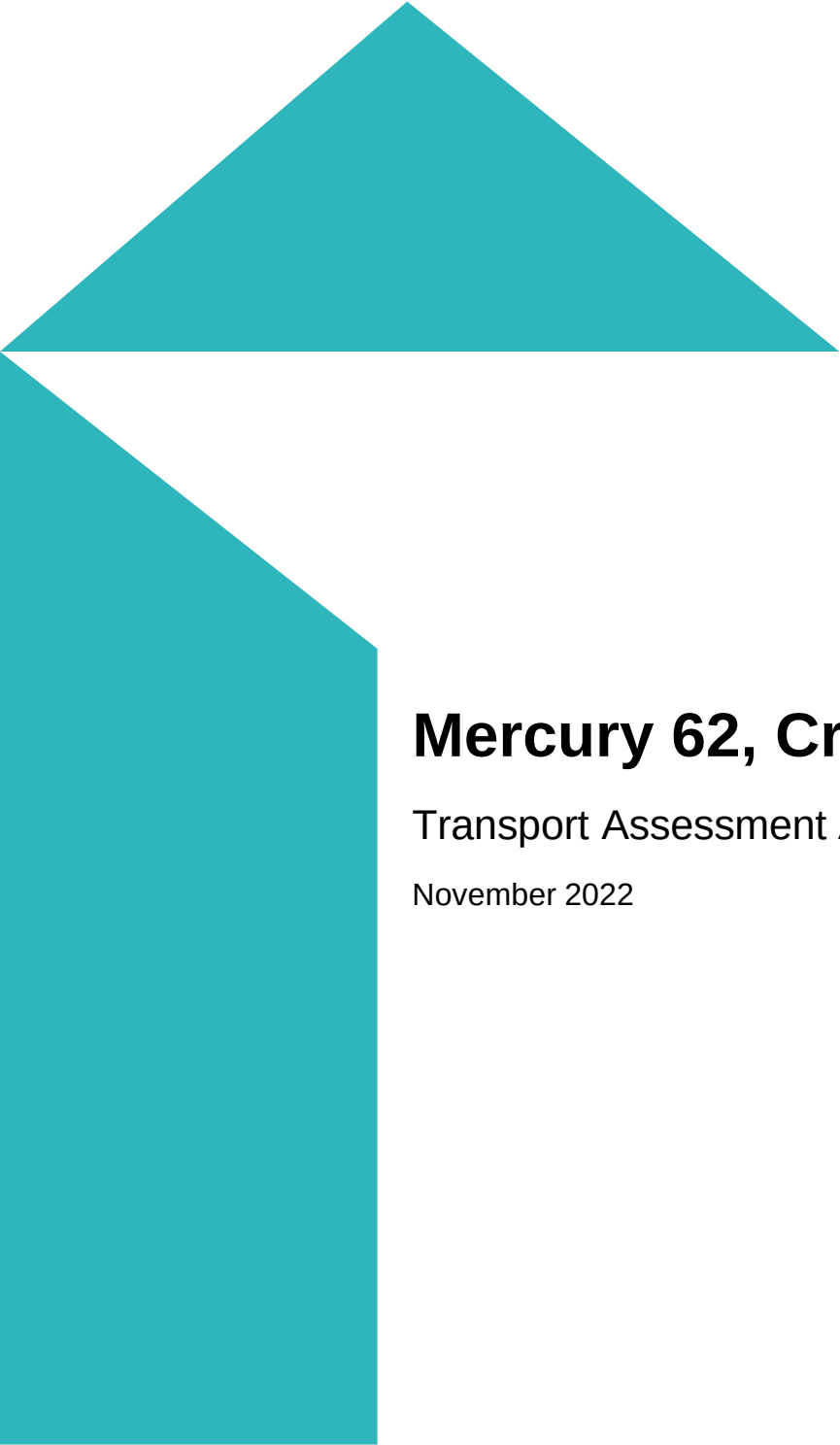


A large teal graphic on the left side of the page, consisting of a triangle at the top and a rectangle below it, with a diagonal cutout in the upper right corner of the rectangle.

Mercury 62, Cronton Road

Transport Assessment Addendum

November 2022

This page left intentionally blank for pagination.

Mott MacDonald
Ground floor
Royal Liver Building
Pier Head
Liverpool L3 1JH
United Kingdom

T +44 (0)151 482 9910
mottmac.com

Mercury 62, Cronton Road

Transport Assessment Addendum

November 2022

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	November 2022	KB	SW	DC	DRAFT

Document reference: 100392094 | TA03 | A |

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Mercury 62	1
1.2	Transport Assessment Addendum	1
2	Modelling Parameters	3
2.1	Introduction: Tarbock Island VISSIM model	3
2.1.1	Background Traffic Growth	3
2.1.2	Assessment scenarios	4
2.2	Trip Generation	5
2.3	Trip Distribution	5
2.4	Committed Development Traffic	5
2.5	Traffic Signals	6
3	Development Impact	7
3.1	VISSIM Model Results	7
3.1.1	Average Speed	7
3.1.2	Journey Time Analysis	7
3.1.3	Queue Length Analysis	8
4	Conclusions	12
4.1	2024 Analysis	12
4.2	2032 Analysis	12
A.	Trip Rates	14
B.	Development Traffic Flow	15
C.	Committed Development Flows	16

Tables

Table 2.1: Proposed Assessment Scenarios	4
Table 7.1: B8 Trip Rate per 100m ²	5
Table 2.1: Committed Development	5
Table 3.1: Average Network Speed (mph)	7
Table 3.2: Average Journey Time on approach (seconds)	8
Table 3.3: Mean Max Queue (m)	9
Table 3.4: Max Queue (m)	10

Figures

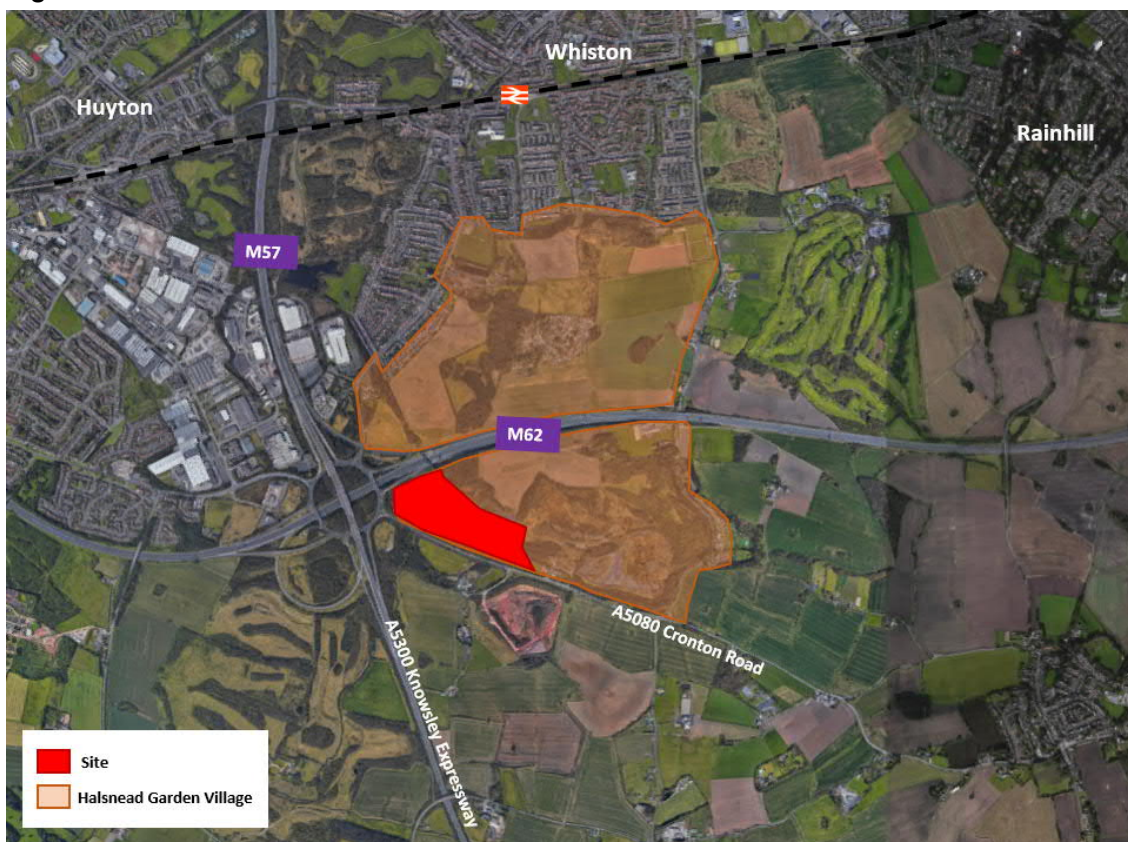
Figure 1.1: Site Location	1
Figure 1.1: VISSIM Model	3

1 Introduction

1.1 Mercury 62

Mott MacDonald have been commissioned to prepare a Transport Assessment in support of a commercial development at Cronton Road, Knowsley. The development is located south of the M62 in Knowsley, as indicated in the below figure, and forms part of an area suitable for a Sustainable Urban Extension (SUE) as identified in Knowsley Local Plan Policy. The area is known as Halsnead Garden Village. The proposal is for a warehouse distribution building of 29,081m² B8 use.

Figure 1.1: Site Location



Source: Google Earth / Mott MacDonald

1.2 Transport Assessment Addendum

A planning application for the development was submitted in September 2022 (ref 22/00587/FUL). A Transport Assessment (TA) and Travel Plan was submitted in the application. On account of the timescales required for planning submission it was not possible to undertake all traffic modelling required in time for submission. This Transport Assessment Addendum (TAA) has been prepared to provide details on the parameters used for the traffic modelling, and to present the traffic modelling results.

The scope of the modelling and the parameters to be used have been agreed through dialogue with Knowsley Council (KMBC) and National Highways:

National Highways:

- 12th May: Scoping Meeting with KMBC;
- 19th May: Scoping Note issued to KMBC, and National Highways;
- 7th June: Scoping response received from National Highways;
- 10th June: Scoping response received from KMBC;
- 17th June: Trip generation note issued to KMBC and National Highways;
- 7th July: Meeting with KMBC and National Highways;
- 20th July: VISSIM note issued to KMBC and National Highways;
- 18th August: VISSIM meeting with KMBC and National Highways.

2 Modelling Parameters

2.1 Introduction: Tarbock Island VISSIM model

This section provides an overview of the modelling parameters used. In scoping it was agreed with KMBC and National Highways that KMBC's VISSIM model of Tarbock Island (developed by WSP) would be the most appropriate model to use to assess development impact in the highway network.

The model was developed originally to test the impact of Halsnead Garden Village Local Plan allocation and to develop mitigation measures. Following this the model was used to test the impact of the nearby committed development Symmetry Park (ref. 20/00494/HYB) as part of the Transport Assessment which accompanied that planning application.

The geographical extent of the model covers Tarbock Island and all road links in the immediate vicinity. The model was extended by WSP for the purpose of this planning application to include the two proposed site access junctions on Cronton Road. The model extent in the vicinity of Tarbock Island is illustrated in Figure 1.1.

Figure 2.1: VISSIM Model



Source: WSP

2.1.1 Background Traffic Growth

The model includes background traffic for the assessment years 2022 and 2030. This is the same background traffic used for the assessment of the Symmetry Park planning application (ref. 20/00494/HYB). For the proposed development the opening year of 2024 and assessment

year of 2032 are proposed. Accordingly baseline traffic growth has been accounted for by using Tempro (adjusted with NTM):

- 2022 – 2024 AM 1.023 PM 1.023
- 2030 – 2032 AM 1.017 PM 1.016

It should be noted that the factors have not been adjusted to take into account of any of the committed developments which will be included in the assessments. Accordingly, all modelled scenarios will include an element of 'double counting' of traffic. We consider this contributes to a robust assessment.

2.1.2 Assessment scenarios

The model simulates the AM peak period (07:00 – 10:00) and PM Peak (16:00 – 19:00).

The following scenarios are modelled within these peak periods as agreed in scoping with KMBC and National Highways.

Table 2.1: Proposed Assessment Scenarios

Scenario	Description	Existing Junction layout	Full Tarbock Improvements in place
2018 Base	Validated 2018 Model	Yes	No
2024 Do Nothing	Baseline: 2024 background traffic + committed Developments plus Phase 1 Symmetry Park	Yes	No
2024 Do Something	2024 background traffic + committed developments + Phase 1 Symmetry Park + Cronton Mercury	Yes	No
2032 Do Nothing	2032 background traffic + committed developments + Full Symmetry Park.	No	Yes
2032 Do Something	2032 background traffic + committed developments + Full Symmetry Park + Cronton Mercury	No	Yes
2032 Do Something Sensitivity Test	2032 background traffic + committed developments + Full Symmetry Park + Cronton Mercury (Adjustment made to symmetry park traffic so that 50% of traffic uses the Eastern Cronton access junction)	No	Yes

KMBC has specified that the Tarbock Island improvement scheme included in the model is 'DS4_T2'. This option most accurately reflects the scheme which has been agreed between KMBC and National Highways.

2.1.2.1 Sensitivity Test

KMBC and National Highways has requested that a sensitivity analysis is undertaken whereby the internal road that would connect the Symmetry Park and Mercury 62 sites has been completed (please refer to Section 6.3 of the TA- the delivery of this wider internal road network is not part of this planning application).

The internal road would form an extension to the eastern access road. Once complete some Symmetry Park development traffic may choose to use the proposed eastern site access of Mercury 62 – which will initially be an HGV access only to serve the development site. For the purpose of the sensitivity analysis we assume that 50% of Symmetry development traffic would use the eastern access junction in the peak hour. Trip generation of Symmetry Park is taken from the Transport Assessment and subsequent technical notes which accompanied the planning application.

2.2 Trip Generation

Trip generation for the proposed development has been undertaken using trip rates recommended by National Highways and agreed with WSP.

The trip rates are illustrated in Table 2.2 below and provided in full in Appendix A.

Table 2.2: B8 Trip Rate per 100m2

Time	Development Trip Rates			Trip Generation		
	Arrival	Departure	Total	Arrival	Departure	Total
0700 - 0800	0.137	0.119	0.256	40	35	75
0800 - 0900	0.134	0.069	0.203	39	20	59
0900 - 1000	0.148	0.087	0.235	43	25	68
1600 - 1700	0.062	0.124	0.186	18	36	54
1700 - 1800	0.039	0.096	0.135	11	28	39
1800 - 1900	0.085	0.069	0.154	25	20	45
Daily	2.133	1.974	4.107	620	574	1,194

2.3 Trip Distribution

The distribution of development trips in terms of staff movements has been undertaken using Census journey to work data. In terms of HGV and LGV movements, to ensure a robust assessment all HGV trips are assumed to have an origin or destination at Tarbock Island. HGV traffic distribution at Tarbock Island has been undertaken using surveyed traffic flows. On this basis, development trip generation diagrams are shown in Appendix B.

2.4 Committed Development Traffic

Committed development to be included in the assessments has been agreed with KMBC in scoping. Future development at Halsnead Garden Village which does not have planning consent but forms an allocation in the Local Plan is included in the 2032 assessments.

