

From: [Dominika Phillips](#)
To: [Hornsea Project Three](#); [KJ Johansson](#); [Kay Sully](#)
Cc: [Andrew Guyton](#); [Stuart Livesey](#)
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[D4_HOW03_Appendix 8_NE Badger LONI.pdf](#)
[D4_HOW03_Appendix 9_Booth et al 2017.pdf](#)
[D4_HOW03_Appendix 10_Brandt et al 2018.pdf](#)
[D4_HOW03_Appendix 11_Nabe-Nielsen et al 2018.pdf](#)

Dear Kay, K-J

Please find attached the 4th instalment of documents.

Best regards,
Dr Dominika Chalder PIEMA
Environment and Consent Manager



Environmental Management UK | Wind Power
5 Howick Place | London | SW1P 1WG



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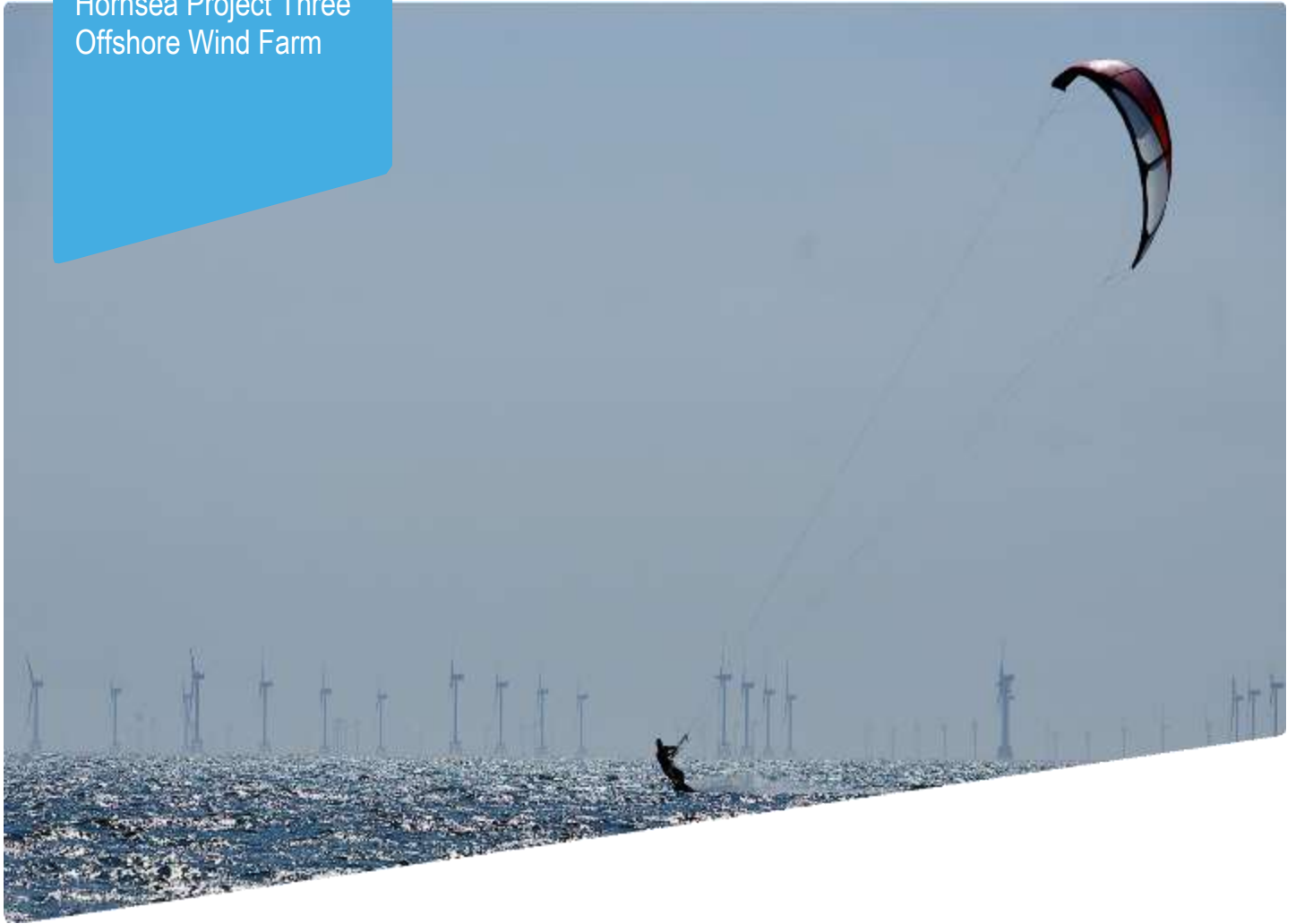
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Offshore Wind Farm



Hornsea Project Three Offshore Wind Farm

Appendix 7 to Deadline 4 submission - HGV Haul Road Reduction Report

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5 Howick Place,

London, SW1P 1WG

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1. Introduction

- 1.1 This Technical Note has been prepared following discussions with the Norfolk County Council and Highways England to consider the effects of revising some of the site assumptions within Volume 6, Annex 7.1: Transport Assessment of the Environmental Statement (APP-159), to address some of the changes made to the operations for the delivery of Hornsea Three.
- 1.2 The principle of the revisions made to reduce the overall haul road depth was discussed during ISH4 and subsequently agreed with Norfolk County Council and Highways England (as set out in the relevant Statement of Common Grounds submitted at Deadline 4) The purpose of this Technical Note is to take the revised HGV flows calculated and distribute onto the highway network. At this point the new HGV distribution for Hornsea Three will be used to inform the preparation of the Outline CTMP and also the cumulative link impact / threshold assessment with Norfolk Vanguard to be reported at Deadline 6.
- 1.3 Table 1.4 'Maximum design scenario considered the assessment of potential impacts on traffic and transport' within Appendix 31 to Deadline 1: Transport Assessment (REP1-162) summarises the key parameters of the construction works.
- 1.4 Details of the assignment of the construction traffic onto the highway network was provided at Appendix A of the Transport Assessment and is included as part of Annex A of this report for clarity.
- 1.5 As part the Appendix 1: Main Construction Compound Briefing Note submission at Deadline 3 (REP3-010), a table indicating the previous and updated HGV vehicle movements by cable route section was provided. This table has been included as Annex B of this report. The principle of this reduction in vehicle movements has been agreed by both Norfolk County Council and Highways England in correspondence and as documented within the Statement of Common Grounds with both Stakeholders (submitted for Deadline 4).
- 1.6 The assumed haul road depth previously used to calculate number of HGV movements per Access point, has been reduced in depth and the resultant number of HGVs predicted to be generated by the construction works of Hornsea Three is explained in the section 2 of this report, before considering the net effects of this change on the highway network.

2. Clarification of the Revised Trip Generation during Construction

- 2.1 The Transport Assessment Volume 6, Annex 7.1 (APP-159) set out a number of assumptions relating to the construction methodology to enable a maximum design scenario to be established. These assumptions are set out Volume 6, Annex 7.6 – Construction Vehicle Trip Generation Assumptions (APP-164).
- 2.2 Some of those original HGV generation assumptions have now been refined based on additional details of the ground conditions along the onshore cable corridor route.
- 2.3 As a result, the Applicant has committed to a refinement in the maximum depth of the construction haul road which results in a reduction of the HGV numbers presented as part of the Transport Assessment and shown in Appendix A of this report.
- 2.4 Volume 6, Annex 7.6 – Construction Vehicle Trip Generation Assumptions (APP-164) had assumed a total average haul road depth of 1000mm. After further consideration the requirement for aggregate depths of around 1000mm would be associated with very poor soil types, such as peat and loams and this is not expected to be found along the haul route as defined.
- 2.5 As a result, the haul road specification within the Outline CTMP (submitted at Deadline 4) has been developed to state;

'1.2.3.2 The depth of the sub-base of the haul road will be dependent on the California Bearing Ratio (CBR) of the substrata. The following table can be used as a guide to the required thickness of the granular sub-base for typical silty clay soils in reasonable condition and at normal depths. The maximum depth of the haul road would not exceed 0.5 m.'

Granular Sub-Base Thickness			
CBR 2%	CBR 3%	CBR 4%	CBR 5%
370mm	310mm	240mm	200mm

- 2.6 As a result of this commitment within the Outline CTMP, the haul road depth has been assumed to not exceed 500mm, which allows for some maintenance works to be completed, if necessary, at locations where the full 500 mm depth is not required, over the contract period. Taking account of the above the revised HGV numbers for the construction vehicle movements by cable route section are shown in Annex C.

3. Reduced HGV traffic applied to Network Links

- 3.1 The Transport Assessment Volume 6, Annex 7.1 (APP-159), in paragraph 1.6 'Transport Impact of Construction', determines the transport impacts of the construction phase of Hornsea Three.
- 3.2 Detailed assessments of vehicle generation have been carried out for the construction phase of the development in four scenarios that create different traffic flows on each road link and junction within the study area. To ensure a robust analysis, the maximum construction traffic flow for the four scenarios on each link and junction has been assumed as the peak construction traffic flows and has been assessed, as previously agreed within the Transport Assessment.
- 3.3 The Hornsea Three construction routes to the access points have been determined in the Transport Assessment as follows:
- A11 – 35%;
 - A47 (west) – 35%;
 - A148 (west) – 10%;
 - A47 (east) – 5%;
 - A146 – 5%; and
 - A140 – 10%.
- 3.4 The above distribution is defined as the 'normal' or standard scenario, where all HGVs travel through the maximum number of links within the study area and thus represents the maximum construction movement design scenario.
- 3.5 To ensure the assessment accounted for day-to-day variances, a sensitivity methodology was also adopted within the Transport Assessment, which increased the proportion of trips from each origin. This methodology doubled the proportion of HGVs would originate from the above six links and thus allowed for day-to-day variances along them. This is considered to be a significant over estimation and, whilst a valid way to consider the link by link Environmental Transport Assessment, it is not a practical means to consider any CTMP interventions measures where construction traffic predictions are 100% above their predicted levels.
- 3.6 The assessment distribution of HGVs for the 'sensitivity' scenario was therefore as follows:
- A11 – 50%;
 - A47 (west) – 50%;
 - A148 (west) – 25%;
 - A47 (east) – 25%;
 - A146 – 25%;
 - A140 – 25%; and
 - Total – 200%.
- 3.7 The construction traffic flow diagrams contained within Appendix B of the original Transport Assessment, Volume 6, Annex 7.1 (APP-159) for both normal and sensitivity scenarios summarised above, have been revised and are contained in Annex D of this report.

- 3.8 Table 1.7 of the Transport Assessment, which indicates the predicted level of construction traffic expressed as a percentage change in daily flows on the assessed links, has been reproduced below in Table 1.1.
- 3.9 The links shown in Table 1.1 replicate the link network assessment within the original Transport Assessment.
- 3.10 In order to provide a more realistic traffic assessment of each of those links, as the sensitivity scenario effectively doubles the number of HGVs on each link and through each junction, the standard scenario also defined above has been populated in Table 1.1 to define the significant uplift to construction traffic defined on the highway network.
- 3.11 Finally, the revised construction traffic for each of the links for the standard scenario has also been included in Table 1.1.

Table 3.1: Percentage impact of Hornsea Three HGV traffic – sensitivity and normal distribution.

Highway Link	Transport Assessment Table 1.7 - Percentage impact of construction traffic – sensitivity testing						Revised Table 1.7 of TA for sensitivity testing (Reduced HGVs)				Percentage impact of construction traffic – standard testing				Revised percentage impact of construction traffic – standard testing (Reduced HGVs)			
	2022 Base		Maximum Construction		Percentage Increase		Maximum Construction		Percentage Increase		Maximum Construction		Percentage Increase		Maximum Construction		Percentage Increase	
	Total	HGVs	Total	HGVs	Total	HGVs	Total	Total	Total	HGVs	Total	Total	Total	HGVs	Total	HGVs	Total	HGVs
Link ID 35: A148, west of The Street and east of Green Lane	13908	838	517	377	3.7%	45%	399	259	2.9%	31%	366	226	2.6%	27%	295	156	2.1%	19%
Link ID 34: A148 west of Holt and east of Letheringsett	11466	691	517	377	4.5%	55%	399	259	3.5%	38%	366	226	3.2%	33%	295	156	2.6%	23%
Link ID 36: A148, east of the B1149 roundabout and west of Station Road	12242	612	380	297	3.1%	48%	286	203	2.3%	33%	262	178	2.1%	29%	205	122	1.7%	20%
Link ID 50: B1354 between the Swanton Road junction and B1110 junctions	4037	292	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%
Link ID 55: B1354 east of Melton Constable and west of Briston	5598	405	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%
Link ID 59: B1149 at Edgefield, north of the village hall and south of Hempstead Road	4537	173	511	373	11.3%	216%	393	256	8.7%	148%	361	224	8.0%	130%	291	153	6.4%	89%
Link ID 37: A148 at High Kelling, south of Kelling Hospital	13893	694	380	297	2.7%	43%	286	203	2.1%	29%	262	178	1.9%	26%	205	122	1.5%	18%
Link ID 41: A148, east of Bodham and west of the Woodlands Leisure centre	13237	712	684	439	5.2%	62%	543	299	4.1%	42%	451	207	3.4%	29%	385	141	2.9%	20%
Link ID 43: A148, west of the B1436 junction and east of the Lion's Mouth junction	14346	645	817	495	5.7%	77%	660	338	4.6%	52%	540	218	3.8%	34%	471	149	3.3%	23%
Link ID 190: B1436, east of Felbrigg	9665	488	817	495	8.5%	101%	660	338	6.8%	69%	540	218	5.6%	45%	471	149	4.9%	30%
Link ID 49: A140, south of Roughton and north of the Topshill Road junction	12041	593	817	495	6.8%	83%	660	338	5.5%	57%	540	218	4.5%	37%	471	149	3.9%	25%
Link ID 1: A149 west of Weybourne and east of The Pheasant Hotel	3567	24	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%
Link ID 2: A149 east of Weybourne, west of the North Norfolk Railway Line	4771	33	354	221	7.4%	675%	288	155	6.0%	473%	243	110	5.1%	337%	210	77	4.4%	237%
Link ID 81: A1067, north of Bridge Road and east of Little Ryburgh	9451	543	285	214	3.0%	39%	214	142	2.3%	26%	199	128	2.1%	24%	157	85	1.7%	16%
Link ID 84: B1145 at Bawdeswell, between The Street junction and Hall Road junction	3390	128	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%
Link ID 86: B1145, west of Reepham and east of the Old Lane junction	2980	113	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%	0	0	0.0%	0%
Link ID 90: B1145 east of Cawston, west of the B1149 crossroads	3477	127	622	379	17.9%	298%	497	254	14.3%	200%	433	190	12.4%	149%	370	127	10.6%	100%
Link ID 78: B1145 east of the B1149 crossroads junction, west of Cawston Park Hospital	4834	163	81	0	1.7%	0%	81	0	1.7%	0%	81	0	1.7%	0%	81	0	1.7%	0%
Link ID 118: A140, south of Aylsham's B1145 / A140 roundabout, and north of Marsham	15732	750	777	495	4.9%	66%	621	338	3.9%	45%	500	218	3.2%	29%	431	149	2.7%	20%
Link ID 111: A1067, between Attlebridge and the Fir Covert Road junction	8995	626	631	356	7.0%	57%	512	237	5.7%	38%	432	157	4.8%	25%	379	104	4.2%	17%
Link ID 145: A140 between the A47 and B1113 junctions	24868	1314	845	528	3.4%	40%	720	402	2.9%	31%	581	264	2.3%	20%	518	201	2.1%	15%
Link ID 146: B1113, south of the A47 near Norwich Sports ground	8848	301	845	528	9.6%	175%	720	402	8.1%	134%	581	264	6.6%	88%	518	201	5.9%	67%
Link ID 129: A47 at Honingham	29944	2928	573	412	1.9%	14%	454	293	1.5%	10%	408	247	1.4%	8%	336	176	1.1%	6%
Link ID 157: A47 at Bawburgh	48143	3435	587	412	1.2%	12%	468	293	1.0%	9%	422	247	0.9%	7%	351	176	0.7%	5%
Link ID 147: A47 at Intwood	58002	4520	970	552	1.7%	12%	819	402	1.4%	9%	692	274	1.2%	6%	622	205	1.1%	5%
Link ID 153: A11 at Hethersett	53652	4522	411	283	0.8%	6%	332	204	0.6%	5%	326	198	0.6%	4%	271	143	0.5%	3%
Link ID 144: A47, between A140 and A146 junctions	55089	3157	803	392	1.5%	12%	686	274	1.2%	9%	641	229	1.2%	7%	570	159	1.0%	5%

Highway Link	Transport Assessment Table 1.7 - Percentage impact of construction traffic – sensitivity testing						Revised Table 1.7 of TA for sensitivity testing (Reduced HGVs)				Percentage impact of construction traffic – standard testing				Revised percentage impact of construction traffic – standard testing (Reduced HGVs)			
Link ID 197: A1065, North of Swaffham	8336	530	353	259	4.2%	49%	274	180	3.3%	34%	273	179	3.3%	34%	218	124	2.6%	23%
Link ID 195: A1065, east of Weasenham	5580	485	353	259	6.3%	77%	274	180	4.9%	54%	273	179	4.9%	37%	218	124	3.9%	37%
Link ID 5: A1082, South of Sheringham	8788	119	354	221	4.0%	185%	288	155	3.3%	130%	243	110	2.8%	93%	210	77	2.4%	65%
Link ID 200: A1270 Northern Distributor Road between A1067 and B1149 junction	21467	1368	671	356	3.1%	26%	493	237	2.3%	17%	372	157	1.7%	11%	294	104	1.4%	8%
Link ID 114: B1149 between A1270 Northern Distributor Road and Buxton Road junctions	11400	594	978	562	8.6%	95%	801	385	7.0%	65%	663	247	5.8%	42%	585	169	5.1%	29%
Link ID 201: A1270 Northern Distributor Road between B1149 and A140 junctions	25000	1593	1070	622	4.3%	39%	874	426	3.5%	27%	722	274	2.9%	17%	635	187	2.5%	12%
Link ID 204: A1270 Northern Distributor Road between A140 and A47 junctions	22933	1461	1093	629	4.8%	43%	897	432	3.9%	30%	741	277	3.2%	19%	655	190	2.9%	13%
Link ID 118: A140 between A1270 and B1145	14967	484	777	495	5.2%	102%	621	338	4.1%	70%	500	218	3.3%	45%	431	149	2.9%	31%
Link ID 204: A1270 between A140 and A47 (Near junction with A47)	35367	2254	1093	629	3.1%	28%	897	432	2.5%	19%	741	277	2.1%	12%	655	190	1.9%	8%
Link ID 137: A47 East of A1270 junction	45233	2882	664	263	1.5%	9%	585	184	1.3%	6%	454	53	1.0%	2%	438	37	1.0%	1%

4. Conclusion and Use of Data

- 4.1 The purpose of this Technical Note is to provide additional clarity over the changes to be made to the Hornsea Three activities which will change the overall level of HGVs on the highway network, the principle of the changes have been agreed with Norfolk County Council and Highways England which is documented in the Statements of Common Ground (submitted for Deadline 4).
- 4.2 The change made focused entirely around a reduction in the haul road depth, reducing the depth currently calculated within the Transport Assessment from 1000m to 500m. This justification has been accepted by key Stakeholders.
- 4.3 The Hornsea Three construction movement calculation table presented as part of Appendix 1: Main Construction Compound Briefing Note submission at Deadline 3 (REP3-010) has been updated to recalculate the change made as presented in Annex C of this report.
- 4.4 Whilst the HGV numbers assessment within the Transport Assessment and Environmental Statement remain valid for the purpose of the theoretical transport environmental assessment, going forward to consider specific intervention measures the reduced HGV generated by this change are to be used. In general, the number of HGVs for Hornsea Three has been reduced by 30%.
- 4.5 From this information, the Hornsea Three HGV traffic has been assigned to the network as previously agreed for both normal and sensitivity scenarios and Table 1.1 produced to highlight the percentage changes per distribution scenario.
- 4.6 In discussion with Norfolk County Council, the HGV update presented in this report will be used to;
- Update the outline CTMP intervention schemes at;
 - The Street Oulton
 - B1145 Cawston
 - Taverham Road at the junction with the A47
 - Consider wider CTMP route timing restrictions; and
 - Prepare cumulative effects of Hornsea Three / Norfolk Vanguard / Norfolk Boreas on specific highway links to be agreed with Norfolk County Council which will be submitted at Deadline 6.

Annex A - Transport Assessment Appendix A - HGV Movements per Access Point and Calculations Table

HGV Movements per Access Point

[illegible]

	Monitoring Access only
	Crossing Point Only

*Excluding Monitoring Accesses and Crossing Points

Annex B - HGV Calculations used for Transport Assessment

[illegible][illegible]

	Staff		Daily Staff Movements					Total staff movements			Daily Vehicle Movements			Total Vehicle Movements			Staff Peak Hour			Hourly Vehicle Movements		
	Cable Route	TT ops	Cable Route Staff Movements	TT ops	Converter Station	Total	Cable Route Staff movements	TT ops	Converter Station	Total	HGV	Lights	Total	HGV	Lights	Total	HGVs	Lights	Total	HGVs		
5											5	10	15	4,800	9,600	14,400				5	9	0
104	20	70	30	105		135	5,393	135		5,628	104	130	239	18,737	5,528	24,265	68	68	9			
96	20	31	30	47		77	3,063	77		3,139	96	77	173	9,854	3,139	12,994	38	38	9			
97	20	57	30	86		116	4,496	116		4,612	97	116	212	14,586	4,612	19,198	58	58	9			
94	20	26	30	39		69	5,094	69		5,163	94	89	163	15,727	5,163	20,891	35	35	9			
94	20	26	30	39		69	6,713	69		6,782	94	89	163	11,494	3,782	15,276	35	35	9			
106	20	65	30	98		128	4,744	128		4,871	106	128	233	15,733	4,871	21,604	64	64	10			
96	20	31	30	47		77	3,239	77		3,315	96	77	173	10,391	3,315	13,705	38	38	9			
94	20	91	30	137		167	6,013	167		6,180	94	167	260	28,030	6,180	37,209	83	83	9			
94	20	65	30	98		128	3,991	128		4,118	94	128	221	12,630	4,118	16,649	64	64	9			
96	20	57	30	86		116	3,424	116		3,539	96	116	212	11,081	3,539	14,620	58	58	9			
97	20	44	30	66		96	4,115	96		4,211	97	96	193	13,321	4,211	17,532	48	48	9			
94	20	26	30	39		69	4,455	69		4,524	94	89	163	13,767	4,524	18,291	35	35	9			
96	20	44	30	66		96	4,166	96		4,262	96	96	192	13,296	4,262	17,558	48	48	9			
94	20	109	30	164		194	9,900	194		10,094	94	194	288	31,155	10,094	41,249	97	97	9			
99	20	36	30	54		84	3,166	84		3,290	99	84	183	10,518	3,290	13,768	42	42	9			
97	20	65	30	98		128	4,754	128		4,882	97	128	224	15,363	4,882	20,245	64	64	9			
95	20	70	30	105		135	6,280	135		6,415	95	135	230	19,891	6,415	26,306	68	68	9			
95	20	135	30	203		233	6,920	233		7,152	95	233	327	22,152	7,152	29,304	116	116	9			
94	20	52	30	78		108	4,898	108		5,006	94	108	202	15,246	5,006	20,254	54	54	9			
95	20	52	30	78		108	3,290	108		3,388	95	108	203	10,465	3,388	13,853	54	54	9			
140	20	65	30	98		128	3,792	128		3,923	140	128	267	11,708	3,923	15,708	64	64	13			
12						34	34			24,012	24,012	12	34	46	6,597	24,012	30,609	17	17	1		
2,111	420	1,217	630	1,836	116	2,671	101,908	2,456	159,012	263,736	2,111	2,581	4,682	87,529	272,976	646,905	1,394	1,294	192			

		Staff	Converter Station Staff Movements	
	cable route	20	Average staff per day	50
TT site	large	8	Mode share	50%
	small	13		
Mode shu	75%			

		months of construction	working days/week	
land fill	3	68.75	working weeks/year	50
TT site	2.2	50.00	working month	23 working days

instruction 3 months per location (per 750m), but calculate as per km to fit minimum construction duration)

Annex C - Revised HGV Movements per Access Point and Calculations Table

Construction Vehicle Trip Generation Calculations

JNY8772 Hornsea Project Three

Construction Vehicle Movements by Cable Route Section

[illegible]

TT (HDO / Thrust Bore) connection			Total HGV Movements		Duration/days	Daily HGV Movements		Staff	Daily Staff Movements		Total staff movements		Daily Vehicle Movements		Total Vehicle Movements		Staff Peak Hour		Hourly Vehicle Movements																
Section	Description	Cable Route	HDO	Converter Station	Total	Cable route	Cable Route	Converter Station	HDO	Total	Cable Route	Total				Cable Route	Staff movements	TT opps	Converter Station	Total	Cable Route	HGV	Lghs	Total	HGV	Lghs	Total	HGVs	Lghs	Total	HGVs				
												TT opps	Cable Route Staff movements	TT opps	Converter Station																	TT opps	Converter Station	TT opps	Converter Station
1	Lendall		4,800	550					5																										
1	Lendall to Holgate Hill	12,674	415		13,089	190	70		2	72	20	77	30	105	135	5,393	135		5,528	72	135	207	13,089	5,528	18,617		59	69	7						
2	Holgate Hill to woodland north east of High Kelles	6,414	232		6,647	102	63		2	65	20	31	30	47	77	3,063	77		3,139	65	77	142	6,647	3,139	9,786		38	38	6						
3	Woodland northeast of High Kelting to woodland south of Church Road	9,523	354		9,877	150	64			66	20	57	30	86	116	4,496	116		4,612	66	116	181	9,877	4,612	14,489		58	58	6						
4	Woodland south of Church Road to woodland south and east of School Lane	10,270	122		10,392	170	60		2	62	20	26	30	39	69	5,094	69		5,163	62	69	131	10,392	5,163	15,555		35	35	6						
5	Woodland east of School Lane to Plumstead Road	7,484	122		7,606	124	60		2	62	20	26	30	39	69	3,713	69		3,782	62	69	131	7,606	3,782	11,387		35	35	6						
6	Plumstead Road to the B1149	11,461	304		11,765	158	72		2	74	20	65	30	98	128	4,744	128		4,871	74	128	202	11,765	4,871	16,636		64	64	7						
7	B1149 to land South of Town Close Lane	6,767	232		7,000	108	63		2	65	20	31	30	47	77	3,238	77		3,315	65	77	141	7,000	3,315	10,314		38	38	6						
8	Land south of Town Close Lane to woodland north of Reepham Road	18,164	426		18,590	300	60		2	62	20	31	30	137	167	9,013	167		9,185	62	167	229	18,590	9,185	27,770		83	83	6						
9	Land north of Reepham Road to woodland north of Reepham	8,046	304		8,350	133	60		2	62	20	65	30	86	116	3,991	128		4,118	62	128	190	8,350	4,118	12,469		64	64	6						
10	Woodland north of Reepham to woodland at Boodon Common	7,141	354		7,495	114	63		2	65	20	57	30	86	116	3,424	116		3,539	65	116	180	7,495	3,539	11,034		58	58	6						
11	Woodland east of Reepham to The Grove	8,718	293		9,012	134	63		2	66	20	44	30	66	96	4,115	66		4,211	66	96	162	9,012	4,211	13,222		48	48	6						
12	The Grove to woodland south of Church Farm Lane	8,980	122		9,101	149	60		2	62	20	26	30	39	69	4,455	69		4,524	62	69	131	9,101	4,524	13,625		35	35	6						
13	Woodland south of Church Farm Lane to River Wensum	8,639	293		8,932	139	62		2	64	20	44	30	66	96	4,166	96		4,262	64	96	160	8,932	4,262	13,193		48	48	6						
14	River Wensum to woodland south west of Ringland	20,189	598		20,787	330	61		2	63	20	109	30	164	194	9,900	194		10,094	63	194	287	20,787	10,094	30,880		97	97	6						
15	Woodland south west of Ringland to A47	6,839	347		7,202	106	65		2	67	20	36	30	54	84	3,166	84		3,290	67	84	151	7,202	3,290	10,492		42	42	6						
16	A47 to Bawburgh Road	10,080	304		10,384	158	64		2	65	20	60	30	98	128	4,764	128		4,882	60	128	193	10,384	4,882	15,266		64	64	6						
17	Bawburgh Road to woodland west of Little Melton	12,999	415		13,314	209	62		2	64	20	70	30	105	135	5,280	135		5,415	64	135	199	13,314	5,415	18,729		68	68	6						
18	Woodland west of Little Melton to A11	14,186	719		14,905	231	60		2	63	20	135	30	203	233	6,020	233		7,152	63	233	296	14,905	7,152	22,057		116	116	6						
19	A11 to woodland north west of Sparsholt	9,872	243		10,116	163	60		2	62	20	52	30	78	108	4,898	108		5,006	62	108	170	10,116	5,006	15,122		54	54	6						
20	Woodland north west of Sparsholt to B1113	6,776	243		7,020	110	62		2	64	20	52	30	78	108	3,290	108		3,388	64	108	172	7,020	3,388	10,417		54	54	6						
21	B1113 to east of cable route	13,507	304		13,811	127	107		2	109	20	65	30	98	128	3,795	128		3,923	109	128	236	13,811	3,923	17,734		64	64	10						
	Booster Station		6,597		6,597	12	12			12				34	34					24,012	24,012	12	34	46	6,597	24,012	30,609		17	17	1				
	Converter / Sub Station		24,012		24,012	29	29			29				82	82					135,000	135,000	29	82	111	24,012	135,000	159,012		41	41	3				
	Total	218,449	6,746	30,609	260,804	1,365	41	40	1,451	420	1,217	630	1,826	116	2,571	101,908	2,456	159,012	263,376	1,451	2,581	4,032	260,804	272,976	533,779		1,294	1,294	132						

		Staff
TT site	cable route	20
	small	8
	large	13

Mode share **75%**

Converter Station Staff Movements

Average staff per day **50**

Mode share **50%**

	months of construction	days	working days/week	5.5
land fall	3	68.75	working weeks/year	50
TT Site	2.2	50.00	working month	23 working days

cable route rate of construction **3 months per location (per 750m, but calculate as per km to fit minimum construction duration)**

HGV Movements per Access Point

Cable Route Section	Description	Total Two-Way Light Vehicle Movements	Total Two-Way HGV Movements	Duration / Days	Daily Two-Way HGV Movements	Accesses																Number of Construction Accesses	*Daily HGVs per access
Landfall	Landfall	9,600	4,800	550	5	47 (B)																1	5
1	Landfall to Holgate Hill	5,528	13,089	180	72	47 (B)	45(B)	44(B)	ACC_P_75													4	18
2	Holgate Hill to woodland north east of High Kelling	3,139	6,647	102	65	42(C)	41(B)															1	65
3	Woodland northeast of High Kelling to woodland south of Church Road	4,612	9,877	150	66	ACC_P_74	ACC_P_73	ACC_P_72	ACC_P_71	ACC_P_70	ACC_P_69											6	11
4	Woodland south of Church Road to woodland south and east of School Lane	5,163	10,392	170	62	ACC_P_68	ACC_P_67	39a(B)														3	21
5	Woodland east of School Lane to Plumstead Road	3,782	7,606	124	62	ACC_P_66	ACC_P_65	ACC_P_64	ACC_P_63	ACC_P_62	ACC_P_61											6	10
6	Plumstead Road to the B1149	4,871	11,765	158	74	37(E)	ACC_P_60															2	37
7	B1149 to land South of Town Close Lane	3,315	7,000	108	65	ACC_P_59	ACC_P_58	ACC_P_57	36(C)	ACC_P_56	35(C)											3	22
8	Land south of Town Close Lane to woodland north of Reepham Road	9,180	18,590	300	62	ACC_P_55	ACC_P_54	ACC_P_53	ACC_P_52	ACC_P_51	ACC_P_50	ACC_P_49	ACC_P_48									8	8
9	Land north of Reepham Road to woodland north of Reepham	4,118	8,350	133	62	ACC_P_47	ACC_P_46	34 (A)	33(A)	ACC_P_45	ACC_P_44											6	10
10	Woodland north of Reepham to woodland at Booton Common	3,539	7,495	114	65	ACC_P_43	ACC_P_42	32(B) / 31(B)														3	22
11	Woodland east of Reepham to The Grove	4,211	9,012	137	66	ACC_P_41	ACC_P_40															2	33
12	The Grove to woodland south of Church Farm Lane	4,524	9,101	149	62	ACC_P_39	ACC_P_38	ACC_P_37	ACC_P_36	ACC_P_35	ACC_P_34											6	10
13	Woodland south of Church Farm Lane to River Wensum	4,262	8,932	139	64	29(B)	29(B)	ACC_P_37	ACC_P_36	ACC_P_35	ACC_P_34											6	11
14	River Wensum to woodland south west of Ringland	10,094	20,787	330	63	ACC_P_31	ACC_P_30	ACC_P_33	ACC_P_32	ACC_P_35	ACC_P_34	26(B)	25(B)									14	5
15	Woodland south west of Ringland to A47	3,250	7,202	106	67	18(B)	17(B)	24(A)	ACC_P_29	ACC_P_28	ACC_P_27	ACC_P_26	23(A)	ACC_P_25	ACC_P_24	22(B)	ACC_P_23	ACC_P_22	21(B)	20(B)		3	22
16	A47 to Bawburgh Road	4,882	10,384	158	65	ACC_P_21	ACC_P_20	15(A)	ACC_P_19	14(A)												4	16
17	Bawburgh Road to woodland west of Little Melton	6,415	13,314	209	64	ACC_P_18	13(C)	ACC_P_17	ACC_P_16	ACC_P_15	ACC_P_14											5	13
18	Woodland west of Little Melton to A11	7,152	14,905	231	63	11(A)	ACC_P_13	10(A)	9(A)	ACC_P_12	ACC_P_11	ACC_P_10	ACC_P_9	8(A)	7(A)	ACC_P_8	6(B)	50(B)	5(A)	4(C) / 4(B)	3(B)	16	4
19	A11 to woodland north west of Swardeston	5,006	10,116	163	62	2(B)	ACC_P_7	ACC_P_6	ACC_P_5	ACC_P_4												5	12
20	Woodland north west of Swardeston to B1113	3,398	7,020	110	64	ACC_P_3	ACC_P_2	1(B)														3	21
21	B1113 to end of cable route	3,923	13,811	127	109	ACC_P_1	ACC_P_A	ACC_P_B	ACC_P_C	ACC_P_D	A(B)											2	54
HVAC Booster Station	Booster Station	24,012	6,597	275	12	37(E)																1	12
HVAC Substation	Converter / Sub Station	135,000	24,012	825	29	ACC_P_1																1	29
																						111	472

