56	147.97	km
Total Dista	254.02	26.83	km
Total Dista	0	0	km
Total Dista	191.08	24.17	km
Total Dista	31.86	6.93	km
Total Dista	31.08	6.69	km
Total Numl	10681.4	251.99	
Total Numl	9.4	0.55	
Total Numl	9115.8	212.51	
Total Numl	858	77.36	
Total Numl	698.2	68.27	
Total Numl	747	28.91	
Total Numl	3.4	0.89	
Total Numl	692	27.93	
Total Numl	39.2	4.21	
Total Numl	12.4	3.58	
Total Trave	234.51	3.65	h
Total Trave	0.21	0.01	h
Total Trave	180.69	2.5	h
Total Trave	28.44	2.11	h
Total Trave	25.17	1.69	h
Total Trave	3.14	0.28	h
Total Trave	0	0	h
Total Trave	2.37	0.24	h
Total Trave	0.4	0.09	h
Total Trave	0.37	0.07	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	41.08	0.11	sec/km
Travel Tim	59.11	2.81	sec/km
Travel Tim	41.19	0.14	sec/km
Travel Tim	40.83	0.2	sec/km
Travel Tim	40.28	0.18	sec/km
Vehicles In	119.8	7.92	veh
Vehicles In	0	0	veh
Vehicles In	91	6.82	veh
Vehicles In	15.4	3.65	veh
Vehicles In	13.4	1.95	veh
Vehicles Lo	1	1.22	veh
Vehicles Lo	0	0	veh
Vehicles Lo	1	1.22	veh
Vehicles Lo	0	0	veh
Vehicles Lo	0	0	veh
Vehicles Lo	10.2	2.68	veh
Vehicles Lo	0	0	veh
Vehicles Lo	10	2.55	veh
Vehicles Lo	0.2	0.45	veh
Vehicles Lo	0	0	veh
Vehicles O	5083.2	66.93	veh
Vehicles O	4	0	veh
Vehicles O	4004.4	49.95	veh
Vehicles O	572.2	36.16	veh
Vehicles O	502.6	31.66	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.41	0.03	sec
Waiting Tir	0.23	0.23	sec
Waiting Tir	0.3	0.03	sec
Waiting Tir	0.82	0.04	sec
Waiting Tir	0.85	0.11	sec

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Time Serie	Value	Standard D	Units
Delay Time	2.06	0.05	sec/km
Delay Time	8.01	1.15	sec/km
Delay Time	2.18	0.04	sec/km
Delay Time	1.61	0.08	sec/km
Delay Time	1.59	0.12	sec/km
Density - A	3.16	0.03	veh/km
Density - E	0	0	veh/km
Density - L	2.47	0.04	veh/km
Density - M	0.36	0.01	veh/km
Density - H	0.33	0.01	veh/km
Flow - All	1863.5	16.26	veh/h
Flow - Bus	1	0	veh/h
Flow - LV	1479.8	22.35	veh/h
Flow - MV	202.5	3.32	veh/h
Flow - HV	180.2	7.77	veh/h
Harmonic S	92.69	0.31	km/h
Harmonic S	64.71	1.58	km/h
Harmonic S	93.05	0.31	km/h
Harmonic S	90.97	0.52	km/h
Harmonic S	91.9	0.41	km/h
Input Coun	3723.4	39.18	veh
Input Coun	2	0	veh
Input Coun	2961.6	53.14	veh
Input Coun	400.2	8.67	veh
Input Coun	359.6	17.16	veh
Input Flow	1861.7	19.59	veh/h
Input Flow	1	0	veh/h
Input Flow	1480.8	26.57	veh/h
Input Flow	200.1	4.34	veh/h
Input Flow	179.8	8.58	veh/h
Max. Virtua	4.8	1.3	veh
Max. Virtua	0	0	veh
Max. Virtua	3.8	1.3	veh
Max. Virtua	2.2	0.45	veh
Max. Virtua	2	0	veh
Mean Que	0.04	0.01	veh
Mean Que	0	0	veh
Mean Que	0.03	0	veh
Mean Que	0	0	veh
Mean Que	0	0	veh
Mean Virtu	0.1	0.01	veh
Mean Virtu	0	0	veh
Mean Virtu	0.05	0	veh
Mean Virtu	0.03	0	veh
Mean Virtu	0.02	0	veh
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	225.96	4.25	#/km
Number of	0.11	0	#/km
Number of	192.02	4.41	#/km
Number of	18.55	0.55	#/km
Number of	15.27	0.91	#/km
Number of	0	0	#/veh/km
Number of	0	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	94.29	0.29	km/h
Speed - Bu	64.88	1.59	km/h
Speed - LV	94.86	0.31	km/h
Speed - MV	91.86	0.38	km/h
Speed - HV	92.52	0.3	km/h
Stop Time	0.05	0.01	sec/km
Stop Time	0.19	0.4	sec/km
Stop Time	0.06	0.01	sec/km
Stop Time	0.03	0.02	sec/km
Stop Time	0.02	0.03	sec/km
Total Dista	16096.44	183.19	km
Total Dista	6.99	0	km
Total Dista	12650.7	218.56	km
Total Dista	1805.32	22.03	km
Total Dista	1633.43	71.51	km
Total Dista	193.18	6.33	km
Total Dista	0	0	km
Total Dista	159.03	7.15	km
Total Dista	15.93	4.56	km
Total Dista	18.22	6.64	km
Total Numi	6130.6	115.2	
Total Numi	3	0	
Total Numi	5209.8	119.59	
Total Numi	503.4	14.83	
Total Numi	414.4	24.62	
Total Numi	76	14.35	
Total Numi	0.2	0.45	
Total Numi	69.2	14.38	
Total Numi	3.6	1.14	
Total Numi	3	2.35	
Total Trave	171.47	1.55	h
Total Trave	0.11	0	h
Total Trave	133.98	2.12	h
Total Trave	19.68	0.25	h
Total Trave	17.7	0.75	h
Total Trave	2.21	0.1	h
Total Trave	0	0	h
Total Trave	1.8	0.1	h
Total Trave	0.19	0.05	h
Total Trave	0.22	0.08	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	38.84	0.13	sec/km
Travel Tim	55.63	1.33	sec/km
Travel Tim	38.69	0.13	sec/km
Travel Tim	39.57	0.22	sec/km
Travel Tim	39.17	0.17	sec/km
Vehicles Ir	82.6	4.51	veh
Vehicles Ir	0	0	veh
Vehicles Ir	68.2	6.76	veh
Vehicles Ir	6.6	1.14	veh
Vehicles Ir	7.8	3.35	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles O	3727	32.52	veh
Vehicles O	2	0	veh
Vehicles O	2959.6	44.69	veh
Vehicles O	405	6.63	veh
Vehicles O	360.4	15.55	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.2	0.01	sec
Waiting Tir	0	0	sec
Waiting Tir	0.13	0.01	sec
Waiting Tir	0.52	0.05	sec
Waiting Tir	0.43	0.06	sec

2028 PM			
Time Serie	Value	Standard D	Units
Delay Time	2.36	0.05	sec/km
Delay Time	7.47	0.82	sec/km
Delay Time	2.53	0.07	sec/km
Delay Time	1.76	0.07	sec/km
Delay Time	1.68	0.01	sec/km
Density - A	3.12	0.05	veh/km
Density - E	0	0	veh/km
Density - L	2.37	0.05	veh/km
Density - M	0.39	0.03	veh/km
Density - H	0.35	0.02	veh/km
Flow - All	1837.3	32.27	veh/h
Flow - Bus	2	0	veh/h
Flow - LV	1426.2	31.13	veh/h
Flow - MV	216.6	13.6	veh/h
Flow - HV	192.5	9.71	veh/h
Harmonic S	91.18	0.25	km/h
Harmonic S	64.36	1.27	km/h
Harmonic S	91.39	0.33	km/h
Harmonic S	90.11	0.35	km/h
Harmonic S	91.22	0.19	km/h
Input Coun	3685	64.11	veh
Input Coun	4	0	veh
Input Coun	2861.2	61.78	veh
Input Coun	433.8	28.7	veh
Input Coun	386	17.93	veh
Input Flow	1842.5	32.06	veh/h
Input Flow	2	0	veh/h
Input Flow	1430.6	30.89	veh/h
Input Flow	216.9	14.35	veh/h
Input Flow	193	8.97	veh/h
Max. Virtua	6.2	1.64	veh
Max. Virtua	0.6	0.55	veh
Max. Virtua	4.6	1.14	veh
Max. Virtua	2	0	veh
Max. Virtua	2	0	veh
Mean Que	0.05	0.01	veh
Mean Que	0	0	veh
Mean Que	0.04	0.01	veh
Mean Que	0	0	veh
Mean Que	0	0	veh
Mean Virtu	0.11	0.02	veh
Mean Virtu	0	0	veh
Mean Virtu	0.06	0.01	veh
Mean Virtu	0.03	0	veh
Mean Virtu	0.03	0	veh
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	227.72	8.19	#/km
Number of	0.18	0	#/km
Number of	189.73	6.53	#/km
Number of	20.8	1.7	#/km
Number of	17.01	1.21	#/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	92.94	0.23	km/h
Speed - Bu	64.46	1.24	km/h
Speed - LV	93.4	0.29	km/h
Speed - MV	91.1	0.24	km/h
Speed - HV	91.95	0.15	km/h
Stop Time	0.07	0.01	sec/km
Stop Time	0.11	0.14	sec/km
Stop Time	0.09	0.01	sec/km
Stop Time	0.03	0.01	sec/km
Stop Time	0.01	0.01	sec/km
Total Dista	15632.48	241.14	km
Total Dista	14.93	0	km
Total Dista	11954.57	246.35	km
Total Dista	1928	117.31	km
Total Dista	1734.99	90.44	km
Total Dista	211.46	14.95	km
Total Dista	0	0	km
Total Dista	156.07	16.76	km
Total Dista	28.59	13.09	km
Total Dista	26.8	6.89	km
Total Numi	6178.4	222.12	
Total Numi	5	0	
Total Numi	5147.6	177.17	
Total Numi	564.4	45.99	
Total Numi	461.4	32.94	
Total Numi	103.2	14.96	
Total Numi	0.4	0.55	
Total Numi	96.8	15.02	
Total Numi	4.6	1.52	
Total Numi	1.4	0.89	
Total Trave	169	2.9	h
Total Trave	0.23	0	h
Total Trave	128.63	2.83	h
Total Trave	21.23	1.3	h
Total Trave	18.91	0.99	h
Total Trave	2.49	0.21	h
Total Trave	0	0	h
Total Trave	1.84	0.19	h
Total Trave	0.34	0.15	h
Total Trave	0.31	0.07	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	39.48	0.11	sec/km
Travel Tim	55.94	1.13	sec/km
Travel Tim	39.39	0.14	sec/km
Travel Tim	39.95	0.15	sec/km
Travel Tim	39.46	0.08	sec/km
Vehicles In	93.4	8.02	veh
Vehicles In	0	0	veh
Vehicles In	70.8	8.53	veh
Vehicles In	10.6	3.85	veh
Vehicles In	12	1.87	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles O	3674.6	64.55	veh
Vehicles O	4	0	veh
Vehicles O	2852.4	62.27	veh
Vehicles O	433.2	27.2	veh
Vehicles O	385	19.42	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.24	0.03	sec
Waiting Tir	0.28	0.28	sec
Waiting Tir	0.17	0.02	sec
Waiting Tir	0.46	0.04	sec
Waiting Tir	0.51	0.07	sec

2038 PH-AM			
Time Serie	Value	Standard D	Units
Delay Time	2.38	0.05	sec/km
Delay Time	7.83	0.67	sec/km
Delay Time	2.55	0.05	sec/km
Delay Time	1.68	0.05	sec/km
Delay Time	1.66	0.08	sec/km
Density - A	3.78	0.03	veh/km
Density - E	0	0	veh/km
Density - L	2.99	0.04	veh/km
Density - M	0.41	0.02	veh/km
Density - H	0.37	0.01	veh/km
Flow - All	2221	17.26	veh/h
Flow - Bus	1	0	veh/h
Flow - LV	1786.3	19.45	veh/h
Flow - MV	228.1	9.15	veh/h
Flow - HV	205.6	3.23	veh/h
Harmonic S	91.37	0.32	km/h
Harmonic S	64.92	1.54	km/h
Harmonic S	91.43	0.33	km/h
Harmonic S	90.79	0.31	km/h
Harmonic S	91.67	0.44	km/h
Input Coun	4437.2	38.39	veh
Input Coun	2	0	veh
Input Coun	3566.8	48.31	veh
Input Coun	455	16.67	veh
Input Coun	413.4	6.23	veh
Input Flow	2218.6	19.19	veh/h
Input Flow	1	0	veh/h
Input Flow	1783.4	24.16	veh/h
Input Flow	227.5	8.34	veh/h
Input Flow	206.7	3.11	veh/h
Max. Virtua	5.2	0.45	veh
Max. Virtua	0	0	veh
Max. Virtua	4	0.71	veh
Max. Virtua	2.6	0.55	veh
Max. Virtua	2.2	0.45	veh
Mean Que	0.06	0.01	veh
Mean Que	0	0	veh
Mean Que	0.05	0.01	veh
Mean Que	0	0	veh
Mean Que	0	0	veh
Mean Virtu	0.14	0.01	veh
Mean Virtu	0	0	veh
Mean Virtu	0.07	0	veh
Mean Virtu	0.04	0	veh
Mean Virtu	0.03	0	veh
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Missed Tu	0	0	
Number of	285.38	5.81	#/km
Number of	0.11	0	#/km
Number of	244.9	6.06	#/km
Number of	21.64	1.86	#/km
Number of	18.73	0.73	#/km
Number of	0	0	#/veh/km
Number of	0	0.01	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Number of	0	0	#/veh/km
Speed - All	93.11	0.26	km/h
Speed - Bu	65.07	1.47	km/h
Speed - LV	93.4	0.27	km/h
Speed - MV	91.7	0.28	km/h
Speed - HV	92.29	0.36	km/h
Stop Time	0.07	0.01	sec/km
Stop Time	0.21	0.43	sec/km
Stop Time	0.08	0.01	sec/km
Stop Time	0.04	0.02	sec/km
Stop Time	0	0.01	sec/km
Total Dista	19026.56	148.5	km
Total Dista	6.99	0	km
Total Dista	15109.65	178.45	km
Total Dista	2047.17	87.55	km
Total Dista	1862.75	27.83	km
Total Dista	202.2	16.41	km
Total Dista	0	0	km
Total Dista	161.71	22.09	km
Total Dista	22.59	4.65	km
Total Dista	17.91	2.4	km
Total Numi	7742.8	157.7	
Total Numi	3	0	
Total Numi	6644.6	164.4	
Total Numi	587	50.42	
Total Numi	508.2	19.73	
Total Numi	119.6	9.4	
Total Numi	0.2	0.45	
Total Numi	112.8	8.76	
Total Numi	5.6	2.51	
Total Numi	1	0.71	
Total Trave	205.17	1.42	h
Total Trave	0.11	0	h
Total Trave	162.43	1.7	h
Total Trave	22.39	0.92	h
Total Trave	20.24	0.35	h
Total Trave	2.4	0.21	h
Total Trave	0	0	h
Total Trave	1.9	0.29	h
Total Trave	0.28	0.06	h
Total Trave	0.22	0.03	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Total Trave	0	0	h
Travel Tim	39.4	0.14	sec/km
Travel Tim	55.45	1.33	sec/km
Travel Tim	39.37	0.14	sec/km
Travel Tim	39.65	0.13	sec/km
Travel Tim	39.27	0.19	sec/km
Vehicles In	91.8	7.19	veh
Vehicles In	0	0	veh
Vehicles In	73	8.03	veh
Vehicles In	10	1.87	veh
Vehicles In	8.8	1.1	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles Le	0	0	veh
Vehicles O	4442	34.52	veh
Vehicles O	2	0	veh
Vehicles O	3572.6	38.89	veh
Vehicles O	456.2	18.31	veh
Vehicles O	411.2	6.46	veh
Vehicles W	0.2	0.45	veh
Vehicles W	0	0	veh
Vehicles W	0.2	0.45	veh
Vehicles W	0	0	veh
Vehicles W	0	0	veh
Waiting Tir	0.25	0.01	sec
Waiting Tir	0	0	sec
Waiting Tir	0.17	0.01	sec
Waiting Tir	0.57	0.04	sec
Waiting Tir	0.55	0.02	sec

2038 PM	
Time Serie	Value
Delay Time	2.78
Delay Time	7.08
Delay Time	3.03
Delay Time	1.89
Delay Time	1.8
Density - A	3.81
Density - E	0
Density - L	2.96
Density - M	0.45
Density - H	0.4
Flow - All	2228.1
Flow - Bus	2
Flow - LV	1755.4
Flow - MV	247.9
Flow - HV	222.8
Harmonic S	89.34
Harmonic S	64.43
Harmonic S	89.11
Harmonic S	89.83
Harmonic S	90.97
Input Coun	4452.8
Input Coun	4
Input Coun	3518
Input Coun	489
Input Coun	441.8
Input Flow	2226.4
Input Flow	2
Input Flow	1759
Input Flow	244.5
Input Flow	220.9
Max. Virtua	6.4
Max. Virtua	0.8
Max. Virtua	4.4
Max. Virtua	2.6
Max. Virtua	2.4
Mean Que	0.07
Mean Que	0
Mean Que	0.06
Mean Que	0
Mean Que	0
Mean Virtu	0.19
Mean Virtu	0
Mean Virtu	0.1
Mean Virtu	0.04
Mean Virtu	0.04
Missed Tu	0
Missed Tu	0
Missed Tu	0
Missed Tu	0
Missed Tu	0
Number of	280.76
Number of	0.2
Number of	235.8
Number of	24.74
Number of	20.03
Number of	0
Number of	0
Number of	0
Number of	0
Number of	0
Speed - All	91.25
Speed - Bu	64.57
Speed - LV	91.29
Speed - MV	90.82
Speed - HV	91.64
Stop Time	0.07
Stop Time	0.16
Stop Time	0.08
Stop Time	0.05
Stop Time	0.02
Total Dista	18775.91
Total Dista	14.93
Total Dista	14547.98
Total Dista	2204.75
Total Dista	2008.26
Total Dista	232.94
Total Dista	0
Total Dista	184.04
Total Dista	27.21
Total Dista	21.68
Total Numi	7617.6
Total Numi	5.4
Total Numi	6397.6
Total Numi	671.2
Total Numi	543.4
Total Numi	156.6
Total Numi	0.4
Total Numi	144.8
Total Numi	7.8
Total Numi	3.6
Total Trave	206.89
Total Trave	0.23
Total Trave	160.35
Total Trave	24.35
Total Trave	21.96
Total Trave	2.75
Total Trave	0
Total Trave	2.18
Total Trave	0.32
Total Trave	0.25
Total Trave	0
Total Trave	0
Total Trave	0
Total Trave	0
Total Trave	0
Travel Tim	40.29
Travel Tim	55.87
Travel Tim	40.4
Travel Tim	40.08
Travel Tim	39.57
Vehicles In	101.8
Vehicles In	0
Vehicles In	80.2
Vehicles In	12.2
Vehicles In	9.4
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles Le	0
Vehicles O	4456.2
Vehicles O	4
Vehicles O	3510.8
Vehicles O	495.8
Vehicles O	445.6
Vehicles W	0.2
Vehicles W	0
Vehicles W	0
Vehicles W	0.2
Vehicles W	0
Waiting Tir	0.33
Waiting Tir	0.25
Waiting Tir	0.24
Waiting Tir	0.63
Waiting Tir	0.66

		2048 PH-AM				2048 PM			
Standard D	Units	Time Serie	Value	Standard D	Units	Time Serie	Value	Standard D	Units
0.07	sec/km	Delay Time	2.6	0.02	sec/km	Delay Time	3.16	0.06	sec/km
0.56	sec/km	Delay Time	7.83	0.93	sec/km	Delay Time	7.52	0.38	sec/km
0.07	sec/km	Delay Time	2.81	0.02	sec/km	Delay Time	3.49	0.07	sec/km
0.07	sec/km	Delay Time	1.74	0.11	sec/km	Delay Time	1.92	0.08	sec/km
0.1	sec/km	Delay Time	1.77	0.06	sec/km	Delay Time	1.88	0.07	sec/km
0.07	veh/km	Density - A	4.22	0.06	veh/km	Density - A	4.37	0.07	veh/km
0	veh/km	Density - E	0	0	veh/km	Density - E	0	0	veh/km
0.07	veh/km	Density - L	3.32	0.05	veh/km	Density - L	3.39	0.05	veh/km
0.03	veh/km	Density - M	0.47	0.01	veh/km	Density - M	0.52	0.04	veh/km
0.02	veh/km	Density - H	0.42	0.01	veh/km	Density - H	0.46	0.03	veh/km
43.96	veh/h	Flow - All	2467.5	32.2	veh/h	Flow - All	2541.7	33.75	veh/h
0	veh/h	Flow - Bus	1	0	veh/h	Flow - Bus	2	0	veh/h
40.65	veh/h	Flow - LV	1974.4	28.97	veh/h	Flow - LV	2002.6	25.44	veh/h
17.19	veh/h	Flow - MV	261	6.77	veh/h	Flow - MV	285.9	17.9	veh/h
8.92	veh/h	Flow - HV	231.1	4.87	veh/h	Flow - HV	251.2	15.68	veh/h
0.33	km/h	Harmonic	90.41	0.17	km/h	Harmonic	87.86	0.25	km/h
1.56	km/h	Harmonic	64.55	1.66	km/h	Harmonic	64.6	0.96	km/h
0.33	km/h	Harmonic	90.28	0.24	km/h	Harmonic	87.28	0.32	km/h
0.51	km/h	Harmonic	90.61	0.62	km/h	Harmonic	89.7	0.45	km/h
0.33	km/h	Harmonic	91.46	0.32	km/h	Harmonic	90.86	0.37	km/h
76.9	veh	Input Cour	4945.6	59.45	veh	Input Cour	5090.8	68.49	veh
0	veh	Input Cour	2	0	veh	Input Cour	4	0	veh
74	veh	Input Cour	3958.4	50.35	veh	Input Cour	4015	56.99	veh
28.13	veh	Input Cour	521.4	17.27	veh	Input Cour	568.2	38.38	veh
17.46	veh	Input Cour	463.8	11.65	veh	Input Cour	503.6	27.48	veh
38.45	veh/h	Input Flow	2472.8	29.72	veh/h	Input Flow	2545.4	34.25	veh/h
0	veh/h	Input Flow	1	0	veh/h	Input Flow	2	0	veh/h
37	veh/h	Input Flow	1979.2	25.17	veh/h	Input Flow	2007.5	28.49	veh/h
14.07	veh/h	Input Flow	260.7	8.64	veh/h	Input Flow	284.1	19.19	veh/h
8.73	veh/h	Input Flow	231.9	5.82	veh/h	Input Flow	251.8	13.74	veh/h
0.55	veh	Max. Virtua	5.4	0.55	veh	Max. Virtua	7.2	0.84	veh
0.45	veh	Max. Virtua	0.4	0.55	veh	Max. Virtua	0.8	0.45	veh
0.55	veh	Max. Virtua	4.4	0.55	veh	Max. Virtua	5.6	0.55	veh
0.55	veh	Max. Virtua	2.6	0.55	veh	Max. Virtua	2.6	0.55	veh
0.55	veh	Max. Virtua	2	0	veh	Max. Virtua	3	0	veh
0.01	veh	Mean Que	0.07	0.01	veh	Mean Que	0.11	0.01	veh
0	veh	Mean Que	0	0	veh	Mean Que	0	0	veh
0	veh	Mean Que	0.07	0.01	veh	Mean Que	0.1	0.01	veh
0	veh	Mean Que	0	0	veh	Mean Que	0	0	veh
0	veh	Mean Que	0	0	veh	Mean Que	0	0	veh
0.02	veh	Mean Virtu	0.18	0.01	veh	Mean Virtu	0.3	0.03	veh
0	veh	Mean Virtu	0	0	veh	Mean Virtu	0	0	veh
0.01	veh	Mean Virtu	0.1	0.01	veh	Mean Virtu	0.18	0.02	veh
0	veh	Mean Virtu	0.05	0	veh	Mean Virtu	0.06	0	veh
0.01	veh	Mean Virtu	0.04	0	veh	Mean Virtu	0.06	0.01	veh
0		Missed Tu	0	0		Missed Tu	0	0	
0		Missed Tu	0	0		Missed Tu	0	0	
0		Missed Tu	0	0		Missed Tu	0	0	
0		Missed Tu	0	0		Missed Tu	0	0	
0		Missed Tu	0	0		Missed Tu	0	0	
6.47	#/km	Number of	321.22	4.99	#/km	Number of	320.24	10.02	#/km
0.02	#/km	Number of	0.11	0	#/km	Number of	0.18	0	#/km
5.64	#/km	Number of	273.55	4.42	#/km	Number of	267.08	7.65	#/km
1.81	#/km	Number of	26.66	1.25	#/km	Number of	29.12	2.75	#/km
1.29	#/km	Number of	20.9	0.84	#/km	Number of	23.85	1.46	#/km
0	#/veh/km	Number of	0	0	#/veh/km	Number of	0	0	#/veh/km
0	#/veh/km	Number of	0	0	#/veh/km	Number of	0	0	#/veh/km
0	#/veh/km	Number of	0	0	#/veh/km	Number of	0	0	#/veh/km
0	#/veh/km	Number of	0	0	#/veh/km	Number of	0	0	#/veh/km
0	#/veh/km	Number of	0	0	#/veh/km	Number of	0	0	#/veh/km
0.28	km/h	Speed - Al	92.2	0.14	km/h	Speed - Al	89.89	0.24	km/h
1.58	km/h	Speed - Bu	64.76	1.64	km/h	Speed - Bu	64.69	0.97	km/h
0.28	km/h	Speed - LV	92.31	0.2	km/h	Speed - LV	89.6	0.31	km/h
0.42	km/h	Speed - MV	91.56	0.51	km/h	Speed - MV	90.66	0.35	km/h
0.26	km/h	Speed - HV	92.1	0.22	km/h	Speed - HV	91.55	0.29	km/h
0.01	sec/km	Stop Time	0.07	0.01	sec/km	Stop Time	0.1	0.01	sec/km
0.2	sec/km	Stop Time	0	0	sec/km	Stop Time	0.17	0.34	sec/km
0	sec/km	Stop Time	0.08	0.02	sec/km	Stop Time	0.11	0.01	sec/km
0.02	sec/km	Stop Time	0.04	0.02	sec/km	Stop Time	0.05	0.02	sec/km
0.02	sec/km	Stop Time	0.03	0.01	sec/km	Stop Time	0.04	0.03	sec/km
319.76	km	Total Dista	20992.47	291.84	km	Total Dista	21179.55	306.15	km
0	km	Total Dista	6.99	0	km	Total Dista	14.93	0	km
300.34	km	Total Dista	16564.53	257.45	km	Total Dista	16350.68	225.37	km
149.93	km	Total Dista	2329.73	55.28	km	Total Dista	2548.75	177.73	km
84.07	km	Total Dista	2091.22	43.69	km	Total Dista	2265.18	147.63	km
28.71	km	Total Dista	243.24	23.04	km	Total Dista	260.31	18.82	km
0	km	Total Dista	0	0	km	Total Dista	0	0	km
29.78	km	Total Dista	185.27	26.16	km	Total Dista	196.4	20.35	km
4.64	km	Total Dista	34.3	5.42	km	Total Dista	32.75	6.78	km
12.23	km	Total Dista	23.66	11.37	km	Total Dista	31.15	5.98	km
175.56		Total Numl	8715.2	135.36		Total Numl	8688.6	271.78	
0.55		Total Numl	3	0		Total Numl	5	0	
153.04		Total Numl	7421.8	120.01		Total Numl	7246.2	207.43	
49.09		Total Numl	723.4	33.89		Total Numl	790.2	74.69	
35		Total Numl	567	22.79		Total Numl	647.2	39.54	
5.9		Total Numl	155.2	6.26		Total Numl	225.6	24.75	
0.55		Total Numl	0	0		Total Numl	0.2	0.45	
4.87		Total Numl	143.6	6.27		Total Numl	210.8	19.84	
2.49		Total Numl	7.8	2.05		Total Numl	9.6	4.62	
2.07		Total Numl	3.8	2.28		Total Numl	5	2.24	
3.75	h	Total Trave	228.56	3.08	h	Total Trave	236.72	3.78	h
0.01	h	Total Trave	0.11	0	h	Total Trave	0.23	0	h
3.71	h	Total Trave	180.19	2.78	h	Total Trave	183.5	2.7	h
1.61	h	Total Trave	25.5	0.72	h	Total Trave	28.2	2.04	h
0.88	h	Total Trave	22.76	0.48	h	Total Trave	24.79	1.65	h
0.33	h	Total Trave	2.9	0.25	h	Total Trave	3.15	0.2	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0.34	h	Total Trave	2.21	0.3	h	Total Trave	2.39	0.21	h
0.06	h	Total Trave	0.41	0.06	h	Total Trave	0.4	0.09	h
0.14	h	Total Trave	0.28	0.12	h	Total Trave	0.36	0.06	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0	h	Total Trave	0	0	h	Total Trave	0	0	h
0.15	sec/km	Travel Tim	39.82	0.07	sec/km	Travel Tim	40.97	0.12	sec/km
1.35	sec/km	Travel Tim	55.77	1.4	sec/km	Travel Tim	55.73	0.84	sec/km
0.15	sec/km	Travel Tim	39.87	0.1	sec/km	Travel Tim	41.25	0.15	sec/km
0.23	sec/km	Travel Tim	39.73	0.27	sec/km	Travel Tim	40.13	0.2	sec/km
0.15	sec/km	Travel Tim	39.36	0.14	sec/km	Travel Tim	39.62	0.16	sec/km
5.81	veh	Vehicles Ir	115.8	6.87	veh	Vehicles Ir	120.8	6.61	veh
0	veh	Vehicles Ir	0	0	veh	Vehicles Ir	0	0	veh
10.18	veh	Vehicles Ir	90.6	10.29	veh	Vehicles Ir	92	6.56	veh
3.77	veh	Vehicles Ir	13.8	1.64	veh	Vehicles Ir	15.4	3.78	veh
3.78	veh	Vehicles Ir	11.4	3.44	veh	Vehicles Ir	13.4	1.95	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
0	veh	Vehicles L	0	0	veh	Vehicles L	0	0	veh
87.92	veh	Vehicles C	4935	64.4	veh	Vehicles C	5083.4	67.49	veh
0	veh	Vehicles C	2	0	veh	Vehicles C	4	0	veh
81.31	veh	Vehicles C	3948.8	57.93	veh	Vehicles C	4005.2	50.88	veh
34.38	veh	Vehicles C	522	13.55	veh	Vehicles C	571.8	35.79	veh
17.84	veh	Vehicles C	462.2	9.73	veh	Vehicles C	502.4	31.36	veh
0.45	veh	Vehicles W	0	0	veh	Vehicles W	0	0	veh
0	veh	Vehicles W	0	0	veh	Vehicles W	0	0	veh
0	veh	Vehicles W	0	0	veh	Vehicles W	0	0	veh
0.45	veh	Vehicles W	0	0	veh	Vehicles W	0	0	veh
0	veh	Vehicles W	0	0	veh	Vehicles W	0	0	veh
0.03	sec	Waiting Ti	0.28	0.01	sec	Waiting Ti	0.44	0.04	sec
0.26	sec	Waiting Ti	0.15	0.24	sec	Waiting Ti	0.4	0.39	sec
0.02	sec	Waiting Ti	0.2	0.01	sec	Waiting Ti	0.34	0.03	sec
0.05	sec	Waiting Ti	0.63	0.02	sec	Waiting Ti	0.8	0.04	sec
0.11	sec	Waiting Ti	0.6	0.04	sec	Waiting Ti	0.84	0.15	sec

Appendix D – Key Routes Travel Time and Speed Comparison

From	To	Length, m		2028 PH-AM 1000-1100		2028 PH-AM 1100-1200		2028 PM 1415-1515		2028 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Rd	Harrington Rd	2,966	2,640	164.0	139.8	167.9	144.6	168.1	145.3	169.1	145.9
	Pacific Hwy North	3,984	3,970	171.0	166.9	169.0	164.9	176.2	171.6	180.2	175.5
	Pacific Hwy South	1,572	2,241	88.8	114.2	88.4	114.4	90.6	114.8	91.9	115.8
Harrington Rd	Coopernook Rd	2,951	2,645	156.7	141.3	155.1	139.7	153.9	137.5	159.3	140.7
	Pacific Hwy North	4,711	5,487	208.6	239.2	208.6	238.6	211.0	244.4	213.7	244.8
	Pacific Hwy South	2,925	2,934	135.4	134.9	135.4	134.9	134.8	134.0	134.6	134.2
Pacific Hwy North	Coopernook Rd	4,008	4,164	-	-	-	-	180.5	199.5	181.0	199.3
	Harrington Rd	4,702	4,712	199.9	201.9	199.2	200.8	199.0	200.9	198.5	200.8
	Pacific Hwy South	3,982	3,982	147.5	144.9	146.9	144.3	146.5	144.0	147.1	144.6
Pacific Hwy South	Coopernook Rd	1,555	1,563	78.7	82.1	80.0	83.9	81.4	84.7	80.5	84.0
	Harrington Rd	2,964	3,215	143.0	168.2	143.2	168.0	143.5	169.3	143.7	169.1
	Pacific Hwy North	3,982	3,982	147.6	145.9	147.1	145.5	148.3	146.6	148.4	146.6

From	To	Length, m		2038 PH-AM 1000-1100		2038 PH-AM 1100-1200		2038 PM 1415-1515		2038 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Rd	Harrington Rd	2,966	2,640	170.4	144.2	168.7	142.5	170.6	145.4	171.8	145.5
	Pacific Hwy North	3,984	3,970	176.6	170.9	172.4	167.3	183.7	177.4	174.3	170.0
	Pacific Hwy South	1,572	2,241	90.9	115.0	90.8	115.0	95.2	117.7	94.4	115.6
Harrington Rd	Coopernook Rd	2,951	2,645	159.9	142.0	156.8	140.6	161.4	141.6	160.0	140.2
	Pacific Hwy North	4,711	5,487	215.0	242.4	216.1	242.0	216.1	245.2	220.4	245.3
	Pacific Hwy South	2,925	2,934	136.0	135.5	135.8	135.0	136.2	135.6	135.2	134.5
Pacific Hwy North	Coopernook Rd	4,008	4,164	-	-	-	-	177.0	195.0	179.9	195.7
	Harrington Rd	4,702	4,712	199.0	201.0	200.9	203.3	199.9	202.6	200.5	203.6
	Pacific Hwy South	3,982	3,982	147.6	145.0	147.2	144.5	146.9	144.2	148.0	145.3
Pacific Hwy South	Coopernook Rd	1,555	1,563	80.2	83.3	79.8	83.3	80.5	84.0	80.6	84.4
	Harrington Rd	2,964	3,215	143.7	169.1	145.5	169.9	146.3	171.0	147.8	171.3
	Pacific Hwy North	3,982	3,982	148.1	146.5	147.9	146.1	149.5	147.5	149.0	147.1

From	To	Length, m		2048 PH-AM 1000-1100		2048 PH-AM 1100-1200		2048 PM 1415-1515		2048 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project	Base	
Coopernook Rd	Harrington Rd	2,966	2,640	171.7	143.9	172.0	145.3	174.2	146.5	173.1	146.0
	Pacific Hwy North	3,984	3,970	174.5	169.3	175.3	171.0	181.2	174.4	180.5	173.5
	Pacific Hwy South	1,572	2,241	93.9	116.7	91.9	115.2	97.7	117.7	96.1	116.6
Harrington Rd	Coopernook Rd	2,951	2,645	159.6	141.5	161.3	142.8	163.1	141.0	161.9	140.5
	Pacific Hwy North	4,711	5,487	218.0	243.5	218.2	242.1	223.4	247.5	225.9	246.8
	Pacific Hwy South	2,925	2,934	136.9	136.0	136.8	136.0	135.8	135.1	137.1	136.2
Pacific Hwy North	Coopernook Rd	4,008	4,164	-	-	-	-	176.8	193.2	176.3	194.3
	Harrington Rd	4,702	4,712	202.0	203.7	200.5	203.1	200.4	203.9	202.0	205.5
	Pacific Hwy South	3,982	3,982	148.6	145.7	147.7	144.9	147.8	145.0	148.5	145.5
Pacific Hwy South	Coopernook Rd	1,555	1,563	80.4	84.4	79.9	83.9	81.3	85.2	81.1	84.9
	Harrington Rd	2,964	3,215	146.6	170.3	147.6	170.4	149.2	172.2	150.6	173.0
	Pacific Hwy North	3,982	3,982	149.0	147.0	148.4	146.7	150.2	148.1	150.3	148.1