Table 2.3: Committed Development

Ref	Name	Type / Units	Detail	Method
18/00283/HYB	Bloor Homes	360 Dwellings Halsnead North	Included in assessment. Traffic data to be taken from the supporting Transport Assessment	Manual
20/00399/OUT	Barton Willmore	377 Dwellings Halsnead North	Included in assessment. Planning permission not yet granted. Traffic data to be taken from the supporting Transport Assessment.	Manual
20/0417/FUL	Taylor Wimpey	350 Dwellings Halsnead North	Included in assessment. No TA available on website. MM request the TA from KMBC or use same parameters as 20/00399/OUT	Manual
20/00329/FUL	Windy Arbour Brow	33 Dwellings Halsnead north	Included in assessment. Planning permission not yet granted. No Transport Assessment / Statement submitted in application. Use same parameters as 20/00399/OUT	Manual
20/00494/HYB	Symmetry Park	92,902m2 B8 Development & Country Park Halsnead South	Included in assessment. Phase 1 of the development has full consent (15,273m2). Phase 1 development can only be occupied once Tarbock Improvements commence. Phase 2 has permission in outline only (77,629m2). Phase 2 can only be occupied when Tarbock works are complete.	Manual

Ref	Name	Type / Units	Detail	Method
15/00022/OUT	Former Prysmian Cables	750 Dwellings	Located 3.5km away near M57 Junction 2. It is not forecast to result in any material change in traffic on the network in the vicinity Cronton Mercury. Accordingly background growth applied using Temprow is a sufficiently robust way to account for traffic generated by this development in the study area.	Temprow
17/00301/HYB	Coppice Lane	Petrol Filling Station and 1,800m2 employment	Included in assessment. Planning permission not yet granted. Traffic data to be taken from transport assessment	Manual
16/00819FUL	Whiston Lane	62 dwellings	Located 3km in Huyton. It is not forecast to result in any material change in traffic on the network in the vicinity Cronton Mercury. Accordingly background growth applied using Temprow is a sufficiently robust way to account for traffic generated by this development in the study area.	Temprow
18/00062/HYB	Knowsley Lane	7,500m2 employment space and 150 dwellings	Located 4km away in vicinity of M57 junction 2. It is not forecast to result in any material change in traffic on the network in the vicinity Cronton Mercury. Accordingly background growth applied using Temprow is a sufficiently robust way to account for traffic generated by this development in the study area.	Temprow

Based on this data committed development traffic flows are included as Appendix B to this document. It should be noted that the methodology to take account of the full residential build out of Halsnead North for the 2032 assessments is the same in this assessment as that accepted for the Symmetry Park application. When fully complete Halsnead North will accommodate around 1,600 homes. At present 1,120 are in the planning system and accounted for in the 2024 assessments for 2032 the remaining 480 dwellings are included in the assessment by using the same trip rates as used in accepted residential planning applications at Halsnead North and the same trip distribution.

2.5 Traffic Signals

The signal timings and staging for the two new signal junctions on Cronton Road were taken from Linsig Models developed for that purpose. These were then subsequently optimised in VISSIM.

3 Development Impact

3.1 VISSIM Model Results

An in depth overview of the VISSIM model results are included in the WSP report appended to this document. The main points are summarised in this section.

The following abbreviations are used in this report:

- DN: Do Nothing - Proposed Mercury 62 scheme absent from this scenario;
- DS: Do Something – Scenario includes Mercury 62 scheme;
- DS ST: Do Something Sensitivity test - Scenario includes Mercury 62 scheme and Sensitivity Test traffic.

3.1.1 Average Speed

Average speed through the network for all modelled scenarios are set out in Table 3.1 below:

Table 3.1: Average Network Speed (mph)

AM Peak				
2024 DN AM	2024 DS AM	2032 DN AM	2032 DS AM	2032 DS ST AM
40.7	39.7	39.3	38.6	38.8
PM Peak				
2024 DN PM	2024 DS PM	2032 DN PM	2032 DS PM	2032 DS ST PM
35.0	33.7	45.6	45.0	45.1

It can be seen that the introduction of the development in 2024 has a marginal impact on average vehicle speed through the network with a change of 1 mph in the AM peak and 1.3mph in the PM Peak between the DN and DS scenarios. In the 2032 assessment year there is a marginal change with the development in place of 0.3mph in the AM Peak and 0.6 mph in the PM Peak between the DN and DS scenarios.

Based on the level of change we can conclude that the proposed development does not make a material difference to average speed across the network. There is no change in overall congestion within the model between the DN and DS scenarios.

3.1.2 Journey Time Analysis

Table 3.2 below illustrates average journey time at each approach within the VISSIM model. The final row in the column shows the average journey time on for all vehicles across all approaches.

The journey times across the entire network are comparable between the DN, DS and DS Sensitivity Test scenarios during both AM and PM peak periods. The main variations in journey times are primarily along the minor roads with lower volumes of traffic. There are negligible variations in journey times on the major routes with higher volumes of traffic.

The journey time is slightly higher in the 2024 DS scenario compared to the 2024 DN scenario particularly in the PM peak on Cronton Road South. This can be explained by the introduction of traffic signals at the proposed site accesses on Cronton Road. Without the scheme in place westbound traffic does not have to stop on the modelled network until it reaches Tarbock Island. In the opposite direction traffic entering Cronton Road South does not have to stop once it has exited Tarbock Island without the scheme in place. Accordingly, this increase in journey time on this arm is expected as part of the proposed development.

Table 3.2: Average Journey Time on approach (seconds)

Arms	AM Peak					PM Peak				
	2024 DN AM	2024 DS AM	2032 DN AM	2032 DS AM	2032 DS ST AM	2024 DN PM	2024 DS PM	2032 DN PM	2032 DS PM	2032 DSST PM
M57	337	344	333	334	331	254	256	243	245	245
Windy Arbor	553	578	305	317	307	703	720	336	335	337
M62 WB	272	274	285	285	283	256	257	266	264	264
Cronton Rd (S)	325	410	965	1138	1147	268	291	350	502	484
M62 EB	252	255	258	258	256	309	317	242	243	243
Cronton Rd (N)	496	497	353	352	354	483	557	391	393	392
Wilson Rd	560	578	314	316	315	645	601	254	254	255
A5300 (A562)	197	198	205	209	207	365	404	252	252	250
A55300 Newsstead Rd	258	370	396	540	414	262	284	222	219	223
A5300 (A561)	224	232	245	248	247	457	513	260	262	260
All vehicles on all approaches	288	294	290	293	291	330	346	261	264	263

3.1.3 Queue Length Analysis

In this section queue lengths are analysed in terms of 'Mean Maximum Queue' and 'Maximum Queue' through the modelled periods.

3.1.3.1 Mean Maximum Queue

Table 3.3 shows the Mean Maximum Queue lengths over the modelled periods in the network on approach to junctions across all scenarios. Where appropriate the ramp length of the slip road in question is provided. This indicates the approximate queuing capacity of the slip road in question before queues begin to interact with mainline traffic.

A 'ramp length' distance is provided for 'Site Access 1' This is the westernmost site access closest to Tarbock Island. The queuing distance back from the stopline to Tarbock Island is provided here and indicates the queuing distance at which queues at Site Access 1 could interact with traffic at the Tarbock Island gyratory. The 'ramp length' distance at Site access 2 indicates the queuing capacity back from Site access 2 to Site access 1.

Table 3.3: Mean Max Queue (m)

Location	AM Peak					PM Peak					Ramp length (m)
	2024 DN AM	2024 DS AM	2032 DN AM	2032 DS AM	2032 DS ST AM	2024 DN PM	2024 DS PM	2032 DN PM	2032 DS PM	2032 DS ST PM	
Cronton Road	850	848	74	75	76	867	774	63	62	63	
M57N Slip Road	264	315	79	81	80	186	184	97	105	100	400
Windy Arbor Road	503	520	122	149	131	519	531	138	135	139	
M62 E Slip Road	100	105	97	98	100	73	72	96	100	103	360 + 380
A5080 (S) Cronton Rd	140	273	907	1033	1008	38	99	139	340	324	
A5300 Slip Road	170	220	222	245	227	2402	3036	136	140	142	530
M62 W Slip Road	103	106	90	95	83	778	858	69	71	69	350
Circulatory at Cronton	83	88	56	57	59	94	95	66	69	69	
Circulatory at M57 N Slip	117	134	116	116	118	126	128	86	92	89	
Circulatory at M62 E Slip	359	298	118	121	119	181	290	77	77	77	
Circulatory at A5300	87	97	148	148	147	108	110	120	124	126	
Circulatory at M62 West	132	162	153	158	160	215	221	132	129	129	
Site Access 1 - EB		23		34	65		41		47	47	160
Site Access 2 - EB		18		26	34		32		37	43	250

The mean maximum queues presented in Table 3.3 shows that all off slip roads operate within their queuing capacity without blocking back onto the mainline routes with the exceptions listed below. Setting aside these junction approaches, the queue length differences are comparable between the DN and DS in 2024.

- A5300 slip Road 2024 PM Peak DN and DS
- M62 slip Road 2024 PM Peak DN and DS

On the A5300 slip road in the 2024 PM DN scenario experiences a mean max queue of 2,402m, this exceeds the queuing capacity of the slip which is approximately 530m long. In the 2024 PM DS scenario queuing beyond the slip continues with a mean maximum queue of 3,036m extending back onto the mainline. We can conclude therefore that although queuing beyond the slip is evident in both the DM and DS scenarios, the proposed development does not create this queuing issue on the network.

The M62 West Slip Road the in the 2024 PM DN scenario experiences a mean maximum queue of 778m, this exceeds the queuing capacity of the slip which is approximately 350m long. In the 2024 PM DN scenario queuing beyond the slip continues with a mean max queue of 858m. We can conclude therefore that although queuing beyond the slip is evident in the DS scenario, it is also an issue in the DM the proposed development does not create this queuing issue on the network. The issue is predicted to materialise without the proposed development in place.

When reviewing queues back onto the mainline it is important to note that once a queue forms on the mainline, the queue will also include through traffic. This exacerbates the queuing issue despite a potentially modest increase in traffic wishing to exit the mainline.

It is evident that in the 2032 DN, DS and DS ST scenarios queue lengths are similar on almost all approach locations. None of the slip roads leading into Tarbock Island experience queueing beyond the slip capacity.

Table 3.3 shows that in all scenarios the mean maximum queue at the site accesses eastbound on Cronton Road are within the queuing capacity of the link. Therefore the risk presented of a queue forming on Cronton Road at the site access points back to Tarbock Island is low. It is also evident that the queues back from Site Access 2 do not extend back to Site Access 1.

It is to be noted that the mean maximum queue on A5080 (S) Cronton Road includes queues along Cronton Road at Tarbock Roundabout and the two site access junctions in the DS scenarios. The model outputs between the 2032 DS scenarios and the 2032 DS ST scenarios are not materially different at this approach and at the site accesses EB. We therefore consider that Symmetry Park traffic using Site Access 2 does not make a material difference to the operation of the junctions.

3.1.3.2 Maximum Queue

Table 3.4 illustrates the maximum queue length recorded within the VISSIM model during the modelled periods.

Table 3.4: Max Queue (m)

Location	AM Peak					PM Peak					Ramp length (m)
	2024 DN AM	2024 DS AM	2032 DN AM	2032 DS AM	2032 DS ST AM	2024 DN PM	2024 DS PM	2032 DN PM	2032 DS PM	2032 DS ST PM	
Cronton Road	872	871	91	97	99	871	843	92	82	86	
M57N Slip	1503	1481	347	290	284	566	506	242	265	242	400
Windy Arbor Road	686	684	360	455	358	685	685	245	242	261	
M62 E Slip Road	155	179	148	174	175	96	99	216	255	248	360 + 380
A5080 (S) Cronton Rd	482	705	1300	1270	1270	72	210	329	539	508	
A5300 Slip Road	301	407	910	919	894	5265	5268	288	297	337	530
M62 W Slip Road	257	288	265	442	272	1703	1927	119	115	107	350
Circulatory at Cronton	100	101	94	96	100	100	100	97	97	96	
Circulatory at M57 N Slip	145	146	140	144	146	139	141	135	142	130	
Circulatory at M62 E Slip	803	528	221	250	225	232	531	134	115	128	
Circulatory at A5300	124	196	252	257	257	137	149	186	199	213	
Circulatory at M62 West	198	219	206	224	224	224	225	178	183	190	
Site Access 1 - EB		39		59	65		60		81	72	160
Site Access 2 - EB		37		56	55		48		61	68	

In the 2024 PM period for the DM and DS scenarios the maximum queueing situation on the A5300 slip, and M62 W slip exceeds the capacity of the link, similar to the previous mean

maximum queue analysis. On the same links queuing beyond the stacking capacity is also evident in the AM Peak.

For the A5300 slip road, queues of around 900m are present in the AM2032 DM, DS and DS ST scenarios, the length of the queue is not materially changed by the scheme however.

At the M62 West Slip Road the in the 2024 PM DM and DS scenarios the maximum queue lengths exceed the stacking capacity of the link. Notwithstanding this there is little difference between the DS and DS scenarios queue lengths and we can conclude that the proposed development does not make a material difference to this issue. In the 2032 AM DS scenario the maximum queue exceeds the stacking capacity of the link.

At the M57 North slip we can see that the predicted maximum queue exceeds the stacking capacity of the link in the AM peak 2024 DM and DS, and similarly in the PM peak 2024 DM and DS scenarios. It is evident however that the development does not make a material difference between the maximum queue results which are broadly similar across the peak periods.

Similar to the mean maximum queue statistics it is clear that that in all scenarios the maximum queue at the site accesses eastbound on Cronton Road are within the queuing capacity of the link. Therefore the risk presented of queues forming on Cronton Road at the site access points back to Tarbock Island are low.

4 Conclusions

Mott MacDonald have been commissioned to prepare a Transport Assessment in support of a commercial development at Cronton Road, Knowsley. The development is located south of the M62 in Knowsley and forms part of an area suitable for a Sustainable Urban Extension as identified in Knowsley Local Plan Policy - Halsnead Garden Village. The development will consist of approximately 29,081m² B8 use.

This Transport Assessment Addendum has been prepared to assess the impact of the proposed development on the Strategic Road Network and the local road network using VISSIM microsimulation modelling.

The volume of traffic to be generated by the proposed development has been calculated using trip rates agreed with KMBC and National Highways. The increase in traffic that will route through Tarbock Island as part of the development represents less than 1% of surveyed traffic at the junction at present.

The modelling scenarios, parameters and trip generation rates have been agreed in scoping with Knowsley Council and National Highways. The results of the VISSIM modelling has been presented using network performance, journey times and queue length statistics.

The opening year of 2024 has been compared against a baseline scenario. The 2024 assessment does not include the committed KMBC improvement works at Tarbock Island. The 2032 future year assessments include these committed works. At present the timeframe for the delivery of the works is not certain. The 2032 assessments also include a sensitivity test which allows for the possibility of traffic from a nearby committed development (Symmetry Park) using one of the developments site accesses onto Cronton Road.

4.1 2024 Analysis

The results of the VISSIM modelling assessment have been presented in terms of network performance, journey times and queue length statistics. All of these measures show that in the opening year assessment of 2024 that the development does not result in any material change to the overall performance of the modelled network when compared to the Baseline situation. Network speed and overall network journey times are not materially impacted by the scheme.

Mean Maximum Queue length analysis demonstrates that in the 2024 baseline situation the M62 W and A5300 slip roads onto Tarbock Island will experience queuing beyond their stacking capacity and queues will form onto the mainline. With development in place this situation will continue however it is important to note that the proposed development will not create this issue, it is an issue that will materialise in the baseline situation without development in place.