Monitoring Access only

Crossing Point Only

*Excluding Monitoring Accesses and Crossing Points

Annex D - Revised Transport Assessment Appendix B Traffic Flow Diagrams

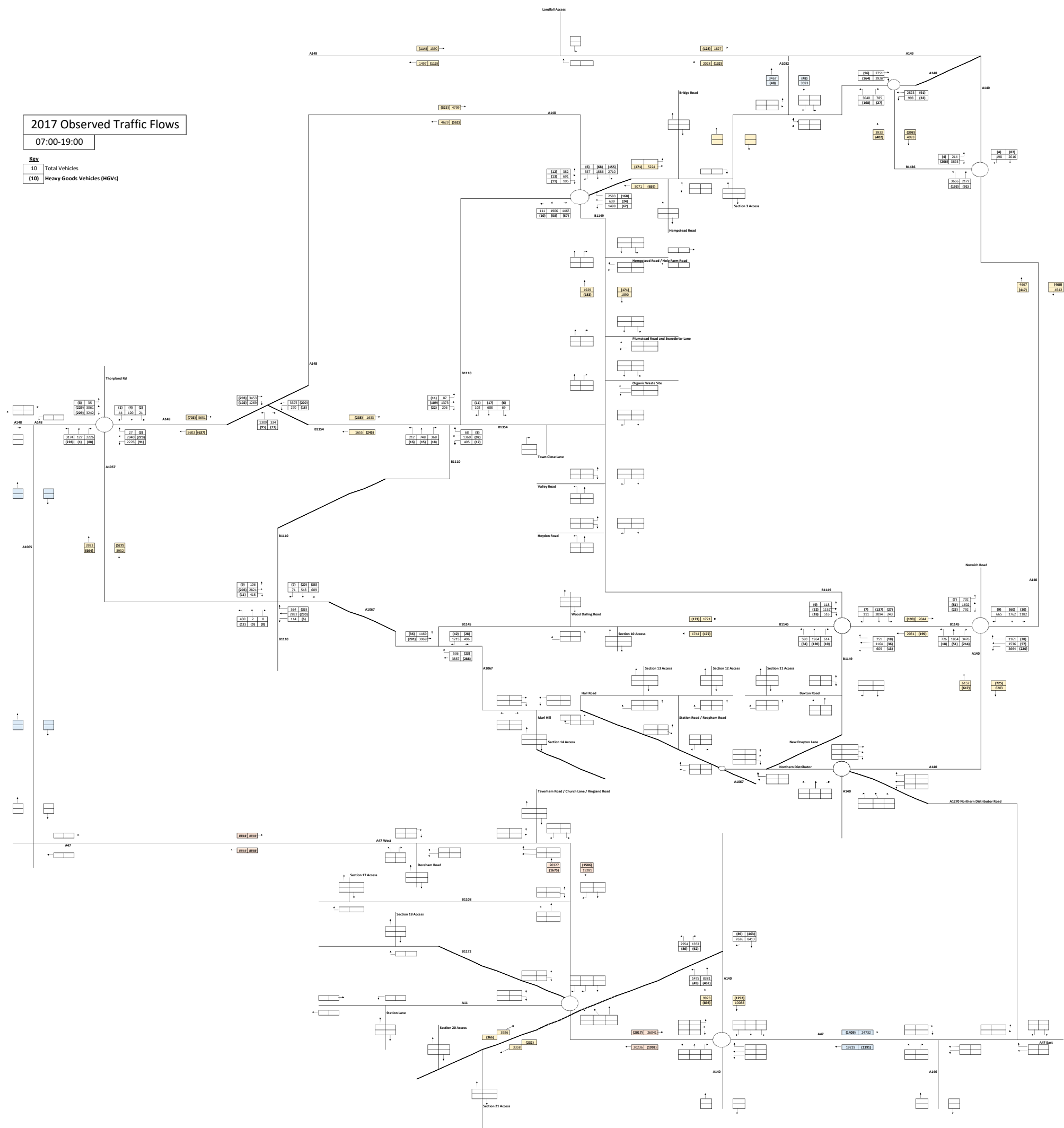
Traffic Flow Diagrams
12hr Total Construction Traffic

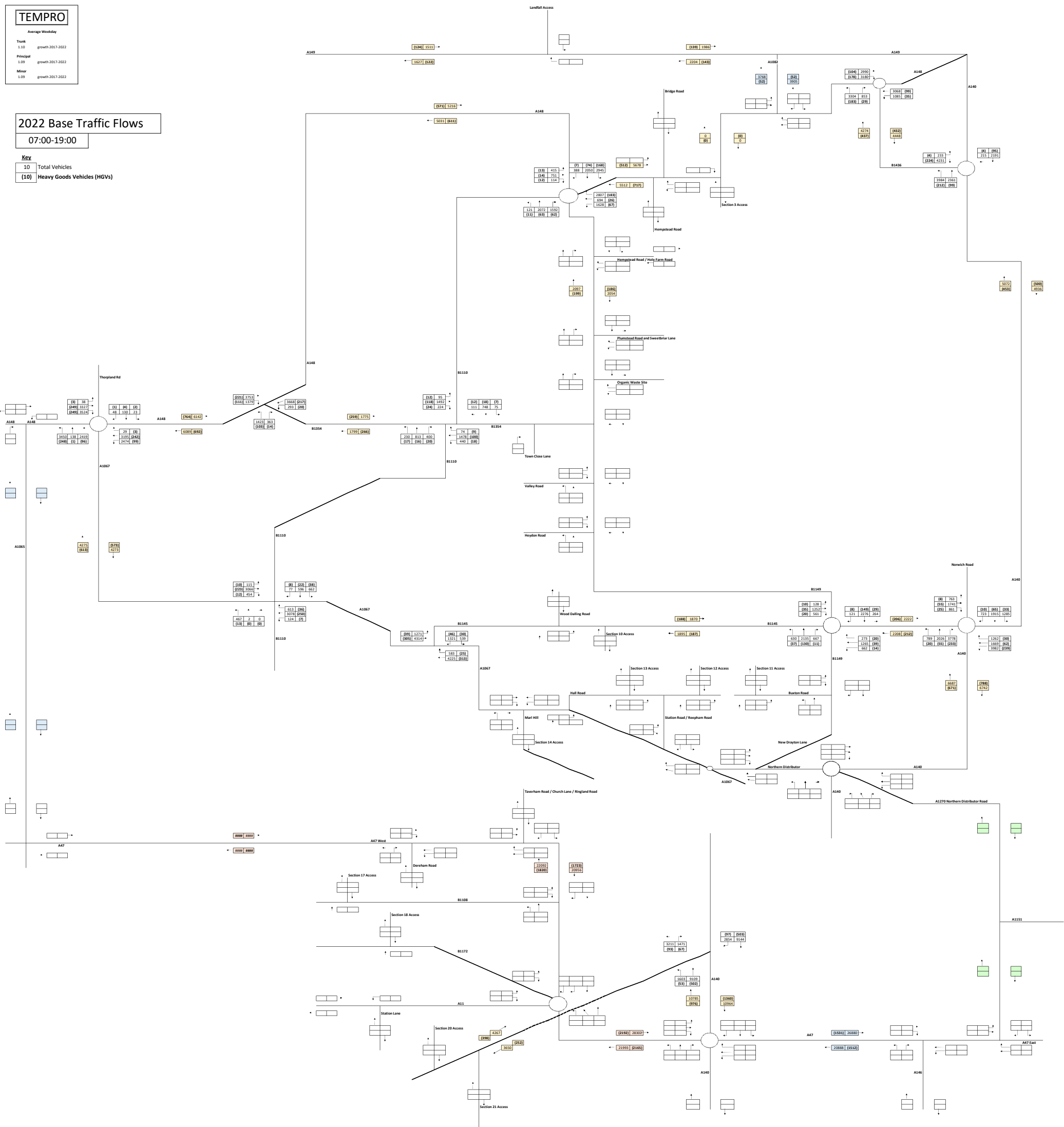
2017 Observed Traffic Flows

07:00-19:00

Key	
10	Total Vehicles

(10)	Heavy Goods Vehicles (HGVs)
------	-----------------------------





Tables Linked to Construction Vehicle Movements Spreadsheet

Route Section	Description	12hr Vehicle Flows			Phase
		Total	HGV	Lights	
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

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 Total HGVs

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

HGVs Assume

10%

5%

35%

0%

35%

10%

0%

100%

from Kings Lynn via A148

from Lowestoft

from A47

from A1065

from A11

from A140 south

from A140 north

Staff Vehicle Movements Assume

8%

28%

11%

7%

6%

16%

13%

100%

via A148

via A47 east

from A140

from A47 west

from A1065

from A11

from A140 south

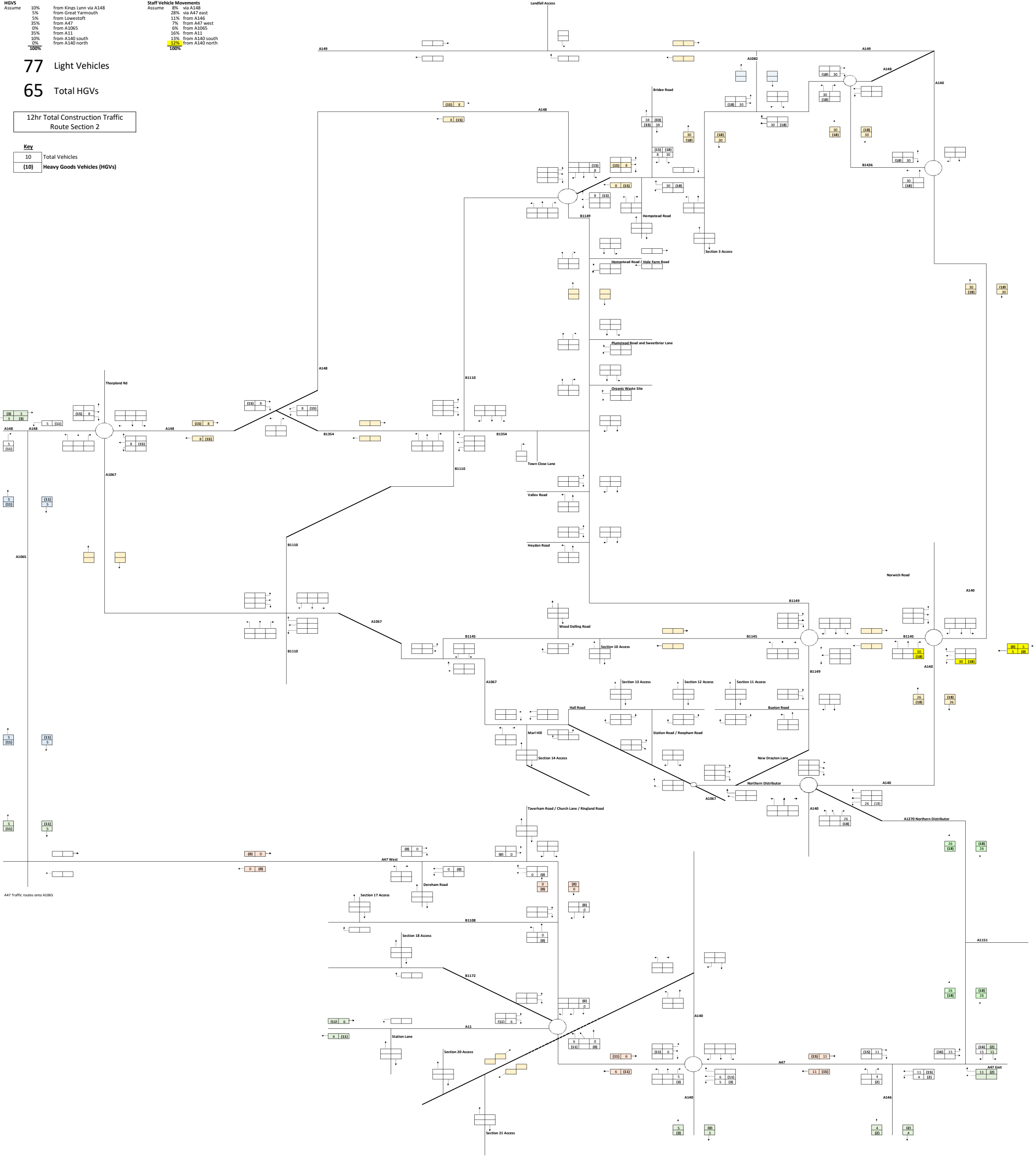
from A140 north

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%

5%

35%

0%

35%

10%

0%

100%

from Kings Lynn via A148

from Lowestoft

from A47

from A1065

from A11

from A140 south

from A140 north

Staff Vehicle Movements

Assume

8%

28%

11%

7%

6%

16%

13%

100%

via A148

via A47 east

from A140

from A47 west

from A1065

from A11

from A140 south

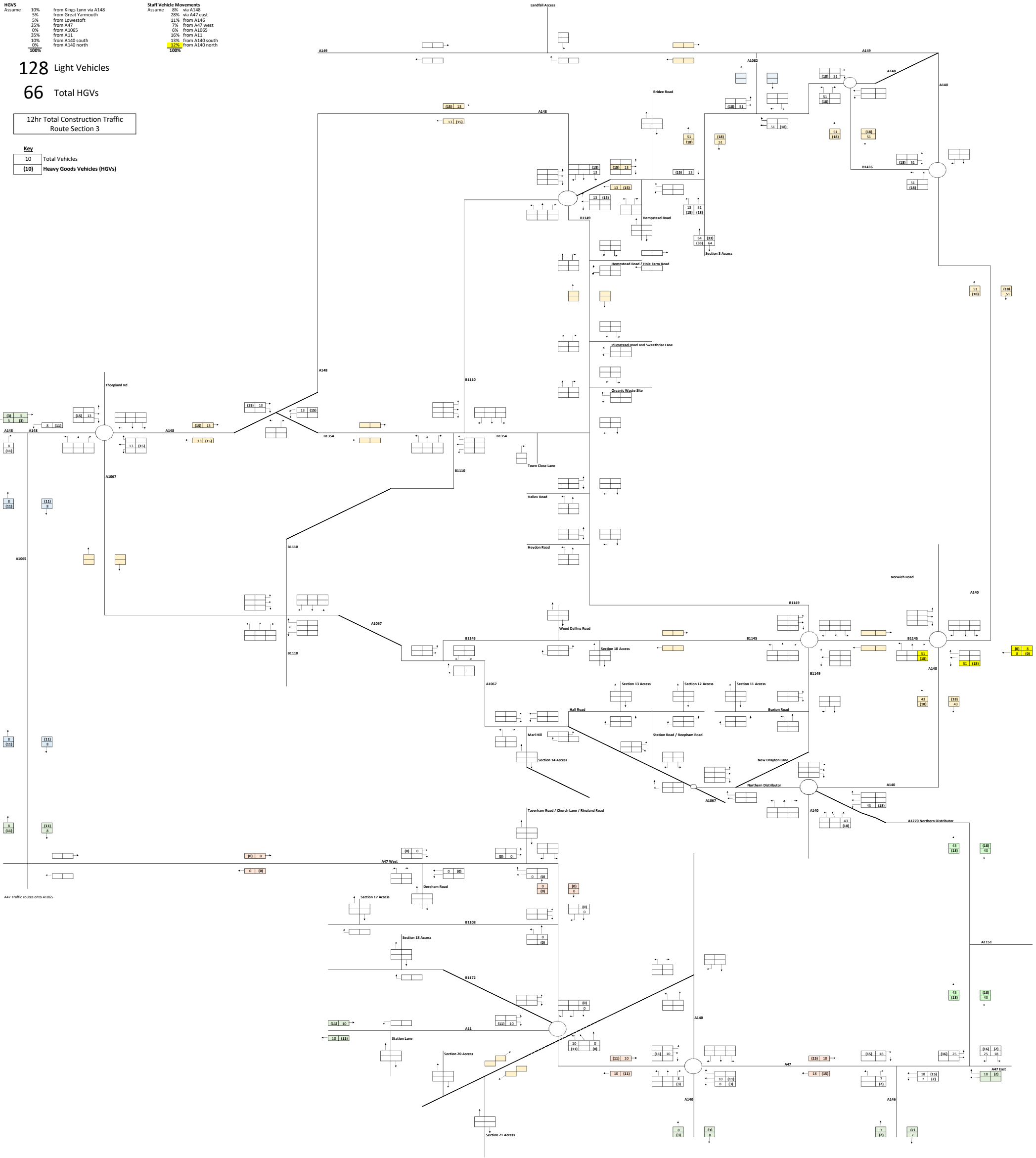
from A140 north

128 Light Vehicles

66 Total HGVs

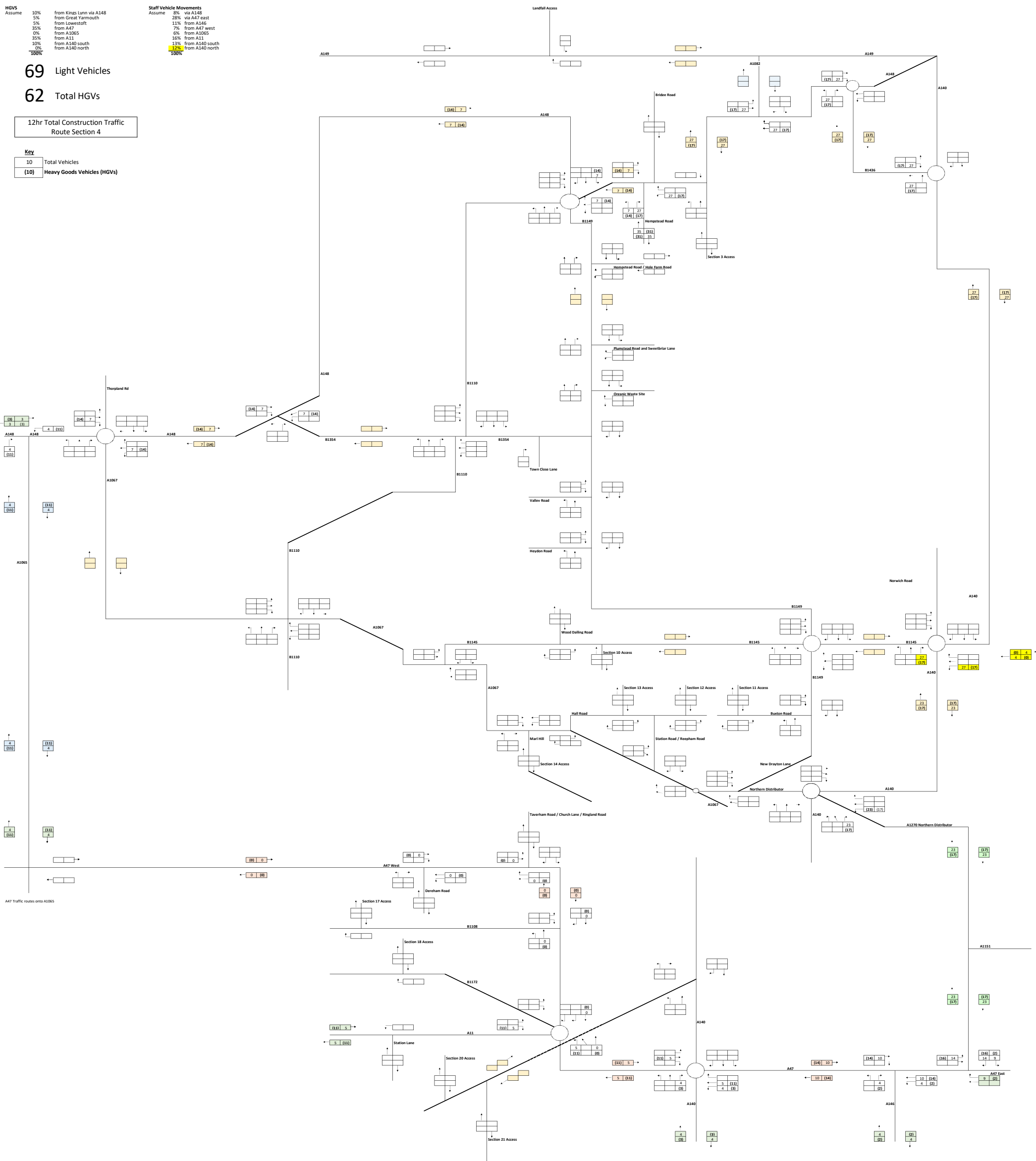
12hr Total Construction Traffic
Route Section 3

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



69 Light Vehicles
62 Total HGVs

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



HGVs Assume

10%

5%

35%

0%

35%

10%

0%

100%

from Kings Lynn via A148

from Lowestoft

from A47

from A1065

from A11

from A140 south

from A140 north

Staff Vehicle Movements Assume

8%

28%

11%

7%

6%

16%

13%

100%

via A148

via A47 east

from A140

from A47 west

from A1065

from A11

from A140 south

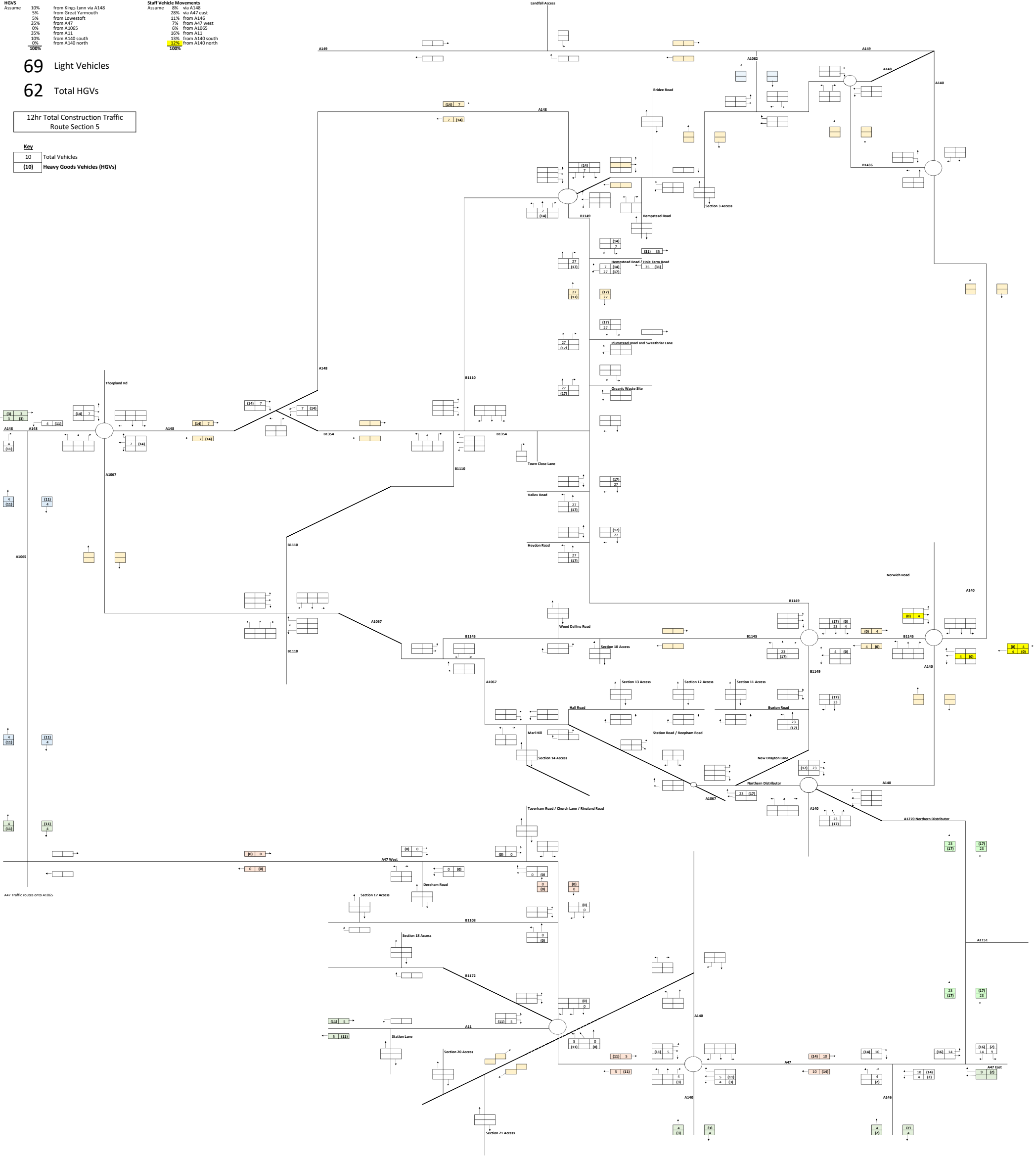
from A140 north

69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic
Route Section 5

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



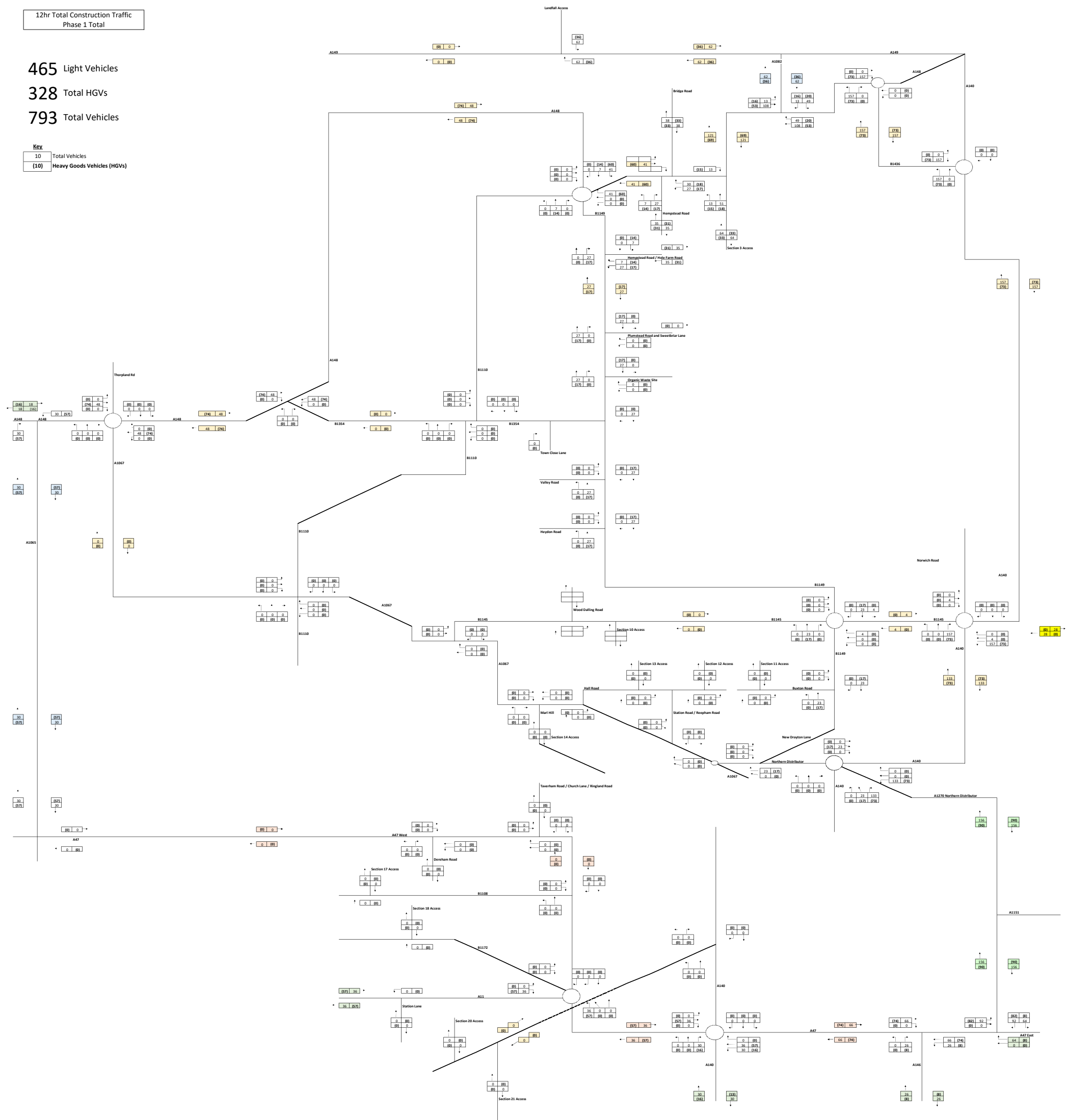
12hr Total Construction Traffic Phase 1 Total