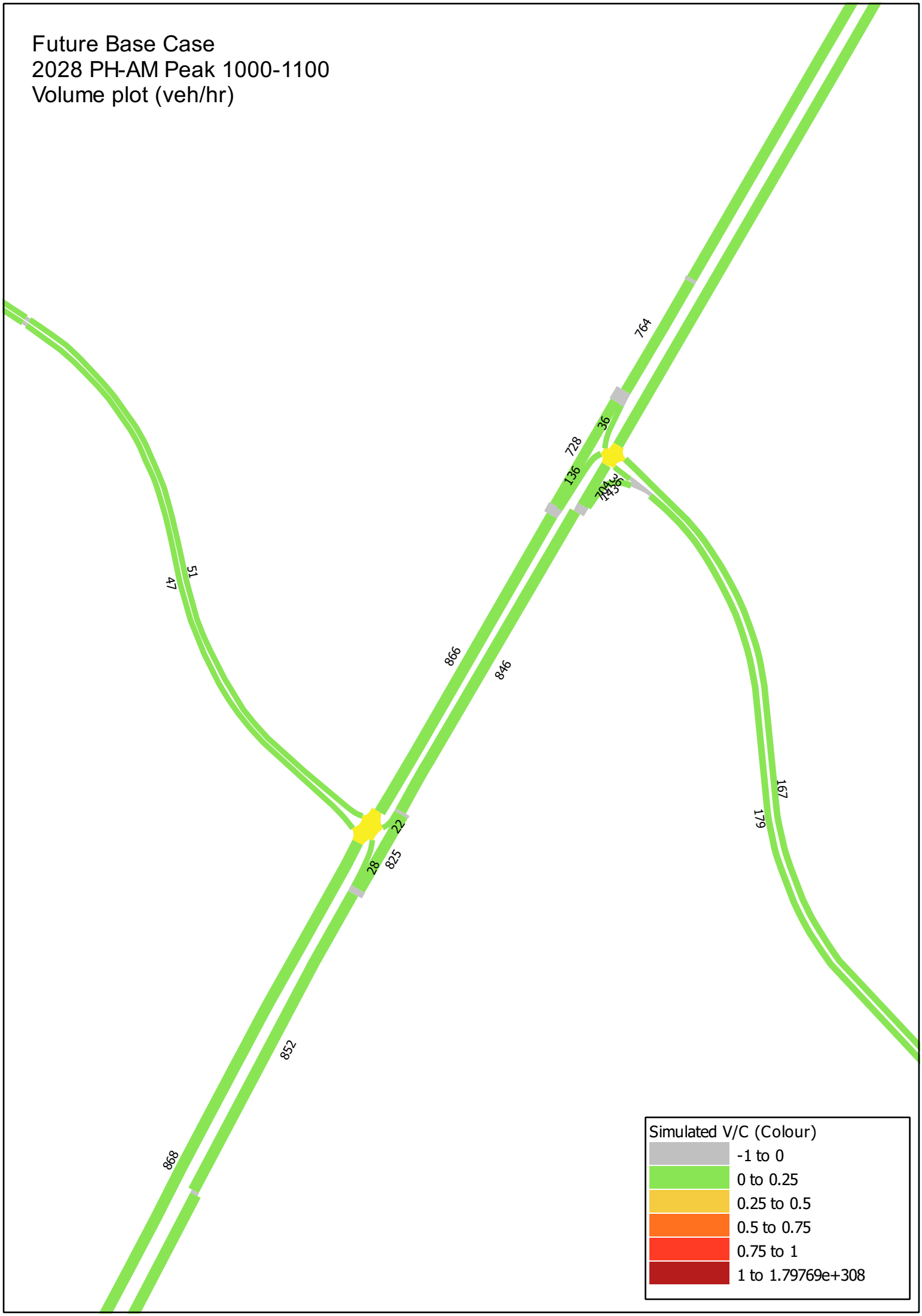
From	To	2028 PH-AM 1000-1100		2028 PH-AM 1100-1200		2028 PM 1415-1515		2028 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Rd	Harrington Rd	65.1	68.0	63.6	65.7	63.5	65.4	63.2	65.1
	Pacific Hwy North	83.9	85.6	84.9	86.7	81.4	83.3	79.6	81.4
	Pacific Hwy South	63.7	70.6	64.0	70.5	62.5	70.3	61.5	69.7
Harrington Rd	Coopernook Rd	67.8	67.4	68.5	68.2	69.0	69.3	66.7	67.7
	Pacific Hwy North	81.3	82.6	81.3	82.8	80.4	80.8	79.4	80.7
	Pacific Hwy South	77.8	78.3	77.8	78.3	78.1	78.8	78.2	78.7
Pacific Hwy North	Coopernook Rd	-	-	-	-	79.9	75.1	79.7	75.2
	Harrington Rd	84.7	84.0	85.0	84.5	85.1	84.4	85.3	84.5
	Pacific Hwy South	97.2	98.9	97.6	99.3	97.9	99.6	97.5	99.1
Pacific Hwy South	Coopernook Rd	71.1	68.5	70.0	67.1	68.8	66.4	69.6	67.0
	Harrington Rd	74.6	68.8	74.5	68.9	74.3	68.4	74.2	68.4
	Pacific Hwy North	97.1	98.2	97.4	98.5	96.6	97.8	96.6	97.8

From	To	2038 PH-AM 1000-1100		2038 PH-AM 1100-1200		2038 PM 1415-1515		2038 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Rd	Harrington Rd	62.7	65.9	63.3	66.7	62.6	65.4	62.2	65.3
	Pacific Hwy North	81.2	83.6	83.2	85.4	78.1	80.6	82.3	84.1
	Pacific Hwy South	62.2	70.2	62.3	70.2	59.4	68.5	59.9	69.8
Harrington Rd	Coopernook Rd	66.4	67.0	67.7	67.7	65.8	67.2	66.4	67.9
	Pacific Hwy North	78.9	81.5	78.5	81.6	78.5	80.6	77.0	80.5
	Pacific Hwy South	77.4	78.0	77.5	78.3	77.3	77.9	77.9	78.5
Pacific Hwy North	Coopernook Rd	-	-	-	-	81.5	76.9	80.2	76.6
	Harrington Rd	85.1	84.4	84.3	83.4	84.7	83.7	84.4	83.3
	Pacific Hwy South	97.1	98.9	97.4	99.2	97.6	99.4	96.9	98.7
Pacific Hwy South	Coopernook Rd	69.8	67.5	70.2	67.5	69.5	66.9	69.5	66.6
	Harrington Rd	74.3	68.4	73.3	68.1	72.9	67.7	72.2	67.6
	Pacific Hwy North	96.8	97.9	97.0	98.1	95.9	97.2	96.2	97.5

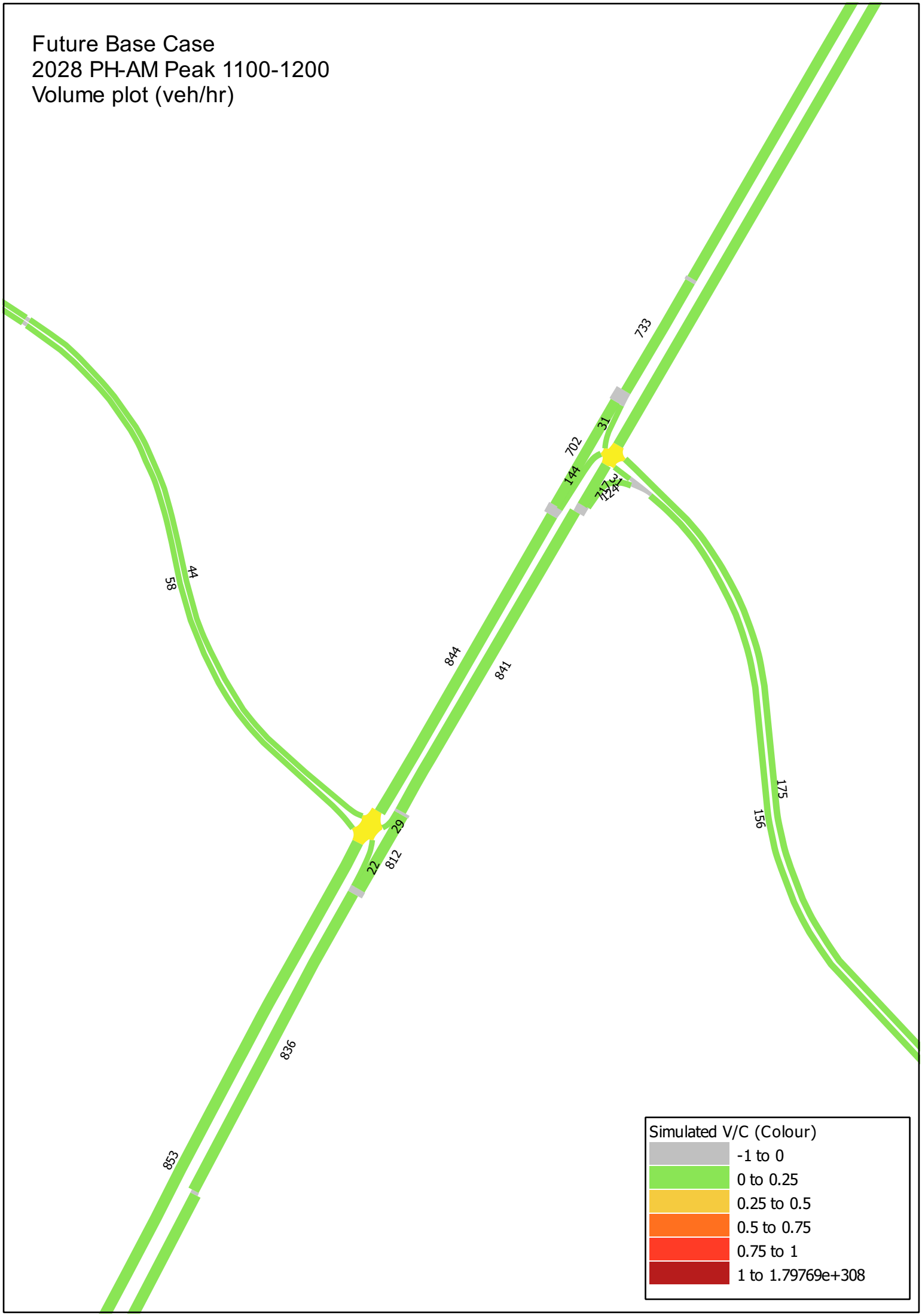
From	To	2048 PH-AM 1000-1100		2048 PH-AM 1100-1200		2048 PM 1415-1515		2048 PM 1515-1615	
		Base	Project	Base	Project	Base	Project	Base	Project
Coopernook Rd	Harrington Rd	62.2	66.1	62.1	65.4	61.3	64.9	61.7	65.1
	Pacific Hwy North	82.2	84.4	81.8	83.5	79.2	81.9	79.4	82.3
	Pacific Hwy South	60.3	69.1	61.6	70.0	57.9	68.5	58.9	69.2
Harrington Rd	Coopernook Rd	66.5	67.3	65.8	66.7	65.1	67.5	65.6	67.8
	Pacific Hwy North	77.8	81.1	77.7	81.6	75.9	79.8	75.1	80.1
	Pacific Hwy South	77.0	77.7	77.0	77.7	77.6	78.2	76.8	77.5
Pacific Hwy North	Coopernook Rd	-	-	-	-	81.6	77.6	81.8	77.1
	Harrington Rd	83.8	83.3	84.4	83.5	84.5	83.2	83.8	82.5
	Pacific Hwy South	96.5	98.4	97.1	99.0	97.0	98.9	96.6	98.6
Pacific Hwy South	Coopernook Rd	69.7	66.6	70.1	67.0	68.8	66.0	69.0	66.3
	Harrington Rd	72.8	68.0	72.3	67.9	71.5	67.2	70.9	66.9
	Pacific Hwy North	96.2	97.5	96.6	97.7	95.4	96.8	95.4	96.8

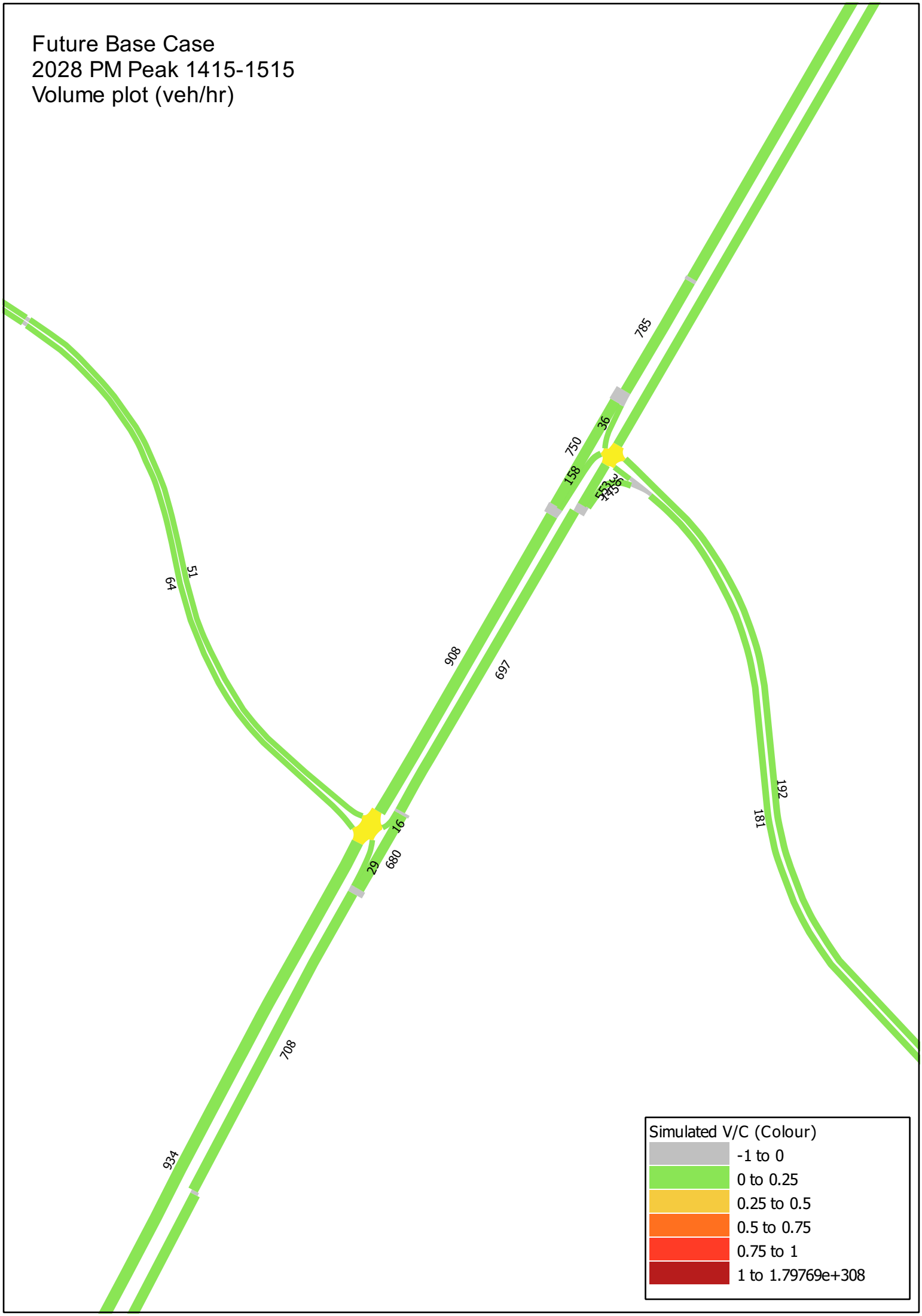
Appendix E – Volume Plots (Base and Project)

Future Base Case
2028 PH-AM Peak 1000-1100
Volume plot (veh/hr)

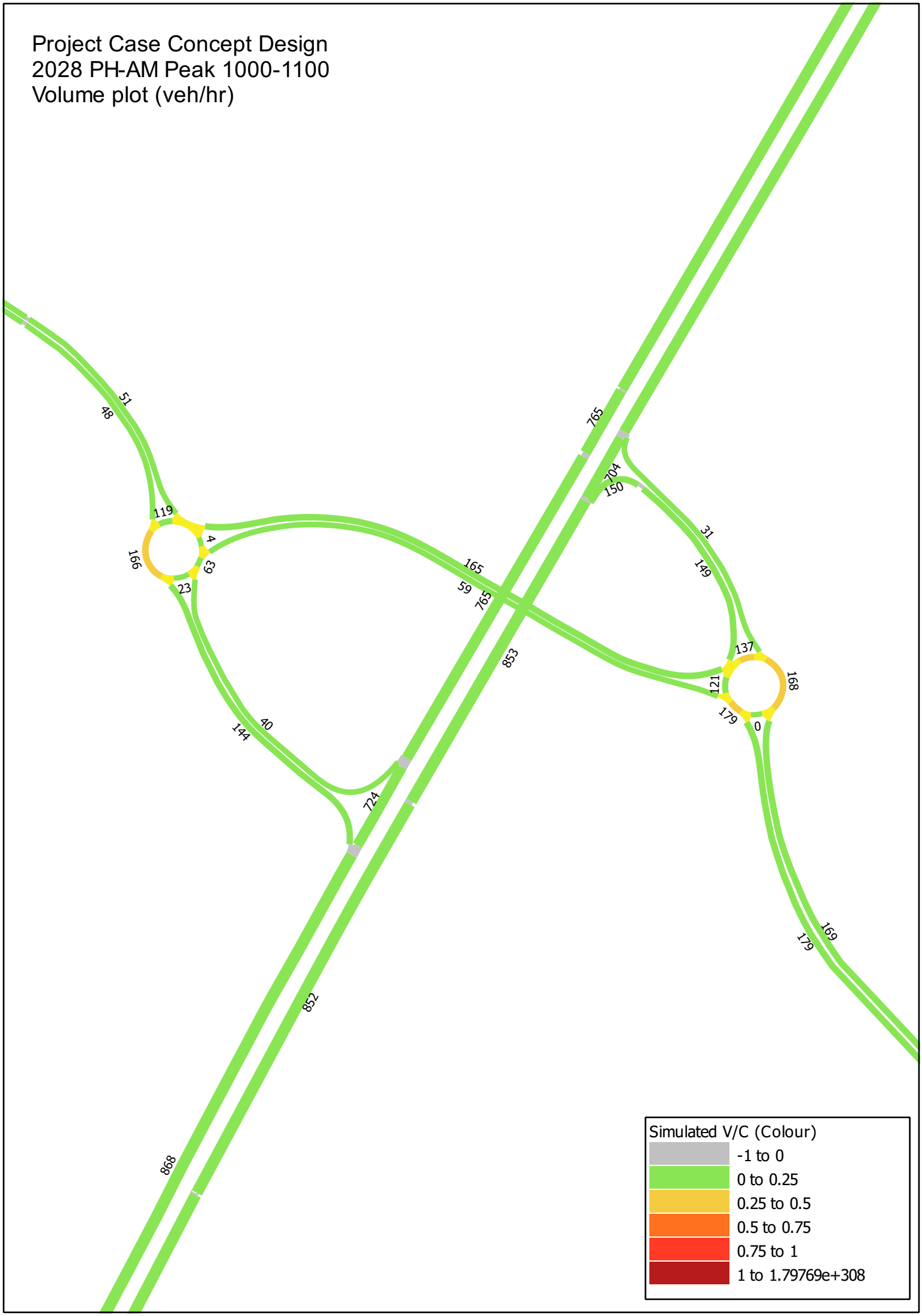


Future Base Case
2028 PH-AM Peak 1100-1200
Volume plot (veh/hr)

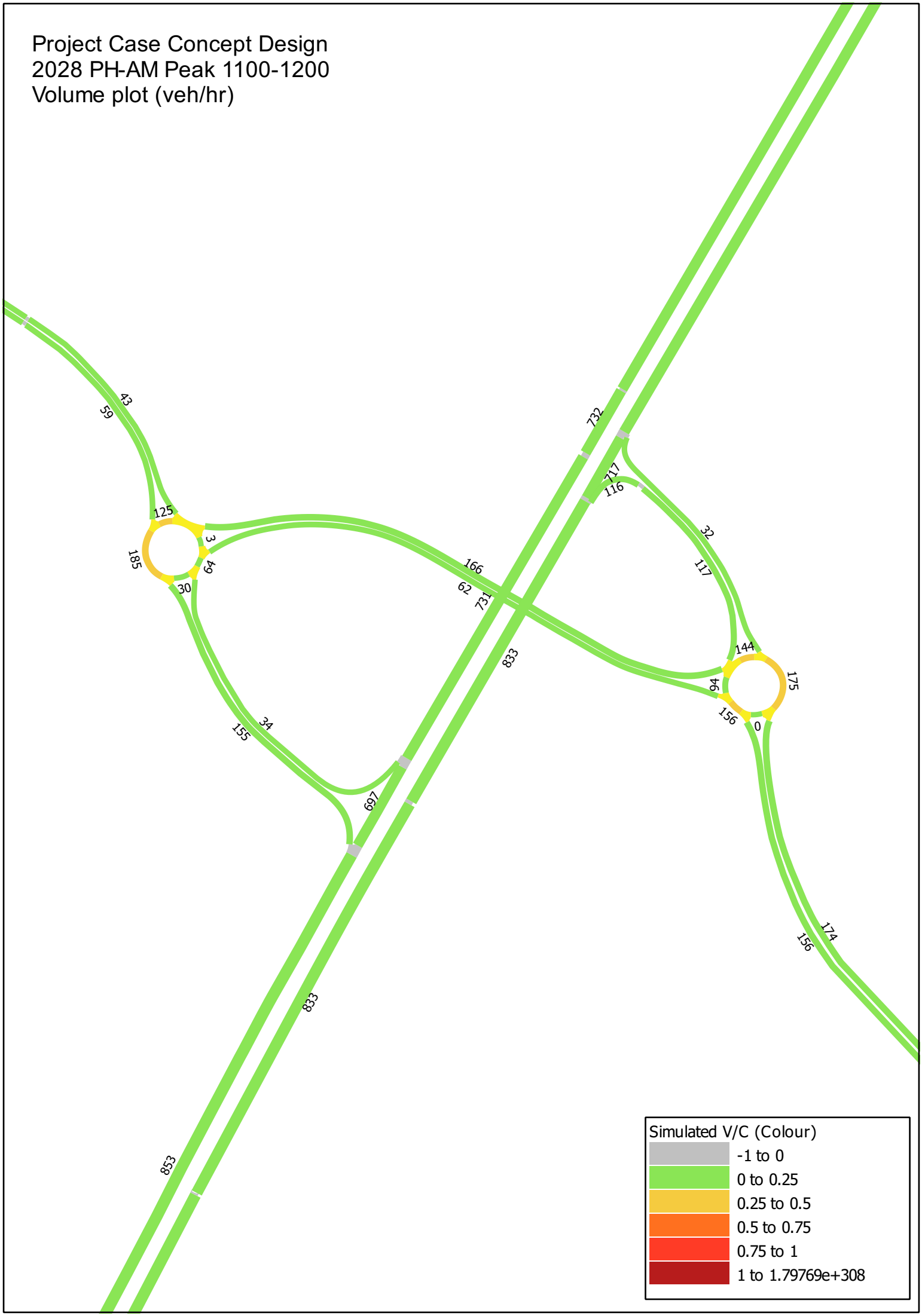



Future Base Case
2028 PM Peak 1415-1515
Volume plot (veh/hr)
785
750
36
158
553
145
51
64
908
697
16
29
680
708
934
192
181
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

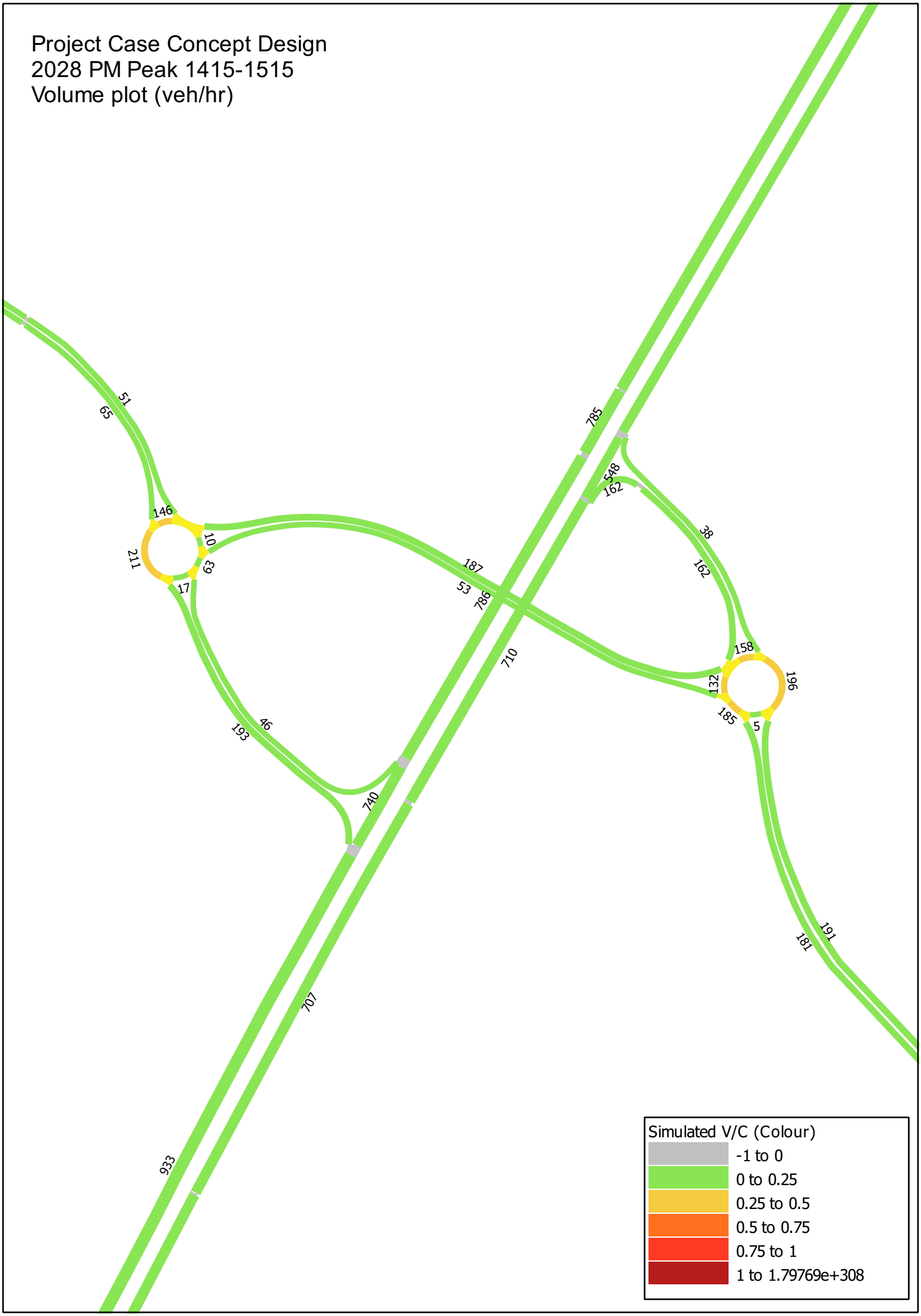

Future Base Case
2028 PM Peak 1515-1615
Volume plot (veh/hr)
769
741
28
193
600
128
68
56
934
729
229
156
22
34
708
741
960
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308


Project Case Concept Design
2028 PH-AM Peak 1000-1100
Volume plot (veh/hr)
51
48
119
4
166
63
23
165
59
765
765
704
150
31
149
137
121
168
179
0
853
40
144
724
852
868
169
179
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

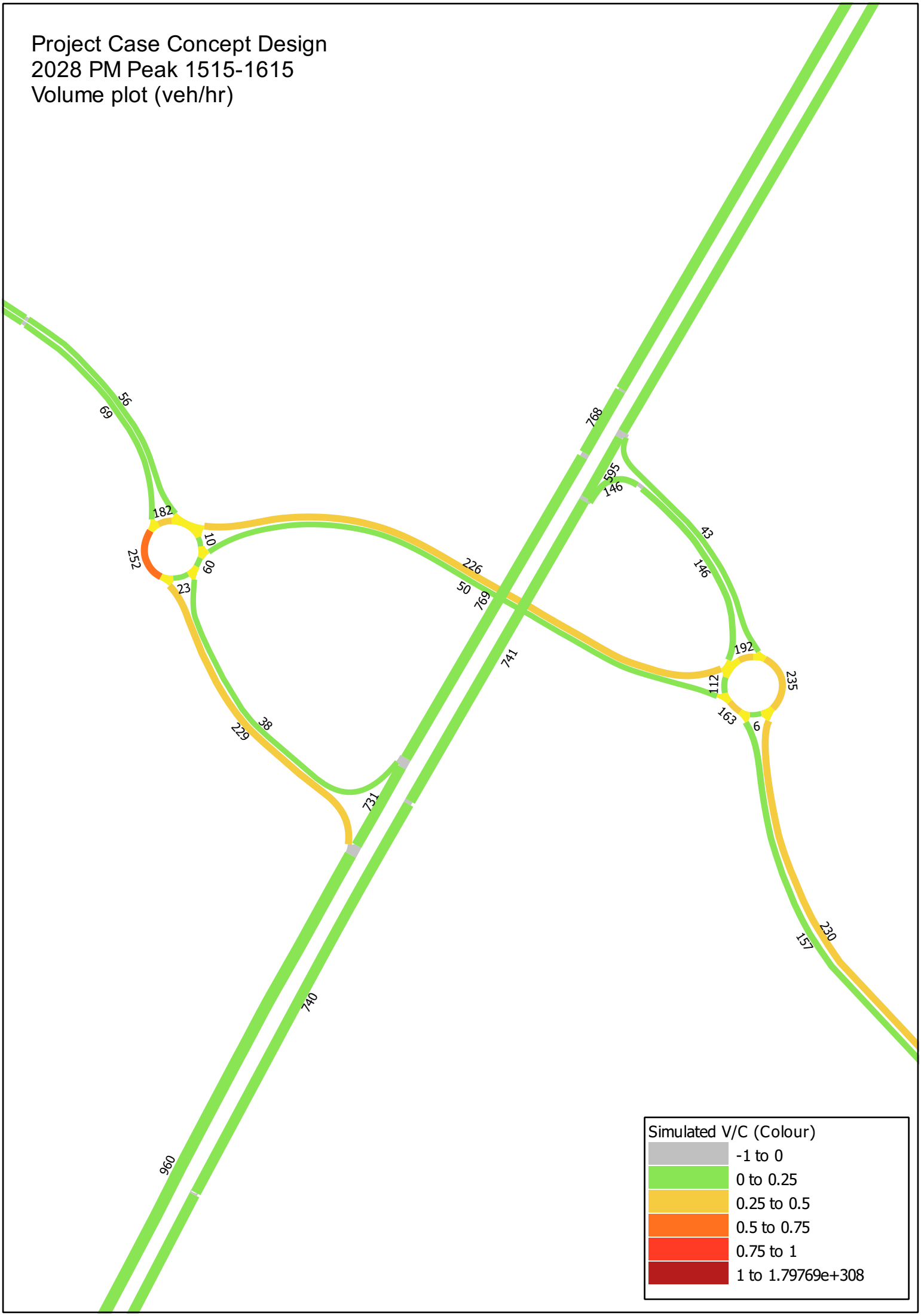
Project Case Concept Design
2028 PH-AM Peak 1100-1200
Volume plot (veh/hr)



Project Case Concept Design
2028 PM Peak 1415-1515
Volume plot (veh/hr)

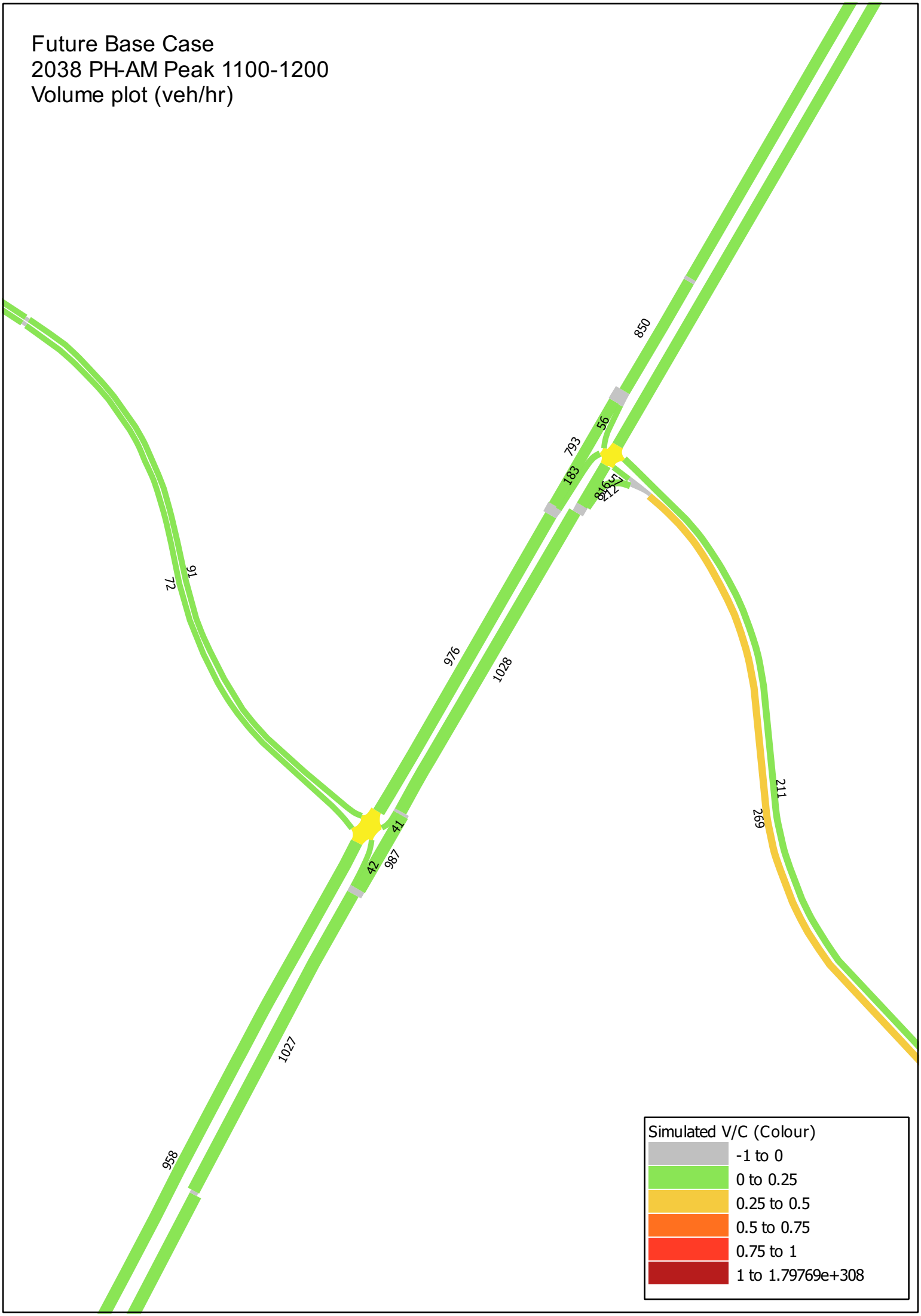


Project Case Concept Design
2028 PM Peak 1515-1615
Volume plot (veh/hr)