Maximum queue analysis demonstrates that in addition to the A5300 and M62 W slips, in 2024 the M57 N slip will experience queueing beyond the stacking capacity of the slip road. However this issue is present in both the baseline scenario and with the proposed development in place.

It should be noted that the VISSIM model demonstrates that the proposed site accesses will operate satisfactorily and will not impact on the operation of Tarbock Island.

4.2 2032 Analysis

The 2032 VISSIM model analysis demonstrates that the development will not have a material detrimental impact on the operation of the network in terms of network speed and overall journey times. For Mean Maximum Queue analysis the assessment indicates that queues on

slip roads to Tarbock Island will not extend to the mainline on any arm for any of the modelled scenarios: the baseline situation, with the proposed development in place and in the sensitivity test. It should be noted that in the 2032 scenarios the committed KMBC Tarbock Island improvement scheme is in place.

In terms of Maximum Queue analysis the analysis demonstrates that the A5300 slip will experience queuing onto the mainline however this is predicted to occur in the baseline situation as well as with the proposed scheme in place and with the sensitivity test. Therefore, we can conclude that the issue is not caused by the proposed development and will be evident in the baseline situation.

It should be noted that the VISSIM model demonstrates that the proposed site accesses will operate satisfactorily and will not impact on the operation of Tarbock Island.

Based on the analysis presented in this document we consider that the proposed development will not have a severe impact on the operation of the highway network. In the 2024 scenario where the KMBC improvement scheme is not in place, queuing issues are identified at Tarbock Island which extend beyond the length of slip roads. However, it is evident that these issues will materialise in the baseline situation as well as with the development in place.

A. Trip Rates

Mott MacDonald Pier Head Liverpool

Licence No: 704107

Calculation Reference: AUDIT-704107-220818-0823

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	KC KENT	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 6560 to 31000 (units: sqm)
 Range Selected by User: 6560 to 31000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 11/11/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	1 days
Thursday	2 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	5
Commercial Zone	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Mott MacDonald Pier Head Liverpool

Licence No: 704107

Secondary Filtering selection:

Use Class:

n/a	1 days
B8	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	2 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	6 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Mott MacDonald Pier Head Liverpool

Licence No: 704107

LIST OF SITES relevant to selection parameters

1	AN-02-F-03 KENNEDY WAY BELFAST KENNEDY WAY IND. EST. Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 12234 sqm Survey date: TUESDAY 11/10/16	PACKAGING COMPANY	ANTRIM	Survey Type: MANUAL
2	AN-02-F-04 APOLLO ROAD BELFAST BALMORAL Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 11000 sqm Survey date: THURSDAY 14/03/19	TESCO DISTRIBUTION CENTRE	ANTRIM	Survey Type: MANUAL
3	EX-02-F-01 BRUNEL WAY COLCHESTER SEVERALLS INDUSTRIAL PK Edge of Town Industrial Zone Total Gross floor area: 6560 sqm Survey date: FRIDAY 18/05/18	SPORTS SUPPLEMENTS	ESSEX	Survey Type: MANUAL
4	HC-02-F-02 RUTHERFORD ROAD BASINGSTOKE Suburban Area (PPS6 Out of Centre) Commercial Zone Total Gross floor area: 13200 sqm Survey date: THURSDAY 16/06/16	LOGISTICS	HAMPSHIRE	Survey Type: MANUAL
5	KC-02-F-02 MILLS ROAD AYLESFORD QUARRY WOOD Edge of Town Industrial Zone Total Gross floor area: 11200 sqm Survey date: FRIDAY 22/09/17	COMMERCIAL WAREHOUSING	KENT	Survey Type: MANUAL
6	TW-02-F-01 MANDARIN WAY WASHINGTON PATTISON IND. ESTATE Edge of Town Industrial Zone Total Gross floor area: 31000 sqm Survey date: FRIDAY 13/11/15	ASDA DISTRIBUTION CENTRE	TYNE & WEAR	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
LO-02-F-02	Covid
WY-02-F-02	PT & Parking

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	11000	0.209	1	11000	0.145	1	11000	0.354
06:00 - 07:00	1	11000	0.427	1	11000	0.227	1	11000	0.654
07:00 - 08:00	6	14199	0.137	6	14199	0.119	6	14199	0.256
08:00 - 09:00	6	14199	0.134	6	14199	0.069	6	14199	0.203
09:00 - 10:00	6	14199	0.148	6	14199	0.087	6	14199	0.235
10:00 - 11:00	6	14199	0.101	6	14199	0.093	6	14199	0.194
11:00 - 12:00	6	14199	0.095	6	14199	0.095	6	14199	0.190
12:00 - 13:00	6	14199	0.088	6	14199	0.079	6	14199	0.167
13:00 - 14:00	6	14199	0.133	6	14199	0.128	6	14199	0.261
14:00 - 15:00	6	14199	0.109	6	14199	0.142	6	14199	0.251
15:00 - 16:00	6	14199	0.066	6	14199	0.137	6	14199	0.203
16:00 - 17:00	6	14199	0.062	6	14199	0.124	6	14199	0.186
17:00 - 18:00	6	14199	0.039	6	14199	0.096	6	14199	0.135
18:00 - 19:00	6	14199	0.085	6	14199	0.069	6	14199	0.154
19:00 - 20:00	1	11000	0.182	1	11000	0.182	1	11000	0.364
20:00 - 21:00	1	11000	0.118	1	11000	0.182	1	11000	0.300
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.133			1.974			4.107

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	6560 - 31000 (units: sqm)
Survey date range:	01/01/14 - 11/11/21
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Mott MacDonald Pier Head Liverpool

Licence No: 704107

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	11000	0.064	1	11000	0.091	1	11000	0.155
06:00 - 07:00	1	11000	0.073	1	11000	0.118	1	11000	0.191
07:00 - 08:00	6	14199	0.029	6	14199	0.029	6	14199	0.058
08:00 - 09:00	6	14199	0.041	6	14199	0.038	6	14199	0.079
09:00 - 10:00	6	14199	0.047	6	14199	0.036	6	14199	0.083
10:00 - 11:00	6	14199	0.054	6	14199	0.042	6	14199	0.096
11:00 - 12:00	6	14199	0.038	6	14199	0.033	6	14199	0.071
12:00 - 13:00	6	14199	0.041	6	14199	0.026	6	14199	0.067
13:00 - 14:00	6	14199	0.045	6	14199	0.052	6	14199	0.097
14:00 - 15:00	6	14199	0.028	6	14199	0.046	6	14199	0.074
15:00 - 16:00	6	14199	0.029	6	14199	0.027	6	14199	0.056
16:00 - 17:00	6	14199	0.033	6	14199	0.026	6	14199	0.059
17:00 - 18:00	6	14199	0.021	6	14199	0.027	6	14199	0.048
18:00 - 19:00	6	14199	0.025	6	14199	0.016	6	14199	0.041
19:00 - 20:00	1	11000	0.127	1	11000	0.145	1	11000	0.272
20:00 - 21:00	1	11000	0.109	1	11000	0.164	1	11000	0.273
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.804			0.916			1.720

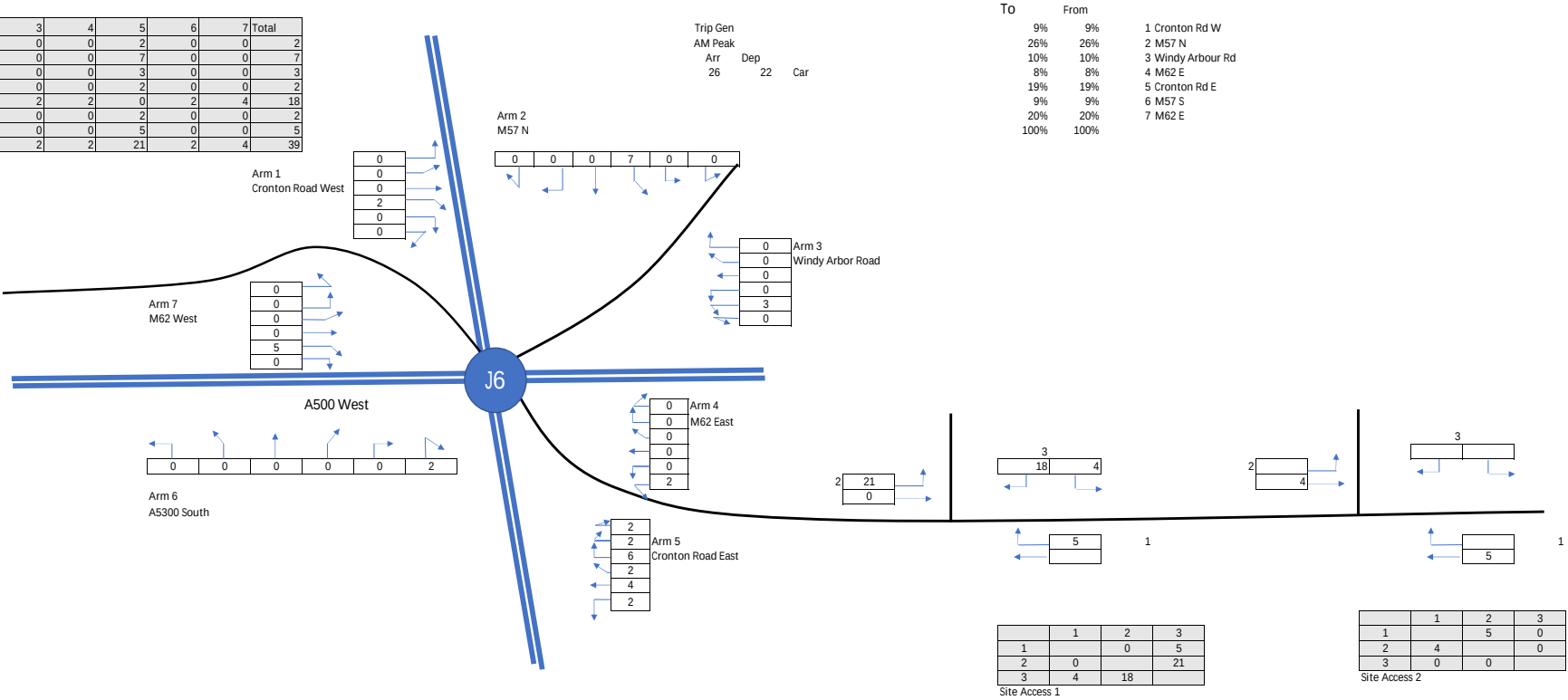
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

B. Development Traffic Flow

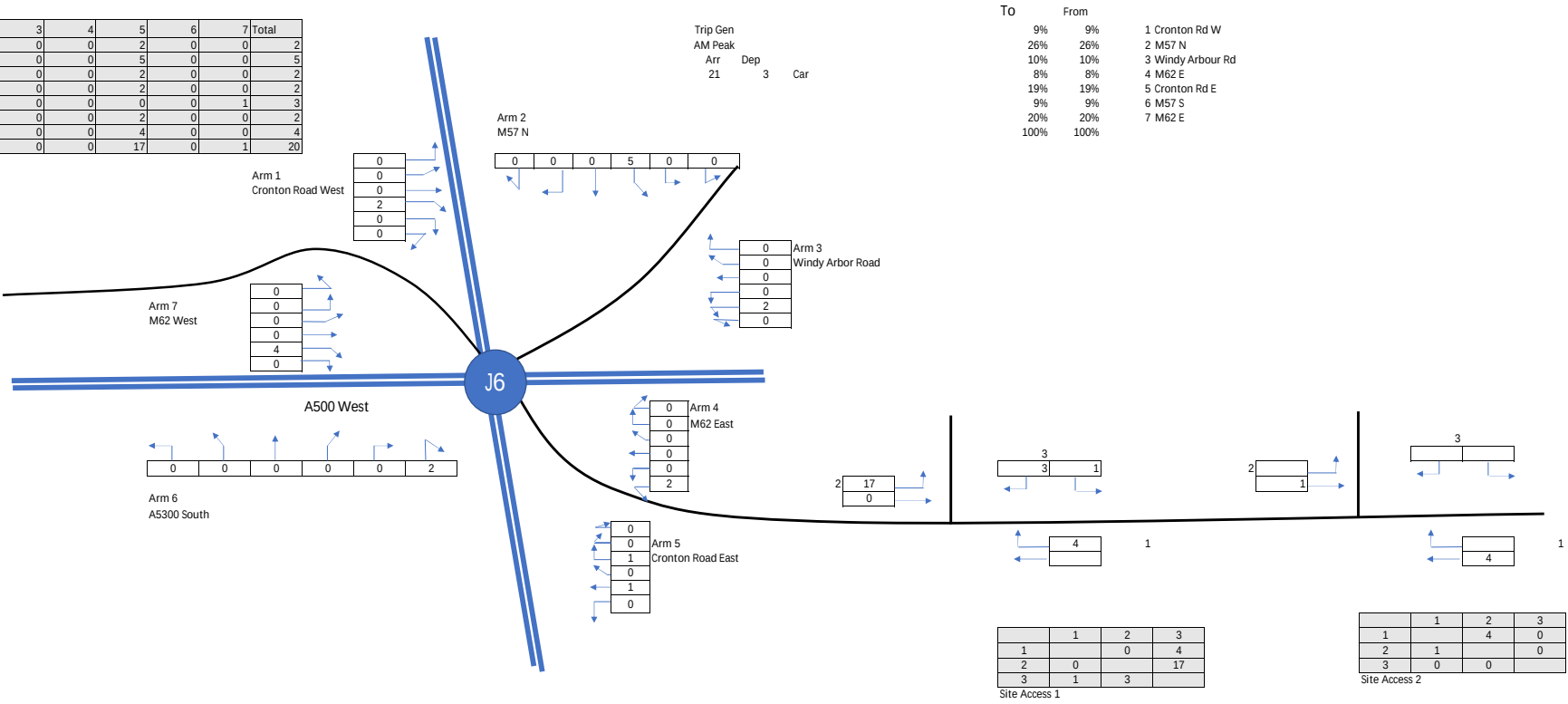
Development Traffic AM Peak 07:00- 08:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	2	0	0	2
2	0	0	0	0	7	0	0	7
3	0	0	0	0	3	0	0	3
4	0	0	0	0	2	0	0	2
5	2	6	2	2	0	2	4	18
6	0	0	0	0	2	0	0	2
7	0	0	0	0	5	0	0	5
Total	2	6	2	2	21	2	4	39