465 Light Vehicles

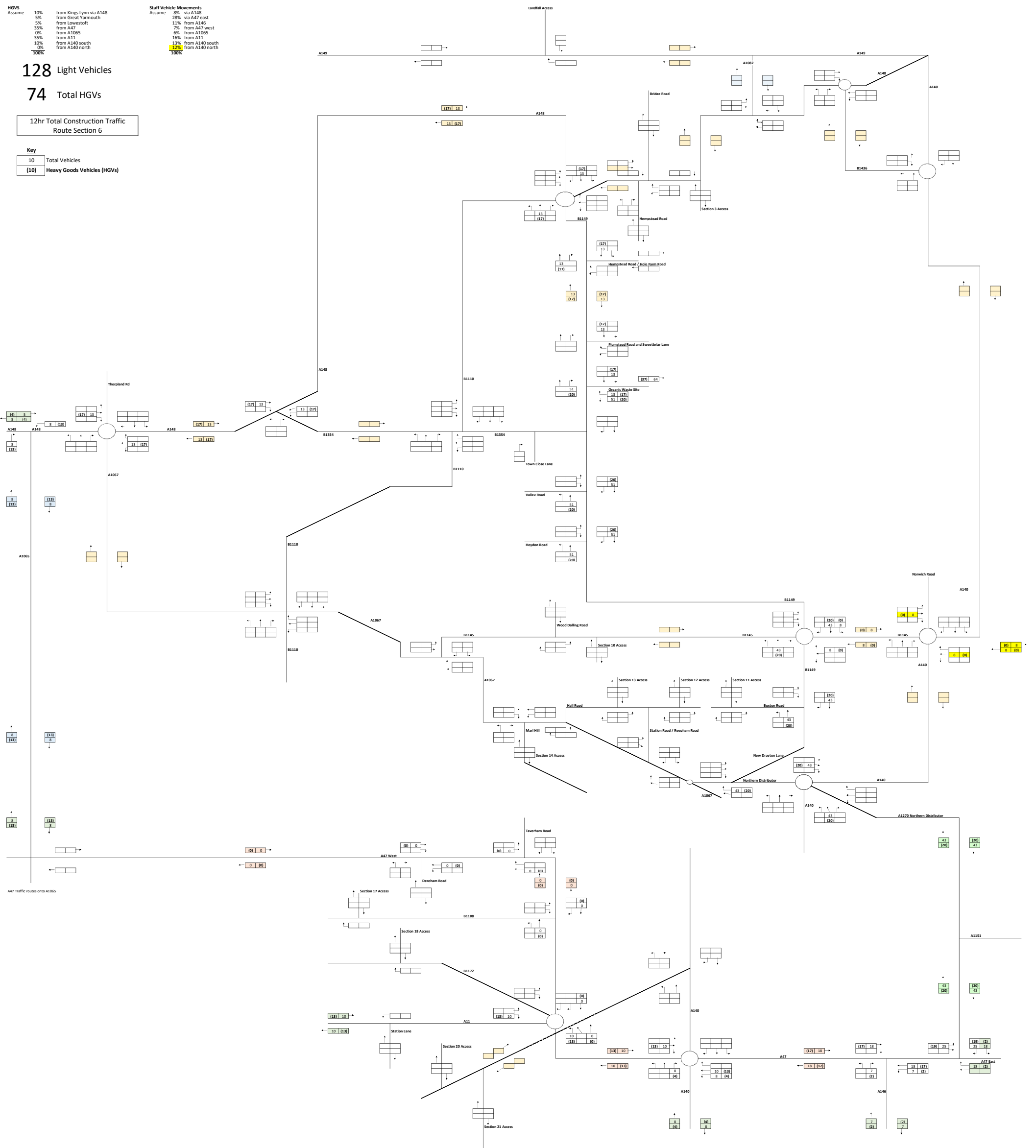
328 Total HGVs

793 Total Vehicles

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



128 Light Vehicles
74 Total HGVs

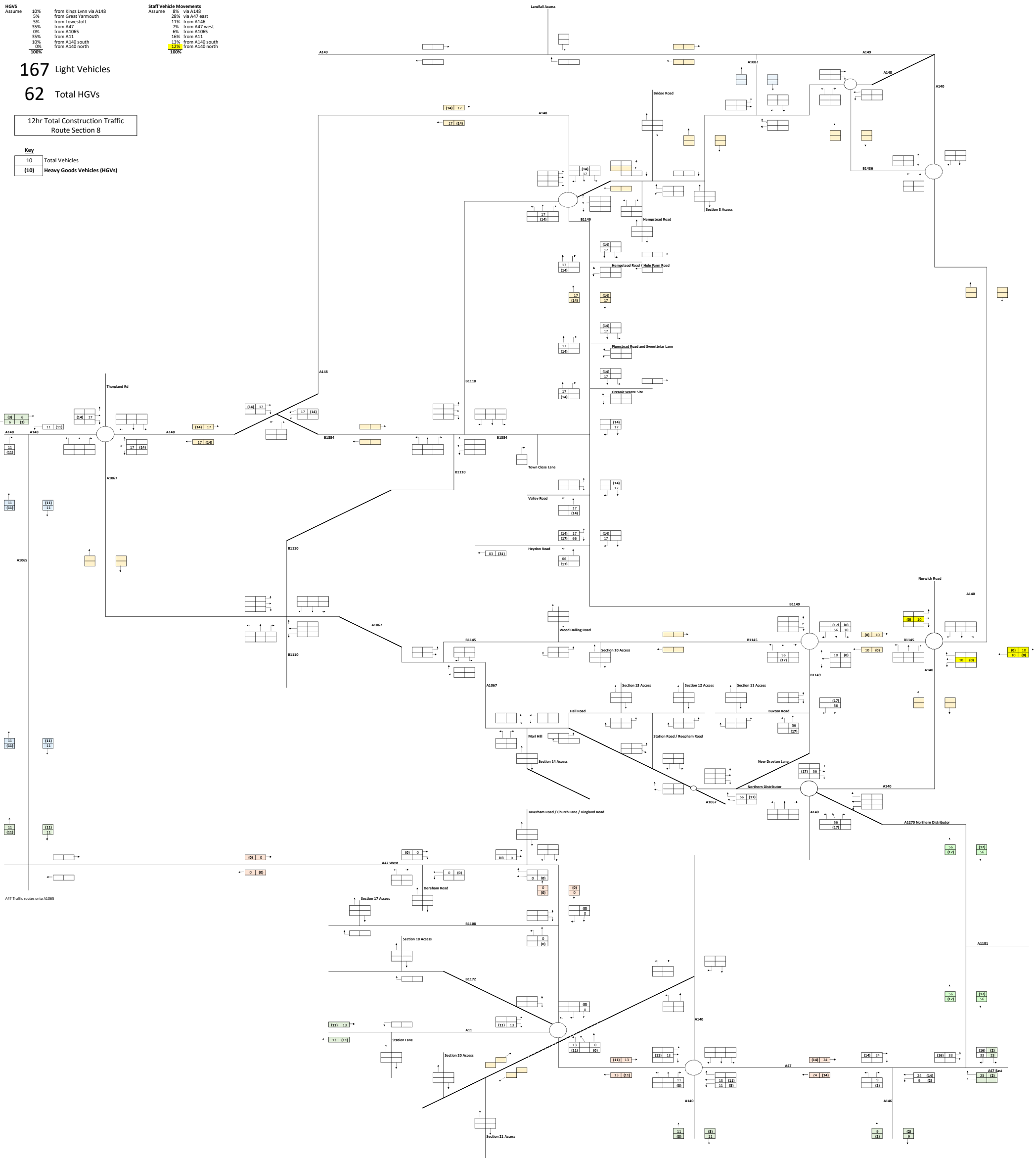


Staff Vehicle Movements

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%	

62 Total HGVs

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

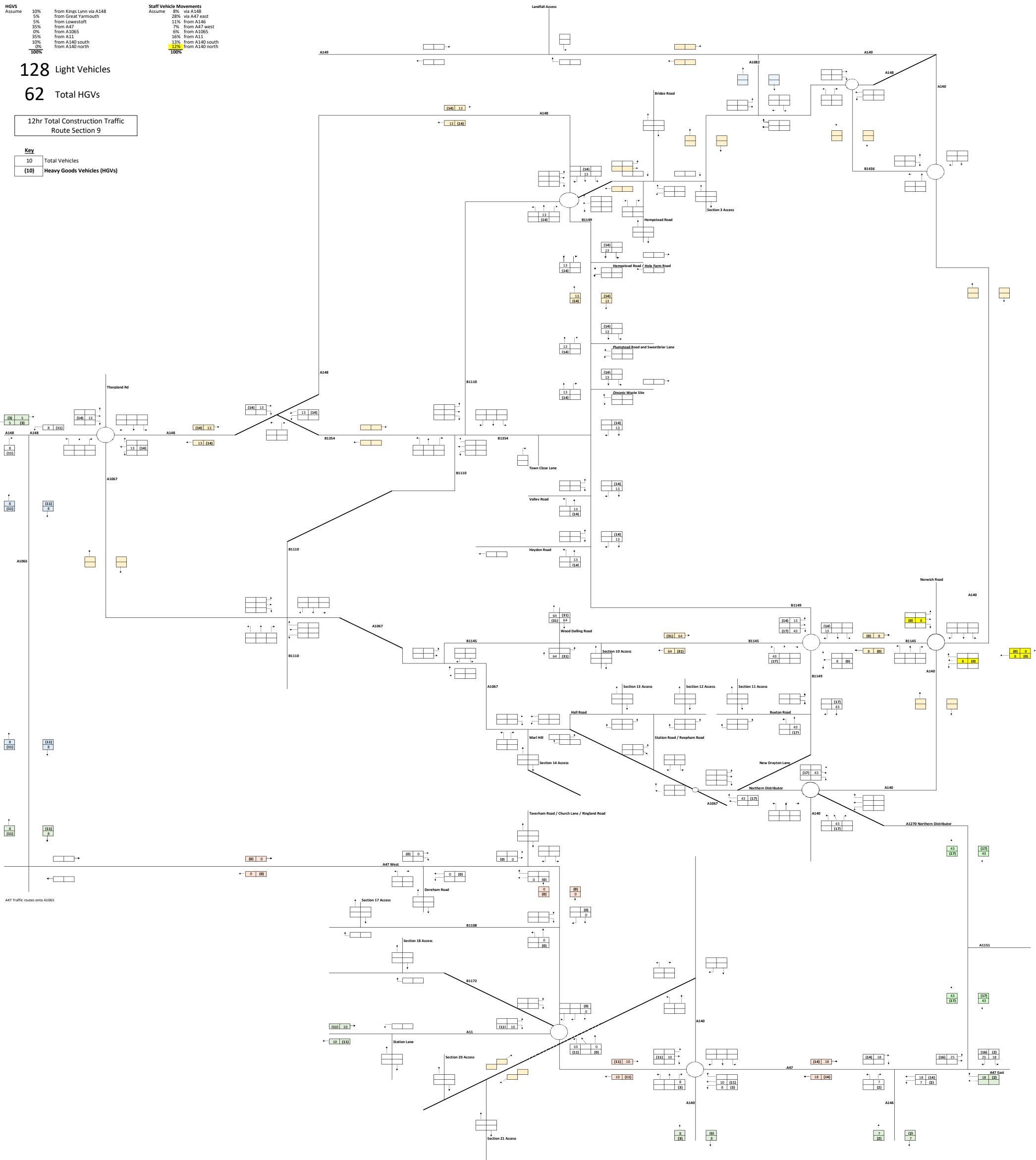


Staff Vehicle Movements

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%	

62 Total HGVs

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



Staff Vehicle Movements

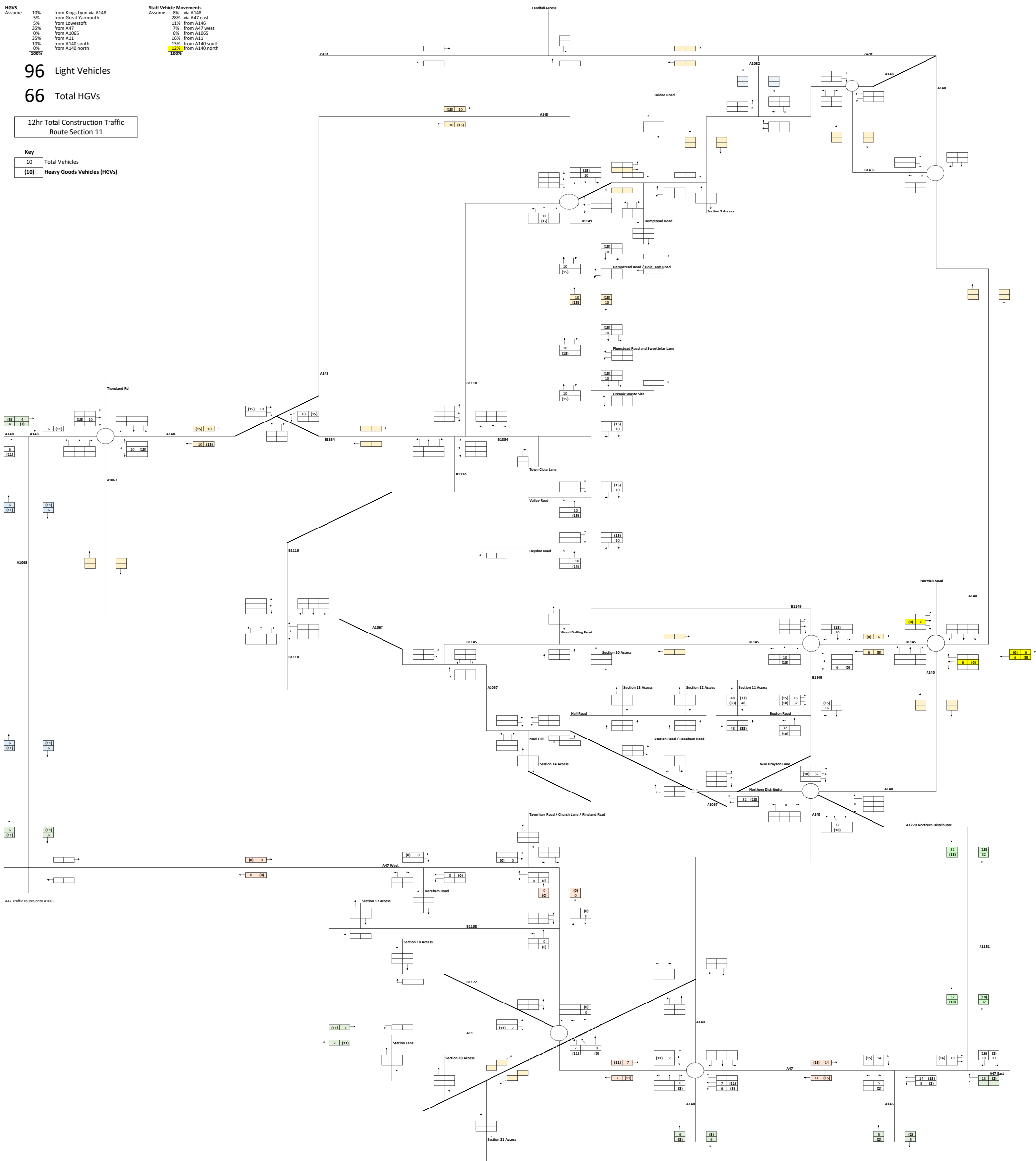
Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from A140 north
	100%	

65 Total HGVs

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

96 Light Vehicles
66 Total HGVs

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



12hr Total Construction Traffic Phase 2 Total

633 Light Vehicles

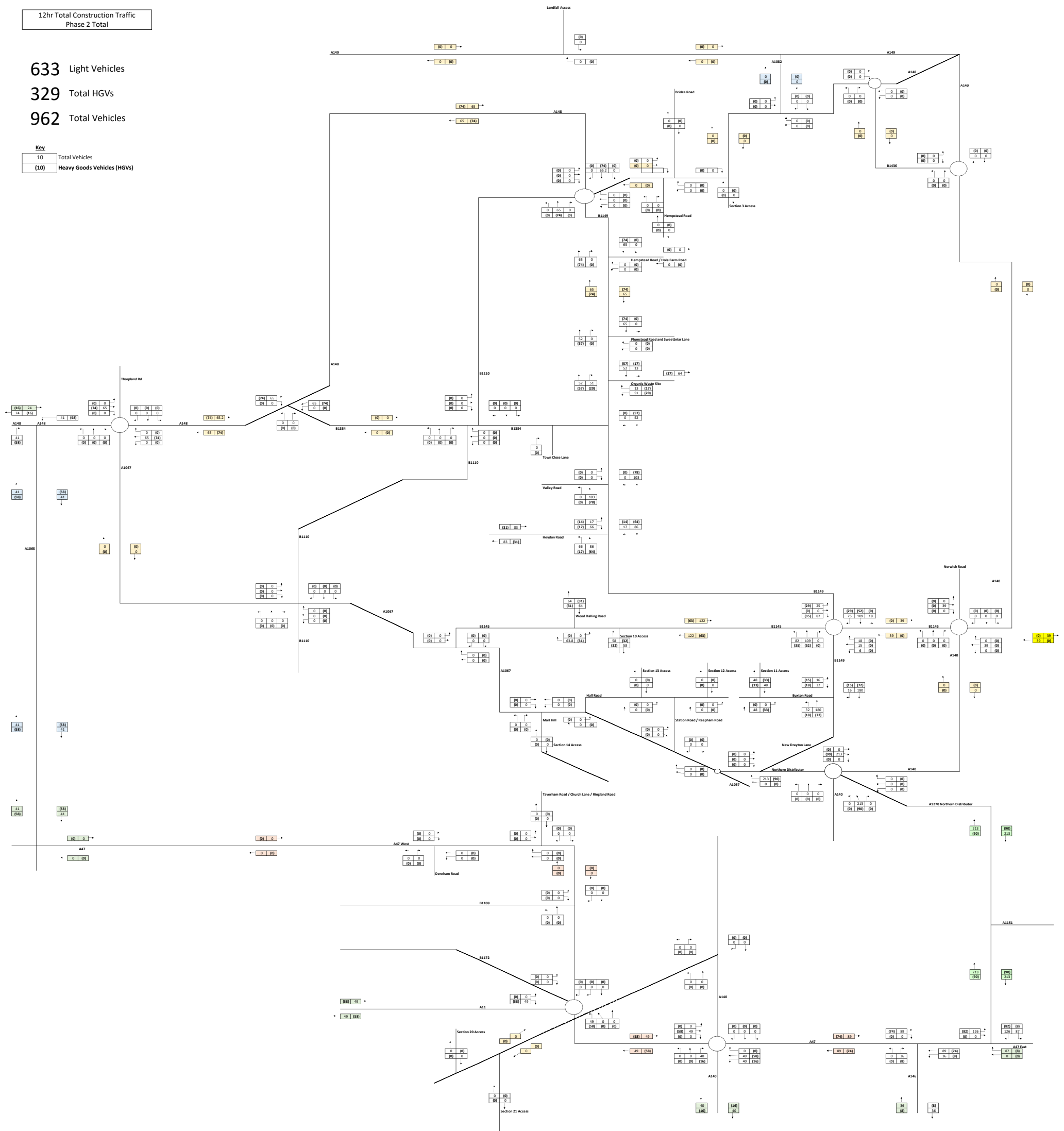
329 Total HGVS

962 Total Vehicles

Key

Total Vehicles

Heavy Goods Vehicles (HGVs)



HGVs Assume

10% from Kings Lynn via A148

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

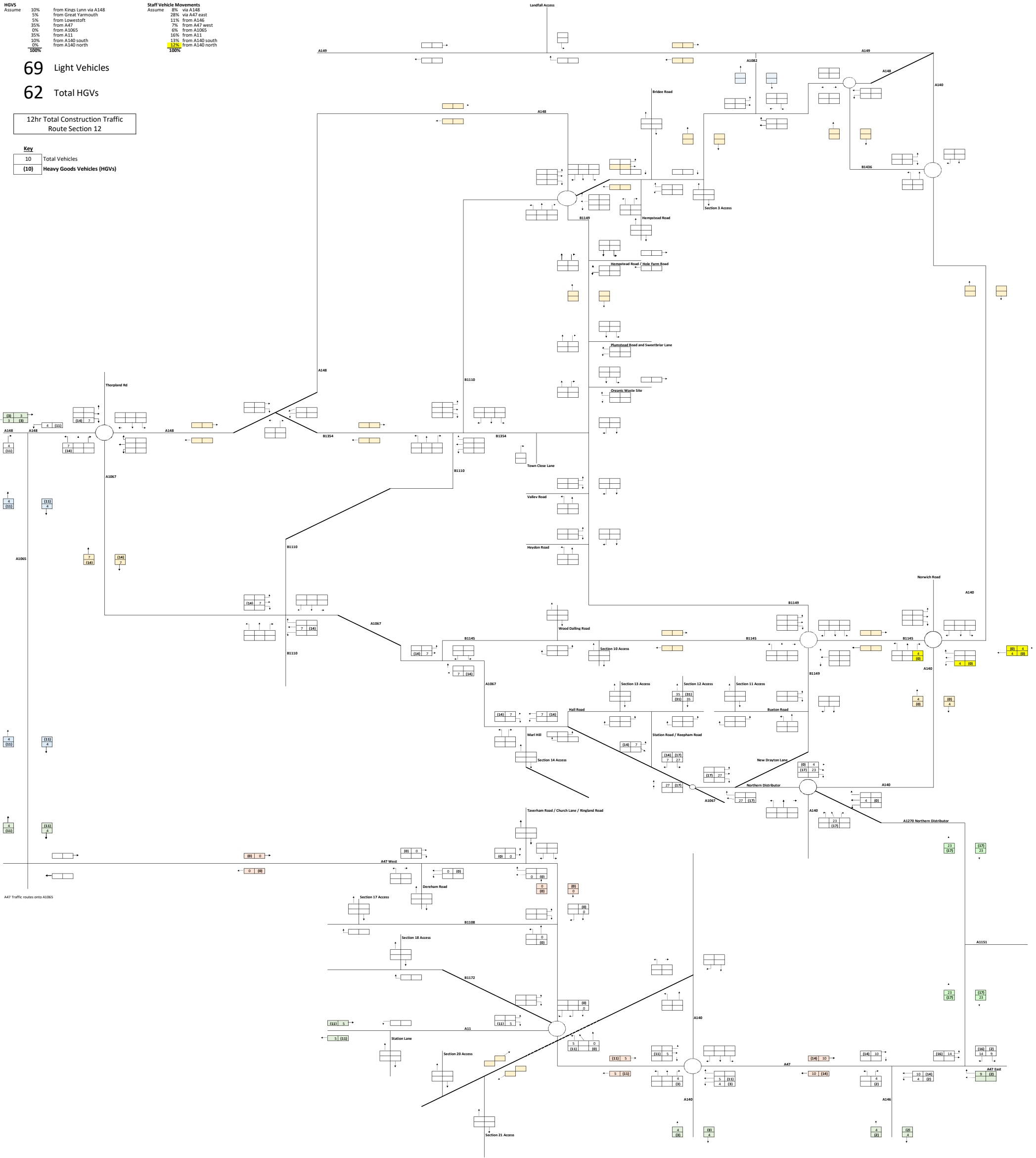
100%

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%

5%

35%

0%

35%

10%

0%

100%

from Kings Lynn via A148

from Lowestoft

from A47

from A1065

from A11

from A140 south

from A140 north

Staff Vehicle Movements Assume

8%

28%

11%

7%

6%

16%

13%

12%

100%

via A148

via A47 east

from A146

from A47 west

from A1065

from A11

from A140 south

from A140 north

96 Light Vehicles

64 Total HGVs

12hr Total Construction Traffic
Route Section 13

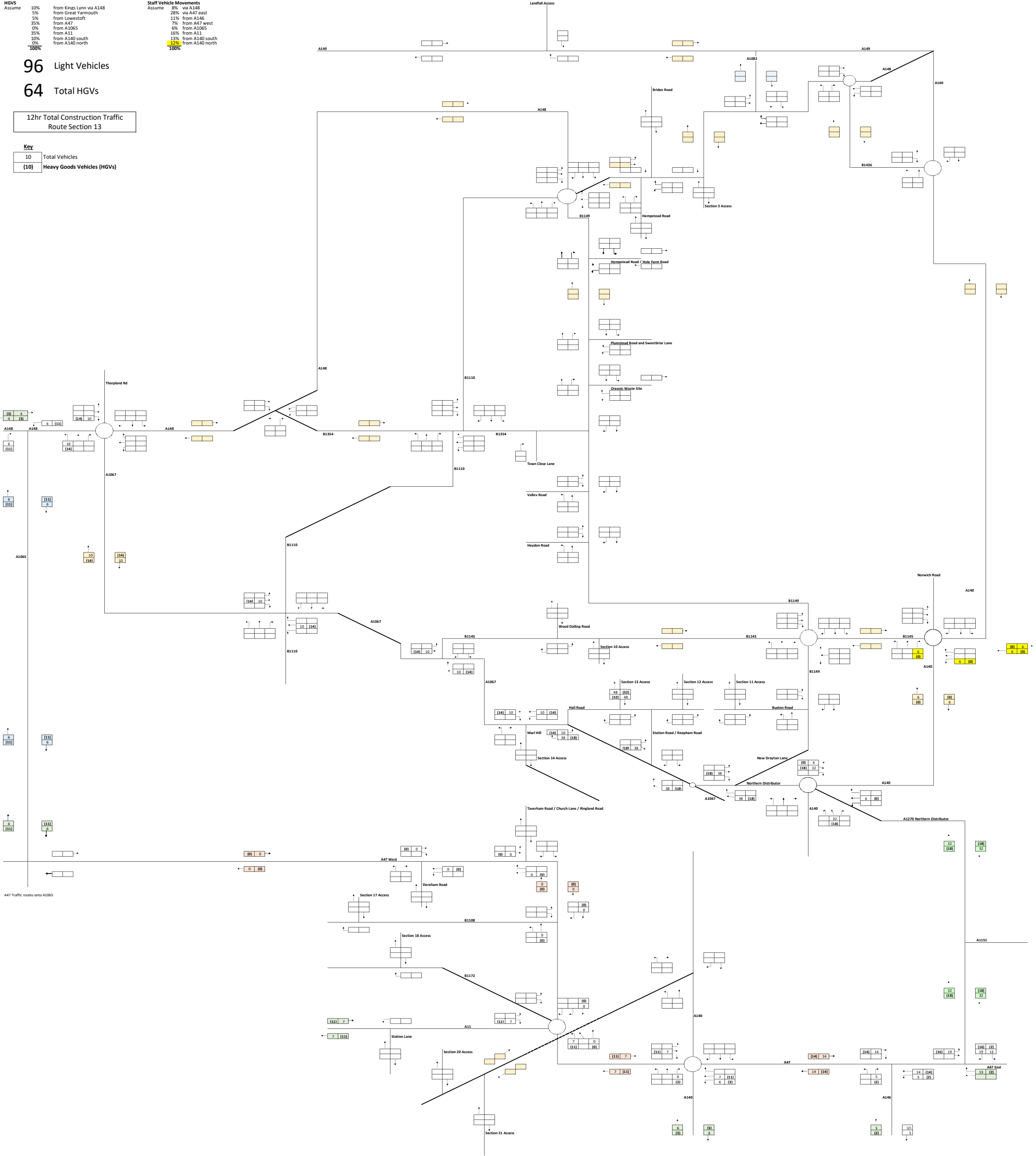
Key

10

(10)

Total Vehicles

Heavy Goods Vehicles (HGVs)

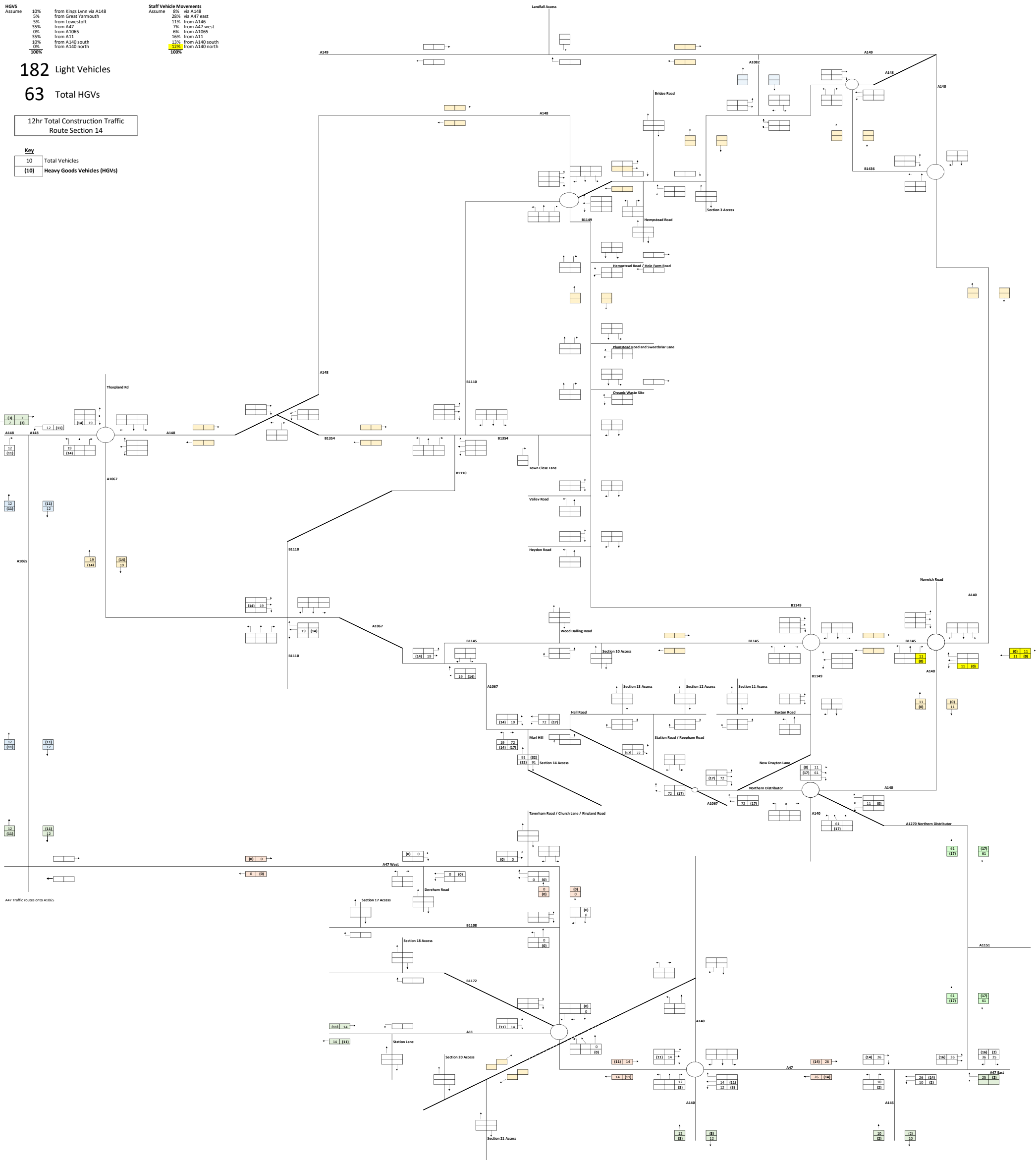


Staff Vehicle Movements

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%	

63 Total HGVs

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



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%	

67 Total HGVs

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

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

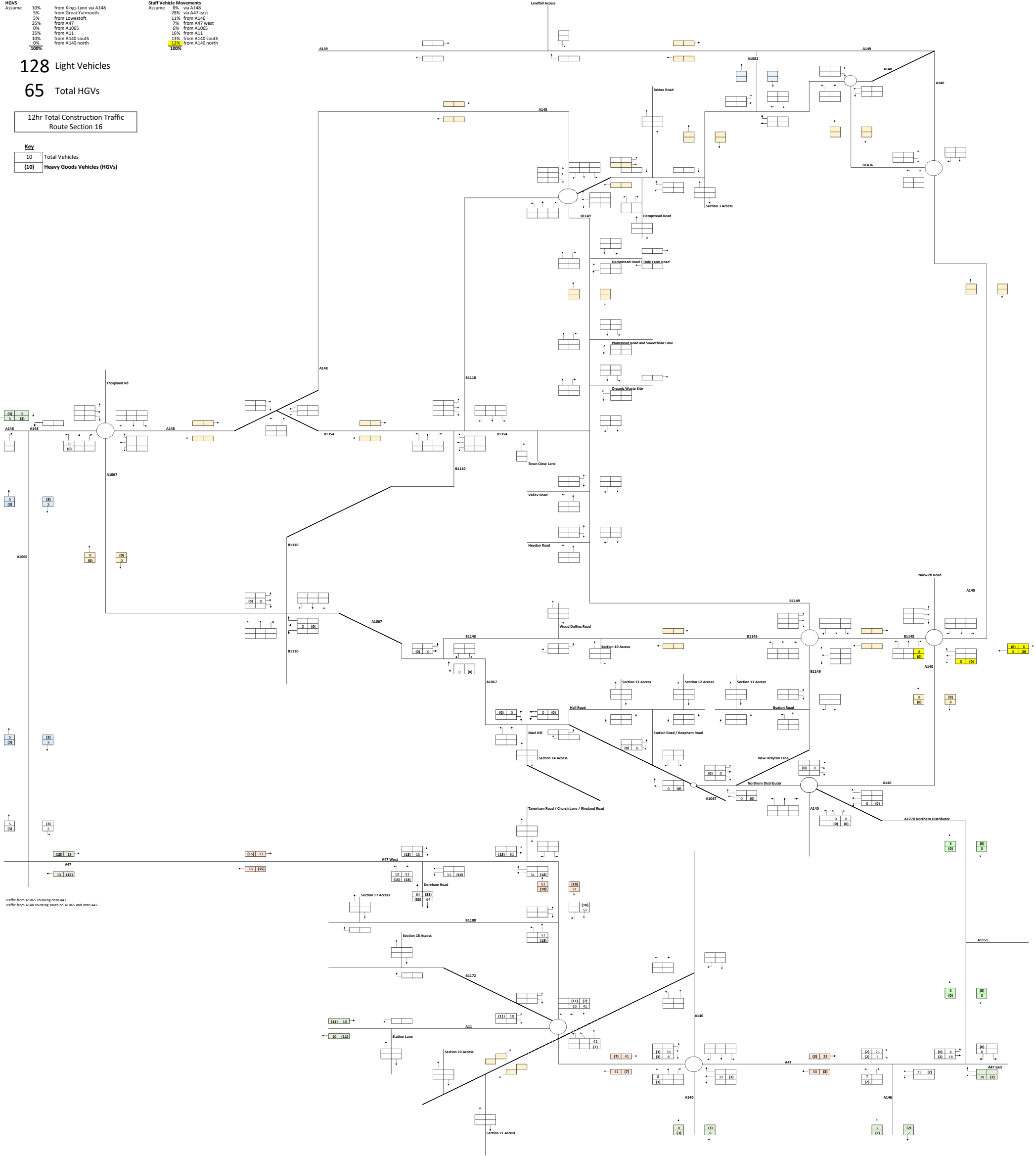
Staff Vehicle Movements Assume 8% via A148 28% via A47 east 11% from A146 7% from A47 west 6% from A1065 16% from A11 13% from A140 south 12% from A140 north 100%

