From: Dominika Phillips <DOMPH@orsted.co.uk>
Sent: 08 February 2019 21:21
To: KJ Johansson <KJ.JOHANSSON@planninginspectorate.gov.uk>; Kay Sully <Kay.Sully@pins.gsi.gov.uk>; Hornsea Project Three <HornseaProjectThree@pins.gsi.gov.uk>
Cc: Andrew Guyton <ANGUY@orsted.co.uk>; Stuart Livesey <STLIV@orsted.co.uk>
Subject: Hornsea Project Three (UK) Ltd response to Deadline 6 (Part 9)

Dear Kay, K-J

Please find attached the 9th and the final instalment of documents for Deadline 6 submission.

I also attach below the document register for Deadline 6:

File name	Document Title	Send on 08/02/2019 in e-mail Part <no.>
D6_HOW03_Cover Letter_and Annex	Covering Letter to Deadline 6 submission	P1
HOW03 Guide to the application	Applicant's Guide to the Application	P1
D6_HOW03_SoComm	Applicant's Statement of Commonality of Statements of Common Ground (SoCG)	P1
HOW03_SoCG_NFFO and VisNed_January 2019 - Clean	SOCG between Hornsea Project Three (UK) Ltd and NFFO	P1
D6_HOW03_ISH5	Written summary of Applicant's oral case put at Issue Specific Hearing 5	P1
D6_HOW03_ISH6	Written summary of Applicant's oral case put at Issue Specific Hearing 6	P1
D6_HOW03_CAH1	Written summary of Applicant's oral case put at Compulsory Acquisition Hearing	P1
D6_HOW03_IP_WR	Applicant's comments on Written Representations and Responses submitted by Interested Parties at Deadline 5	P1
D6_HOW03_Outline of progress made with Spirit Energy	Outline of progress made with Spirit Energy	P1
D6_HOW03_DCO_Tracked	Revised Draft Development Consent Order (Tracked changes)	P1
D6_HOW03_DCO_Clean	Revised Draft Development Consent Order (Clean)	P1
D4_HOW03_DCO_Schedule of changes	Schedule of Changes Development Consent Order and Deemed Marine Licences	P1
D6_HOW03_Appendix 1_Onshore Cable Corridor Parameters	Appendix 1 to Deadline 6 submission - Clarification Note on Onshore Cable Corridor Widths (HVAC and HVDC)	P1
D6_HOW03_Appendix 2_OCoCP_rev3	Appendix 2 to Deadline 6 submission - Outline Code of Construction Practice	P1
D6_HOW03_Appendix 3_OCTMP_rev3	Appendix 3 to Deadline 6 submission - Outline Construction Traffic Management Plan	P1
D6_HOW03_Appendix 3a_ Annex A-The Street	Appendix 3a to Deadline 6 submission - Annex A - Hornsea Three Highway Intervention Schemes (The Street)	P2
D6_HOW03_Appendix 3b_ Annex A_Taverham_B1145	Appendix 3b to Deadline 6 submission - Annex A - Hornsea Three Highway Intervention Schemes (Taverham Road and B1145 Cawston)	P3
D6_HOW03_Appendix 4_Rock Decommissioning Methods	Appendix 4 to Deadline 6 submission - Rock Protection Decommissioning Methods	P3
D6_HOW03_Appendix 5_Comments on Condition Assessment	Appendix 5 to Deadline 6 submission - Comments on Condition Assessment for The Wash and North Norfolk Coast SAC	P3
D6_HOW03_Appendix 6_ISH offshore ornithology clarifications	Appendix 6 to Deadline 6 submission - Ornithology ISH Clarifications	P3
D6_HOW03_Appendix 7_Johnson and Cook 2016	Appendix 7 to Deadline 6 submission - Johnson and Cook 2016	P3
D6_HOW03_Appendix 8_Smartwind 2014	Appendix 8 to Deadline 6 submission - Forewind Report	P3
D6_HOW03_Appendix 9_Trinder M 2017	Appendix 9 to Deadline 6 submission - Trinder 2017	P4
D6_HOW03_Appendix 10_Horsewill and Robinson 2015	Appendix 10 to Deadline 6 submission - Horsewill and Robinson 2015	P4
D6_HOW03_Appendix 11_Aitken et al 2014	Appendix 11 to Deadline 6 submission - Aitken et al 2014	P5
D6_HOW03_Appendix 12_Preliminary Trenching Assessment_Higher resolution	Appendix 12 to Deadline 6 submission - Preliminary Trenching Assessment (Deadline 5 resubmission)	P4
D6_HOW03_Appendix 13_NE_Ornithology Roadmap_vC	Appendix 13 to Deadline 6 submission - Ornithology Roadmap	P5
D6_HOW03_Appendix 14_Warwick Evans et al 2018	Appendix 14 to Deadline 6 submission - Warwick-Evans et al 2018	P5
D6_HOW03_Appendix 15_Pennycuick 1997	Appendix 15 to Deadline 6 submission - Pennycuick 1997	P5
D6_HOW03_Appendix 16_Johnston et al 2014	Appendix 16 to Deadline 6 submission - Johnston et al 2014 with corrigendum	P6
D6_HOW03_Appendix 17_Garthe et al 1999	Appendix 17 to Deadline 6 submission - Garthe et al 1999	P6
D6_HOW03_Appendix 18_Duant et al 2002	Appendix 18 to Deadline 6 submission - Duant et al 2002	P6
D6_HOW03_Appendix 19_Alerstam et al 2007	Appendix 19 to Deadline 6 submission - Alerstam et al 2007	P6
D6_HOW03_Appendix 20_Graham et al 2018	Appendix 20 to Deadline 6 submission - Graham et al 2018	P6
D6_HOW03_Appendix 21_Brassuer et al 2015	Appendix 21 to Deadline 6 submission - Brassuer et al 2015	P7
D6_HOW03_Appendix 22 _Marine Mammal Hearing Clarifications	Appendix 22 to Deadline 6 submission - Marine Mammals Hearing Clarifications	P7
D6_HOW03_Appendix 23_Old Railway Gatehouse	Appendix 23 to Deadline 6 submission - Construction Traffic Noise and Vibration Assessment at The Old Railway Gatehouse	P7
D6_HOW03_Appendix 24_Temp Work Areas	Appendix 24 to Deadline 6 submission - Proposed Use of Temporary Working Areas for Micrositing: Implications for Environmental Statement	P8
D6_HOW03_Appendix 25_NV Cumulative Impact Assessment	Appendix 25 to Deadline 6 submission - Hornsea Three and Norfolk Vanguard Cumulative Link Impact Assessment Relating to Traffic	P9
D6_HOW03_Appendix 26_OEMP_rev3	Appendix 26 to Deadline 6 submission - Outline Ecological Management Plan	P8
D6_HOW03_Appendix 27_Forsythe et al 1995	Appendix 27 to Deadline 6 submission - Forsythe 1995	P8
D6_HOW03_Appendix 28_CRM - Applicant's position	Appendix 28 to Deadline 6 submission - Position of the Applicant in relation to collision risk modelling	P8
D6_HOW03_Appendix 29_CRM - NE position	Appendix 29 to Deadline 6 submission -Applicant's interpretation of Natural England's position in relation to collision risk modelling	P8
D6_HOW03_Appendix 30_Outline_Onshore_WSI	Appendix 30 to Deadline 6 submission - Outline Onshore Written Scheme of Investigation	P8
D6_HOW03_Appendix 31_CIGRe Report 2009	Appendix 31 to Deadline 6 submission - CIGRE TB 379 - Service Experience of HV Underground & Submarine Cable Systems	P8

Best regards,
Dr Dominika Chalder PIEMA
Environment and Consent Manager

[redacted]

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Hornsea Project Three
Offshore Wind Farm

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Appendix 25 to Deadline 6 submission - Hornsea Three and Norfolk Vanguard Cumulative Link Impact Assessment Relating to Traffic

Date: 8th February 2019

Hornsea 3
Offshore Wind Farm

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Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2019.

Table of Contents

1. Introduction

1.1 This Appendix has been prepared to provide a cumulative link impact assessment in response to Examining Authority's written question Q1.11.12 issued on 9 October 2018 which was as follows:

"The on-shore cable route would cross with the proposed Norfolk Vanguard/Norfolk Boreas cable route to the north of Reepham. Please provide an assessment of the potential traffic and highway impacts arising from the construction of both projects and outline any measures that may be required to mitigate any impacts."

1.2 This assessment has been prepared following discussions with Highways England and Norfolk County Council relating to Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement (ES) (APP-079), and Annex 7.1: Transport Assessment of the Environmental Statement (the Transport Assessment) (REP1-162).

1.3 The Cumulative Transport Environmental Assessment presented within the Hornsea Three Environmental Statement (APP-079) used the (at the time) most recently available data comprising the traffic information contained in the Norfolk Vanguard PEIR. Based on this data, it was concluded that the environmental impact assessments effects of driver delay, severance, pedestrian delay, accidents and road safety and hazardous, dangerous and abnormal indivisible loads would be negligible and the effects of pedestrian amenity would be minor adverse. Therefore, the assessment identified that there would be no significant effects as a result of the cumulative construction vehicle movements associated with both Hornsea Three and Norfolk Vanguard.

1.4 As the Norfolk Vanguard DCO application has now been submitted, the Applicant has carried out a review of the highway links where an impact could occur from both the construction of Hornsea Three and Norfolk Vanguard (See Table 1.1). A plan showing the highways links jointly used by Hornsea Three and Norfolk Vanguard is shown in **Annex A**.

Table 1.1: Assessed highway Links

NV Link No.	Hornsea Three Link No.	Description
2	129	A47 at Honingham
3	157	A47 at Bawburgh
4	144	A47, between A140 and A146 junctions
5	137	A47 East of A1270 junction
8	141	A146 from A47 SE
11	197	A1065, North of Swaffham
12	195	A1065, east of Weasenham
13a	198	A148 between A1067 and A1065 junction
13b	34	A148 west of Holt and east of Letheringsett
14	36	A148, east of the B1149 rbt and west of Station Rd
18	81	A1067 north of Bridge Rd and east of Little Ryburgh
19	31	A148 from edge of study area to B1354
24	109	A1067 from Bawdeswell to Great Witchingham
29	110	A1067 through Great Witchingham and Attlebridge

NV Link No.	Hornsea Three Link No.	Description
30	111	A1067 between Attlebridge & Fir Covert Rd junction
32	59	B1149 at Edgefield N of village hall & S of Hempstead Rd
33	76	B1149 from Saxthorpe rbt to Heydon Rd junction
34	89	B1145 in Cawston
36	114	B1149 between NDR and Buxton Rd junctions
37	78	B1145 east of the B1149, west of Cawston Park Hospital
39	118	A140 between A1270 and B1145
40b	49	A140 south of Roughton & north of Topshill Rd junction
41	190	B1436, east of Felbrigg
58	204	A1270 NDR between A140 and A47 junctions
59	202	A1270 between A140 and B1150
60	201	A1270 NDR between B1149 and A140 junctions
68	208	The Street between A1149 and Oulton airfield access

2. Background

Baseline Traffic

2.1 The future baseline traffic scenario for the year in which construction is expected to be at its peak (assumed to be 2022) has been adopted, as set out in Section 7.7.10 of the ES Chapter 7: Traffic and Transport (APP-079).

2.2 For the majority of the links assessed in this report (HOW03 link no's: 34, 36, 49, 59, 78, 81, 89, 111, 114, 118, 129, 137, 144, 157, 190, 195, 197, 201 & 204) the 2022 base data was extracted from Table 1.7 of the Transport Assessment (Appendix 31 to Deadline 1, REP1-162). For Link ID 208, baseline 2022 data was obtained from the original ES Chapter 7: Traffic and Transport.

2.3 For other links (31, 109, 141 & 198), baseline 2022 data was obtained from Transport Assessment Annex 1 (REP5-009), Table 3.1.

2.4 For the remaining links (76, 110 and 202), where baseline data was not available, data shown in Appendix 24.3 of Norfolk Vanguard Environmental Statement has been adopted.

2.5 The 2022 baseline traffic data for the 27 road links to be assessed is summarised in Table 2.1.

2.6 For the purpose of maintaining the same methodology as used for the production of the Hornsea Three Environmental Statement, the Tier 2 developments considered previously for the cumulative effect assessment (section 7.13 of Volume 3, Chapter 7: Traffic and Transport of the Environment Statement) are included and traffic generated by these schemes also summarised in Table 2.1.

Hornsea Three Construction Traffic

2.7 The maximum design scenario considered for the assessment of potential impacts on traffic and transport derived from the construction of Hornsea Three was previously summarised in Table 7.9 of the ES Chapter 7: Traffic and Transport (APP-079), this adopted the 'sensitivity' distribution from the two distribution options discussed.

2.8 It was confirmed within ES Chapter 7 that the use of the sensitivity distribution was for EIA assessment purposes only and ultimately assumed that approximate double the number of HGVs would originate from the six main generator road links. As a result, the approach taken in the EIA effectively doubled the total number of HGVs generated by the Hornsea Three when all road links are considered together (i.e. a 200 % distribution).

2.9 In reality, the doubling of HGV traffic would not happen because an increase from one origin (once a port location is identified) would be offset by a decrease from another origin.

2.10 As part of the Applicant's Deadline 4 submission, a report to address this point was submitted. Appendix 7- The HGV Haul Road Reduction Report (REP4-028), was produced to demonstrate that a reduced number of HGVs was predicted to be generated by the construction of Hornsea Three. The updated construction traffic numbers for Hornsea Three have been agreed by NCC and Highways England as part of the Statements of Common Ground between the Applicant and NCC (REP4-019) and Highways England (REP4-017).

2.11 As part of Annex D of REP4-028, revised traffic flow diagrams, including updated Hornsea Three HGV traffic figures assigned to each of the Highway Links, were presented for both normal (100%) and sensitivity (doubling) distributions as explained in paragraphs 7.8.3.16 to 7.8.3.28 of the ES Chapter 7: Traffic and Transport, and summarised in Table 1.1 of the HGV Haul Road Reduction Report.

2.12 Whilst information is presented in this report for both the sensitivity and normal distribution scenarios for Hornsea Three, it is considered for the purpose of assessing the cumulative impact of both Hornsea Three and Norfolk Vanguard, the use of the sensitivity distribution of HGVs was not considered to be realistic for individual links, especially those in the vicinity of the onshore cable corridor where route choice is limited and/or there are no route options available due to the rural nature of the area.

2.13 Furthermore, the use of the sensitivity distribution would also present a risk of significantly over engineer any future CTMP intervention measures which would be unreasonable given the temporary nature of the impacts and not compatible with the provision of traffic impact related mitigation measures.

2.14 In additional to this, the distribution assumptions applied by Norfolk Vanguard has been presented on a 100% basis with no significant sensitivity applied on links which are subject to limited route choice. As a result, the use of the Hornsea Three sensitivity distribution traffic (doubling of HGV traffic) with Norfolk Vanguard normal distribution traffic (100 %) would not be a comparable assessment.

2.15 As a result, for the purposes of this cumulative impact assessment, Hornsea Three construction traffic adopts the normal 100% distribution scenario so as to be consistent with the approach taken for Norfolk Vanguard and as discussed above.

2.16 The traffic numbers for both Hornsea Three and Norfolk Vanguard are summarised in Table 2.1. For ease of reference, the agreed updated traffic flow diagrams for Hornsea Three figures are included in **Annex B** of this report.

Norfolk Vanguard Construction Traffic

2.17 Throughout the consultation and engagement process Hornsea Three has continued and maintained dialogue with Norfolk Vanguard to consider the cumulative traffic effects and outline scheme intervention measures where both parties jointly impact specific links. This is noted within the Statement of Common Ground between both parties (REP4-021). Specifically, consideration was given in these discussions to The Street Oulton (Hornsea Three Link 208) and High Street Cawston (Hornsea Three Link 89).

2.18 In order to obtain Norfolk Vanguard construction traffic for the links where cumulative effect could be caused by the Norfolk Vanguard and Hornsea Three schemes, it was agreed by Norfolk Vanguard that their current construction traffic as contained in Appendix 24.19 of the Norfolk Vanguard Environmental Statement is used.

2.19 This data is also summarised in Table 2.1 of this report.

Hornsea Three Sensitivity Distribution

2.20 For completeness and as discussed in Para 2.7, the Hornsea Three sensitivity HGV distribution has also been applied to a separate table to calculate the cumulative effect of the 27 road links when applying the doubling effects of the Hornsea Three HGV traffic. Table 2.2 highlights this calculation.

2.21 As highlighted above, the use of the sensitivity distribution is not used for the cumulative effect assessment given the parameters established.

Table 2.1: Summary of Daily Traffic from Norfolk Vanguard and Hornsea Three (normal distribution) on the highway network

NV Link	Hornsea Three Link	2022 Base		HOW03 Construction		Norfolk Vanguard		Other Tier 2 Schemes		HOW03+NV+Tier 2 Percentage Increase	
		Total	HGVs	Total	HGVs	Total	HGVs	Total	HGVs	Total	HGVs
2	Link ID 129: A47 at Honingham	29,944	2,928	336	176	693	312	2,433		11.6%	17%
3	Link ID 157: A47 at Bawburgh	48,143	3,435	351	176	527	312	5,907		14.1%	14%
4	Link ID 144: A47, between A140 and A146 junctions	55,089	3,157	570	159	394	312			1.7%	15%
5	Link ID 137: A47 East of A1270 junction	45,233	2,882	438	37	704	639			2.5%	23%
8	Link ID 141: A146 from A47 SE	15,801	2,026	114	20	340	312			2.9%	16%
11	Link ID 197: A1065, North of Swaffham	8336	530	218	124	69	0			3.4%	23%
12	Link ID 195: A1065, east of Weasenham	5,580	485	218	124	38	0			4.6%	26%
13a	Link ID 198: A148 between A1067 and A1065 junction	10,832	1,446	456	242	474	671			8.6%	63%
13b	Link ID 34: A148 west of Holt and east of Letheringsett	11,466	691	295	156	569	520			7.5%	98%
14	Link ID 36: A148, east of the B1149 rbt and west of Station Rd	12,242	612	205	122	491	420	2,822		28.7%	88%
18	Link ID 81: A1067 north of Bridge Rd and east of Little Ryburgh	9,451	543	157	85	401	335			5.9%	77%
19	Link ID 31: A148 from edge of study area to B1354	12,887	1,105	102	40	756	721			6.7%	69%
24	Link ID 109: A1067 from Bawdeswell to Great Witchingham	9,399	1,086	158	86	579	431			7.8%	48%
29	Link 110: A1067 through Great Witchingham and Attlebridge	13,065	884	270	92	450	335			45.5%	48%
30	Link ID 111: A1067 between Attlebridge & Fir Covert Rd junction	8,995	626	379	104	447	335			9.2%	70%
32	Link ID 59: B1149 at Edgefield N of village hall & S of Hempstead Rd	4,537	173	291	153	275	235			12.5%	224%
33	Link ID 76: B1149 from Saxthorpe rbt to Heydon Rd junction	5,787	178	394	162	390	235			13.5%	223%
34	Link ID 89: B1145 in Cawston	3,477	127	370	127	394	240			22.0%	289%
36	Link ID 114: B1149 between NDR and Buxton Rd junctions	11,400	594	635	187	347	235			8.6%	71%
37	Link ID 78: B1145 east of the B1149, west of Cawston Park Hospital	4,834	163	82	0	180	96			5.4%	59%
39	Link ID 118: A140 between A1270 and B1145	14,967	484	431	149	364	134			5.3%	58%
40b	Link ID 49: A140 south of Roughton & north of Topshill Rd junction	12,041	593	471	149	374	192			7.0%	57%
41	Link ID 190: B1436, east of Felbrigg	9,665	488	471	149	542	478			10.5%	129%
58	Link ID 204: A1270 NDR between A140 and A47 junctions	22,933	1,461	655	190	536	503			5.2%	47%
59	Link 202: A1270 between A140 and B1150	25,656	1,087	655	190	521	503			4.6%	64%
60	Link ID 201: A1270 NDR between B1149 and A140 junctions	25,000	1,593	678	187	402	335			4.3%	33%
68*	Link ID 208: The Street between A1149 and Oulton airfield access	727	36	248	118	176	96			58.3%	594%

Note ; * Link ID 208: The Street between A1149 and Oulton airfield access, whilst a low receptor represents the Hornsea Three main construction compound as well as a cable logistics area for Norfolk Vanguard. This link has been identified as a link which requires a specific scheme intervention in order to mitigate cumulative effects (as set out in the Outline CTMP, Appendix 3 of Deadline 6). The measures set out within Section 5 of the Outline CTMP is considered to reduce the potential impacts to a level which is not significant.

Table 2.2: Summary of Daily Traffic from Norfolk Vanguard and Hornsea Three (sensitivity distribution) on the highway network

NV Link	Hornsea Three Link	2022 Base		HOW03 Construction		Norfolk Vanguard		Other Tier 2 Schemes		HOW03+NV+Tier 2 Percentage Increase	
		Total	HGVs	Total	HGVs	Total	HGVs	Total	HGVs	HGVs	Total
2	Link ID 129: A47 at Honingham	29,944	2,928	456	293	693	312	2,433		12.0%	21%
3	Link ID 157: A47 at Bawburgh	48,143	3,435	478	293	527	312	5,907		14.4%	18%
4	Link ID 144: A47, between A140 and A146 junctions	55,089	3,157	692	274	394	312			2.0%	19%
5	Link ID 137: A47 East of A1270 junction	45,233	2,882	589	184	704	639			2.9%	29%
8	Link ID 141: A146 from A47 SE	15,801	2,026	197	102	340	312			3.4%	20%
11	Link ID 197: A1065, North of Swaffham	8336	530	274	180	69	0			4.1%	34%
12	Link ID 195: A1065, east of Weasenham	5,580	485	274	180	38	0			5.6%	37%
13a	Link ID 198: A148 between A1067 and A1065 junction	10,832	1,446	615	402	474	671			10%	74%
13b	Link ID 34: A148 west of Holt and east of Letheringsett	11,466	691	399	259	569	520			8.4%	113%
14	Link ID 36: A148, east of the B1149 roundabout and west of Station Road	12,242	612	286	203	491	420	2,822		29.4%	102%
18	Link ID 81: A1067, north of Bridge Road and east of Little Ryburgh	9,451	543	216	142	401	335			6.5%	88%
19	Link ID 31: A148 from edge of study area to B1354	12,887	1,105	165	102	756	721			7.1%	75%
24	Link ID 109: A1067 from Bawdeswell to Great Witchingham	9,399	1,086	216	142	579	431			8.5%	53%
29	Link 110: A1067 from Bawdeswell to Great Witchingham	13,065	884	361	174	450	335			6.2%	58%
30	Link ID 111: A1067, between Attlebridge and the Fir Covert Road junction	8,995	626	522	237	447	335			10.8%	91%
32	Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road	4,537	173	393	256	275	235			14.7%	284%
33	Link ID 76: B1149 from Saxthorpe Roundabout to Heydon Road junction	5,787	178	531	299	390	235			15.9%	300%
34	Link ID 89: B1145 in Cawston	3,477	127	497	254	394	240			25.6%	389%
36	Link ID 114: B1149 between A1270 Northern Distributor Road and Buxton Road junctions	11,400	594	874	426	347	235			10.7%	111%
37	Link ID 78: B1145 east of the B1149 crossroads junction, west of Cawston Park Hospital	4,834	163	82	0	180	96			5.4%	59%
39	Link ID 118: A140 between A1270 and B1145	14,967	484	621	338	364	134			6.6%	98%
40b	Link ID 49: A140, south of Roughton and north of the Topshill Road junction	12,041	593	660	338	374	192			8.6%	89%
41	Link ID 190: B1436, east of Felbrigg	9,665	488	660	338	542	478			12.4%	167%
58	Link ID 204: A1270 Northern Distributor Road between A140 and A47 junctions	22,933	1,461	897	432	536	503			6.2%	64%
59	Link 202: A1270 between A140 and B1150	25,656	1,087	897	432	521	503			5.5%	86%
60	Link ID 201: A1270 Northern Distributor Road between B1149 and A140 junctions	25,000	1,593	918	426	402	335			5.3%	48%
68*	Link 208: The Street between the A1149 and Oulton airfield access	727	36	248	118	176	96			58.3%	594%

Note ; * Link ID 208: The Street between A1149 and Oulton airfield access, whilst a low receptor represents the Hornsea Three main construction compound as well as a cable logistics area for Norfolk Vanguard. This link has been identified as a link which requires a specific scheme intervention in order to mitigate cumulative effects (as set out in the Outline CTMP, Appendix 3 of Deadline 6). The measures set out within Section 5 of the Outline CTMP is considered to reduce the potential impacts to a level which is not significant.

3. Cumulative Link Assessment

3.1 The transport environmental impact assessment methodology stated in Volume 3, Chapter 7 – Traffic and Transport of the Environmental Statement (APP-079) was followed for the assessment of the 27 highway links.

3.2 As highlighted above the IEMA guidance and screening process is based on the Hornsea Three normal distribution highlighted in Table 2.1 and this continues to be used through the remainder of the assessment below.

3.3 In this regard, it is noted that the IEMA guidance notes in its paragraph 3.16 that *"daily variation of traffic on a road is frequently at least some + or -10%" and in paragraph 3.20 that "normally it would not be appropriate to consider links where the traffic flows have changed by less than 10% unless there are significant changes in the composition of traffic".*

3.4 In terms of total vehicle flows for Hornsea Three and Norfolk Vanguard combined, the following links exceed 10% of the daily variation of total traffic:

- Link ID 129: A47 at Honingham;
- Link ID 157: A47 at Bawburgh;
- Link ID 36: A148, east of the B1149 roundabout and west of Station Road;
- Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road;
- Link ID 76: B1149 from Saxthorpe Roundabout to Heydon Road junction;
- Link ID 89: B1145 in Cawston;
- Link ID 190: B1436, east of Felbrigg; and
- Link ID 208: The Street between the A1149 and Oulton airfield access

3.5 Some of these links (36, 59, 76, 89, 190 and 208) also exceed the 30% variation in HGV traffic.

3.6 In terms of HGV movements, the following links also experience an increase in daily two-way HGV flows over 30% for Hornsea Three and Norfolk Vanguard combined:

- Link ID 198: A148 between A1067 and A1065 junction;
- Link ID 34: A148 west of Holt and east of Letheringsett;
- Link ID 81: A1067, north of Bridge Road and east of Little Ryburgh;
- Link ID 31: A148 from edge of study area to B1354;
- Link ID 109: A1067 from Bawdeswell to Great Witchingham;
- Link ID 110: A1067 through Great Witchingham and Attlebridge;
- Link ID 111: A1067, between Attlebridge and the Fir Covert Road junction;
- Link ID 114: B1149 between A1270 Northern Distributor Road and Buxton Road junctions;
- Link ID 78: B1145 east of the B1149 crossroads junction, west of Cawston Park Hospital;
- Link ID 118: A140 between A1270 and B1145;
- Link ID 49: A140, south of Roughton and north of the Topshill Road junction;
- Link ID 204: A1270 Northern Distributor Road between A140 and A47 junctions;
- Link ID 202: A1270 between A140 and B1150; and
- Link ID 201: A1270 Northern Distributor Road between B1149 and A140 junctions.

3.7 As a result, the abovementioned links require consideration for further assessment of cumulative transport environmental link impacts.

3.8 In accordance with Annex 7.2 – Description of Network Links and Sensitivity from the Environmental Statement (APP-160), of these 22 road links defined in Para 3.4 and 3.6, five are defined as having receptors of low / medium sensitivity along them where an impact could occur and thus require further investigation.

3.9 These five links comprise:

- Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road;
- Link ID 78: B1145 east of the B1149 crossroads junction, west of Cawston Park Hospital;
- Link ID 89: B1145 in Cawston;
- Link ID 110: A1067 through Great Witchingham and Attlebridge; and
- Link ID 118: A140 between A1270 and B1145.

3.10 The remaining 17 links are defined to be of **negligible** sensitivity and therefore are scoped out from a cumulative Transport Environmental Link Assessment.

3.11 Link 89 B1145 in Cawston has been identified as a link which requires a specific scheme intervention in order to mitigate cumulative effects (as set out in the Outline CTMP, Appendix 3 of Deadline 6). The measures set out within Section 5 of the Outline CTMP is considered to reduce the potential impacts to a level which is not significant and therefore Link 89 has not been included in Table 3.1 below.

3.12 As a result, the four road links where an impact could occur are summarised in Table 3.1.

Table 3.1: Highway Links which require further assessment

Link	Sensitivity of Receptor	Percentage Change Due to Cumulative Construction Traffic (HOW03 + Norfolk Vanguard + Tier 2)	
		Total Veh (%)	HGVs (%)
Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road	Medium: Narrow footways near residential area, park	12.5%	224%
Link ID 78: B1145 east of the B1149 crossroads junction, west of Cawston Park Hospital	Low: Hospital on route	5.4%	59%
Link ID 110: A1067 through Great Witchingham and Attlebridge	Low: Residential area	4.7%	49%
Link ID 118: A140 between A1270 and B1145	Low: Frontages	5.3%	58%

3.13 In accordance with the 'Guidelines for the Environmental Assessment of Road Traffic' (IEMA, 1993), the significance of effects has been assessed by considering the interaction between the magnitude of the impact and the sensitivity of the receptor in the vicinity of transport corridors.

3.14 This assessment has compared the future baseline situation in the year of construction (assumed to be 2022), taking into account other schemes that are likely to affect the future baseline condition in the year of construction, against a scenario which includes the development of Hornsea Three plus the development of Norfolk Vanguard including an estimated traffic generation from the Tier 2 developments.

3.15 Taking account of the IEMA guidelines, and as indicated in Table 3.2 below, even if a major magnitude of impact (the highest category) was predicted on road links 78, 110 and 118 (where HOW03 considers the sensitivity of receptor to be low), a minor adverse effect would be predicted, which is not considered significant in EIA / IEMA terms.

Table 3.2: Matrix used for the assessment of the significance of the effect

		Magnitude of impact				
Sensitivity of receptor		**No change**	**Negligible**	**Minor**	**Moderate**	**Major**
	Negligible	Negligible	Negligible	Negligible or minor	Negligible or minor	Minor
	Low	Negligible	Negligible or minor	Negligible or minor	Minor	Minor or moderate
	Medium	Negligible	Negligible or minor	Minor	Moderate	Moderate or major
	High	Negligible	Minor	Minor or moderate	Moderate or major	Major or substantial
	Very high	Negligible	Minor	Moderate or major	Major or substantial	Substantial

3.16 Although the highest magnitude of impact (major) on 3 of these road links (78, 110 and 118), would result in effects that are not significant in IEMA terms, it is noted that Norfolk Vanguard Environmental Statement Appendix 24.2– Link Sensitivity Rationale considers Link 110 (NV Link 29) and Link 118 (their Link 39) to be of medium sensitivity where the A1067 passes through Great Witchinham, Lenwade and Morton-on-the-Hill, and where the A140 passes through Heavingham, respectively, as there is evidence of direct development frontage, a local pub and a bus stop, with a footway lining the road. As such, the Applicant has taken a precautionary approach and undertaken a further review of the potential effects on these links.