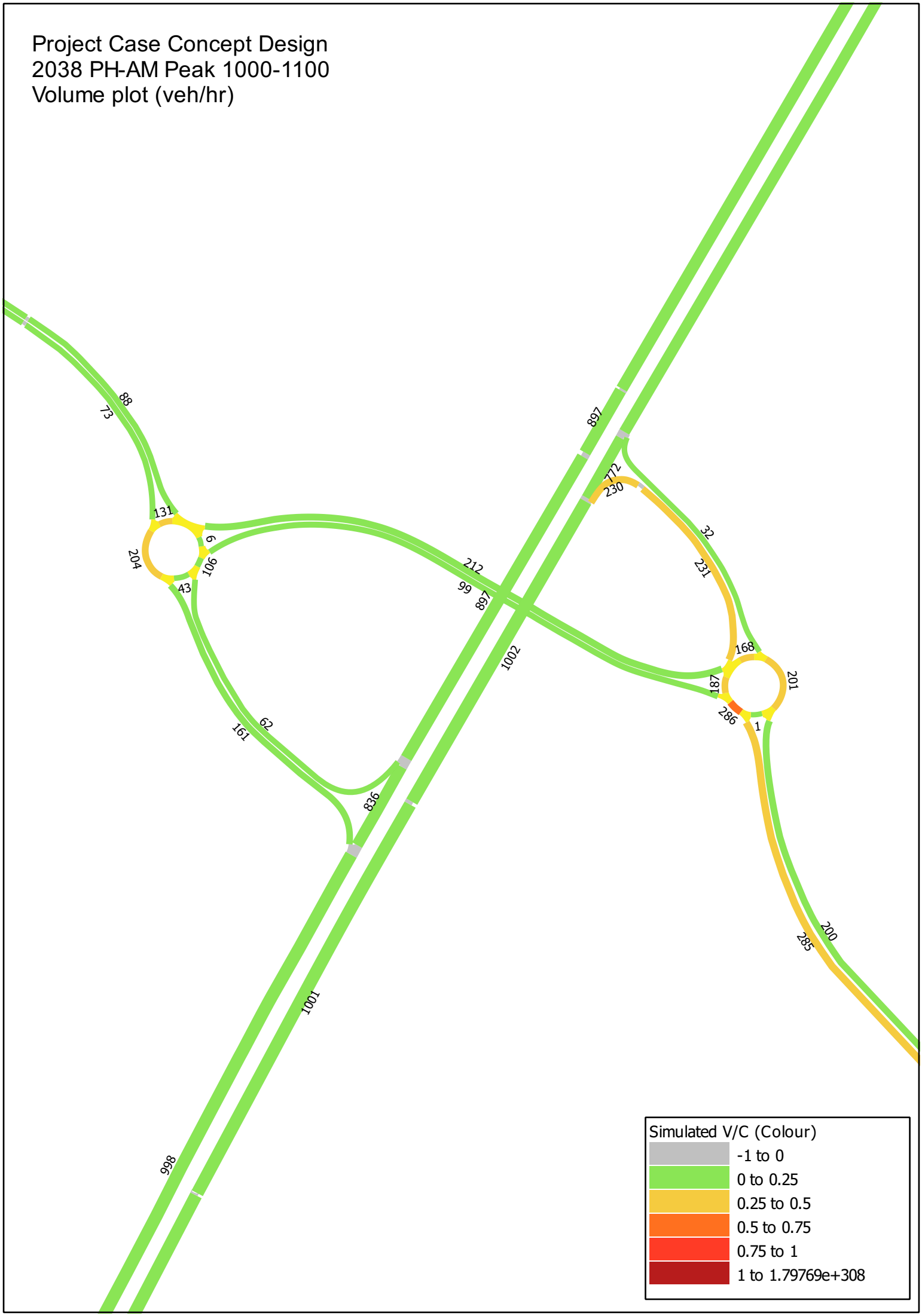

Future Base Case
2038 PH-AM Peak 1000-1100
Volume plot (veh/hr)
898
56
843
168
72
88
1011
1001
42
43
959
1002
998
199
285
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

Future Base Case
2038 PH-AM Peak 1100-1200
Volume plot (veh/hr)

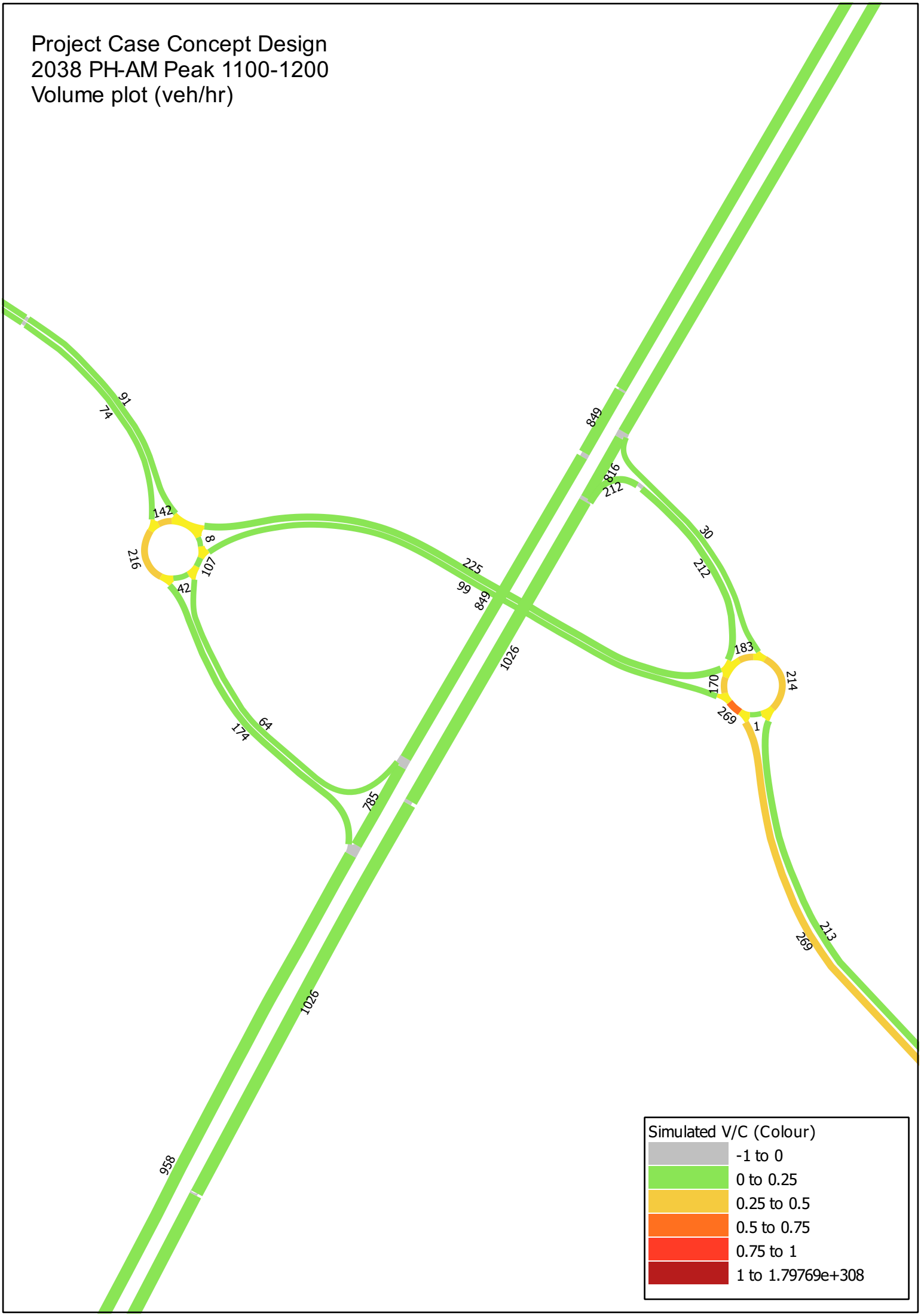


Future Base Case
2038 PM Peak 1415-1515
Volume plot (veh/hr)

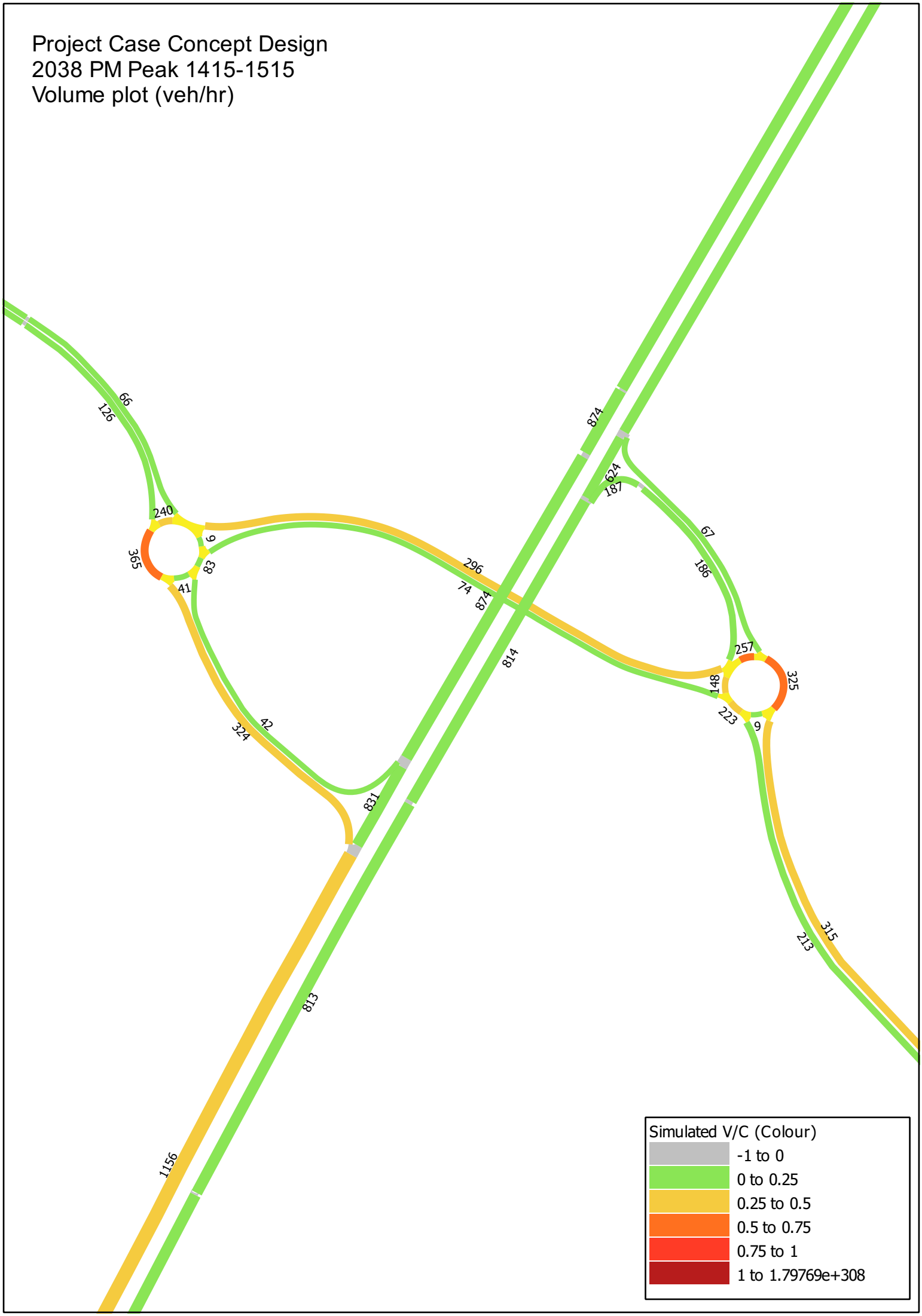
Future Base Case
2038 PM Peak 1515-1615
Volume plot (veh/hr)

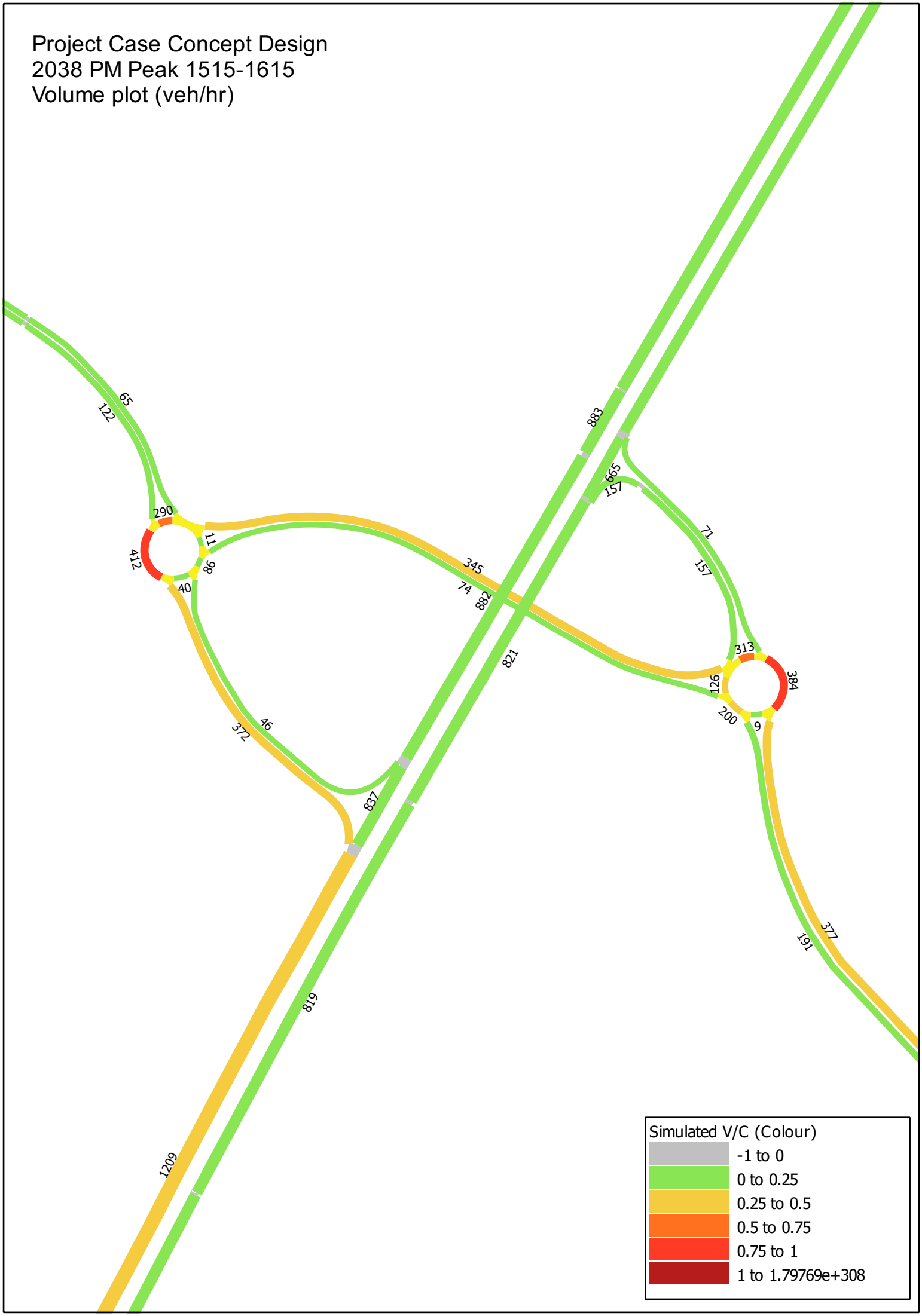

Project Case Concept Design
2038 PH-AM Peak 1000-1100
Volume plot (veh/hr)
88
73
131
204
6
106
43
212
99
897
897
772
230
32
231
168
187
286
1
201
200
285
62
161
836
1002
1001
998
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

Project Case Concept Design
2038 PH-AM Peak 1100-1200
Volume plot (veh/hr)

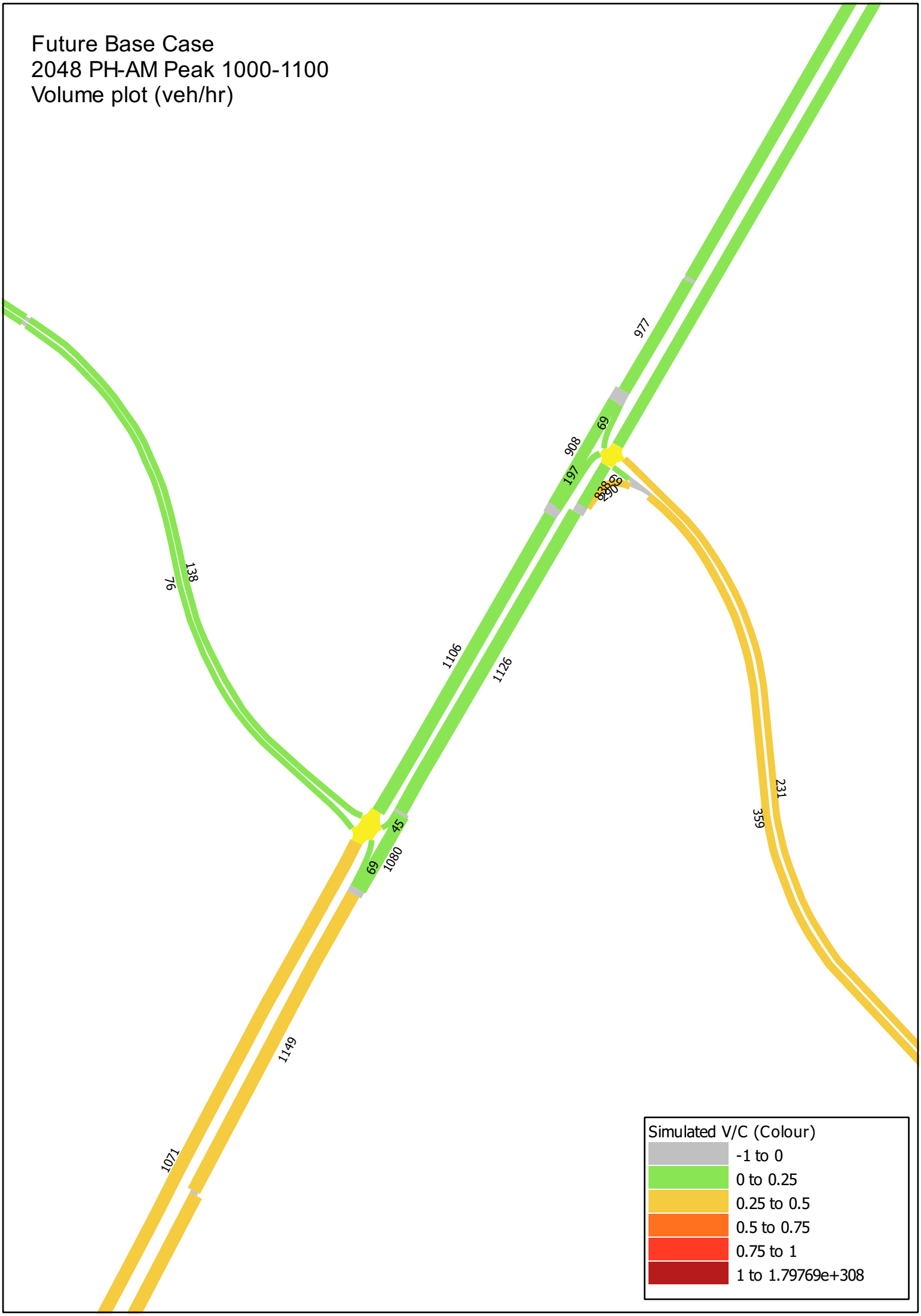


Project Case Concept Design
2038 PM Peak 1415-1515
Volume plot (veh/hr)

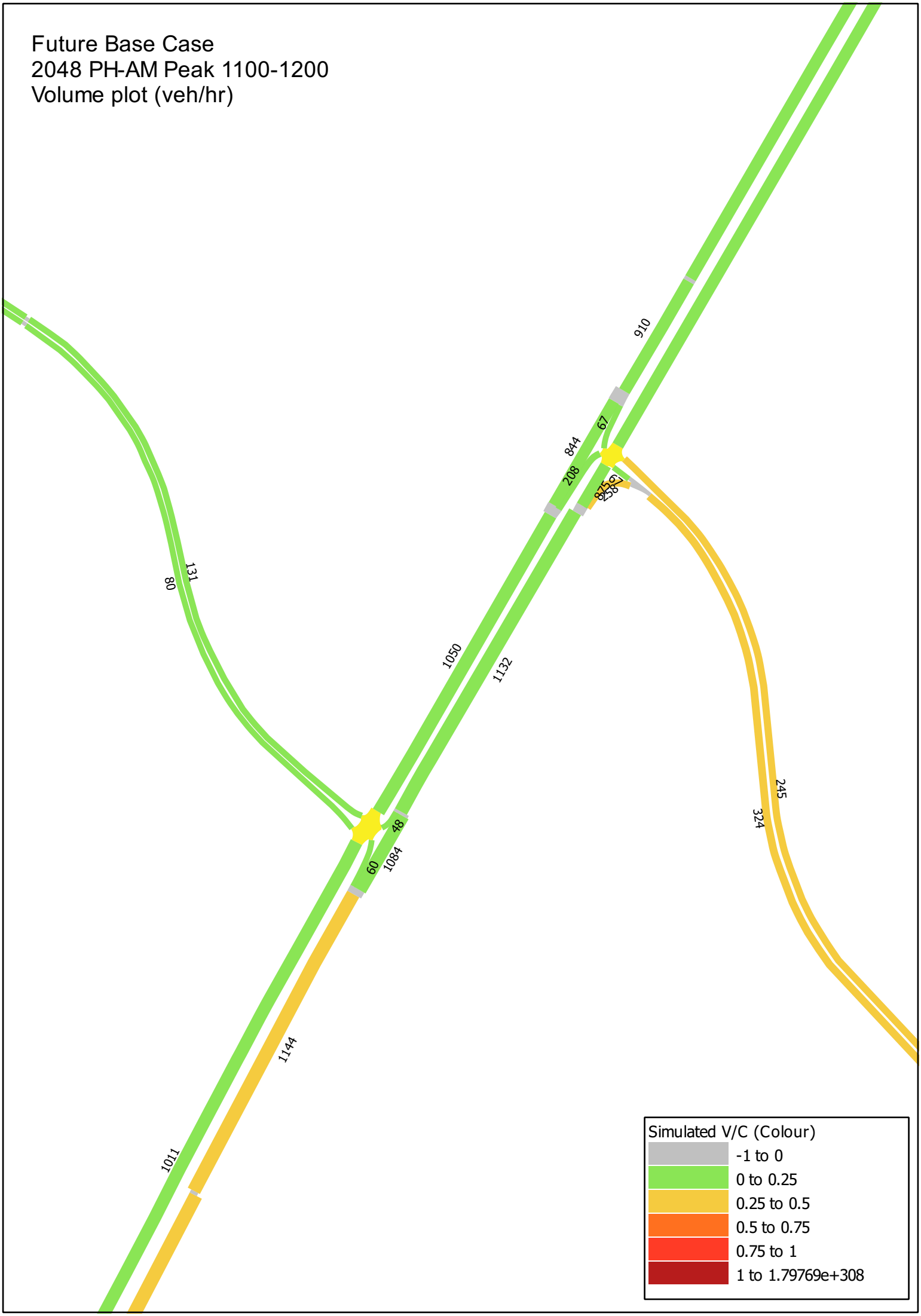



Project Case Concept Design
2038 PM Peak 1515-1615
Volume plot (veh/hr)
65
122
290
412
11
86
40
345
74
882
883
665
157
71
157
313
384
126
200
9
821
372
46
837
819
1209
377
191
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

Future Base Case
2048 PH-AM Peak 1000-1100
Volume plot (veh/hr)

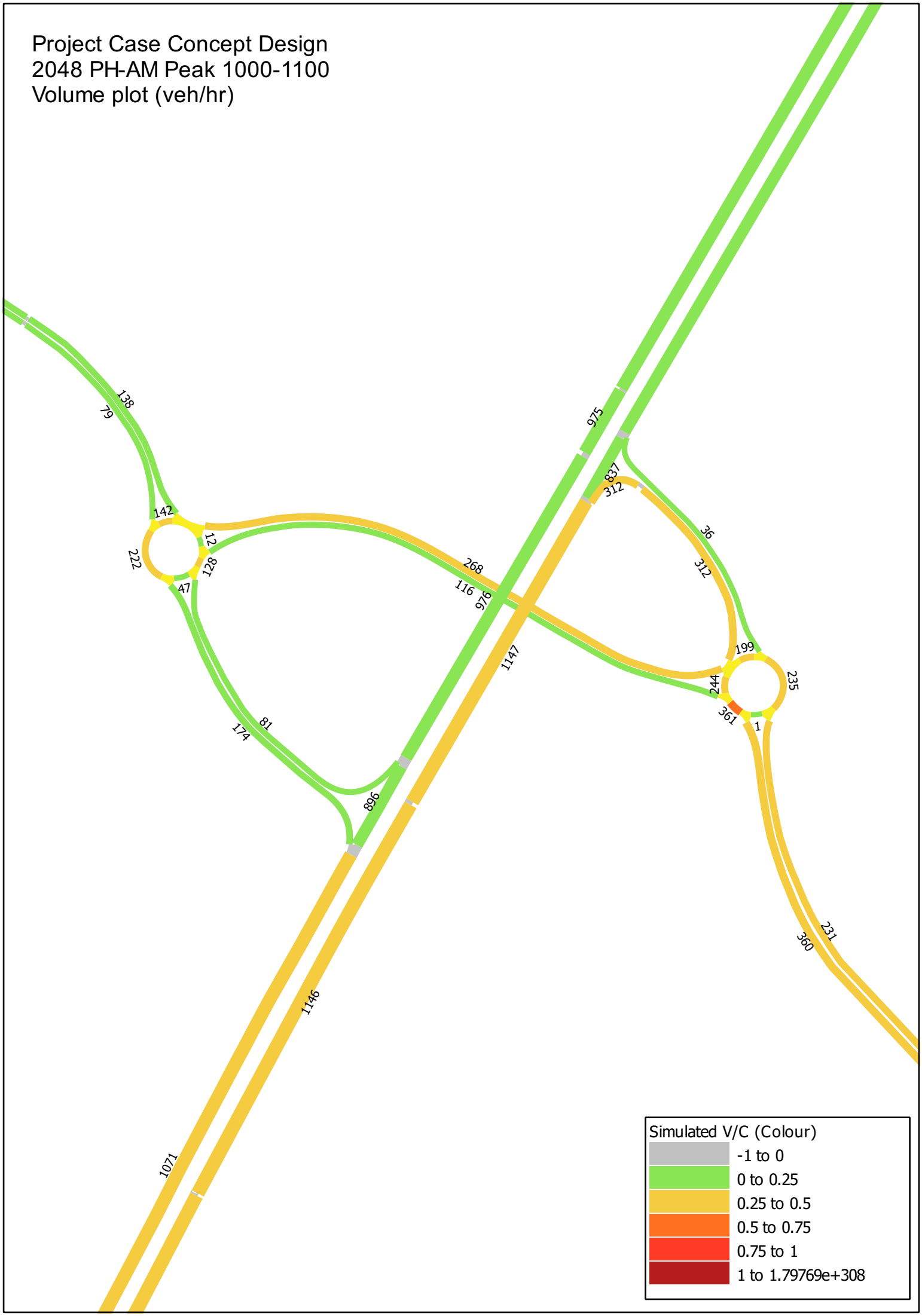


Future Base Case
2048 PH-AM Peak 1100-1200
Volume plot (veh/hr)

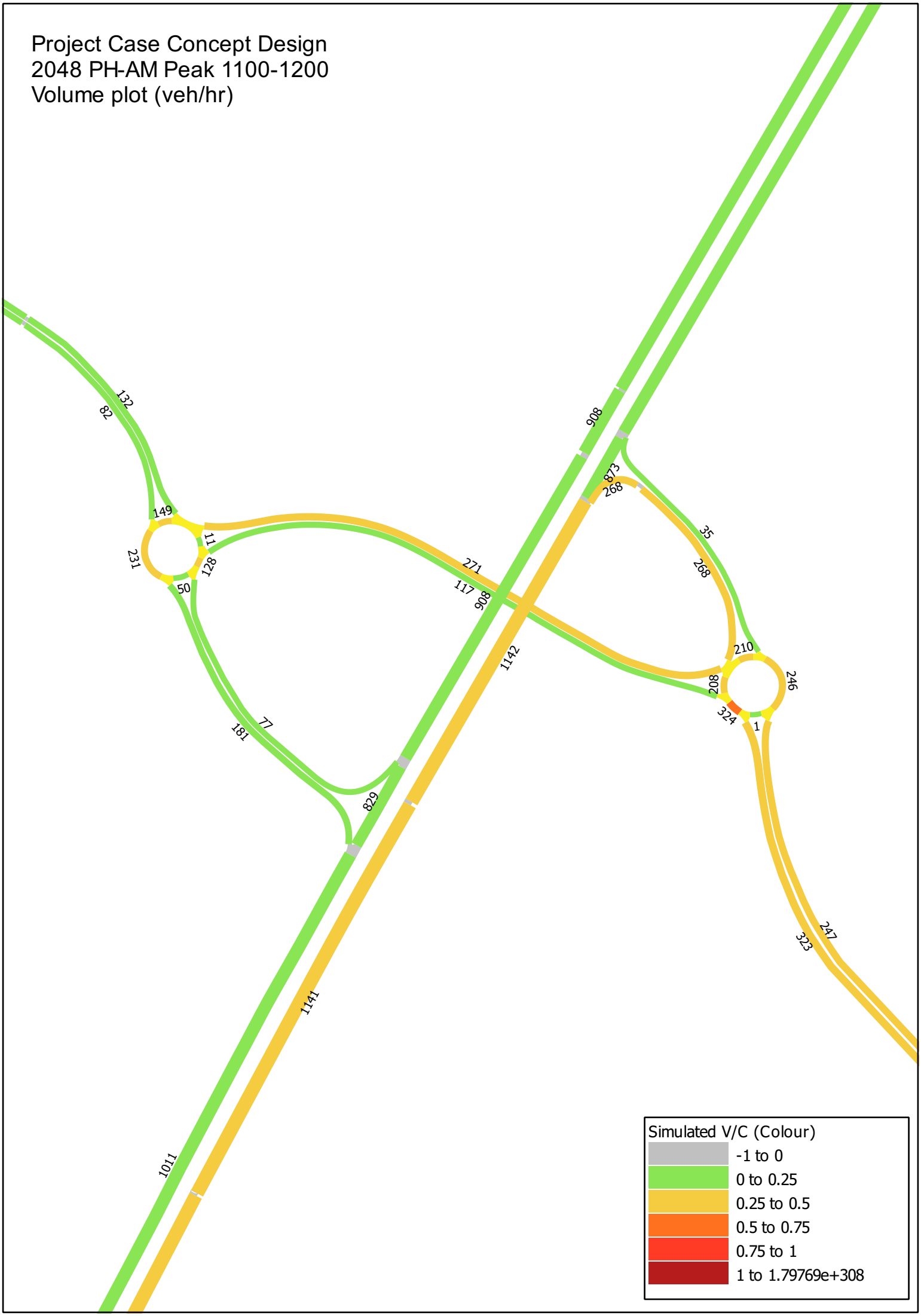


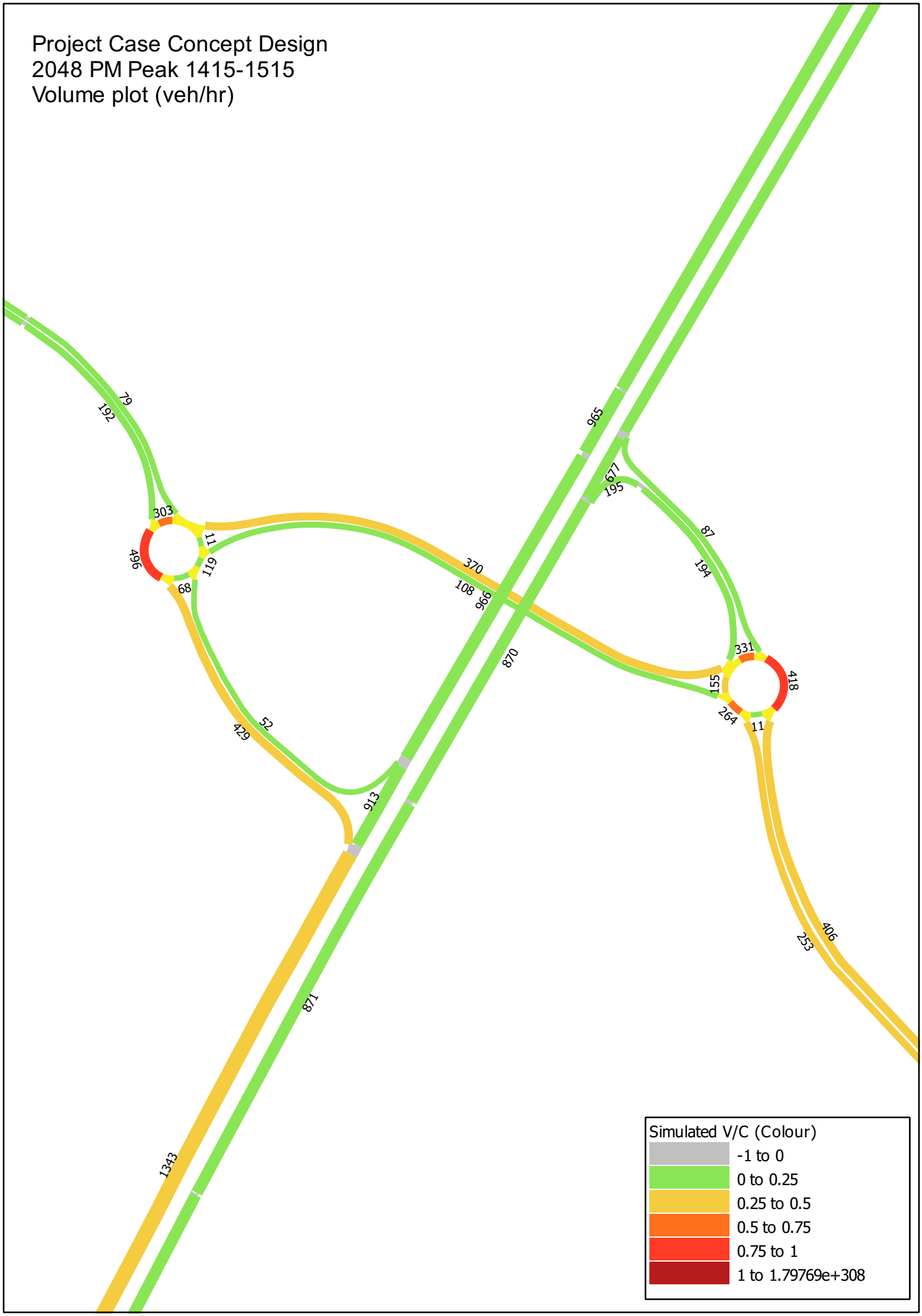
Future Base Case
2048 PM Peak 1415-1515
Volume plot (veh/hr)


Future Base Case
2048 PM Peak 1515-1615
Volume plot (veh/hr)
963
921
42
385
737
186
80
190
1307
922
62
34
860
894
1388
455
228
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

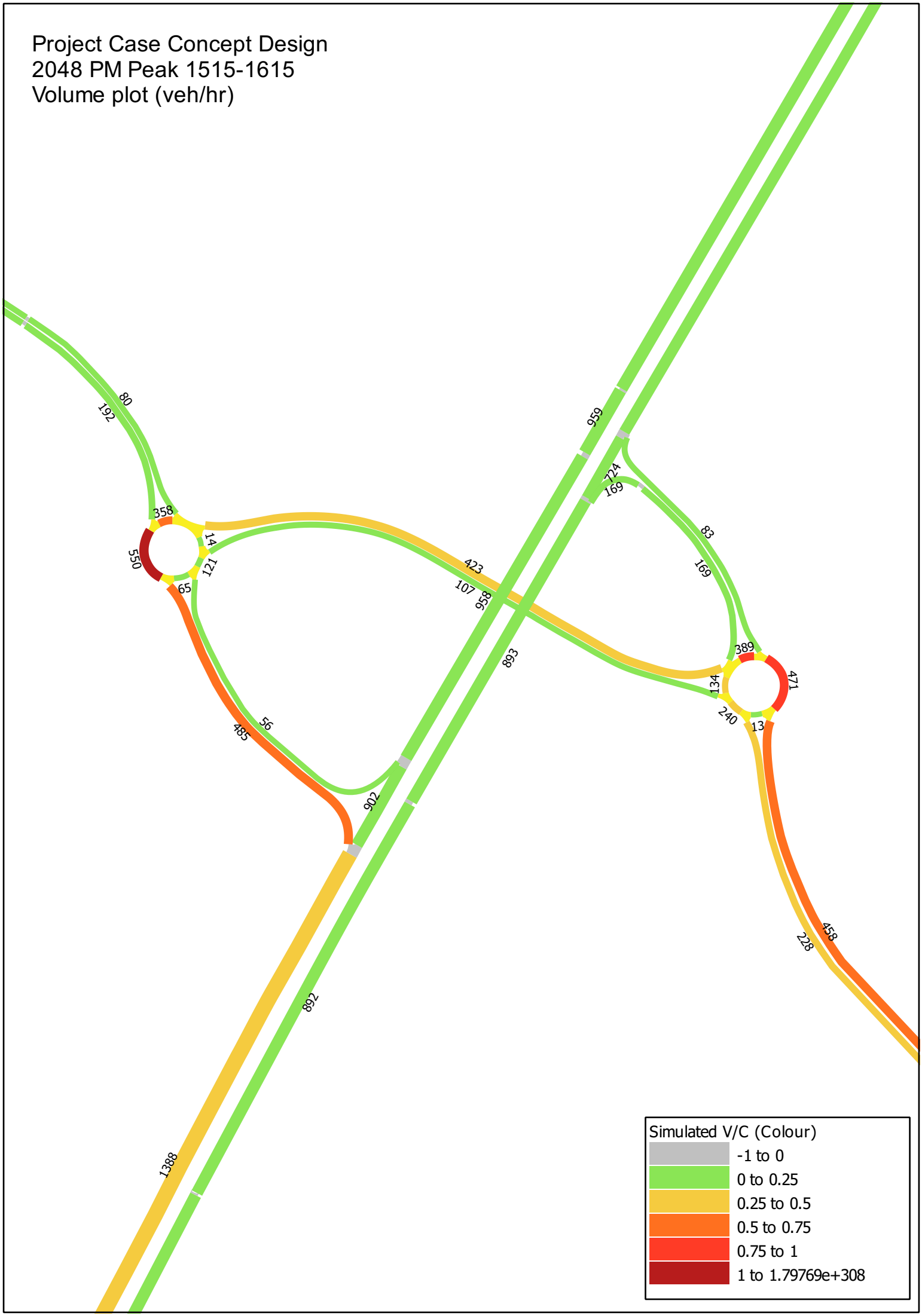

Project Case Concept Design
2048 PH-AM Peak 1000-1100
Volume plot (veh/hr)
138
79
142
222
12
128
47
268
116
976
975
837
312
36
312
199
244
361
235
1
1147
81
174
896
231
360
1146
1071
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