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

868 Total Vehicles

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

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%	

64 Total HGVs

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

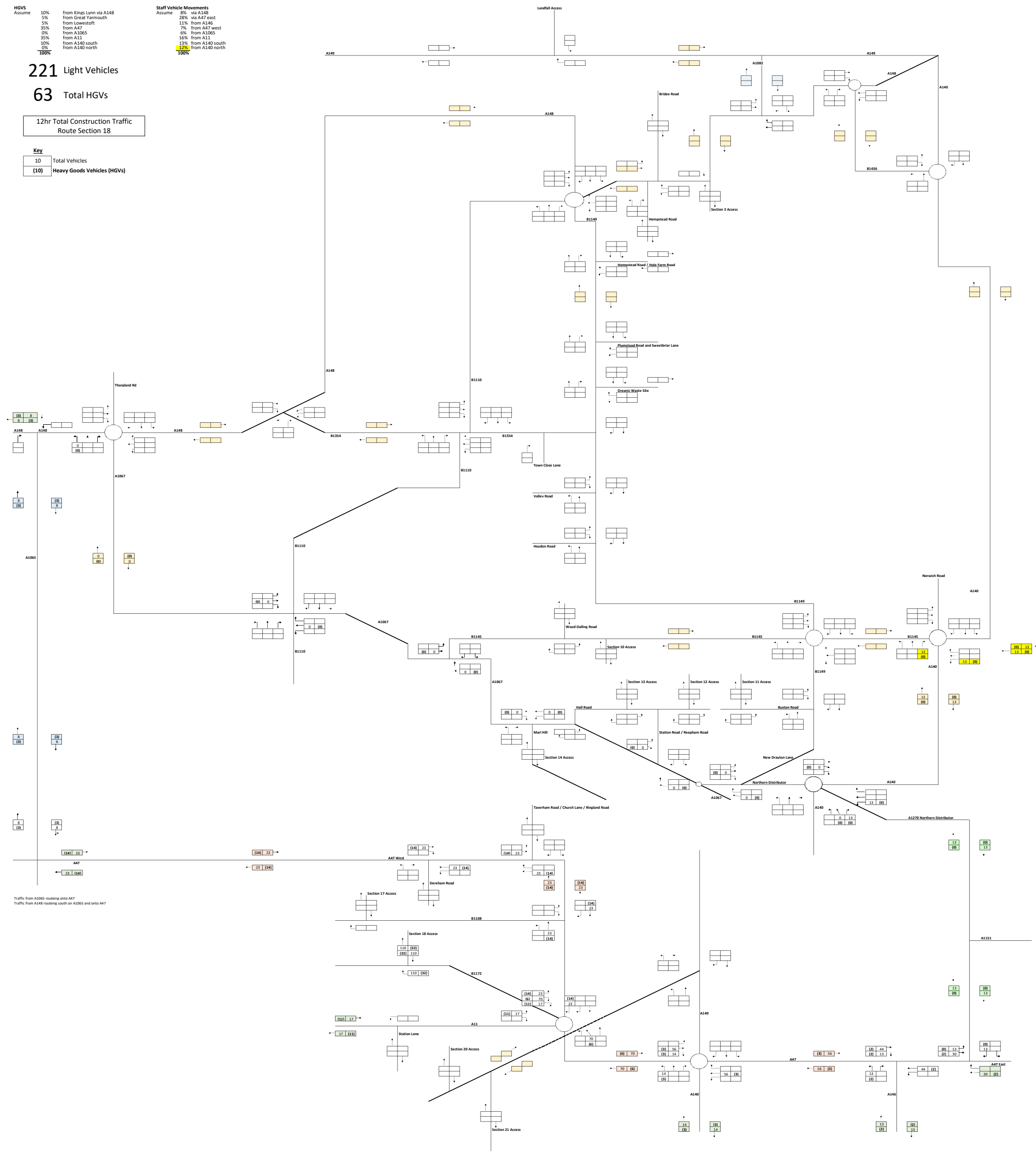
Staff Vehicle Movements

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%	

63 Total HGVs

12hr Total Construction Traffic
Route Section 18

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

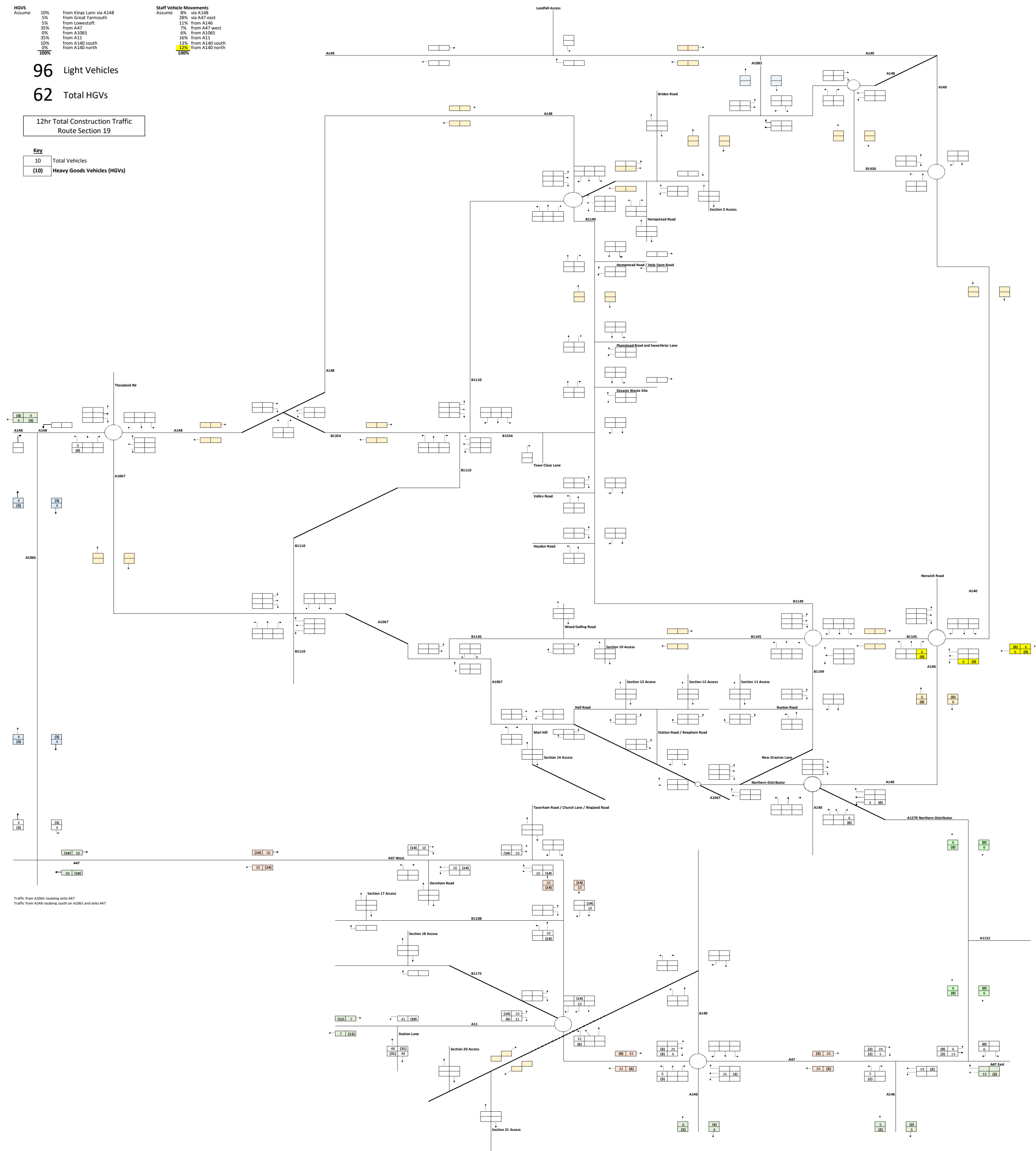


Staff Vehicle Movements

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%	

62 Total HGVs

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

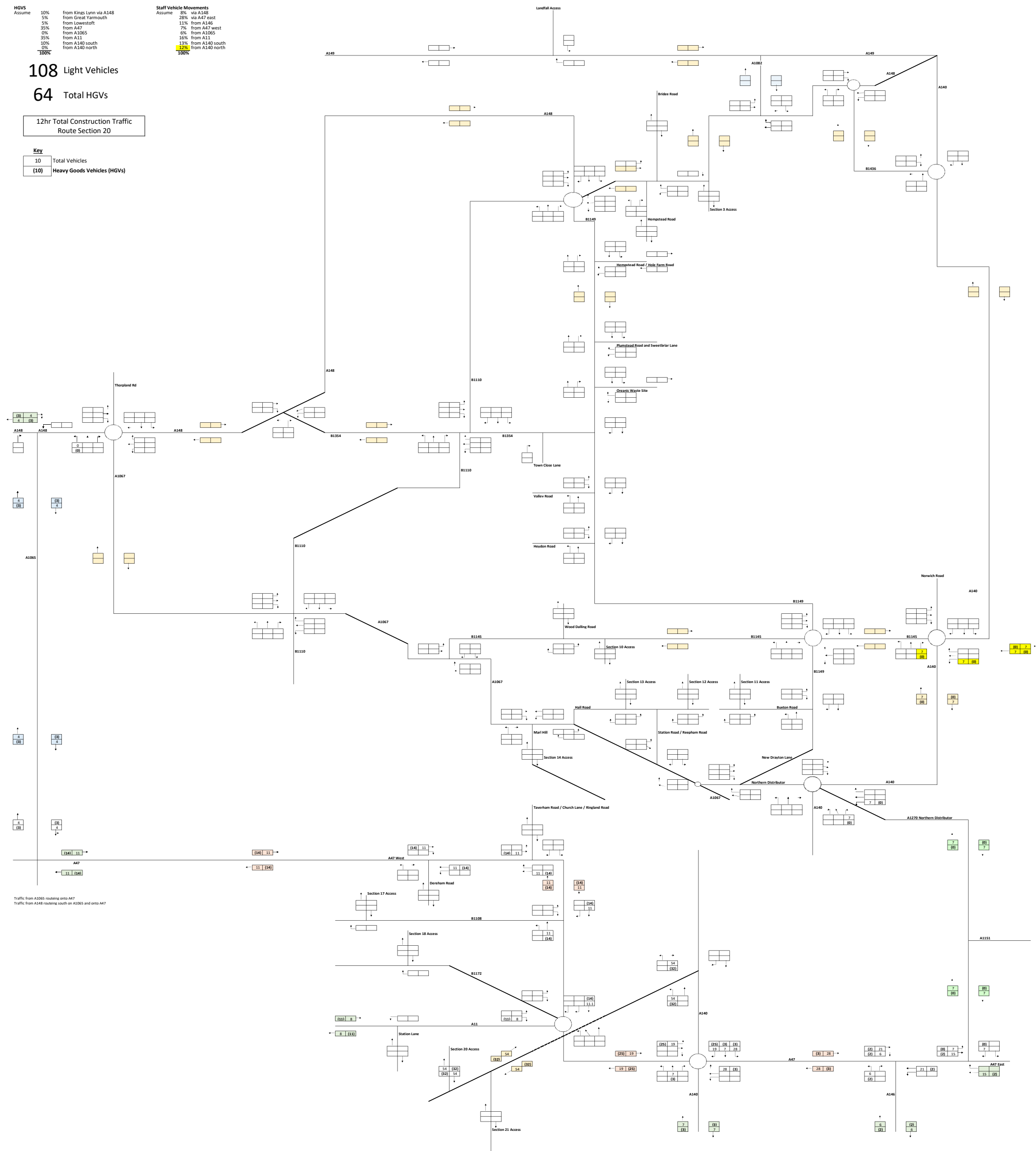


Staff Vehicle Movements

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%	

64 Total HGVs

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

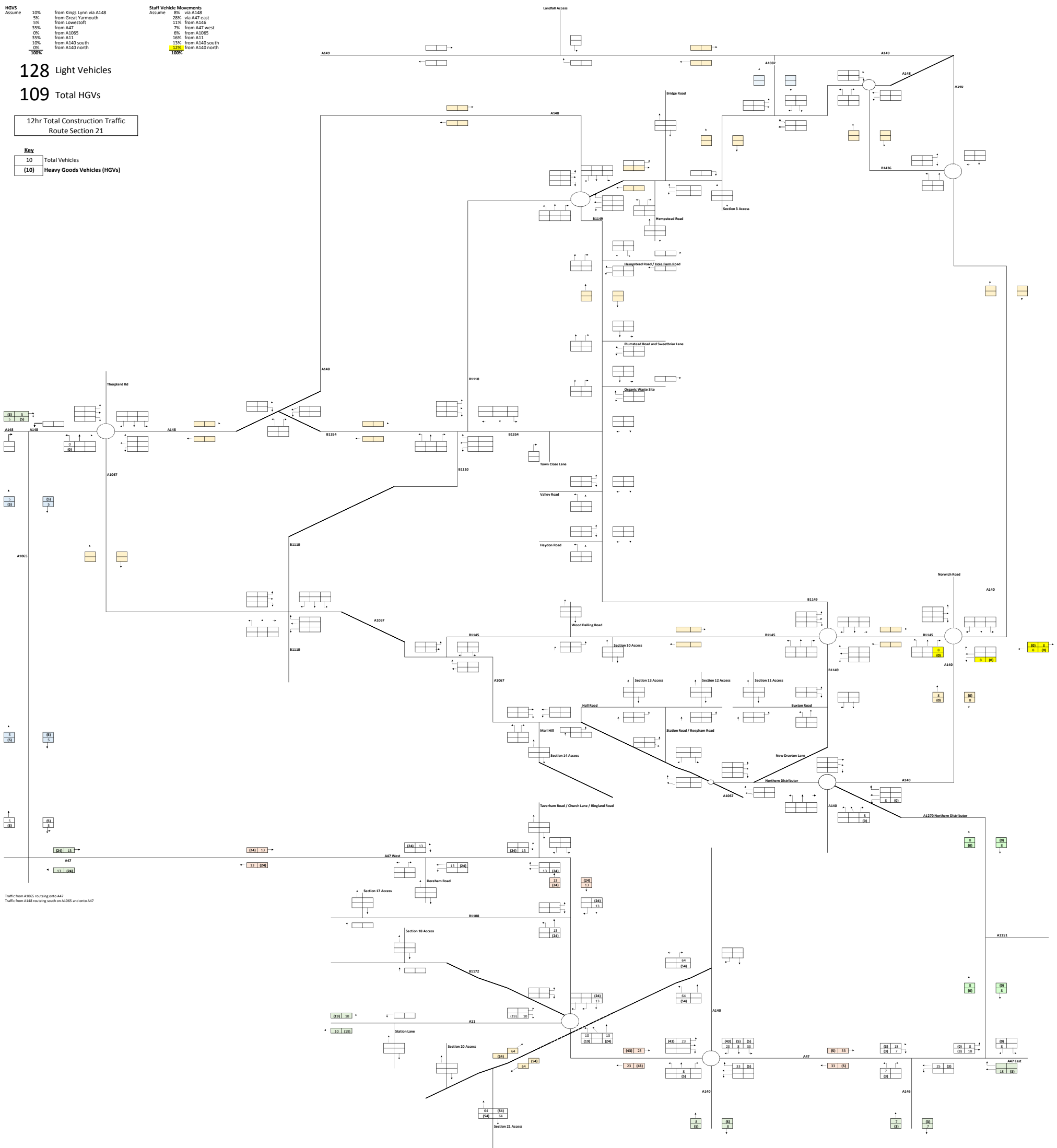


109 Total HGVs

Key

Total Vehicles

Heavy Goods Vehicles (HGVs)



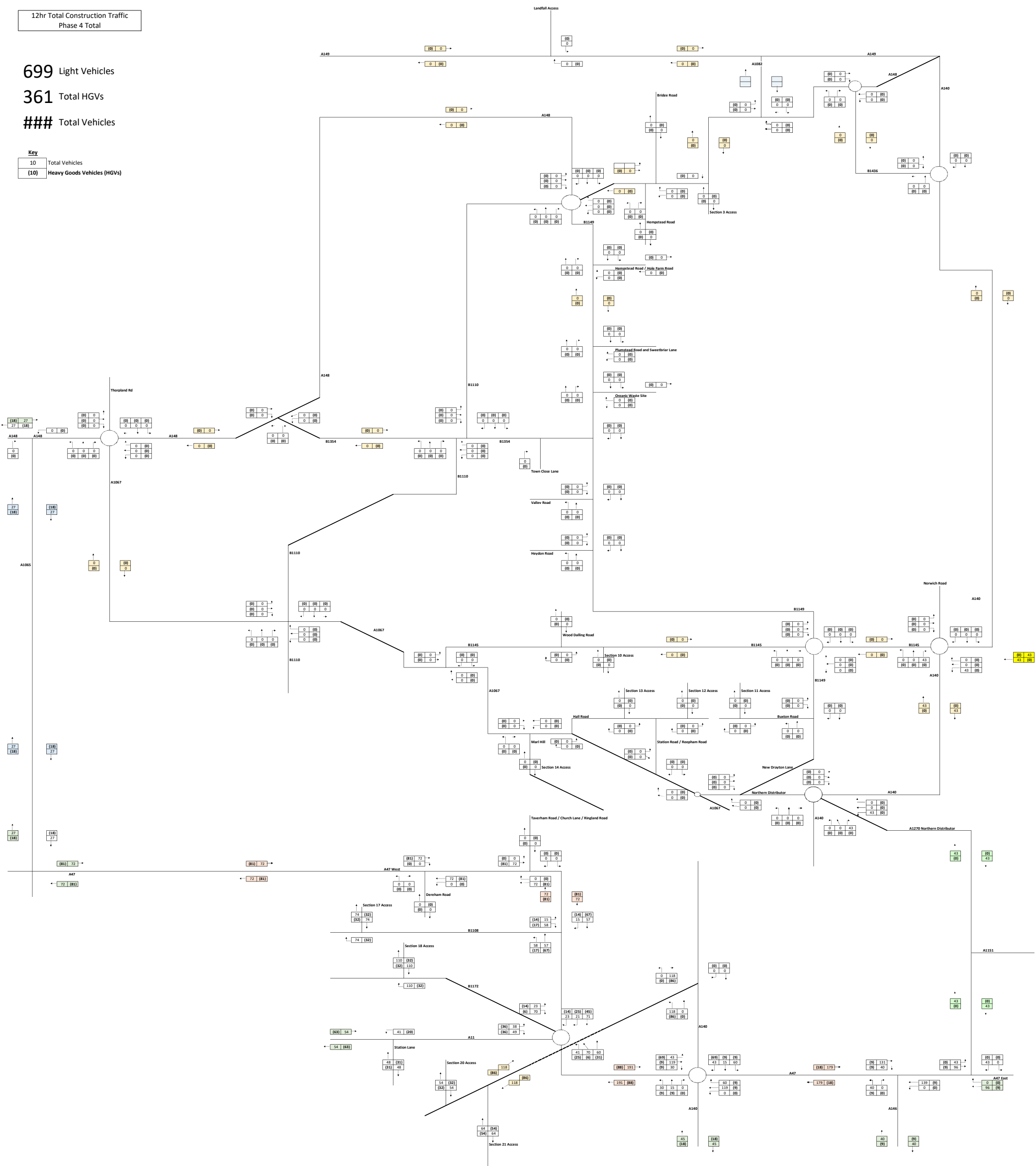
12hr Total Construction Traffic Phase 4 Total	100
--	-----

699 Light Vehicles

361 Total HGVs

Total Vehicles

<u>Key</u>	
10	Total Vehicles
(10)	Heavy Goods Vehicles (HGVs)



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%	

5 Total HGVs

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

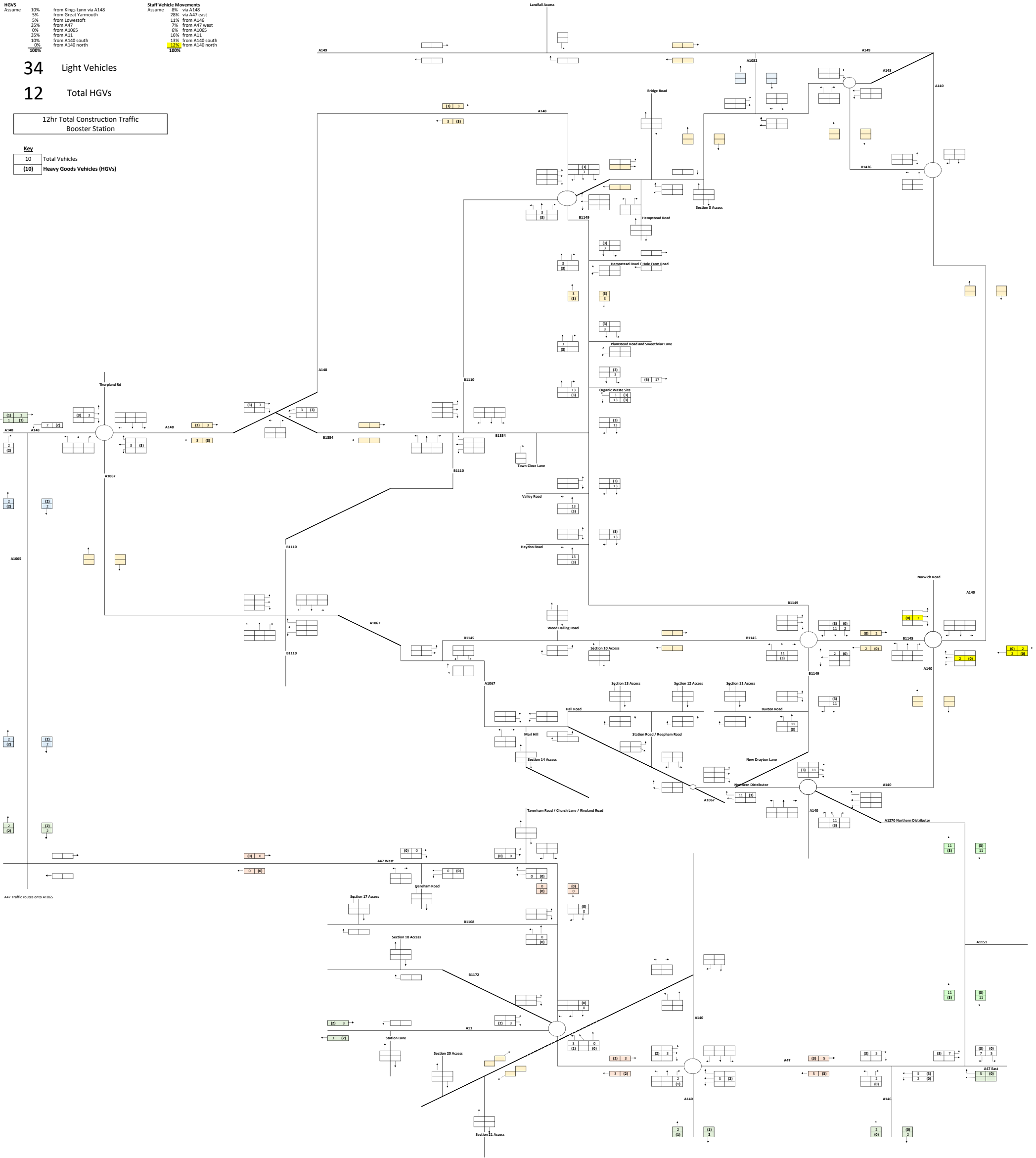
HGVs Assume	10%	from Kings Lynn via A148	Staff Vehicle Movements Assume	8%	via A148
	5%	from Great Yarmouth		28%	via A47 east
	35%	from Lowestoft		11%	from A146
	0%	from A47		7%	from A47 west
	35%	from A1065		6%	from A1065
	10%	from A11		16%	from A11
	100%	from A140 south		13%	from A140 south
		from A140 north		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 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%

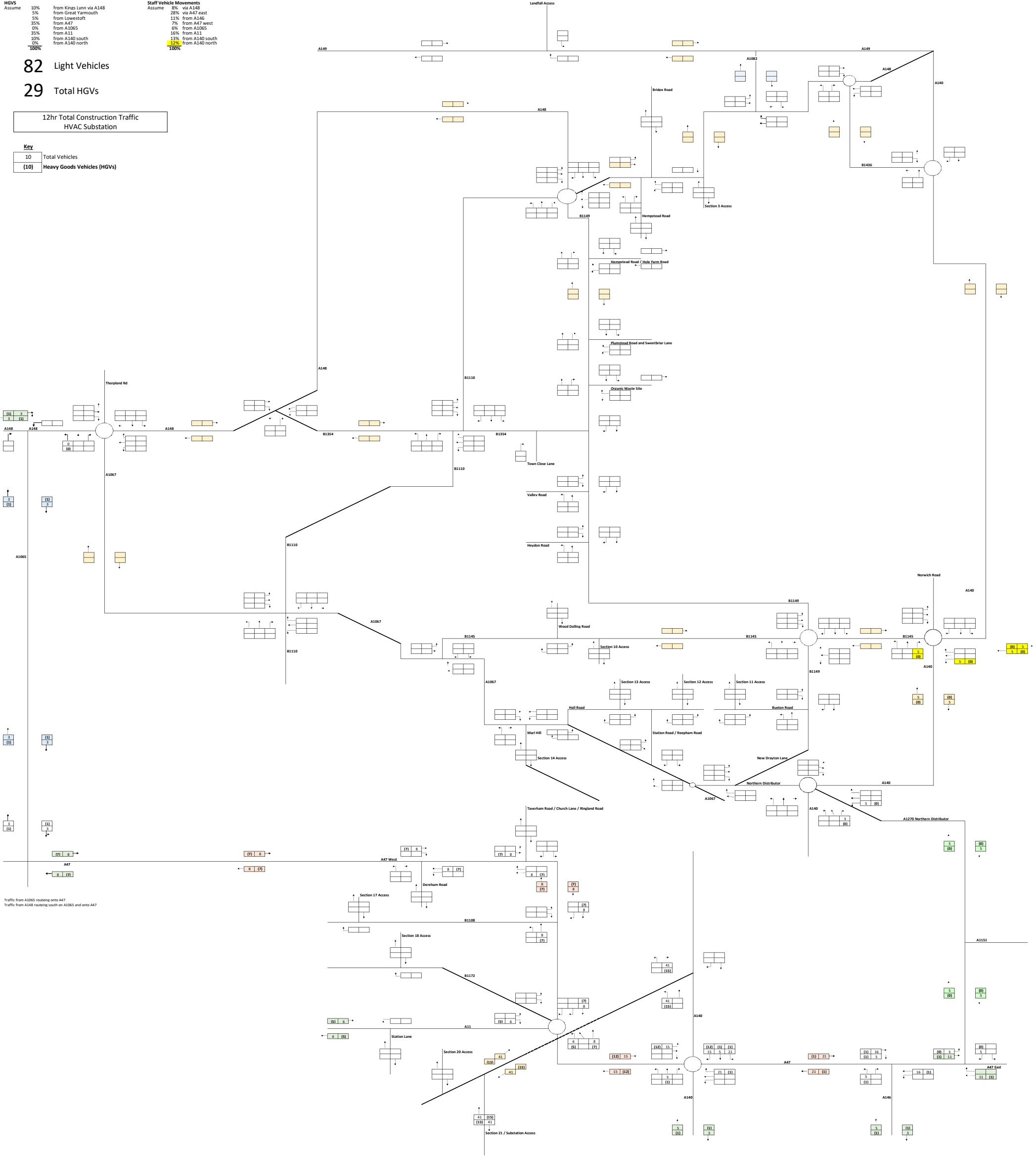
82 Light Vehicles

29 Total HGVs

12hr Total Construction Traffic
HVAC Substation

Key

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



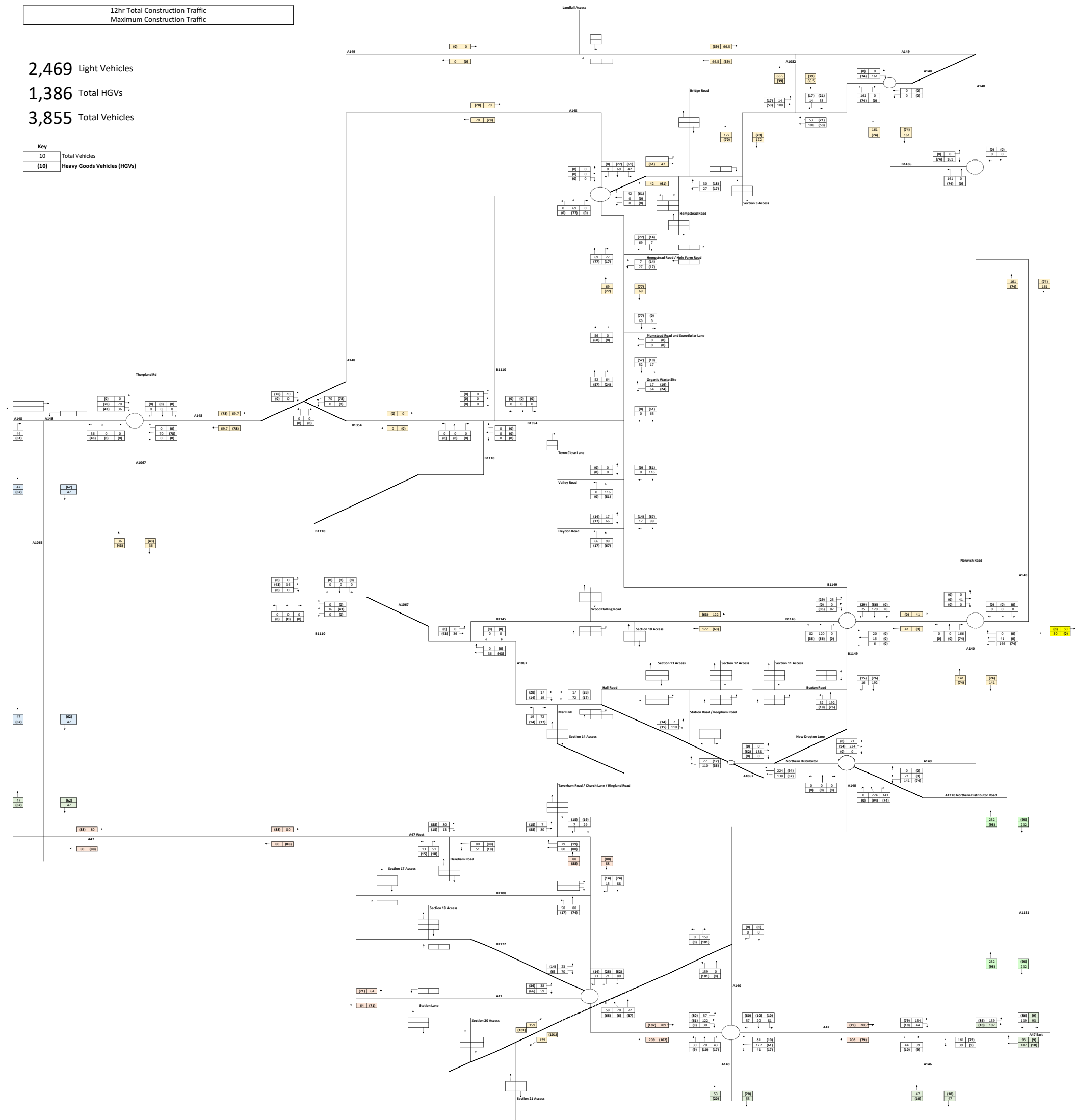
12hr Total Construction Traffic
Maximum Construction Traffic

2,469 Light Vehicles

1,386 Total HGVs

3,855 Total Vehicles

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



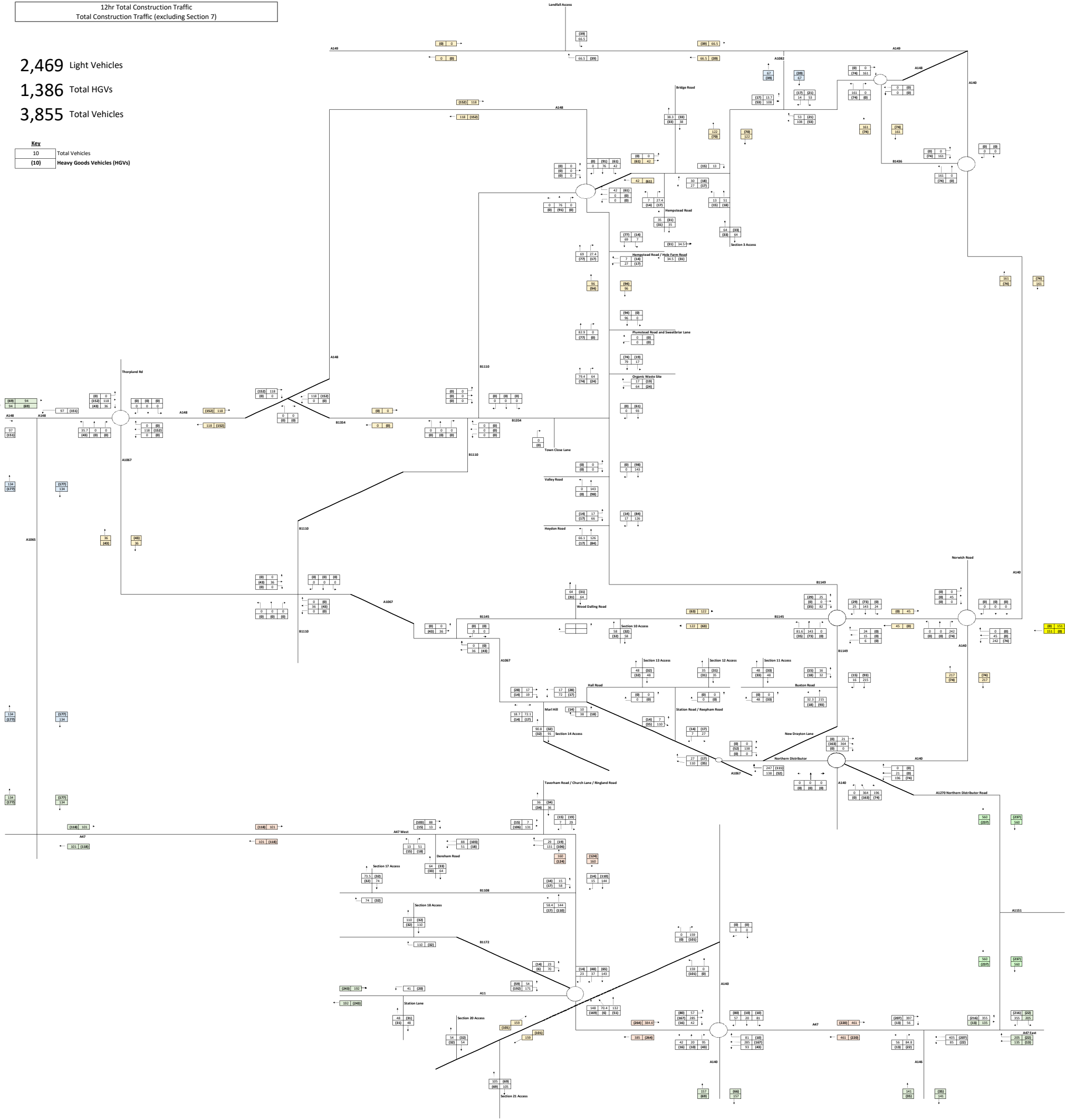
12hr Total Construction Traffic
Total Construction Traffic (excluding Section 7)

2,469 Light Vehicles

1,386 Total HGVs

3,855 Total Vehicles

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



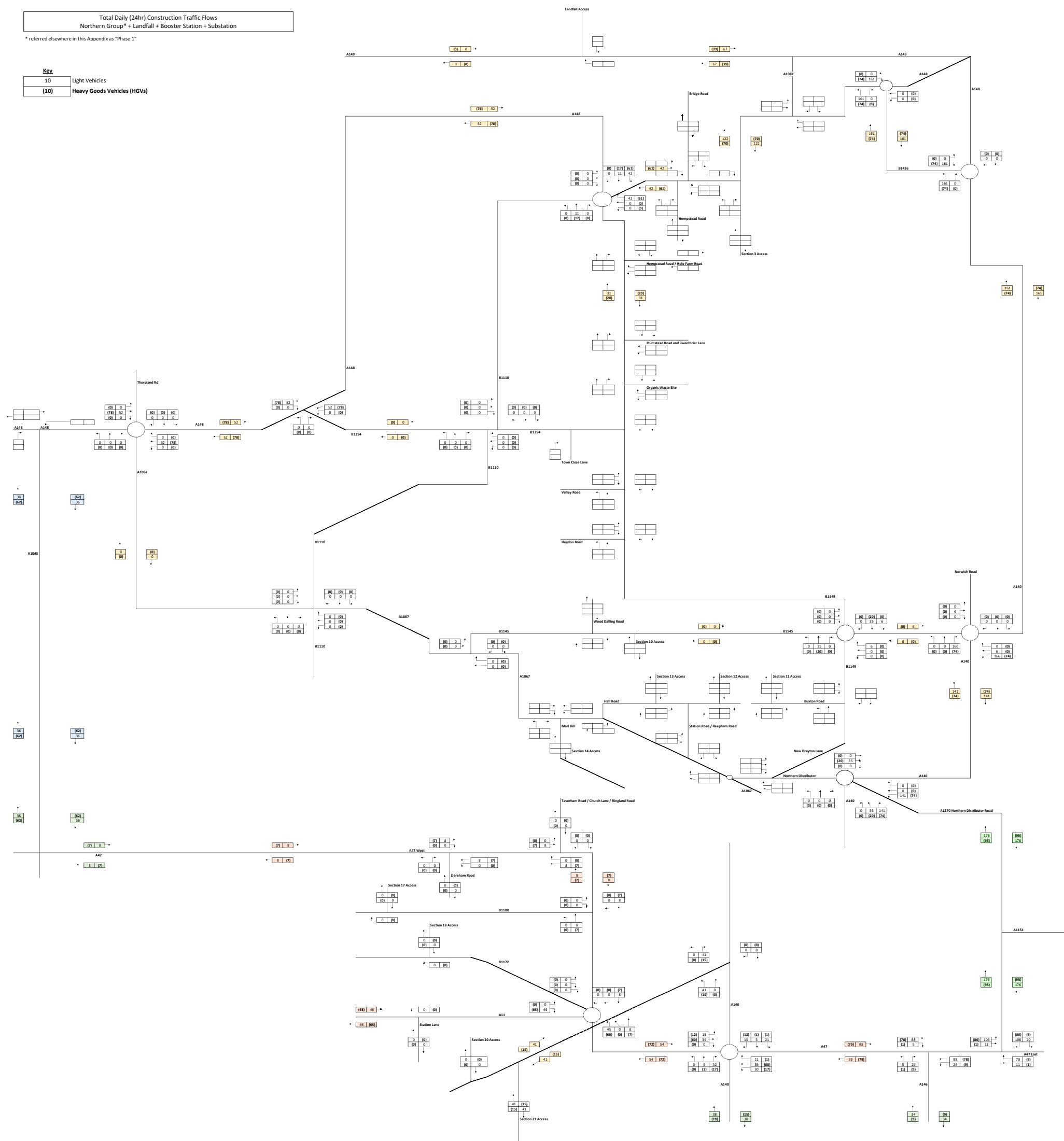
Total Daily (24hr) Construction Traffic Flows
Northern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 1"