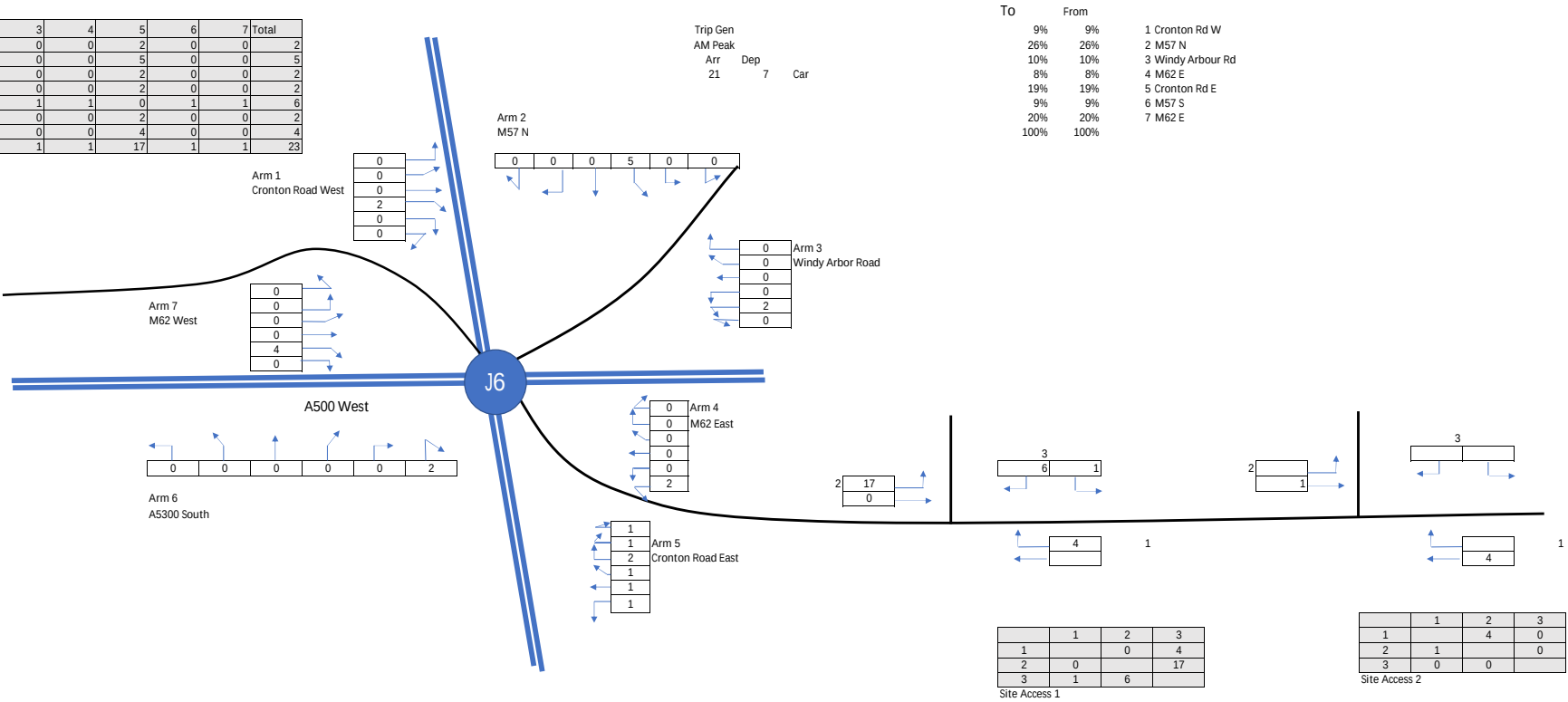
Development Traffic AM Peak 08:00- 09:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	2	0	0	2
2	0	0	0	0	5	0	0	5
3	0	0	0	0	2	0	0	2
4	0	0	0	0	2	0	0	2
5	0	1	0	0	0	0	1	3
6	0	0	0	0	2	0	0	2
7	0	0	0	0	4	0	0	4
Total	0	1	0	0	17	0	1	20



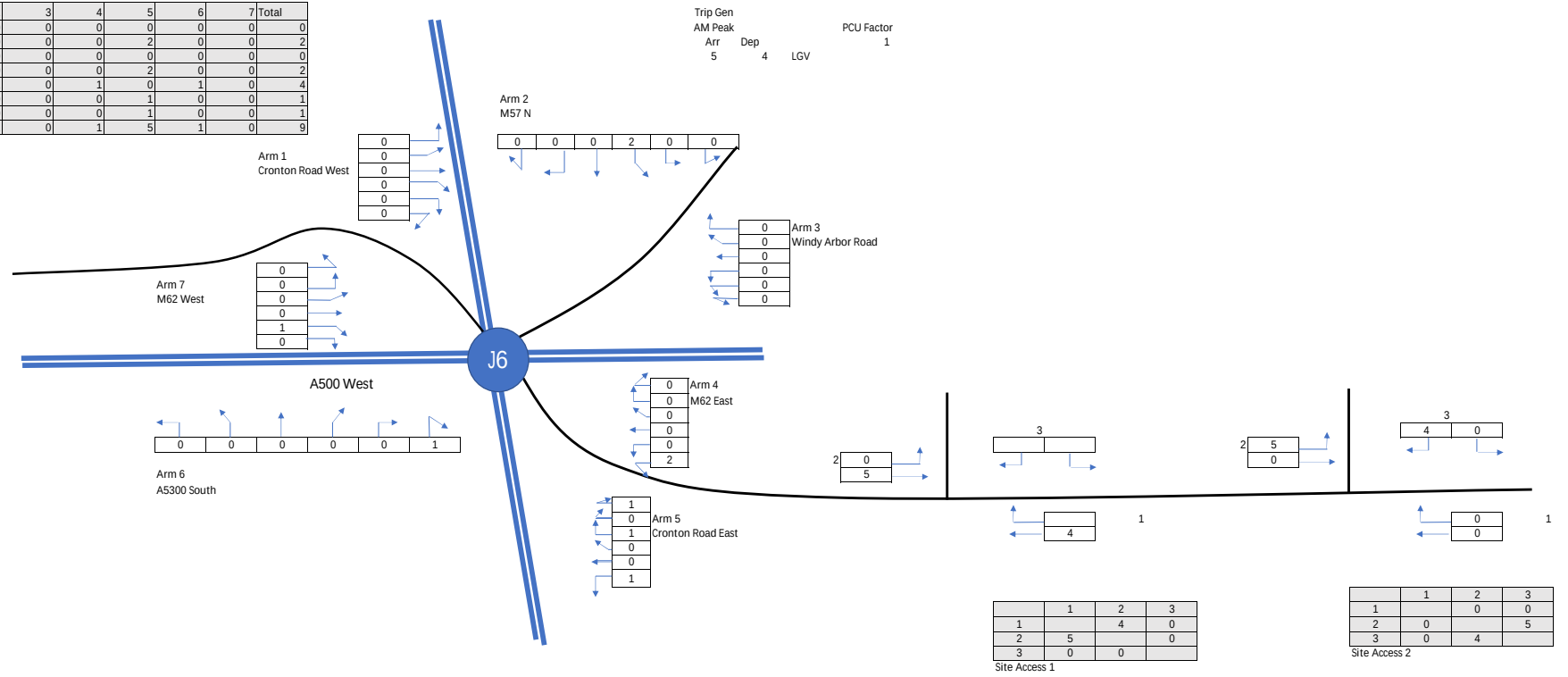
Development Traffic AM Peak 09:00- 10:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	2	0	0	2
2	0	0	0	0	5	0	0	5
3	0	0	0	0	2	0	0	2
4	0	0	0	0	2	0	0	2
5	1	2	1	1	0	1	1	6
6	0	0	0	0	2	0	0	2
7	0	0	0	0	4	0	0	4
Total	1	2	1	1	17	1	1	23



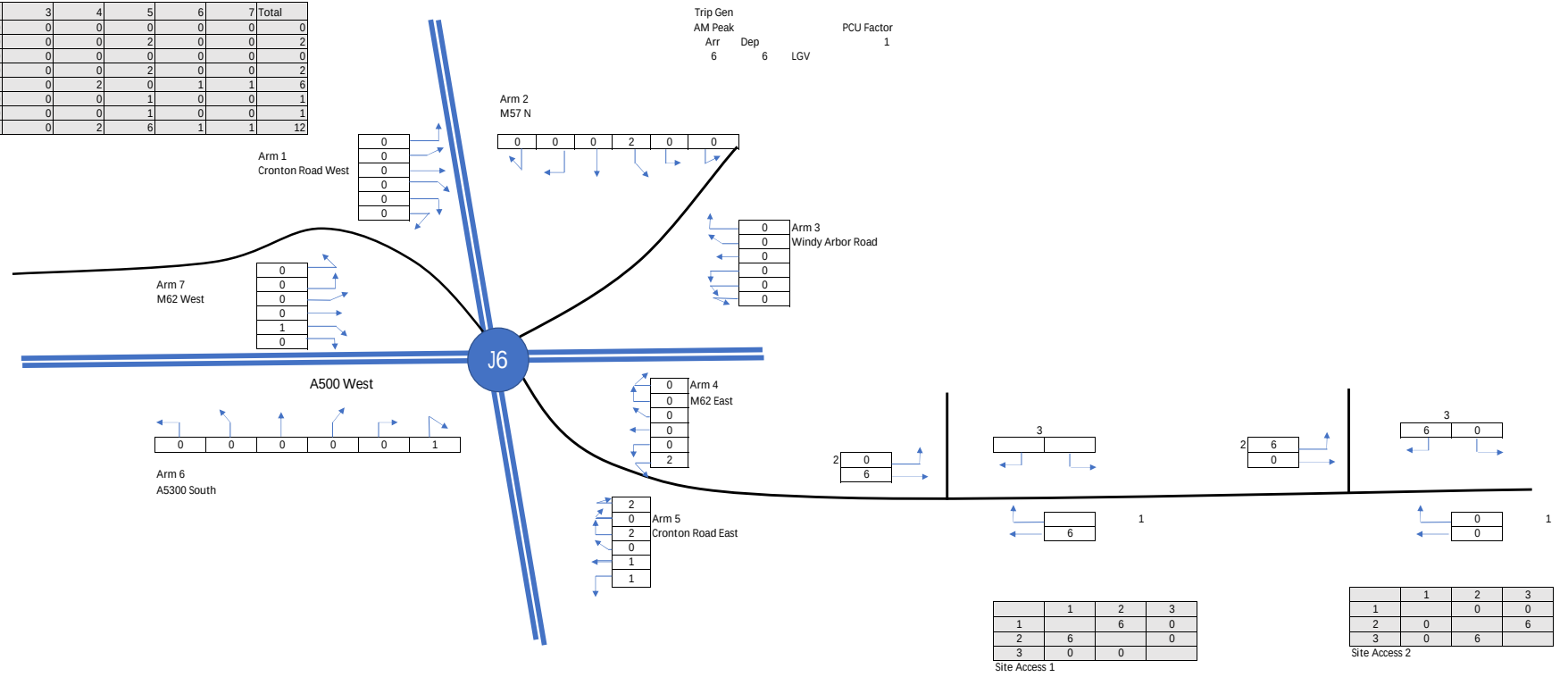
Development Traffic AM Peak 07:00- 08:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	2	0	0	2
3	0	0	0	0	0	0	0	0
4	0	0	0	0	2	0	0	2
5	0	1	0	1	0	1	0	4
6	0	0	0	0	1	0	0	1
7	0	0	0	0	1	0	0	1
Total	0	1	0	1	5	1	0	8



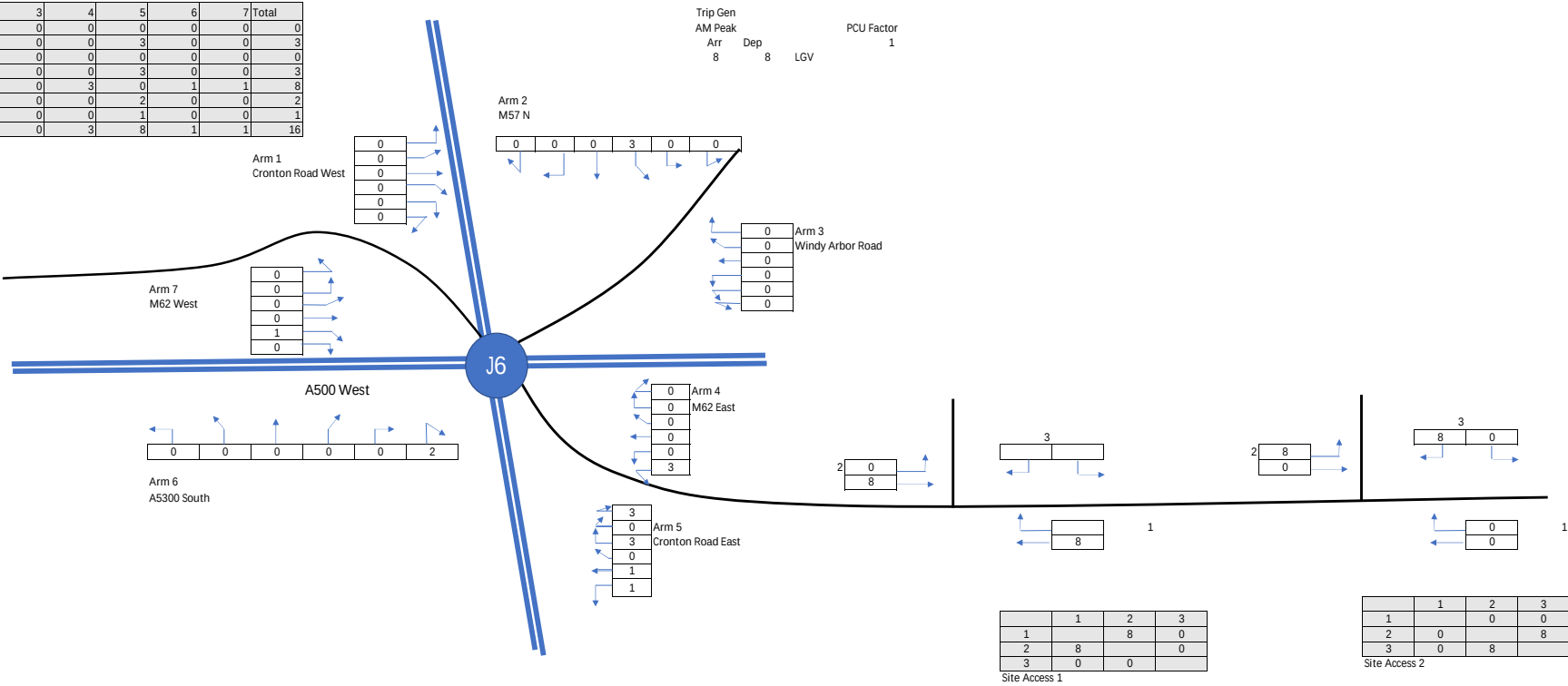
Development Traffic AM Peak 08:00- 09:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	2	0	0	2
3	0	0	0	0	0	0	0	0
4	0	0	0	0	2	0	0	2
5	0	2	0	2	0	1	1	6
6	0	0	0	0	1	0	0	1
7	0	0	0	0	1	0	0	1
Total	0	2	0	2	6	1	1	12