Project Case Concept Design
2048 PH-AM Peak 1100-1200
Volume plot (veh/hr)



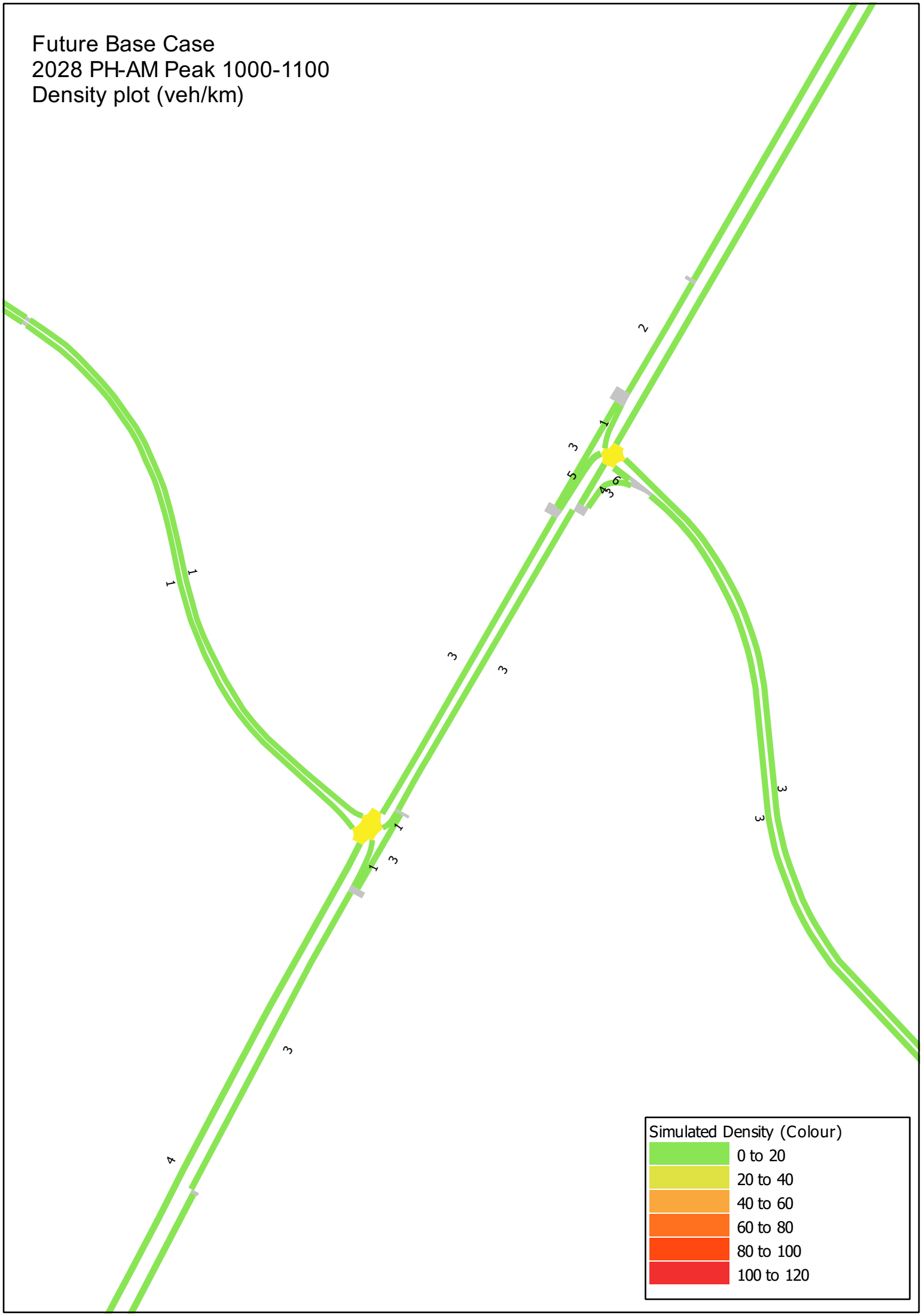

Project Case Concept Design
2048 PM Peak 1415-1515
Volume plot (veh/hr)
79
192
303
496
11
119
68
370
108
966
965
677
195
87
194
331
418
155
264
11
52
429
913
870
871
1343
406
253
Simulated V/C (Colour)
-1 to 0
0 to 0.25
0.25 to 0.5
0.5 to 0.75
0.75 to 1
1 to 1.79769e+308

Project Case Concept Design
2048 PM Peak 1515-1615
Volume plot (veh/hr)

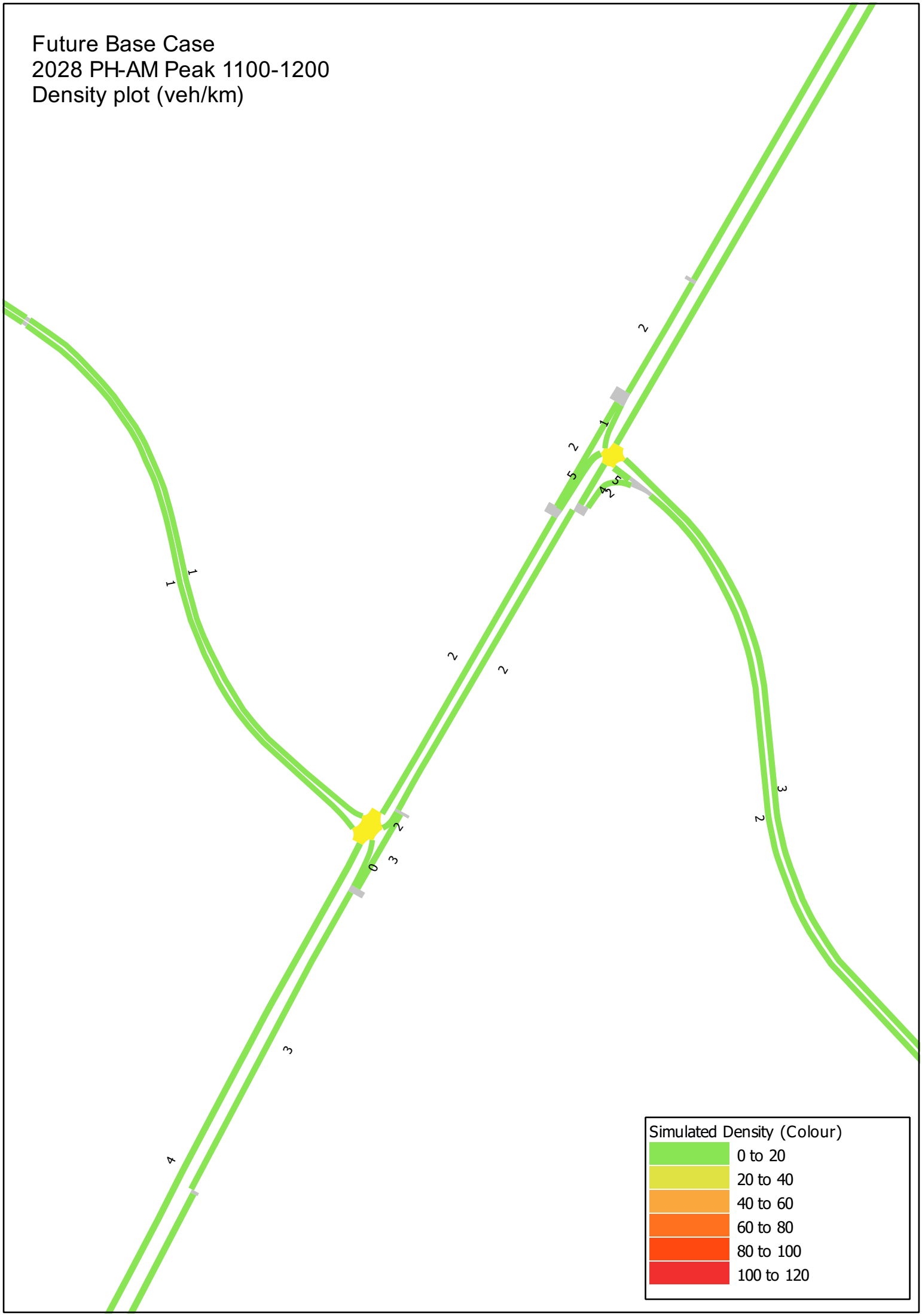


Appendix F – Density Plots (Base and Project)

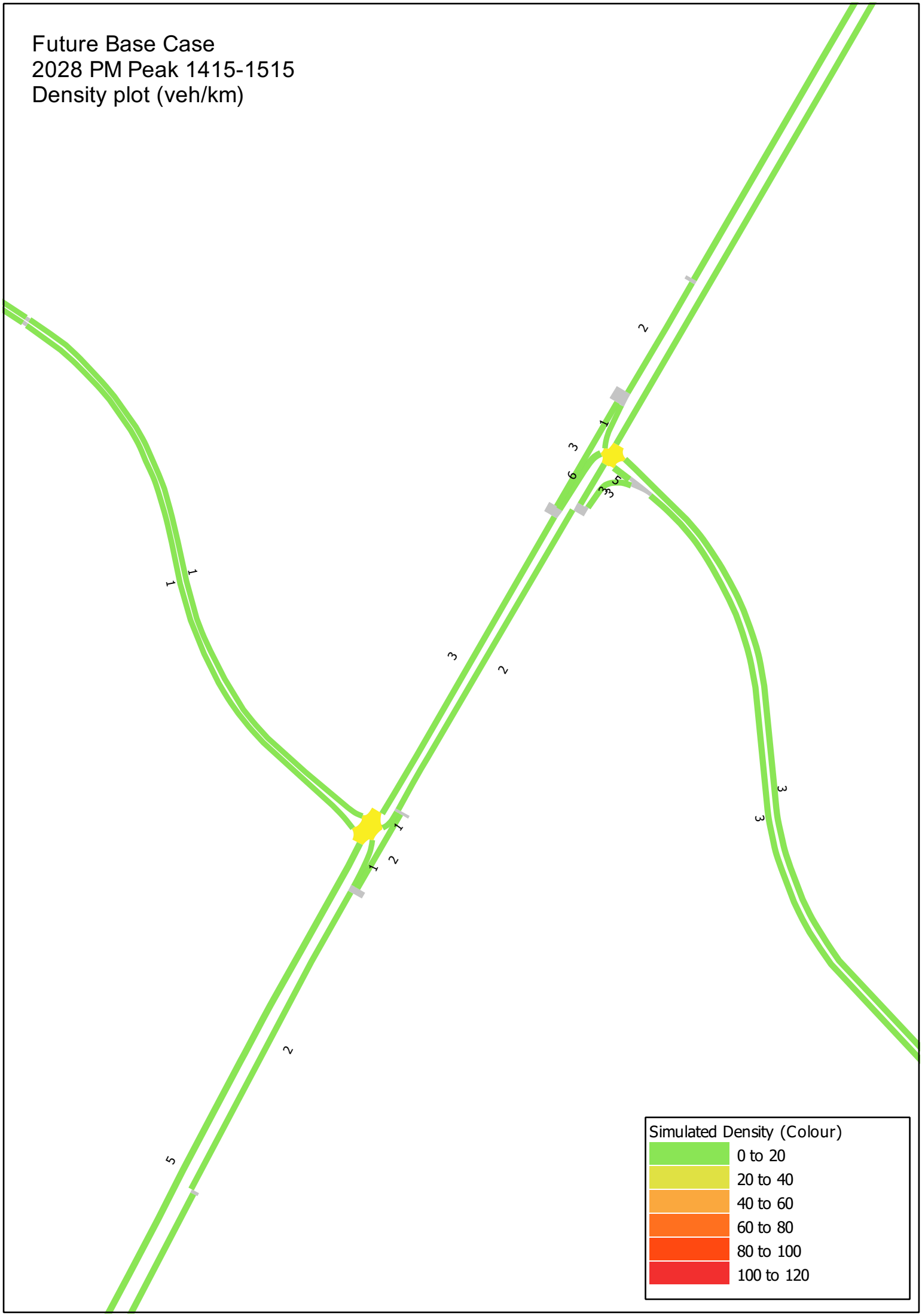
Future Base Case
2028 PH-AM Peak 1000-1100
Density plot (veh/km)



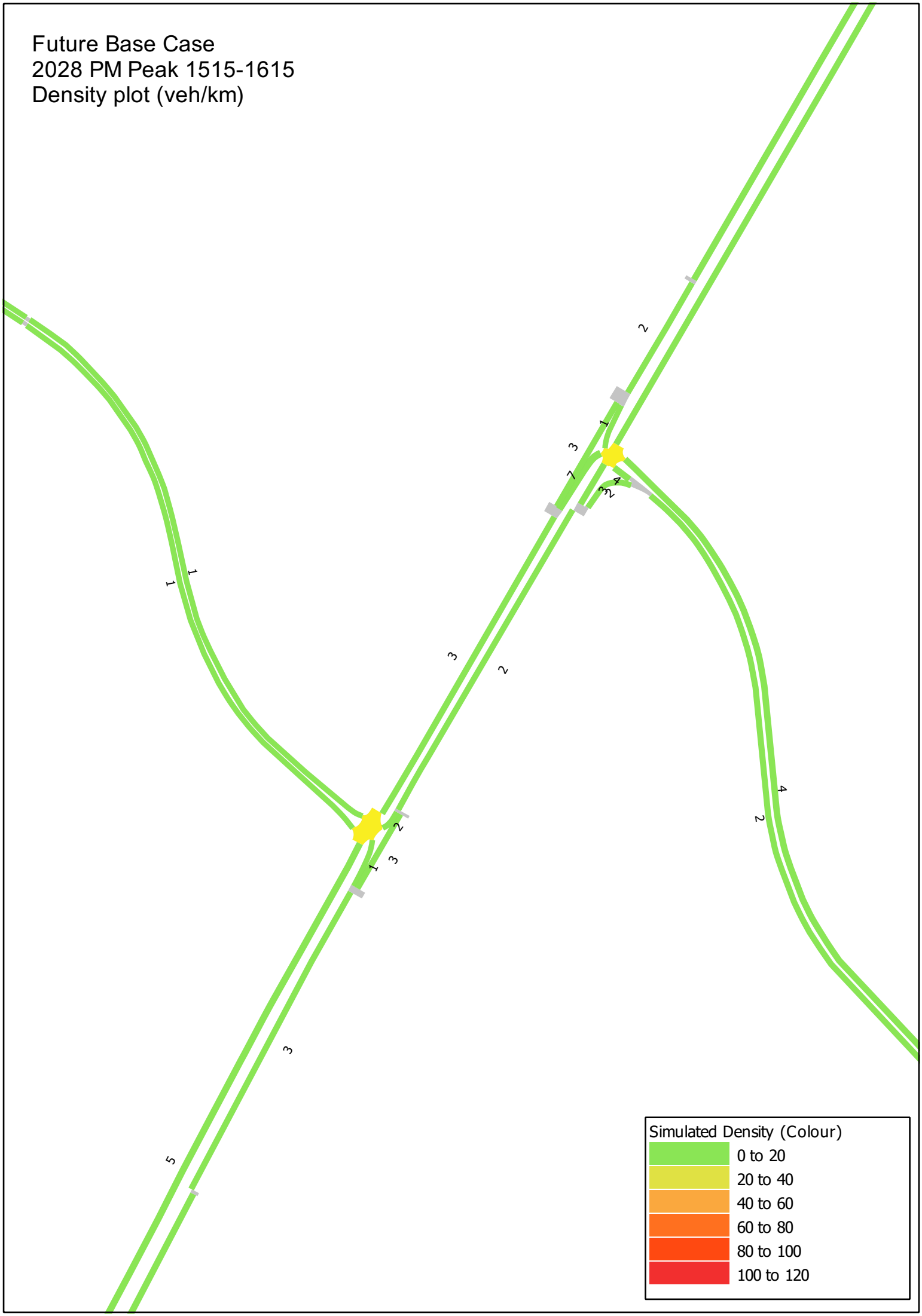
Future Base Case
2028 PH-AM Peak 1100-1200
Density plot (veh/km)



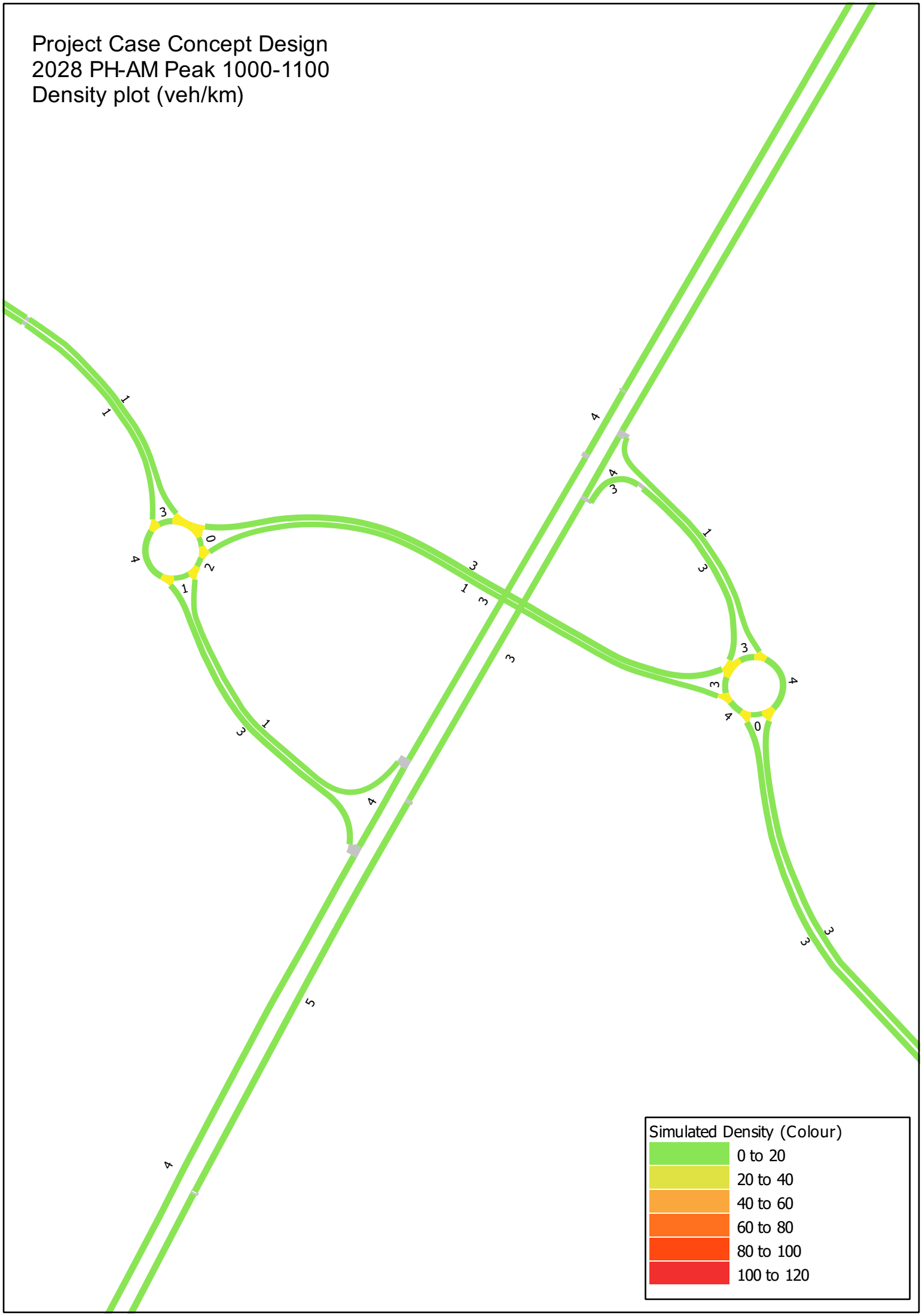
Future Base Case
2028 PM Peak 1415-1515
Density plot (veh/km)



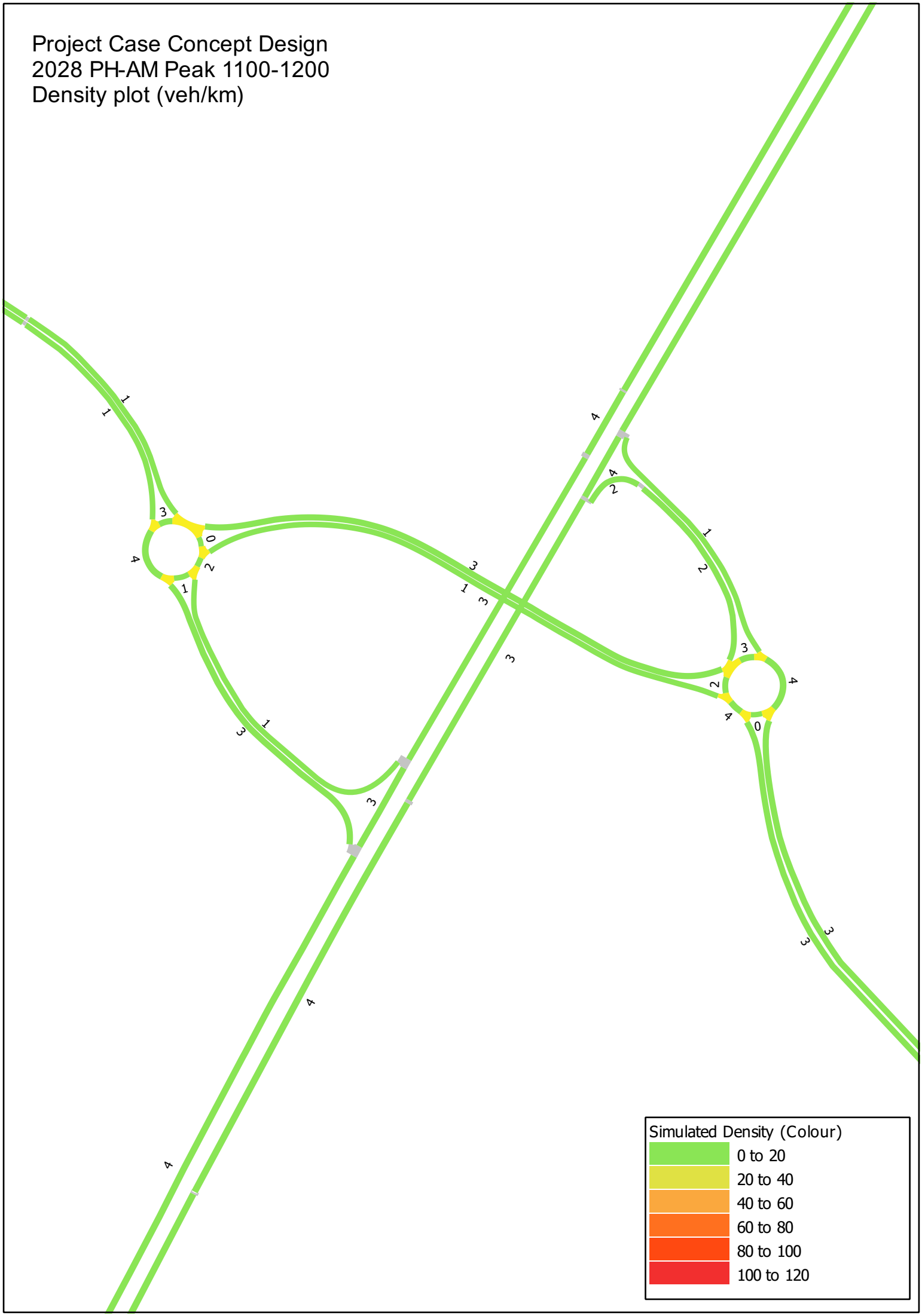
Future Base Case
2028 PM Peak 1515-1615
Density plot (veh/km)



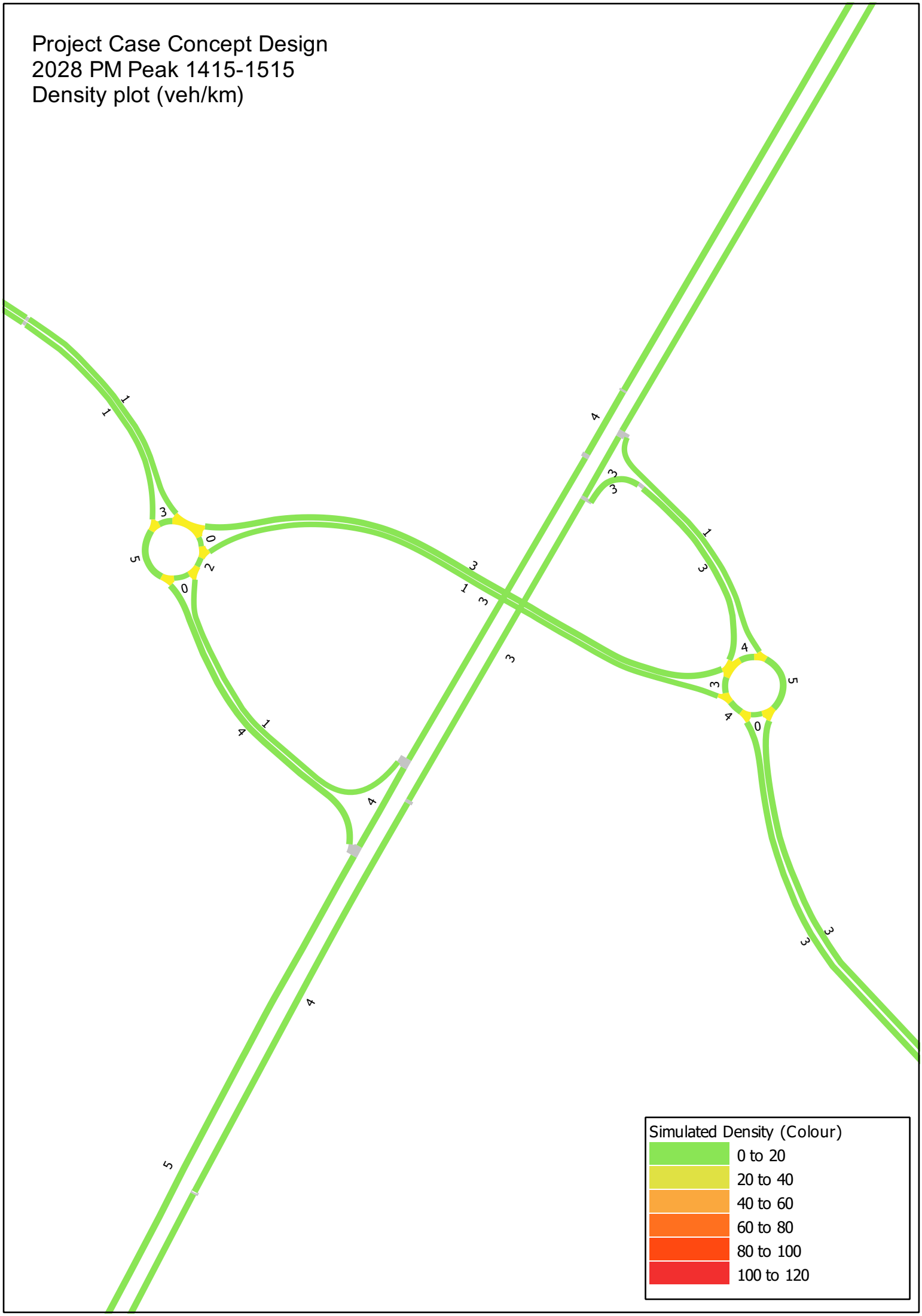
Project Case Concept Design
2028 PH-AM Peak 1000-1100
Density plot (veh/km)



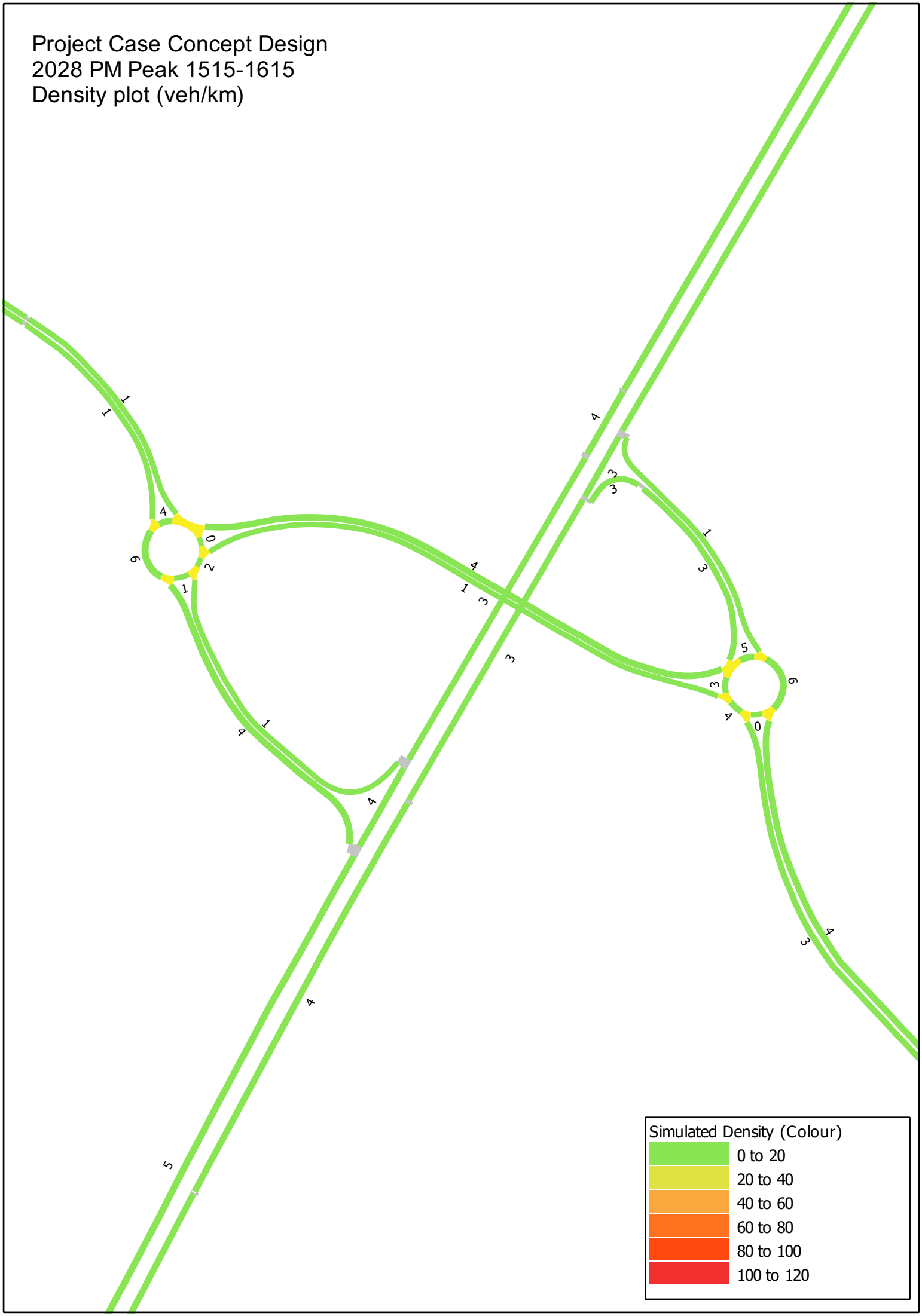
Project Case Concept Design
2028 PH-AM Peak 1100-1200
Density plot (veh/km)



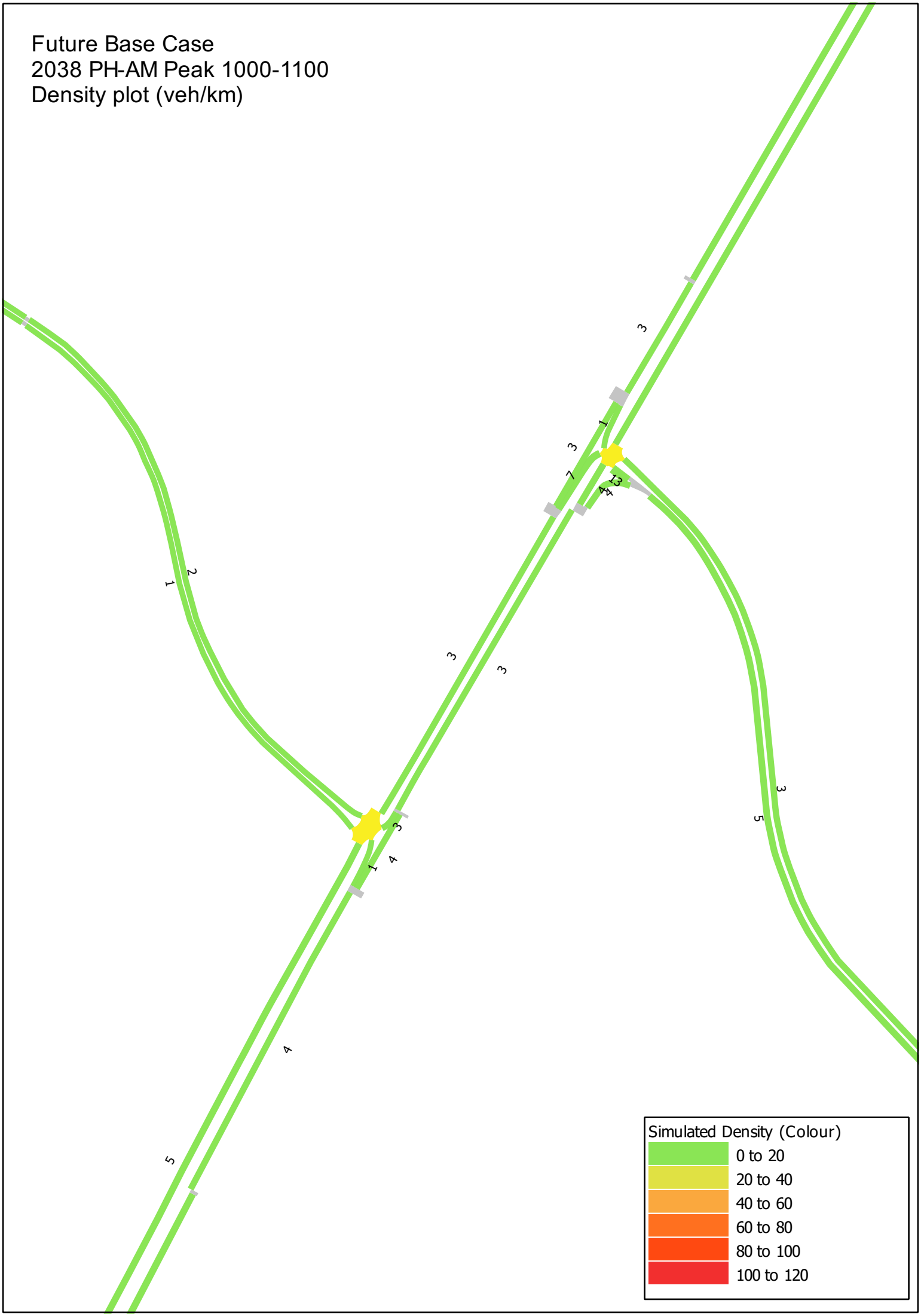
Project Case Concept Design
2028 PM Peak 1415-1515
Density plot (veh/km)