Key

10	Light Vehicles
----	----------------

(10)	Heavy Goods Vehicles (HGVs)
------	-----------------------------



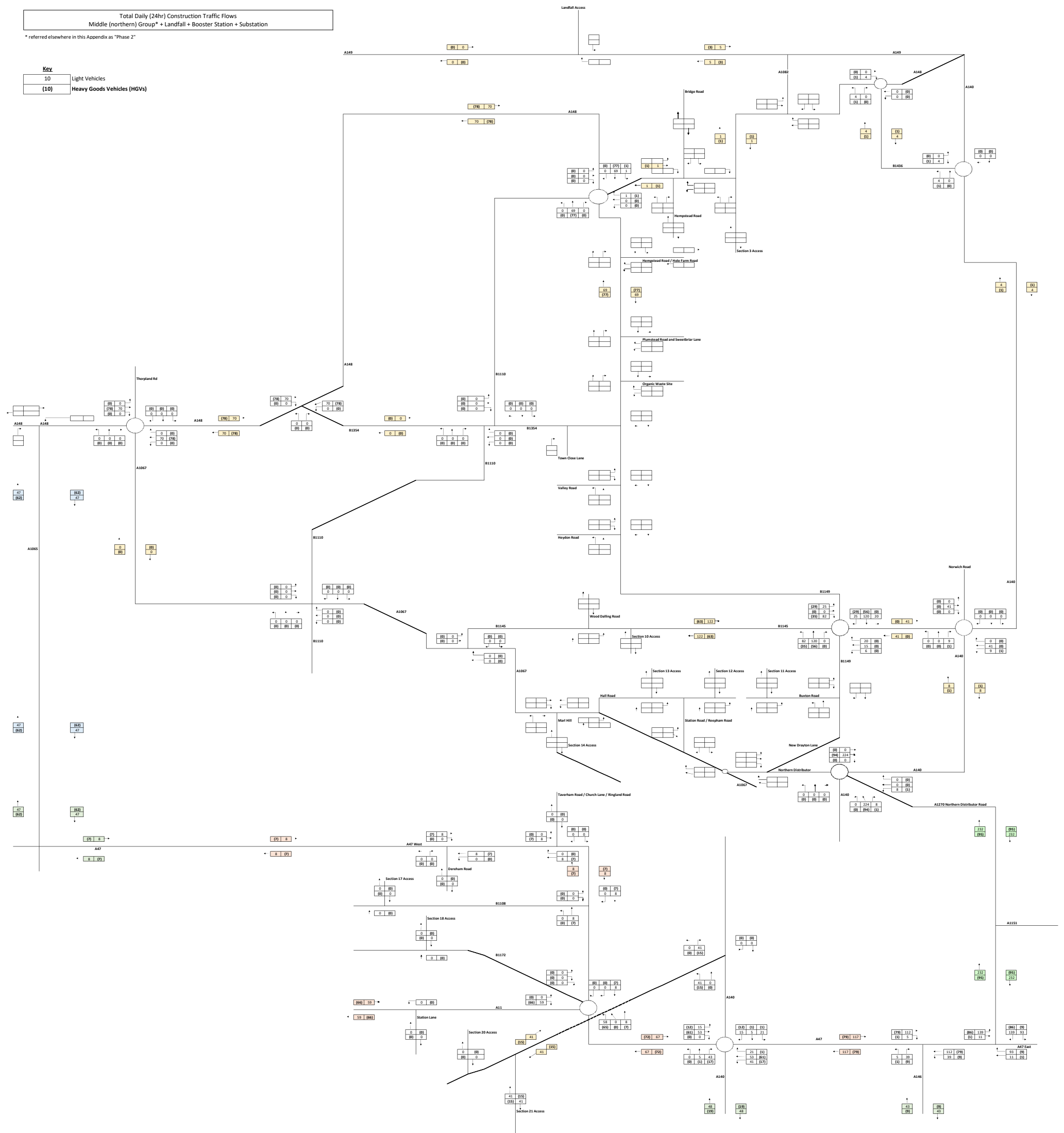
Total Daily (24hr) Construction Traffic Flows
Middle (northern) Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 2"

Key

10	Light Vehicles
----	----------------

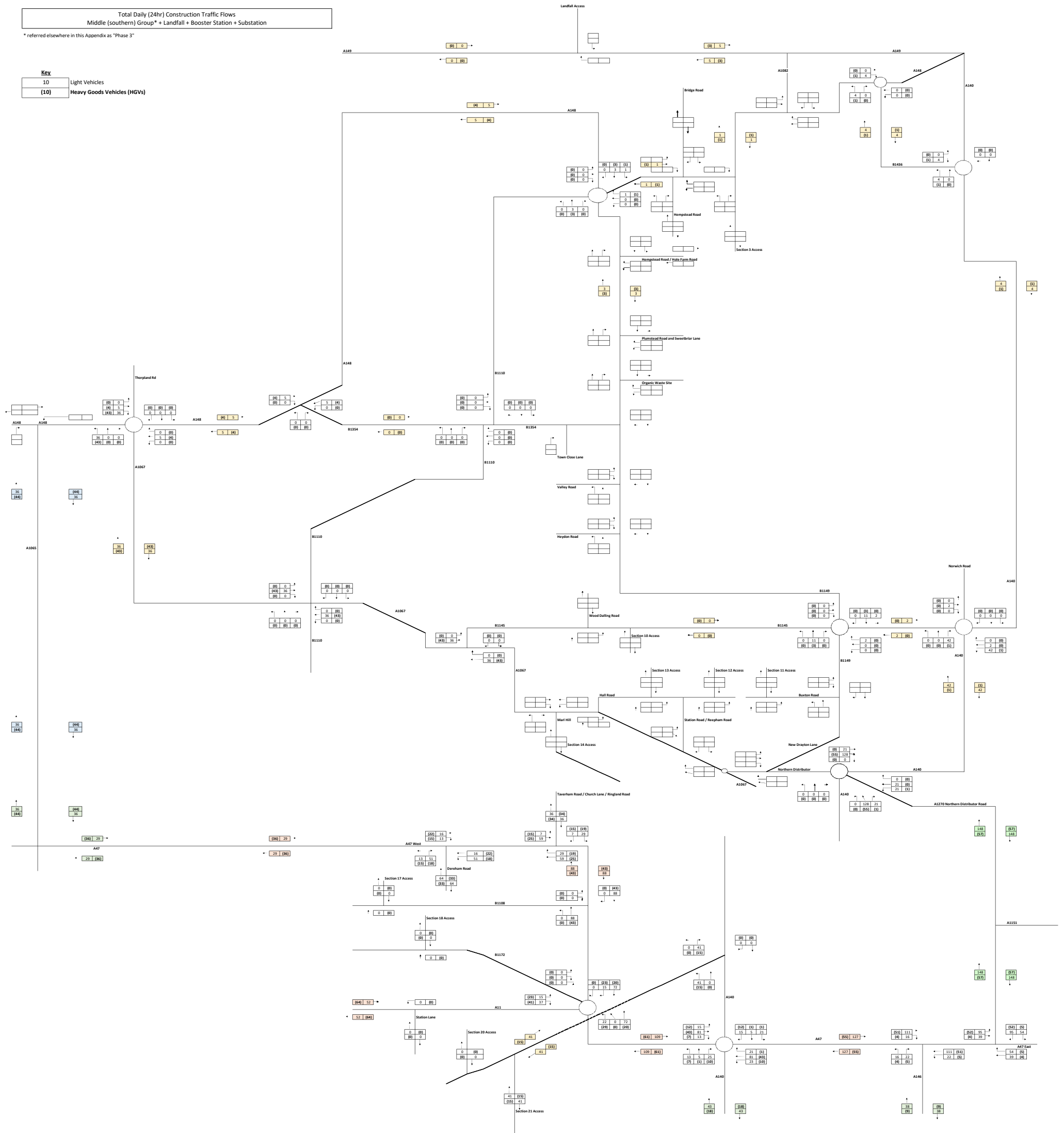
(10)	Heavy Goods Vehicles (HGVs)
------	-----------------------------



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)



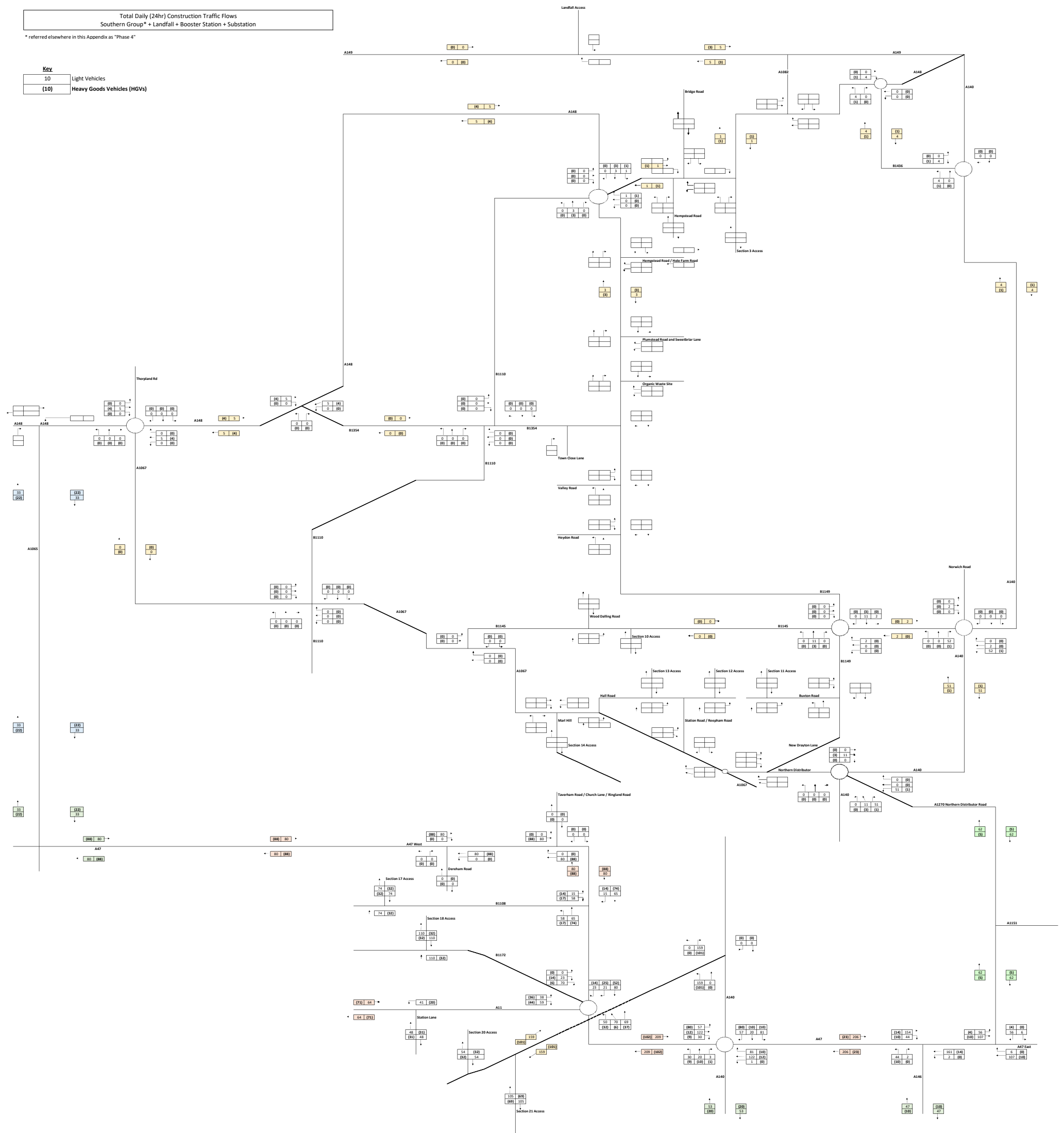
Total Daily (24hr) Construction Traffic Flows
Southern Group* + Landfall + Booster Station + Substation

* referred elsewhere in this Appendix as "Phase 4"

Key

10	Light Vehicles
----	----------------

(10)	Heavy Goods Vehicles (HGVs)
------	-----------------------------



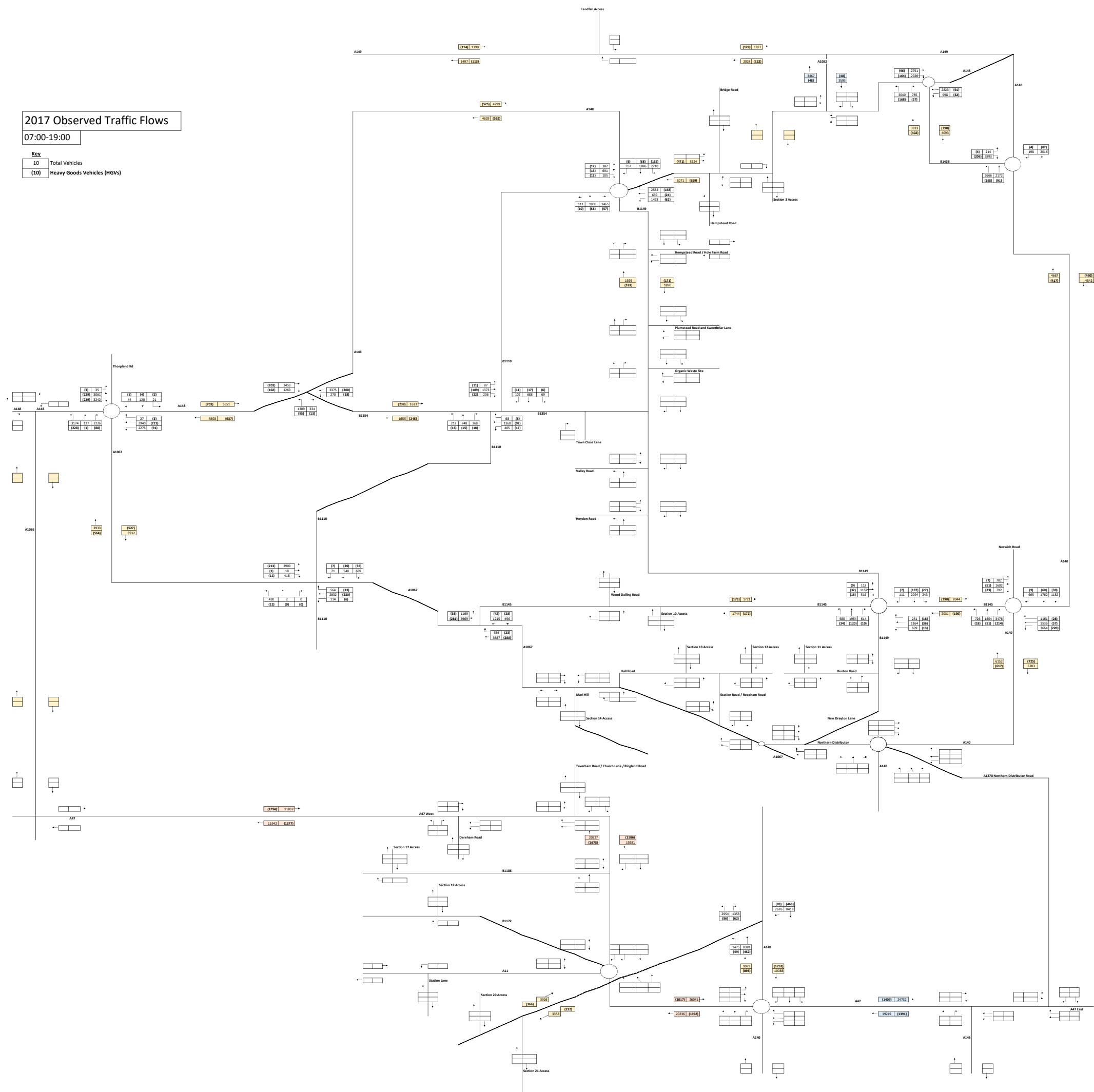
Traffic Flow Diagrams
12hr Total Construction Traffic Sensitivity Scenario

07:00-19:00

10 Total Vehicles

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

TEMPRO	
Average Weekday	
Trunk	
1.10	growth 2017-2022
Principal	
1.09	growth 2017-2022
Minor	
1.09	growth 2017-2022

TEMPRO	
Average Weekday	
Trunk	
1.10	growth 2017-2022
Principal	
1.09	growth 2017-2022
Minor	
1.09	growth 2017-2022

TEMPRO	
Average Weekday	
Trunk	
1.10	growth 2017-2022
Principal	
1.09	growth 2017-2022
Minor	
1.09	growth 2017-2022

TEMPRO	
Average Weekday	
Trunk	
1.10	growth 2017-2022
Principal	
1.09	growth 2017-2022
Minor	
1.09	growth 2017-2022

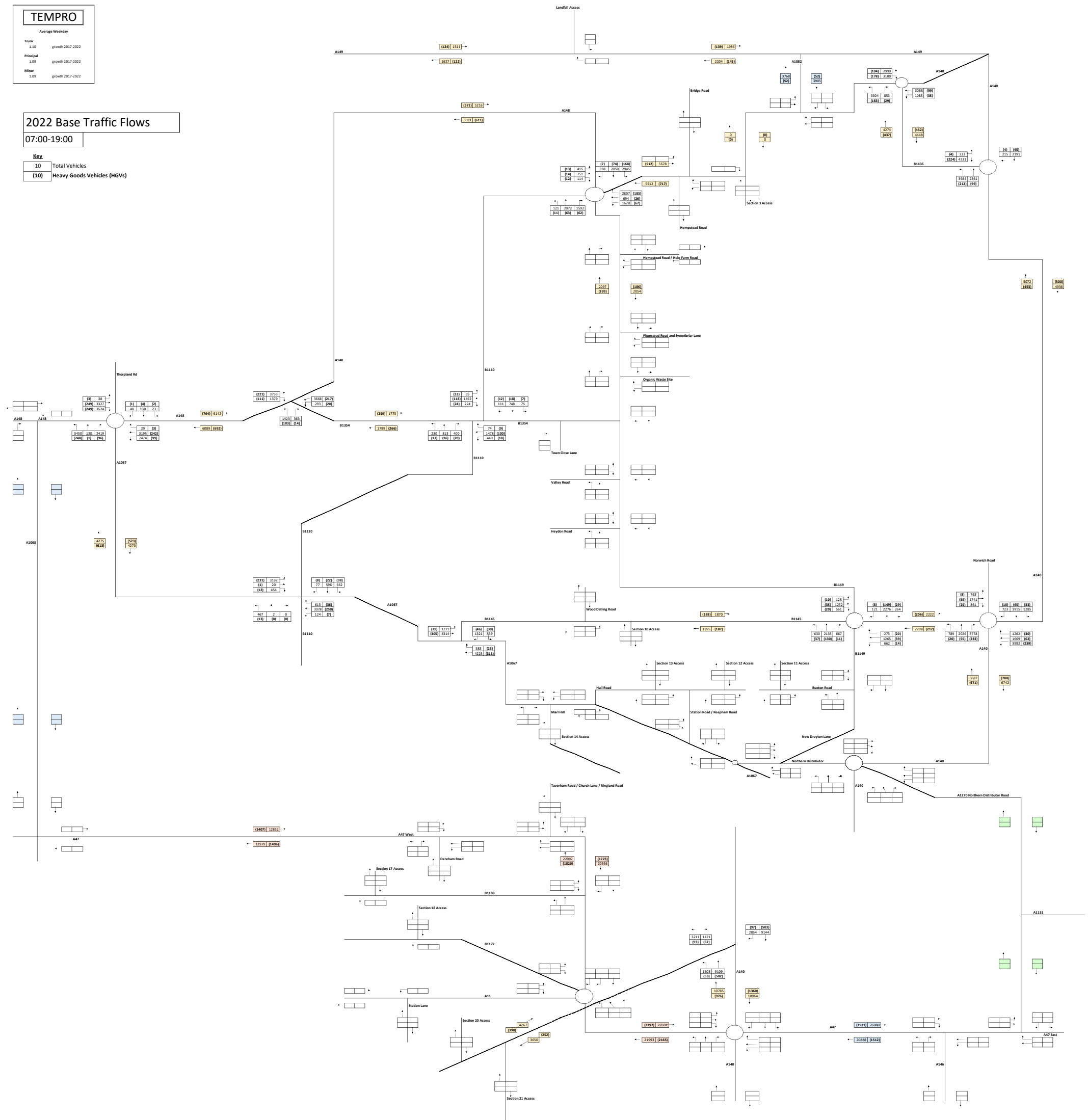
2022 Base Traffic Flows

2022 Base Traffic Flows

2022 Base Traffic Flows

2022 Base Traffic Flows

2022 Base Traffic Flows



Tables Linked to Construction Vehicle Movements Spreadsheet

Route Section	Description	12hr Vehicle Flows			Phase
		Total	HGV	Lights	
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

72 Total HGVs

Key

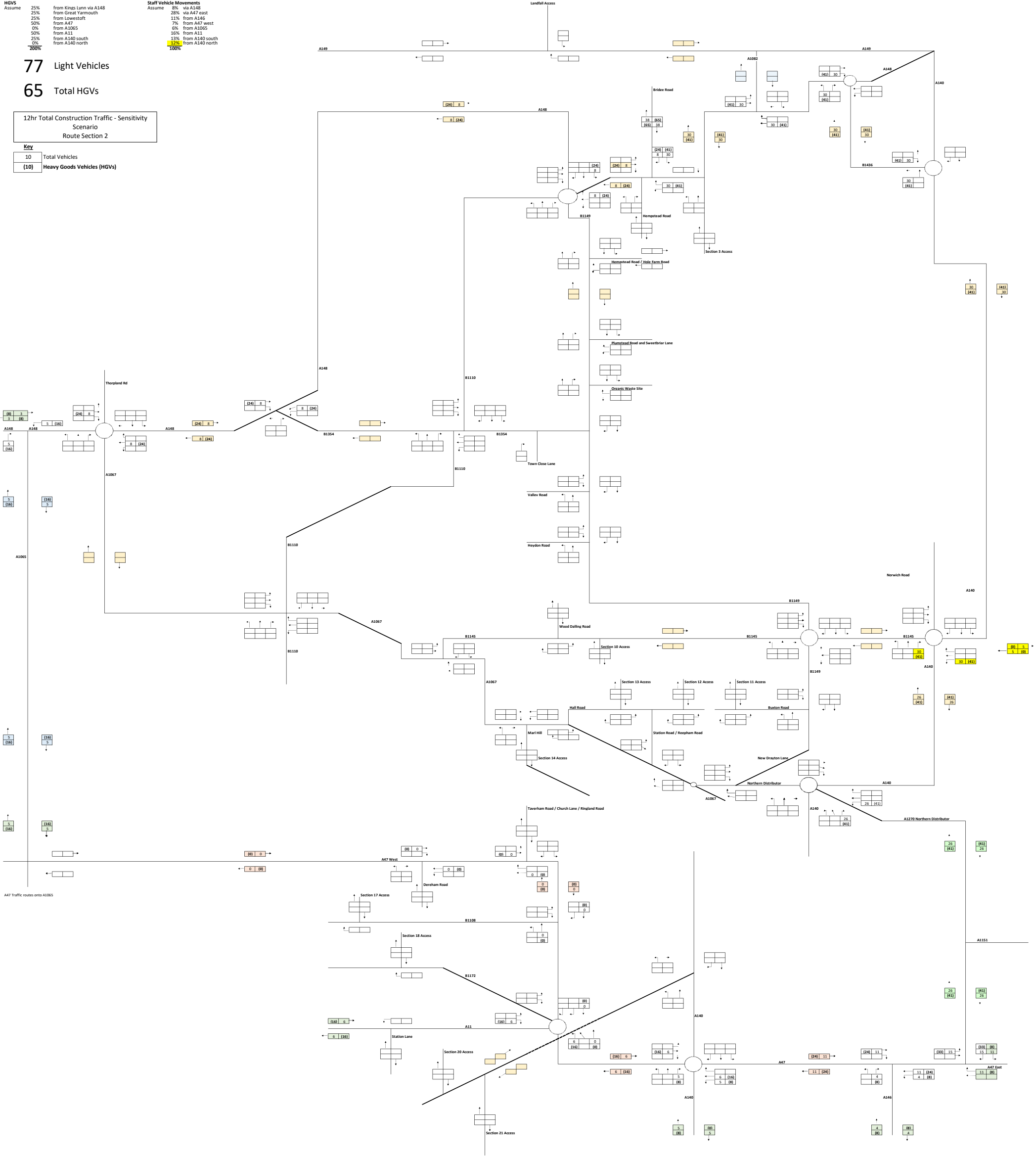
HGVs Assume	25%	from Kings Lynn via A148	Staff Vehicle Movements Assume	8%	via A148
	25%	from Great Yarmouth		28%	via A47 east
	25%	from Lowestoft		11%	from A140
	50%	from A47		7%	from A47 west
	0%	from A1065		6%	from A1065
	50%	from A11		16%	from A11
	25%	from A140 south		13%	from A140 south
	0%	from A140 north		12%	from A140 north
	200%			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)



HGVs Assume	25%	from Kings Lynn via A148	8%	via A148
	25%	from Lowestoft	28%	via A47 east
	50%	from A47	11%	from A140
	0%	from A1065	7%	from A47 west
	50%	from A11	6%	from A1065
	25%	from A140 south	16%	from A11
	0%	from A140 north	13%	from A140 south
	200%		100%	from A140 north

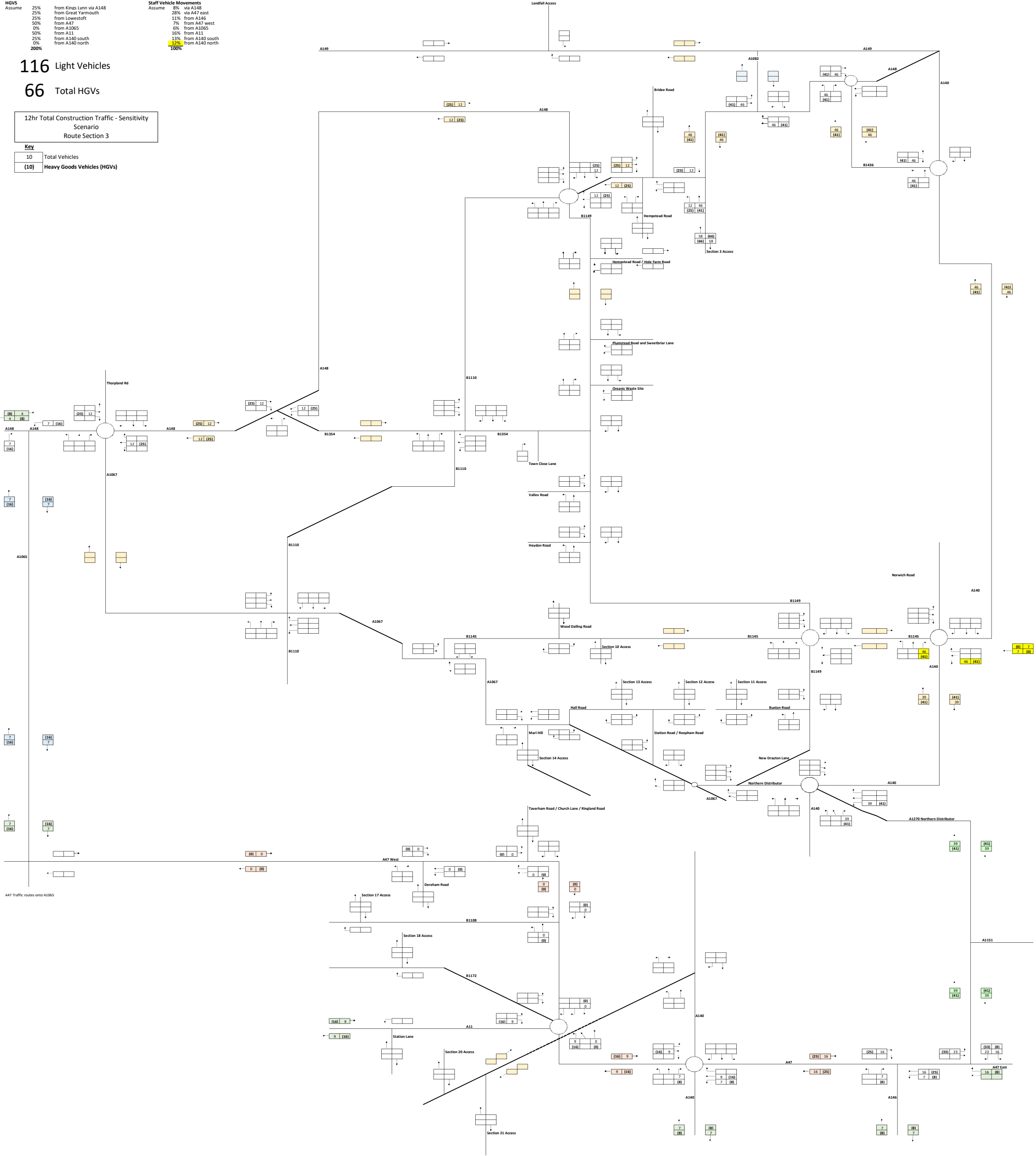
Staff Vehicle Movements Assume	8%	via A148
	28%	via A47 east
	11%	from A140
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	100%	from A140 north

116 Light Vehicles

66 Total HGVs

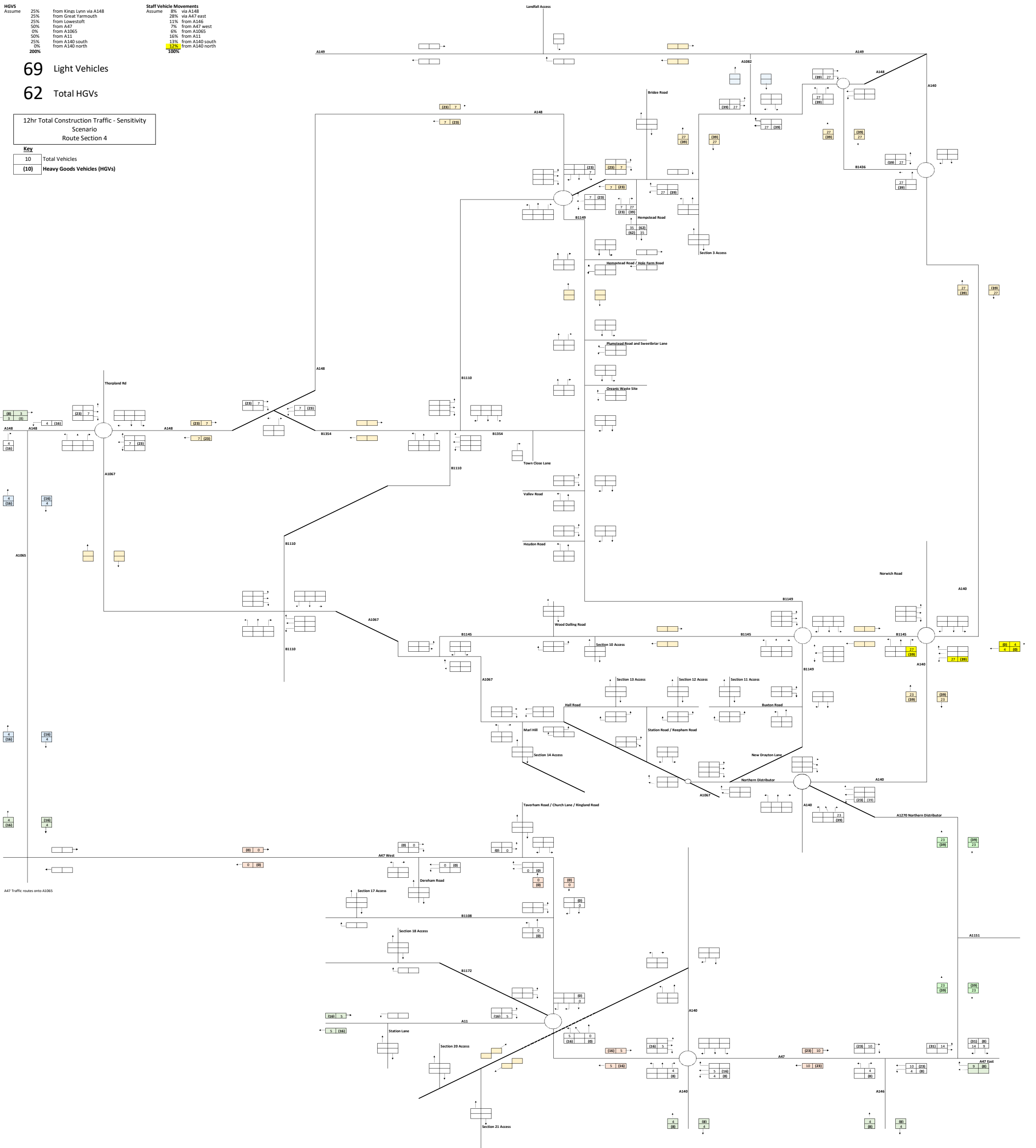
12hr Total Construction Traffic - Sensitivity Scenario
Route Section 3