Link 118: A140 between A1270 and B1145

3.17 Link 118: A140 between A1270 and B1145 was previously assessed as part of section 7.13 'Cumulative Effect Assessment' of Volume 3, Chapter 7: Traffic and Transport of the Environmental Statement (APP-079). The percentage of impact for this link, as shown in Table 7.25 of APP-079 (i.e. 7.5% and 90% total and HGV traffic respectively), exceeds the assessed traffic flow impacts presented in Table 2.2 of this report, based on the previous sensitivity distribution applied. Therefore, it can be concluded that a Transport Environmental Link Assessment is not required for Link ID 118: A140 between A1270 and B1145 as the previous assessment set out in APP_079 is considered robust.

Link 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road

3.18 Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road is defined as a medium receptor and exceeds the IEMA threshold. As a result, a Transport Environmental Link Assessment is therefore required on this link. The assessment of this link was undertaken as part of the original Environmental Assessment, in Chapter 7 of the Environmental Statement (APP-079). However, as the Hornsea Three construction traffic has been updated since the submission of the Environmental Statement (i.e. a reduction in HGV numbers as demonstrated in REP4-028) and Norfolk Vanguard construction traffic flows have been updated within their Environmental Statement, in order to provide a robust cumulative effect assessment, this link has been reassessed in Section 4 of this report.

Link 110: A1067 through Great Witchingham and Attlebridge

3.19 Whilst the Applicant maintains its position in respect of the assessment of sensitivity set out in APP-079, given the classification provided to Link 110 by Norfolk Vanguard, the Applicant has applied a precautionary approach and Link ID 110 has been considered further in Section 4 of this report and it has been assumed that the sensitivity is medium for the purposes of the assessment.

3.20 Taking this into account two links are identified for a Transport Environmental Link Assessment;

- Link ID 59: B1149 at Edgefield
- Link ID 110: A1067 through Great Witchingham and Attlebridge

3.21 The Transport Environmental Link Assessment considers the following in Section 4 of this report:

- Driver Delay;
- Severance of Routes;
- Pedestrian Delay;
- Pedestrian Amenity;
- Accidents and Road Safety and;
- Hazardous, Dangerous and Abnormal Loads.

4. Assessment of significance

The temporary impact of the construction works may affect driver delay

4.1 Driver delay can result from the following:

- An increase in traffic flows, particularly during peak hours resulting in increased queues on links and at junctions;
- The passage of slow-moving vehicles such as abnormal indivisible loads; and
- Reduction in link capacity resulting from changes in carriageway width or other highway characteristics.

Magnitude of Impact

4.2 Volume 6, Annex 7.1: Transport Assessment Reference (REP1-162) (sections 1.65 to 1.68) considers highway capacity on Link ID 59 and concludes that the construction of Hornsea Three would not create any severe impacts upon the operation of junctions on this road link. This means that there would be negligible changes arising in relation to driver delay as a result of the construction vehicle movements.

4.3 The magnitude of impact on Link 59 in terms of driver delay resulting from cumulative traffic flows associated with the construction of Hornsea Three and Norfolk Vanguard are therefore considered to be **negligible** short-term duration, continuous and fully reversible once works end.

4.4 Considering DMRB Volume 5 Section 1 (TA46/97), the theoretical capacity of Link ID 110, as typical S2 standard carriageway, is exceeded.

4.5 The total cumulative impact on total vehicle movements on Link ID 110, as shown in Table 2.1 of this report, would represent a 4.7% increase, which is well below the 10% increase figure that IEMA suggests for a link assessment to be triggered.

4.6 As a result, the impact is predicted to be of local spatial extent, short term duration, intermittent and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude of Link ID 110 is therefore, considered to be **minor**.

Sensitivity of the Receptor

4.7 Link ID 59 and 110 on typical days do not suffer from prolonged congestion and therefore assessed as a low vulnerability with regards to driver delay. Therefore, the sensitivity of the links that are predicted to carry construction traffic, in terms of driver delay, is considered to be **low**.

4.8 The sensitivity of road links affected by the introduction of temporary shuttle working or traffic control in terms of driver delay is likely to be low to medium for these same reasons.

4.9 Both road links are deemed to be of low vulnerability, fully recoverable and low value. The sensitivity of the receptors is therefore, considered to be **low**.

Significance of the Effect

4.10 The sensitivity of the receptor for Link 110 is considered to be low and the magnitude is deemed to be minor. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

4.11 The sensitivity of the receptor for Link 59 is considered to be low and the magnitude is deemed to be negligible. The effect will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.

The temporary impact of the construction work may affect severance of routes

4.12 Severance is only likely to occur on highly trafficked roads and result from the perceived division the road and traffic creates between communities on either side.

4.13 The IEMA guidance set out above identifies that increases in total traffic volumes of between 30 % and 60 % could result in a slight impact (the lowest category) upon severance.

Magnitude of Impact

4.14 The change in traffic flow as a result of the cumulative construction traffic on the two road links are lower than the 30% that the IEMA guidance sets out is required for a slight effect (the lowest category) to occur. Although the correlation between the extent of severance and the physical barrier of a road is not clear and there are no predicative formulae which give simple relationships between traffic factors and levels of severance, a factor which needs to be given attention in determining severance is likely to be an important issue include road width, traffic, traffic speed, crossing facilities and the number of movements that are likely to cross the route.

4.15 For link ID 59 the increase in traffic as a result of the construction traffic is 12.5%, well below the 30% that the IEMA guidance sets out as the required threshold for a slight effect (the lowest category) to occur.

4.16 For link ID 110 the increase in traffic as a result of the construction traffic is only 4.7%, well below the 30% that the IEMA guidance sets out as the required threshold for a slight effect (the lowest category) to occur.

4.17 The impact is predicted to be of local spatial extent, short term duration, intermittent and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be negligible for both Links.

Sensitivity of the Receptor

4.18 Link ID 59 and 110 consist of a built-up areas forming a small community and therefore the vulnerability and value of the receptor with regards to severance is medium**,** but fully recoverable.

Significance of the Effect

4.19 Overall, the sensitivity of the receptors is considered to be medium and the magnitude is deemed to be negligible. The effect will, therefore, be of **negligible or minor adverse** significance, which is not significant in EIA terms for both Links.

The temporary impact of the construction work may affect pedestrian delay

4.20 Highly trafficked roads and changes to the volume or speed of traffic may affect the ability of people to cross roads. The IEMA guidance set out above notes that studies have shown that pedestrian delay is perceptible or considered significant beyond a delay threshold of 10 seconds, for a link with no crossing facilities. It goes on to say that a 10 second pedestrian delay in crossing a road broadly equates to a two-way link flow of approximately 1,400 vehicles per hour. This means that where two-way traffic flows on a road exceed 1,400 vehicle movements per hour, then a pedestrian seeking to cross that would perceive a delay.

Magnitude of Impact

4.21 To consider the potential for pedestrian delay to occur on the two road links, the base peak hour traffic flow for each has been set out below and summarised in Table 4.1 along with the construction cumulative traffic flows and the resultant change in predicted pedestrian delay.

Table 4.1: Summary of Change in Pedestrian Delay.

Link	Baseline		Baseline+ Cumulative (HOW3 + NV + Tier 2)		Change in Pedestrian Delay (s)
	Traffic Flow (max hourly)	Pedestrian Delay (s)	Traffic Flow (max hourly)	Pedestrian Delay (s)	
Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road	418	3.0	475	3.4	0.4
Link 110: A1067 through Great Witchingham and Attlebridge	1,142	8.2	1,204	8.6	0.4

4.22 For Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road: A maximum of 418 baseline hourly vehicle movements are to be increased to a maximum of 475 two-way vehicle movements per hour with the cumulative traffic flows. The maximum pedestrian delay of 3.0 seconds would increase to 3.4 seconds. Therefore, the change in maximum pedestrian delay as a result of the additional cumulative construction vehicles would be of 0.4 seconds.

4.23 Link 110: A1067 through Great Witchingham and Attlebridge: would have a maximum of 1149 baseline hourly vehicle movements increasing to 1204 two-way vehicle movements per hour following the addition of the cumulative construction traffic. A maximum pedestrian delay of 8.2 seconds would increase to 8.6 seconds. Therefore, the change in maximum pedestrian delay as a result of the additional cumulative construction vehicles would be of 0.4 seconds.

4.24 The above shows that pedestrian delay along the two road links is lower than that which would be perceived. As such, the impact is predicted to be of local spatial extent, short term duration, intermittent and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be negligible for both Links.

Sensitivity of the Receptor

4.25 Link ID 59 and 110 consist of built up areas forming a small community and therefore the vulnerability and value of the receptor with regards to severance is medium but fully recoverable.

Significance of the Effect

4.26 Overall, the sensitivity of the receptor is considered to be medium and the magnitude is deemed to be negligible. The effect will, therefore, be of **negligible or minor adverse** significance, which is not significant in EIA terms for both links.

The temporary impact of the construction work may affect pedestrian amenity

4.27 The term pedestrian amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and footway width and separation from traffic.

4.28 The IEMA guidance refers to a tentative threshold for judging the significance of changes in pedestrian amenity where the traffic flow (or its HGV component) is halved or doubled.

Magnitude of Impact

4.29 In terms of total vehicle movements, the above sets out a maximum increase on these two links of 12.5%. Therefore, in accordance with the IEMA guidance, this on its own should not result in any significant changes in pedestrian amenity.

4.30 To consider the magnitude of change for pedestrian amenity on the two road links in relation to HGVs, the daily base HGV flow for each has been set out below along with the construction traffic flows and the resultant change.

4.31 Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road the baseline traffic of 173 daily HGVs would increase by 388 HGVs to a total baseline plus cumulative traffic of 561 two-way HGV movements per day; which is a HGV total increase of 224%.

4.32 Link 110: A1067 through Great Witchingham and Attlebridge the baseline traffic of 884 daily HGVs would increase by 427 HGVs to a total baseline plus cumulative traffic of 1,311 two-way HGV movements per day which is a HGV total increase of 49%.

4.33 The above shows that road link 110 is well below the doubling of HGV component that the IEMA guidance refers to and it is considered that the magnitude of change on these would be negligible.

4.34 The IEMA guidance has been referred to where it sets out that one component of pedestrian amenity is fear and intimidation. It refers to a study which sets out that moderate (the lowest category of fear and intimidation which does not directly relate to the terminology of the magnitude of impact when fear and intimidation[1] could be experienced when there are between 1,000 and 2,000 HGVs over an 18-hour day.

4.35 As indicated in paragraph 4.31 above, for Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road, there would be 173 (baseline) two-way HGV movements per day, increasing to 561 (cumulative traffic) two-way HGV movements per day. This is below this range and it is considered that the magnitude of change on this road link would be negligible.

[1] The IEMA guidelines set out that when fear and intimidation occur it is categorised as moderate (the lowest category), great (the median category) and extreme (the highest category). These categories do not directly relate to the magnitude of impacts set out in the Definition of terms relating to the magnitude of an impact shown in Table 7.14 of APP-079, however, professional judgement can be applied when considering the impact to fear and intimidation.

4.36 The impact is predicted to be of local spatial extent, short term duration, continuous and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be negligible.

Sensitivity of the Receptor

4.37 These two links (59 and 110) consist of built up areas forming a small community where there is pedestrian activity and demand for crossing the roads. Therefore, the vulnerability and value of the receptor with regards to pedestrian amenity is medium but fully recoverable.

4.38 The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

4.39 Overall, the sensitivity of the receptor is considered to be medium and the magnitude is deemed to be negligible. The effect will, therefore, be of **negligible or minor** adverse significance, which is not significant in EIA terms for both links.

The temporary impact of the construction work may affect accidents and road safety

Magnitude of Impact

4.40 The impact of construction work in terms of road safety affects receptors directly and would be short-term, continuous and fully reversible once construction work is complete.

4.41 The magnitude of increase in total vehicle movements on these two road links is low/slight as confirmed in ES Volume 6 - 7.2 - Description of Network Links and Sensitivity, APP-160.

4.42 An analysis of injury accident rates has been undertaken as part of the original Traffic and Transport chapter of the Environmental Statement (APP-079). An extract of Table 7.8 of the ES is shown as Table 4.2 below for ease of reference.

Table 4.2: Extract of Table 7.8 of the ES. Summary of injury accident rates.

Highway Link	AADT (1)	Link Length (Kilometres)	Personal Injury Accidents (PIAs) over 3 years (2)	PIAs per million vehicle-km (observed)	PIAs per million vehicle km (national average)
B1149 at Edgefield, N of the village hall and S of Hempstead Rd (Link ID 59)	4174	0.5	2	878*	274
A1067 at Lenwade (Link ID 110)	11778	2.5	5	156	473

(1) Annual average daily traffic (AADT) derived from traffic surveys / DfT flows

(2) Information obtained from Crashmap website

* Links with accident rates more than 25% above the national average

4.43 Link 110: A1067 through Great Witchingham and Attlebridge had a rate lower than the national average injury accident rate.

4.44 Where observed accident rates were 25% higher than the national average rates, as it was the case for Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road, a second stage assessment was undertaken. Paragraph 7.7.9.56 of the ES concluded that, whilst all accidents were regrettable, the data suggested that in the majority of instances human error was likely to have been the primary cause indicating that, in general, there were no specific road safety issues in the assessed areas.

4.45 It is therefore concluded that there is no injury accident problem on these road links, that they currently operate in a safe manner and thus there is no road safety concerns with the layout of the road network.

4.46 The construction works would generate vehicle classifications that are already generated on these road links.

4.47 There would be a temporary increase in the proportion of HGVs on these road links. Such HGV movements would be under contract and would be under the construction traffic management conditions and measures. There is no reason to suggest that the HGVs would travel in a manner that is unsafe or that the injury accident rate would change.

4.48 The impact is predicted to be of local spatial extent, short term duration, intermittent and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be **negligible**.

Sensitivity of the Receptor

4.49 An analysis of injury accident rates showed that these road links operate in a safe manner with an injury accident rate lower than the national average.

4.50 It is considered that the vulnerability and value of the receptor with regards to accidents and road safety is low but fully recoverable.

4.51 The road users are deemed to be of medium vulnerability, fully recoverable and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

4.52 Overall, the sensitivity of the receptor is considered to be medium and the magnitude is deemed to be negligible. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms for both links.

The temporary impact of the construction work may affect hazardous, dangerous and abnormal indivisible loads

4.53 As stated in paragraphs 7.11.2.73 and 74 of the ES, it is expected that, for Hornsea Three, some abnormal indivisible loads would be transported to the onshore HVDC converter/HVAC substation and HVAC booster station areas, with some additional abnormal indivisible load movements associated with cable drum movements to the onshore cable corridor and main construction compound.

4.54 The abnormal indivisible loads are expected to be components that exceed standard load weight and possibly exceed standard width and height.

4.55 The Port of entry would be chosen based on it being capable of accepting abnormal indivisible loads, in which case, the roads leading to the port would receive abnormal indivisible loads regularly.

4.56 Norfolk Vanguard Environmental Impact Assessment states in section 24.4.1.5 Abnormal indivisible Loads (AILs) that the importing of large AILs may lead to delays on the highway network, but also that the construction of the onshore project substation is likely to require the delivery of up to eight supergrid transformers to the onshore project substation and that a Route Access Study has been undertaken to inform the management measures required to deliver AILs to the NV onshore project substation which will be accessed off the A47.

Magnitude of Impact

4.57 The impact in relation to the transport of abnormal indivisible loads would be short-term and intermittent and would affect receptors directly.

4.58 The magnitude of the impact of abnormal indivisible loads would be negligible since the number of abnormal indivisible load (AIL) movements would be low. As referenced in the Outline CTMP (Appendix 3 to Deadline 6) clarifies that each AIL load would be present on the network for a short period of time and standard measures applied in terms of route, timing and method of delivering to minimise delays to other highway users and agreed with the Highway Authorities in advance.

4.59 The impact is predicted to be of local spatial extent, short term duration, intermittent and fully reversible. It is predicted that the impact will affect the receptor directly. The magnitude is therefore considered to be negligible.

Sensitivity of the Receptor

4.60 The access used by the abnormal indivisible load of a standard to accommodate the transport delivery vehicles.

4.61 Any restrictions would also necessarily be removed to accommodate the transport delivery vehicles and they would travel under controlled environments.

4.62 The passage of abnormal indivisible loads would, however, lead to some limited driver delay as the loads would move slowly. The sensitivity of the public roads to the passage of abnormal indivisible loads is therefore considered to be low.

4.63 It is considered that the vulnerability and value of the receptor with regards to abnormal indivisible loads is low but fully recoverable.

4.64 Given the controlled environment, the road users are deemed to be of negligible vulnerability, fully recoverable and negligible value. The sensitivity of the receptor is therefore, considered to be negligible.

Significance of the Effect

4.65 Overall, it is predicted that the sensitivity of the receptor is considered to be negligible and the magnitude is deemed to be negligible. The effect will, therefore, be of **negligible adverse** significance, which is not significant in EIA terms for both links.

5. Conclusion

5.1 The purpose of this Appendix is to address the cumulative impact of Hornsea Three and Norfolk Vanguard on the highway network as requested by the Examining Authority's written question Q1.11.12.

5.2 The assessment is based on adopting a normalised 100% distribution for Hornsea Three construction traffic (REP4-028) to provide a comparable position to Norfolk Vanguard.

5.3 The maximum design scenario of 2022 observed traffic flows and the construction traffic generated by the construction of Hornsea Three and Norfolk Vanguard, as well as the traffic generated by the Tier 2 Developments were assigned to each of the relevant 27 Highway Links were a cumulative impact from Hornsea Three and Norfolk Vanguard construction traffic could occur.

5.4 The predicted level of cumulative construction traffic was expressed as a percentage change in daily flows on the links.

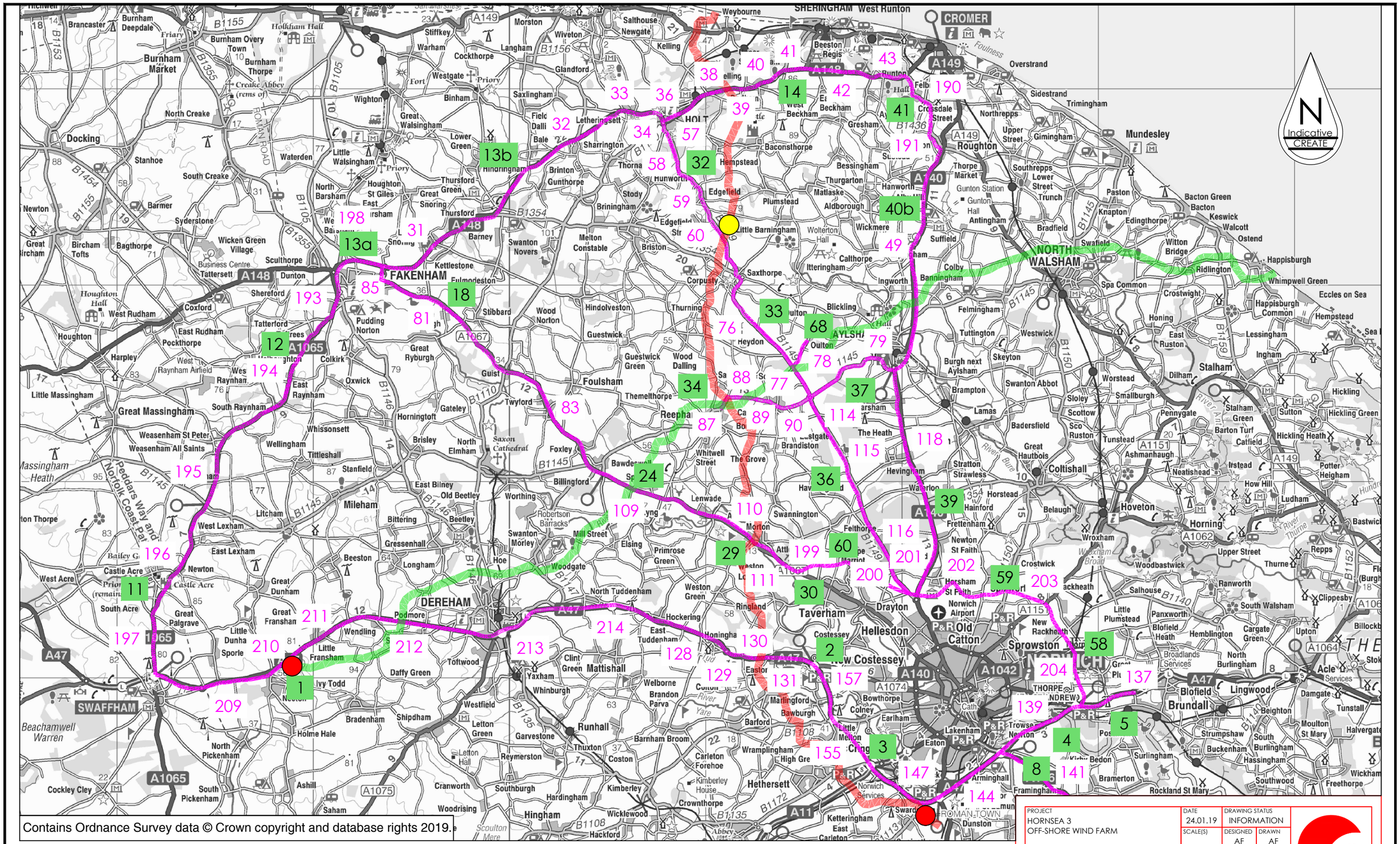
5.5 The impact assessment methodology stated in Volume 3, Chapter 7 – Traffic and Transport of the Environmental Statement **(**APP-079) was followed for the assessment of these additional 27 links, applying the methodology agreed previously 25 of the 27 links have been screened out for further assessment.

5.6 For the following two road links where an impact could occur, a Transport Environmental Assessment has been provided;

- Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road and;
- Link 110: A1067 through Great Witchingham and Attlebridge.

5.7 Environmental impact assessments determined that the effects of driver delay, accidents and road safety and hazardous, dangerous and abnormal indivisible loads would be negligible and the effects of severance, pedestrian amenity and pedestrian delay, would be **negligible** or **minor adverse**. Therefore, the assessment has identified that there would be no significant effects as a result of the cumulative impact of Hornsea Three and Norfolk Vanguard construction vehicle movements on any of the 27 relevant road links.

Annex A – Highways Links Jointly Used by Hornsea Three and Norfolk Vanguard



KEY:

- SHARED HORNSEA THREE & NORFOLK VANGUARD (NV) HIGHWAY LINKS
- HORNSEA 3 CABLE ROUTE
- NV CABLE ROUTE
- SUBSTATION
- BOOSTER STATION
- 1 NV LINK NO.
- 1 HORNSEA 3 LINK NO.

REV	DATE	AMENDMENT DETAILS	DRAWN	APPROVED
B	07.02.19	ROUTES 141 & 144 ADDED	AF	PZ
A	04.02.19	CABLE ROUTES / INFRASTRUCTURE ADDED	AF	PZ

PROJECT: HORNSEA 3 OFF-SHORE WIND FARM	DATE: 24.01.19	DRAWING STATUS: INFORMATION	
	SCALE(S): N.T.S.	DESIGNED: AF / DRAWN: AF	
		CHECKED: PZ / APPROVED: PZ	
DRAWING TITLE: HIGHWAY LINKS JOINTLY USED BY HORNSEA 3 & NORFOLK VANGUARD	JOB No: 1554		
CLIENT: ORSTED	DRAWING No: 03/310	REVISION: B	

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ORIGINAL SHEET SIZE - A3 Landscape

DO NOT SCALE

Annex B - 12hr Total Construction Traffic Traffic Flow Diagrams

Traffic Flow Diagrams

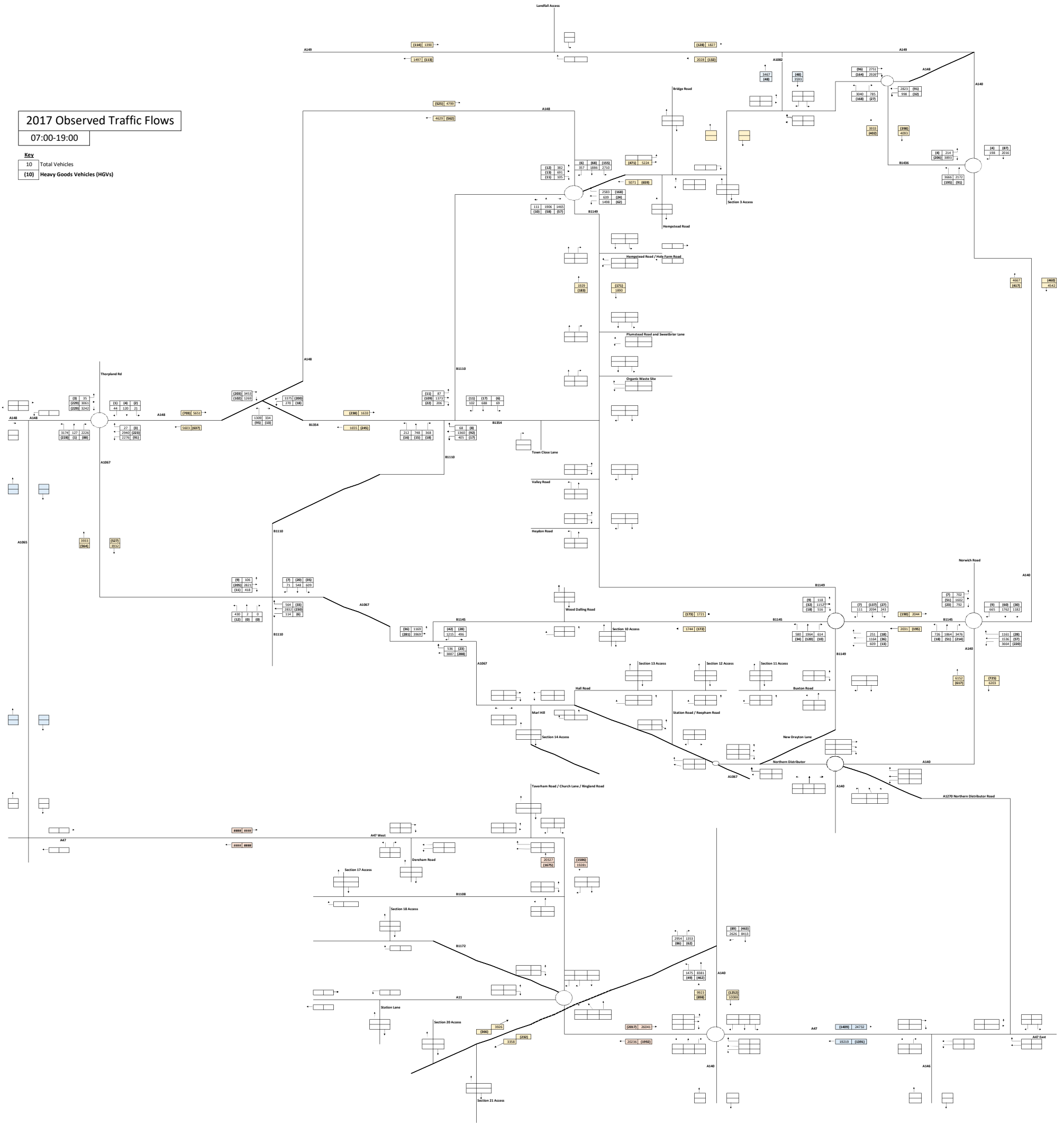
12hr Total Construction Traffic

2017 Observed Traffic Flows

07:00-19:00

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



TEMPRO

Average Weekday

Trunk
1.10 growth 2017-2022

Principal
1.09 growth 2017-2022

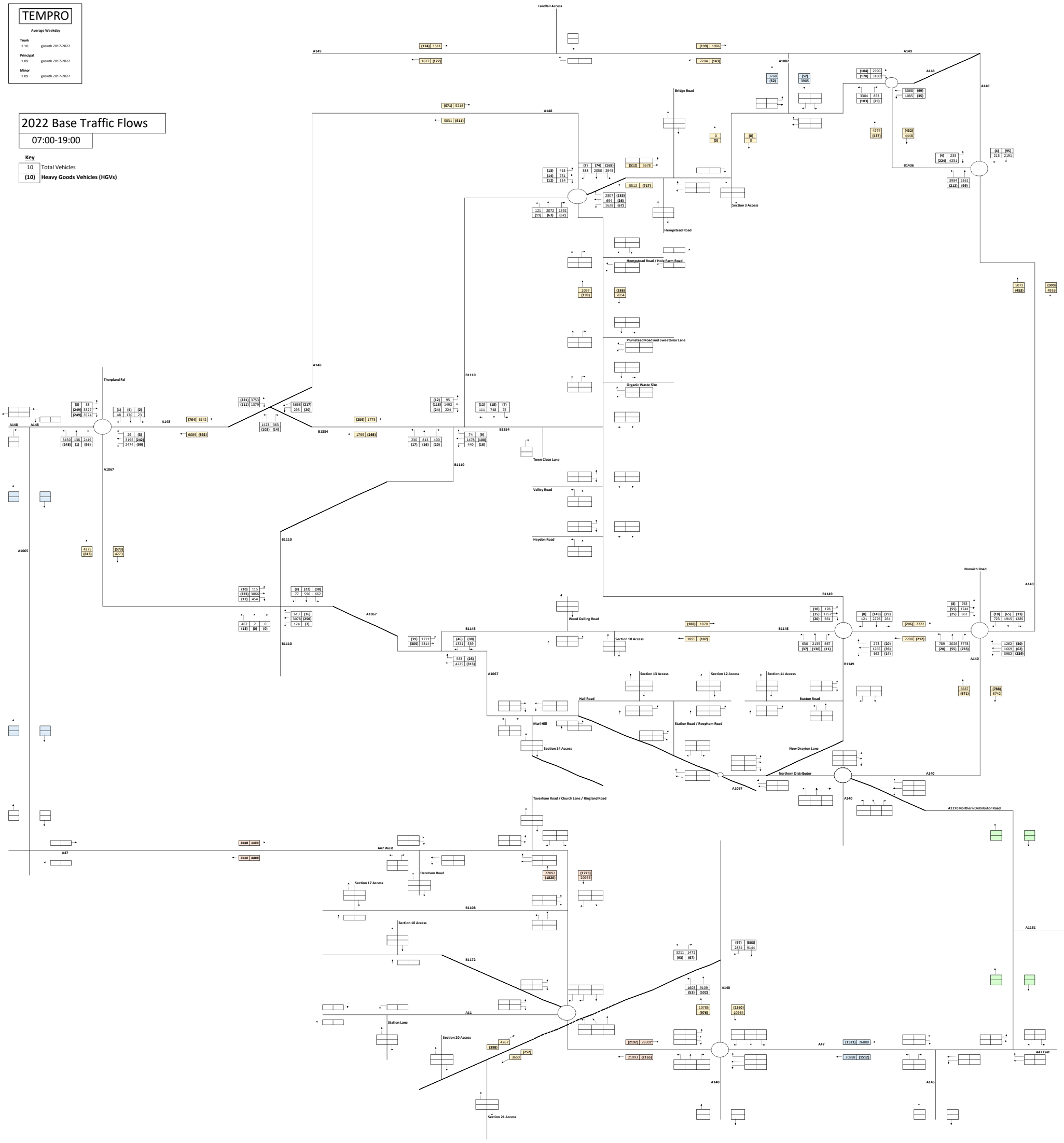
Minor
1.09 growth 2017-2022

2022 Base Traffic Flows

07:00-19:00

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



Tables Linked to Construction Vehicle Movements Spreadsheet

Route Section	Description	12hr Vehicle Flows			
		Total	HGV	Lights	Phase
1	Landfall to Holgate Hill	228	72	123	1
2	Holgate Hill to woodland north east of High Kelling	173	65	77	1
3	Woodland northeast of High Kelling to woodland south of Church Road	223	66	128	1
4	Woodland south of Church Road to woodland south and east of School Lane	163	62	69	1
5	Woodland east of School Lane to Plumstead Road	163	62	69	1
6	Plumstead Road to the B1149	233	74	128	2
7	B1149 to land South of Town Close Lane	173	65	77	-
8	Land south of Town Close Lane to woodland north of Reepham Road	260	62	167	2
9	Land north of Reepham Road to woodland north of Reepham	221	62	128	2
10	Woodland north of Reepham to woodland at Booton Common	212	65	116	2
11	Woodland east of Reepham to The Grove	193	66	96	2
12	The Grove to woodland south of Church Farm Lane	163	62	69	3
13	Woodland south of Church Farm Lane to River Wensum	192	64	96	3
14	River Wensum to woodland south west of Ringland	277	63	182	3
15	Woodland south west of Ringland to A47	173	67	72	3
16	A47 to Bawburgh Road	224	65	128	3
17	Bawburgh Road to woodland west of Little Melton	241	64	147	4
18	Woodland west of Little Melton to A11	316	63	221	4
19	A11 to woodland north west of Swardeston	191	62	96	4
20	Woodland north west of Swardeston to B1113	203	64	108	4
21	B1113 to end of cable route	267	109	128	4
Landfall	Landfall	15	5	10	
Booster Station	Booster Station	46	12	34	
Converter / Sub Station	Converter / Sub Station	111	29	82	
	Total:	**4,661**	**1,451**	**2,545**	**3,996**