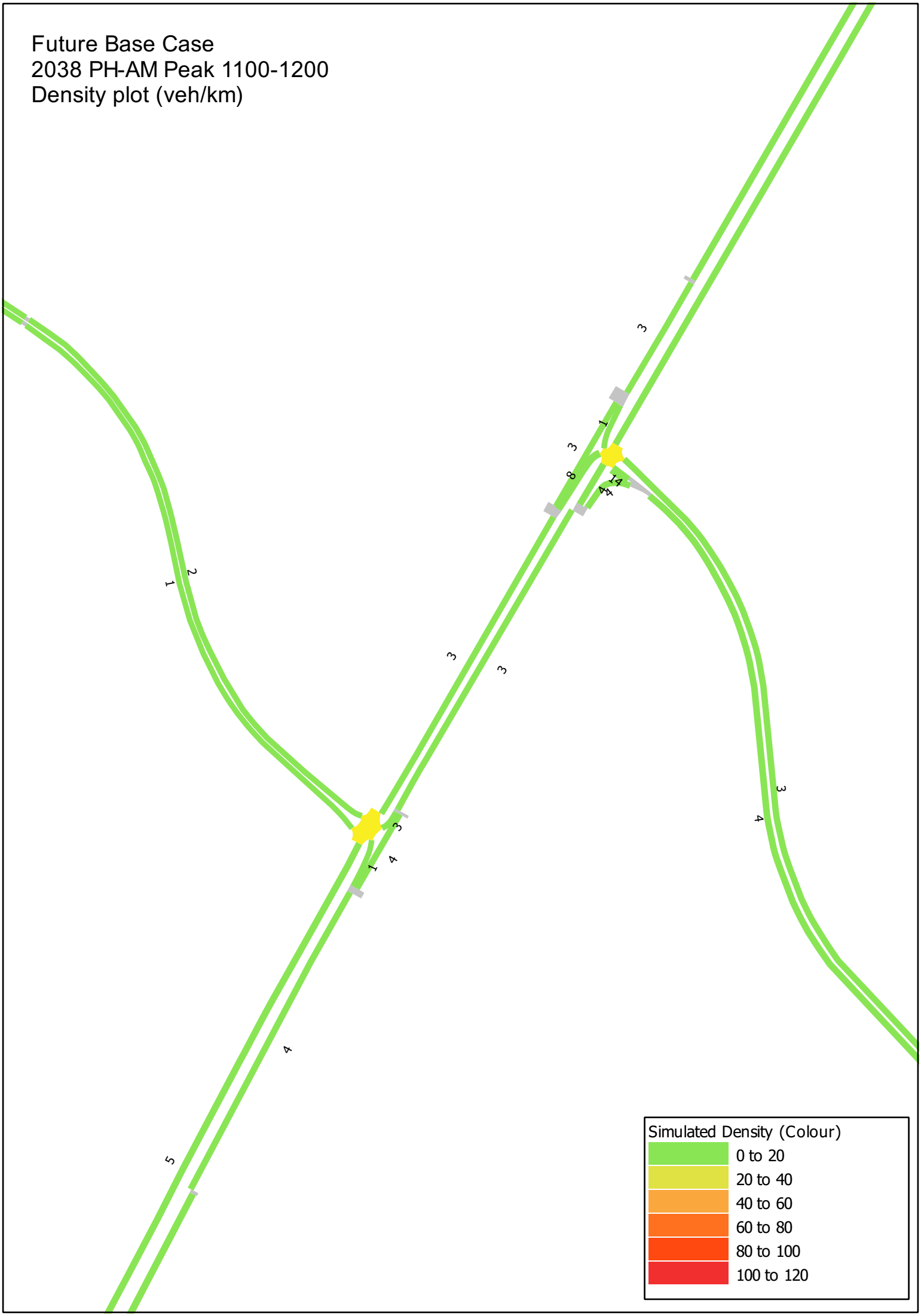
Project Case Concept Design
2028 PM Peak 1515-1615
Density plot (veh/km)



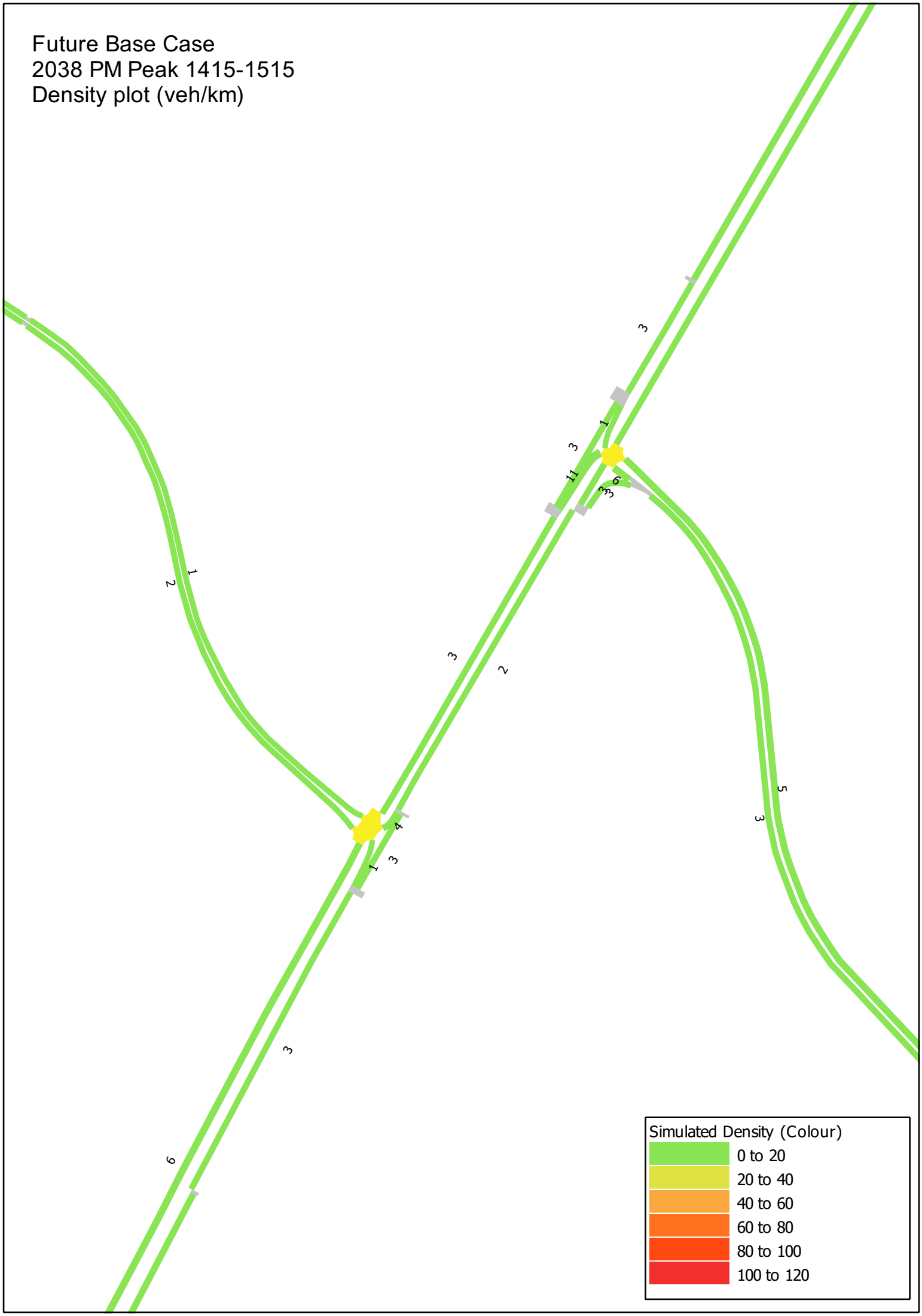
Future Base Case
2038 PH-AM Peak 1000-1100
Density plot (veh/km)



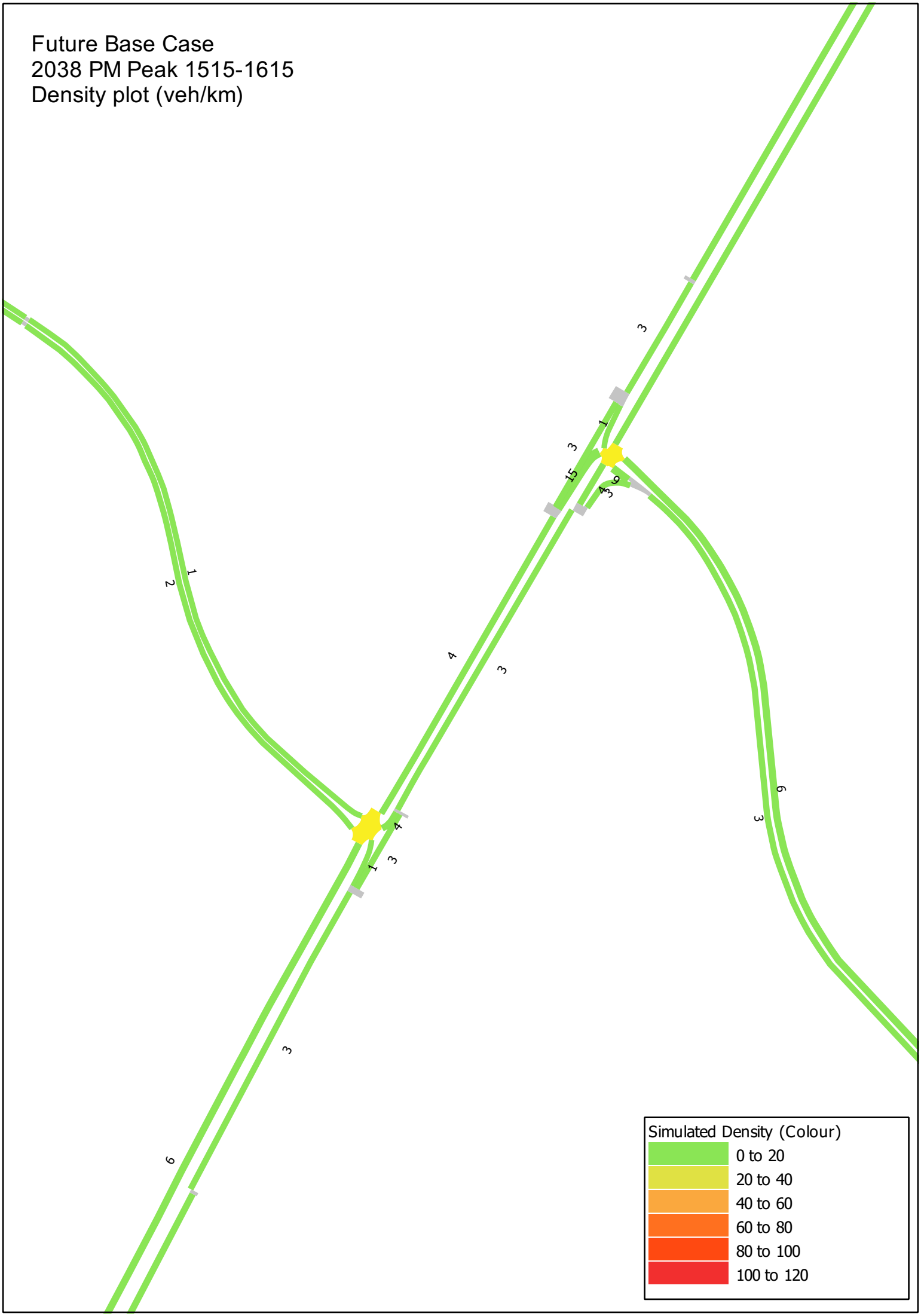
Future Base Case
2038 PH-AM Peak 1100-1200
Density plot (veh/km)



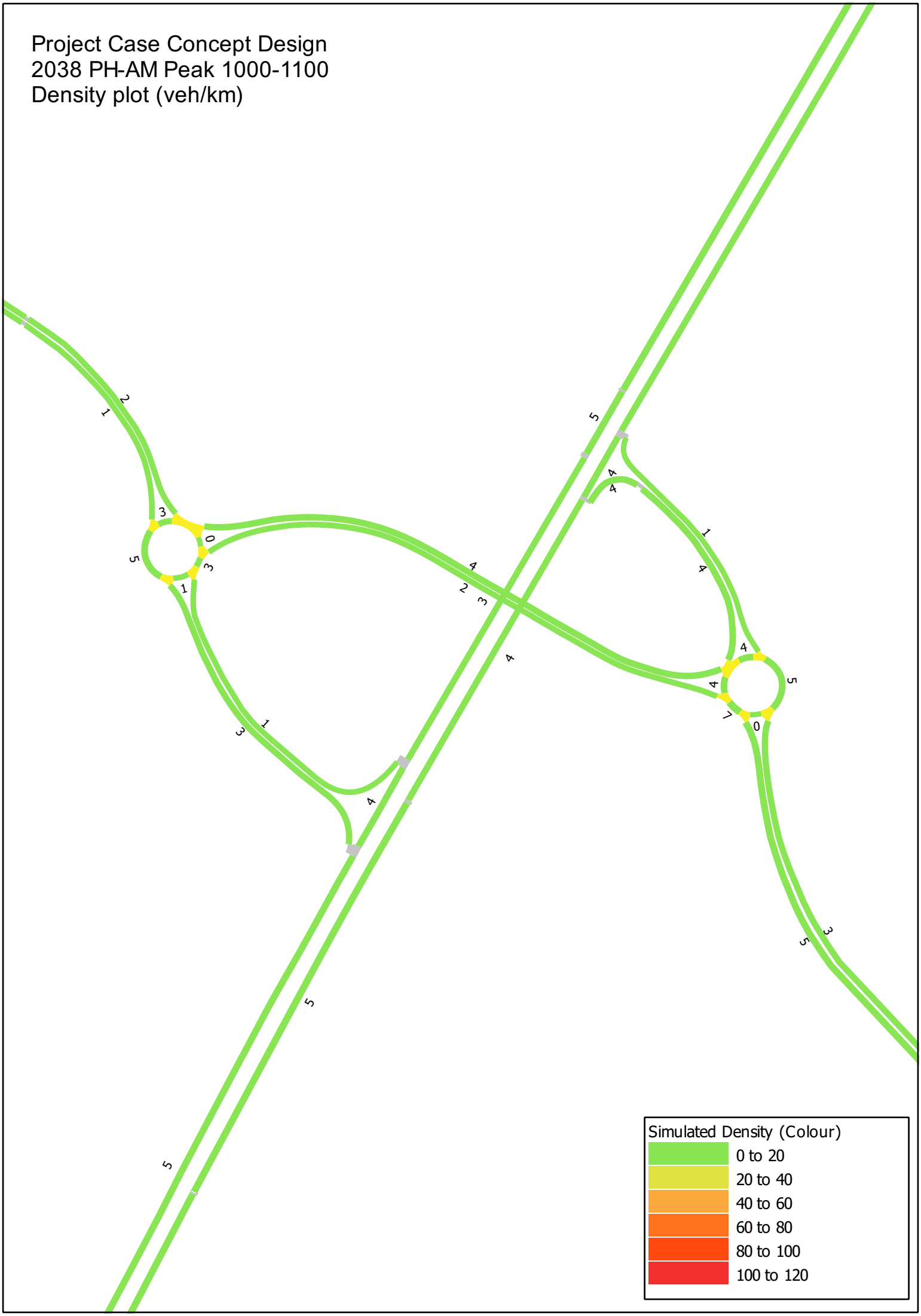
Future Base Case
2038 PM Peak 1415-1515
Density plot (veh/km)



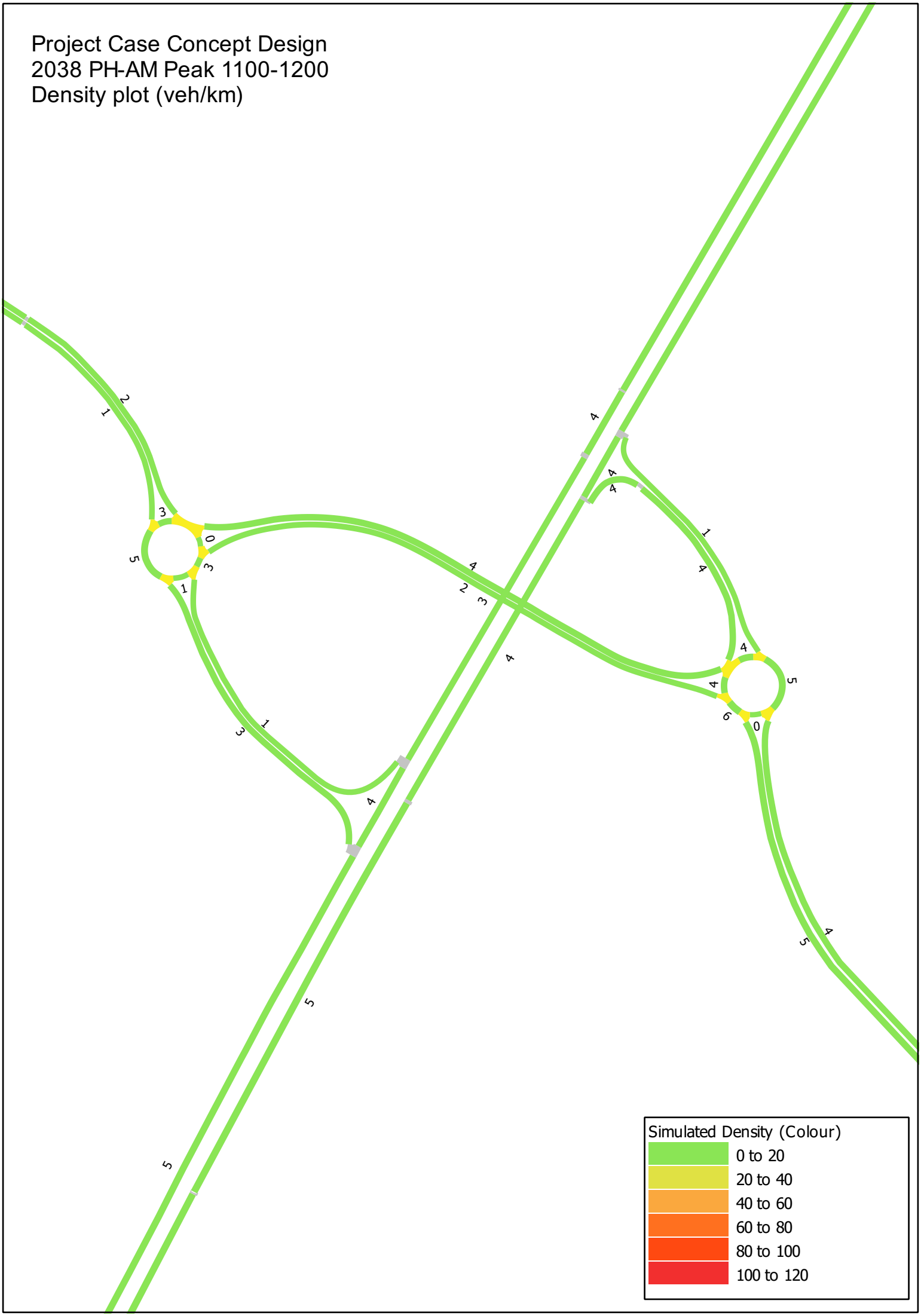
Future Base Case
2038 PM Peak 1515-1615
Density plot (veh/km)



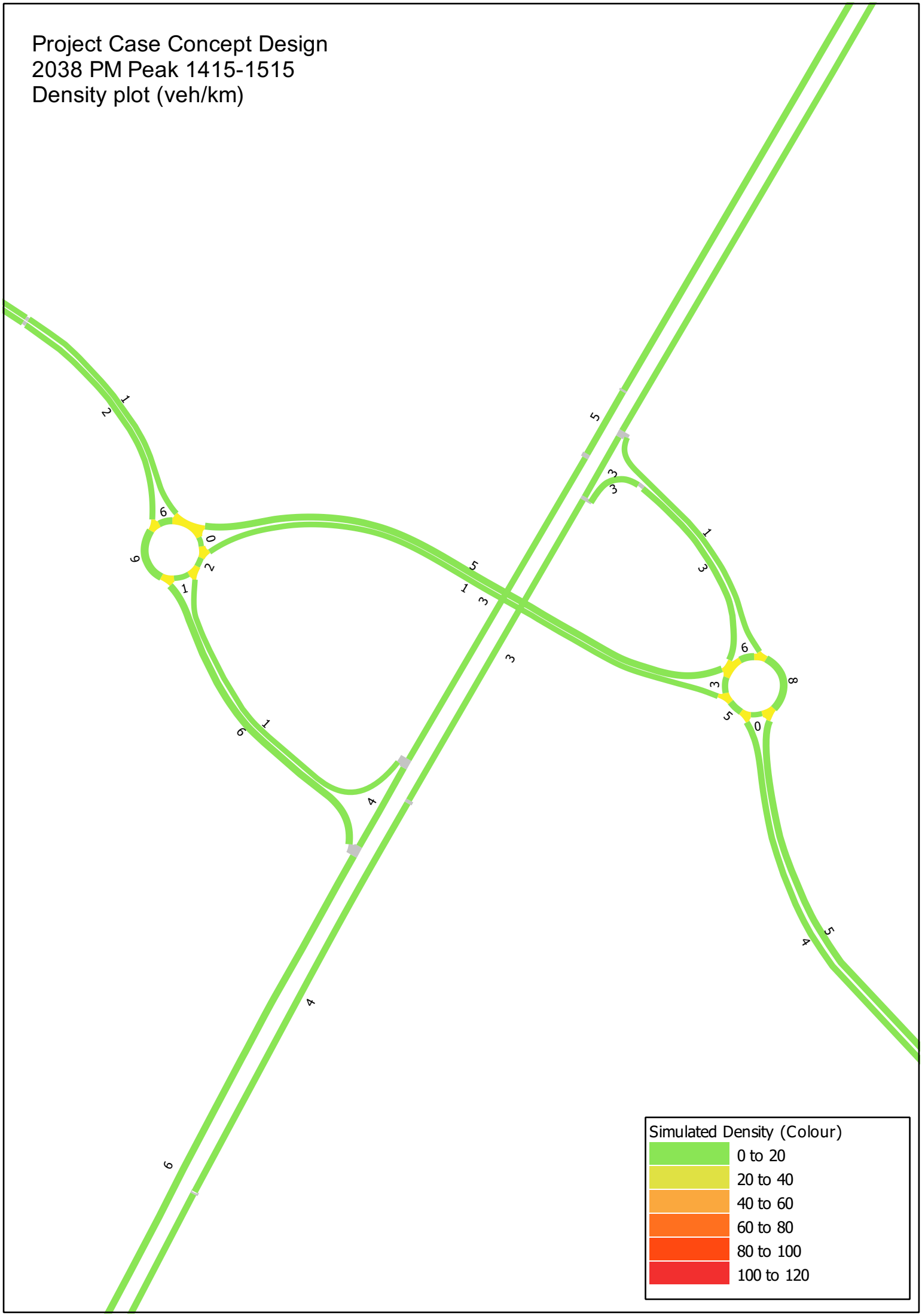
Project Case Concept Design
2038 PH-AM Peak 1000-1100
Density plot (veh/km)



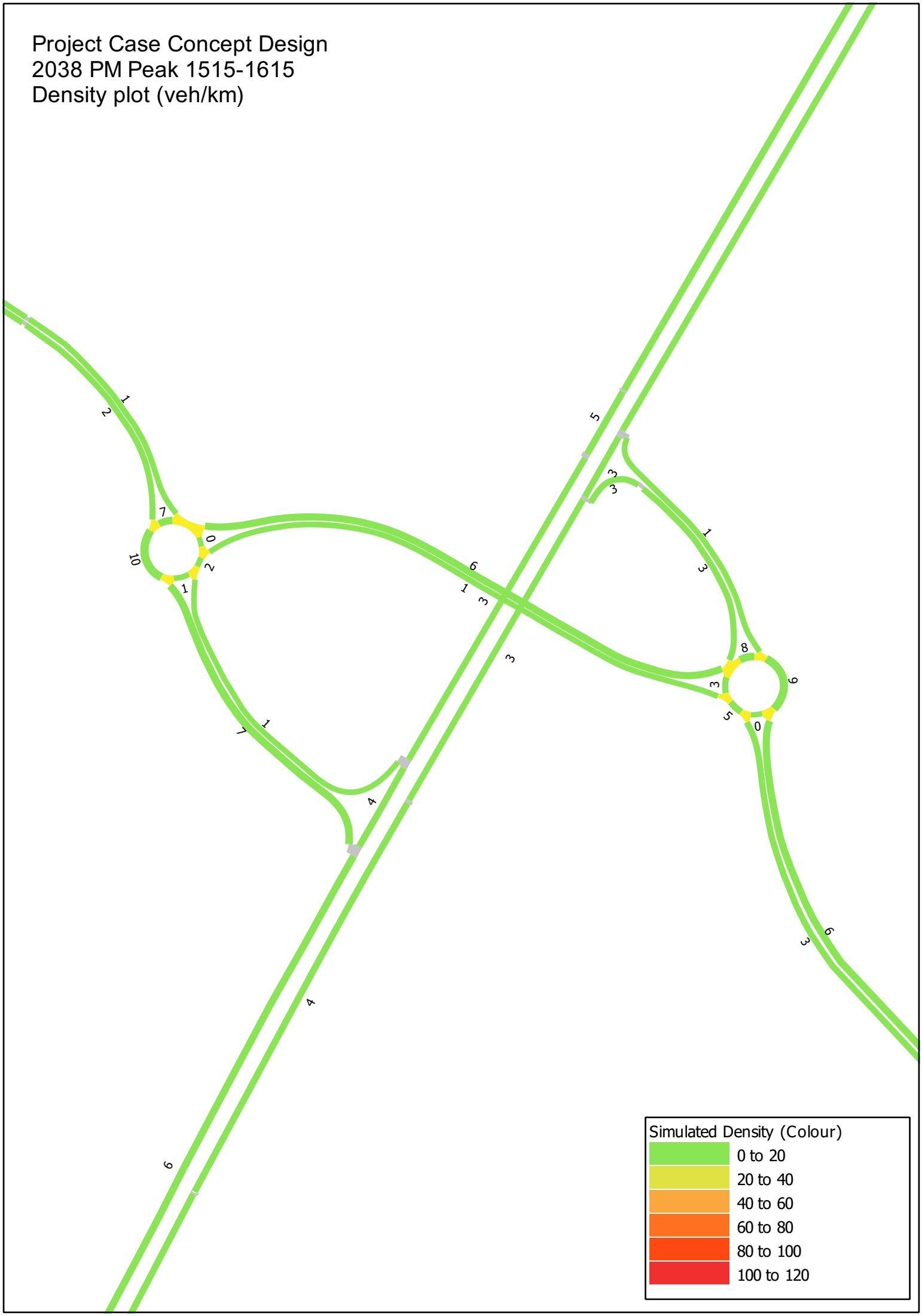
Project Case Concept Design
2038 PH-AM Peak 1100-1200
Density plot (veh/km)



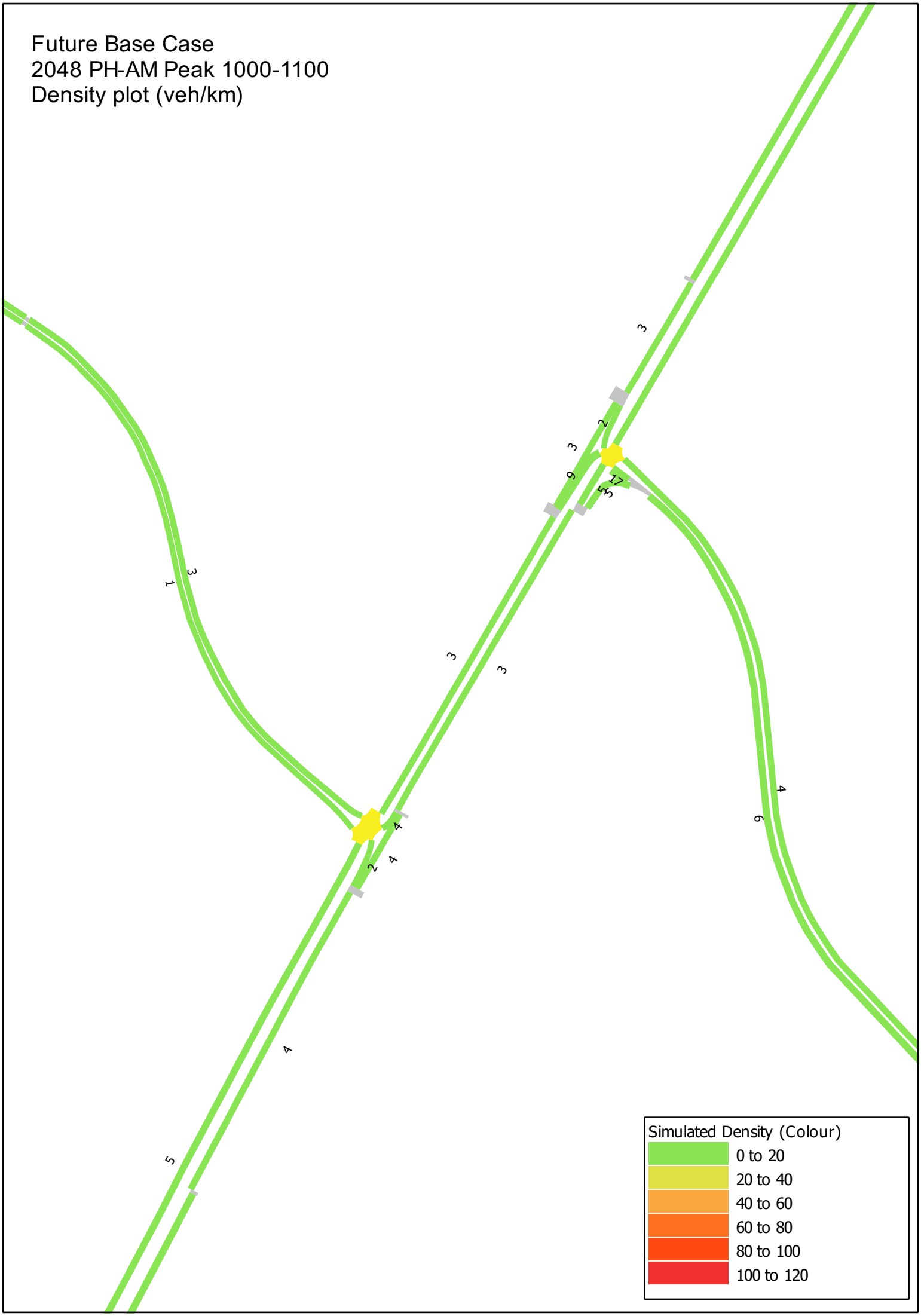
Project Case Concept Design
2038 PM Peak 1415-1515
Density plot (veh/km)

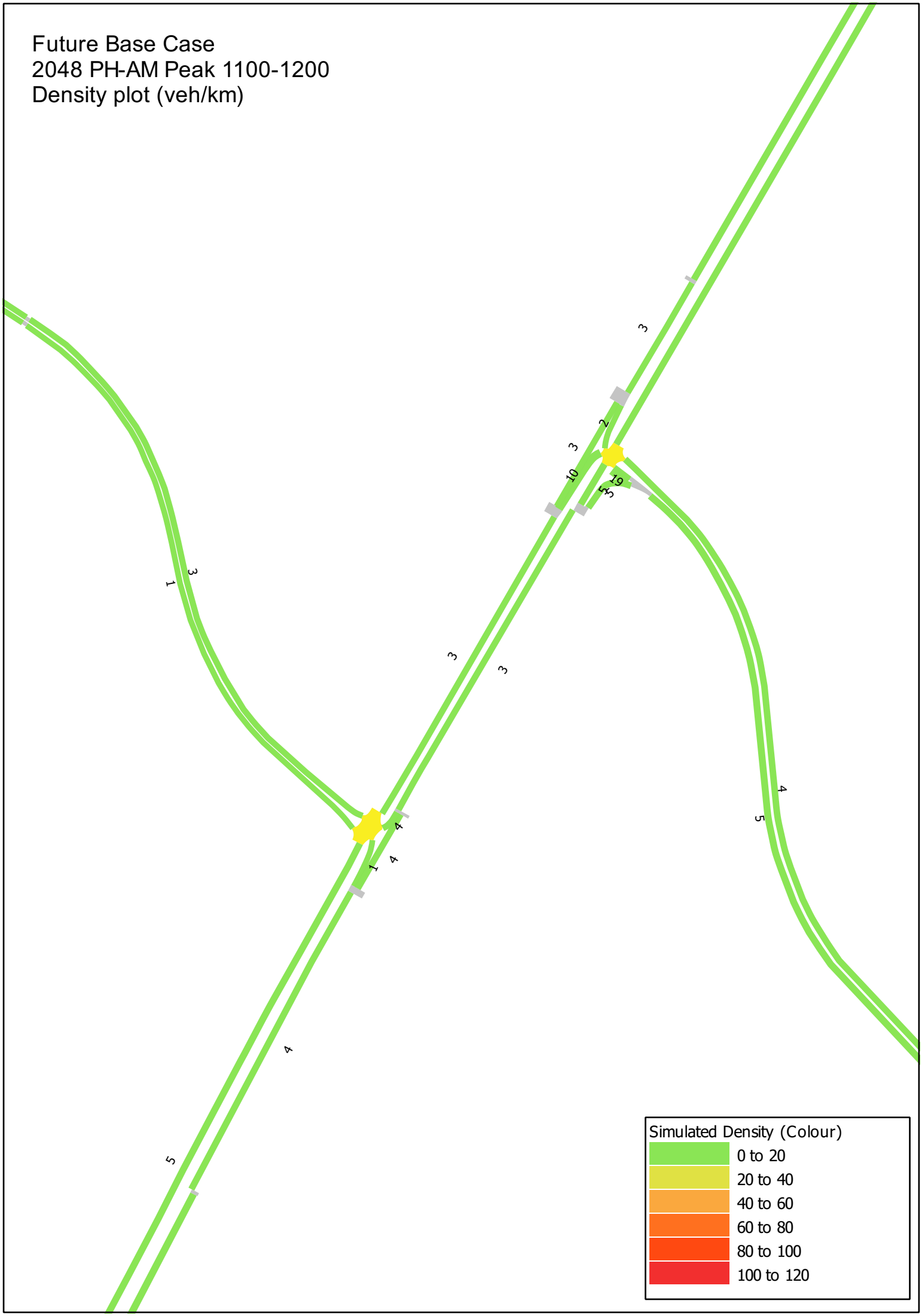


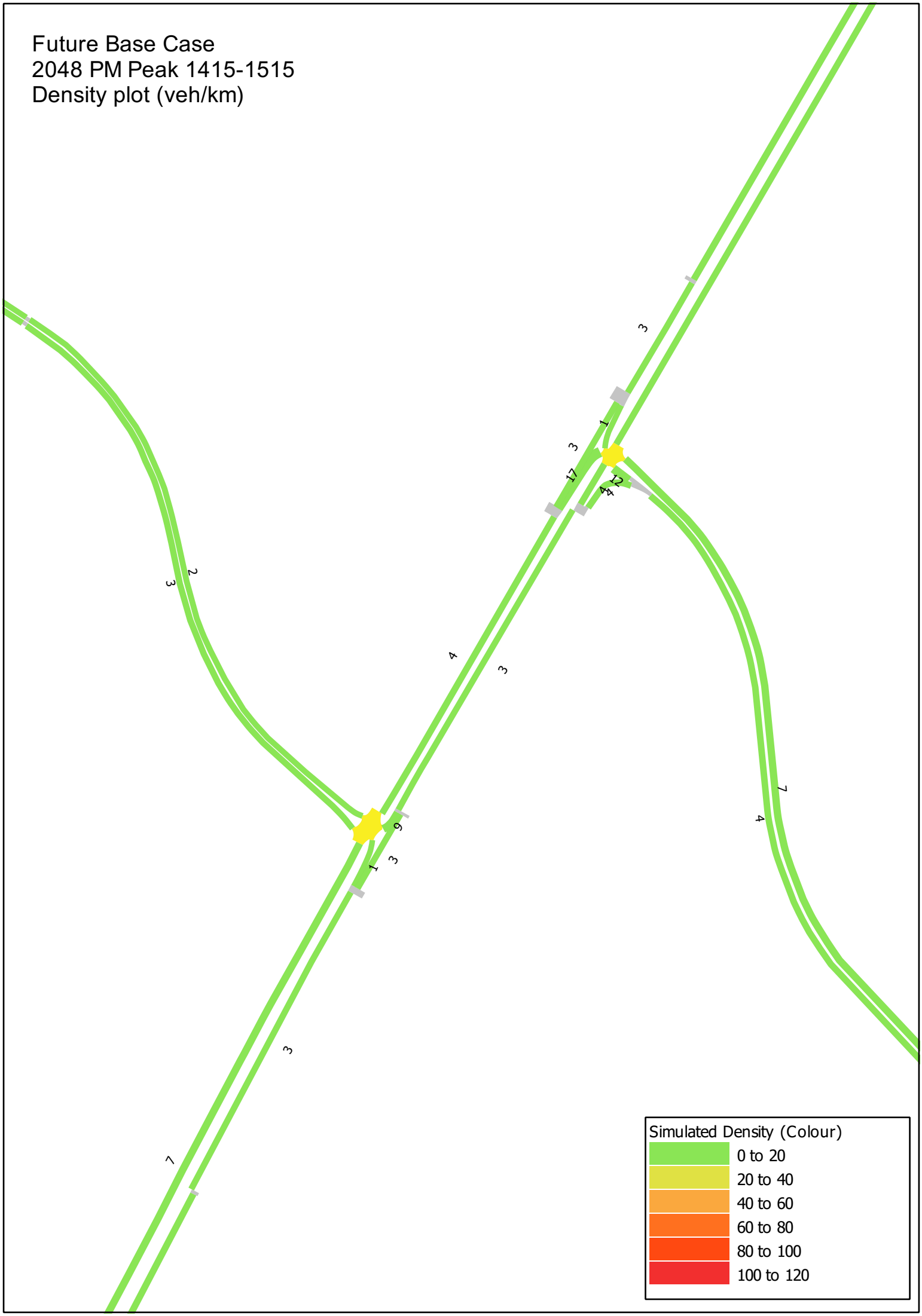
Project Case Concept Design
2038 PM Peak 1515-1615
Density plot (veh/km)