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



69 Light Vehicles
62 Total HGVs

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



HGVs Assume	25%	from Kings Lynn via A148	8%	via A148
	25%	from Lowestoft	28%	via A47 east
	50%	from A47	11%	from A140
	0%	from A1065	7%	from A47 west
	50%	from A11	6%	from A1065
	25%	from A140 south	16%	from A11
	200%	from A140 north	13%	from A140 south
			100%	from A140 north

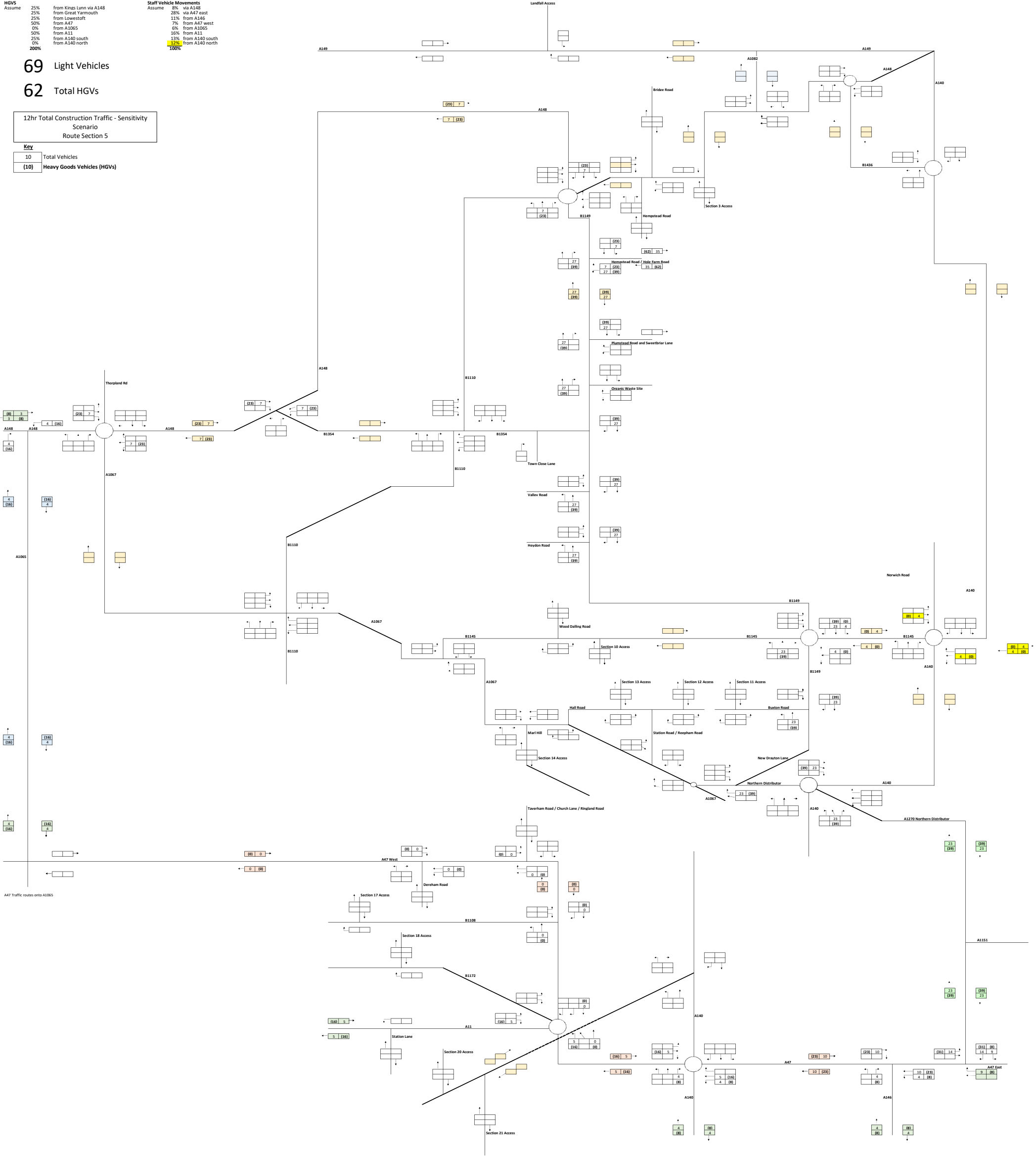
Staff Vehicle Movements Assume	8%	via A148
	28%	via A47 east
	11%	from A140
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	100%	from A140 north

69 Light Vehicles

62 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 5

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



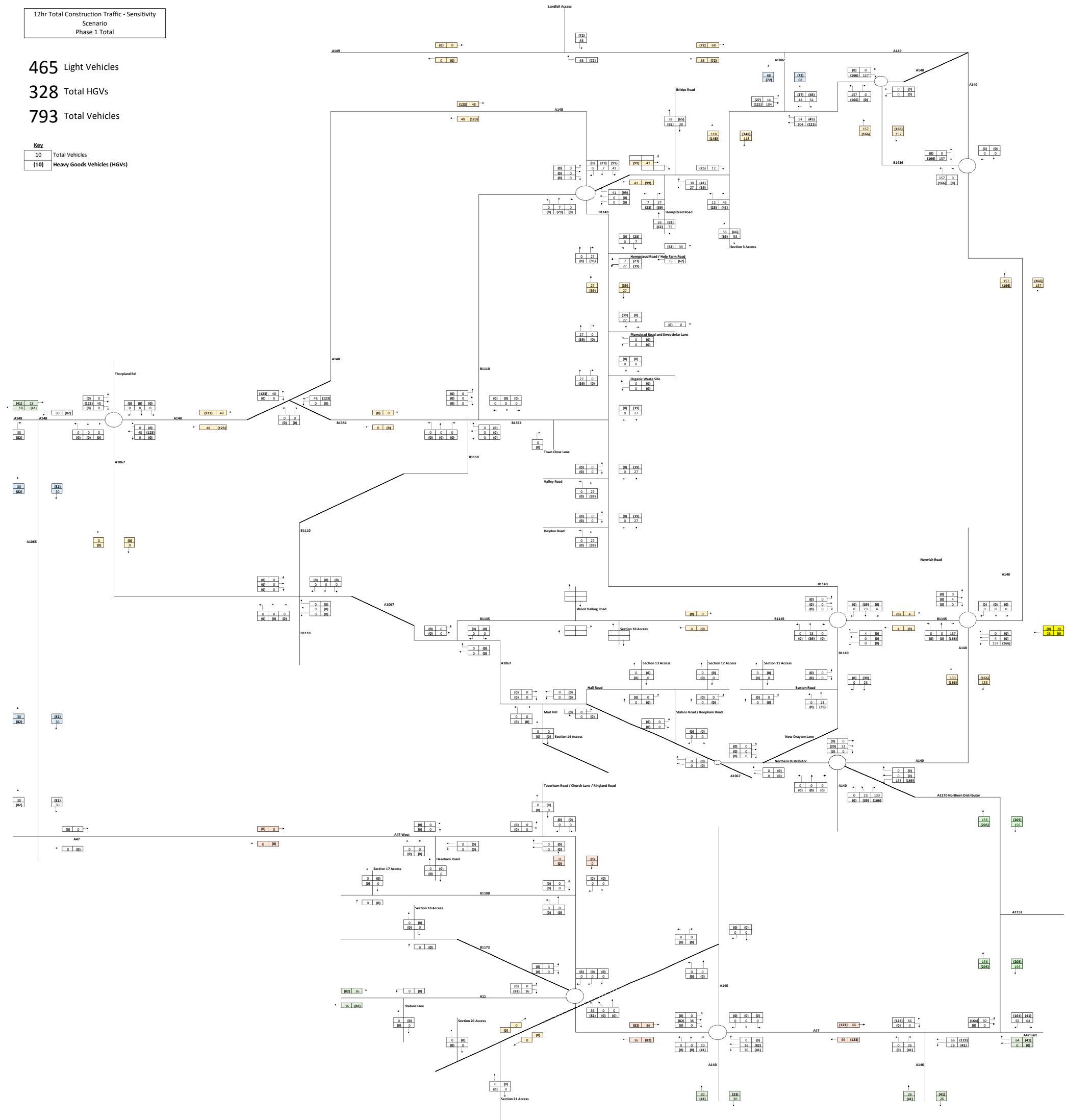
12hr Total Construction Traffic - Sensitivity
Scenario
Phase 1 Total

465 Light Vehicles

328 Total HGVs

793 Total Vehicles

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



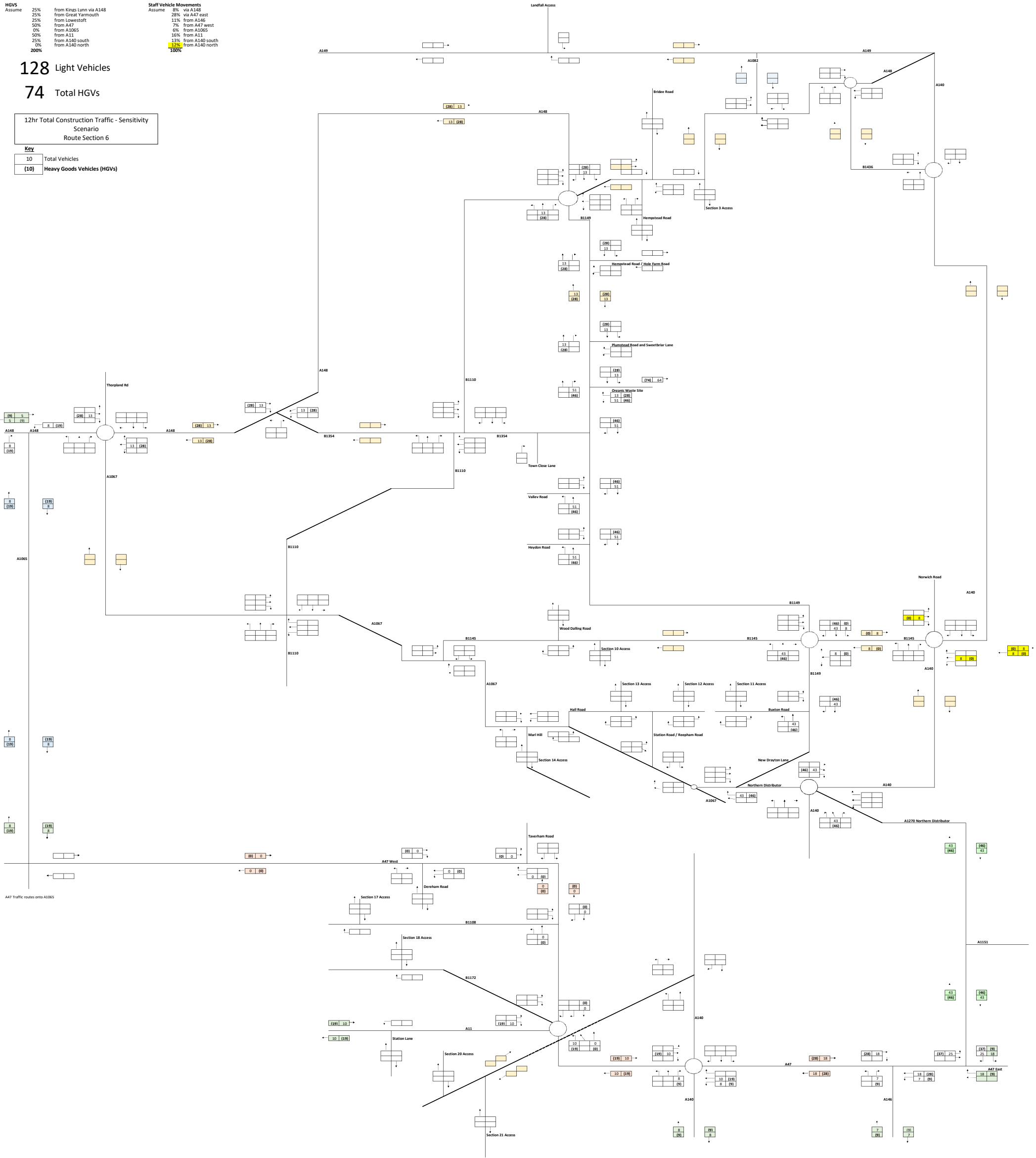
HGVs Assume	25%	from Kings Lynn via A148	Staff Vehicle Movements Assume	8%	via A148
	25%	from Great Yarmouth		28%	via A47 east
	25%	from Lowestoft		11%	from A146
	50%	from A47		7%	from A47 west
	0%	from A1065		6%	from A1065
	50%	from A11		16%	from A11
	25%	from A140 south		13%	from A140 south
200%		from A140 north	100%		from A140 north

128 Light Vehicles

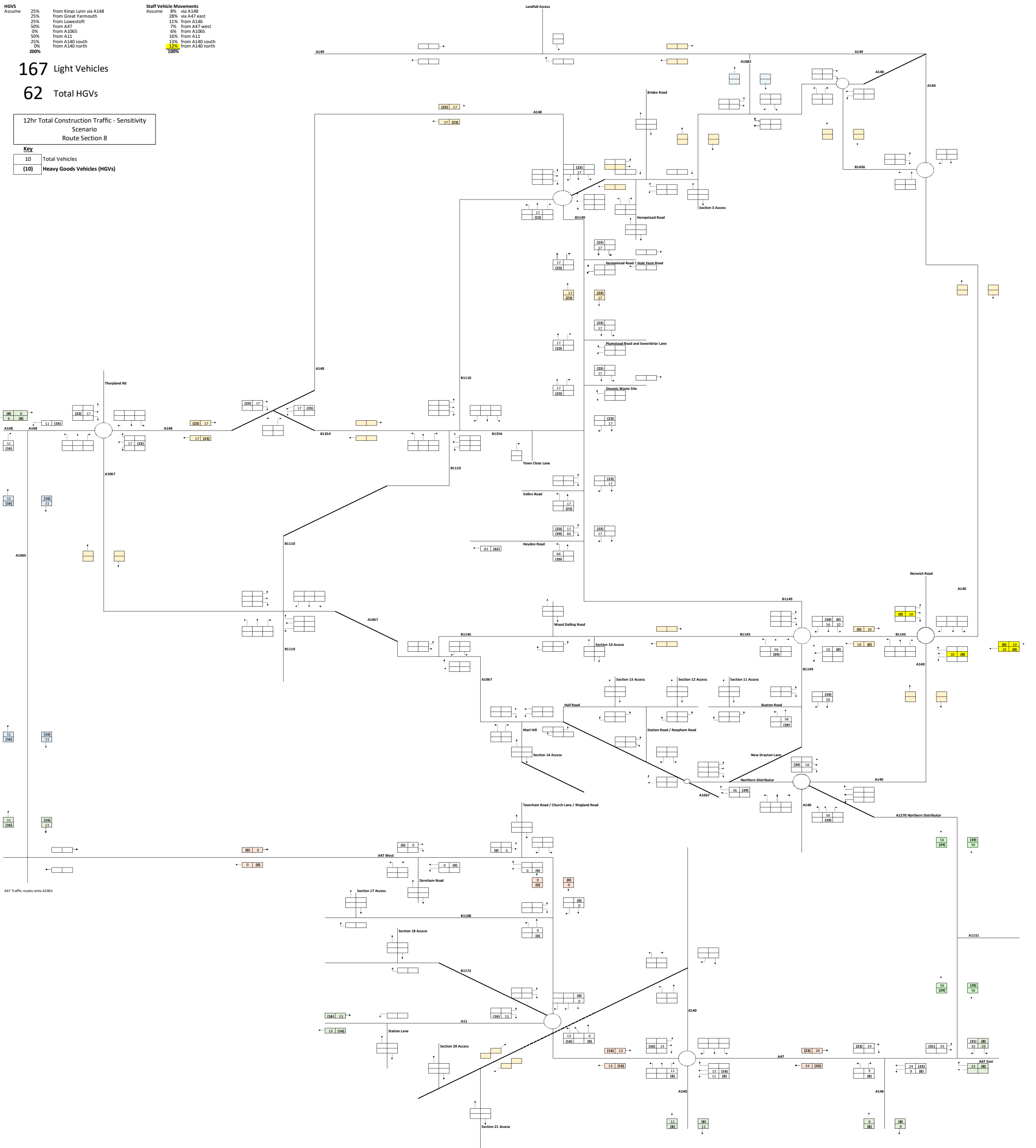
74 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 6

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



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



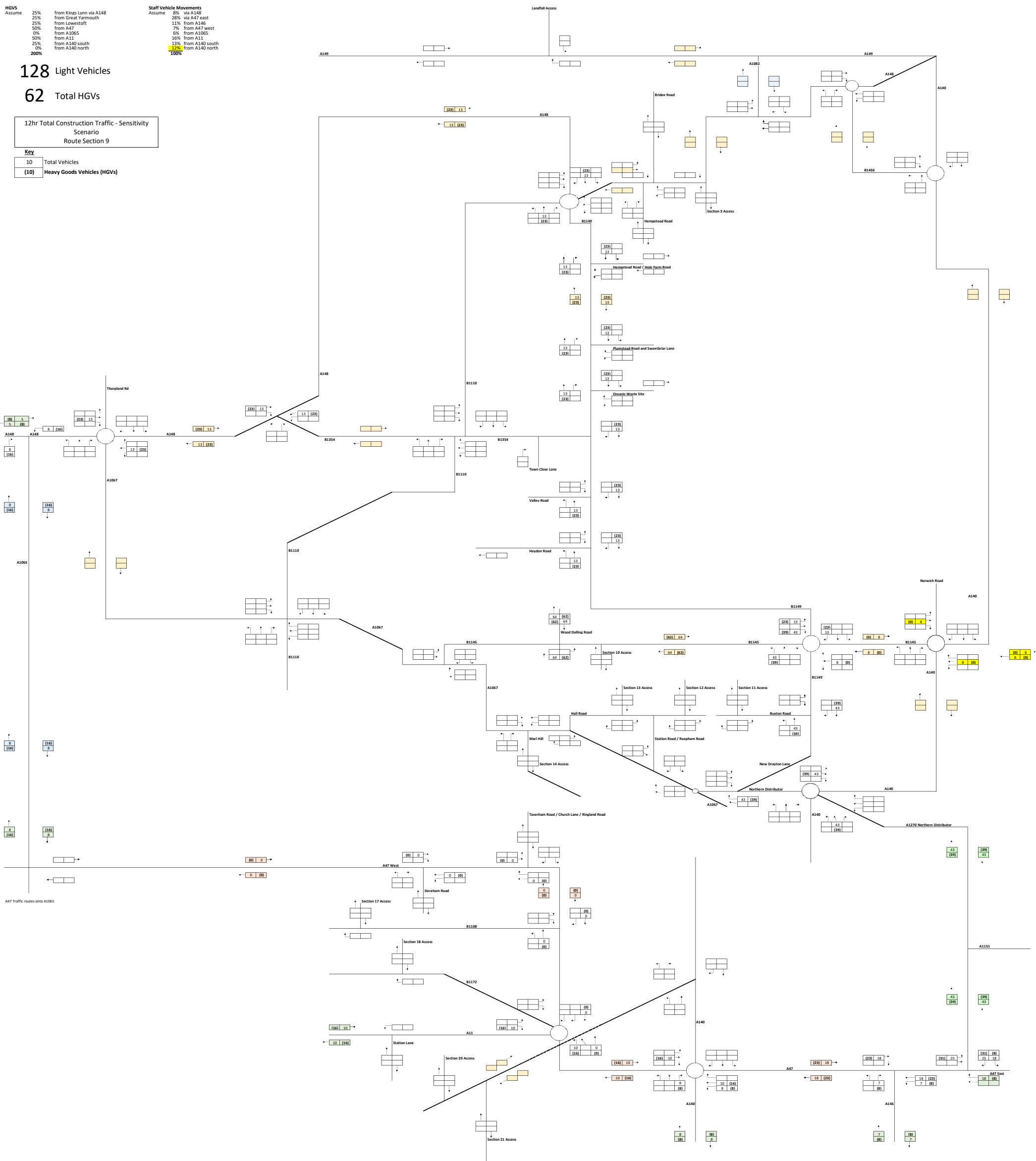
HGVS		Staff Vehicle Movements
Assume	25%	Assume 8% via A148
25%	from Kines Lynn via A148	28% via A47 east
25%	from Great Yarmouth	11% from A146
50%	from Lowestoft	7% from A47 west
0%	from A1065	6% from A1065
25%	from A11	16% from A11
25%	from A140 south	13% from A140 south
0%	from A140 north	12% from A140 north
		100%

128 Light Vehicles

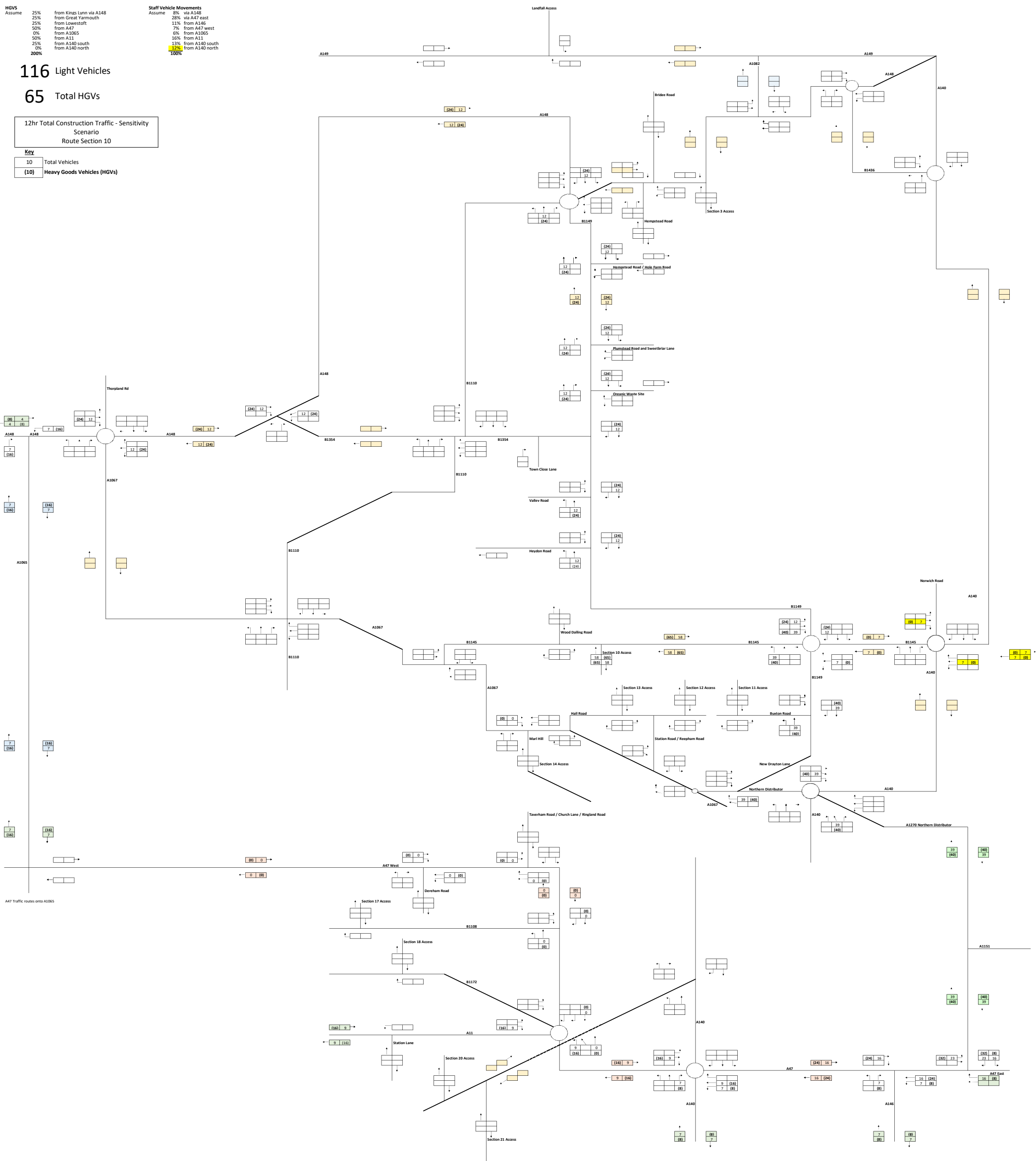
62 Total HGVs

12hr Total Construction Traffic - Sensitivity
Scenario
Route Section 9

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



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



HGVs Assume

25% from Kings Lynn via A148

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

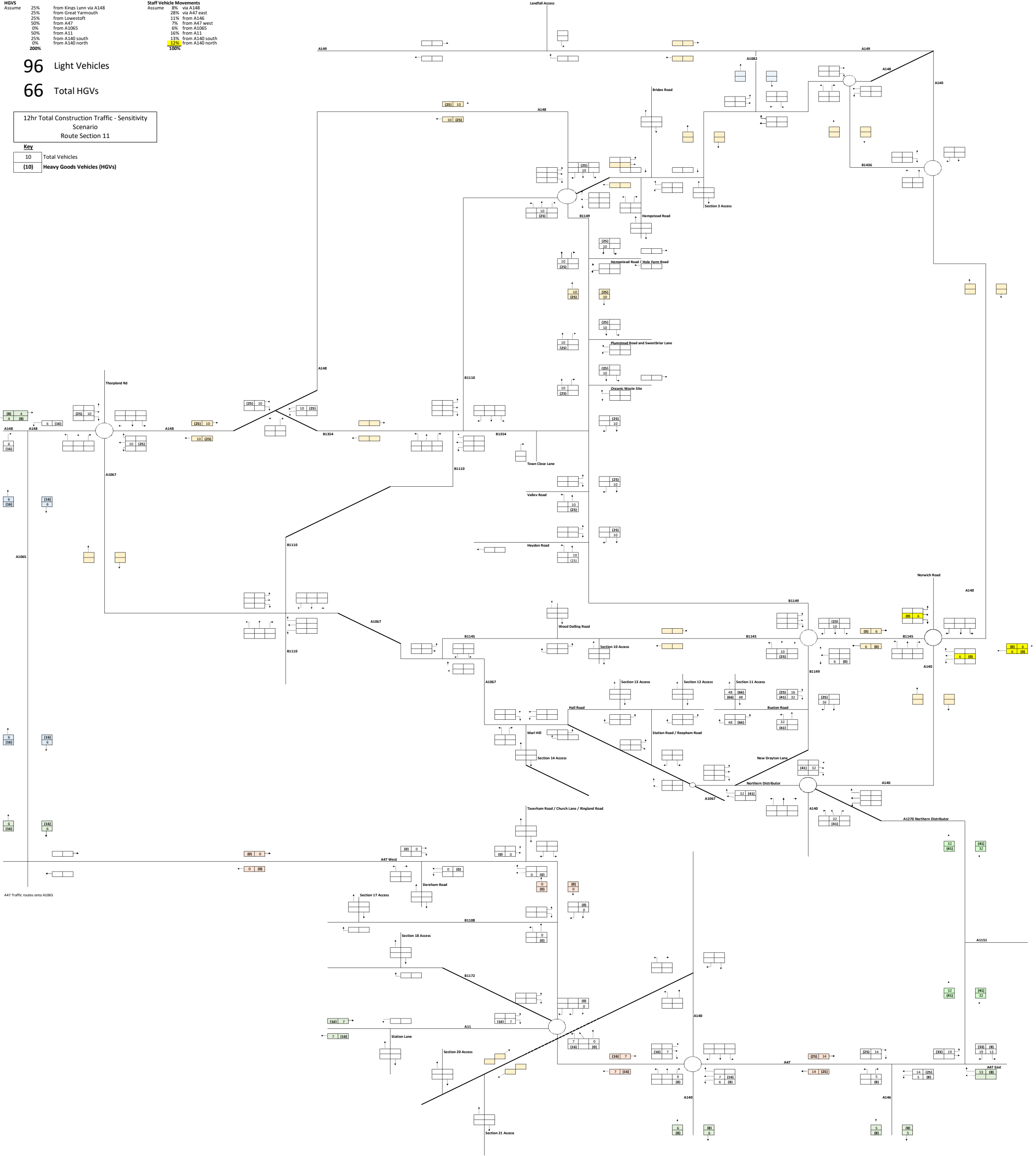
Key

10

Total Vehicles

(10)

Heavy Goods Vehicles (HGVs)



12hr Total Construction Traffic - Sensitivity
Scenario
Phase 2 Total

633 Light Vehicles

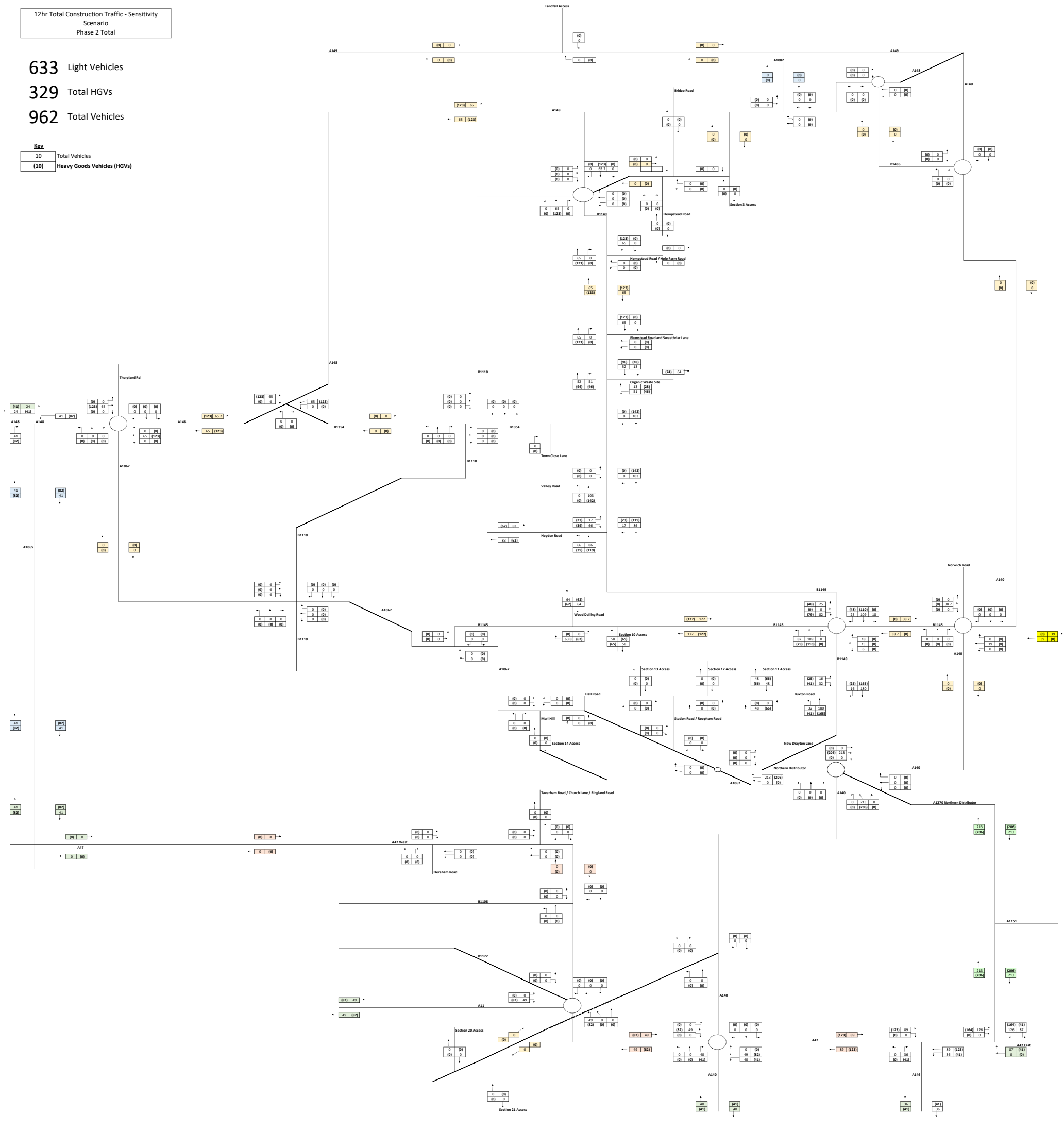
329 Total HGVs

962 Total Vehicles

Key

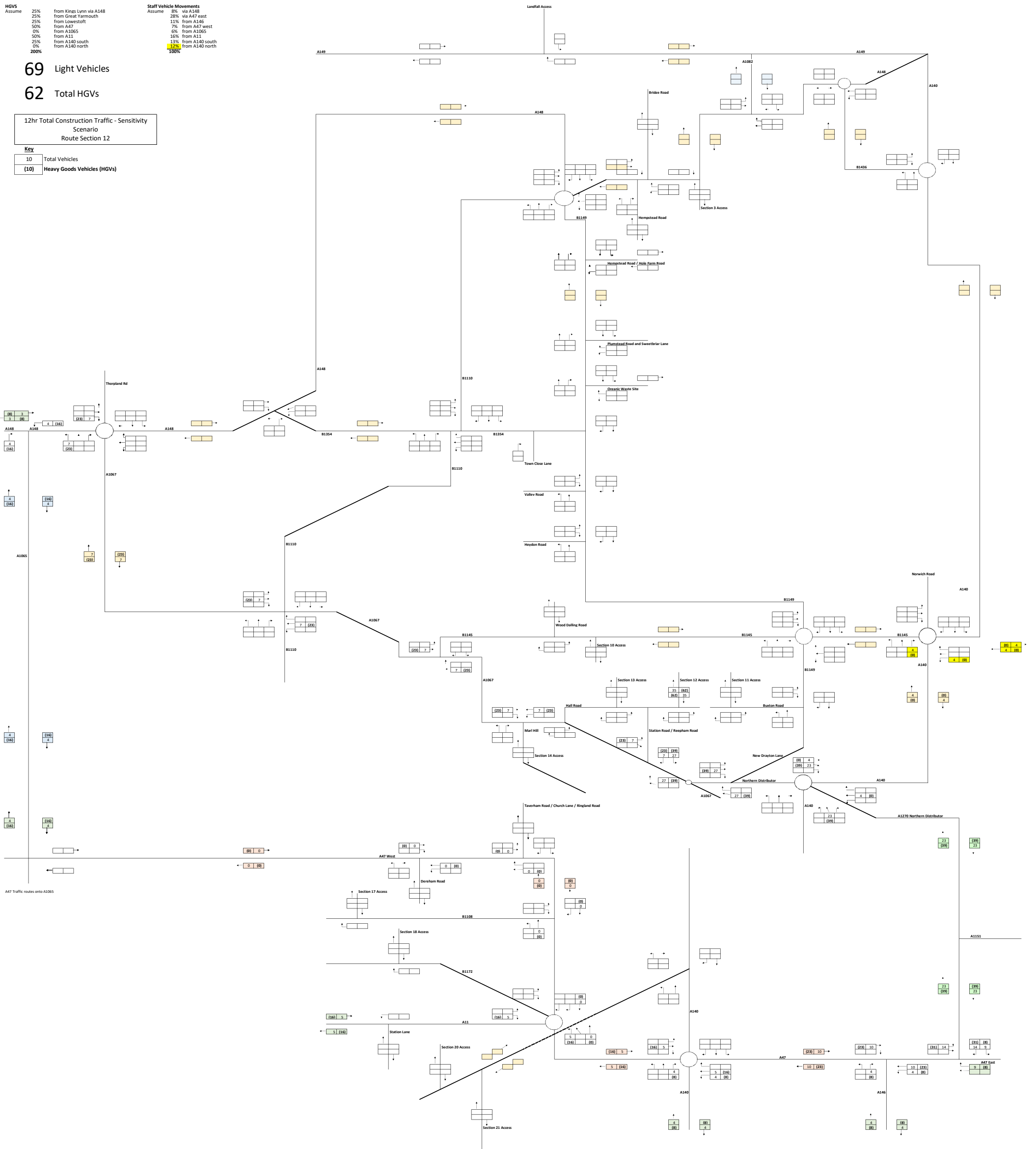
10 Total Vehicles

(10) Heavy Goods Vehicles (HGVs)