HGVs

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

123 Light Vehicles

72 Total HGVs

12hr Total Construction Traffic Route Section 1

Key	
10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Landfall Access
A149
A1082
A148
A140
Bridge Road
B1436
B1149
Hemstead Road
Section 3 Access
Hempstead Road / Hole Farm Road
Plumstead Road and Sweetbriar Lane
Organic Waste Site
B1110
B1354
Town Close Lane
Valley Road
Hevdon Road
Thoroland Rd
A1067
A1065
Norwich Road
Wood Dalling Road
B1145
Section 10 Access
Section 13 Access
Section 12 Access
Section 11 Access
Hall Road
Buxton Road
Marl Hill
Station Road / Reepham Road
Section 14 Access
New Drayton Lane
Northern Distributor
A1270 Northern Distributor Road
Taverham Road / Church Lane / Ringland Road
A47 West
Dereham Road
Section 17 Access
B1108
Section 18 Access
B1172
A11
Station Lane
Section 20 Access
Section 21 Access
A140
A47
A47 East
A146
A1151

A47 Traffic routes onto A1065

HGVS

Assume		
	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

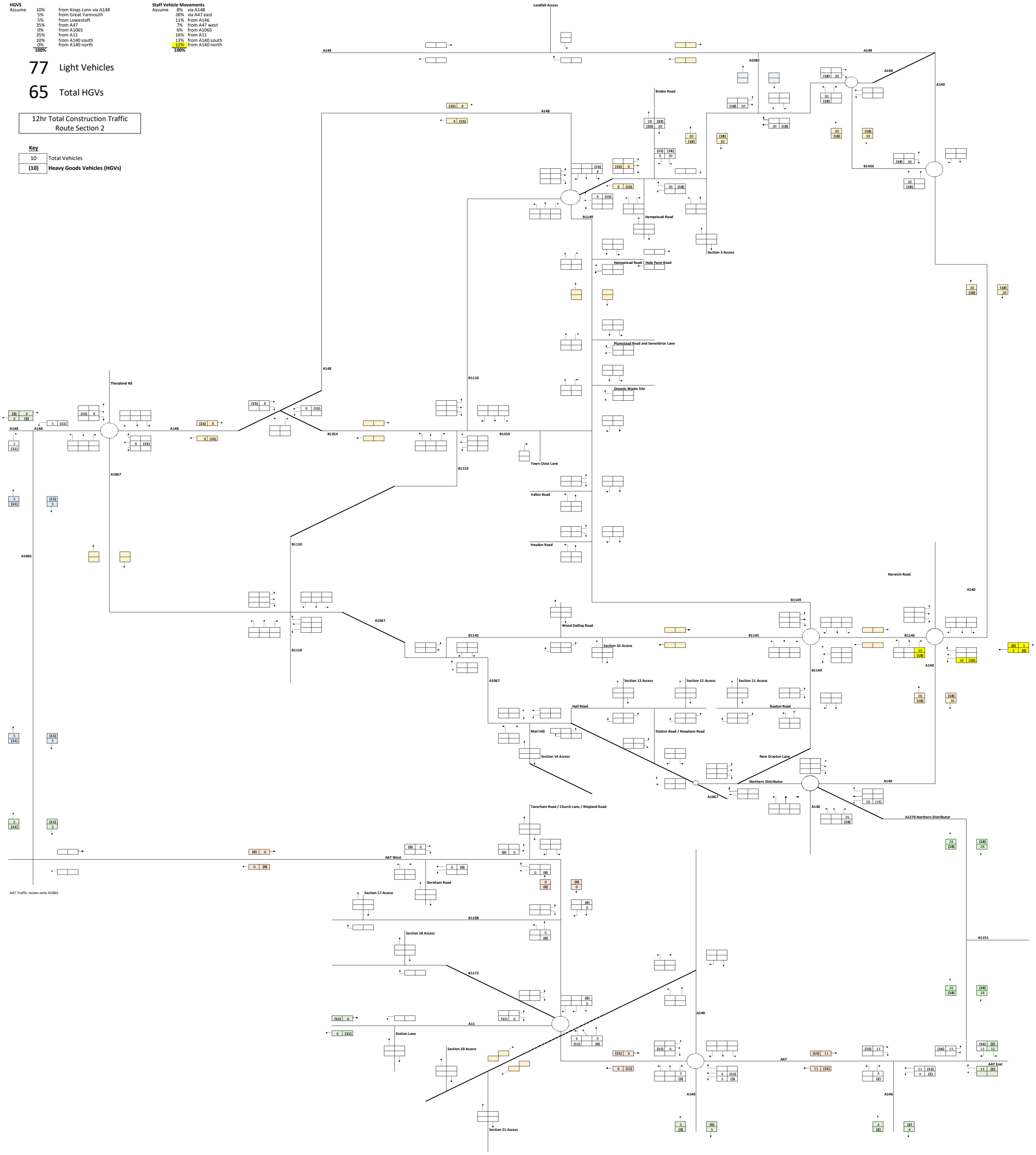
77 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic
Route Section 2

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

66 Total HGVs

12hr Total Construction Traffic
Route Section 3

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Landfall Access
A149
A1082
A148
A140
Bridge Road
B1436
B1149
Hempstead Road
Section 3 Access
Hempstead Road / Hole Farm Road
Plumstead Road and Sweetbriar Lane
Organic Waste Site
B1110
B1354
Town Close Lane
Valley Road
Heydon Road
Thorpland Rd
A1067
A1065
Norwich Road
Wood Dalling Road
B1145
Section 10 Access
Section 13 Access
Section 12 Access
Section 11 Access
Hall Road
Buxton Road
Marl Hill
Station Road / Reepham Road
Section 14 Access
New Drayton Lane
Northern Distributor
A1270 Northern Distributor
Taverham Road / Church Lane / Ringland Road
A47 West
Dereham Road
Section 17 Access
B1108
Section 18 Access
B1172
A11
Station Lane
Section 20 Access
Section 21 Access
A47
A47 East
A146
A1151

A47 Traffic routes onto A1065

HGVS

Assume		
	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

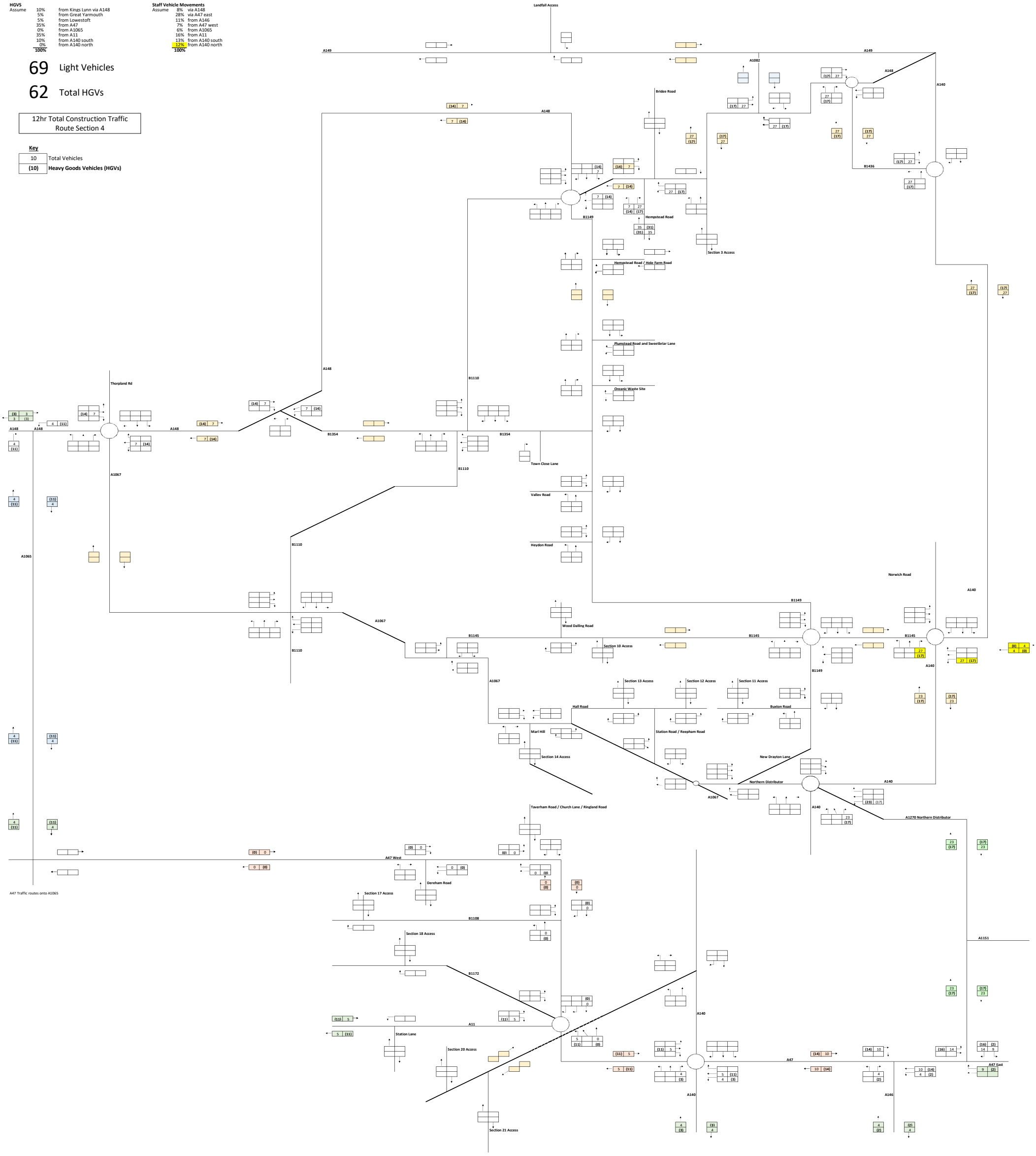
69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic
Route Section 4

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

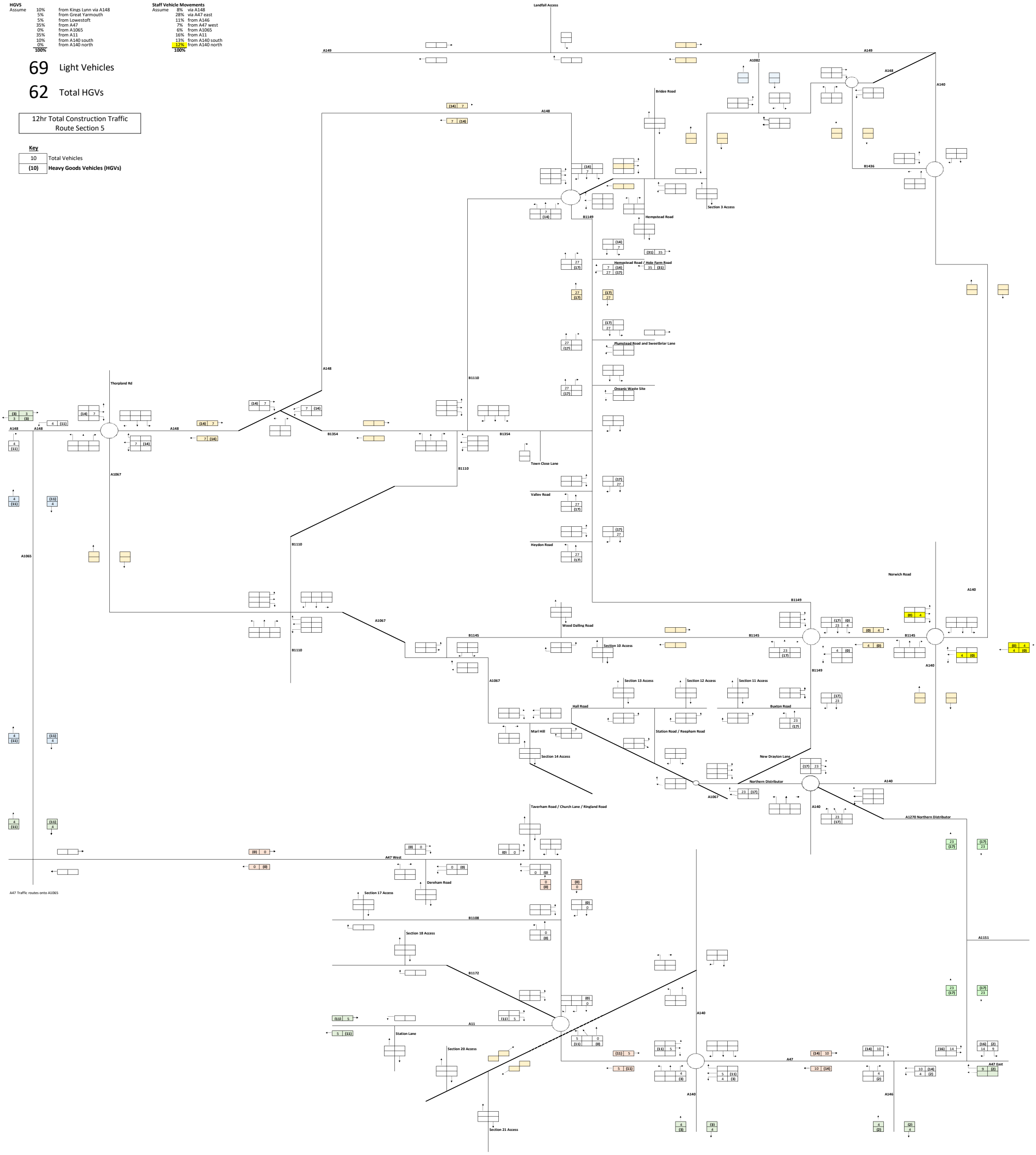
69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic Route Section 5

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



A47 Traffic routes onto A1065

12hr Total Construction Traffic
Phase 1 Total

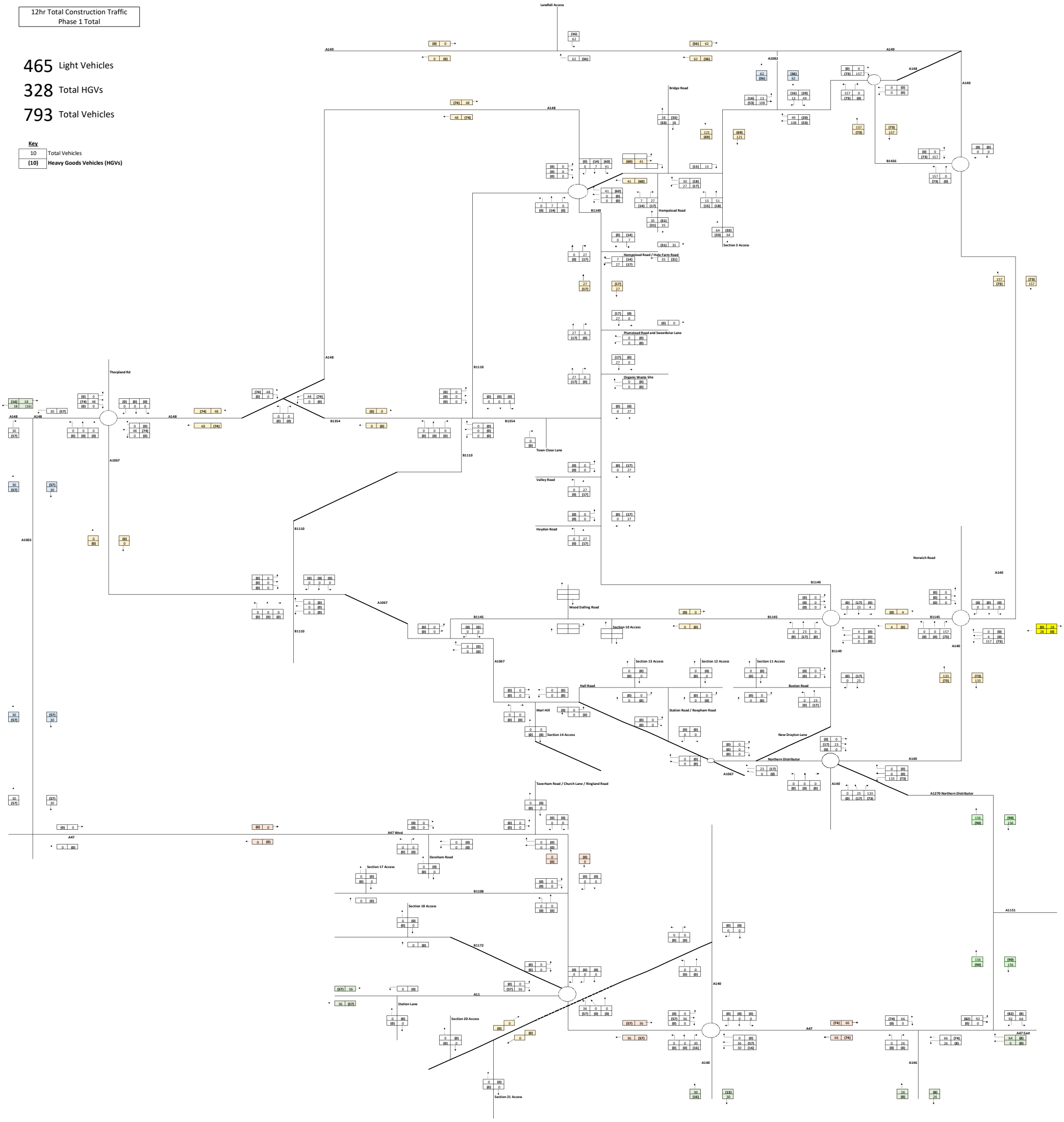
465 Light Vehicles

328 Total HGVs

793 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

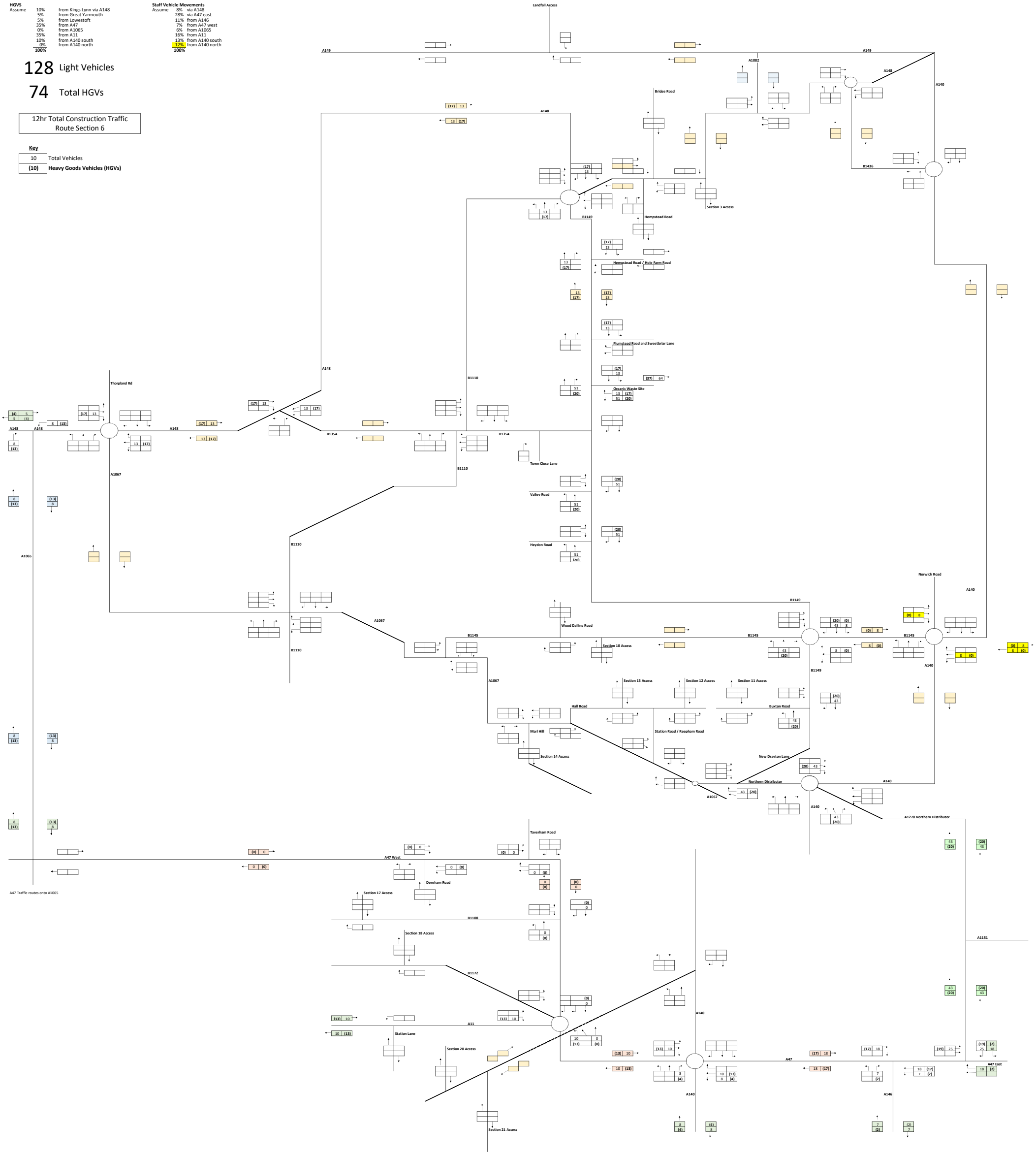
128 Light Vehicles

74 Total HGVs

12hr Total Construction Traffic
Route Section 6

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

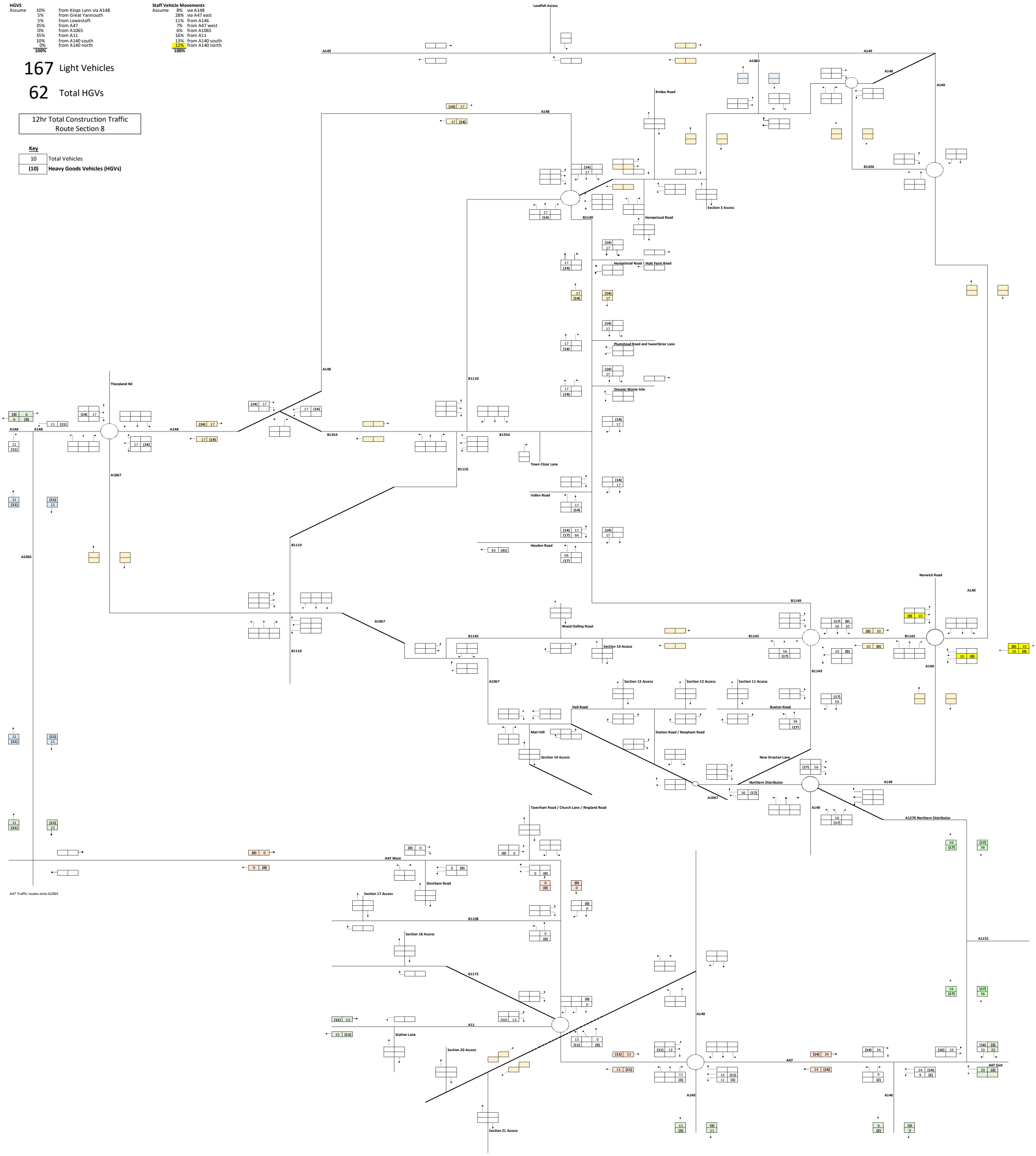
167 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic Route Section 8

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

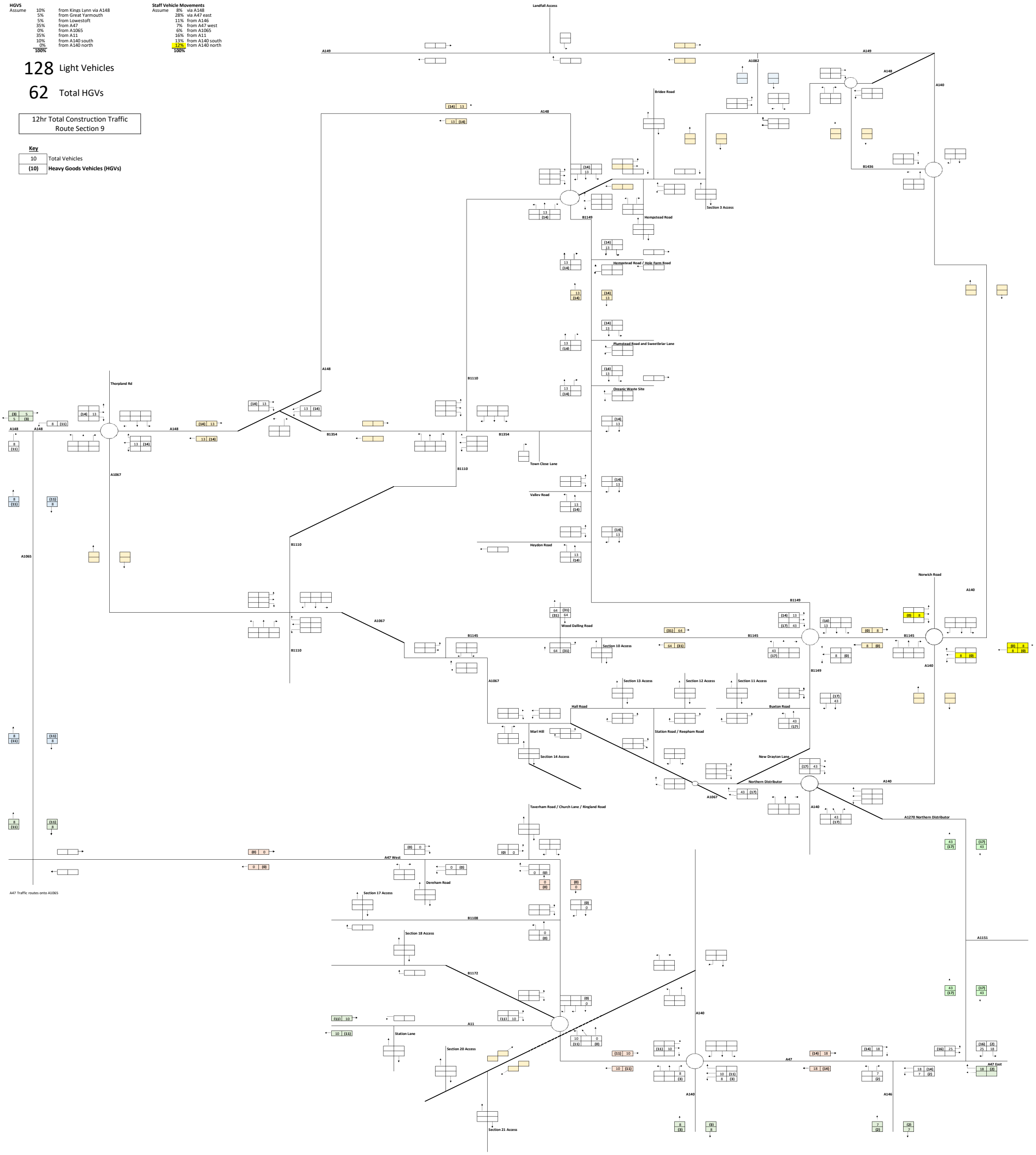
128 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic
Route Section 9