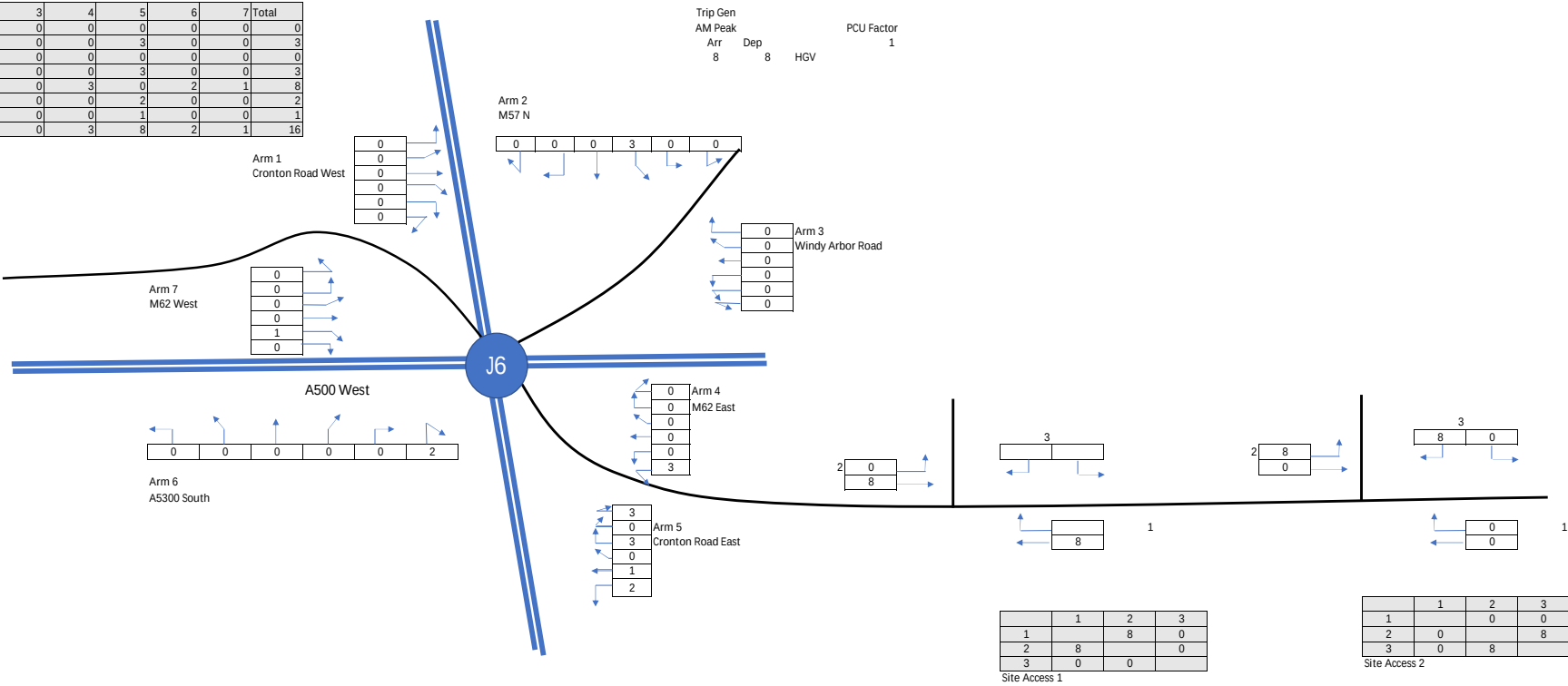
Development Traffic AM Peak 09:00- 10:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	3	0	0	3
3	0	0	0	0	0	0	0	0
4	0	0	0	0	3	0	0	3
5	0	3	0	3	0	1	1	8
6	0	0	0	0	2	0	0	2
7	0	0	0	0	1	0	0	1
Total	0	3	0	3	8	1	1	16



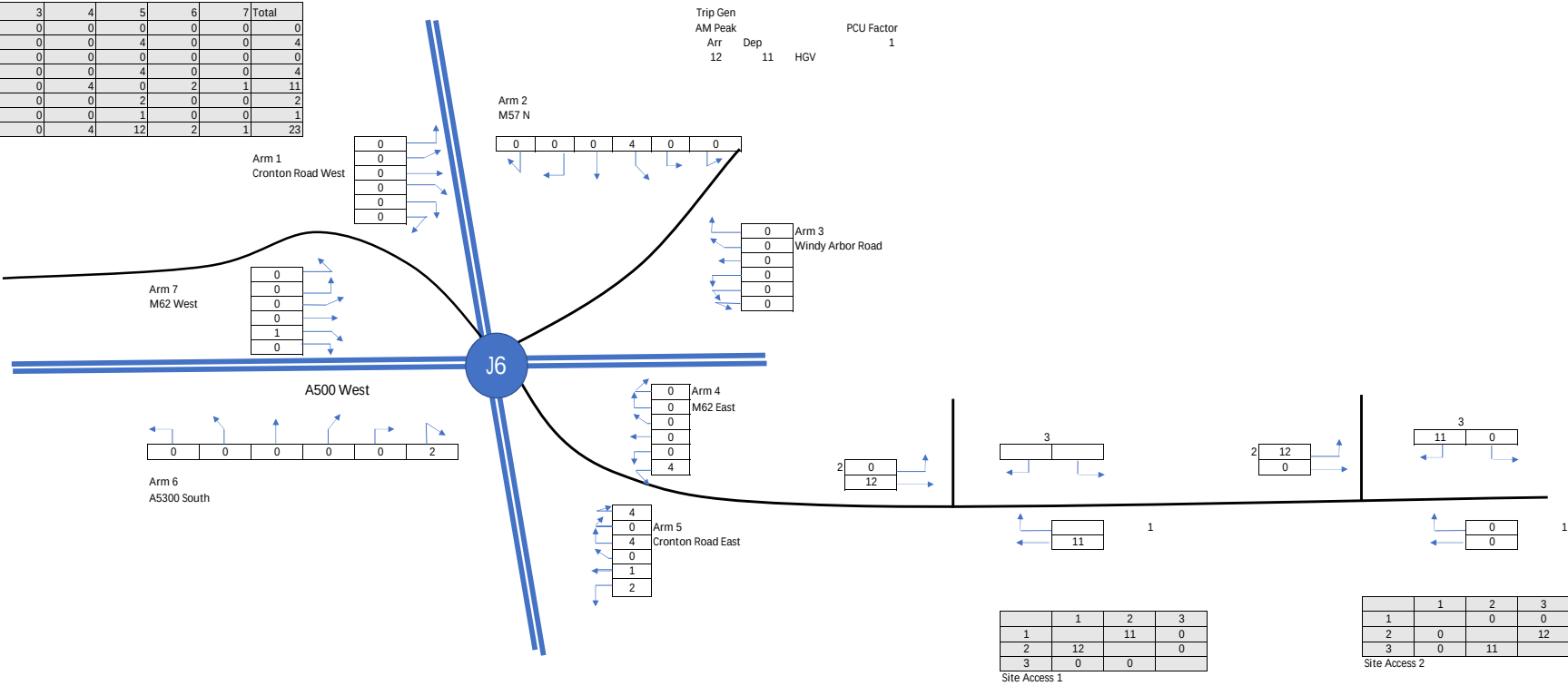
Development Traffic AM Peak 07:00- 08:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	3	0	0	3
3	0	0	0	0	0	0	0	0
4	0	0	0	0	3	0	0	3
5	0	3	0	3	0	2	1	8
6	0	0	0	0	2	0	0	2
7	0	0	0	0	1	0	0	1
Total	0	3	0	3	8	2	1	16



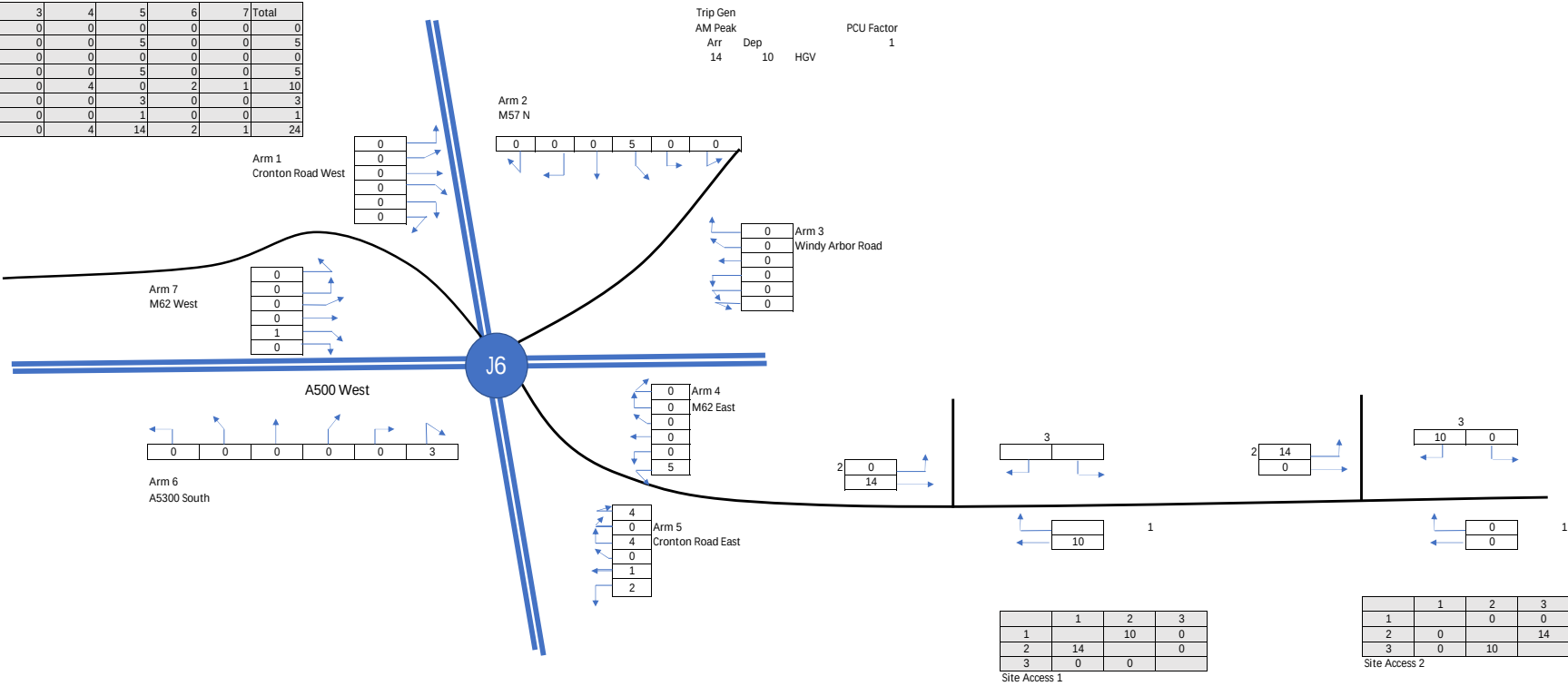
Development Traffic AM Peak 08:00- 09:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	4	0	0	4
3	0	0	0	0	0	0	0	0
4	0	0	0	0	4	0	0	4
5	0	4	0	4	0	2	1	11
6	0	0	0	0	2	0	0	2
7	0	0	0	0	1	0	0	1
Total	0	4	0	4	12	2	1	23



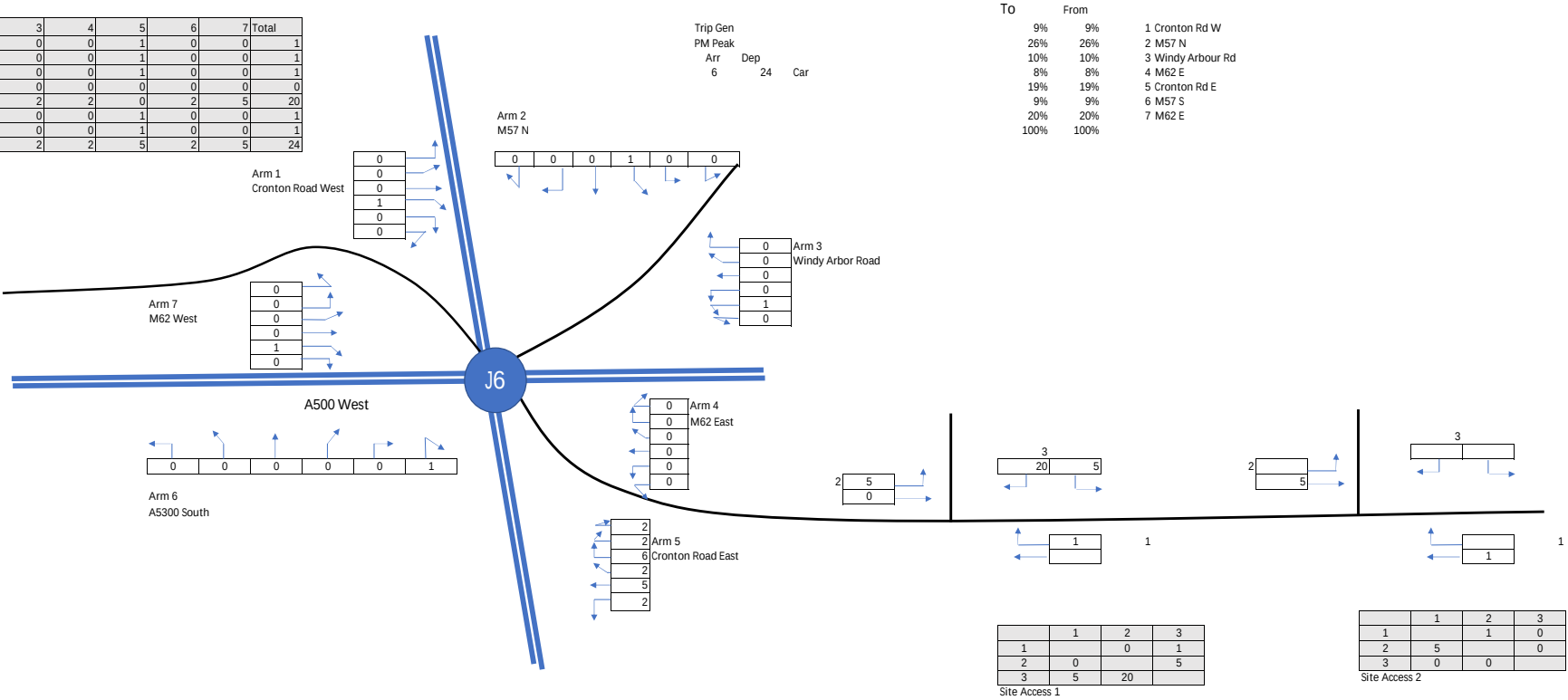
Development Traffic AM Peak 09:00- 10:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	5	0	0	5
3	0	0	0	0	0	0	0	0
4	0	0	0	0	5	0	0	5
5	0	4	0	4	0	2	1	10
6	0	0	0	0	3	0	0	3
7	0	0	0	0	1	0	0	1
Total	0	4	0	4	14	2	1	24