62 Total HGVs

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



64 Total HGVs

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

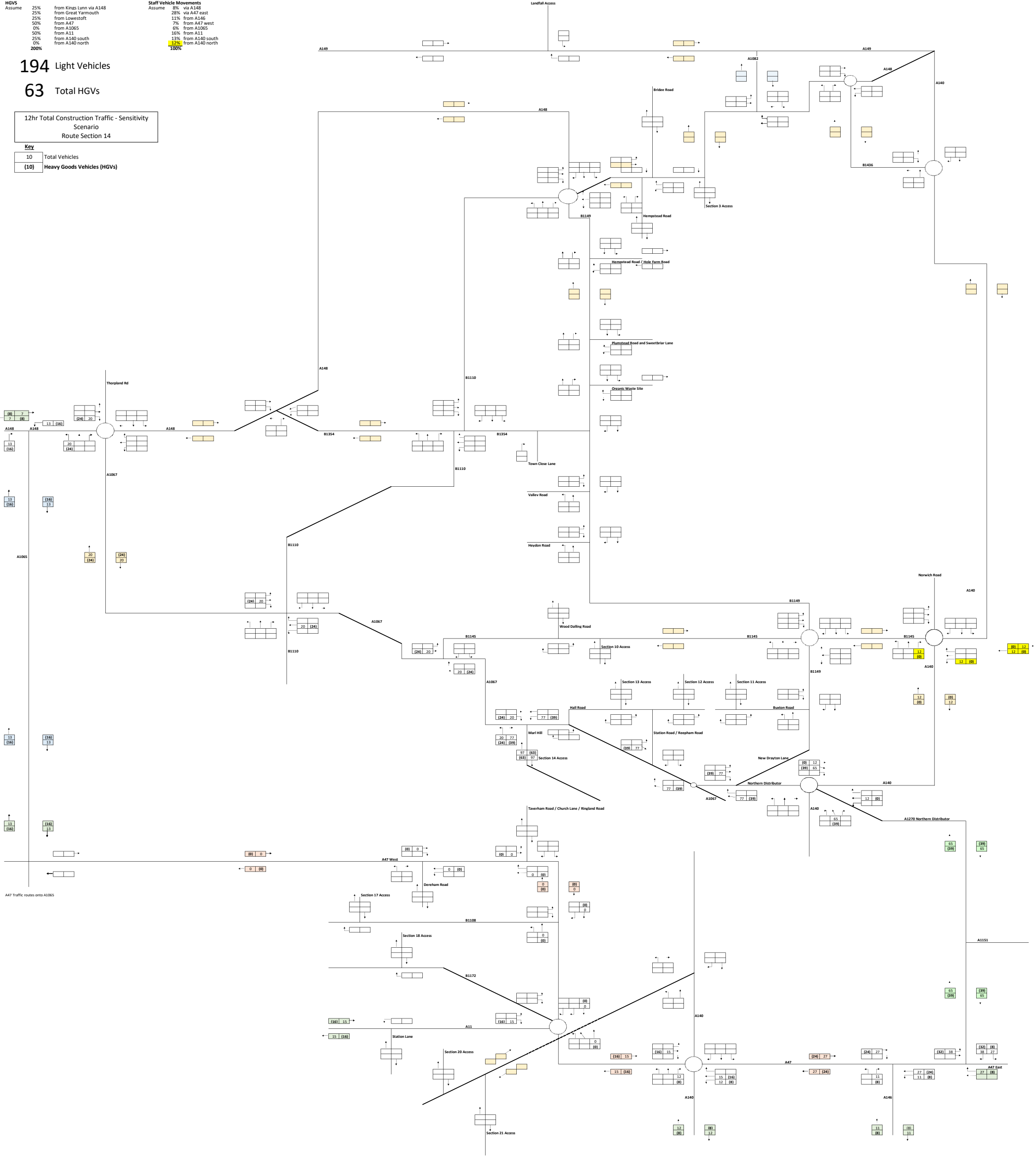
HGVs Assume	25%	from Kings Lynn via A148
	25%	from Great Yarmouth
	25%	from Lowestoft
	50%	from A47
	0%	from A1065
	50%	from A11
	25%	from A140 south
Staff Vehicle Movements Assume	8%	via A148
	28%	via A47 east
	11%	from A146
	7%	from A47 west
	6%	from A1065
	16%	from A11
	13%	from A140 south
	12%	from 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)



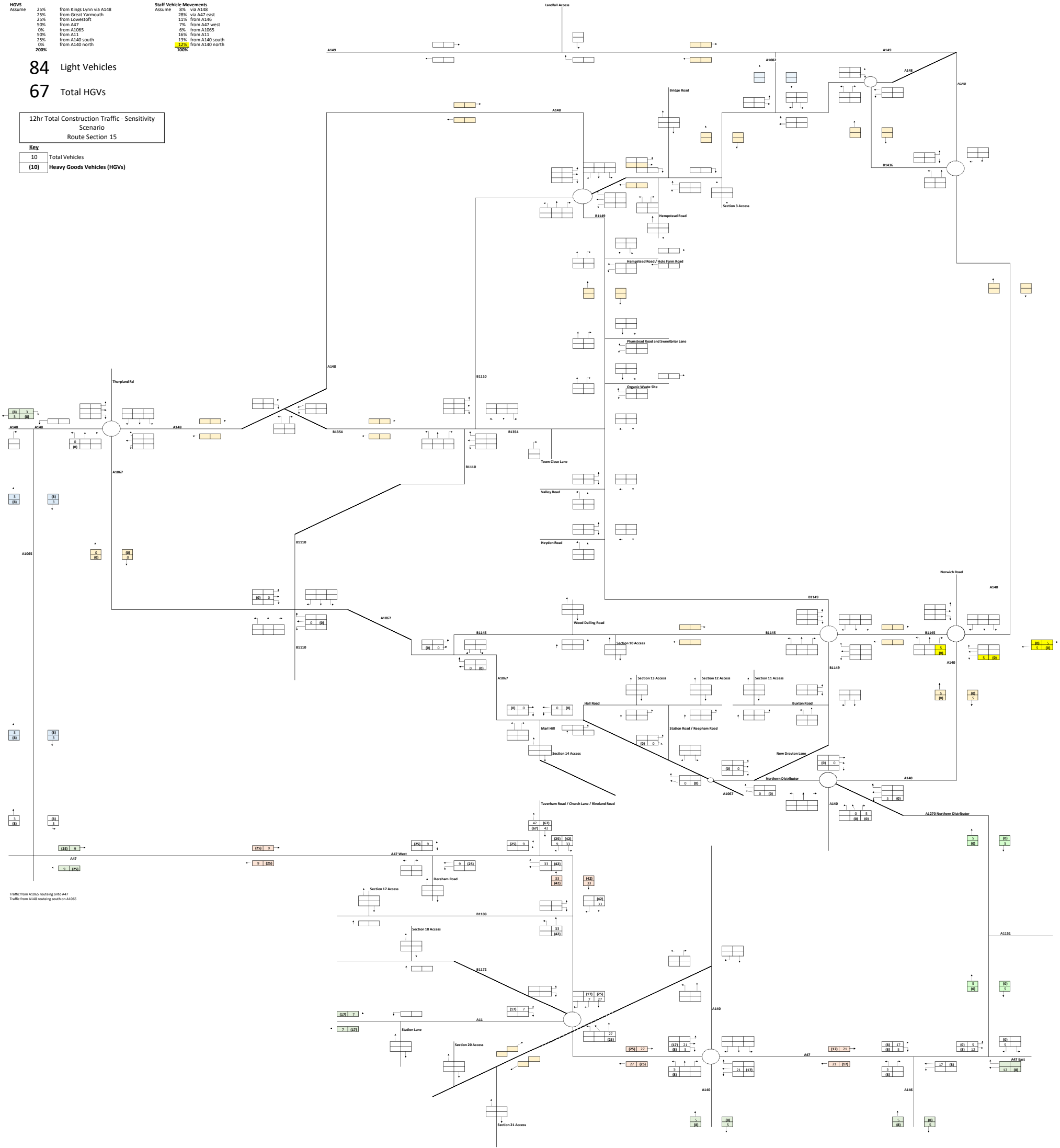
HGV5 Assume	25%	from Kings Lynn via A148	Staff Vehicle Movements Assume	0%	via A148
	25%	from Great Yarmouth		28%	via A47 east
	23%	from Lowestoft		11%	from A148
	50%	from A47		7%	from A47 west
	0%	from A1065		0%	from A1065
	50%	from A11		16%	from A11
	25%	from A140 south		13%	from A140 south
	0%	from A140 north		12%	from A140 north
	200%			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)



HGVs

Assume

25%

from Kings Lynn via A148

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

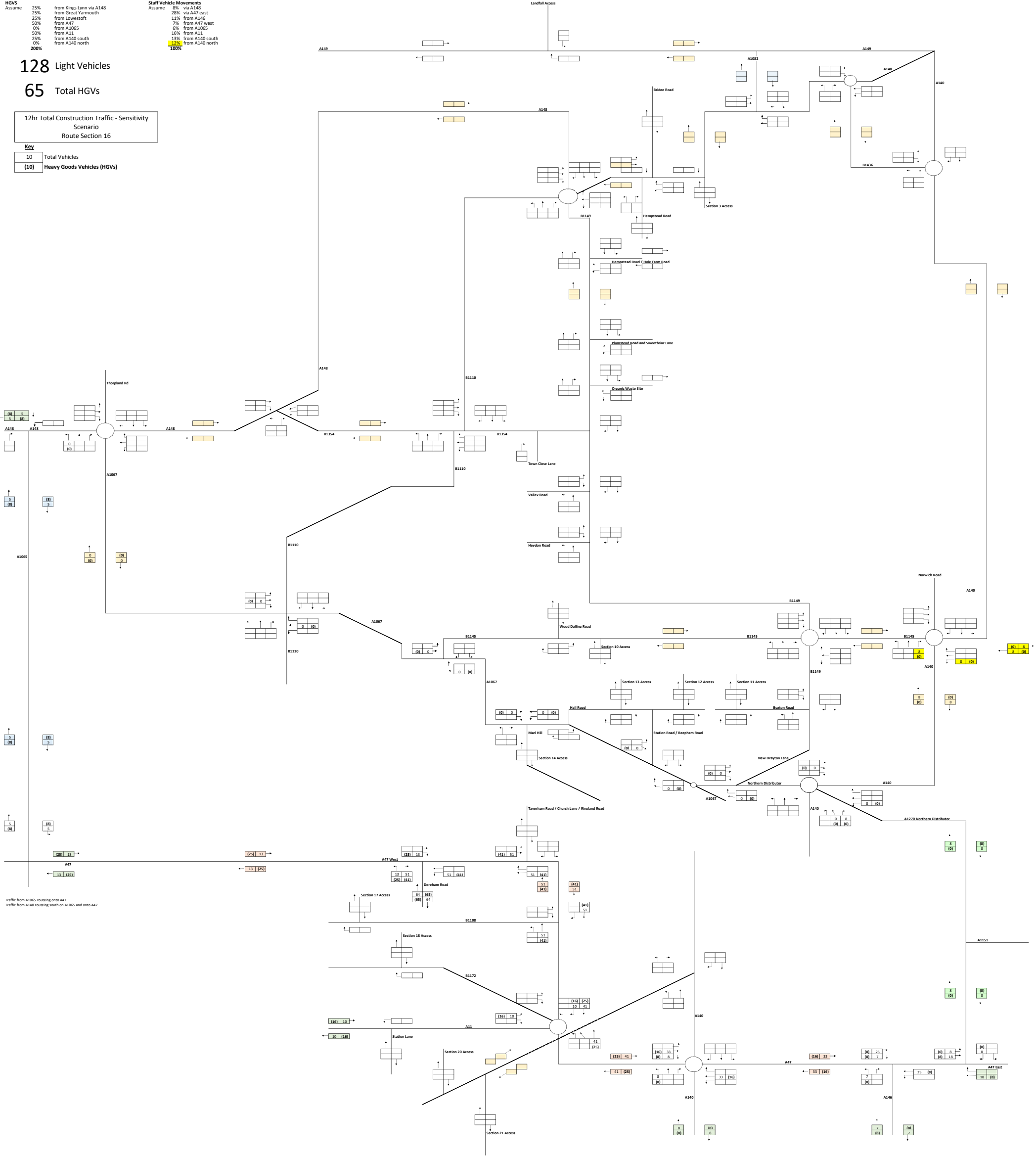
100%

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

12hr Total Construction Traffic - Sensitivity
Scenario
Phase 3 Total

570 Light Vehicles

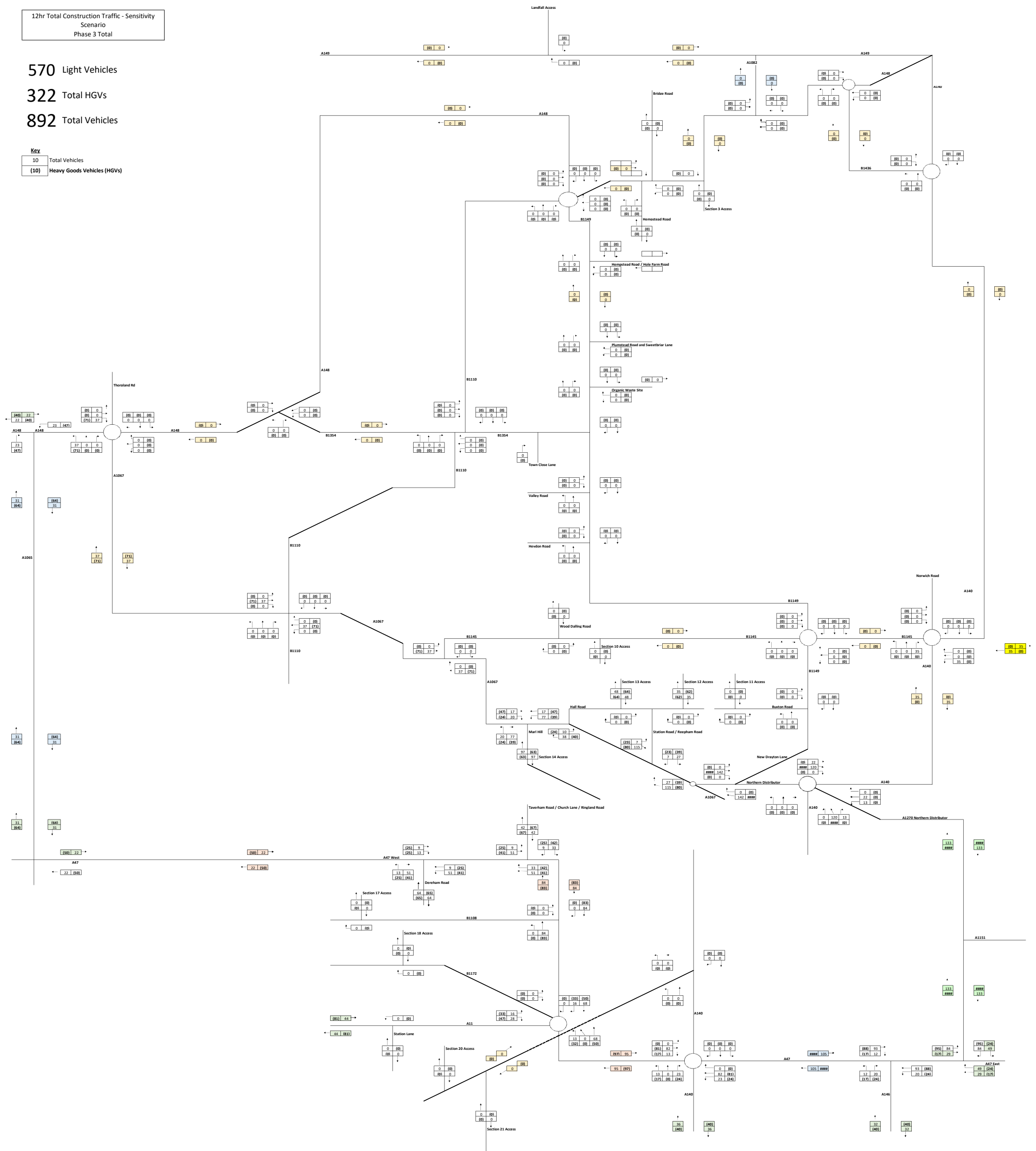
322 Total HGVs

892 Total Vehicles

Key

10	Total Vehicles
----	----------------

(10)	Heavy Goods Vehicles (HGVs)
------	-----------------------------



HGVs Assume

25% from Kings Lynn via A148

25% from 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

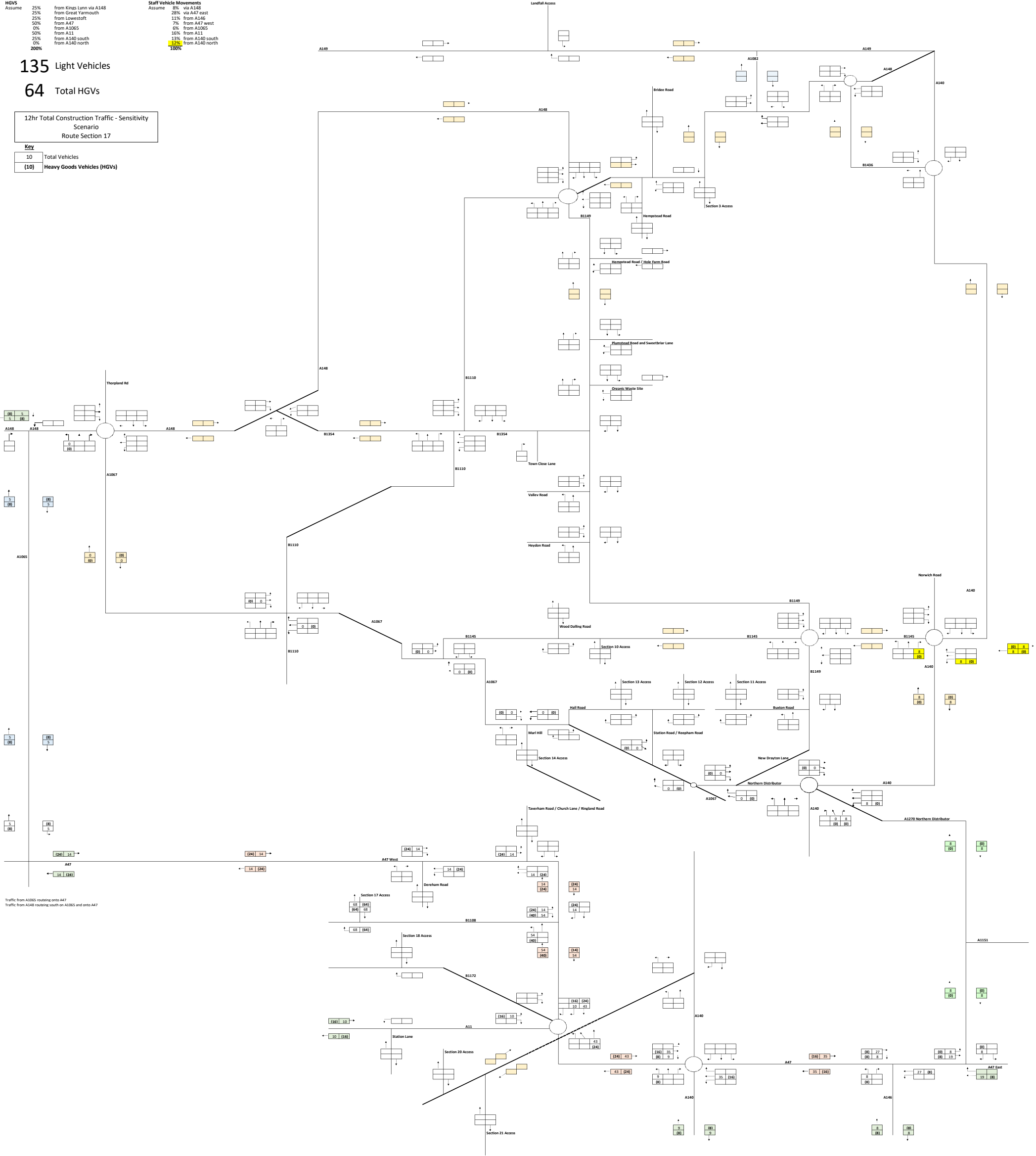
100%

135 Light Vehicles

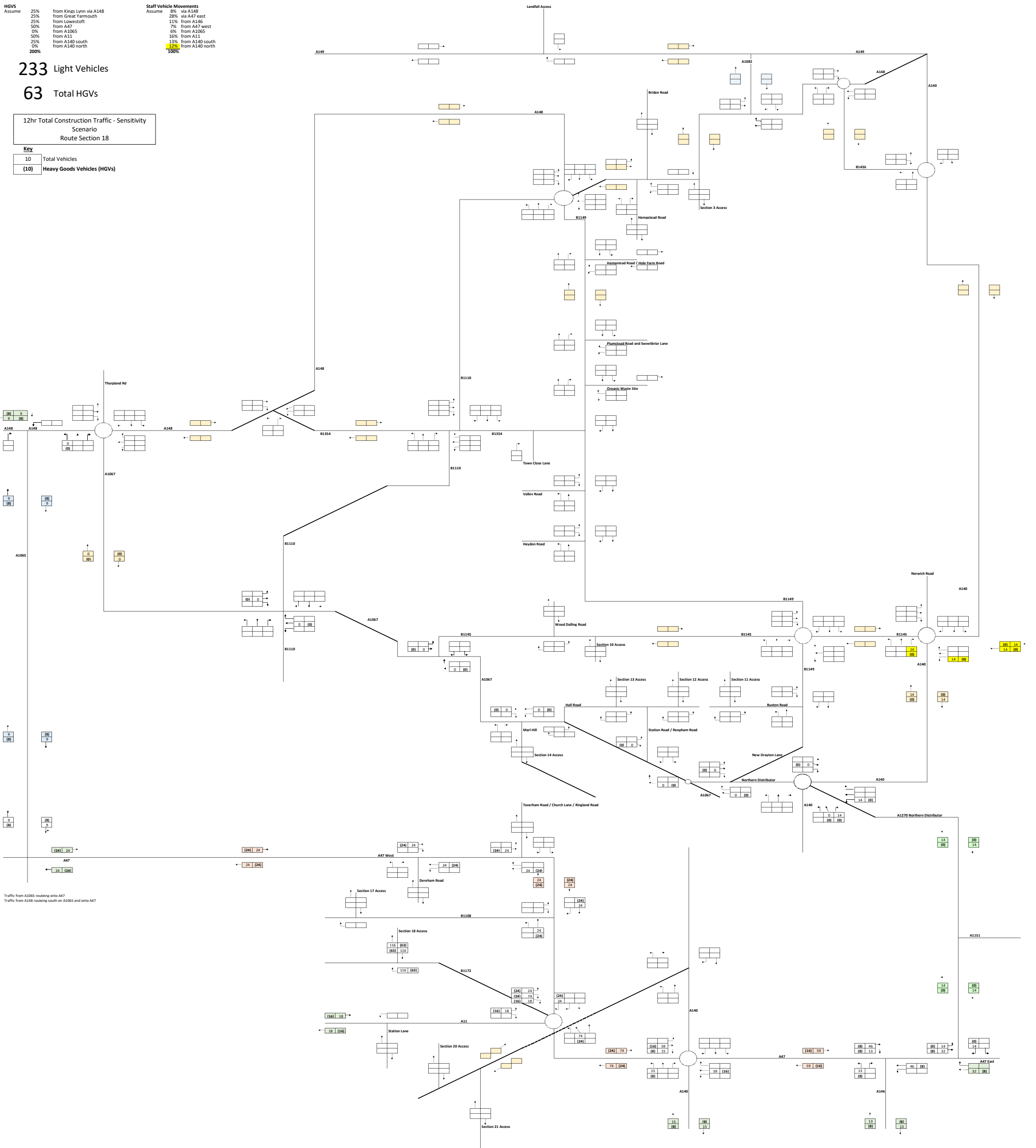
64 Total HGVs

12hr Total Construction Traffic - Sensitivity Scenario
Route Section 17

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



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



HGVs

Assume

25%

from Kings Lynn via A148

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

100%

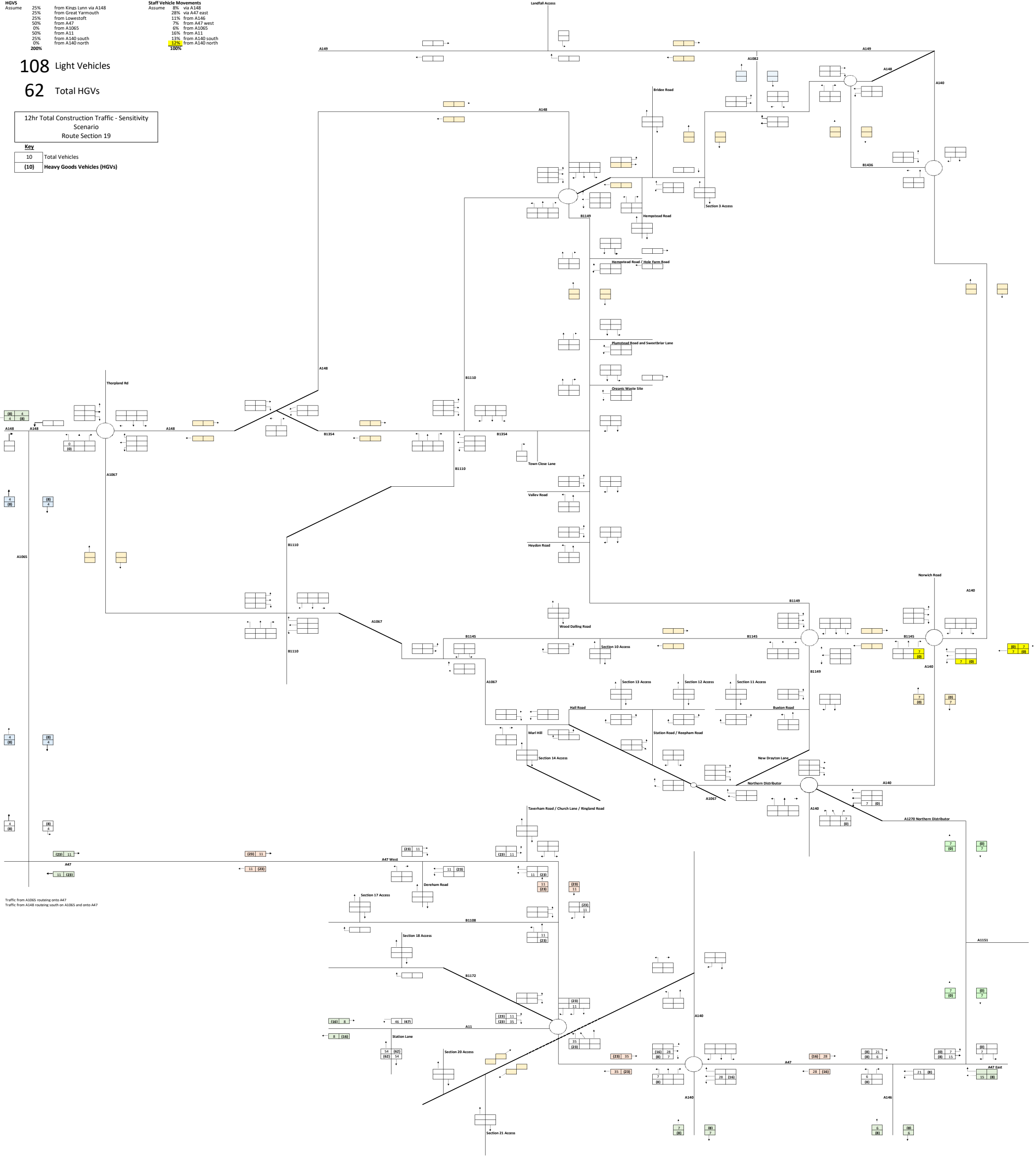
from A140 north

108 Light Vehicles

62 Total HGVs

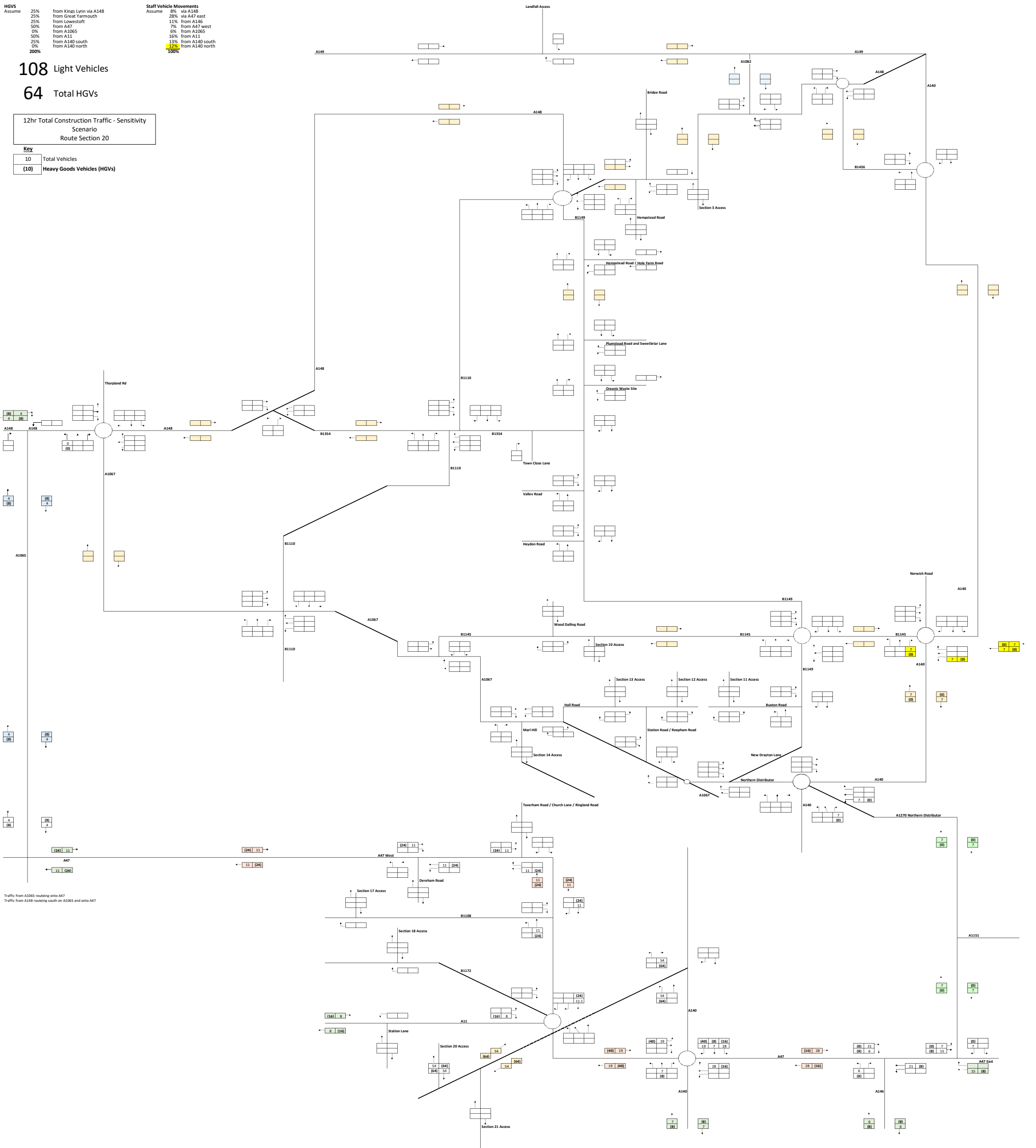
12hr Total Construction Traffic - Sensitivity Scenario
Route Section 19