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

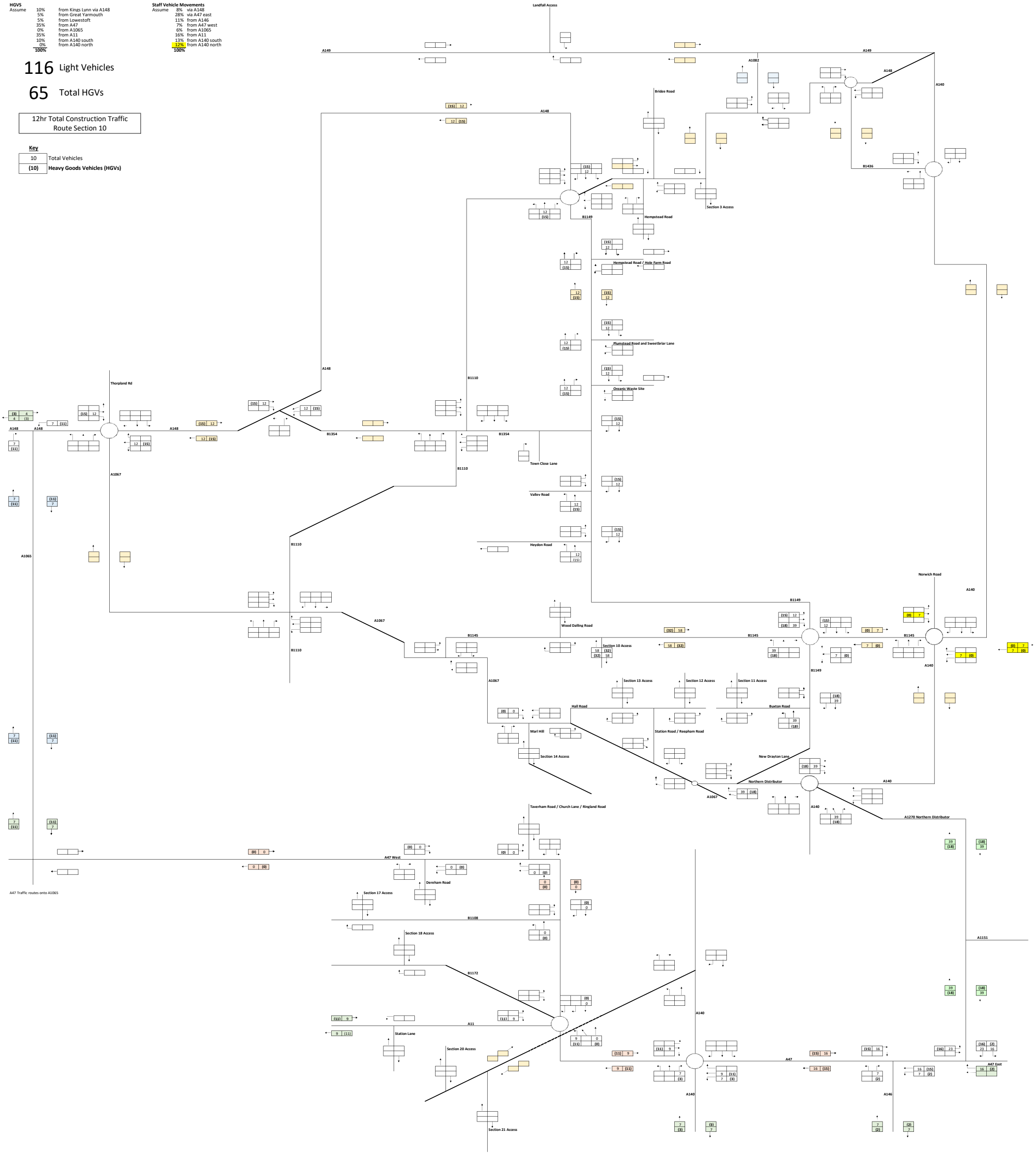
116 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic Route Section 10

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

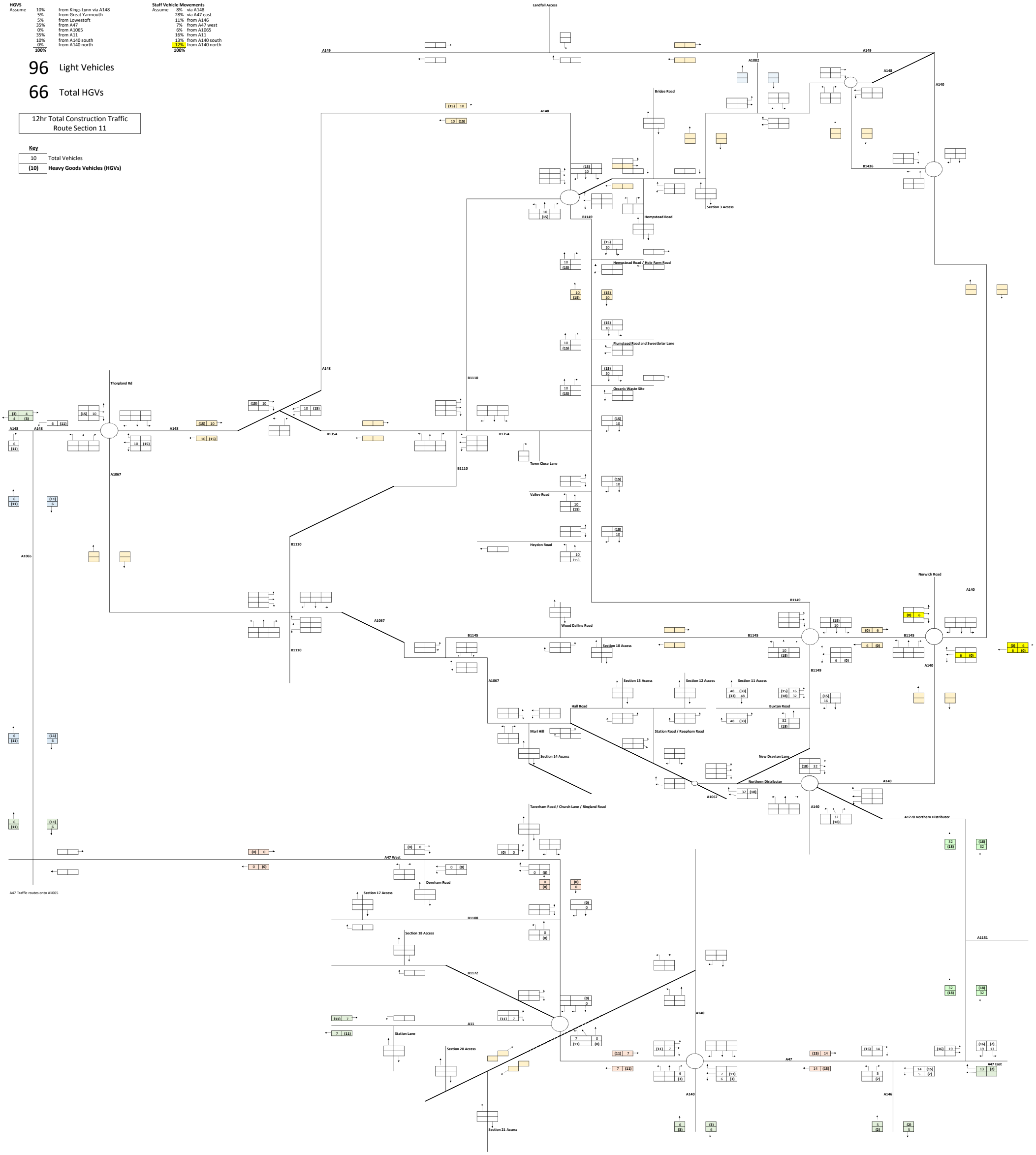
96 Light Vehicles

66 Total HGVs

12hr Total Construction Traffic
Route Section 11

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



12hr Total Construction Traffic
Phase 2 Total

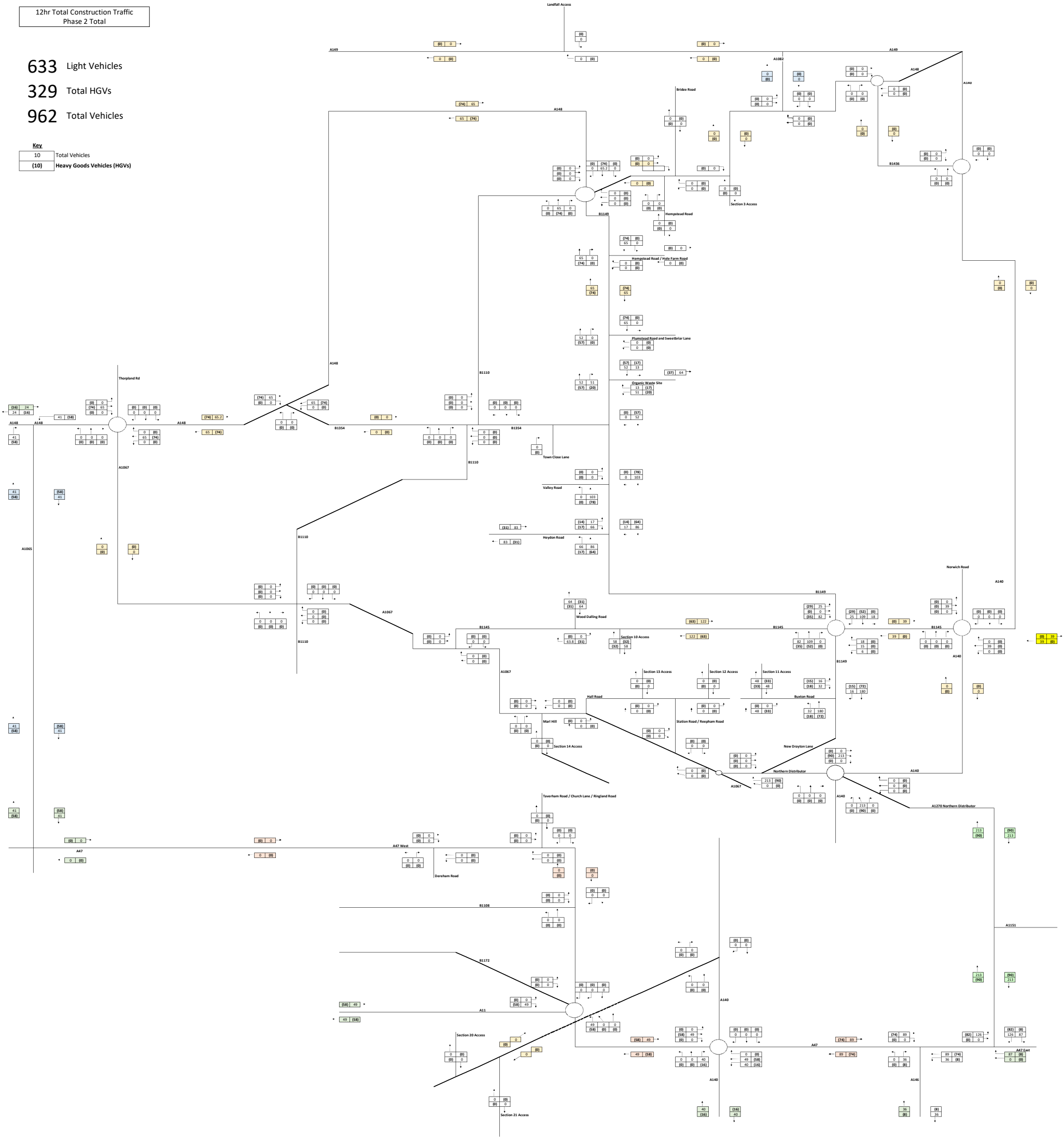
633 Light Vehicles

329 Total HGVs

962 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

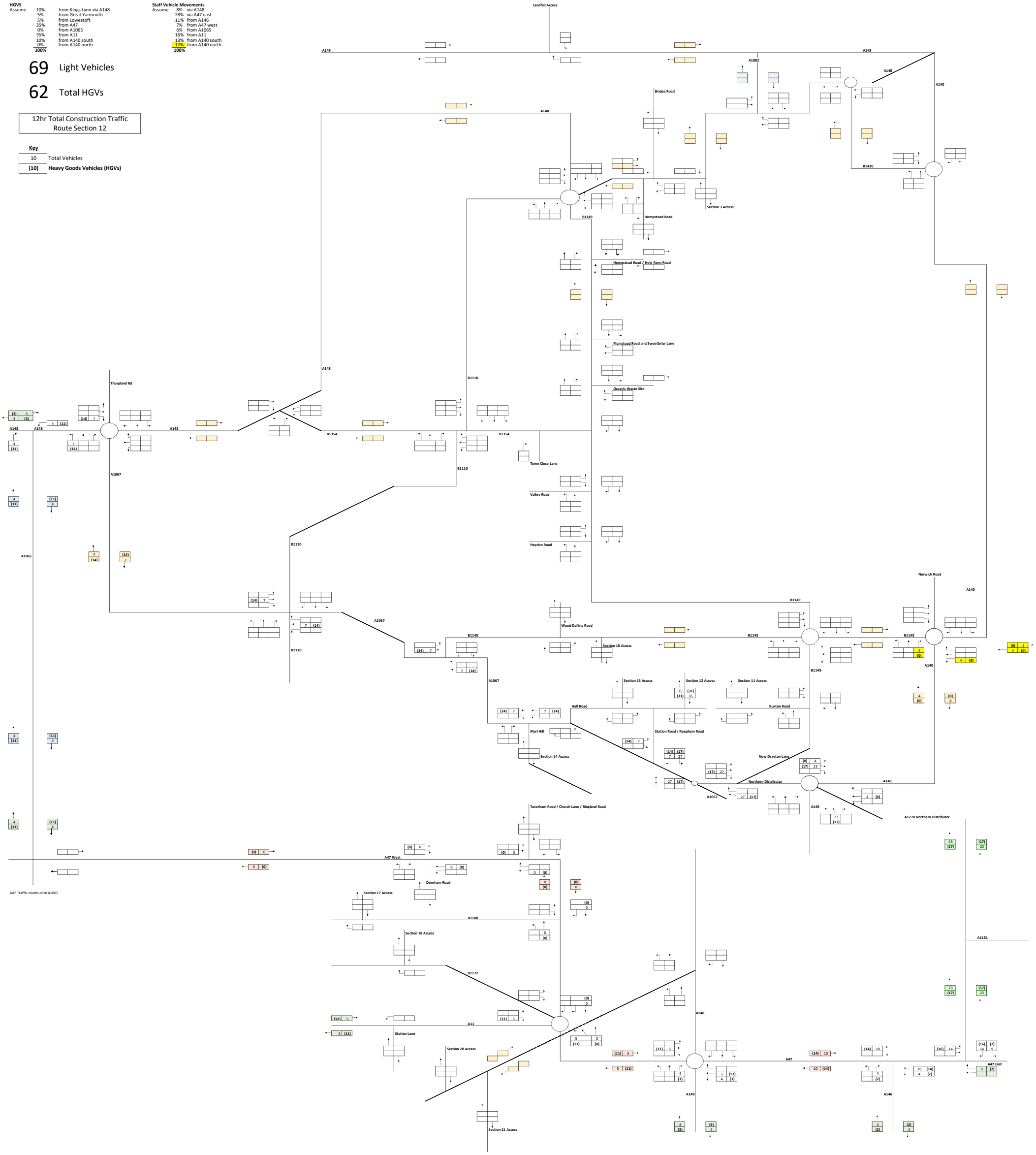
69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic Route Section 12

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

96 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic Route Section 13

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Landfall Access
A149
A1082
A148
A140
Bridge Road
B1436
Section 3 Access
B1149
Hempstead Road
Hempstead Road / Hole Farm Road
Plumstead Road and Sweetbriar Lane
Organic Waste Site
B1110
B1354
Town Close Lane
Valley Road
Heydon Road
Thorpland Rd
A1067
A1065
Norwich Road
Wood Dalling Road
B1145
Section 10 Access
Section 13 Access
Section 12 Access
Section 11 Access
Hall Road
Buxton Road
Marl Hill
Station Road / Reepham Road
Section 14 Access
New Drayton Lane
Northern Distributor
A1270 Northern Distributor
Taverham Road / Church Lane / Ringland Road
A47 West
Dereham Road
Section 17 Access
B1108
Section 18 Access
B1172
A11
Station Lane
Section 20 Access
Section 21 Access
A140
A47
A47 East
A146
A1151