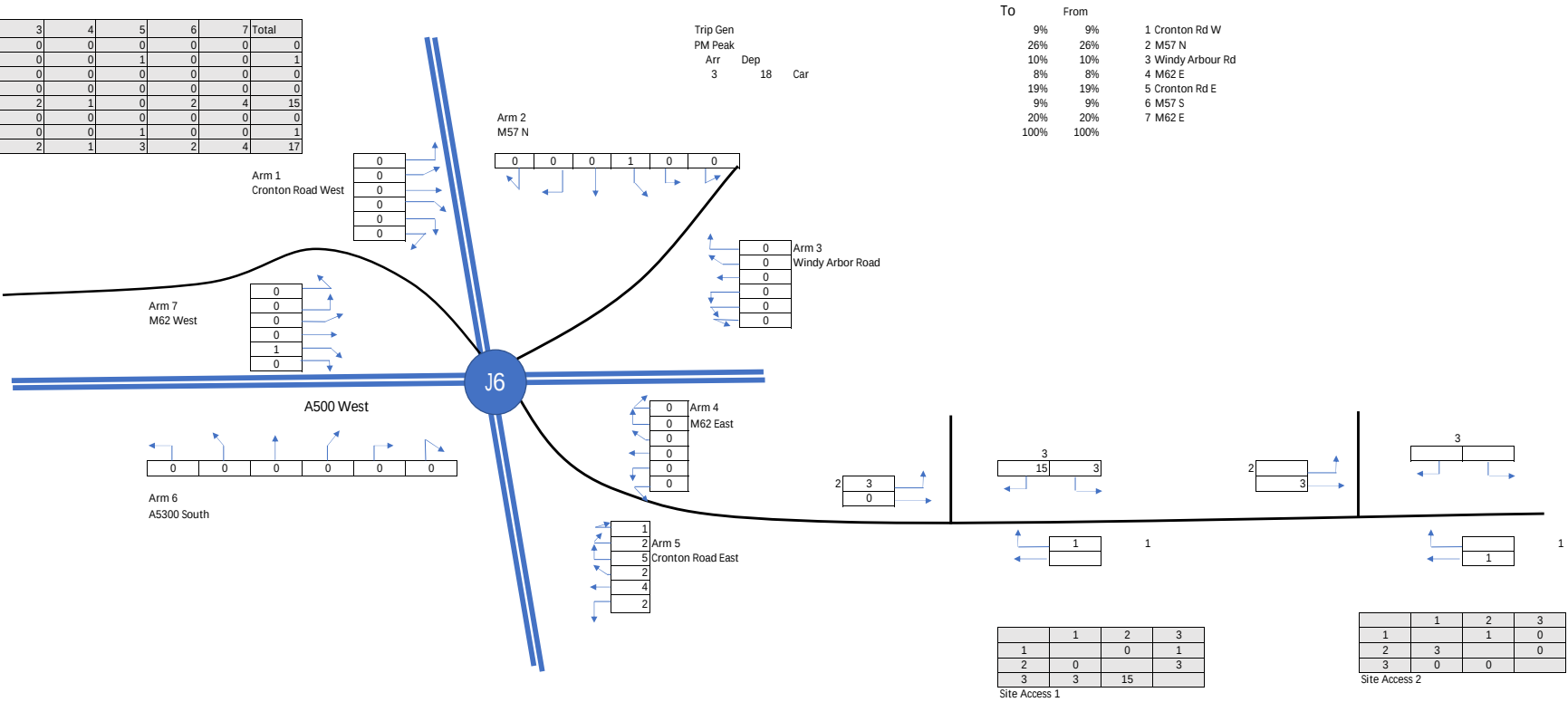
Development Traffic PM Peak 16:00- 17:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	1	0	0	1
2	0	0	0	0	1	0	0	1
3	0	0	0	0	1	0	0	1
4	0	0	0	0	0	0	0	0
5	2	6	2	2	0	2	5	20
6	0	0	0	0	1	0	0	1
7	0	0	0	0	1	0	0	1
Total	2	6	2	2	5	2	5	24



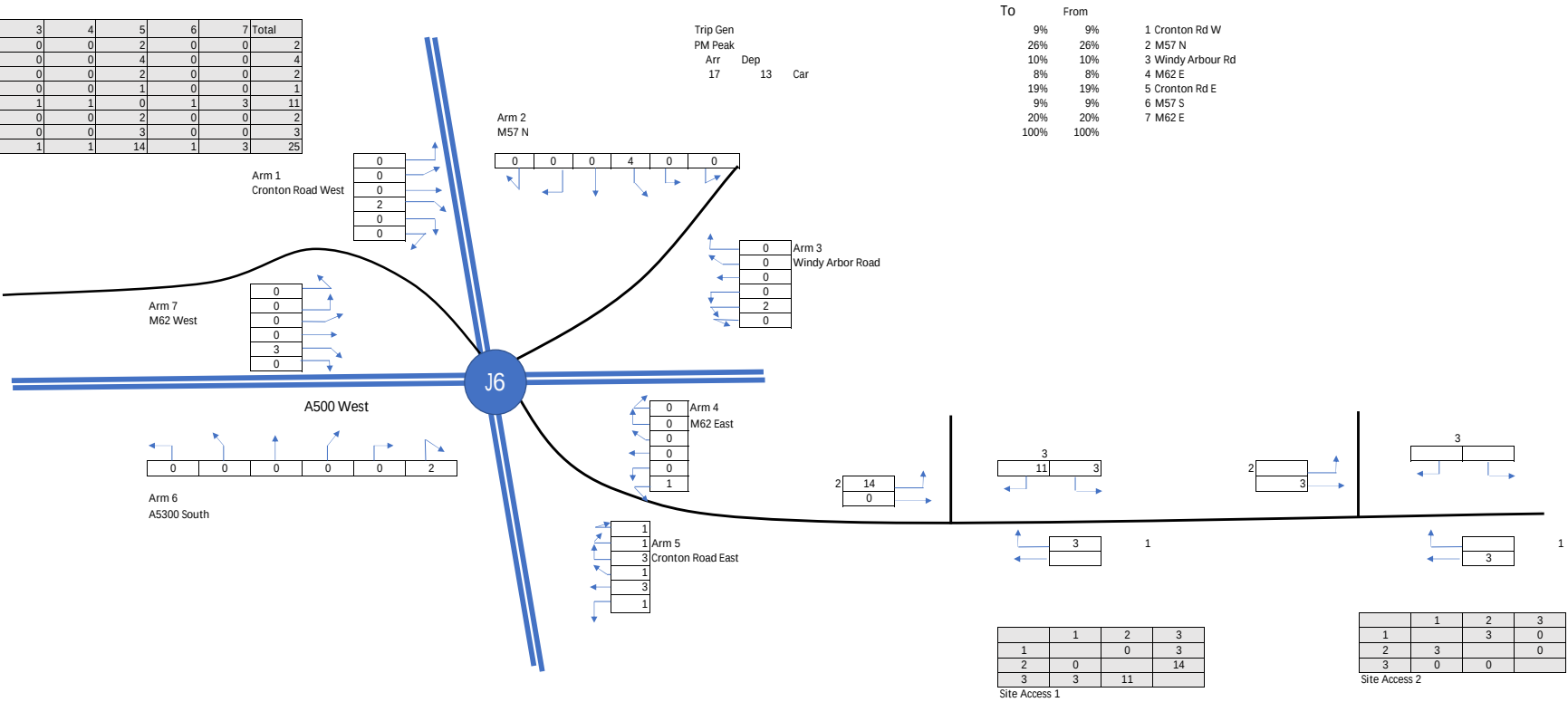
Development Traffic PM Peak 17:00- 18:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	1
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	2	5	2	1	0	2	4	15
6	0	0	0	0	0	0	0	0
7	0	0	0	0	1	0	0	1
Total	2	5	2	1	3	2	4	17



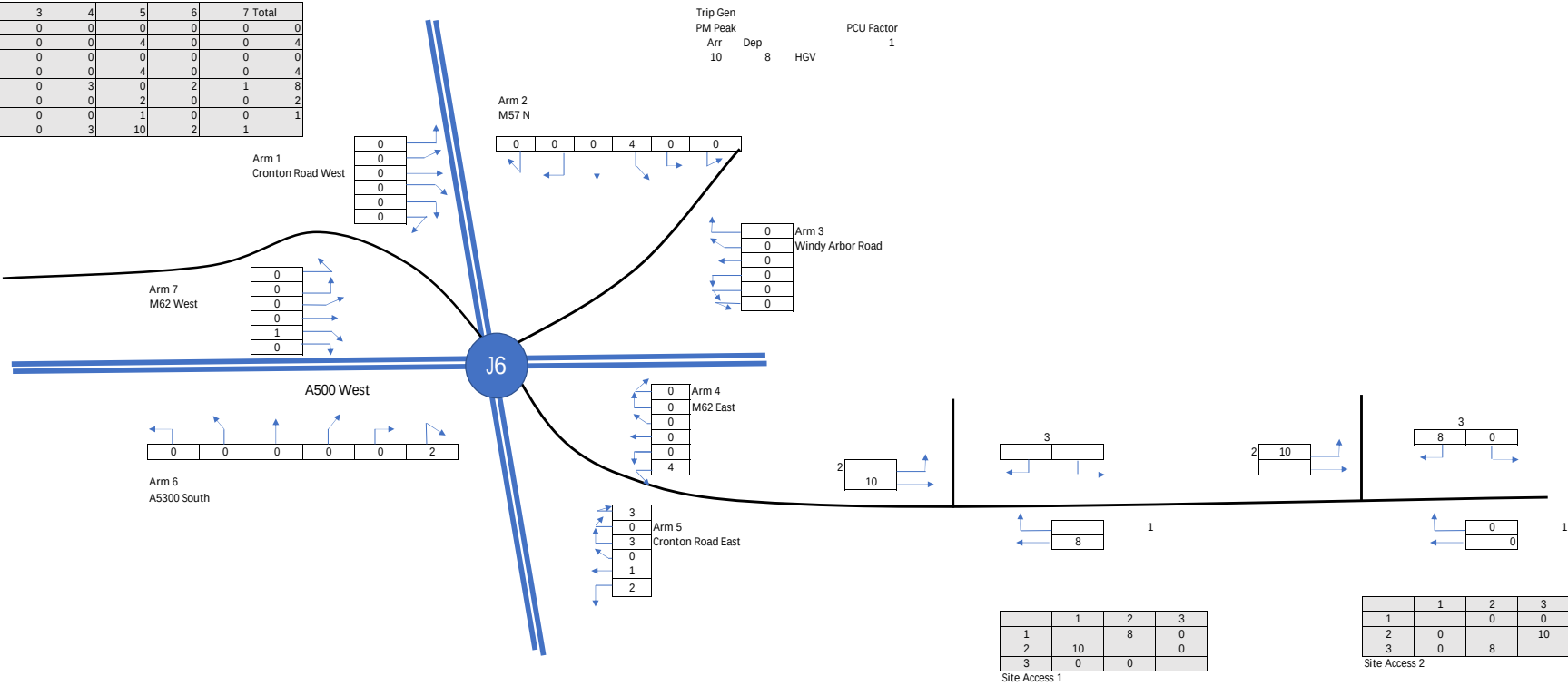
Development Traffic PM Peak 18:00- 19:00 Car Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	2	0	0	2
2	0	0	0	0	4	0	0	4
3	0	0	0	0	2	0	0	2
4	0	0	0	0	1	0	0	1
5	1	3	1	1	0	1	3	11
6	0	0	0	0	2	0	0	2
7	0	0	0	0	3	0	0	3
Total	1	3	1	1	14	1	3	25



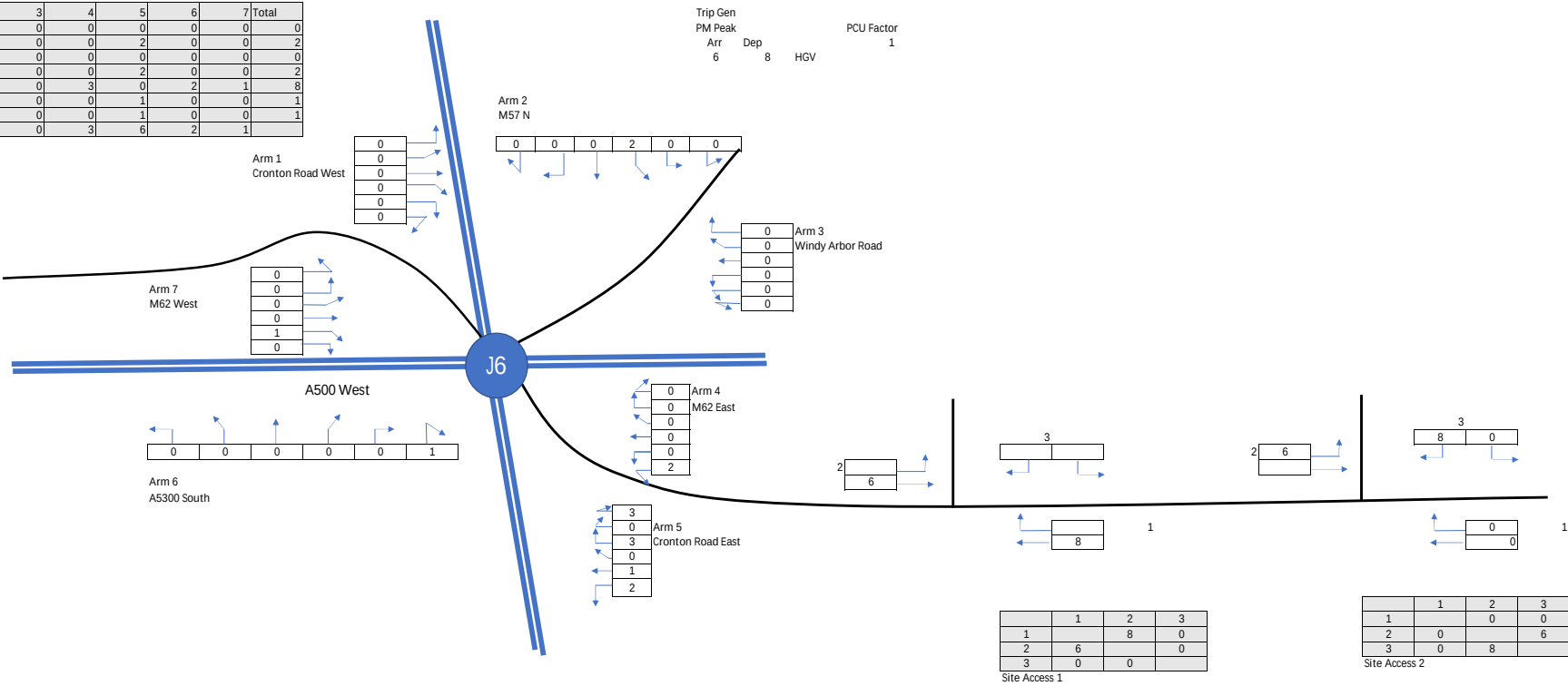
Development Traffic AM Peak 16:00- 17:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	4	0	0	4
3	0	0	0	0	0	0	0	0
4	0	0	0	0	4	0	0	4
5	0	3	0	3	0	2	1	8
6	0	0	0	0	2	0	0	2
7	0	0	0	0	1	0	0	1
Total	0	3	0	3	10	2	1	1