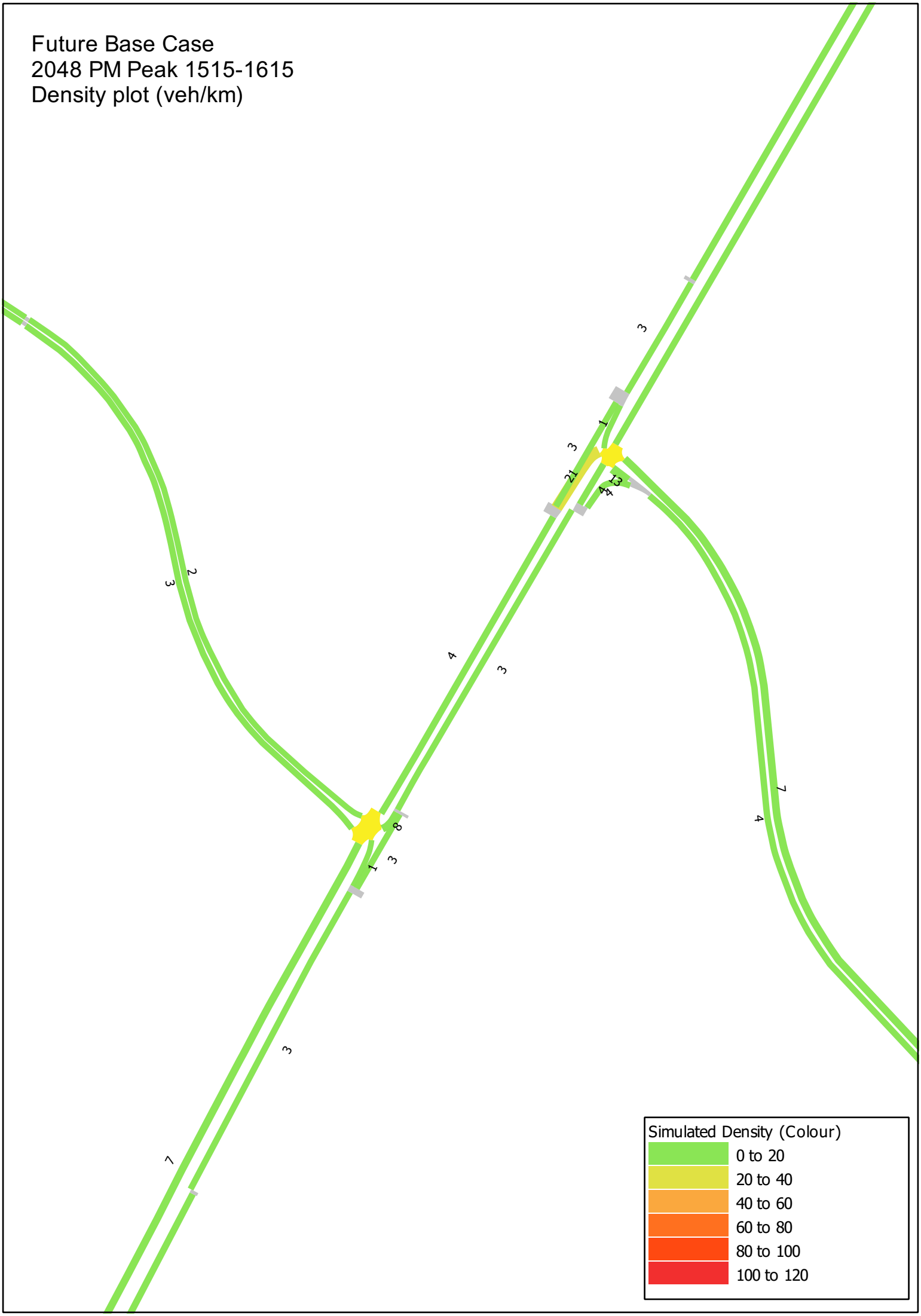
Future Base Case
2048 PH-AM Peak 1000-1100
Density plot (veh/km)



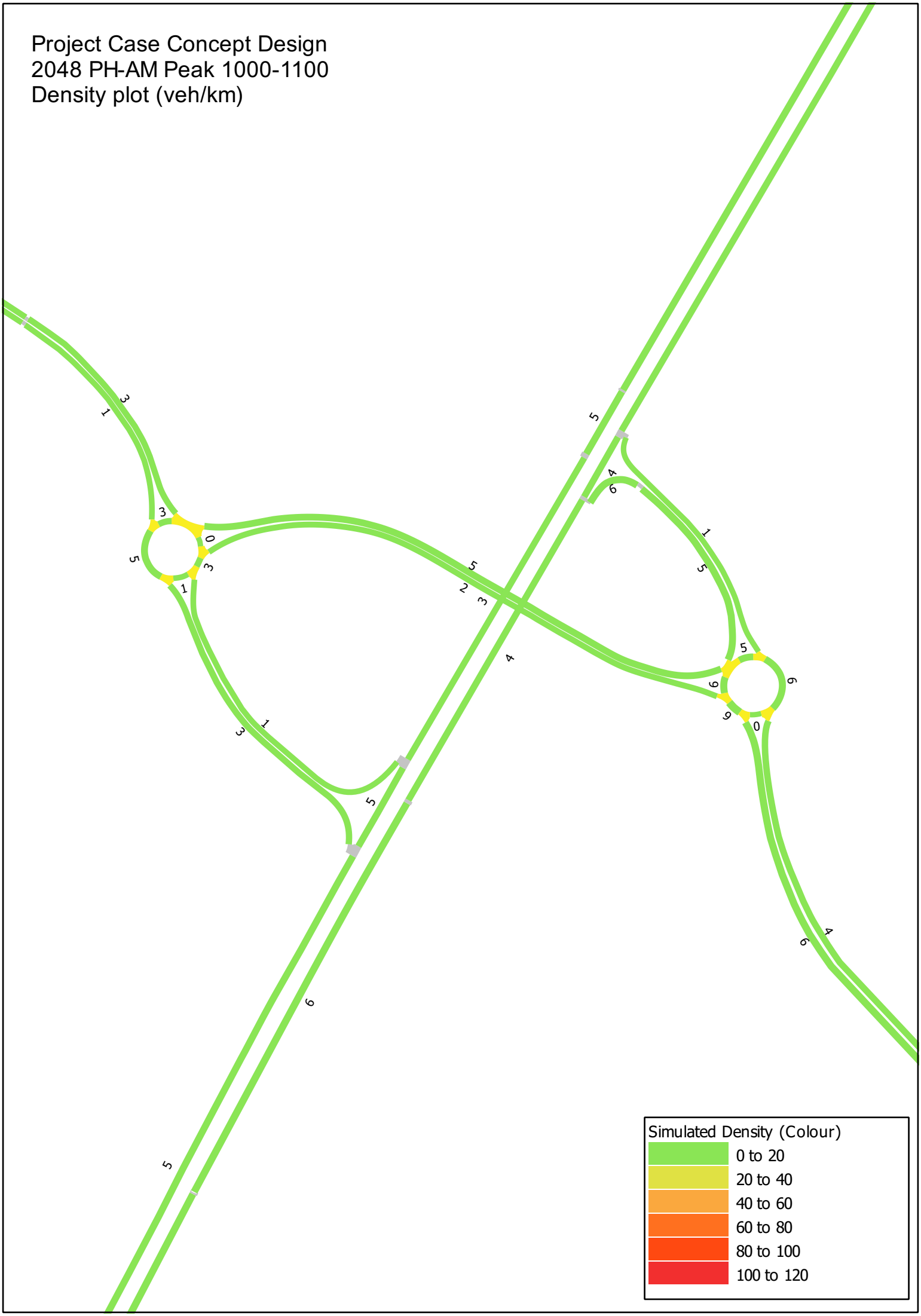

Future Base Case
2048 PH-AM Peak 1100-1200
Density plot (veh/km)
Simulated Density (Colour)
0 to 20
20 to 40
40 to 60
60 to 80
80 to 100
100 to 120


Future Base Case
2048 PM Peak 1415-1515
Density plot (veh/km)
Simulated Density (Colour)
0 to 20
20 to 40
40 to 60
60 to 80
80 to 100
100 to 120

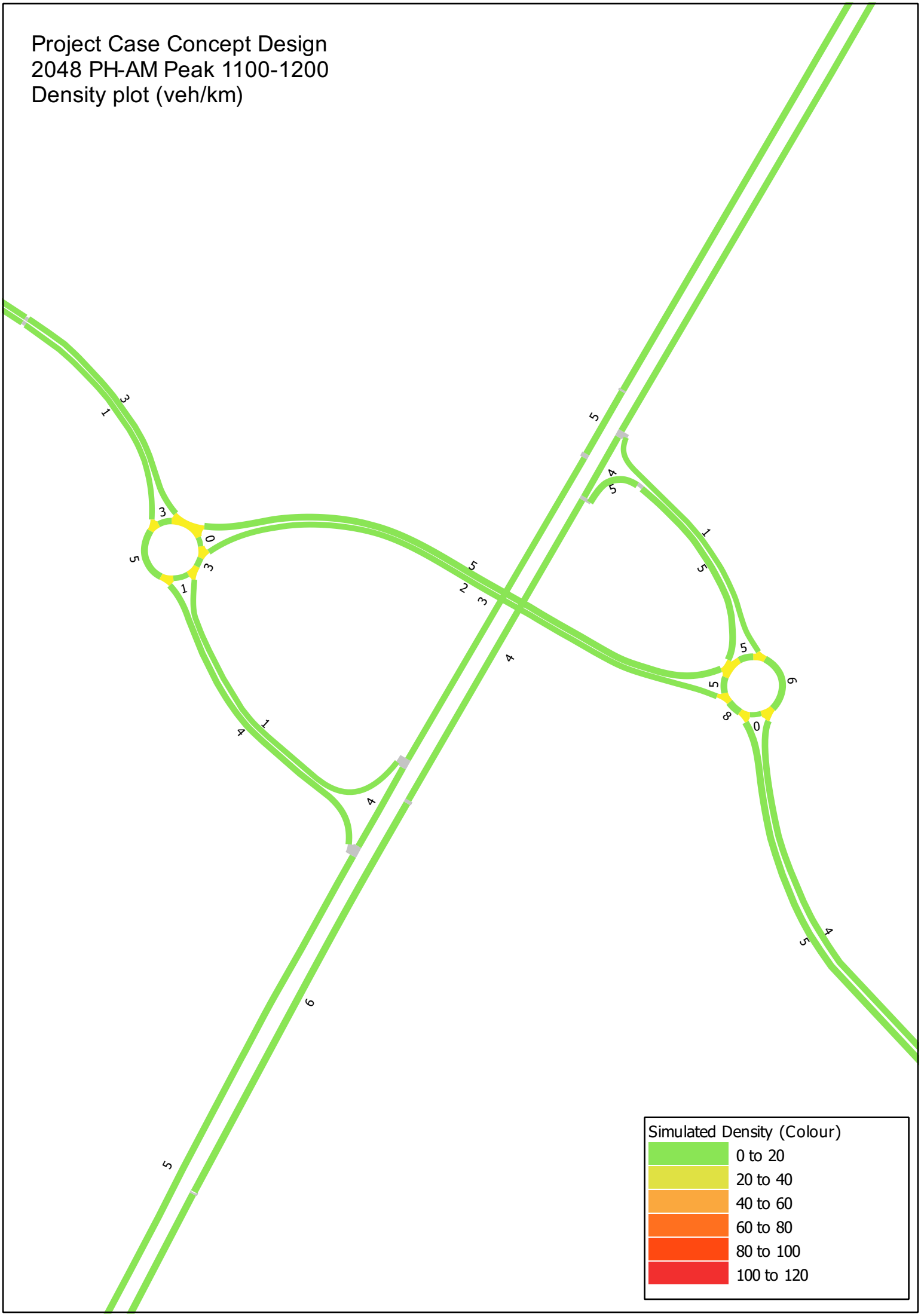
Future Base Case
2048 PM Peak 1515-1615
Density plot (veh/km)



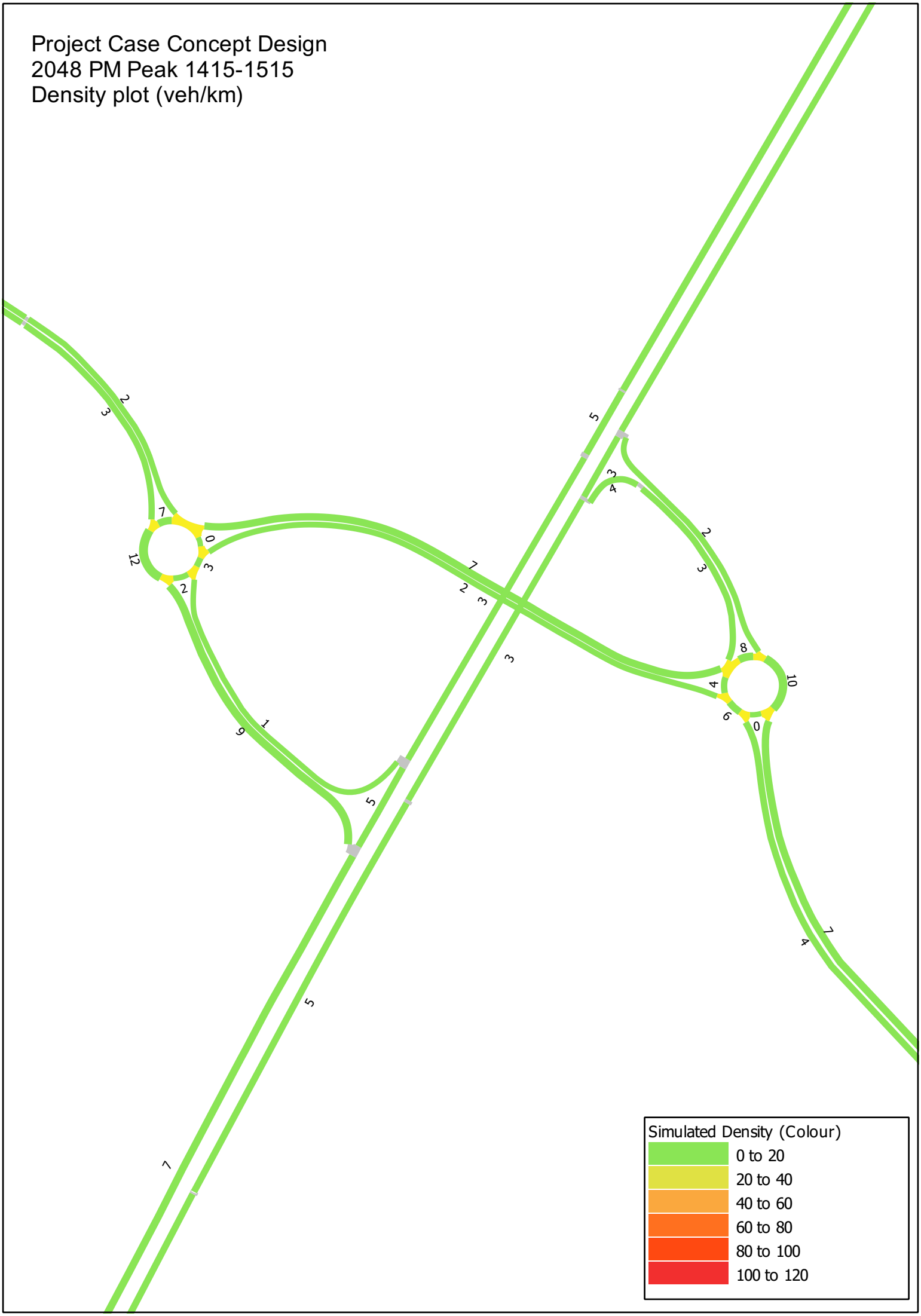
Project Case Concept Design
2048 PH-AM Peak 1000-1100
Density plot (veh/km)



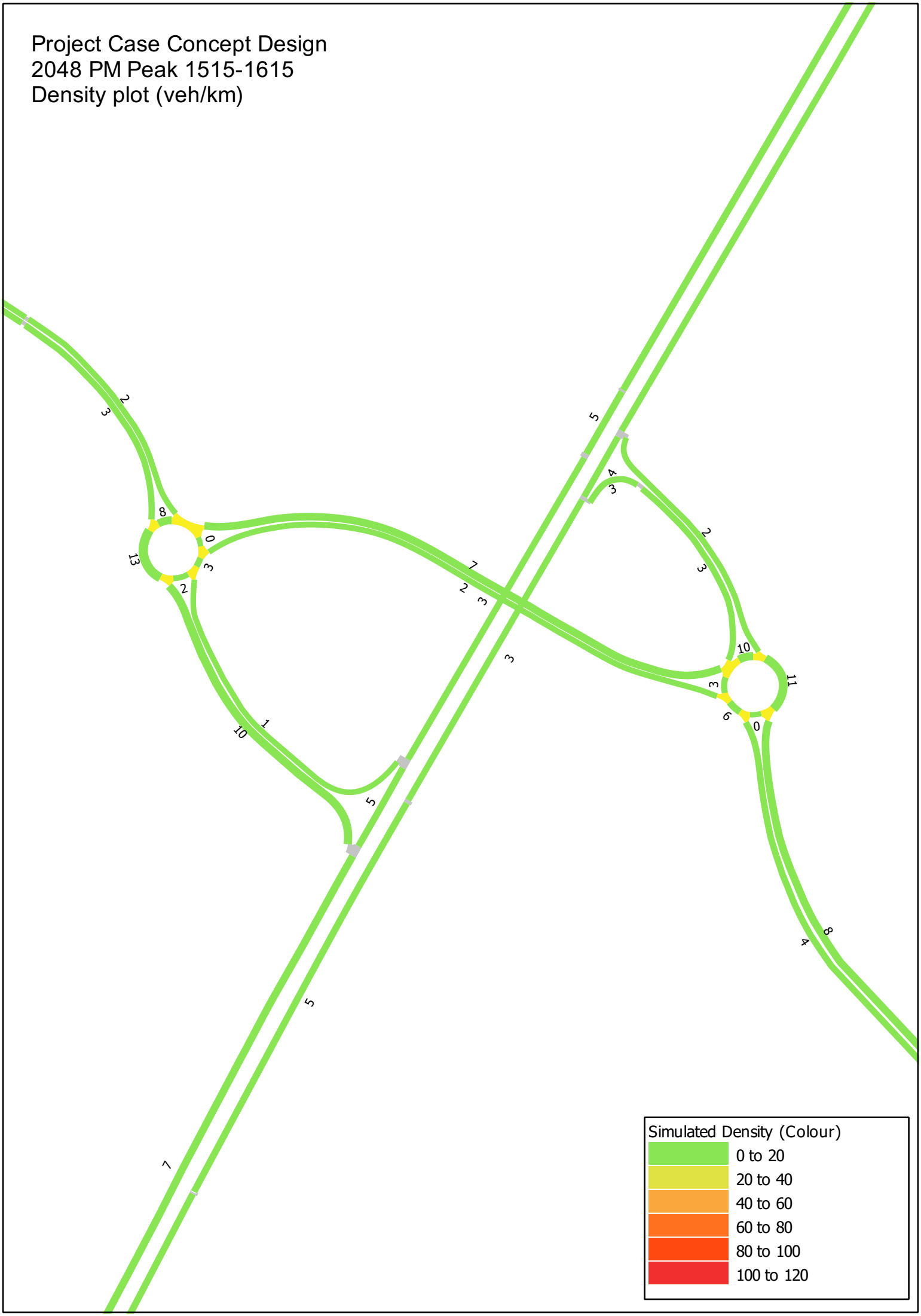
Project Case Concept Design
2048 PH-AM Peak 1100-1200
Density plot (veh/km)



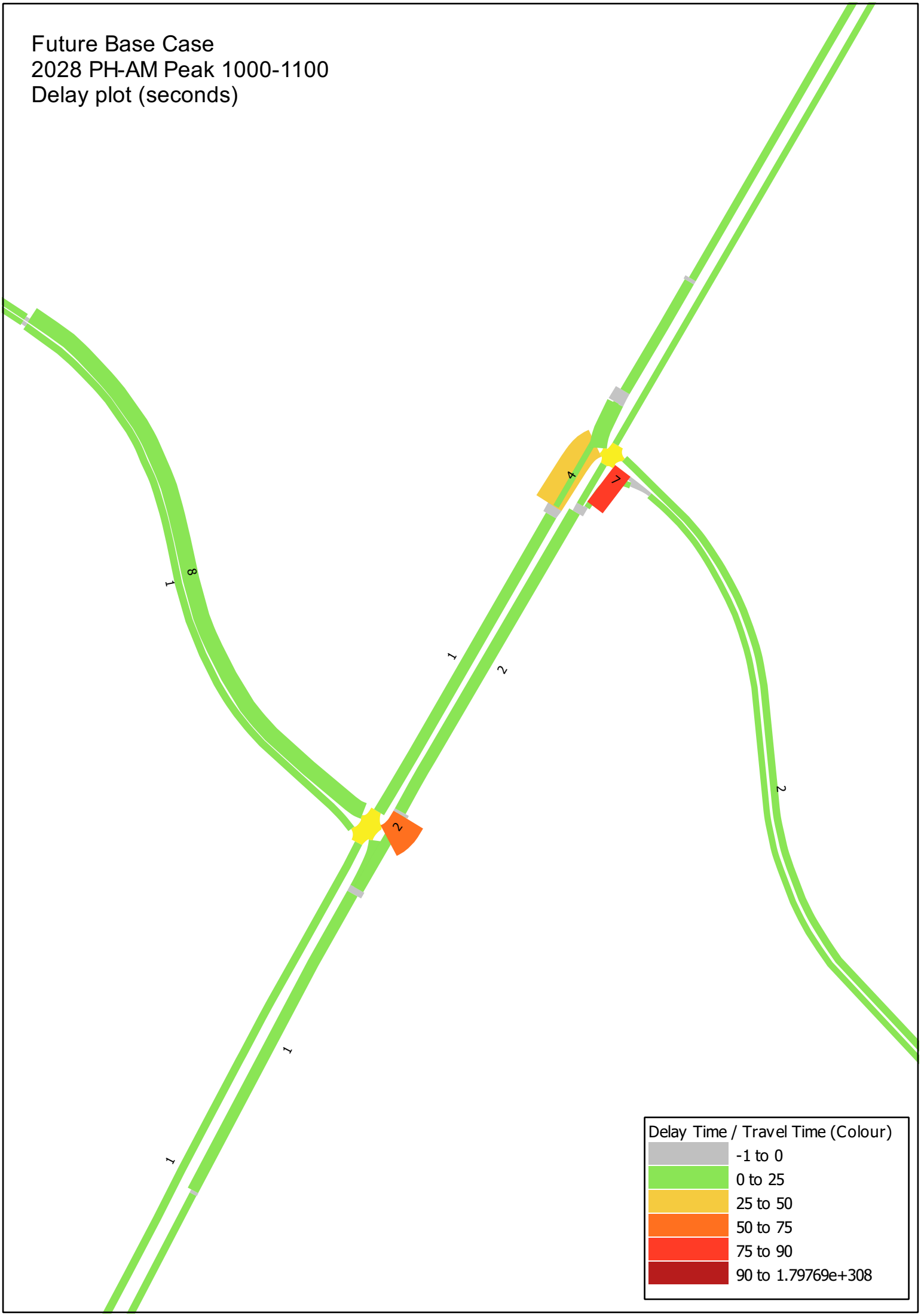
Project Case Concept Design
2048 PM Peak 1415-1515
Density plot (veh/km)

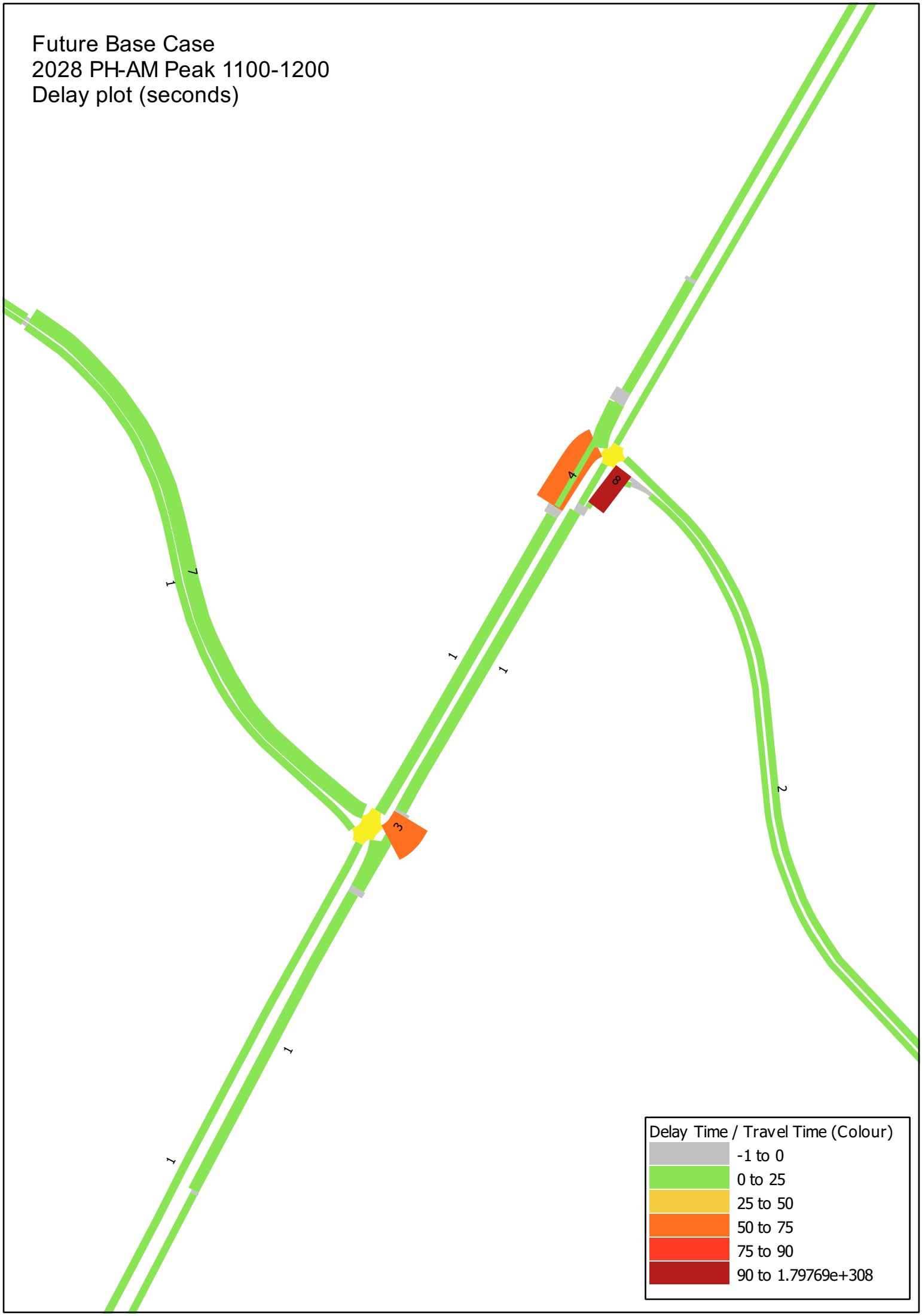


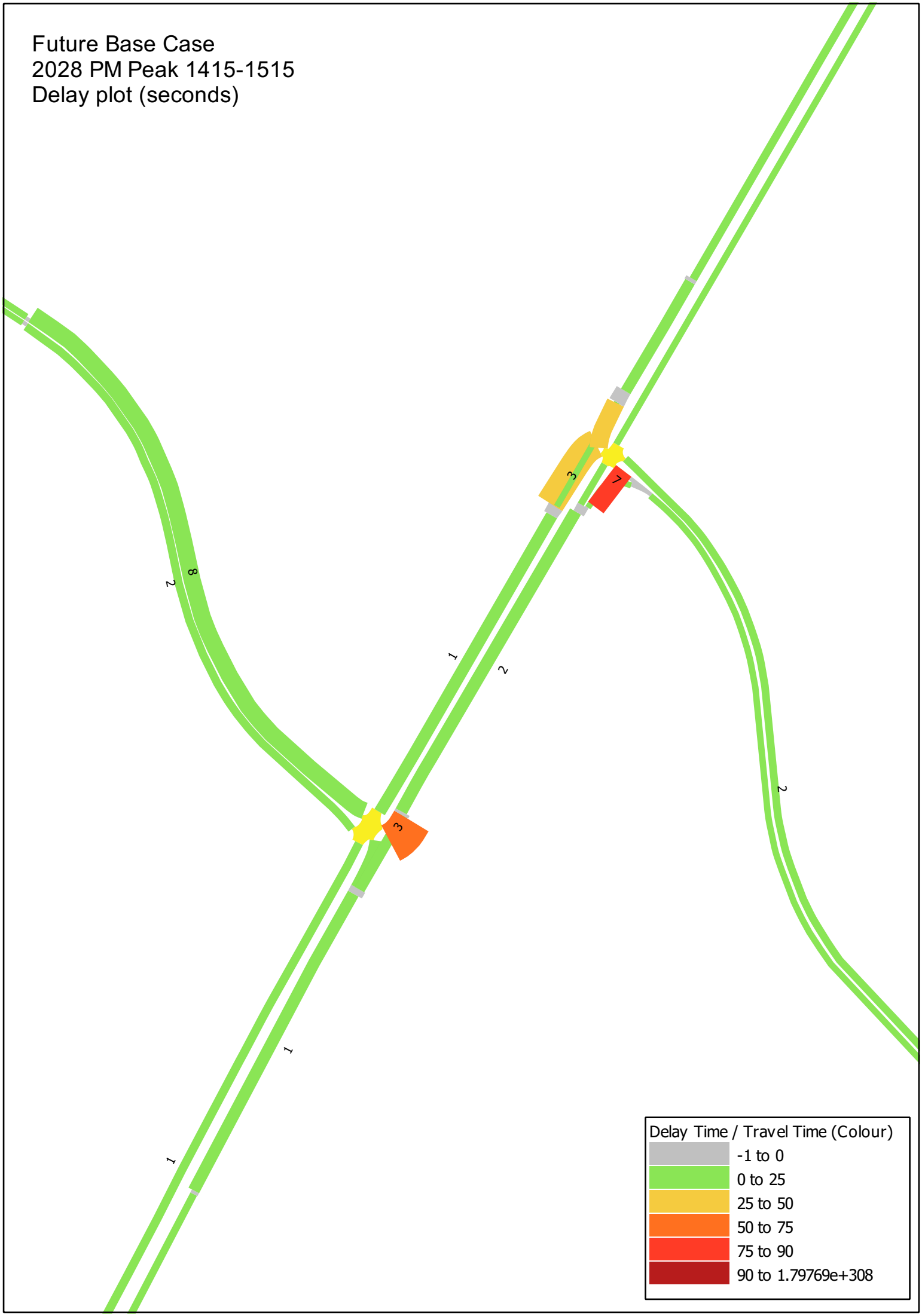
Project Case Concept Design
2048 PM Peak 1515-1615
Density plot (veh/km)

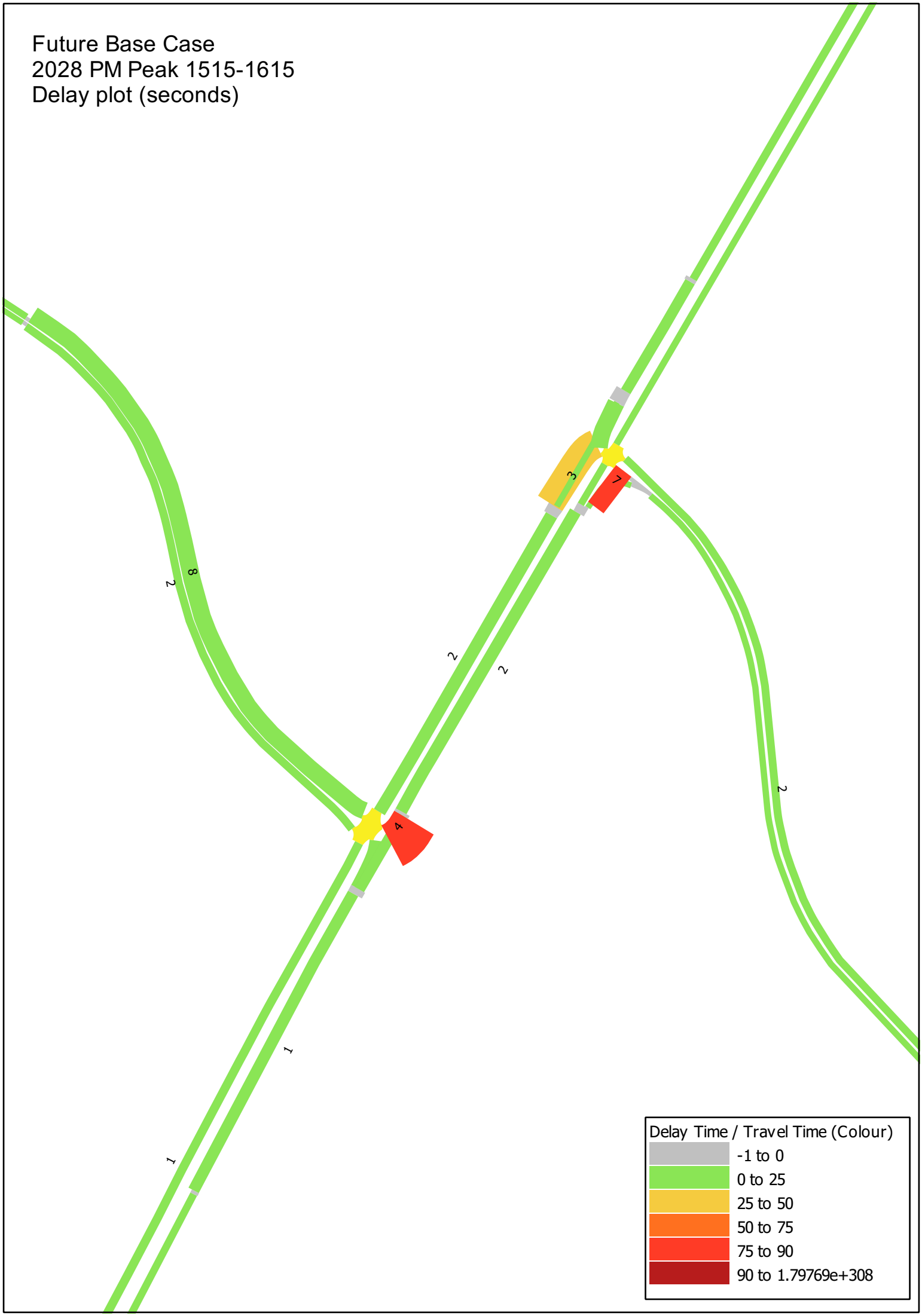


Appendix G – Delay Plots (Base and Project)