A47 Traffic routes onto A1065

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

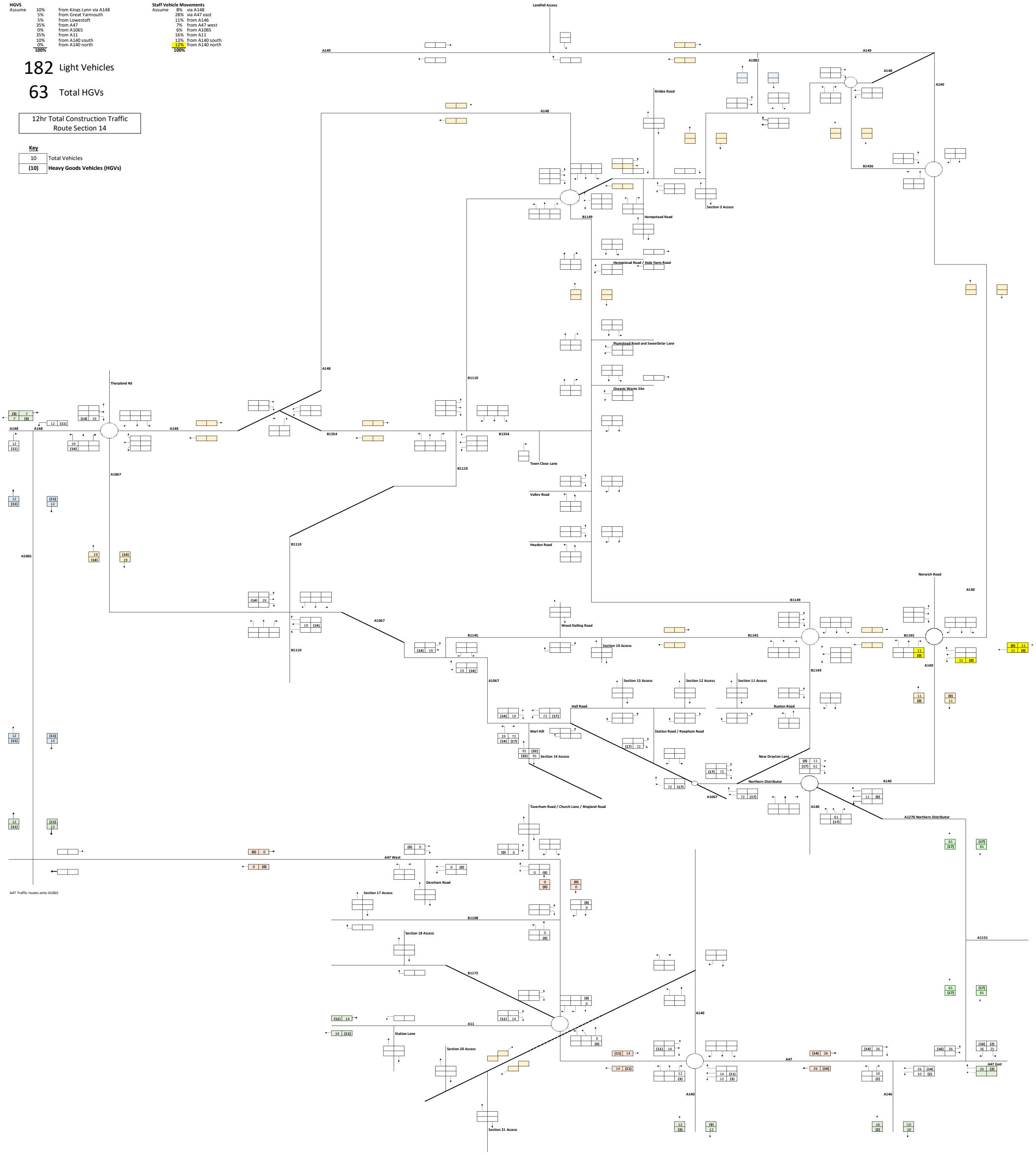
182 Light Vehicles

63 Total HGVs

12hr Total Construction Traffic Route Section 14

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

72 Light Vehicles

67 Total HGVs

12hr Total Construction Traffic Route Section 15

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic Route Section 16

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

12hr Total Construction Traffic
Phase 3 Total

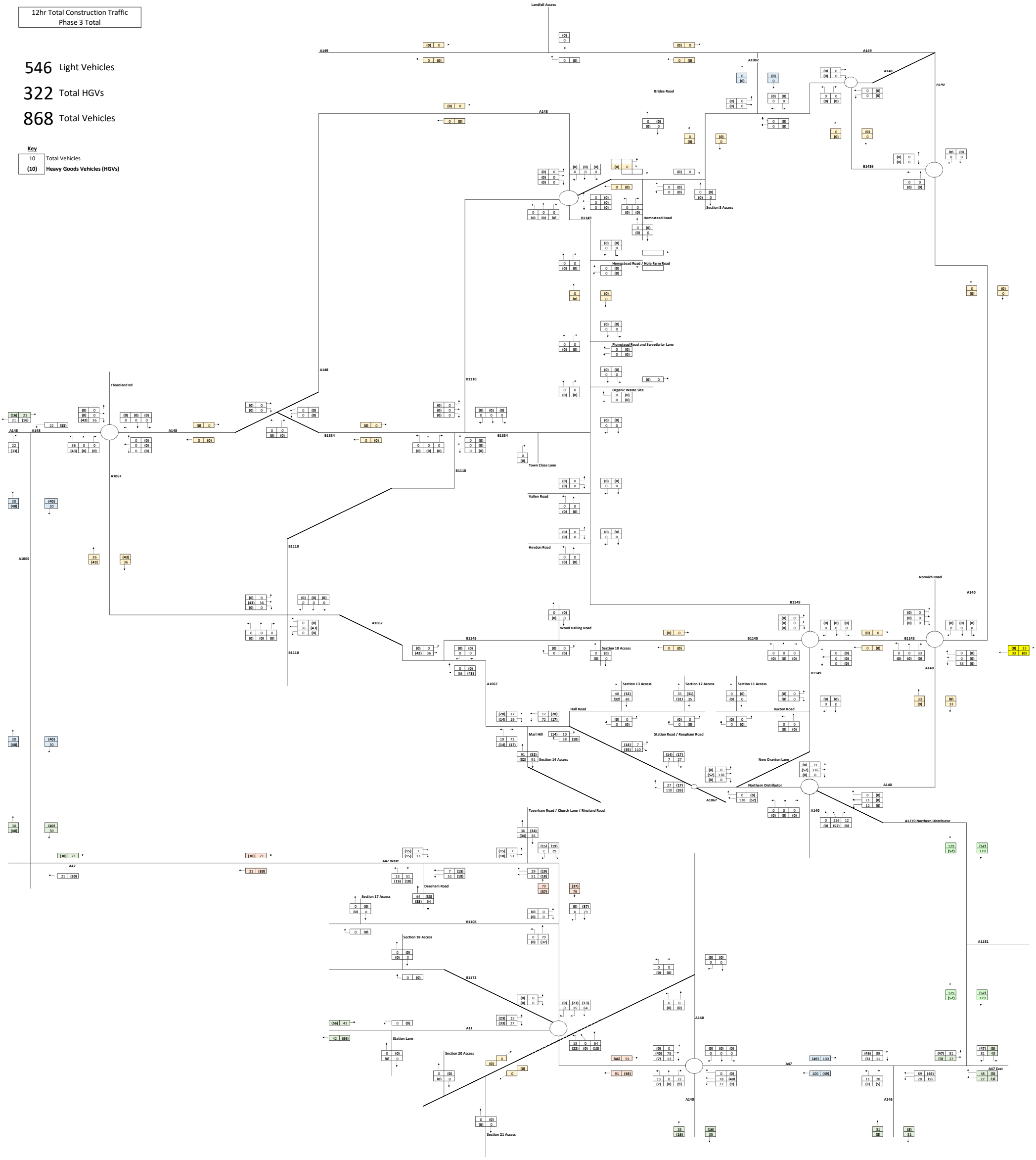
546 Light Vehicles

322 Total HGVs

868 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

147 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic Route Section 17

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

221 Light Vehicles

63 Total HGVs

12hr Total Construction Traffic Route Section 18

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

96 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic Route Section 19

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

108 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic Route Section 20

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

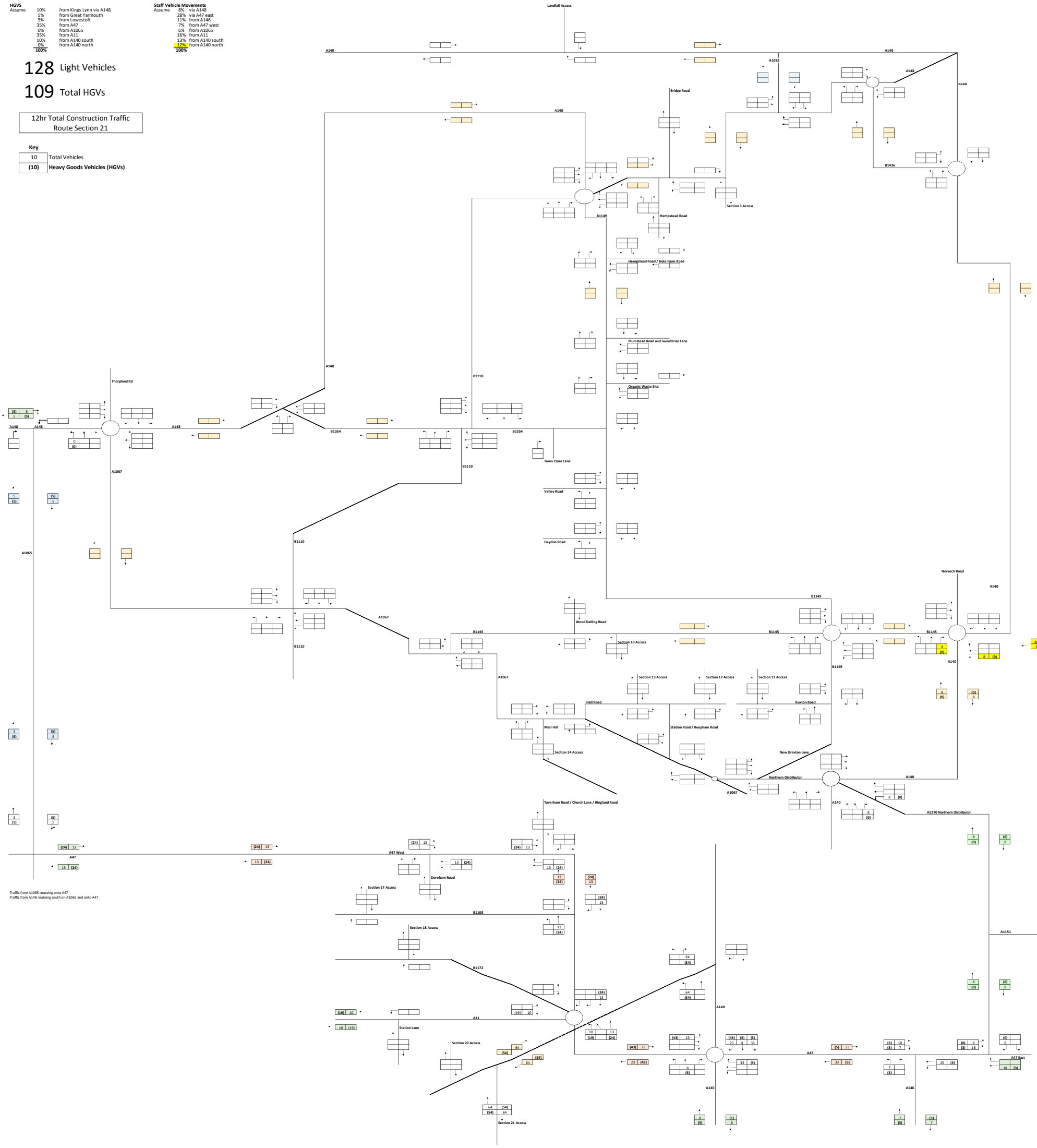
109 Total HGVs

12hr Total Construction Traffic
Route Section 21

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47



12hr Total Construction Traffic
Phase 4 Total

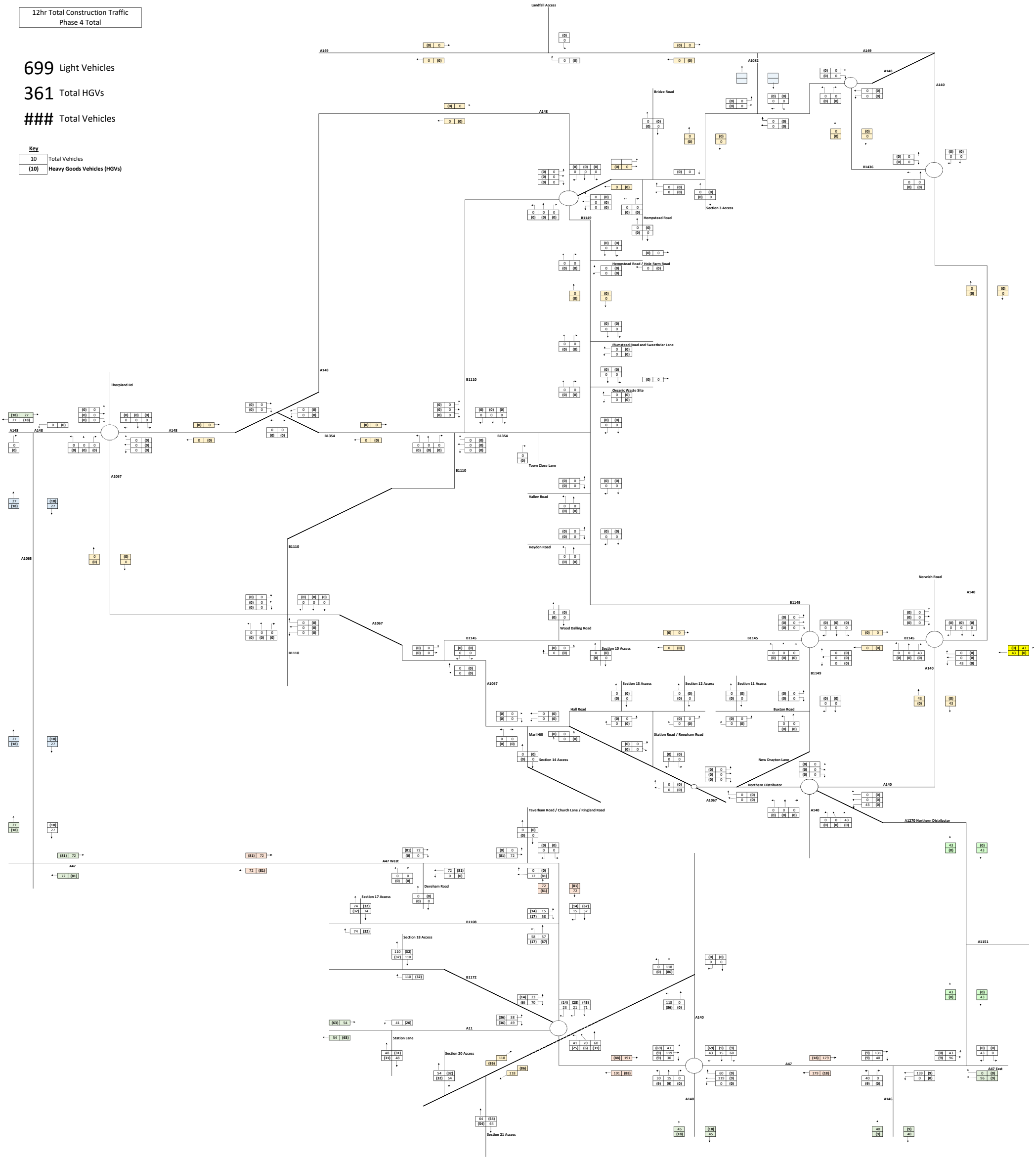
699 Light Vehicles

361 Total HGVs

Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

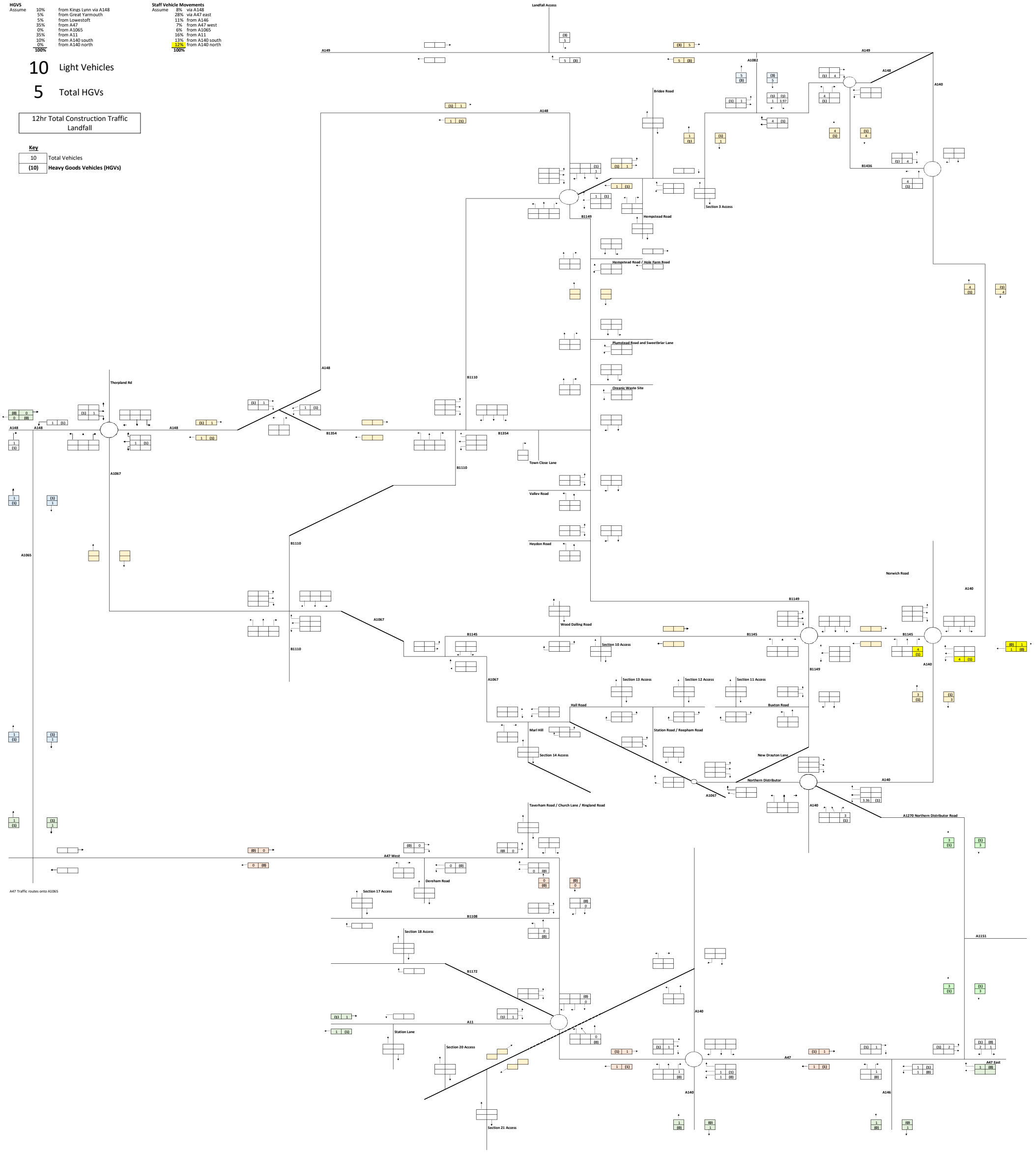
10 Light Vehicles

5 Total HGVs

12hr Total Construction Traffic Landfall

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



A47 Traffic routes onto A1065

HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

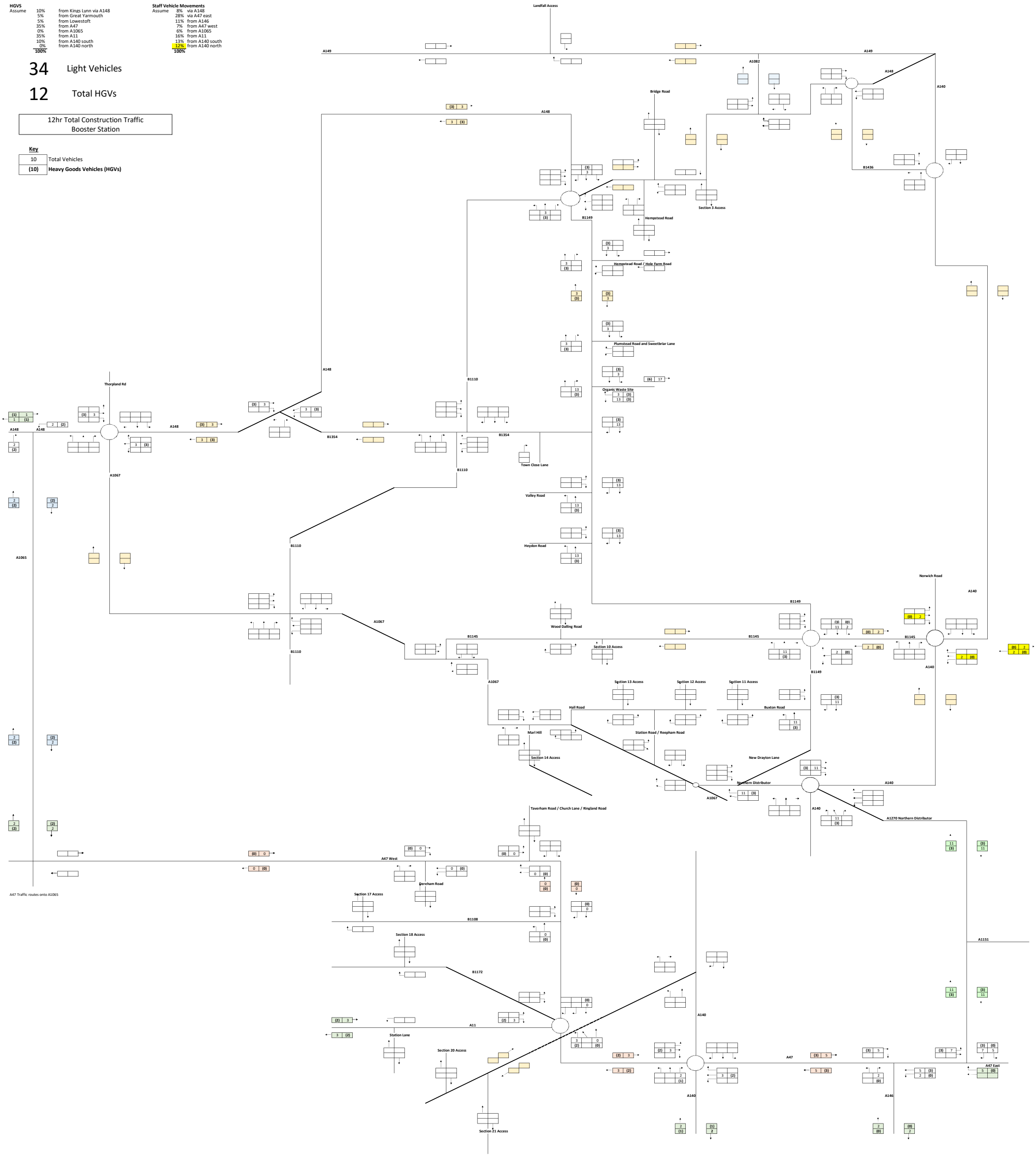
34 Light Vehicles

12 Total HGVs

12hr Total Construction Traffic
Booster Station

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	10%	from Kings Lynn via A148
	5%	from Great Yarmouth
	5%	from Lowestoft
	35%	from A47
	0%	from A1065
	35%	from A11
	10%	from A140 south
	0%	from A140 north
	100%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

82 Light Vehicles

29 Total HGVs

12hr Total Construction Traffic
HVAC Substation

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

12hr Total Construction Traffic
Maximum Construction Traffic

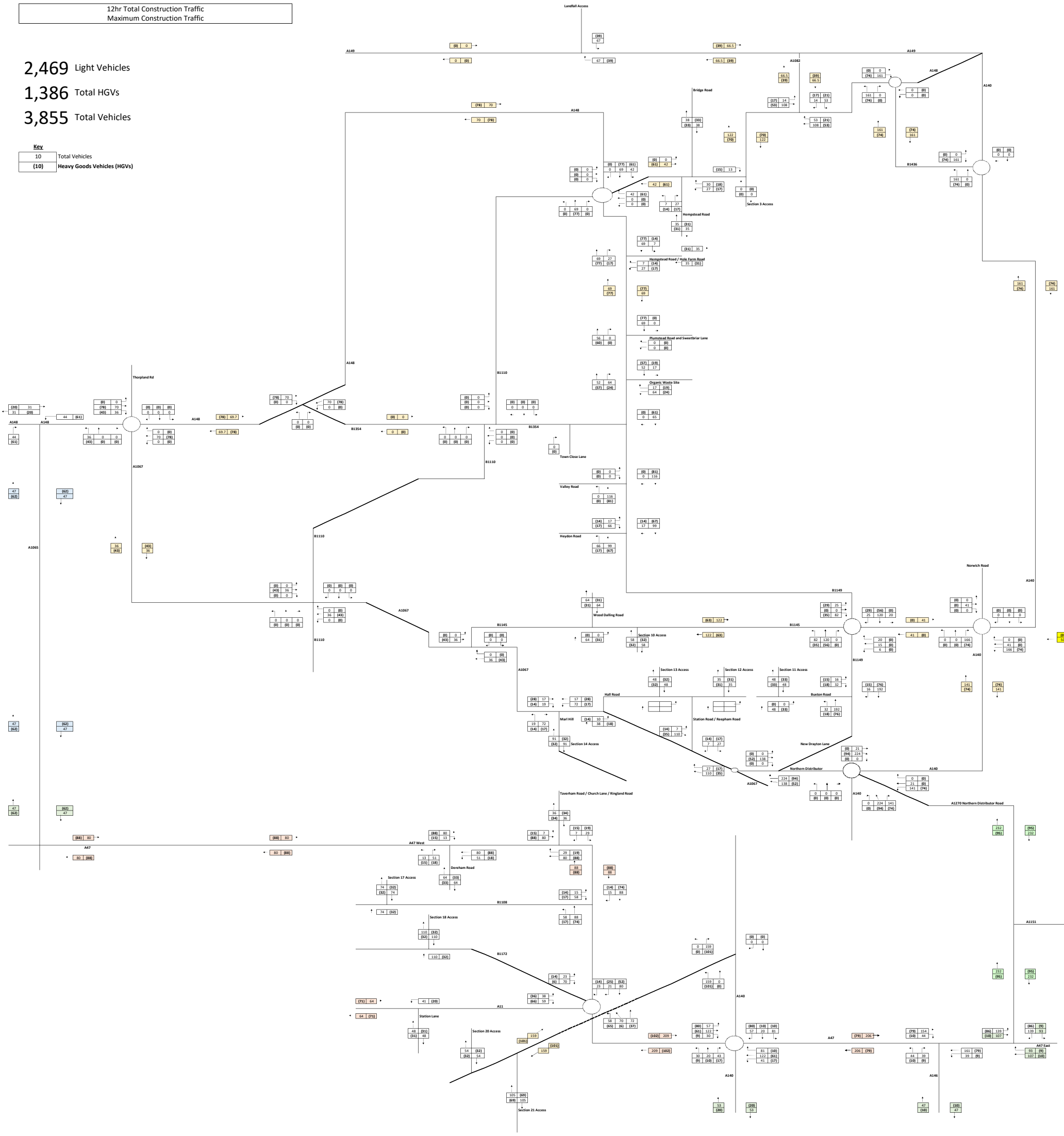
2,469 Light Vehicles

1,386 Total HGVs

3,855 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



12hr Total Construction Traffic
Total Construction Traffic (excluding Section 7)

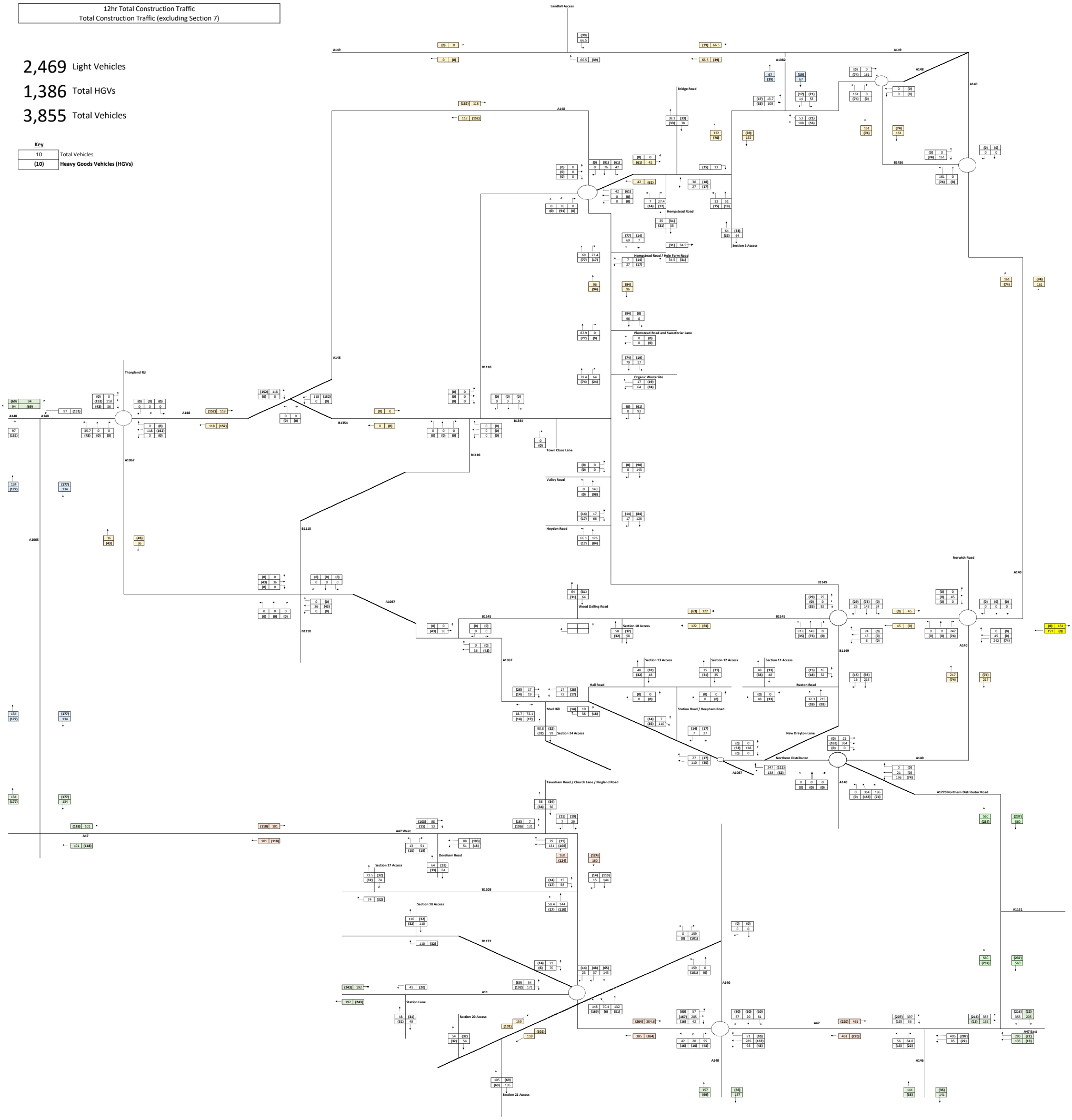
2,469 Light Vehicles

1,386 Total HGVs

3,855 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

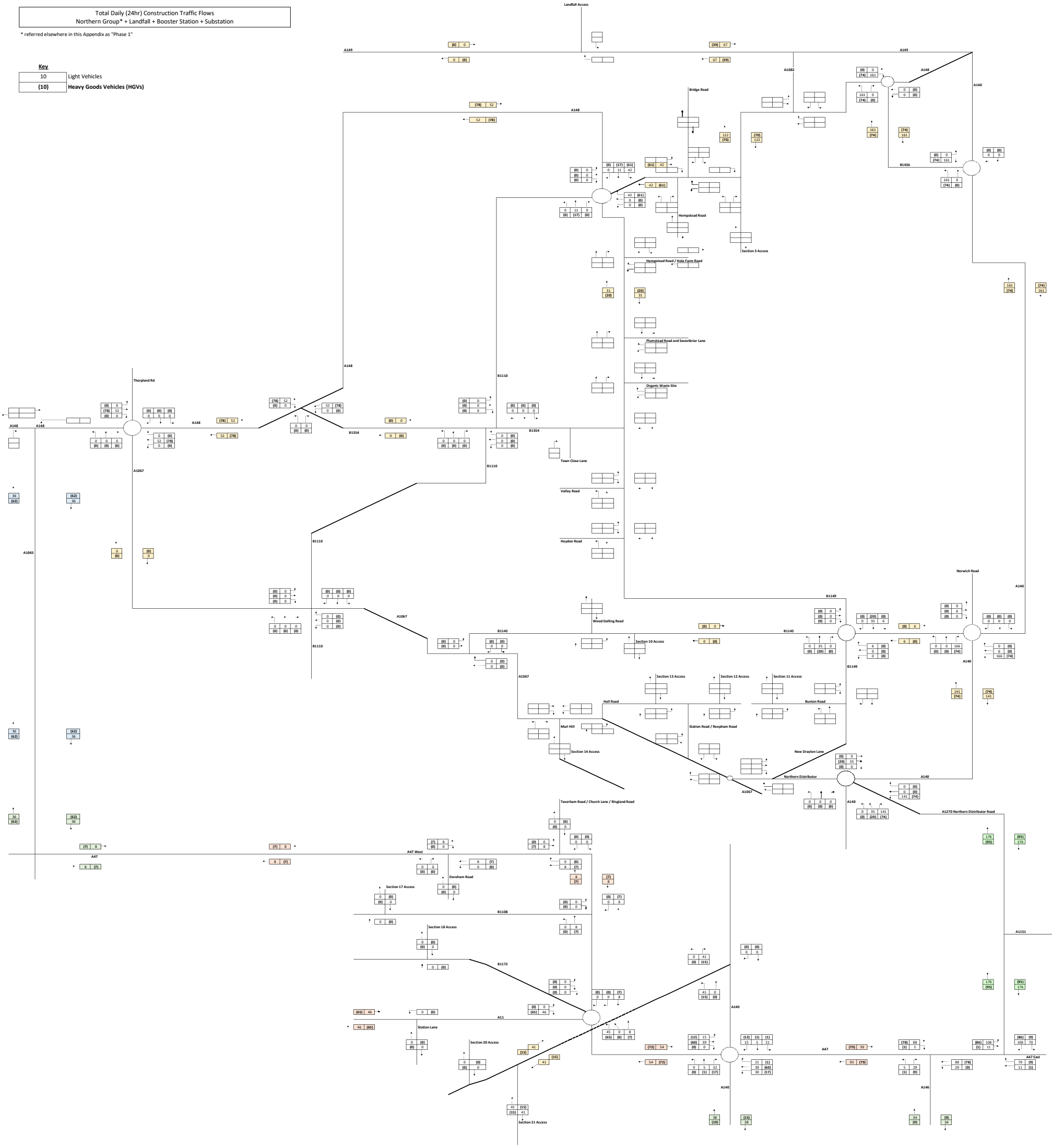


Total Daily (24hr) Construction Traffic Flows
Northern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 1"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

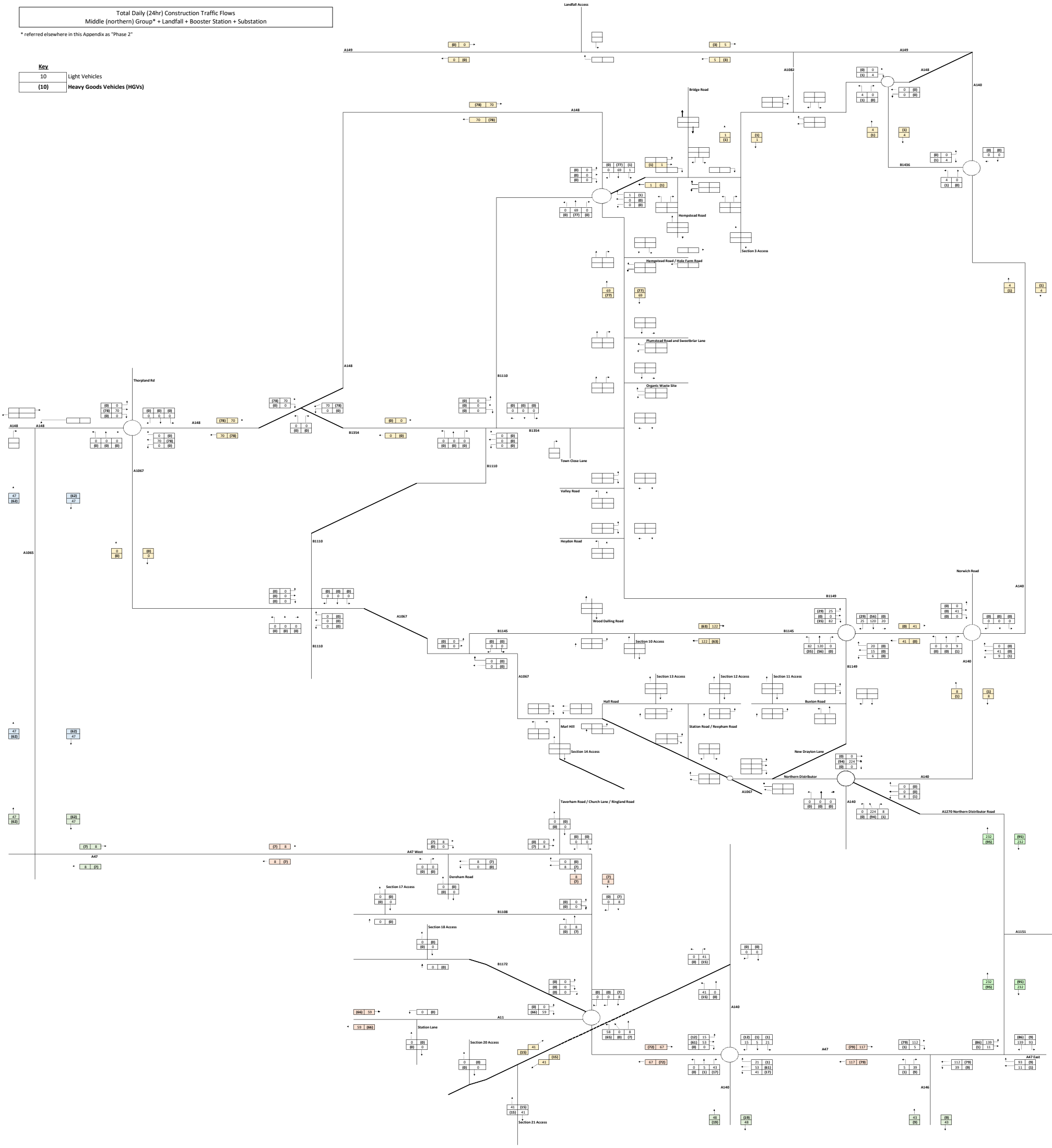


Total Daily (24hr) Construction Traffic Flows
Middle (northern) Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 2"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

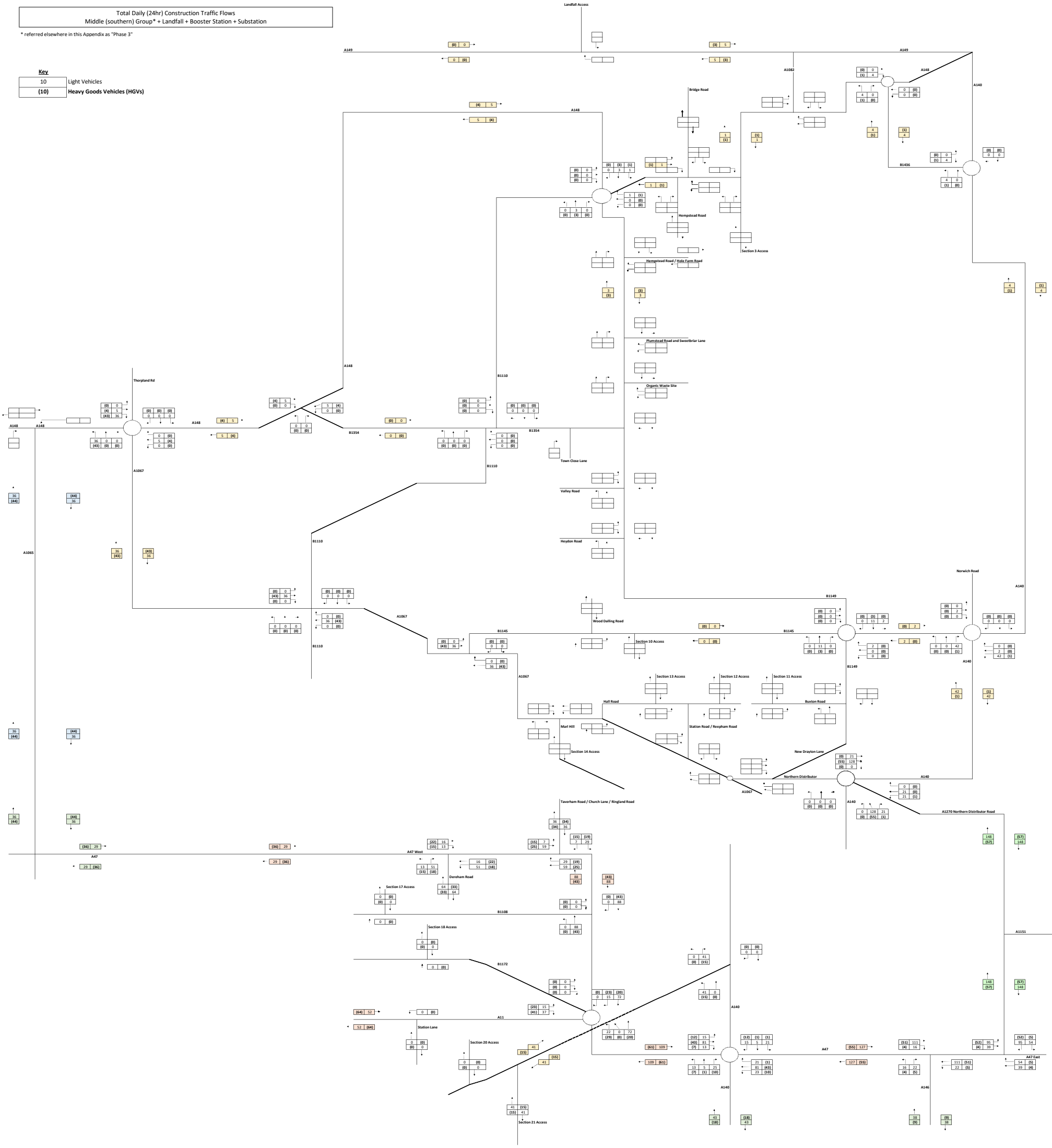


Total Daily (24hr) Construction Traffic Flows
Middle (southern) Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 3"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