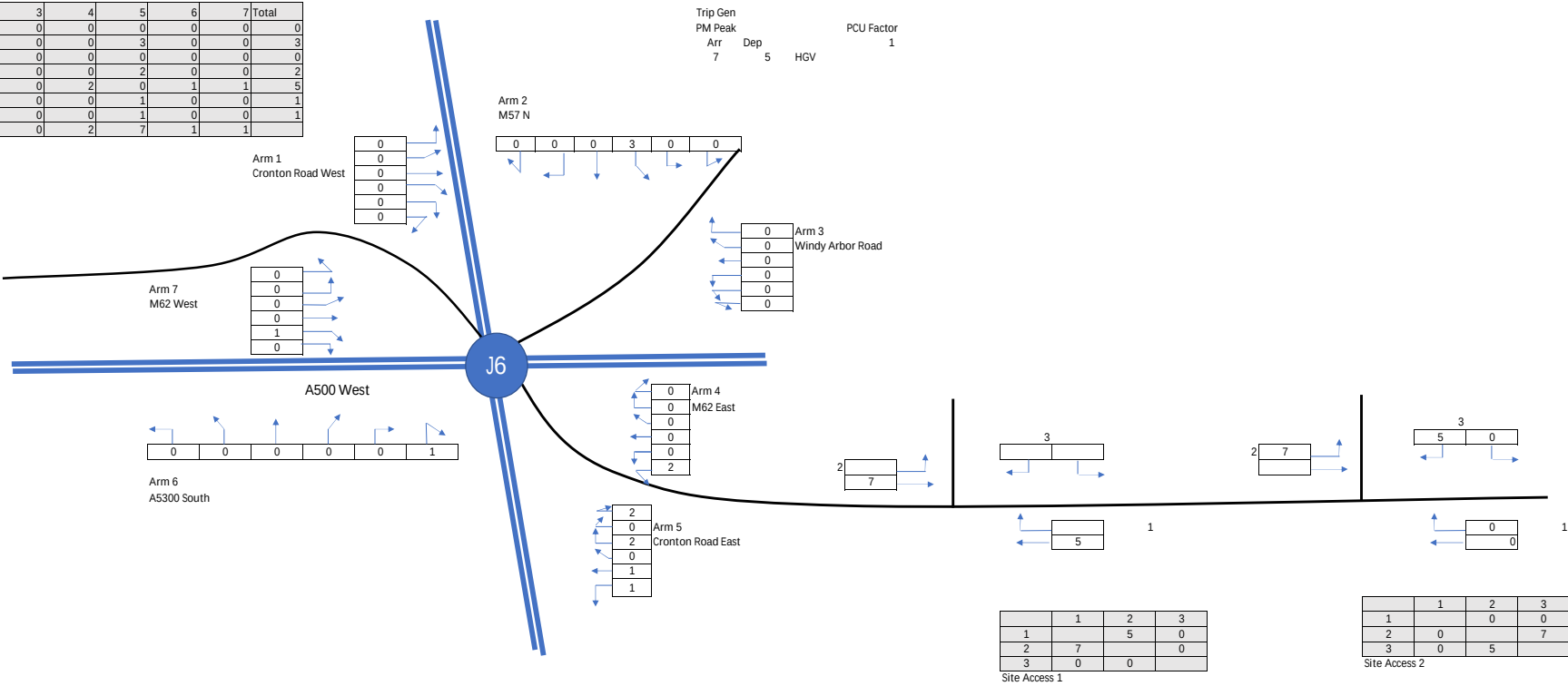
Development Traffic AM Peak 17:00- 18:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	2	0	0	2
3	0	0	0	0	0	0	0	0
4	0	0	0	0	2	0	0	2
5	0	3	0	3	0	2	1	8
6	0	0	0	0	1	0	0	1
7	0	0	0	0	1	0	0	1
Total	0	3	0	3	6	2	1	1



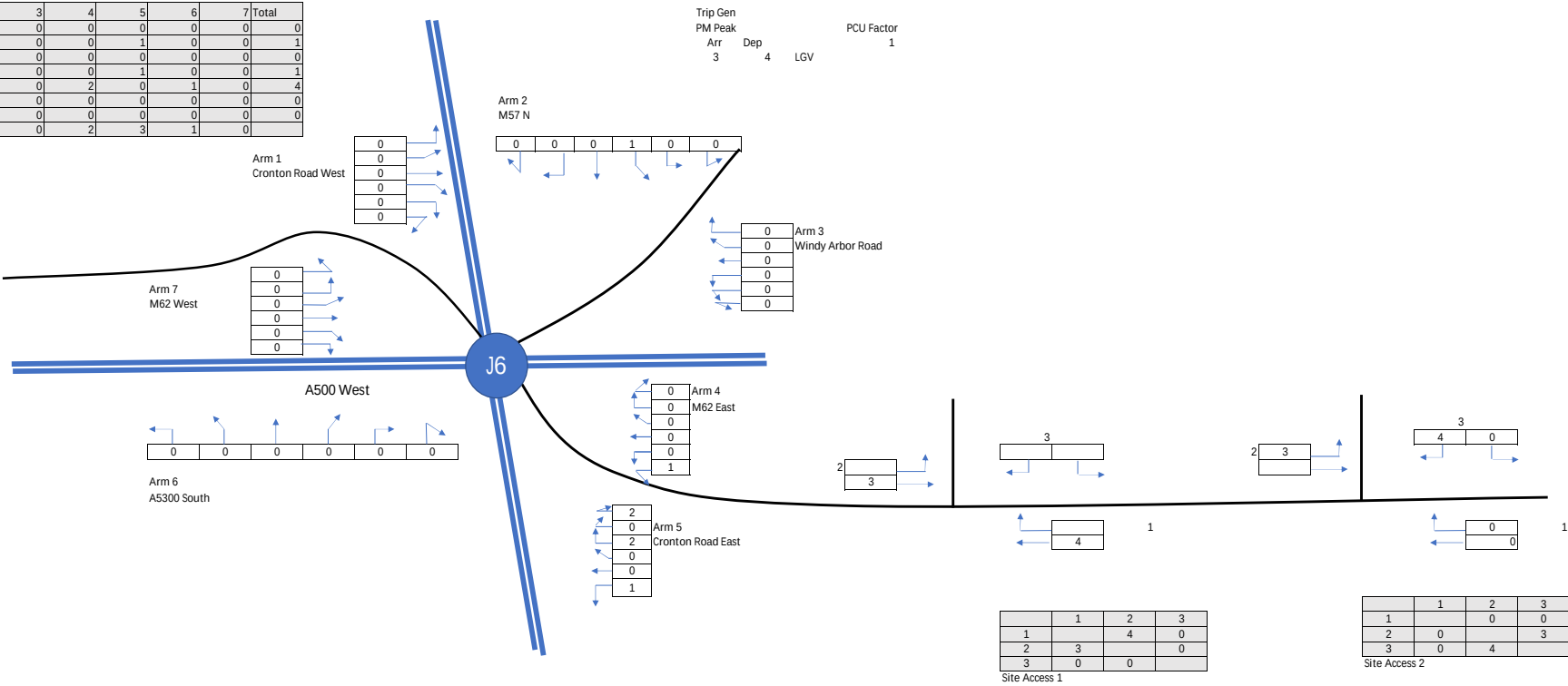
Development Traffic PM Peak 18:00 - 19:00 HGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	3	0	0	3
3	0	0	0	0	0	0	0	0
4	0	0	0	0	2	0	0	2
5	0	2	0	2	0	1	1	5
6	0	0	0	0	1	0	0	1
7	0	0	0	0	1	0	0	1
Total	0	2	0	2	7	1	1	1



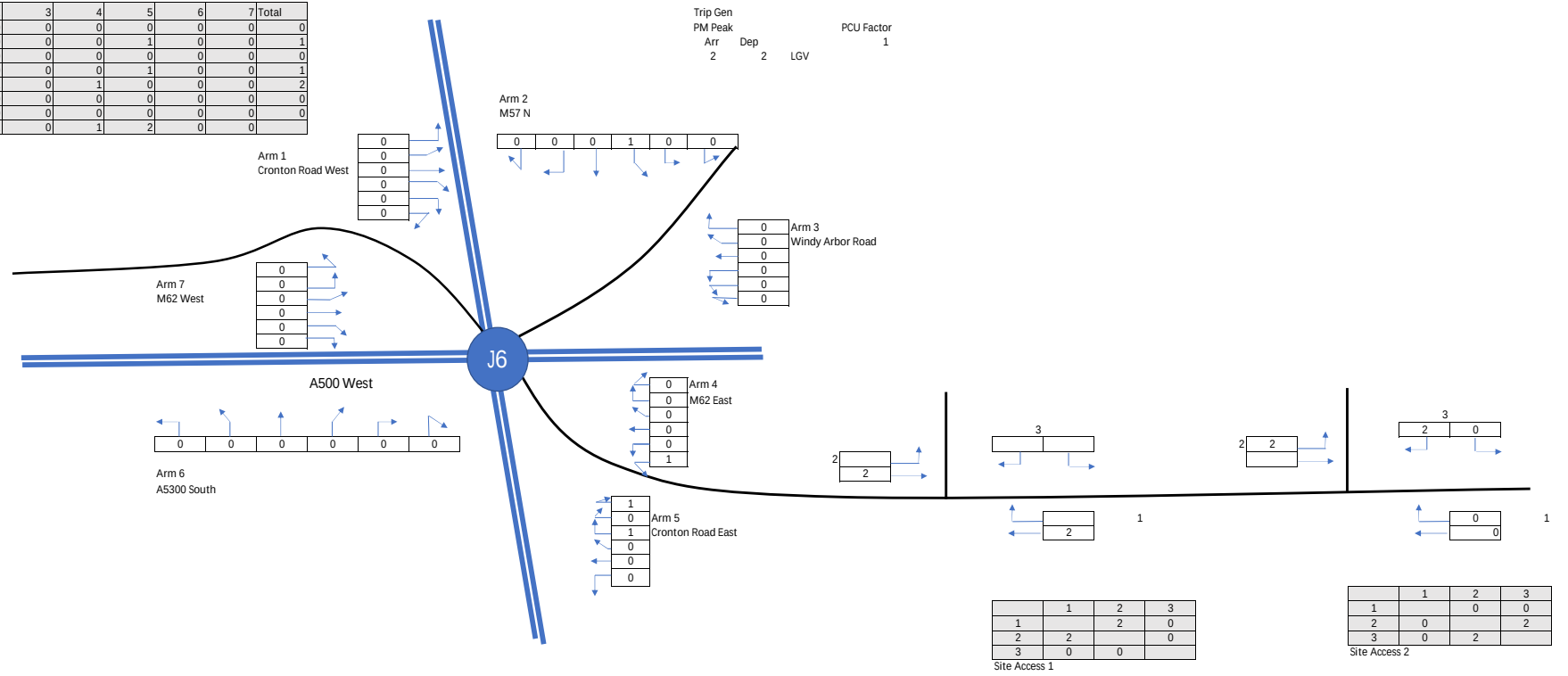
Development Traffic AM Peak 16:00- 17:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	1
3	0	0	0	0	0	0	0	0
4	0	0	0	0	1	0	0	1
5	0	2	0	2	0	1	0	4
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
Total	0	2	0	2	3	1	0	0



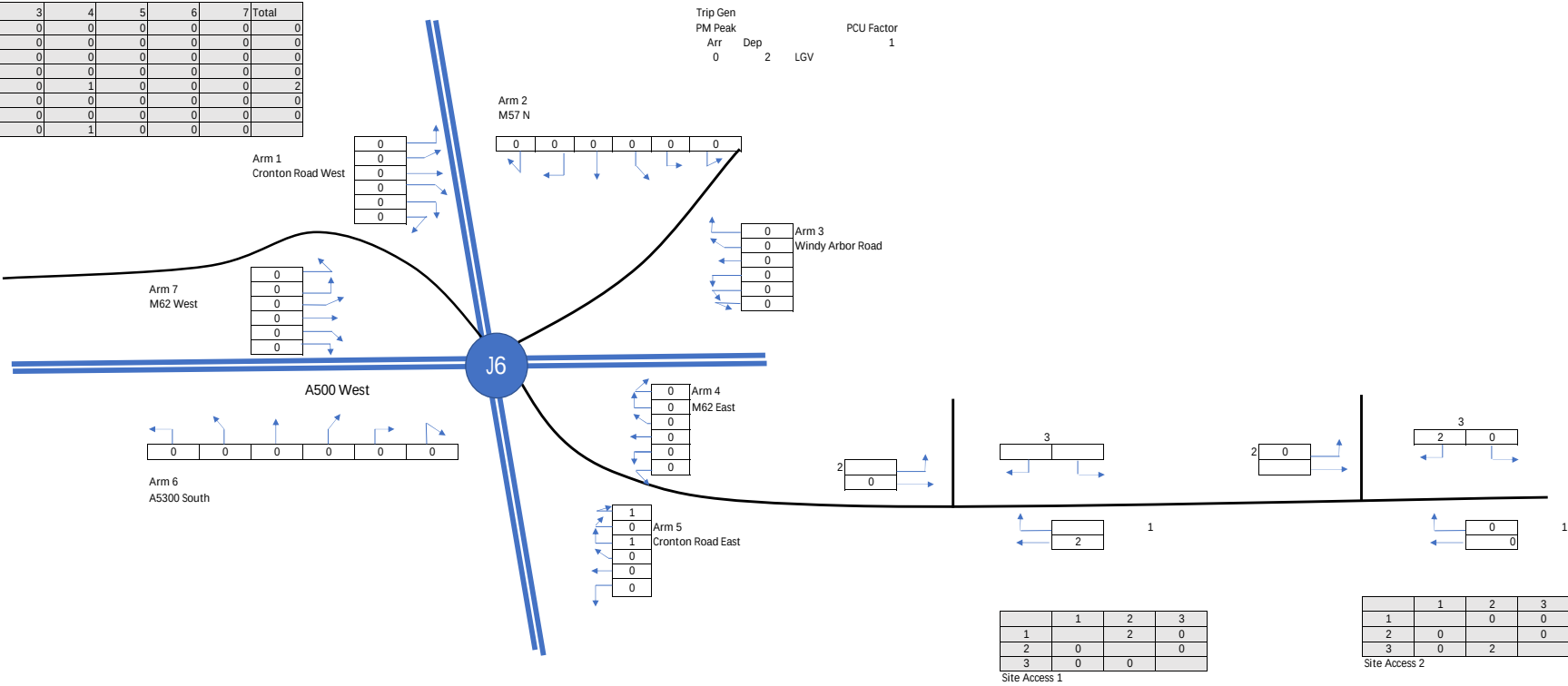
Development Traffic AM Peak 17:00- 18:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	1	0	0	0
5	0	1	0	1	0	0	0	2
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
Total	0	1	0	1	2	0	0	0



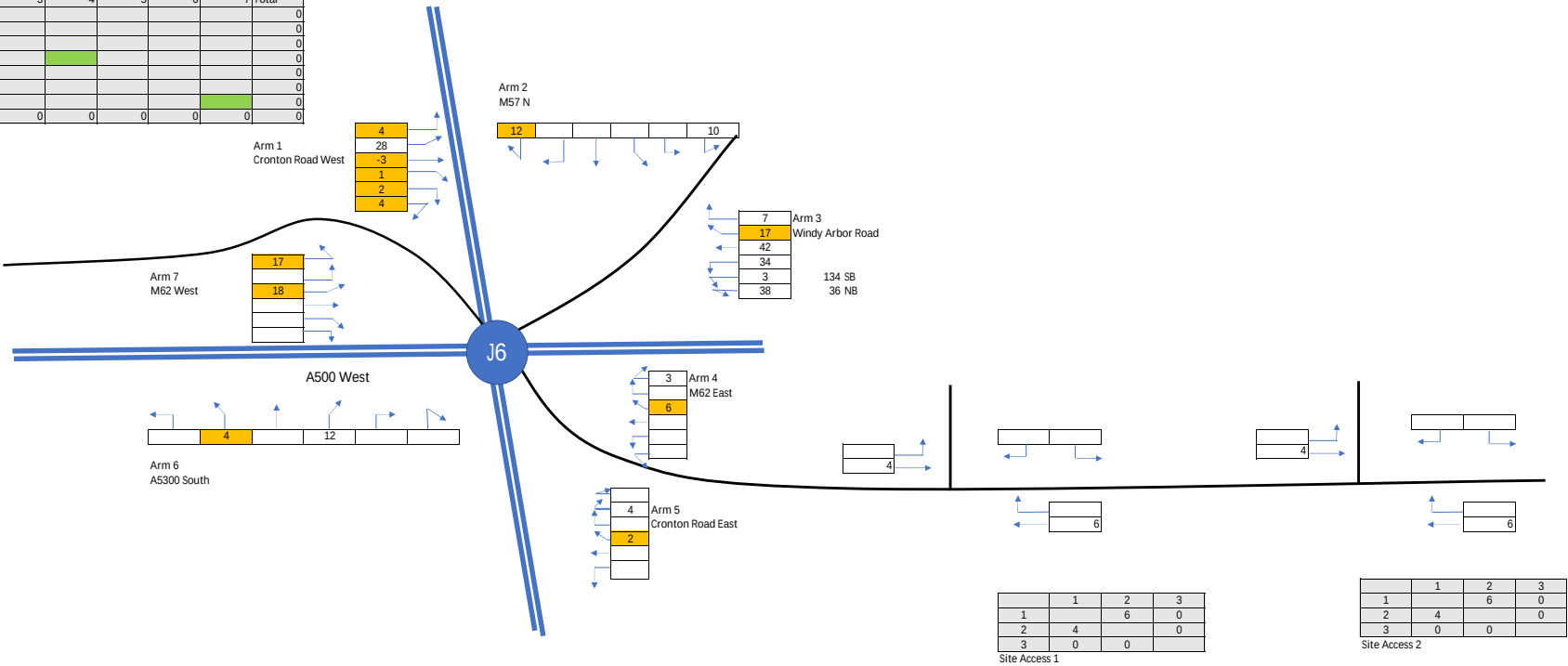
Development Traffic AM Peak 18:00- 19:00 LGV Only