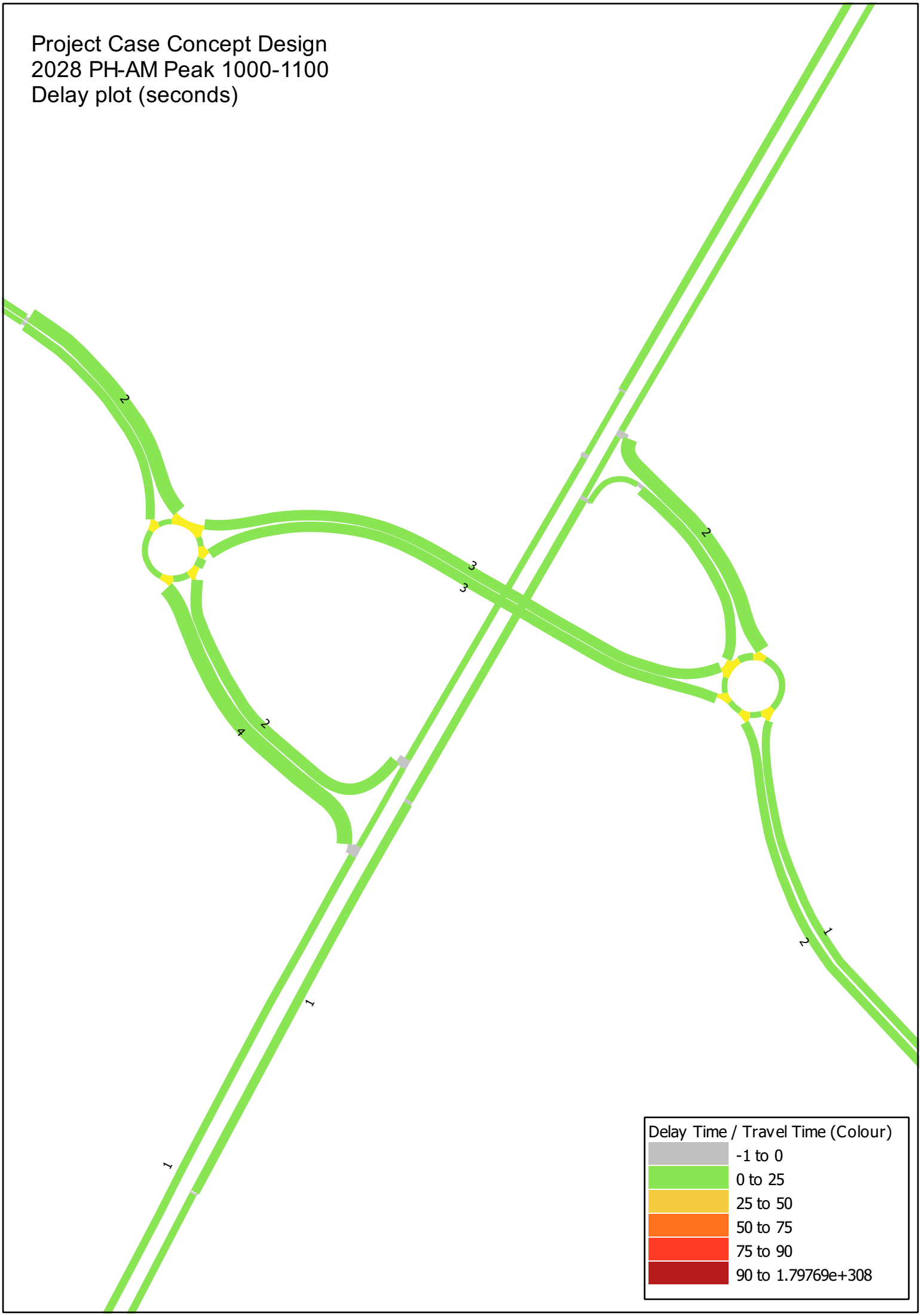

Future Base Case
2028 PH-AM Peak 1000-1100
Delay plot (seconds)
1
8
1
2
4
7
2
2
1
1
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308


Future Base Case
2028 PH-AM Peak 1100-1200
Delay plot (seconds)
1
7
1
1
1
1
4
8
3
2
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

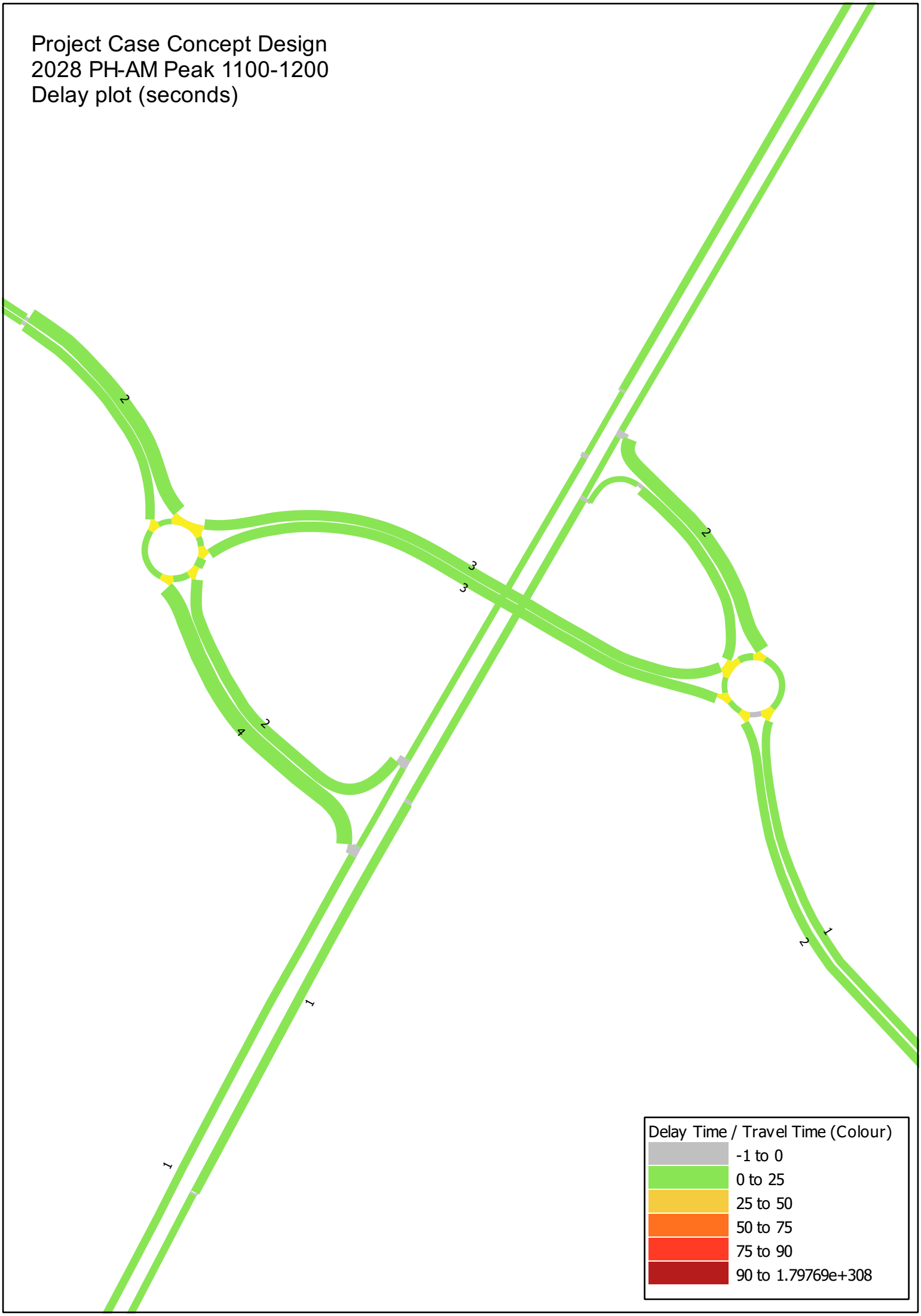

Future Base Case
2028 PM Peak 1415-1515
Delay plot (seconds)
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308


Future Base Case
2028 PM Peak 1515-1615
Delay plot (seconds)
8
2
3
7
2
2
4
2
1
1
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

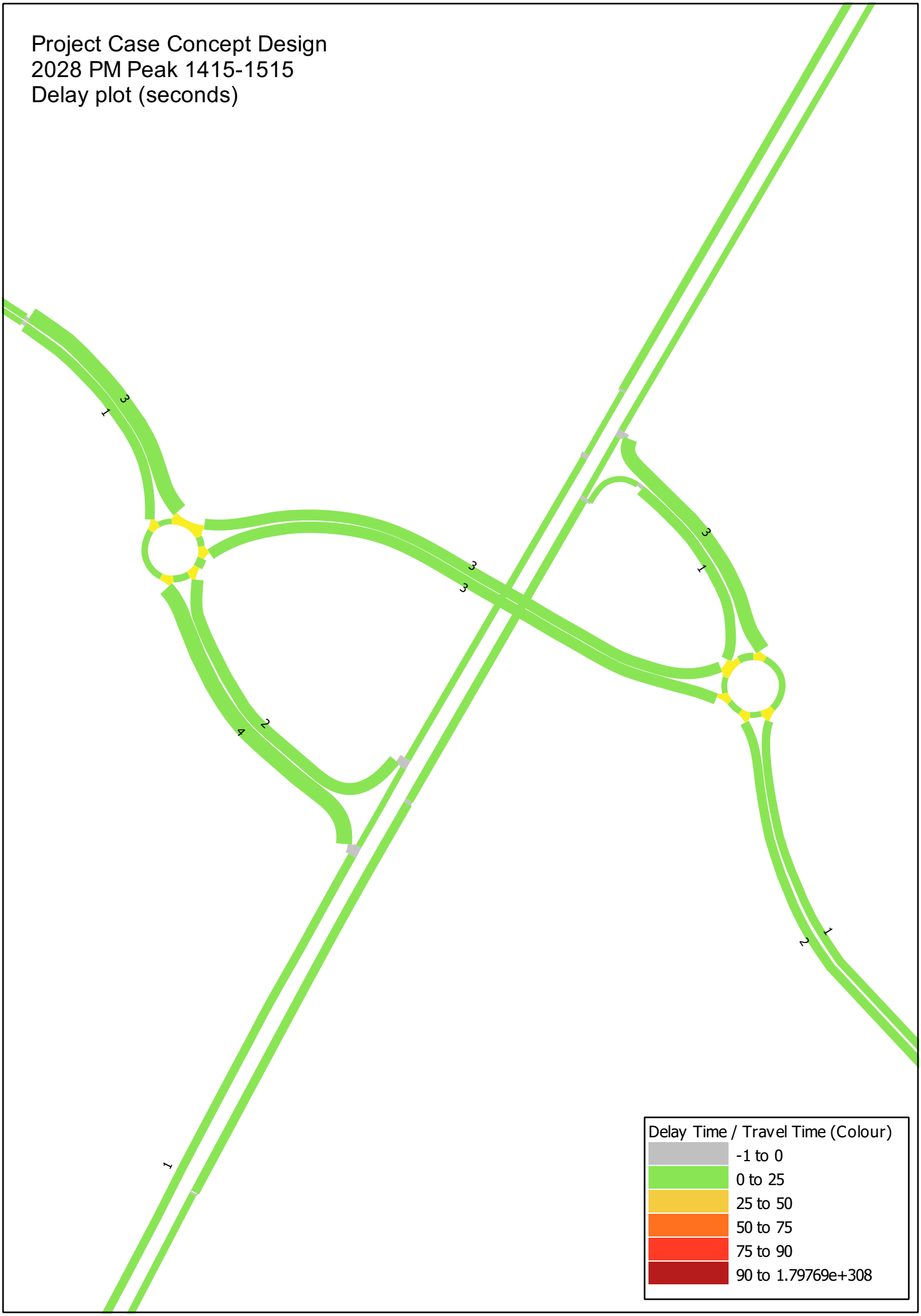
Project Case Concept Design
2028 PH-AM Peak 1000-1100
Delay plot (seconds)



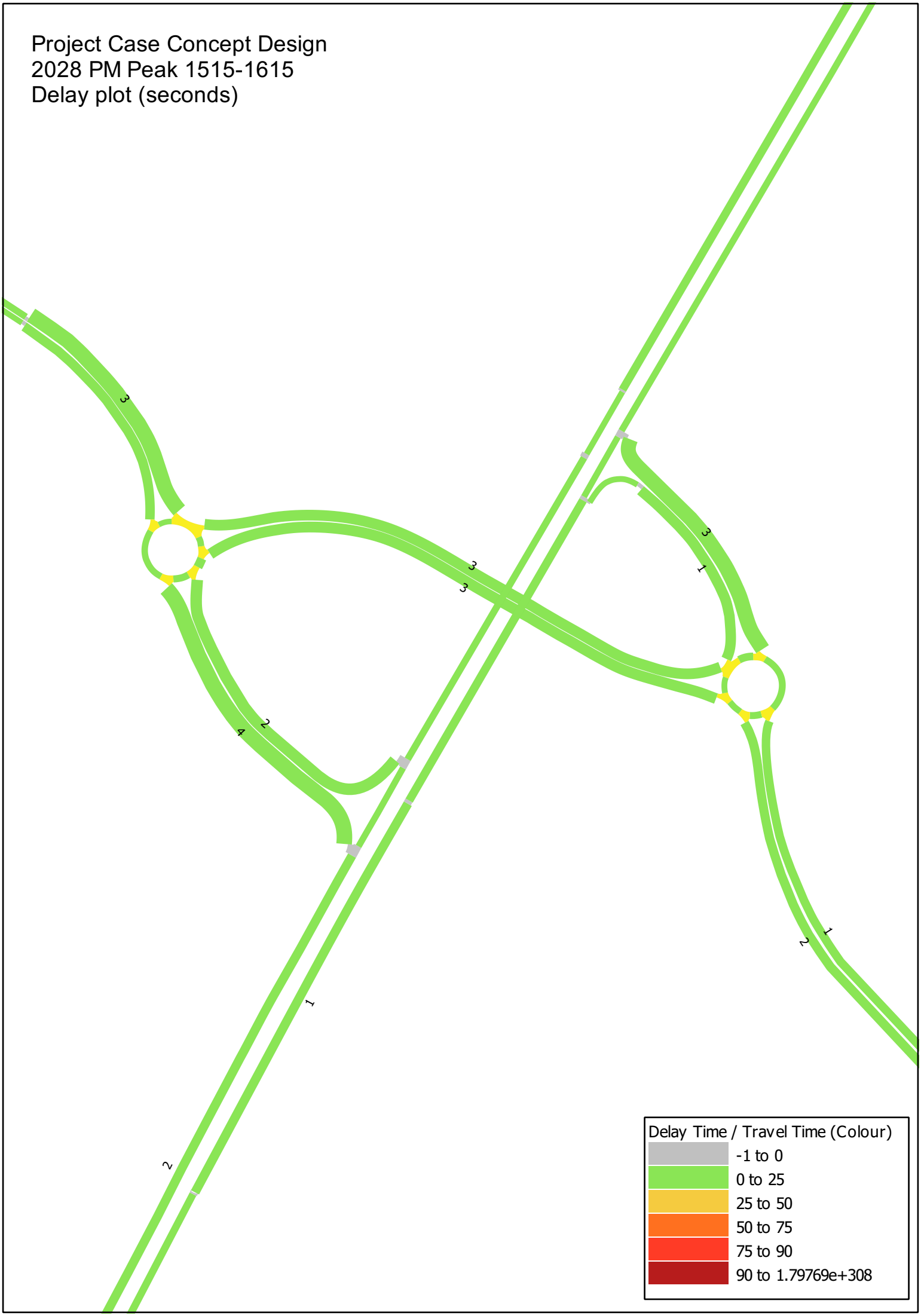
Project Case Concept Design
2028 PH-AM Peak 1100-1200
Delay plot (seconds)

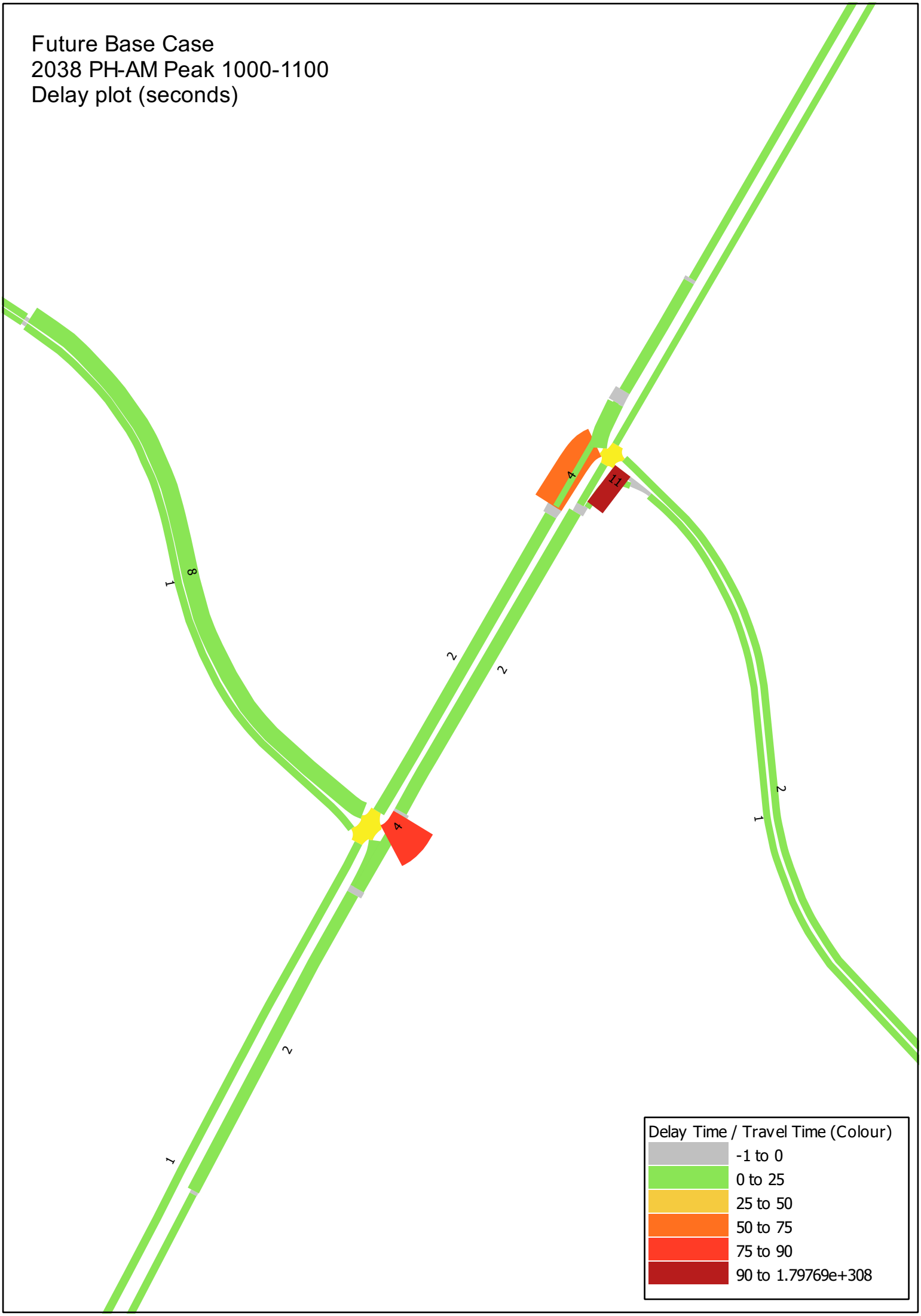


Project Case Concept Design
2028 PM Peak 1415-1515
Delay plot (seconds)

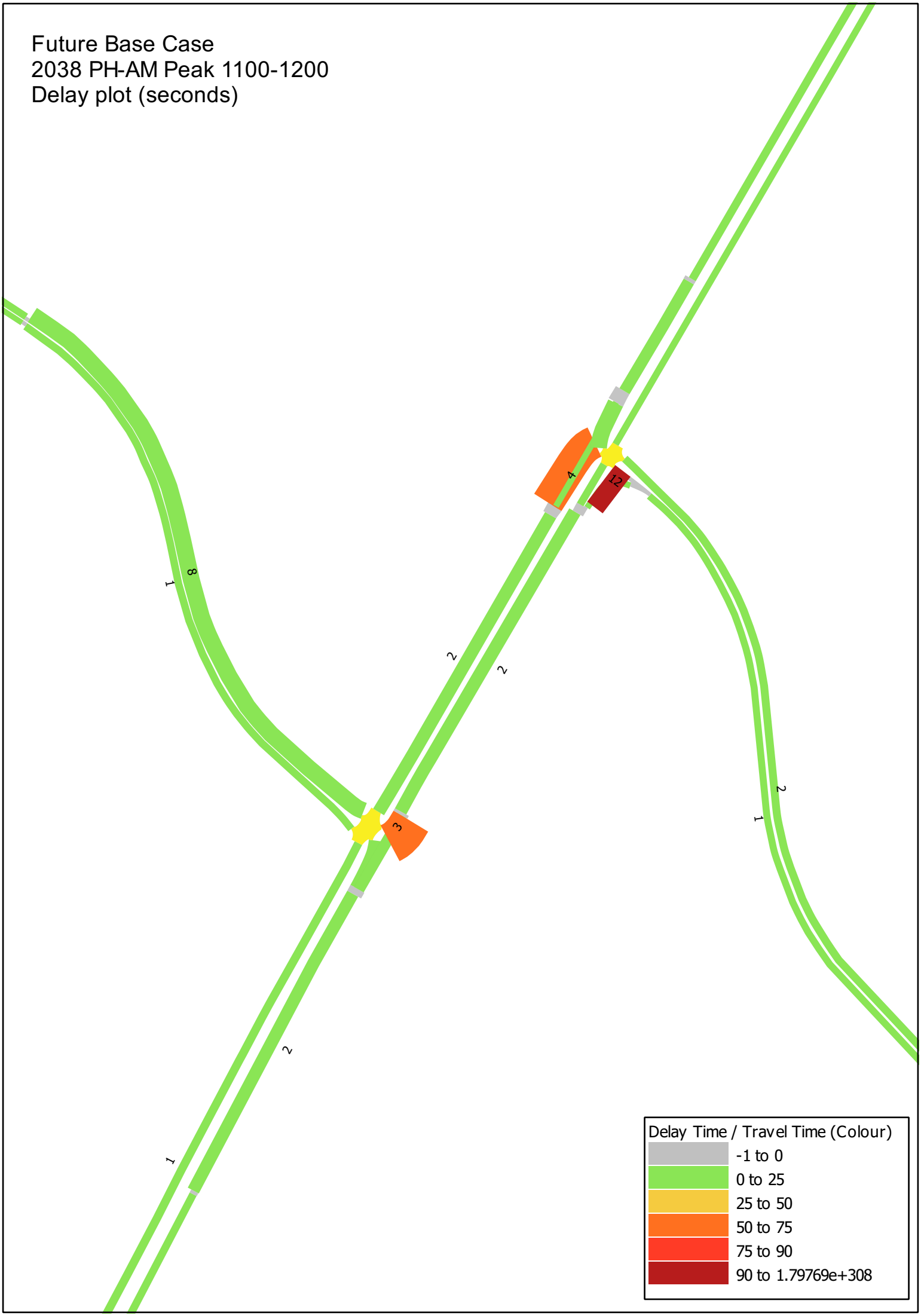


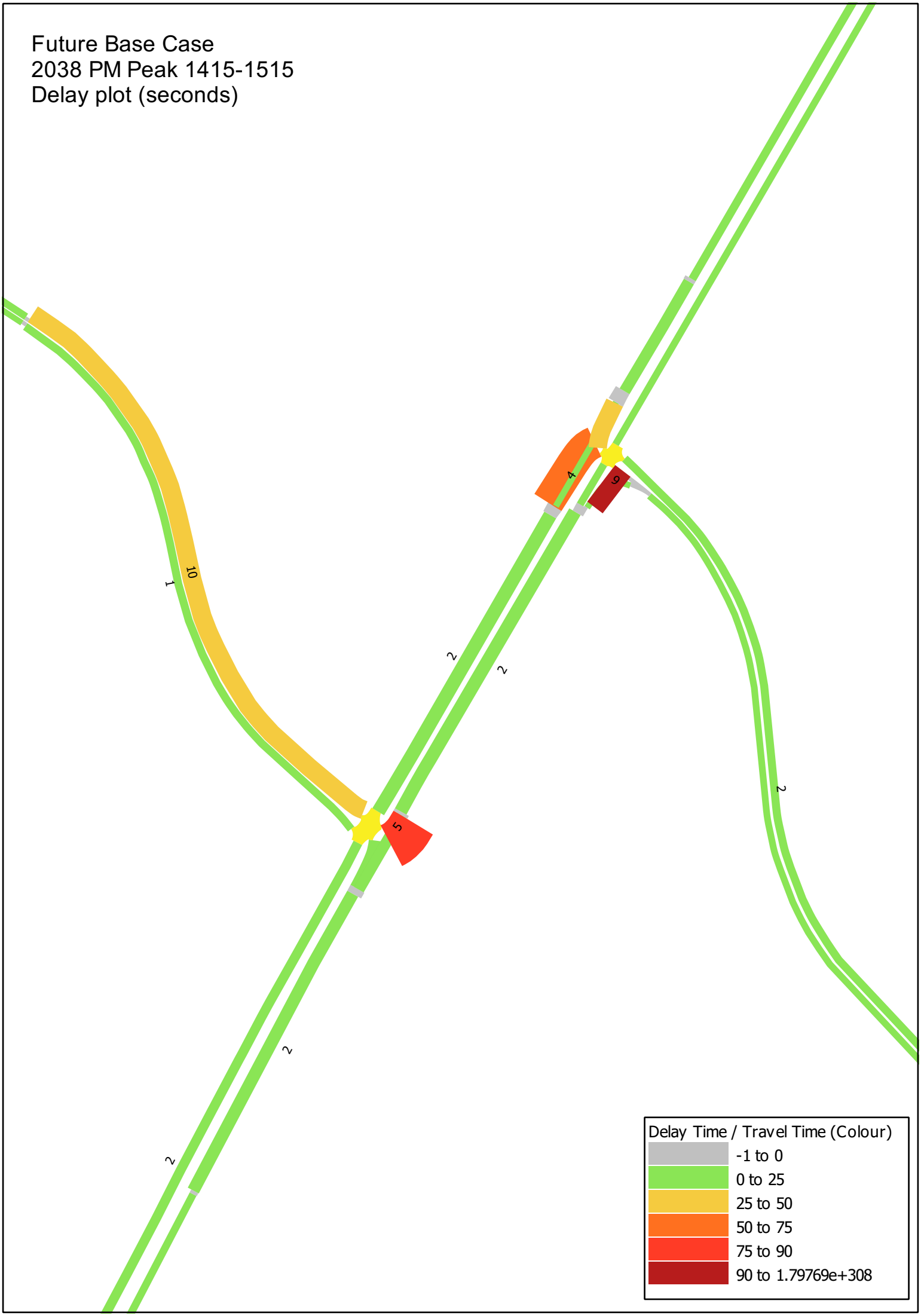
Project Case Concept Design
2028 PM Peak 1515-1615
Delay plot (seconds)

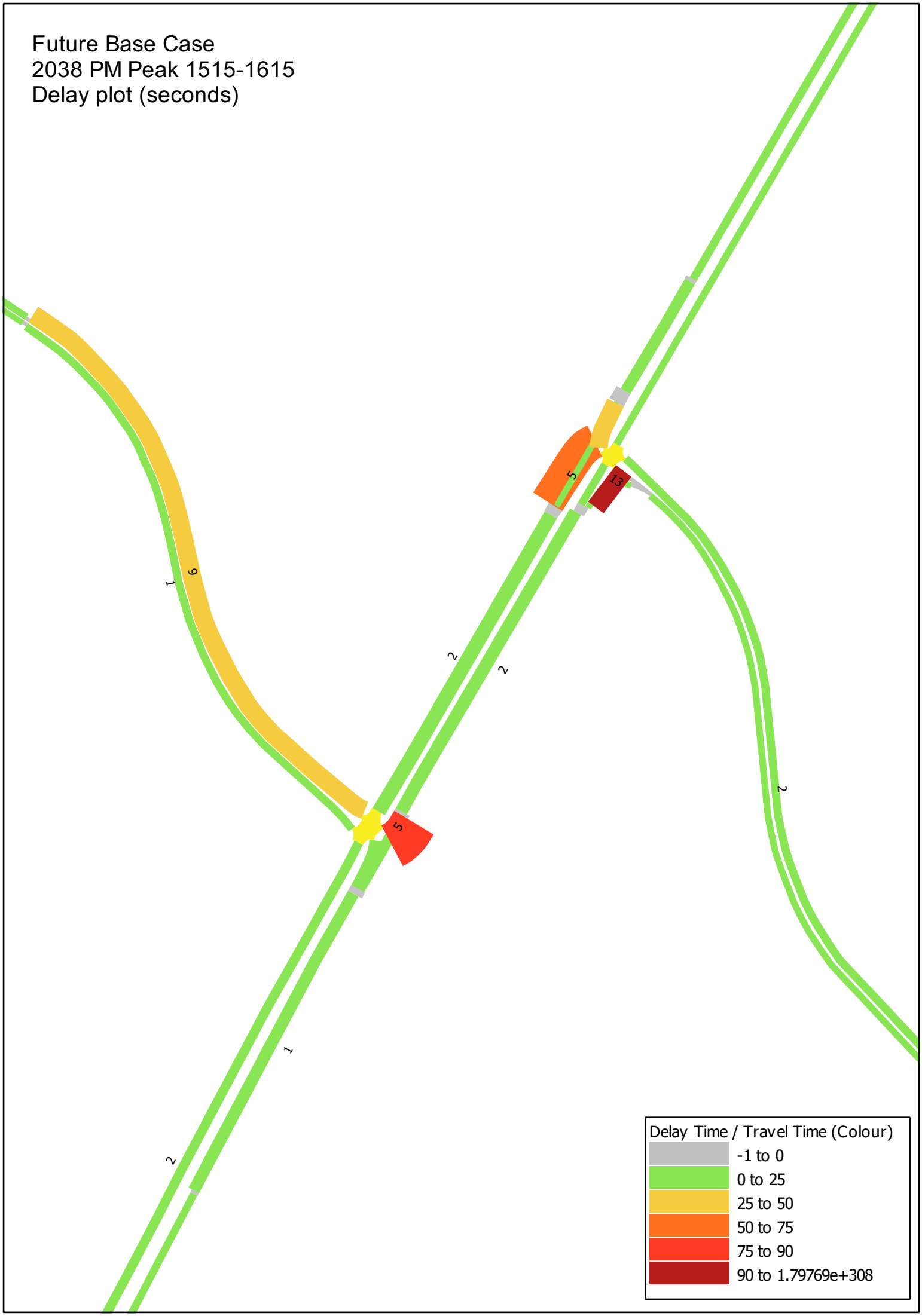



Future Base Case
2038 PH-AM Peak 1000-1100
Delay plot (seconds)
4
11
4
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

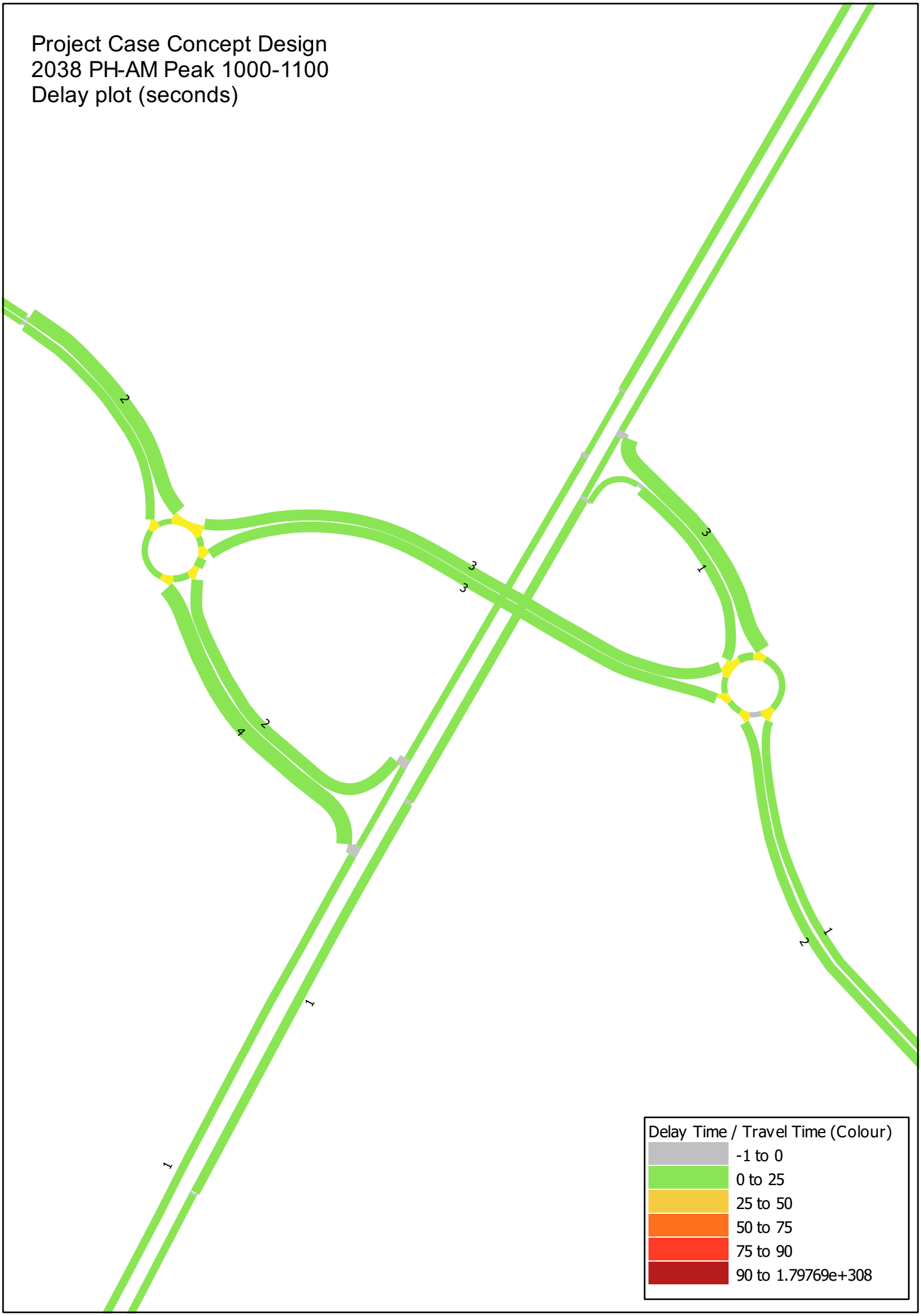
Future Base Case
2038 PH-AM Peak 1100-1200
Delay plot (seconds)




Future Base Case
2038 PM Peak 1415-1515
Delay plot (seconds)
1
10
2
2
2
2
2
4
6
5
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308


Future Base Case
2038 PM Peak 1515-1615
Delay plot (seconds)
1
9
2
2
5
13
5
2
1
2
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

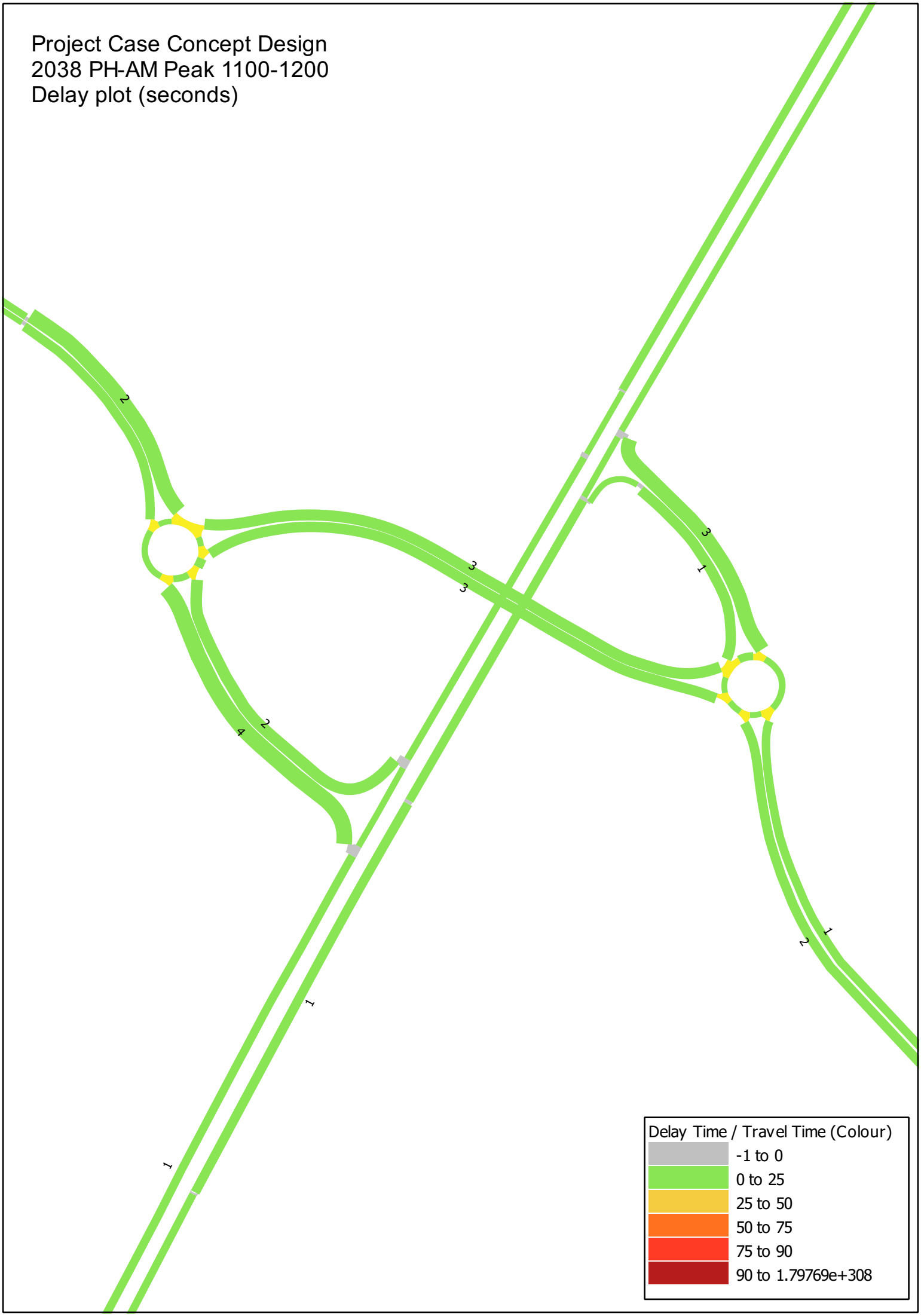
Project Case Concept Design
2038 PH-AM Peak 1000-1100
Delay plot (seconds)