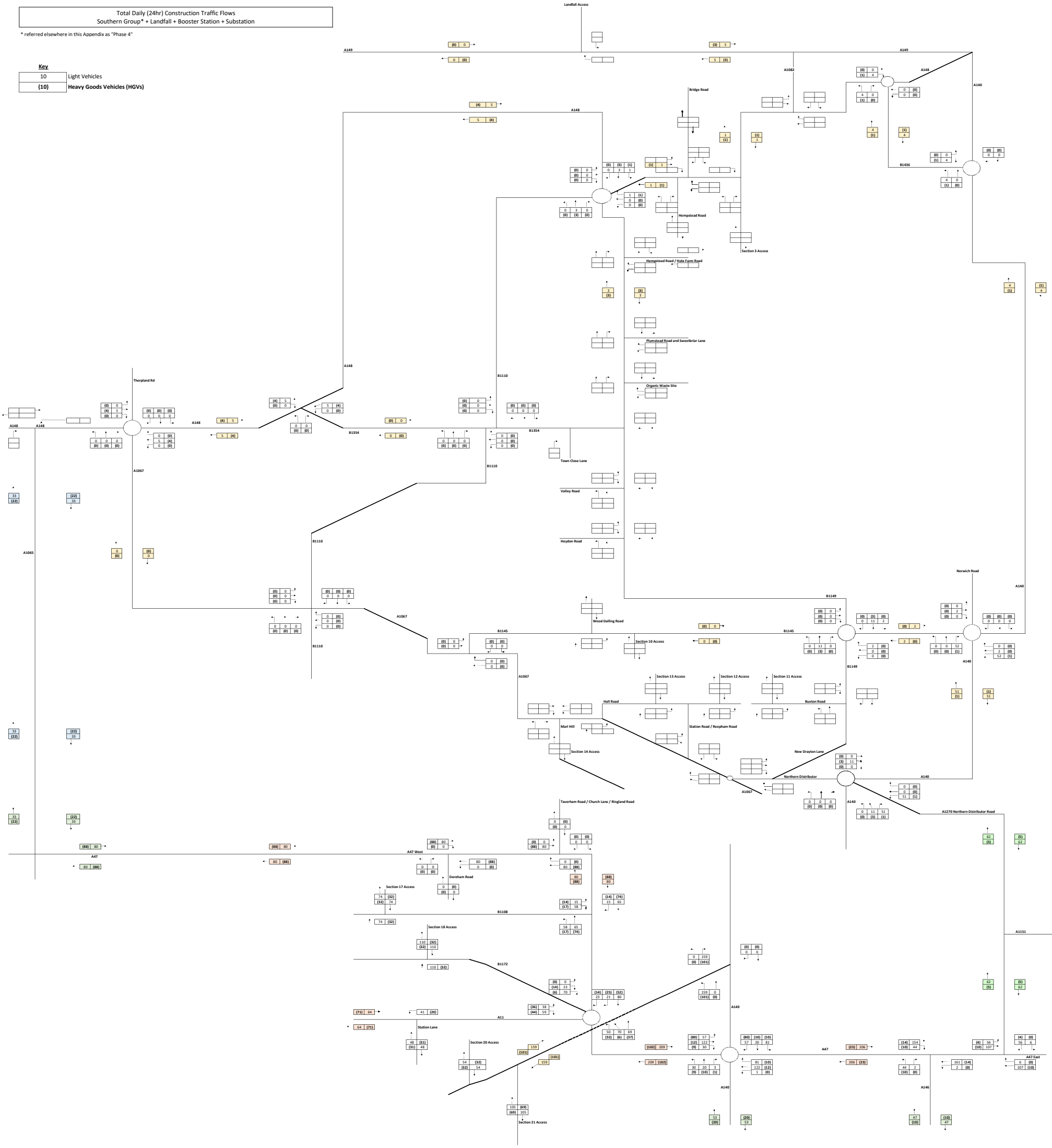


Total Daily (24hr) Construction Traffic Flows
Southern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 4"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



Traffic Flow Diagrams

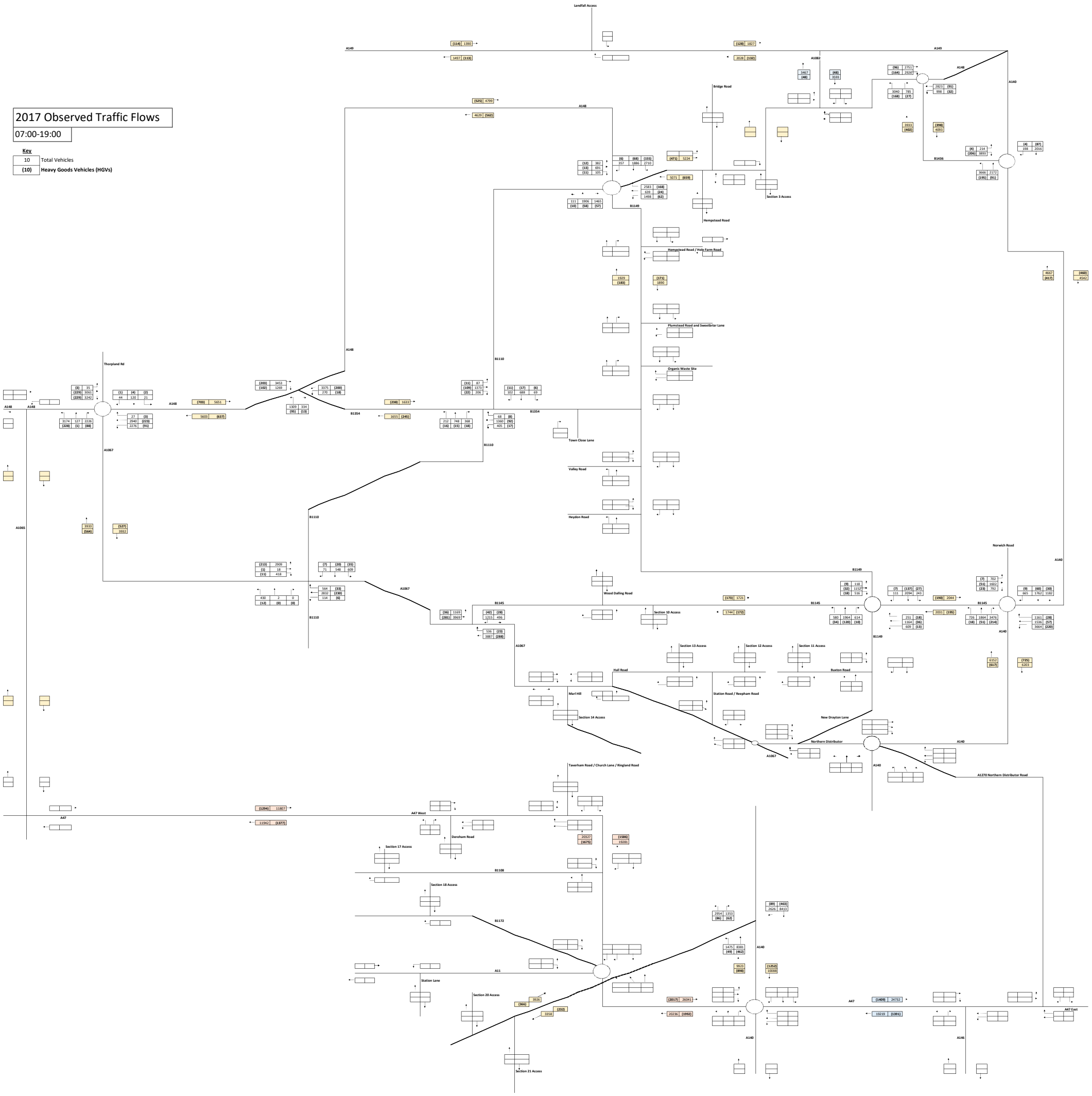
12hr Total Construction Traffic
Sensitivity Scenario

2017 Observed Traffic Flows

07:00-19:00

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



TEMPRO

Average Weekday

Trunk
1.10 growth 2017-2022

Principal
1.09 growth 2017-2022

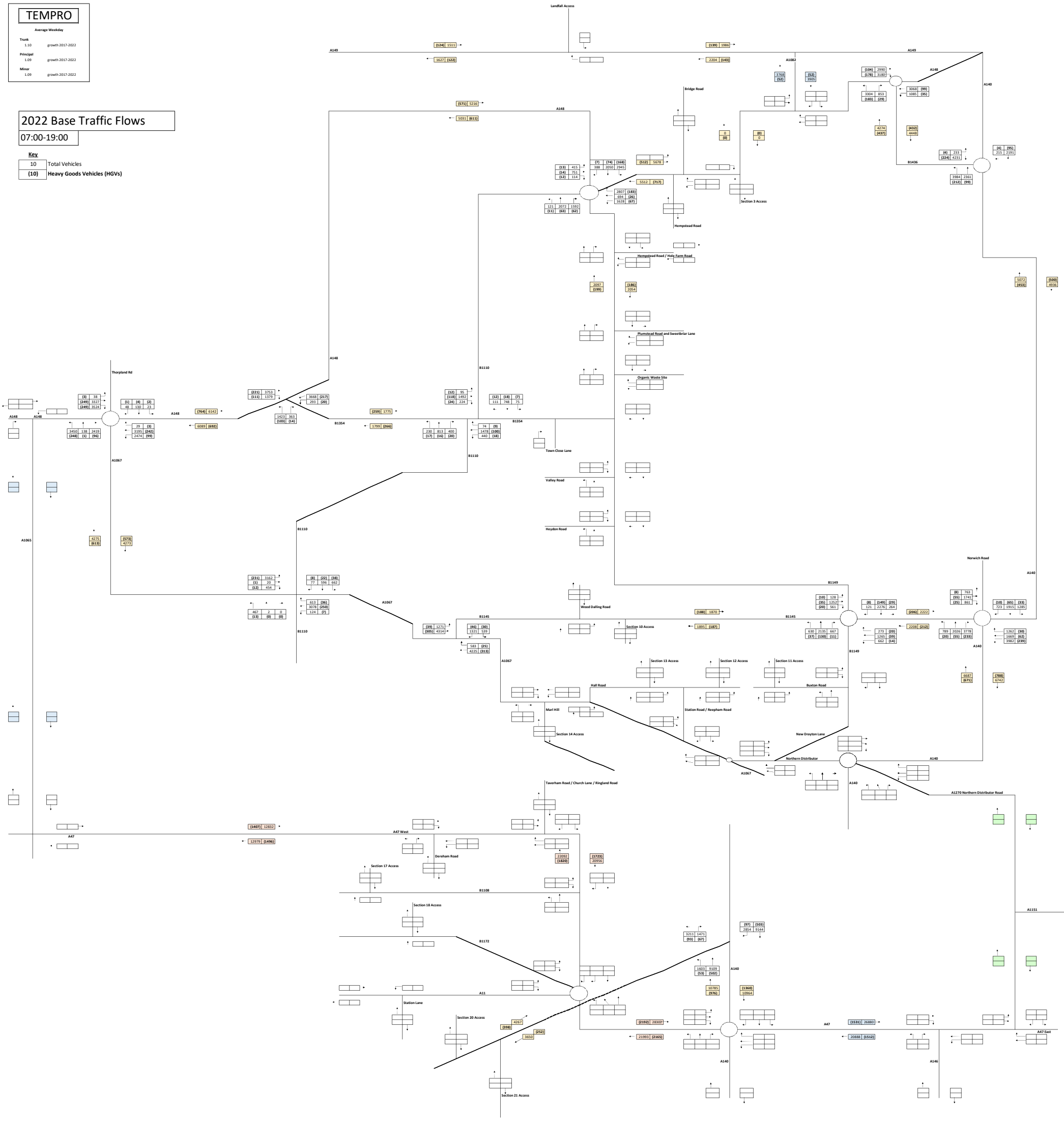
Minor
1.09 growth 2017-2022

2022 Base Traffic Flows

07:00-19:00

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



Tables Linked to Construction Vehicle Movements Spreadsheet

Route Section	Description	12hr Vehicle Flows			
		Total	HGV	Lights	Phase
1	Landfall to Holgate Hill	207	72	135	1
2	Holgate Hill to woodland north east of High Kelling	142	65	77	1
3	Woodland northeast of High Kelling to woodland south of Church Road	181	66	116	1
4	Woodland south of Church Road to woodland south and east of School Lane	131	62	69	1
5	Woodland east of School Lane to Plumstead Road	131	62	69	1
6	Plumstead Road to the B1149	202	74	128	2
7	B1149 to land South of Town Close Lane	141	65	77	-
8	Land south of Town Close Lane to woodland north of Reepham Road	229	62	167	2
9	Land north of Reepham Road to woodland north of Reepham	190	62	128	2
10	Woodland north of Reepham to woodland at Booton Common	180	65	116	2
11	Woodland east of Reepham to The Grove	162	66	96	2
12	The Grove to woodland south of Church Farm Lane	131	62	69	3
13	Woodland south of Church Farm Lane to River Wensum	160	64	96	3
14	River Wensum to woodland south west of Ringland	257	63	194	3
15	Woodland south west of Ringland to A47	151	67	84	3
16	A47 to Bawburgh Road	193	65	128	3
17	Bawburgh Road to woodland west of Little Melton	199	64	135	4
18	Woodland west of Little Melton to A11	296	63	233	4
19	A11 to woodland north west of Swardeston	170	62	108	4
20	Woodland north west of Swardeston to B1113	172	64	108	4
21	B1113 to end of cable route	236	109	128	4
Landfall	Landfall	15	5	10	
Booster Station	Booster Station	46	12	34	
Converter / Sub Station	Converter / Sub Station	111	29	82	
	Total:	**4,032**	**1,451**	**2,581**	**4,032**

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

135 Light Vehicles

72 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 1

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

A47 Traffic routes onto A1065

Landfall Access
A149
A1082
A148
A140
Bridge Road
B1436
B1149
Hempstead Road
Section 3 Access
Hempstead Road / Hole Farm Road
Plumstead Road and Sweetbriar Lane
Organic Waste Site
B1110
B1354
Town Close Lane
Valley Road
Heydon Road
Thorpland Rd
A1067
A1065
Norwich Road
Wood Dalling Road
B1145
Section 10 Access
Section 13 Access
Section 12 Access
Section 11 Access
Hall Road
Buxton Road
Marl Hill
Station Road / Reepham Road
Section 14 Access
New Drayton Lane
Northern Distributor
A1270 Northern Distributor Road
Taverham Road / Church Lane / Ringland Road
A47 West
Dereham Road
Section 17 Access
B1108
Section 18 Access
B1172
A11
Station Lane
Section 20 Access
Section 21 Access
A47
A47 East
A1151
A146

HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

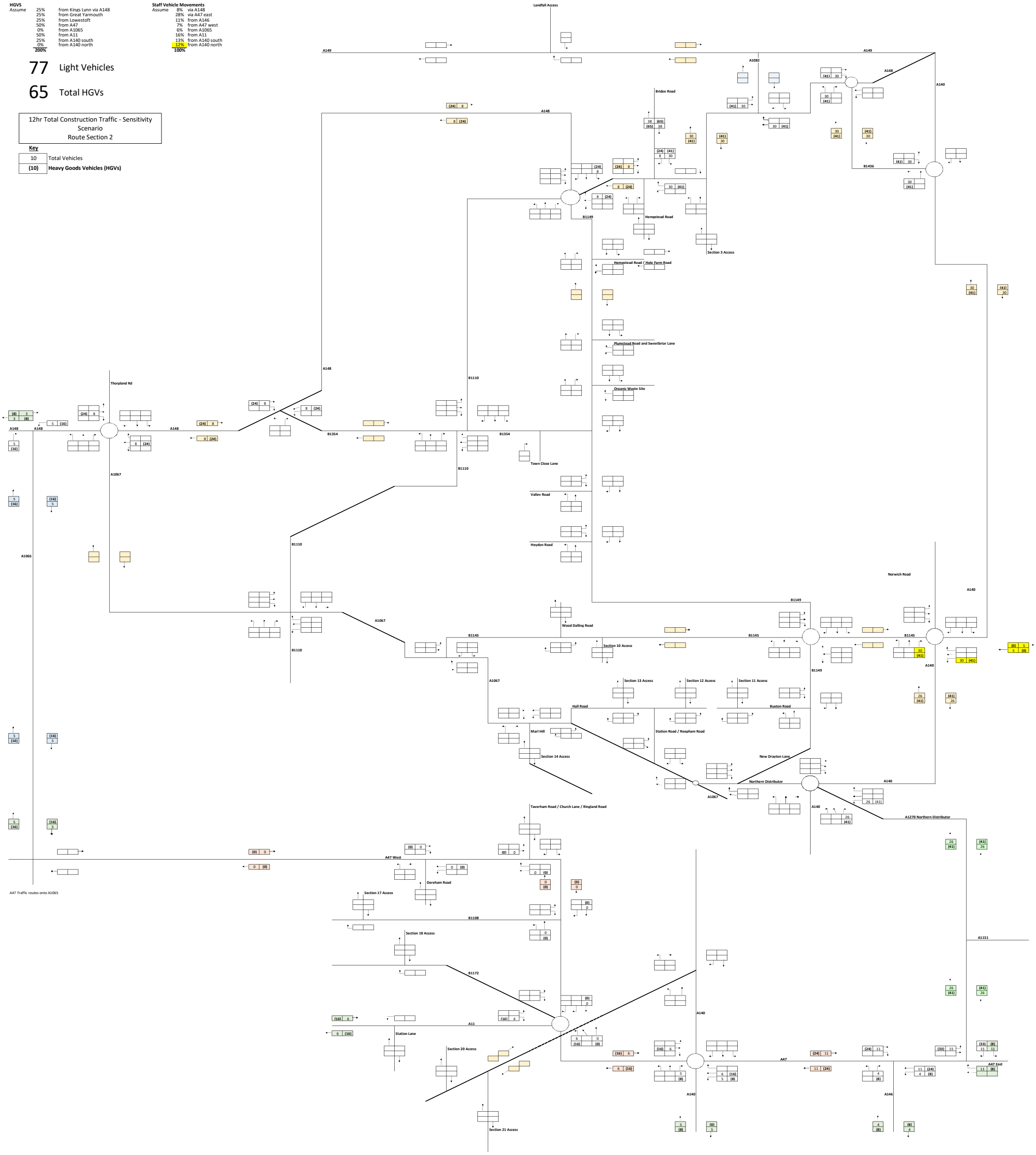
77 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 2

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



A47 Traffic routes onto A1065

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

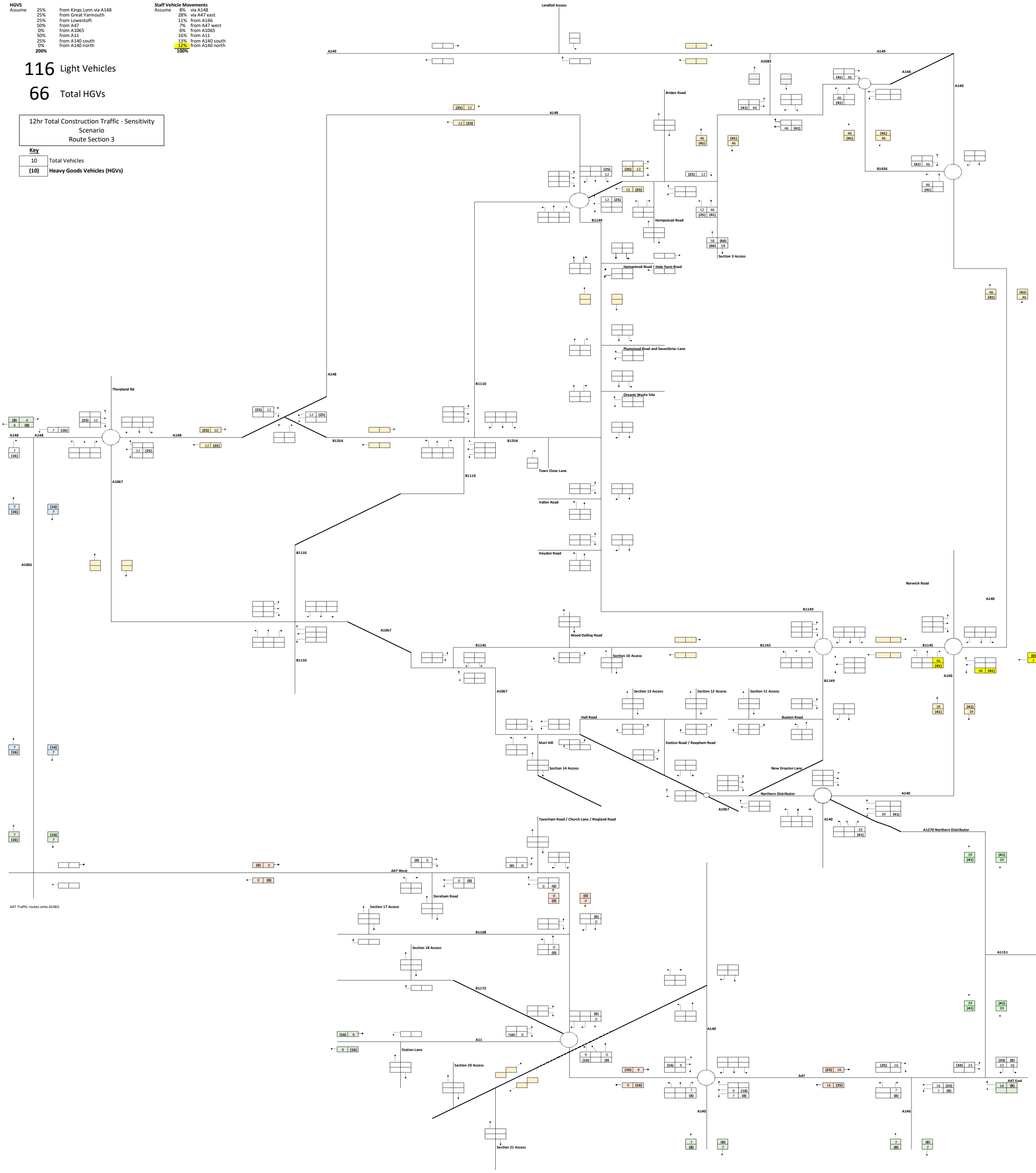
116 Light Vehicles

66 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 3

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

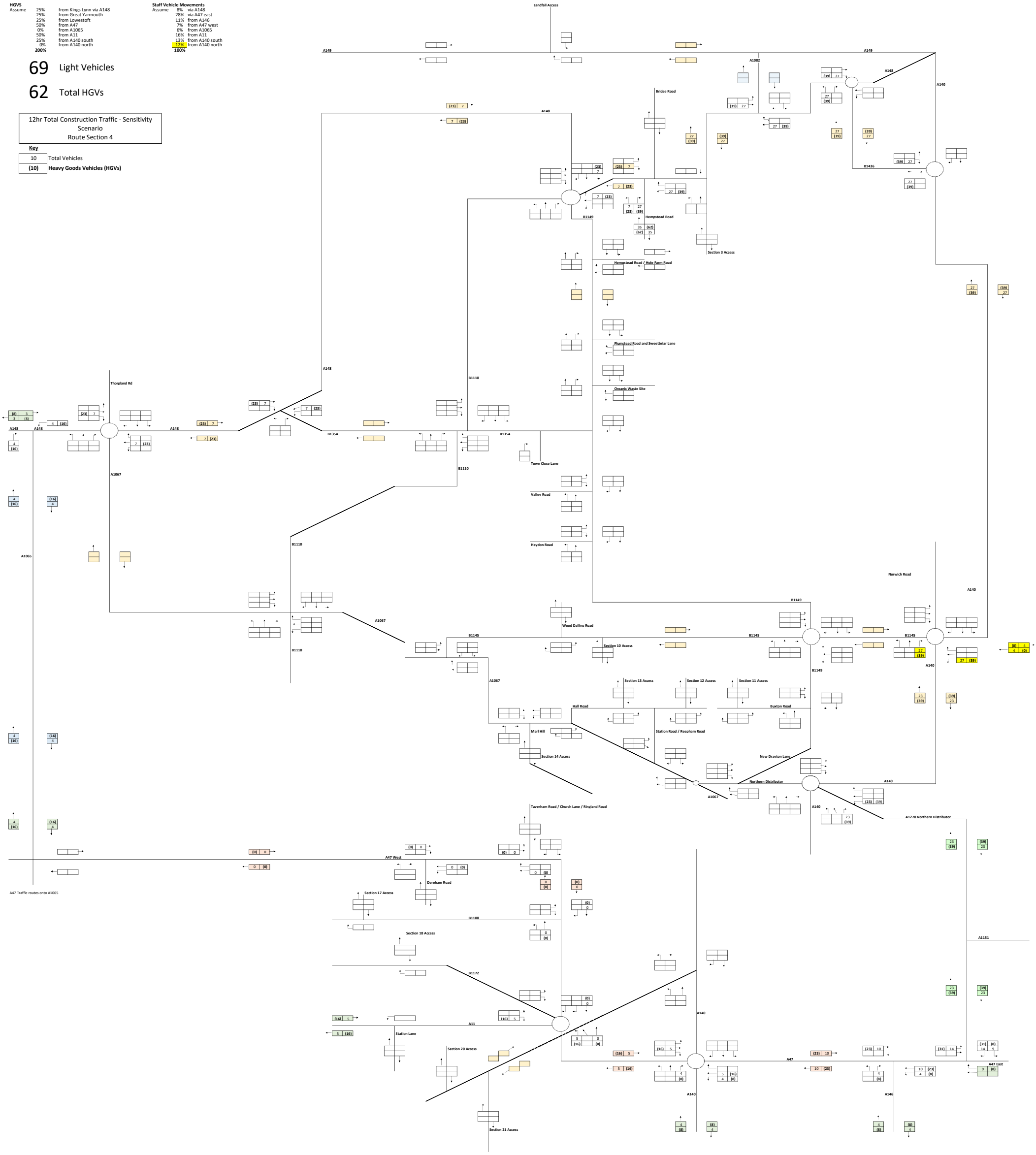
69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 4

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 5

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

A47 Traffic routes onto A1065

12hr Total Construction Traffic - Sensitivity Scenario
Phase 1 Total

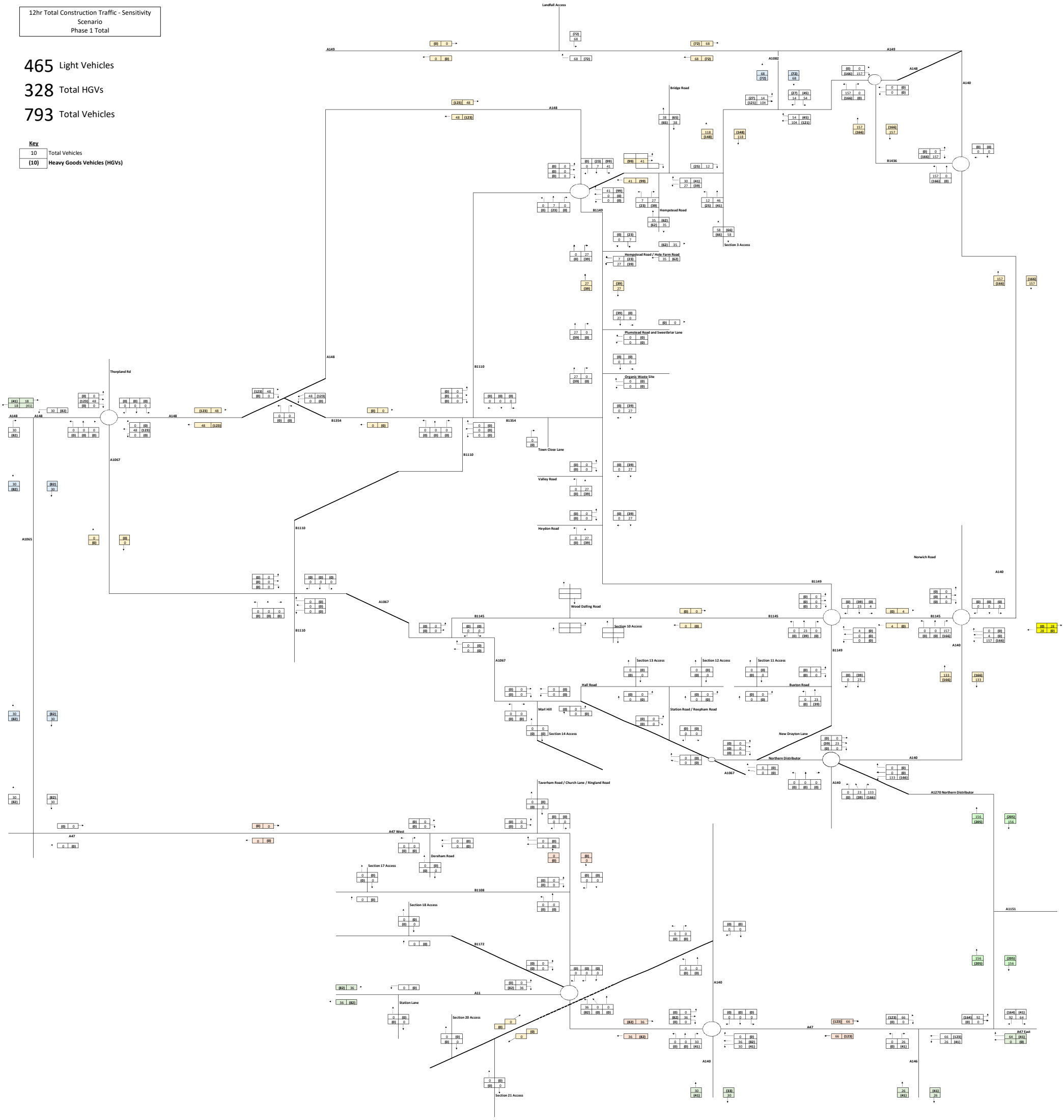
465 Light Vehicles

328 Total HGVs

793 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

74 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 6

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Landfall Access
A149
A1082
A148
A140
Bridge Road
B1436
Section 3 Access
B1149
Hempstead Road
Hempstead Road / Hole Farm Road
Plumstead Road and Sweetbriar Lane
Organic Waste Site
B1110
B1354
Town Close Lane
Valley Road
Heydon Road
Thorpland Rd
A1067
A1065
Wood Dalling Road
B1145
Section 10 Access
Norwich Road
Section 13 Access
Section 12 Access
Section 11 Access
Hall Road
Buxton Road
Marl Hill
Station Road / Reepham Road
Section 14 Access
New Drayton Lane
Northern Distributor
A1270 Northern Distributor
A47 Traffic routes onto A1065
A47 West
Taverham Road
Dereham Road
Section 17 Access
B1108
Section 18 Access
B1172
A11
Station Lane
Section 20 Access
Section 21 Access
A47
A47 East
A146
A1151