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



108 Light Vehicles
64 Total HGVs

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



HGV5

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 A140

7%

from A47 west

0%

from A1065

10%

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

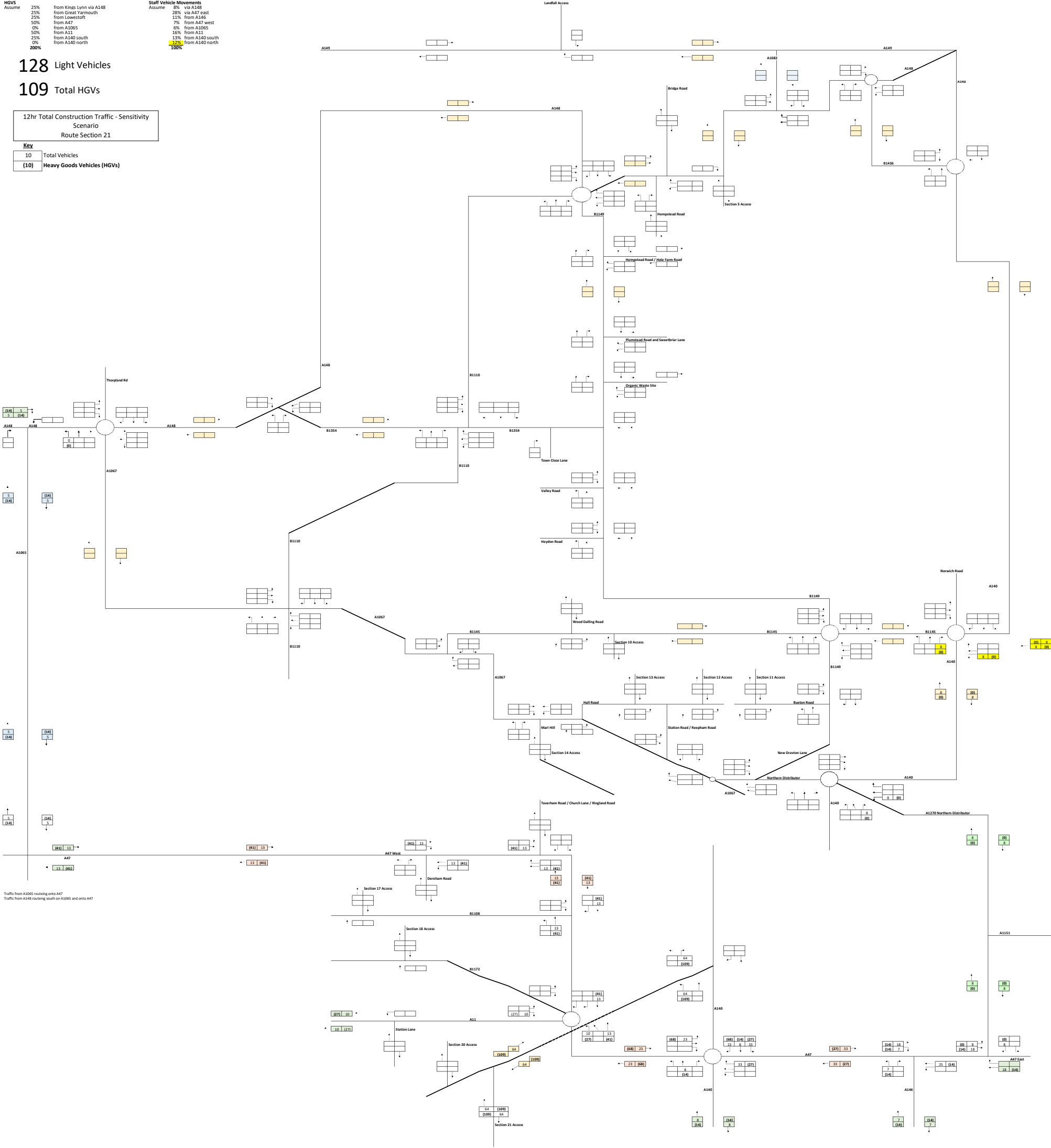
Key

10

Total Vehicles

10

Heavy Goods Vehicles (HGVs)



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

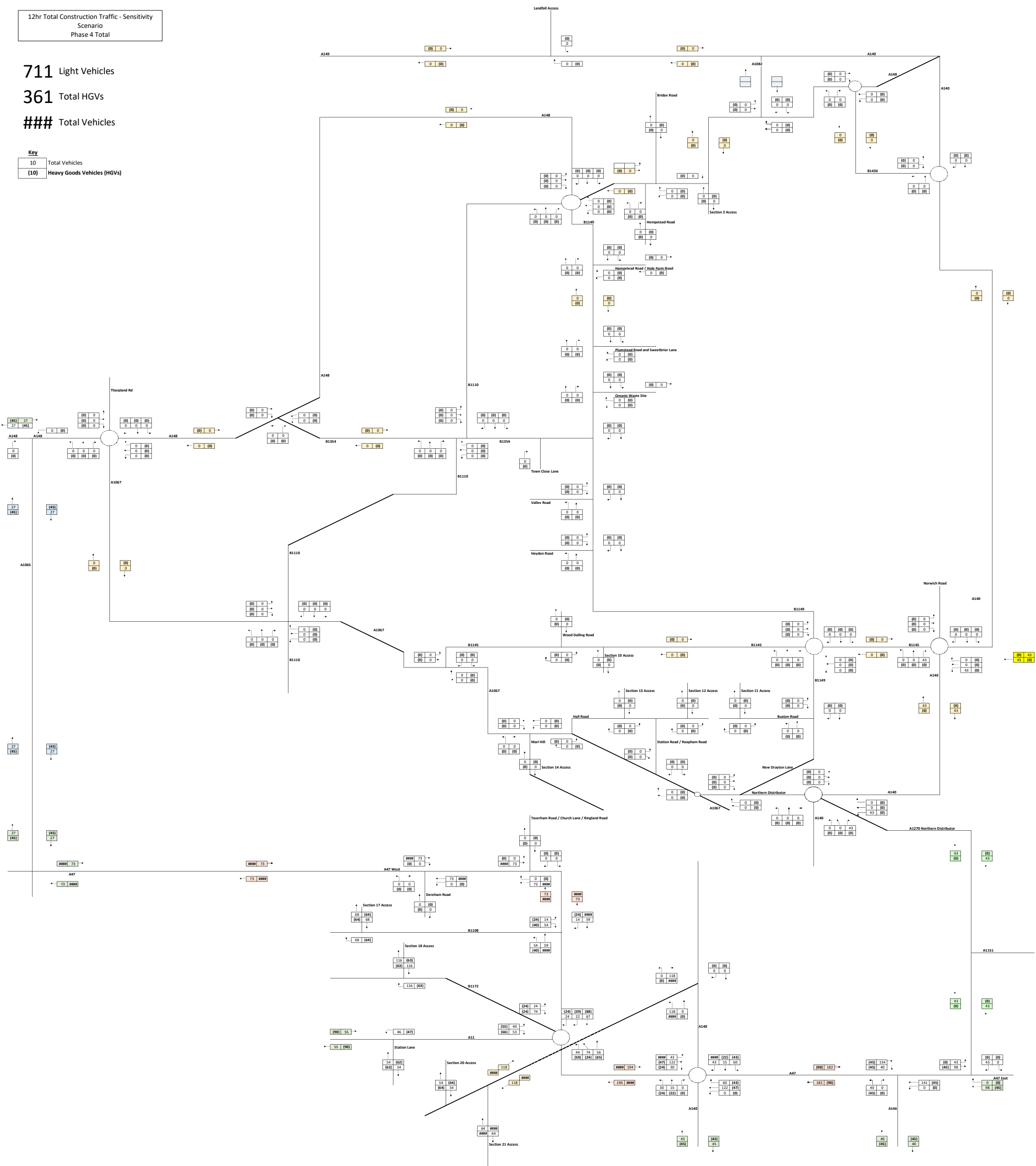
12hr Total Construction Traffic - Sensitivity
Scenario
Phase 4 Total

711 Light Vehicles

361 Total HGVs

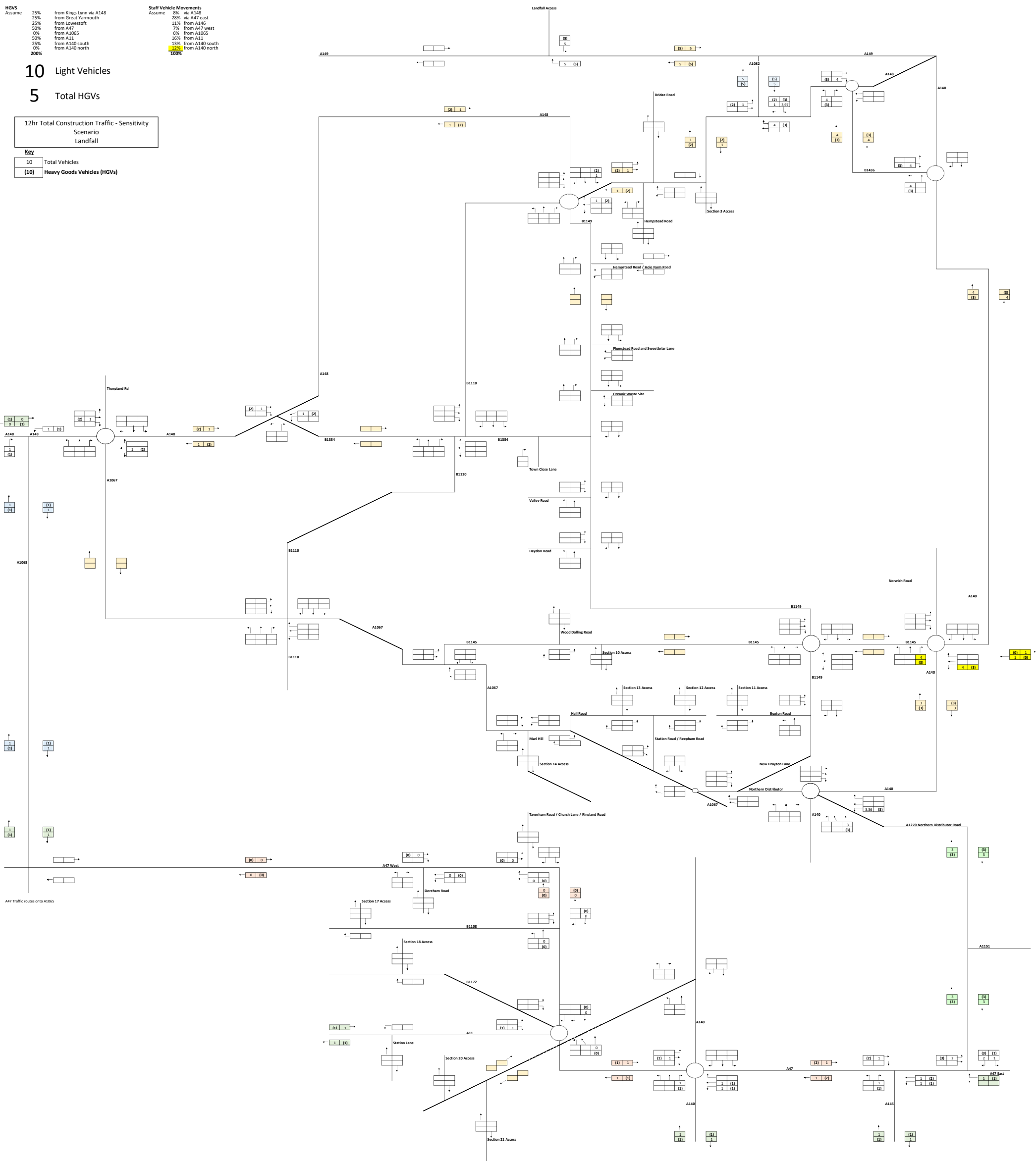
Total Vehicles

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



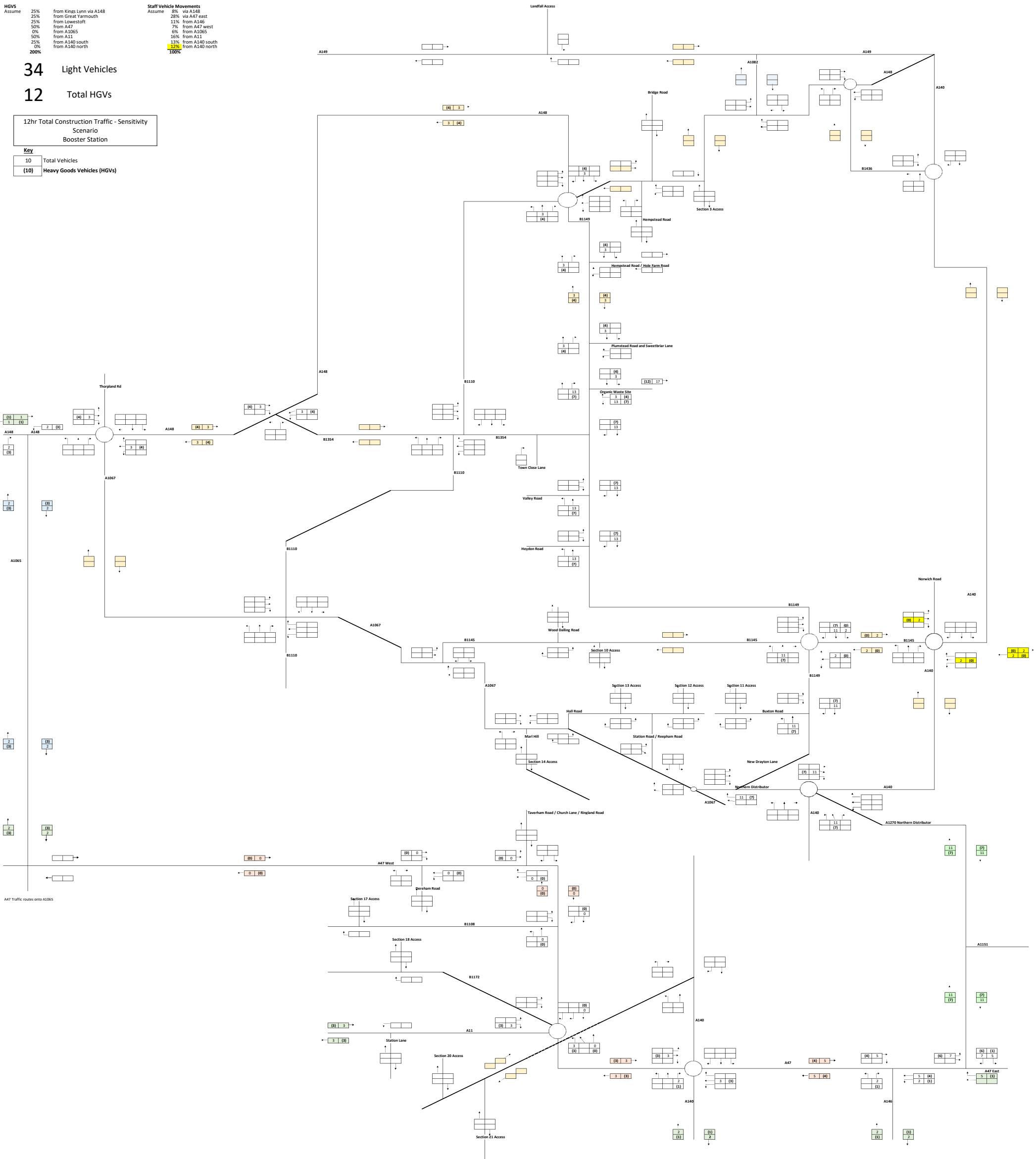
10 Light Vehicles
5 Total HGVs

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



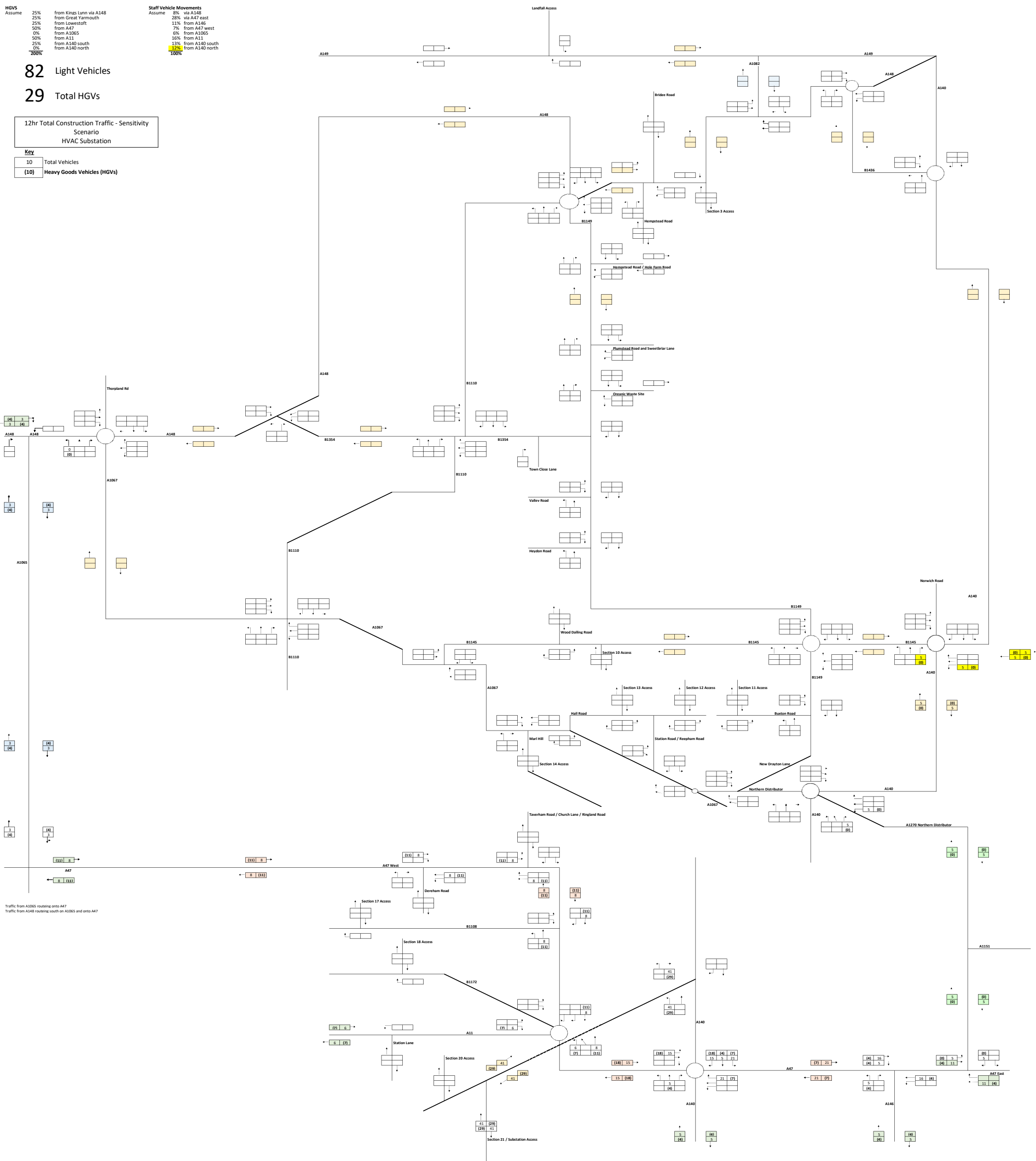
34 Light Vehicles
12 Total HGVs

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



82 Light Vehicles
29 Total HGVs

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



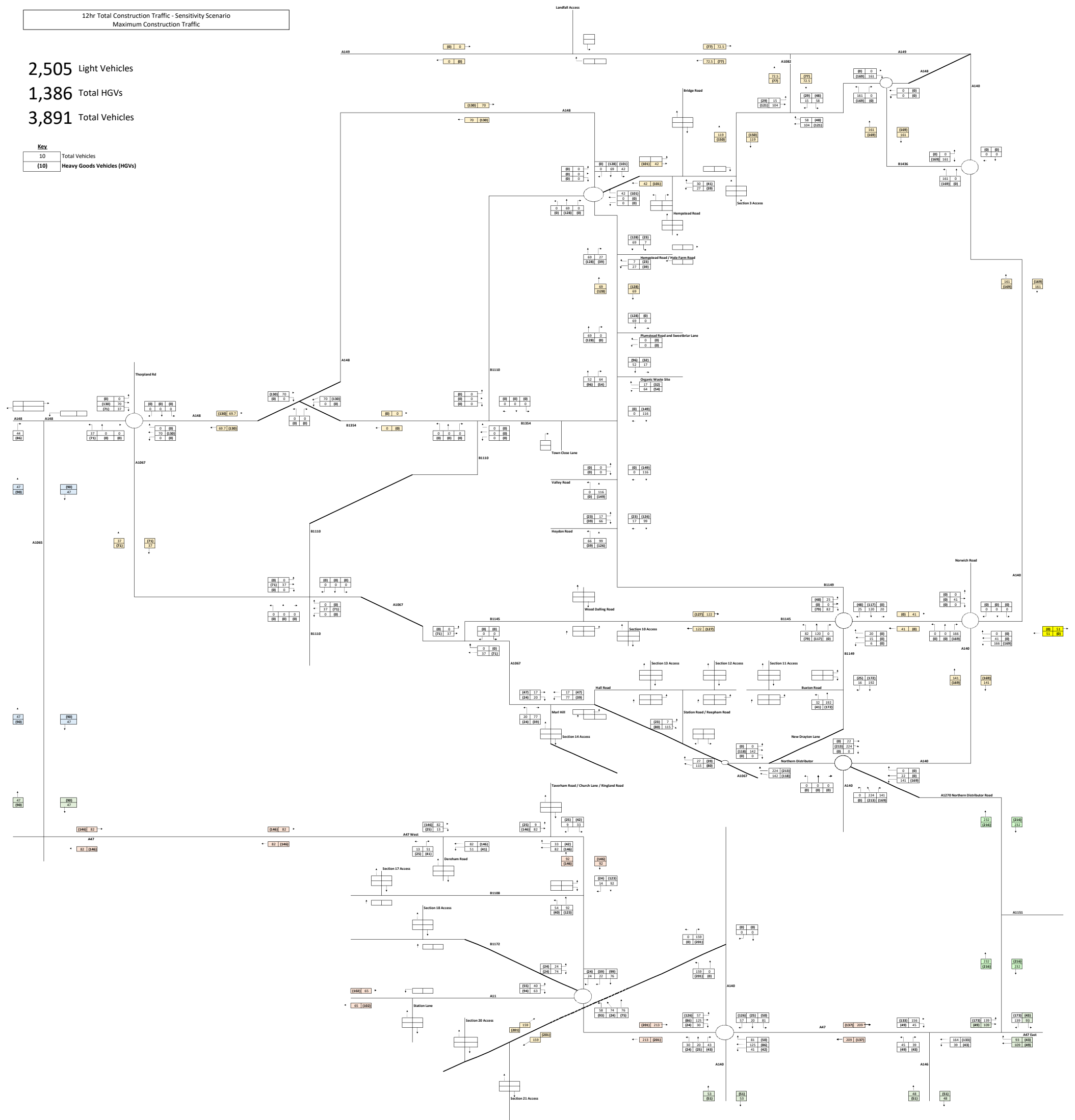
12hr Total Construction Traffic - Sensitivity Scenario	
Maximum Construction Traffic	

2,505 Light Vehicles

1,386 Total HGVs

3,891 Total Vehicles

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



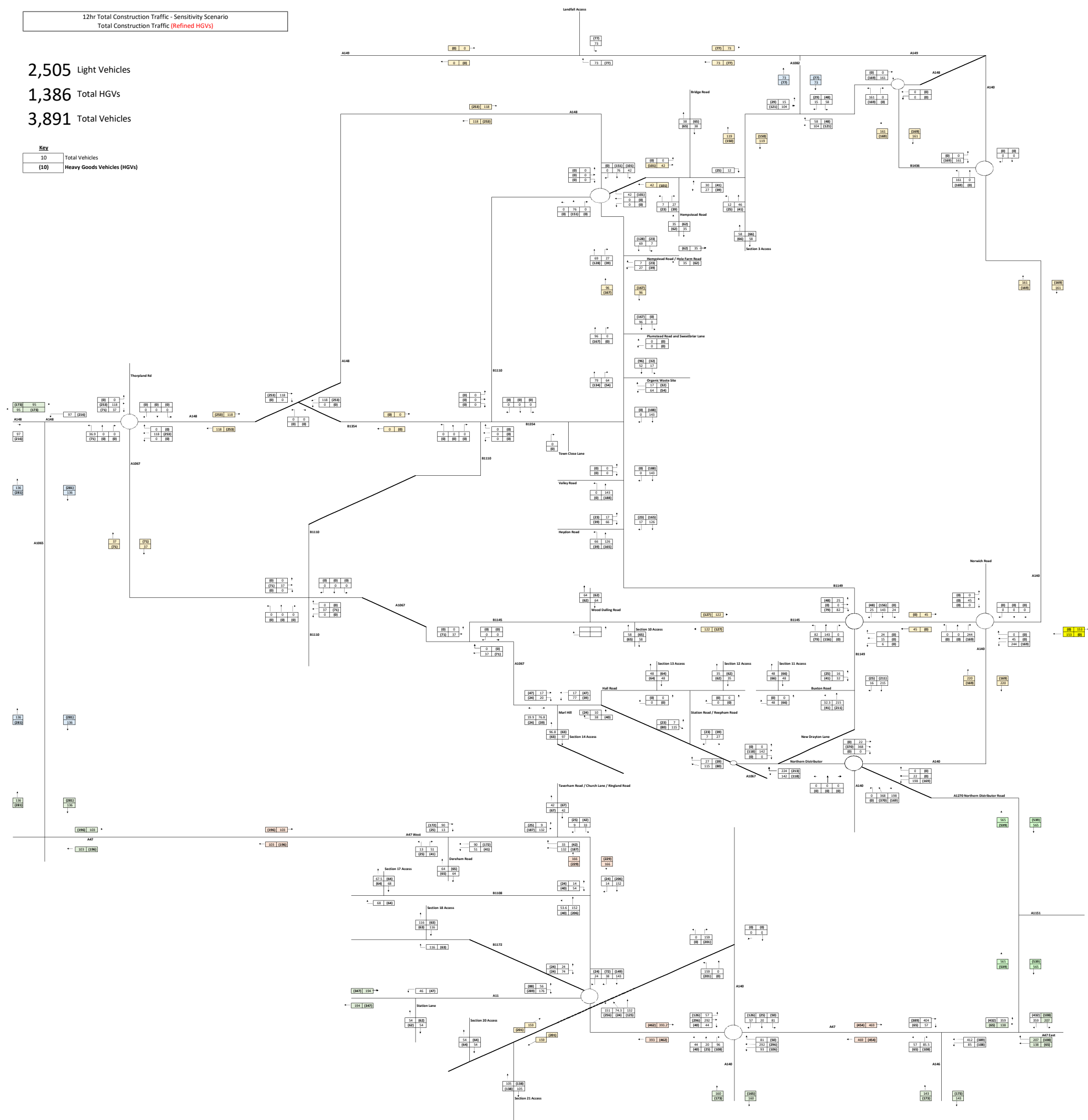
12hr Total Construction Traffic - Sensitivity Scenario
Total Construction Traffic (Refined HGVs)

2.505 Light Vehicles

1.386 Total HGVs

3,891 Total Vehicles

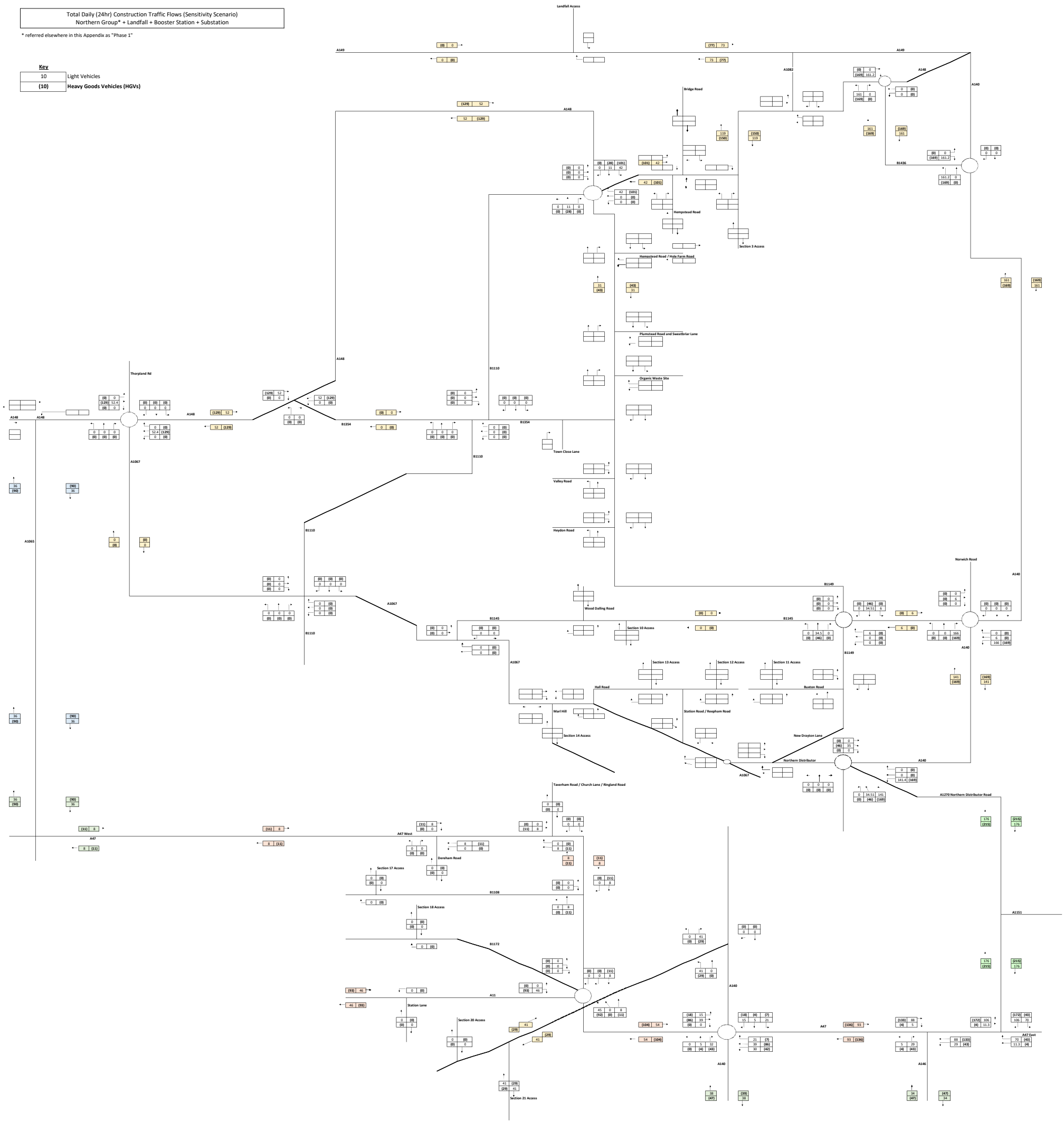
Key	
10	Total Vehicles
(10)	Heavy Goods Vehicles (HGVs)



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

* referred elsewhere in this Appendix as "Phase 1"

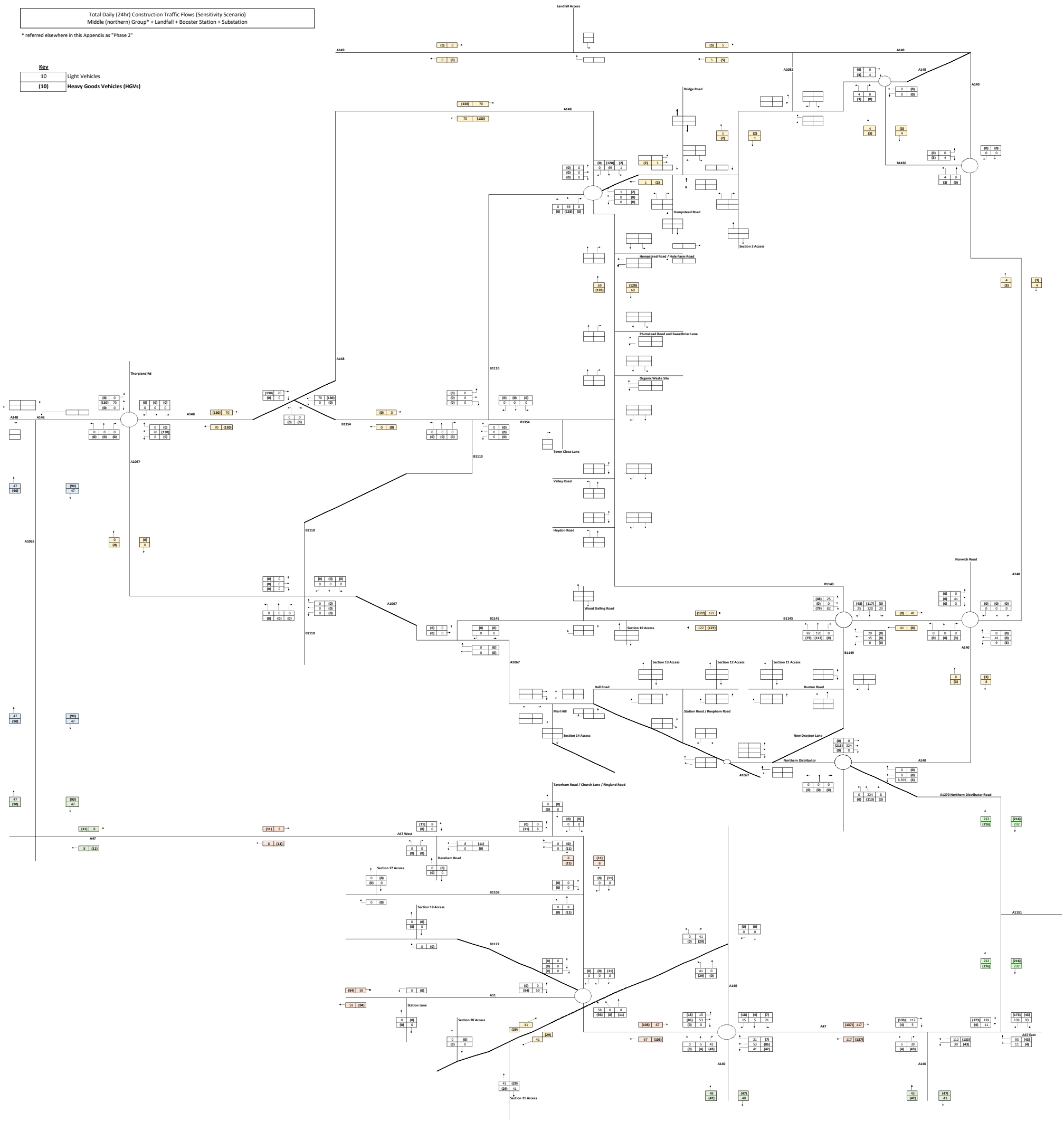
Key	
10	Light Vehicles
(10)	Heavy Goods Vehicles (HGVs)



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

* referred elsewhere in this Appendix as "Phase 3"

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