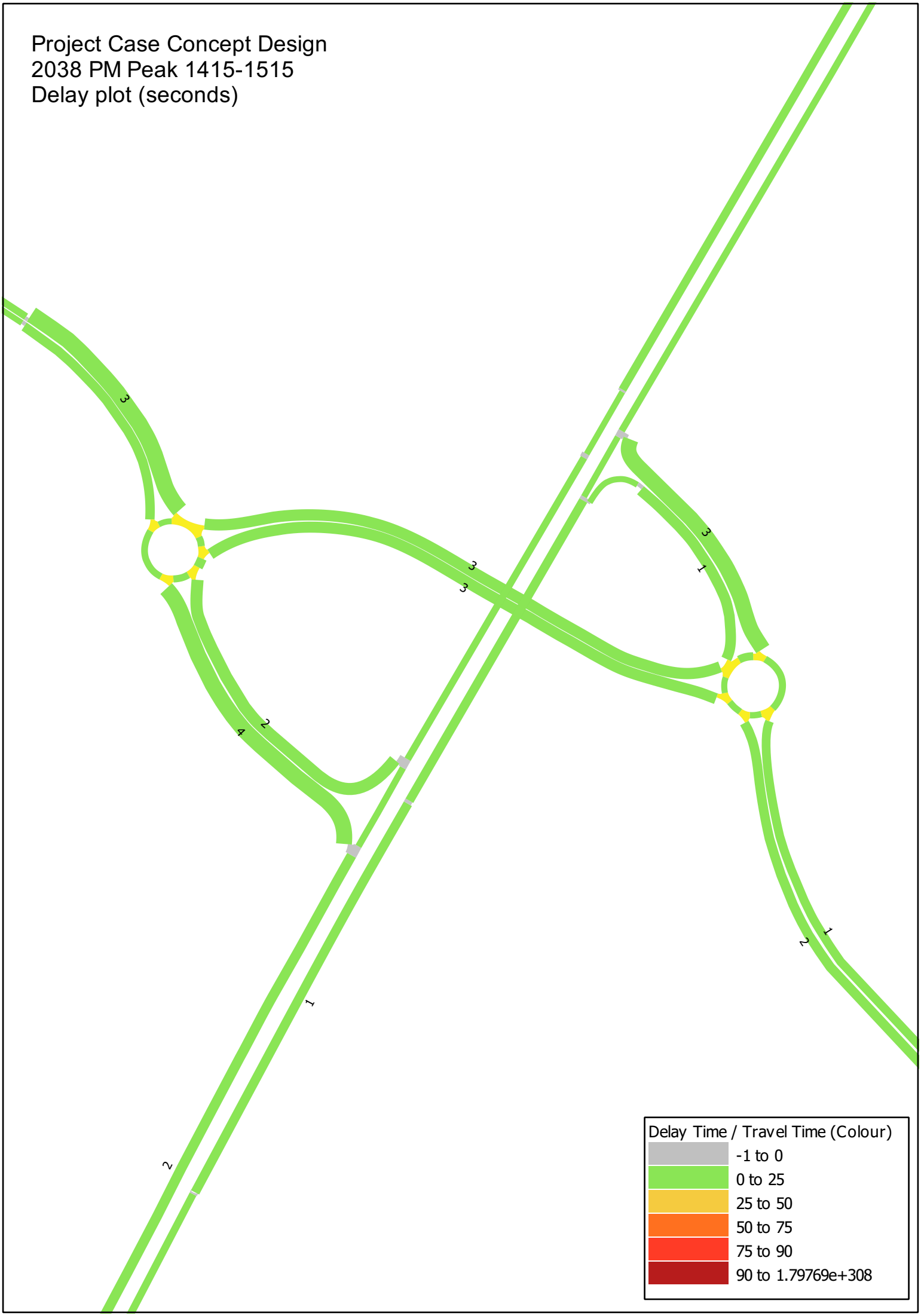
Delay Time / Travel Time (Colour)

-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

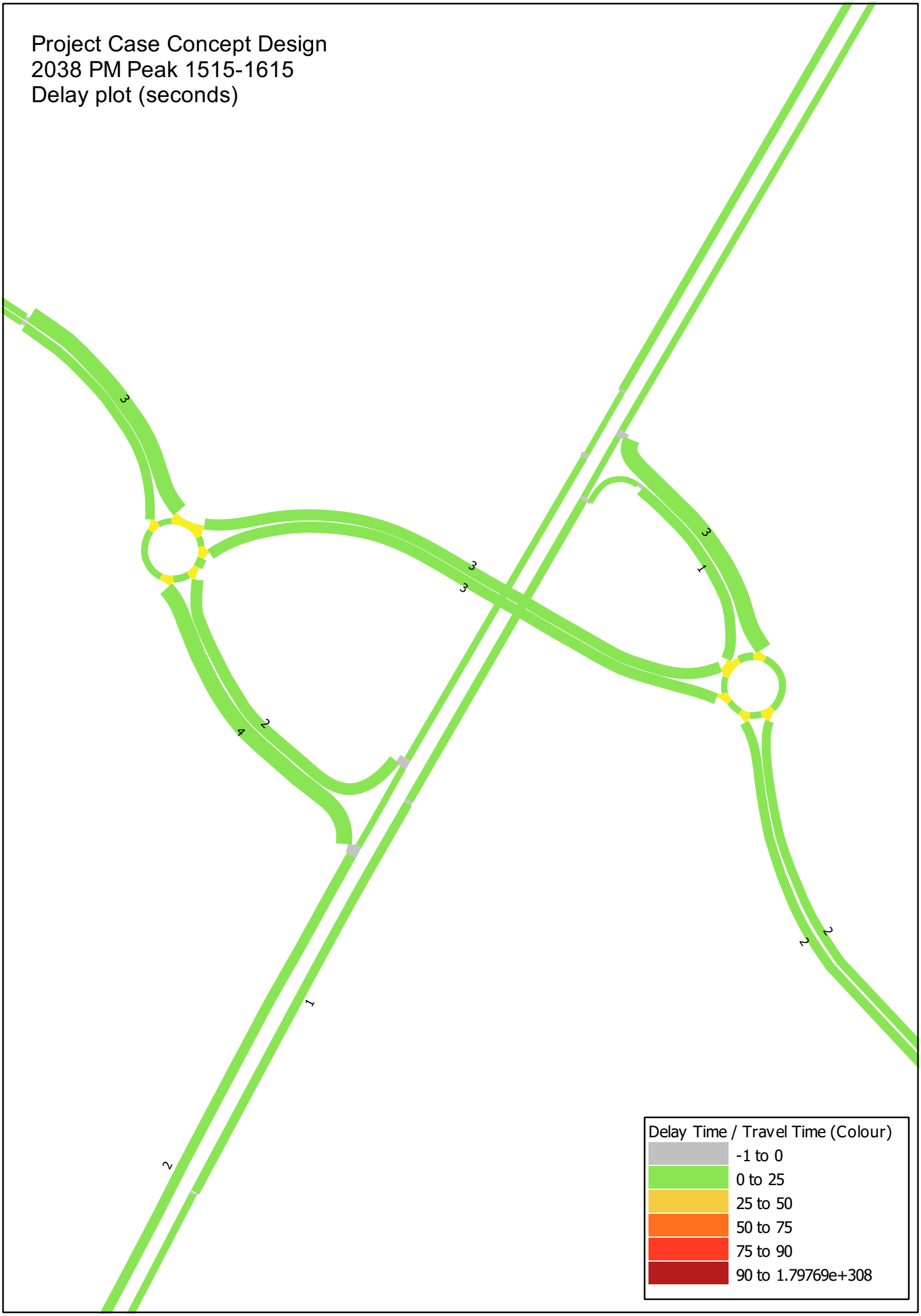
Project Case Concept Design
2038 PH-AM Peak 1100-1200
Delay plot (seconds)



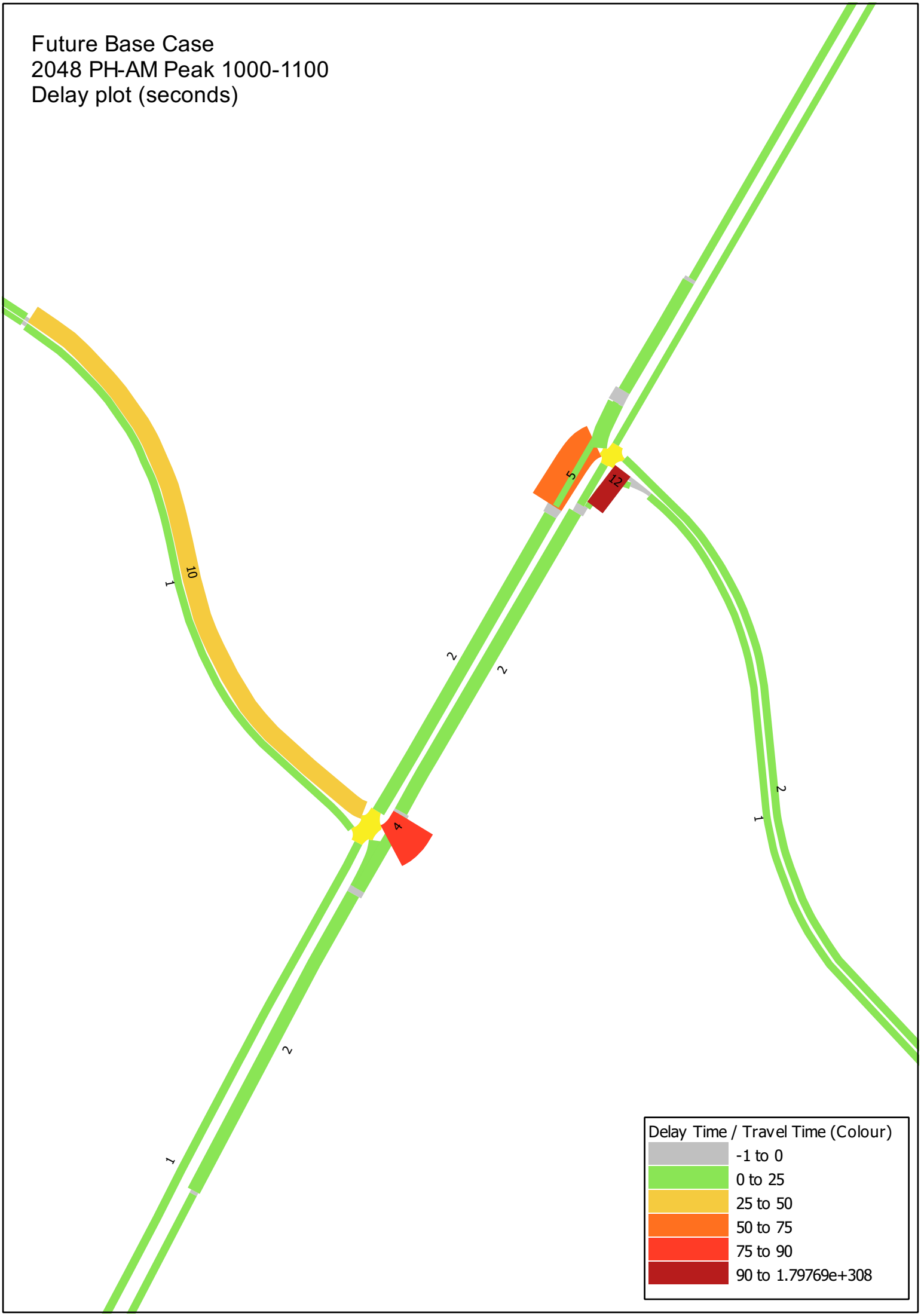
Project Case Concept Design
2038 PM Peak 1415-1515
Delay plot (seconds)

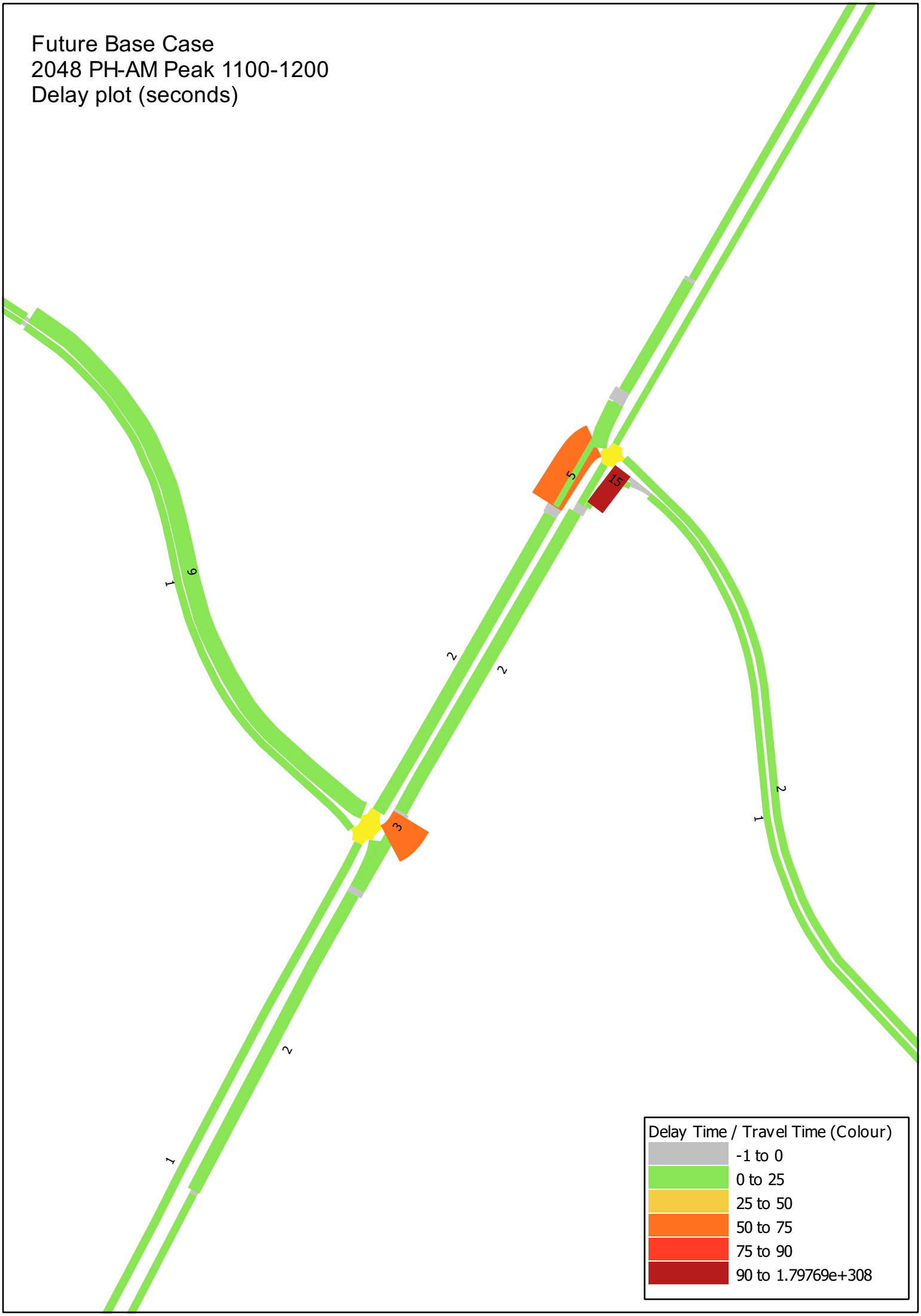


Project Case Concept Design
2038 PM Peak 1515-1615
Delay plot (seconds)

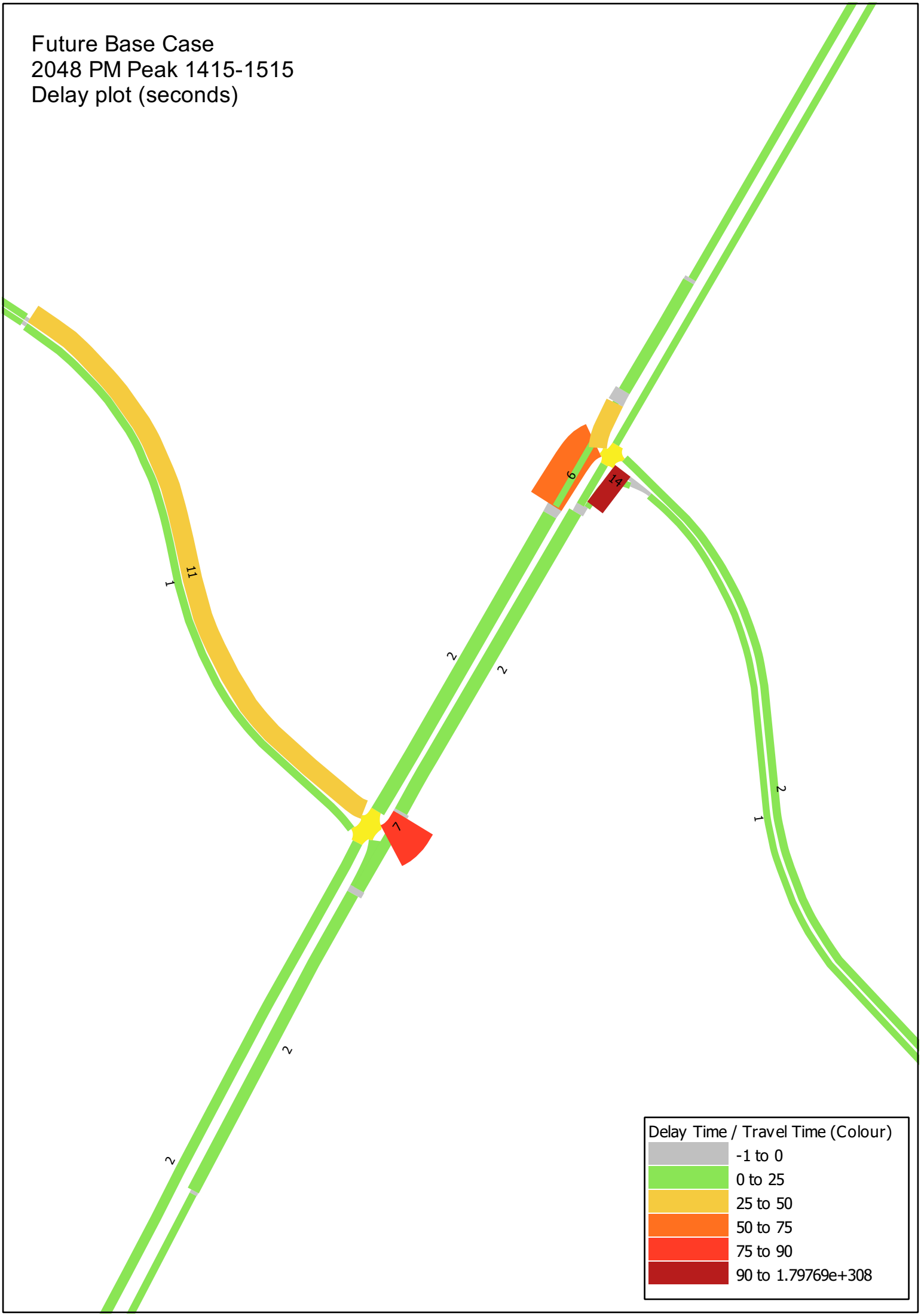


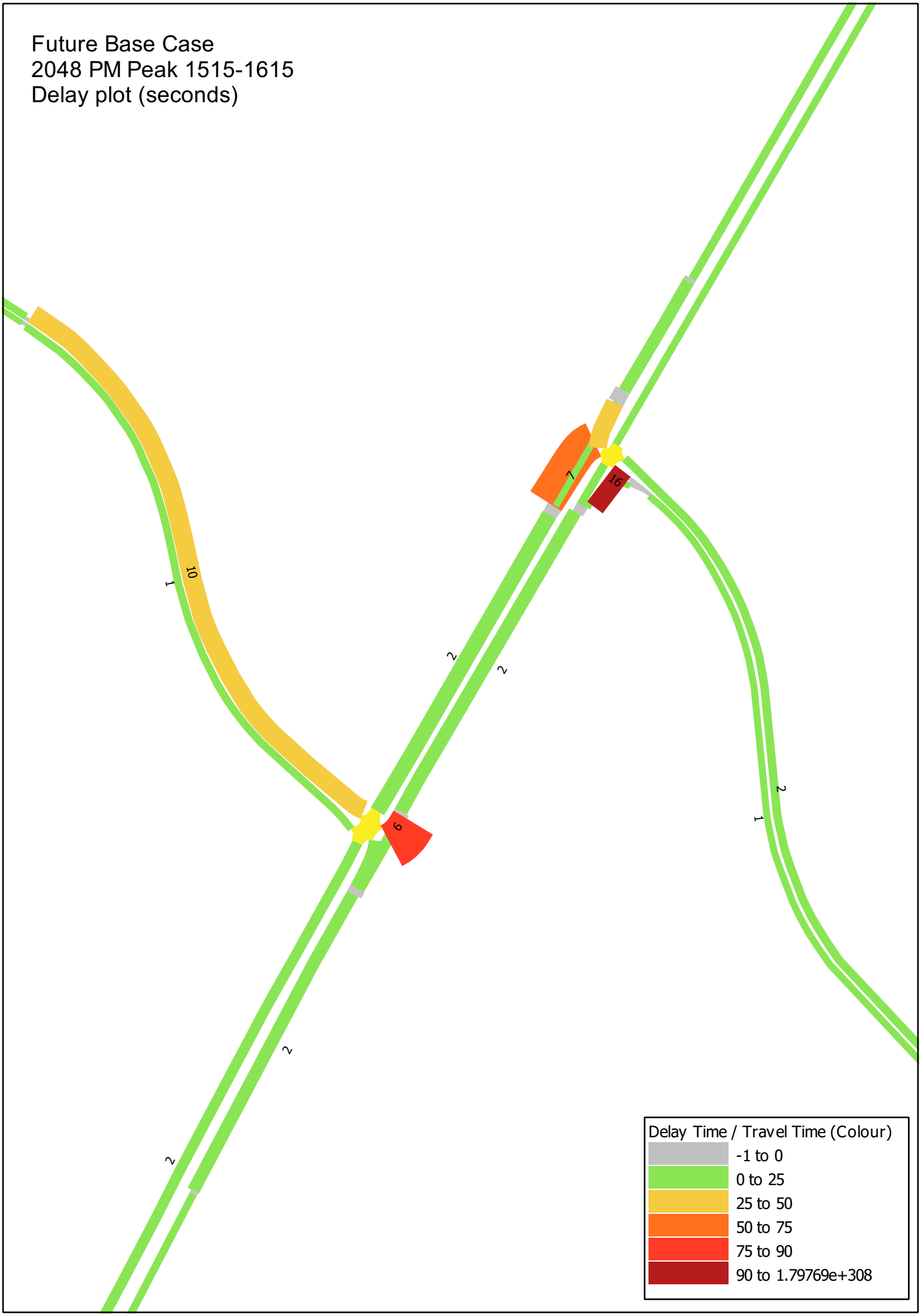
Future Base Case
2048 PH-AM Peak 1000-1100
Delay plot (seconds)



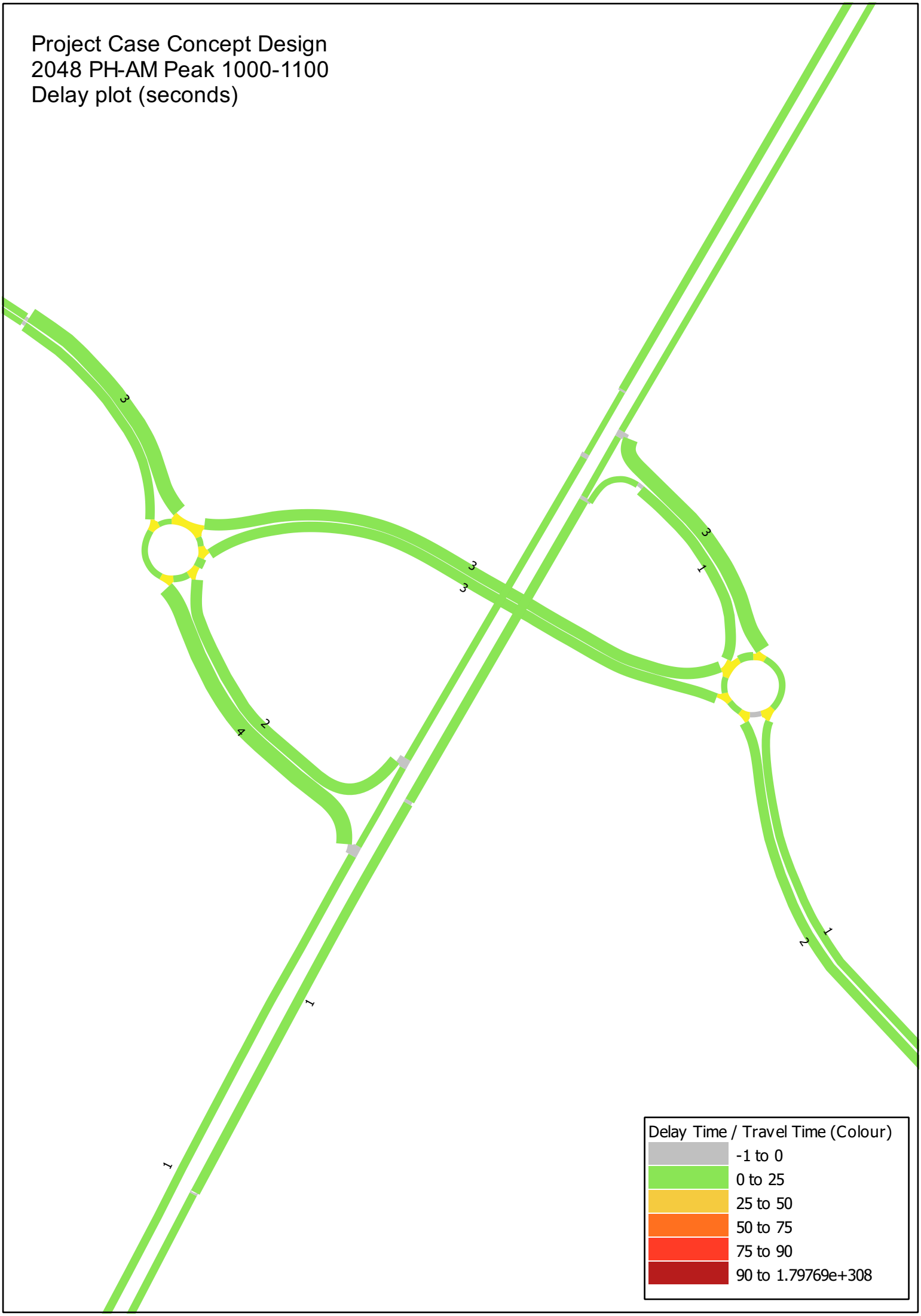

Future Base Case
2048 PH-AM Peak 1100-1200
Delay plot (seconds)
1
9
2
2
5
15
3
2
1
2
1
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

Future Base Case
2048 PM Peak 1415-1515
Delay plot (seconds)

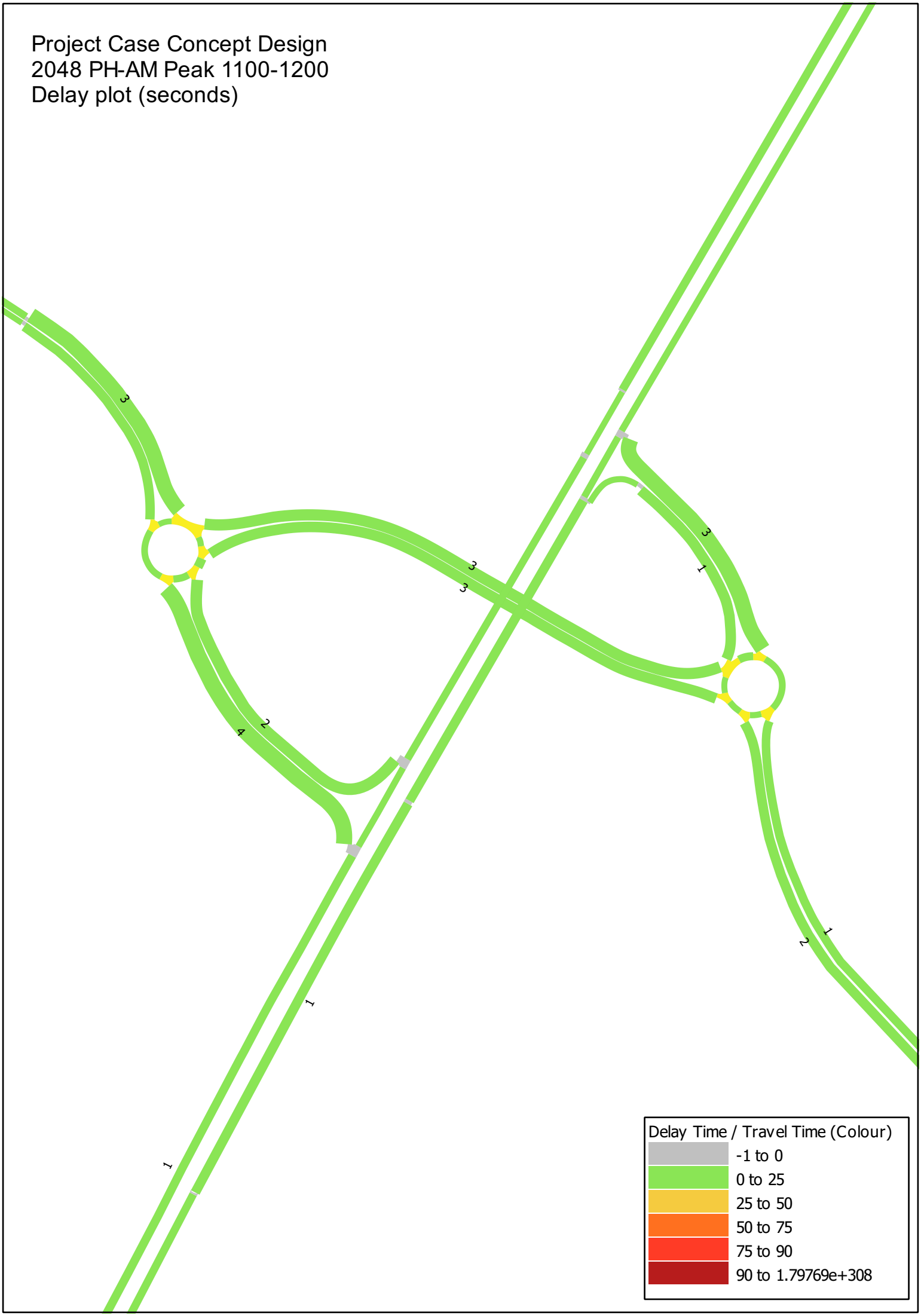



Future Base Case
2048 PM Peak 1515-1615
Delay plot (seconds)
10
1
2
2
7
16
9
2
1
2
2
Delay Time / Travel Time (Colour)
-1 to 0
0 to 25
25 to 50
50 to 75
75 to 90
90 to 1.79769e+308

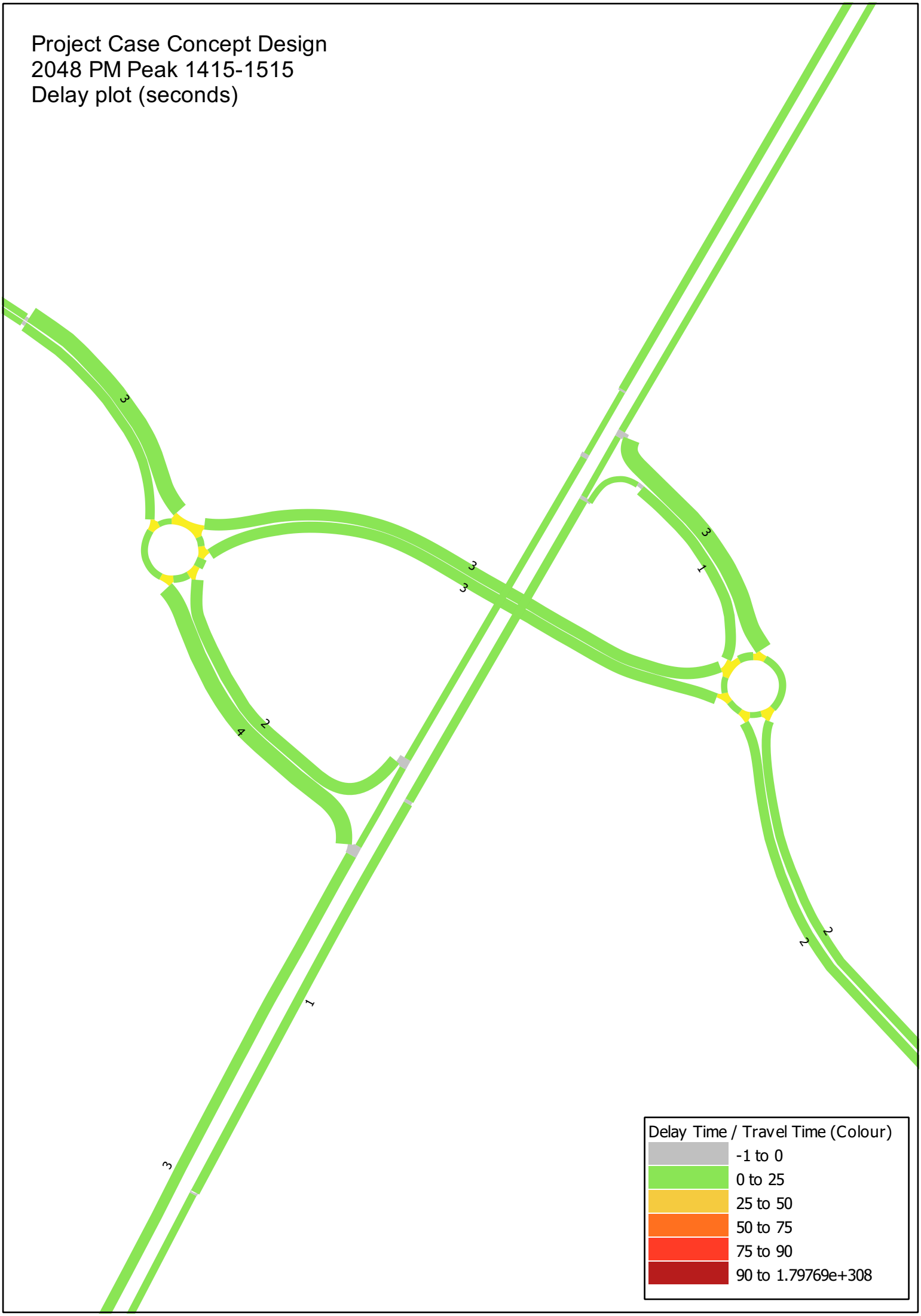
Project Case Concept Design
2048 PH-AM Peak 1000-1100
Delay plot (seconds)



Project Case Concept Design
2048 PH-AM Peak 1100-1200
Delay plot (seconds)



Project Case Concept Design
2048 PM Peak 1415-1515
Delay plot (seconds)



Project Case Concept Design
2048 PM Peak 1515-1615
Delay plot (seconds)