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

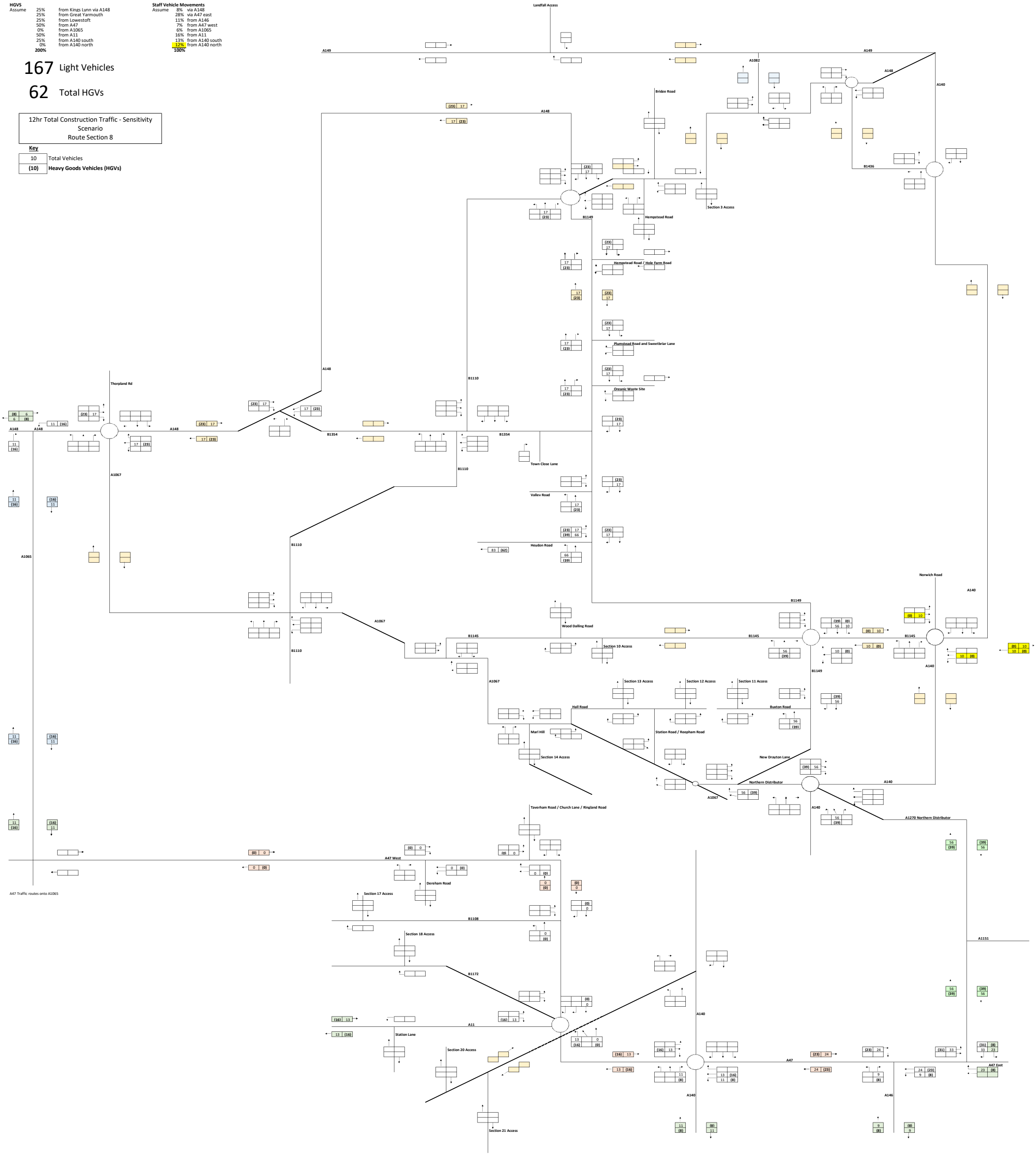
167 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 8

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

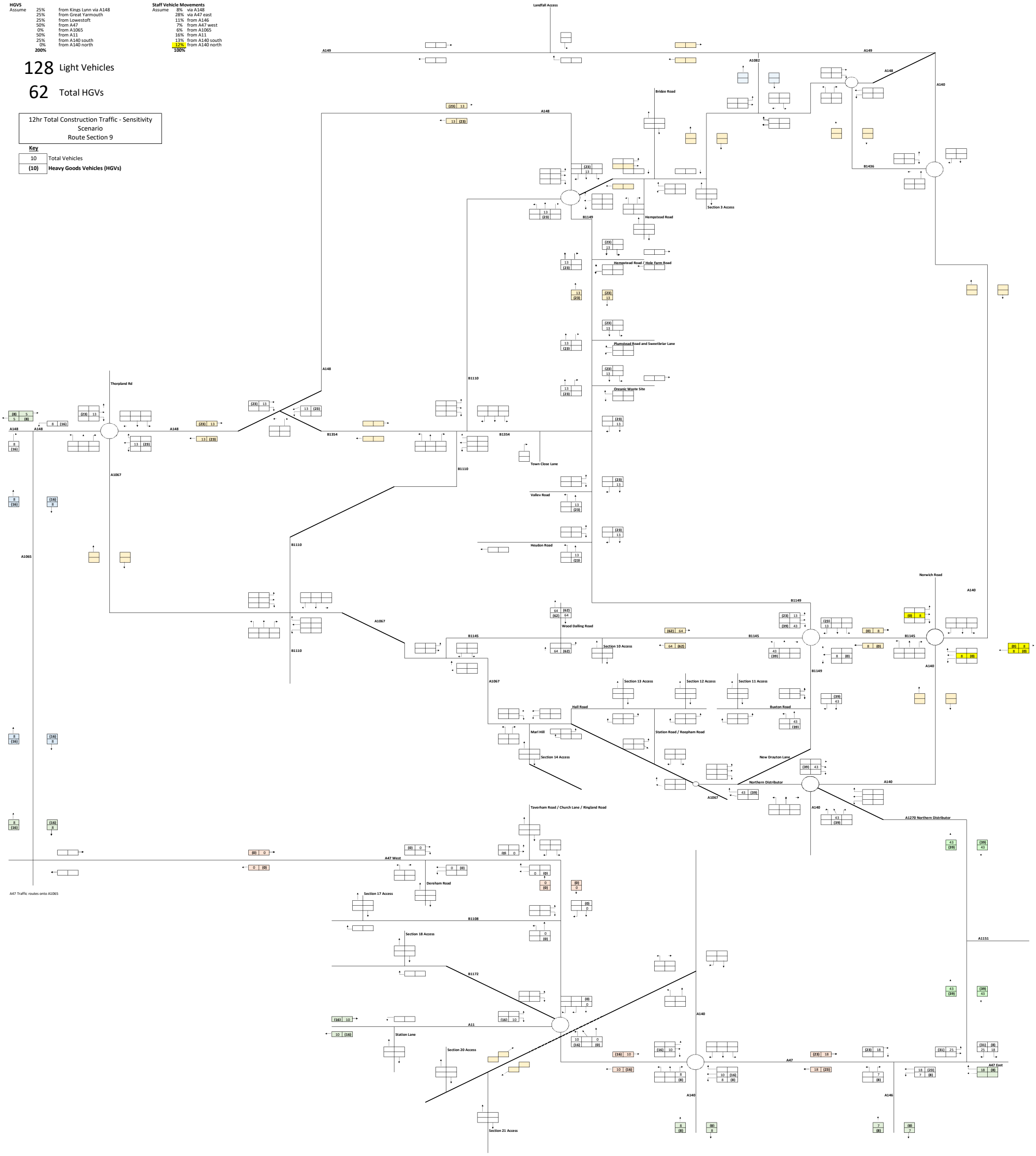
128 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 9

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

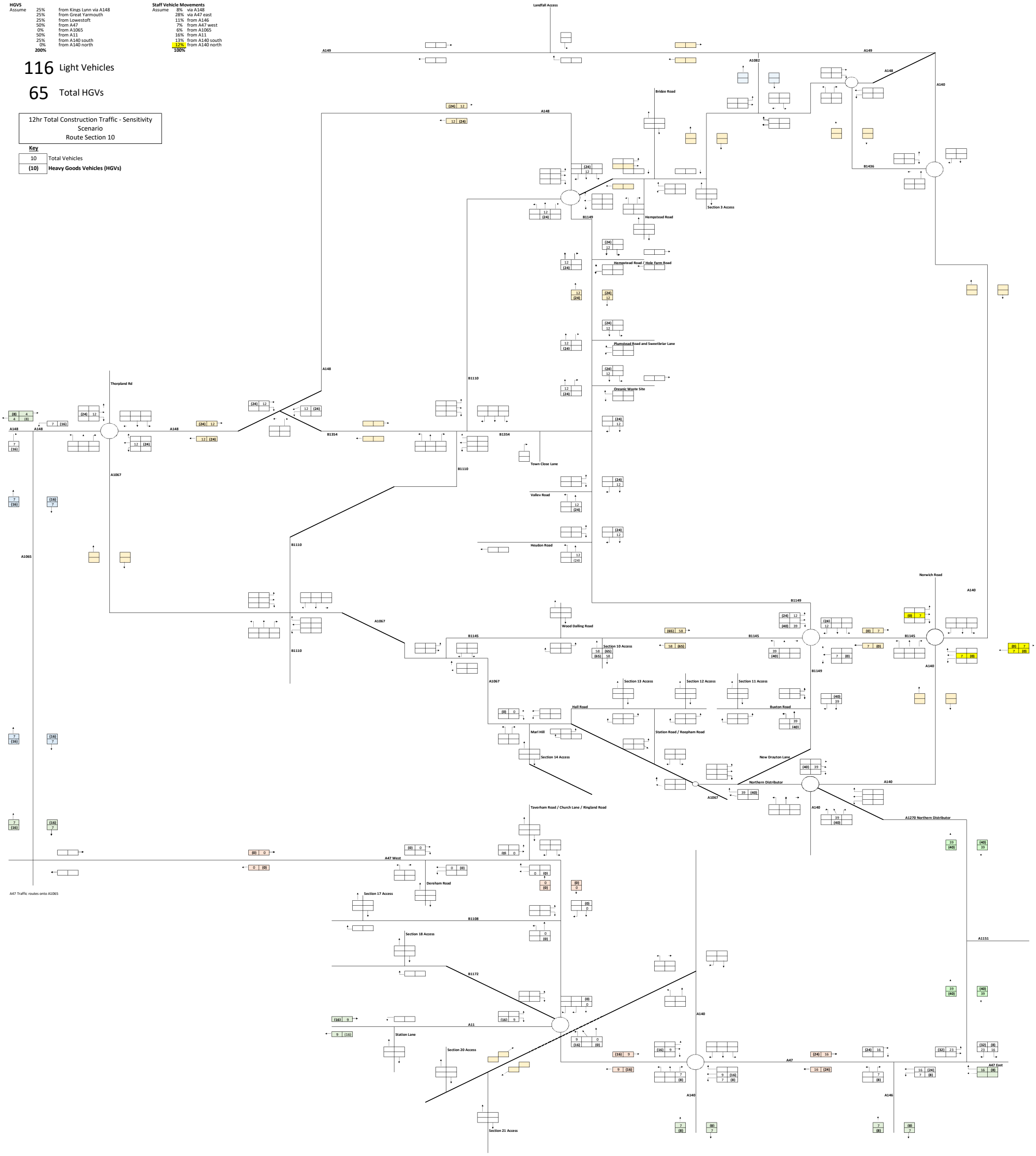
116 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 10

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

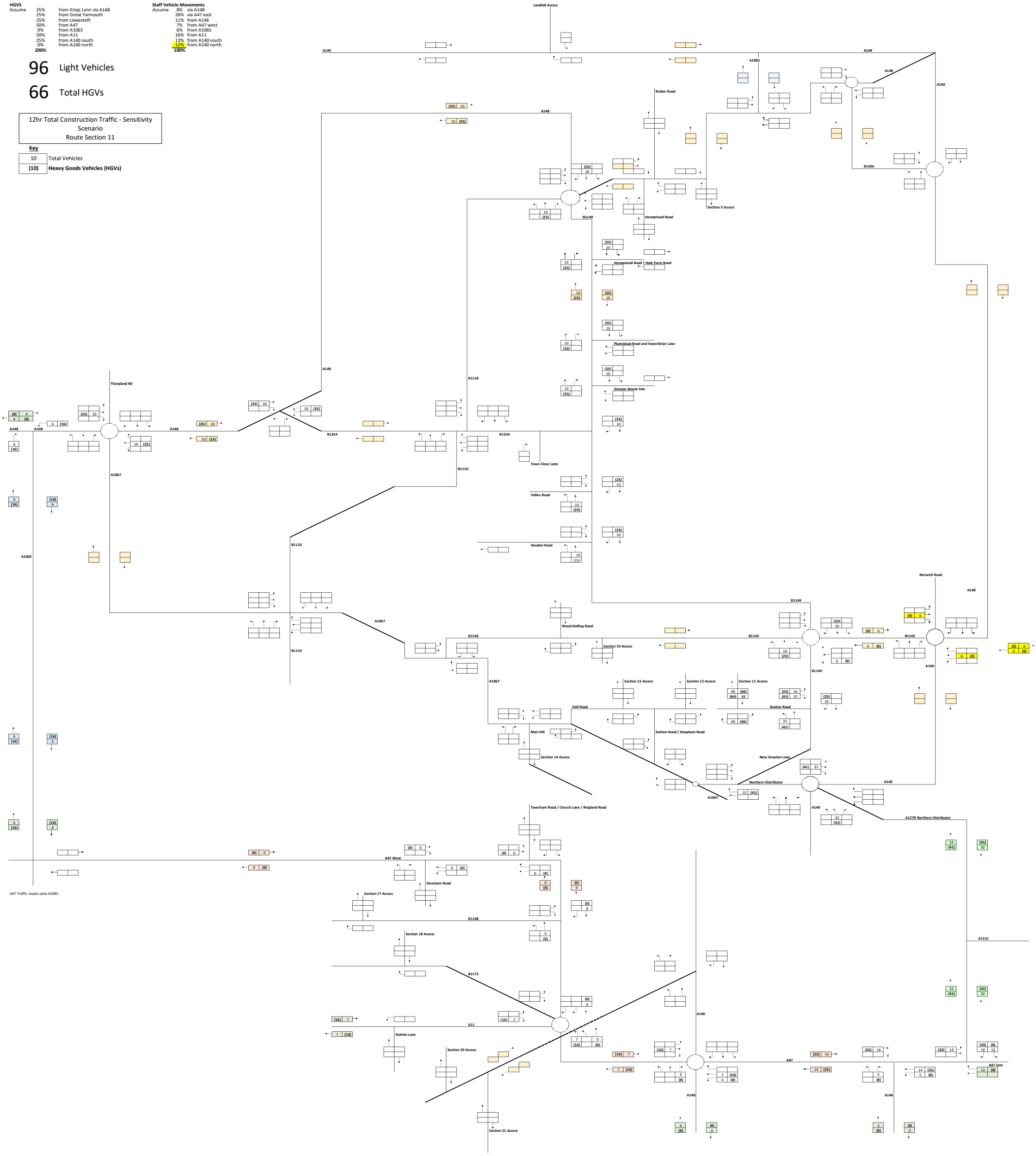
96 Light Vehicles

66 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 11

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



A47 Traffic routes onto A1065

12hr Total Construction Traffic - Sensitivity Scenario
Phase 2 Total

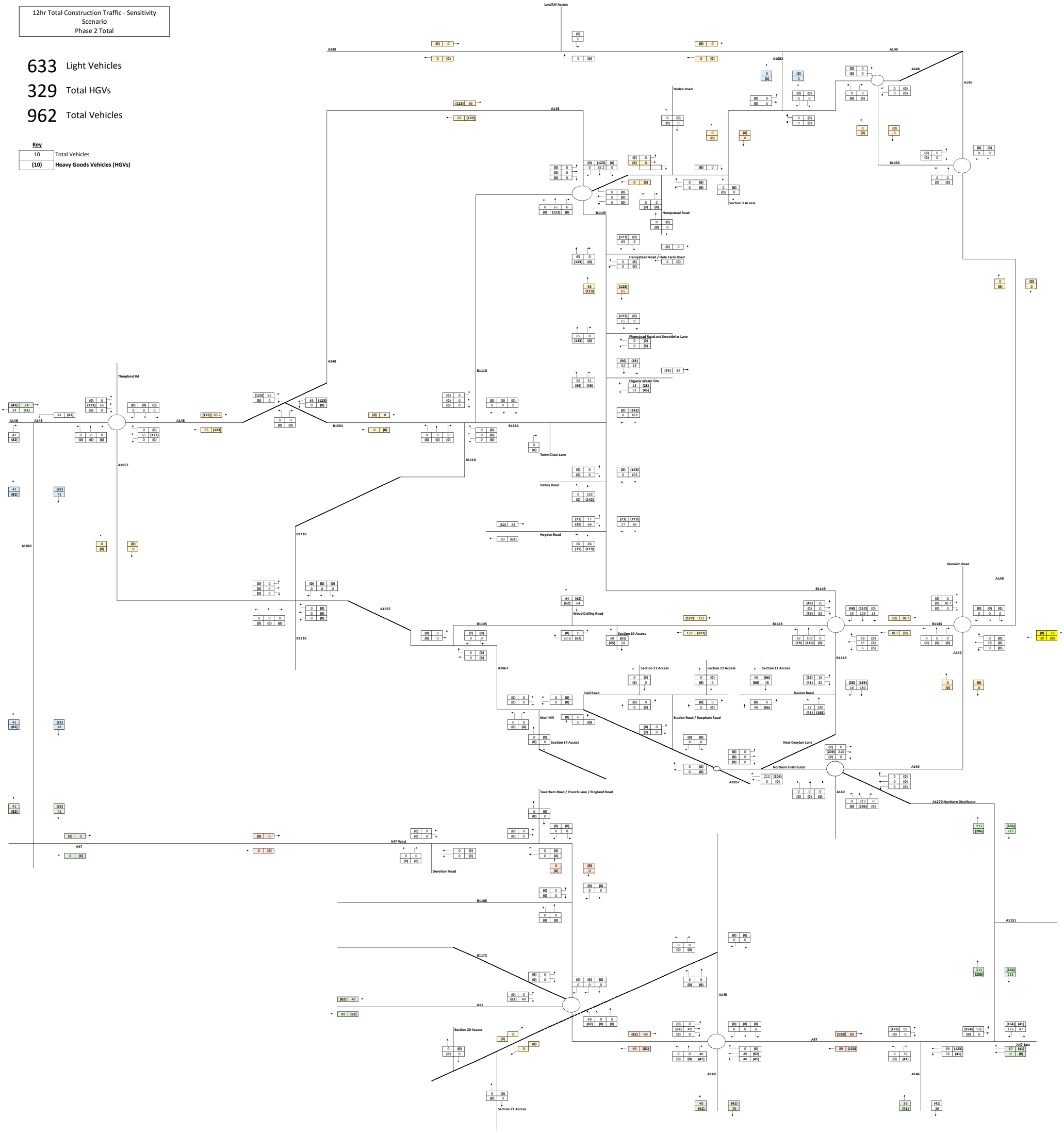
633 Light Vehicles

329 Total HGVs

962 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 12

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

A47 Traffic routes onto A1065

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

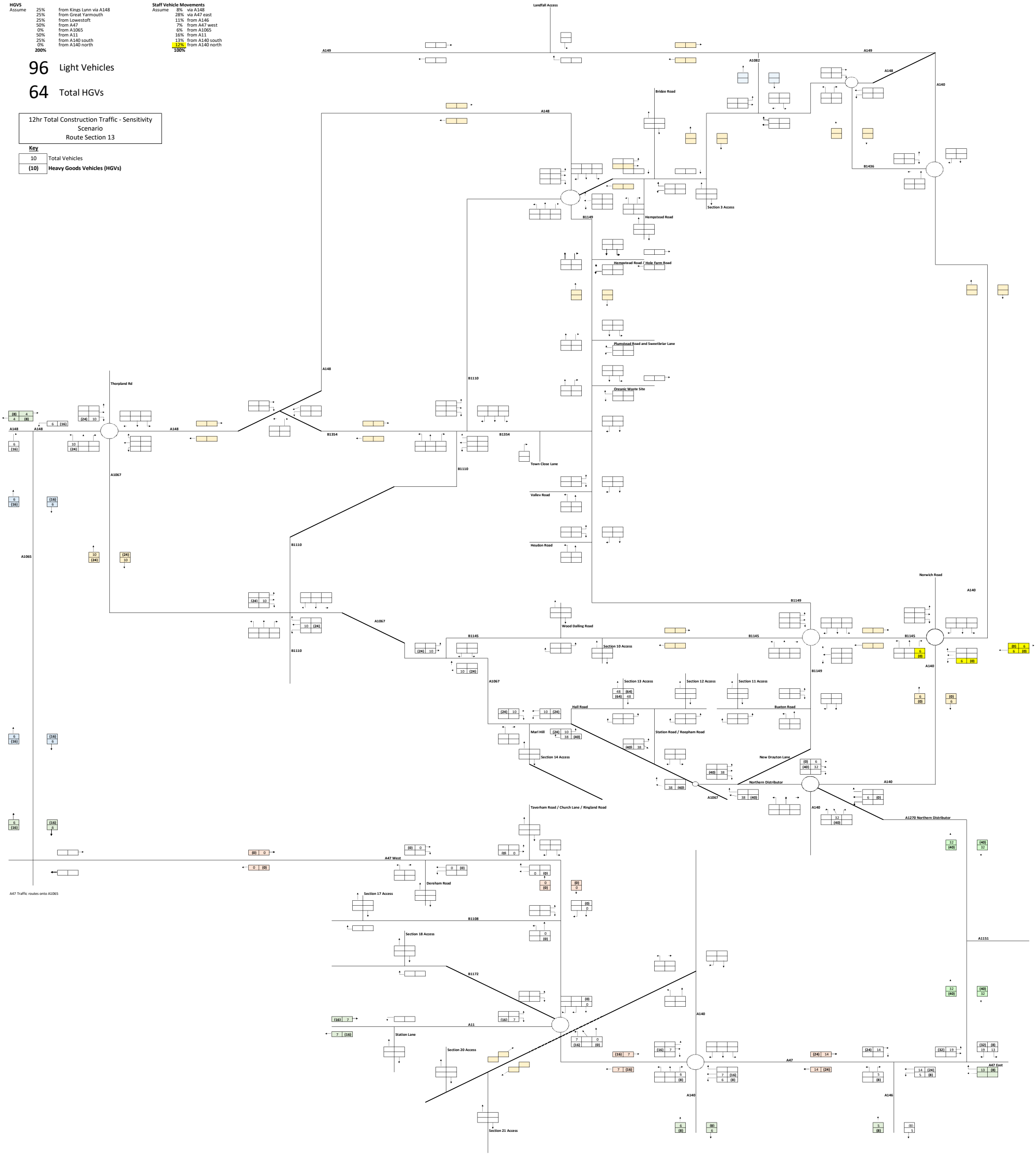
96 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 13

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

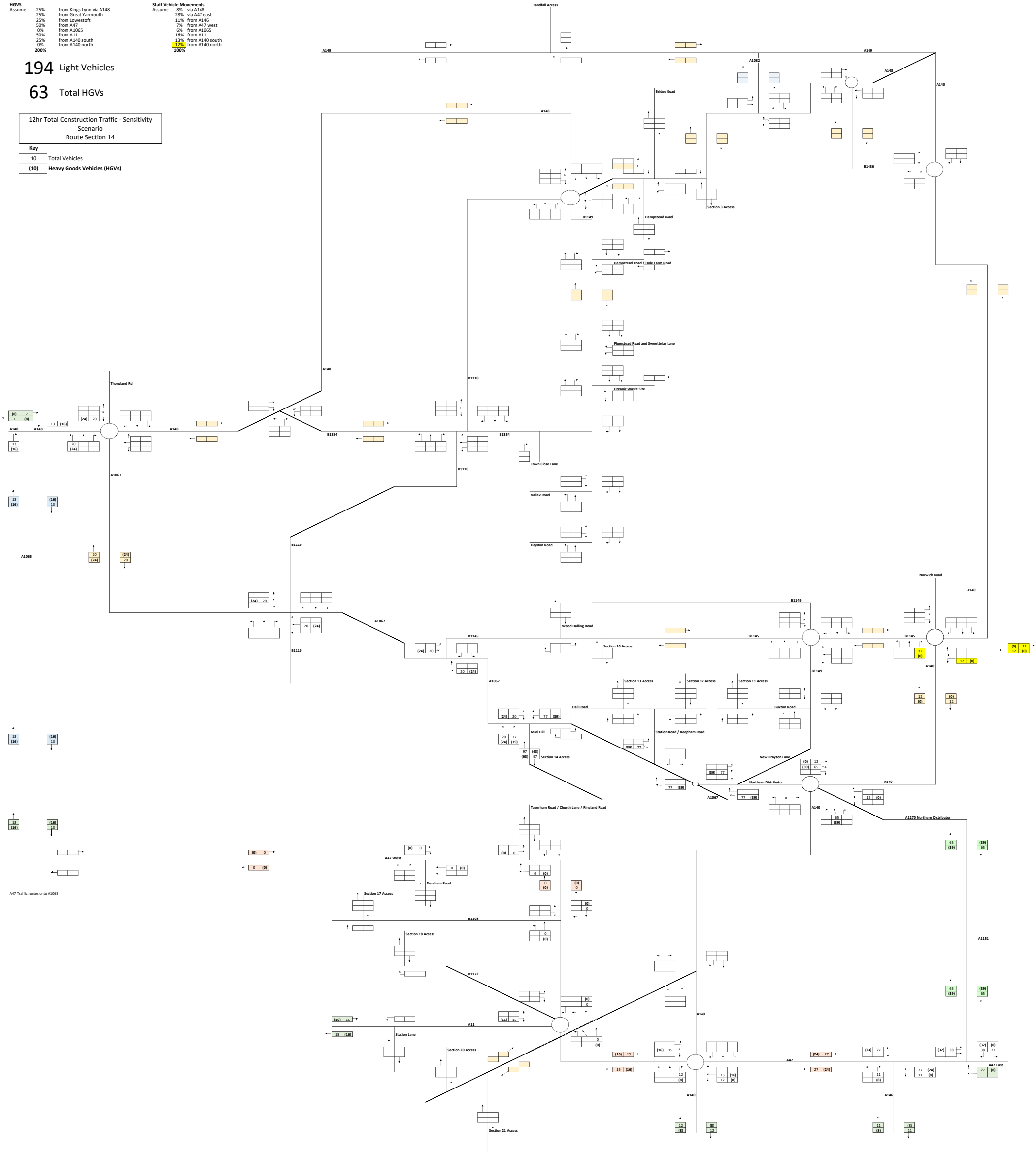
194 Light Vehicles

63 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 14

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

84 Light Vehicles

67 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 15

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

65 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 16

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

12hr Total Construction Traffic - Sensitivity Scenario
Phase 3 Total

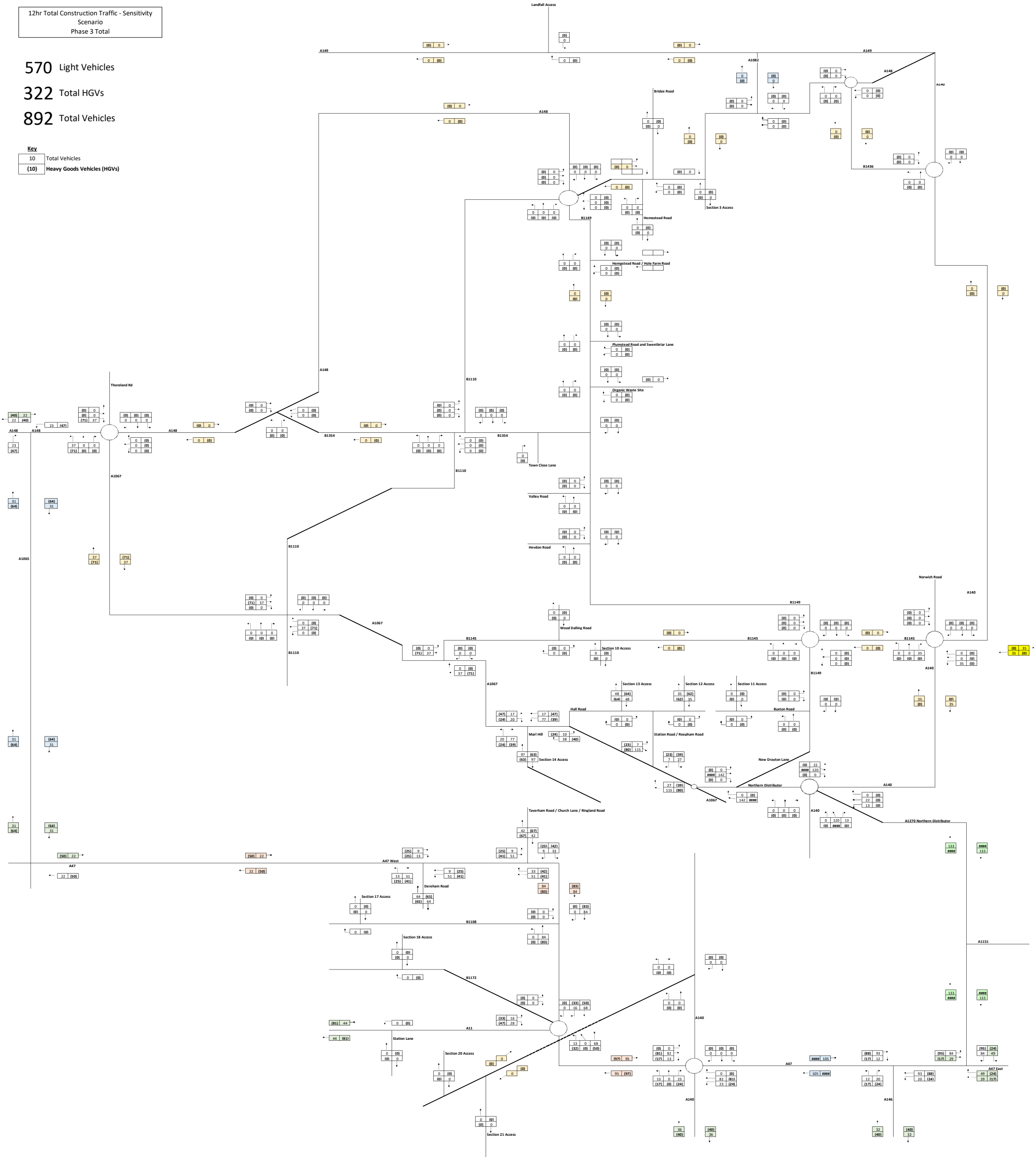
570 Light Vehicles

322 Total HGVs

892 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

135 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 17

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

233 Light Vehicles

63 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 18

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

108 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 19

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

108 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 20

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

128 Light Vehicles

109 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 21

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

12hr Total Construction Traffic - Sensitivity Scenario
Phase 4 Total

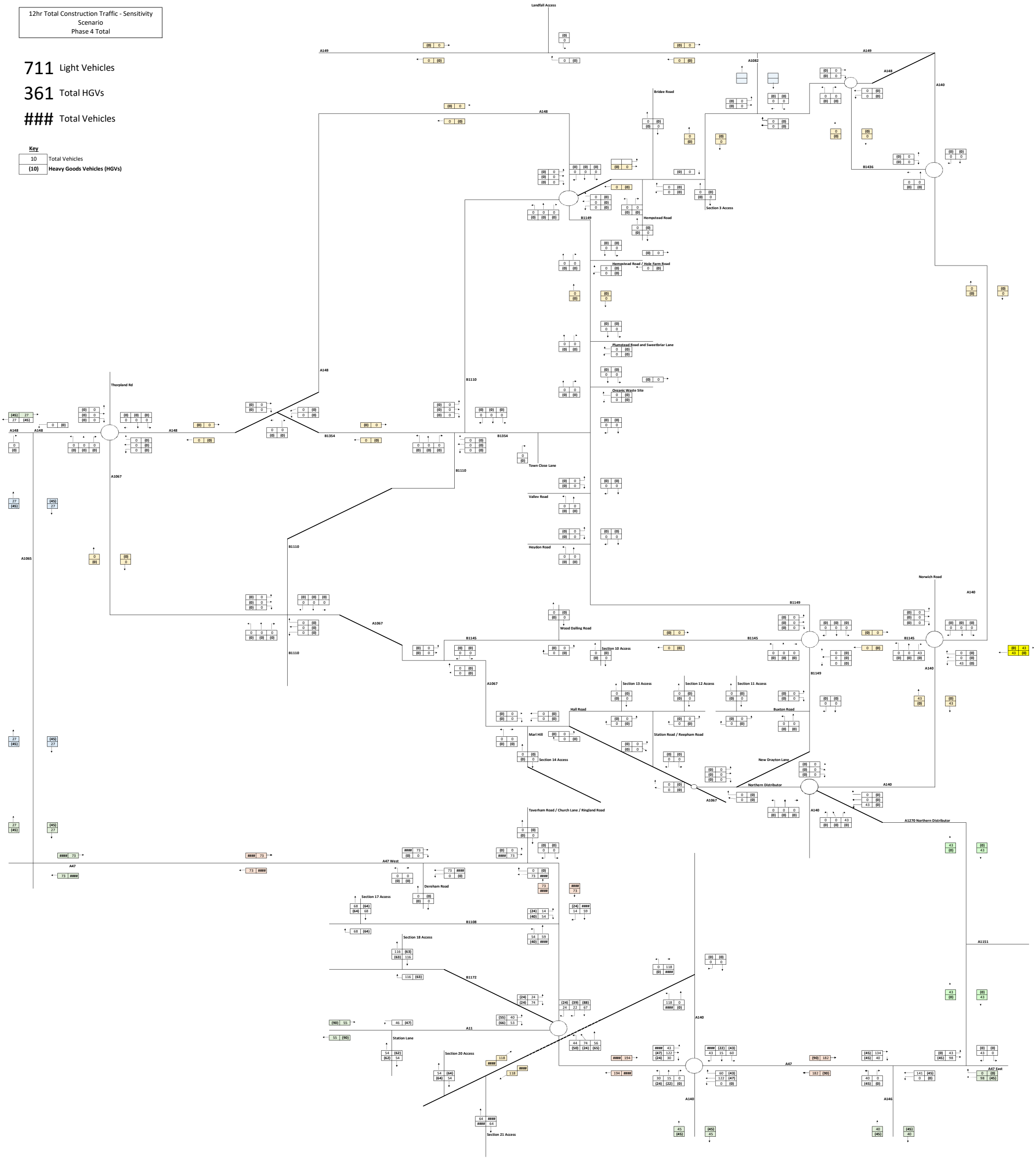
711 Light Vehicles

361 Total HGVs

Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

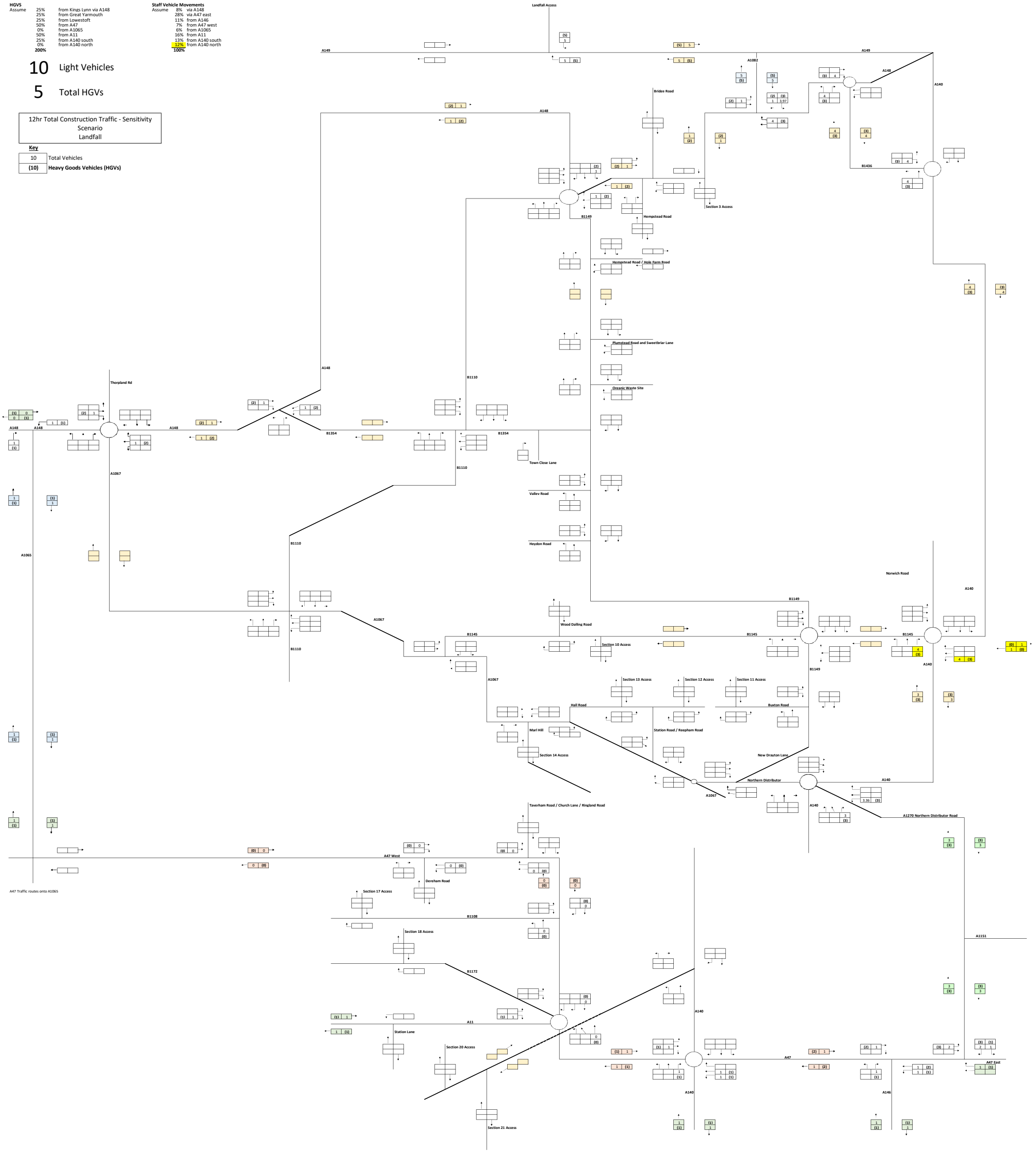
10 Light Vehicles

5 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Landfall

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

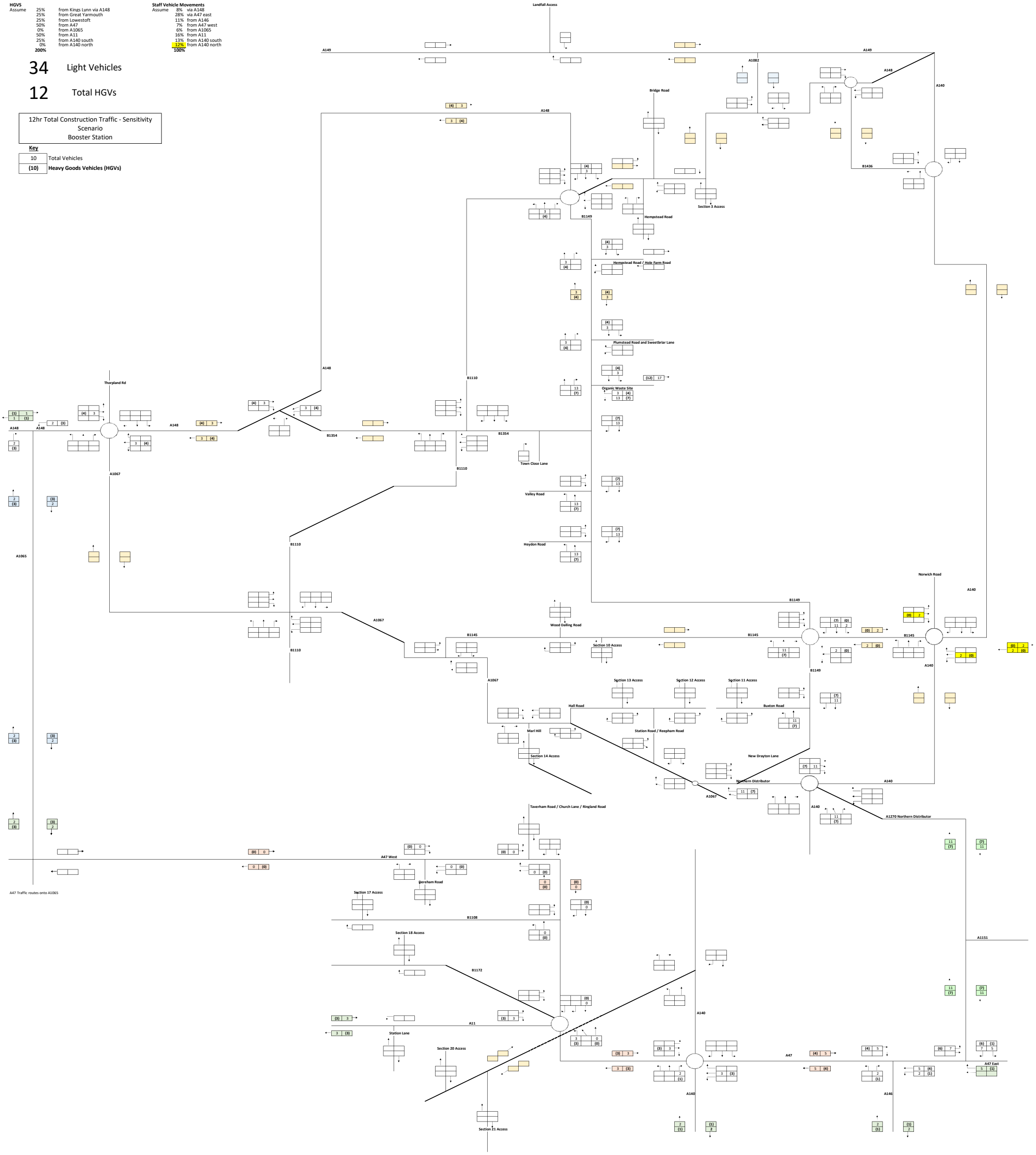
34 Light Vehicles

12 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Booster Station

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



HGVS

Assume		
	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
	0%	from A140 north
	200%	

Staff Vehicle Movements

Assume		
	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

82 Light Vehicles

29 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
HVAC Substation

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

Traffic from A1065 routeing onto A47
Traffic from A148 routeing south on A1065 and onto A47

12hr Total Construction Traffic - Sensitivity Scenario
Maximum Construction Traffic

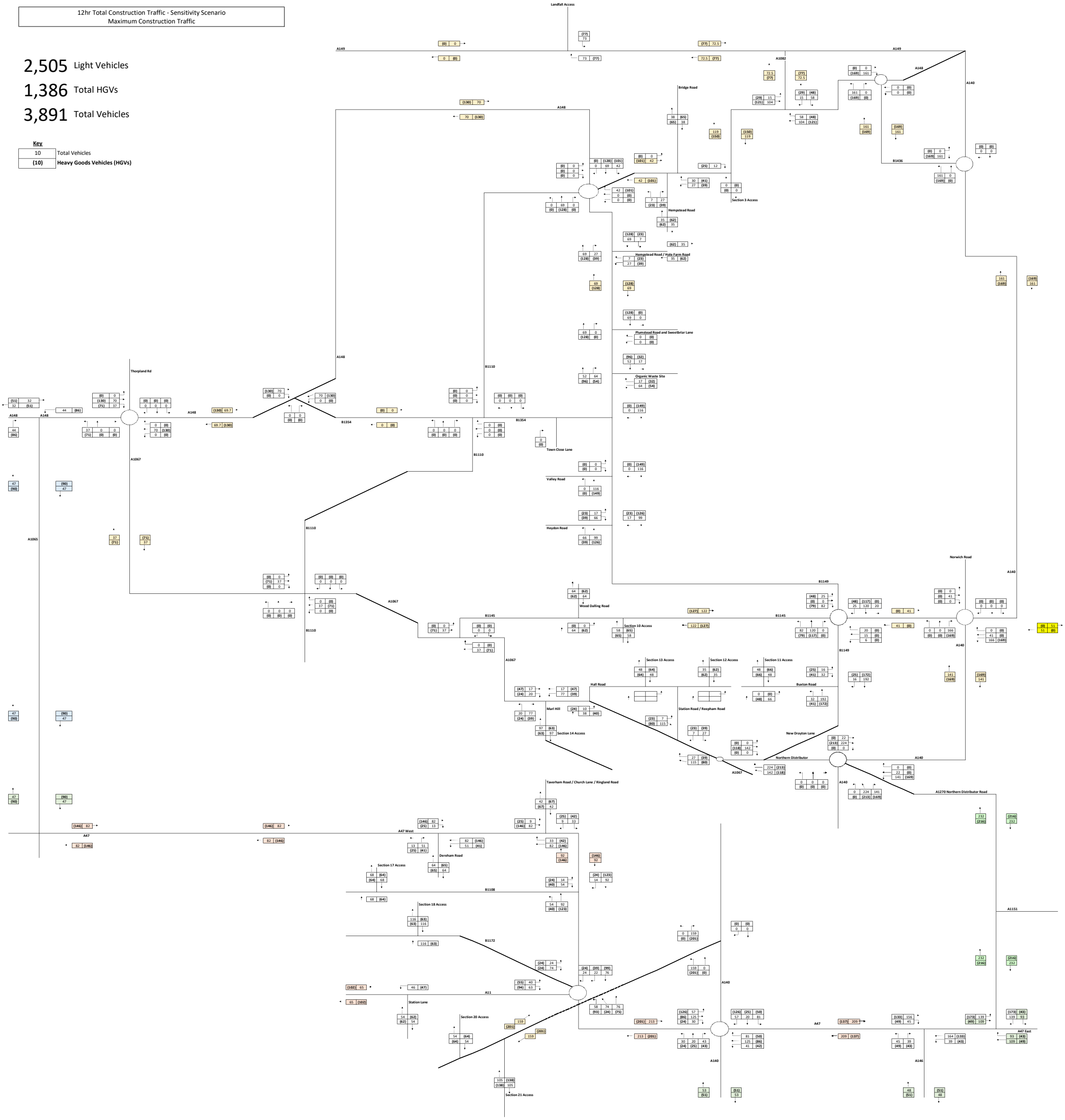
2,505 Light Vehicles

1,386 Total HGVs

3,891 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



12hr Total Construction Traffic - Sensitivity Scenario
Total Construction Traffic (Refined HGVs)

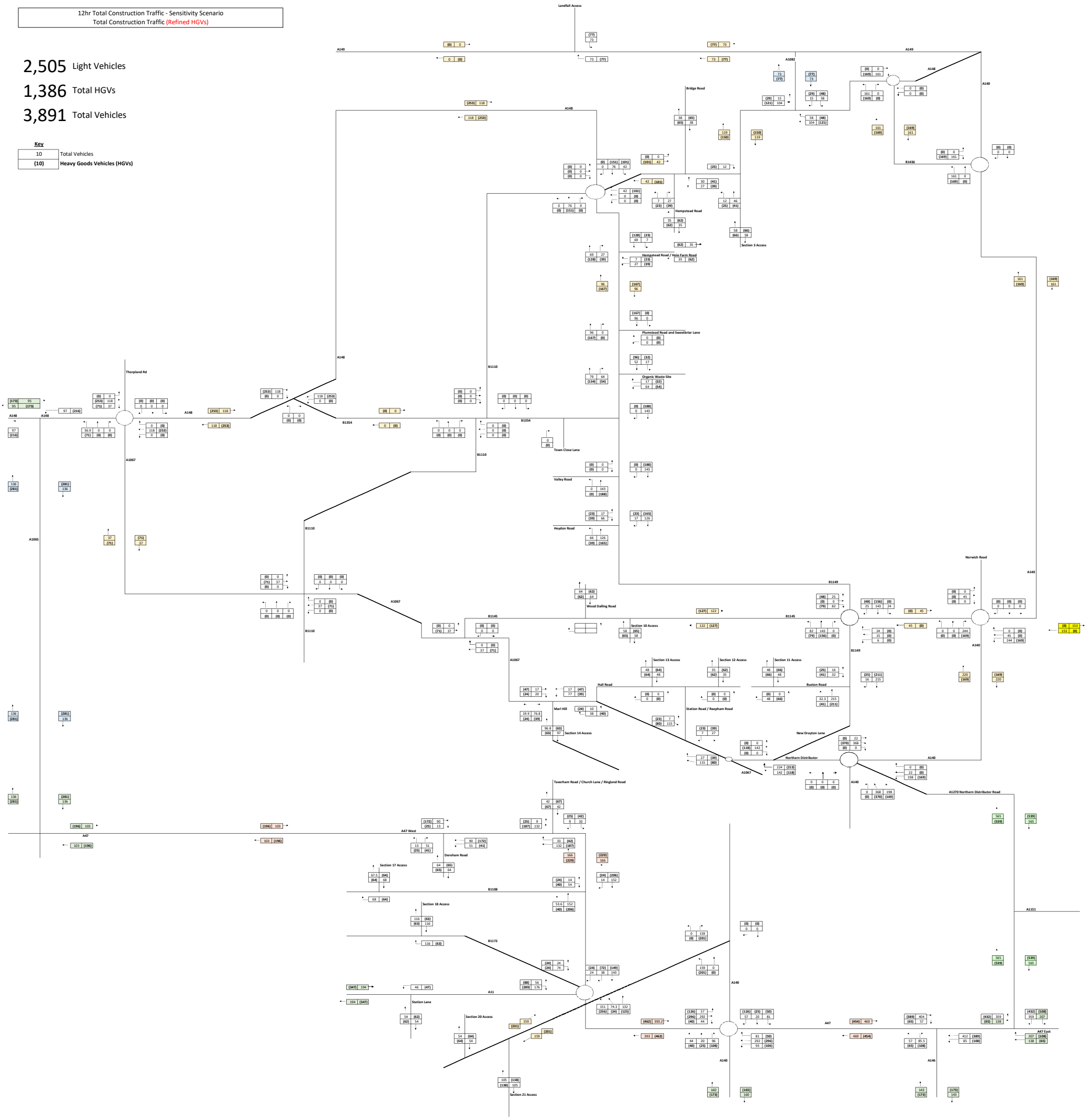
2,505 Light Vehicles

1,386 Total HGVs

3,891 Total Vehicles

Key

10	Total Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

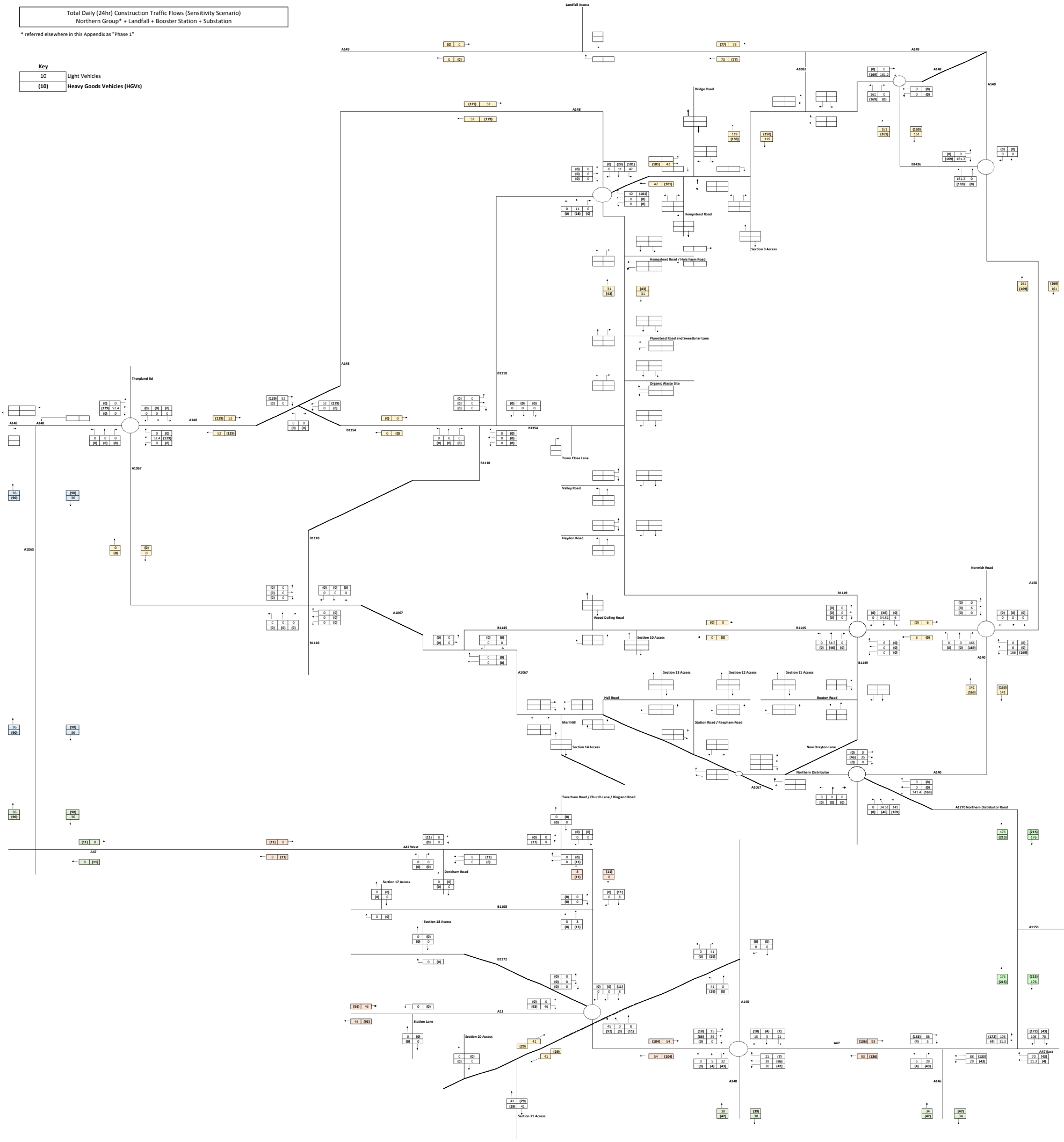


Total Daily (24hr) Construction Traffic Flows (Sensitivity Scenario)
Northern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 1"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

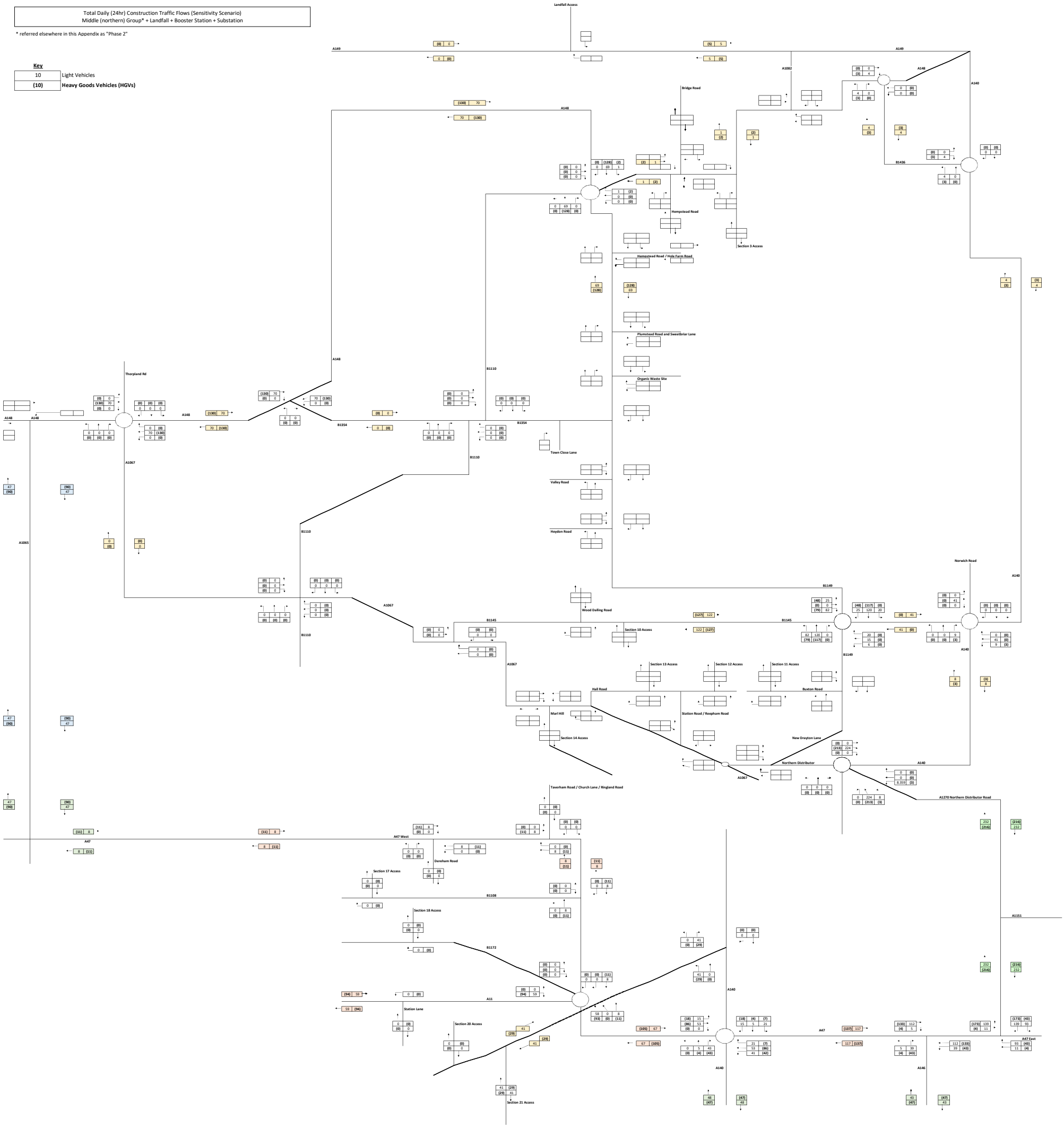


Total Daily (24hr) Construction Traffic Flows (Sensitivity Scenario)
Middle (northern) Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 2"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**

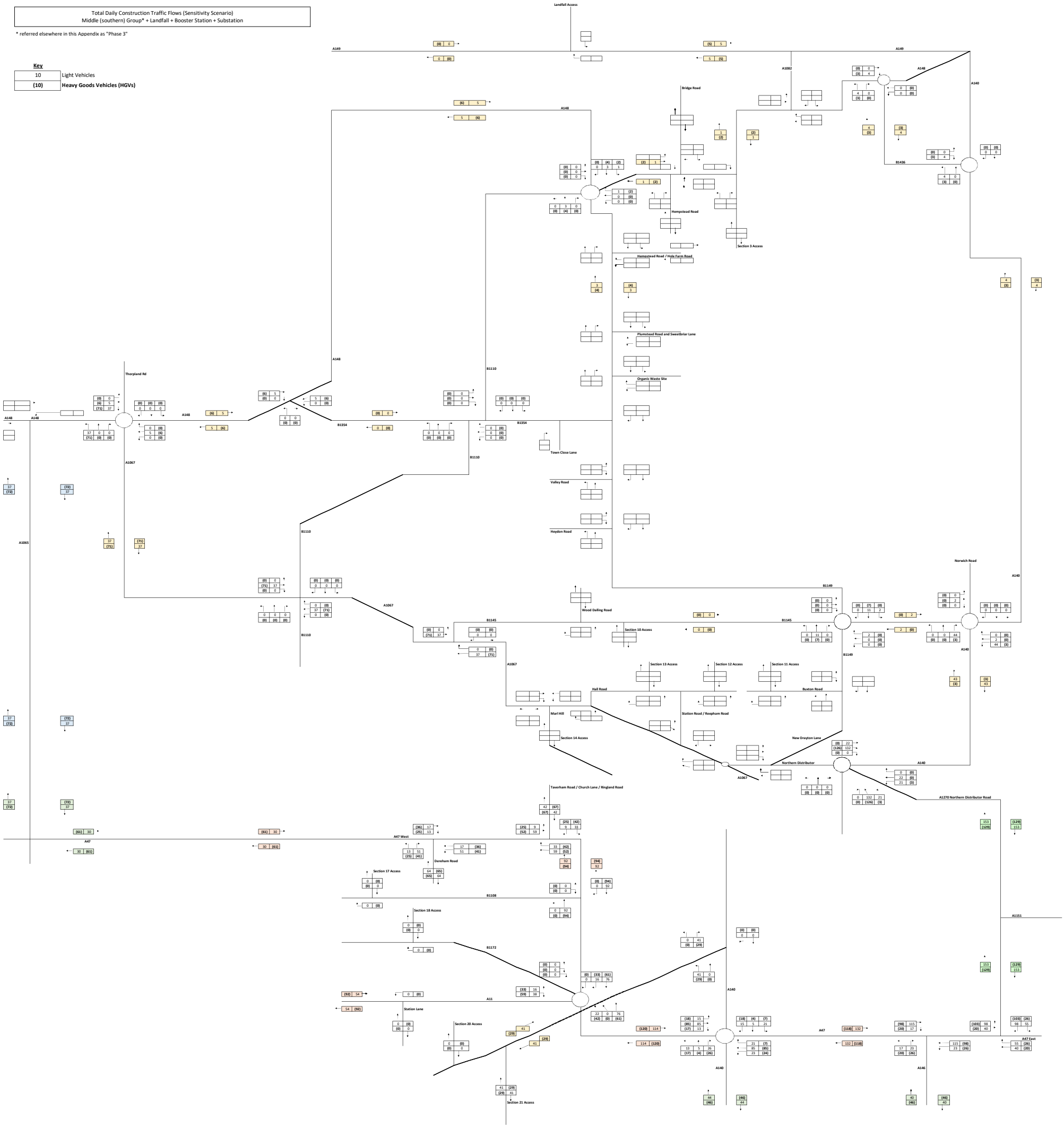


Total Daily Construction Traffic Flows (Sensitivity Scenario)
Middle (southern) Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 3"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**



Total Daily Construction Traffic Flows (Sensitivity Scenario)
Southern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 4"

Key

10	Light Vehicles
(10)	**Heavy Goods Vehicles (HGVs)**