	1	2	3	4	5	6	7	Total
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	1	0	1	0	0	0	2
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0

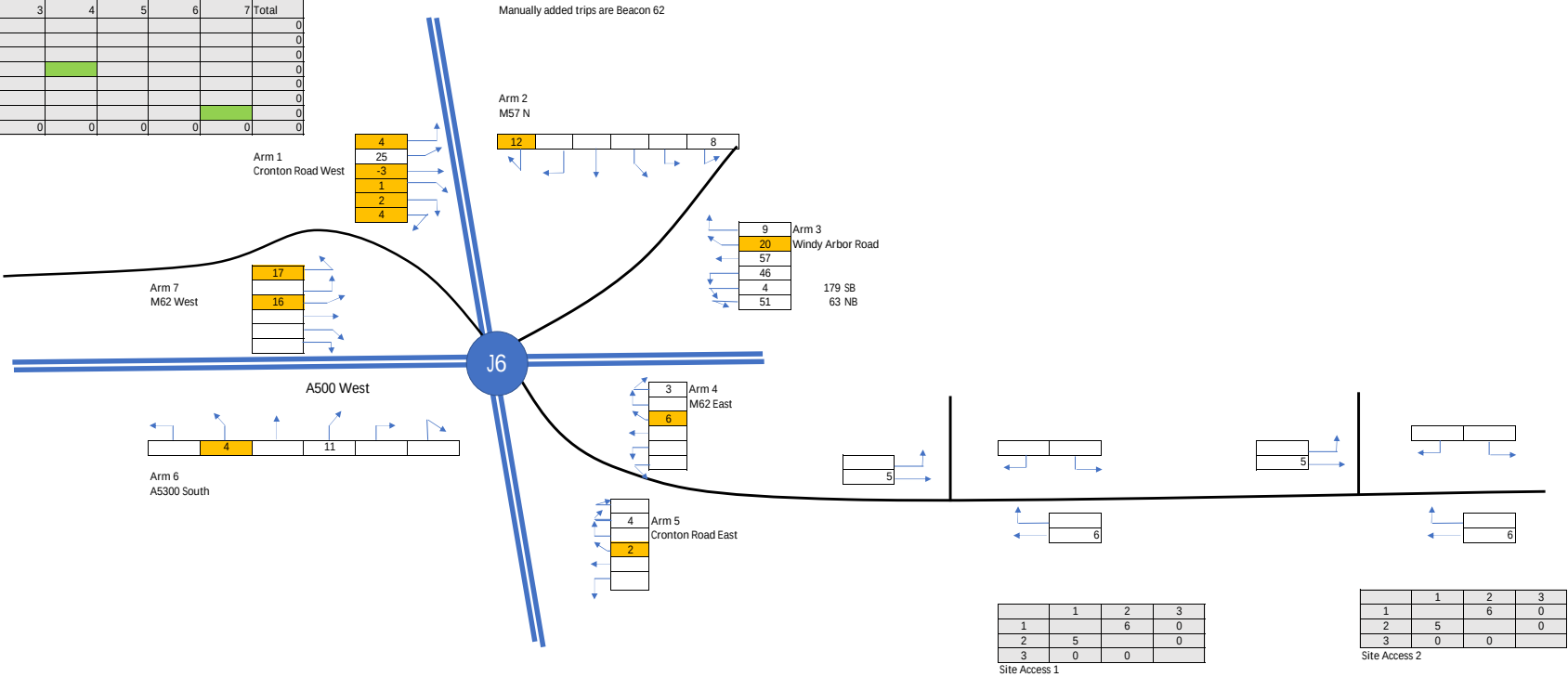


C. Committed Development Flows

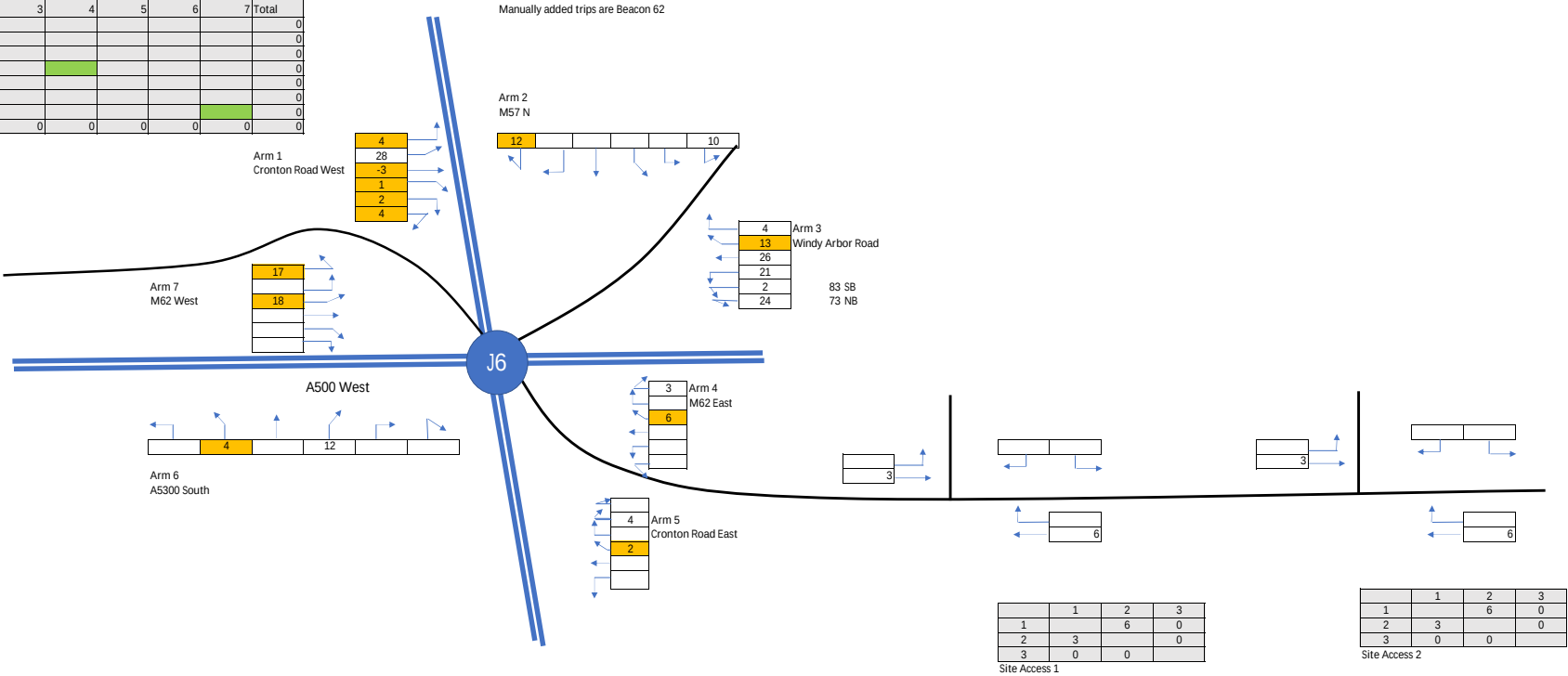
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

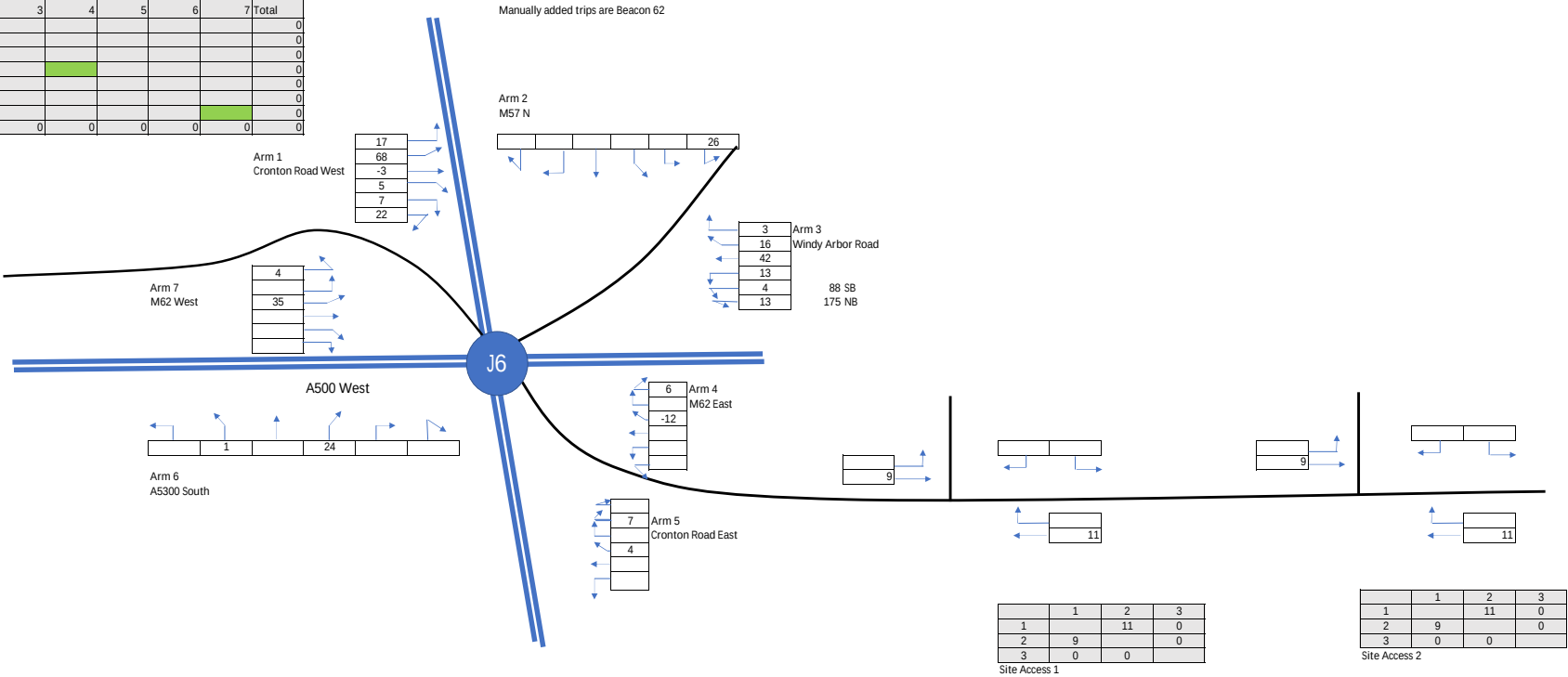


	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



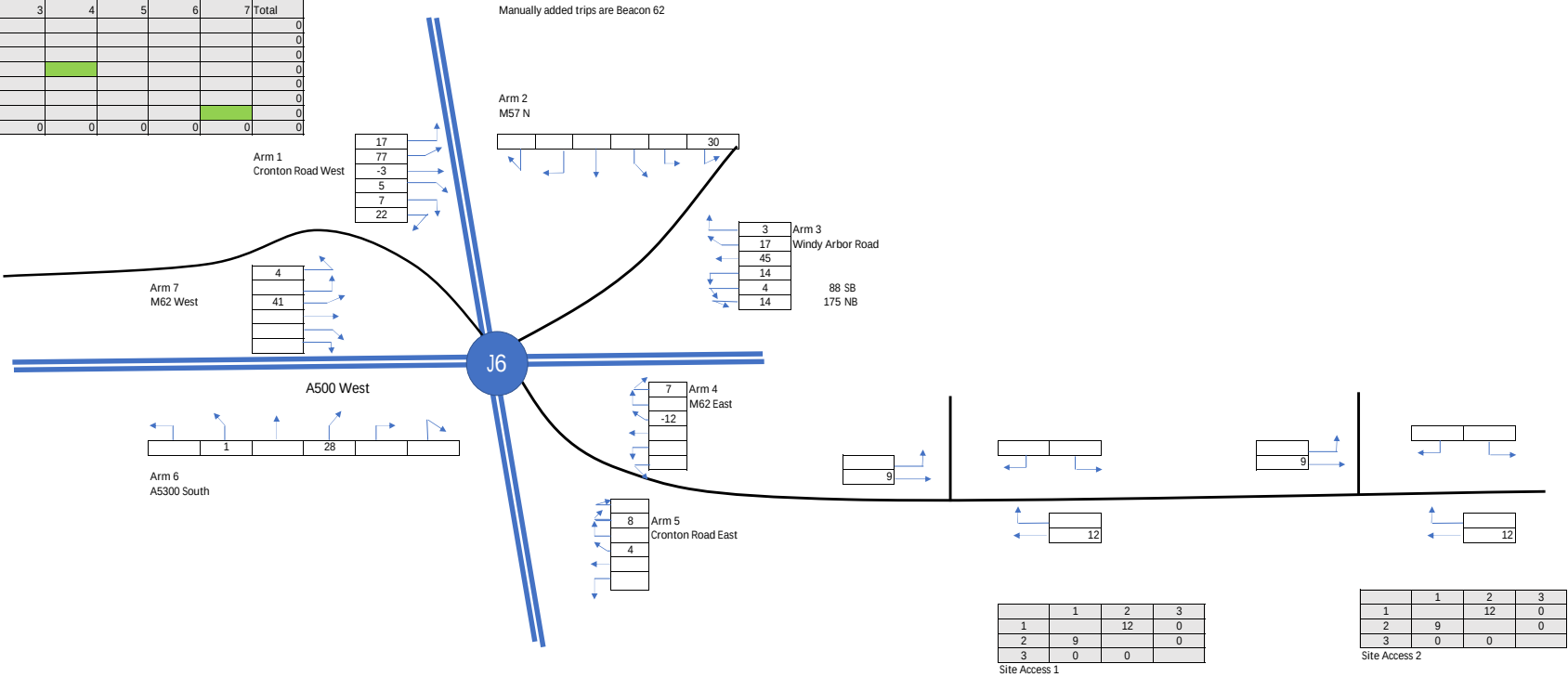
PM Committed Development Halsnead 2024 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



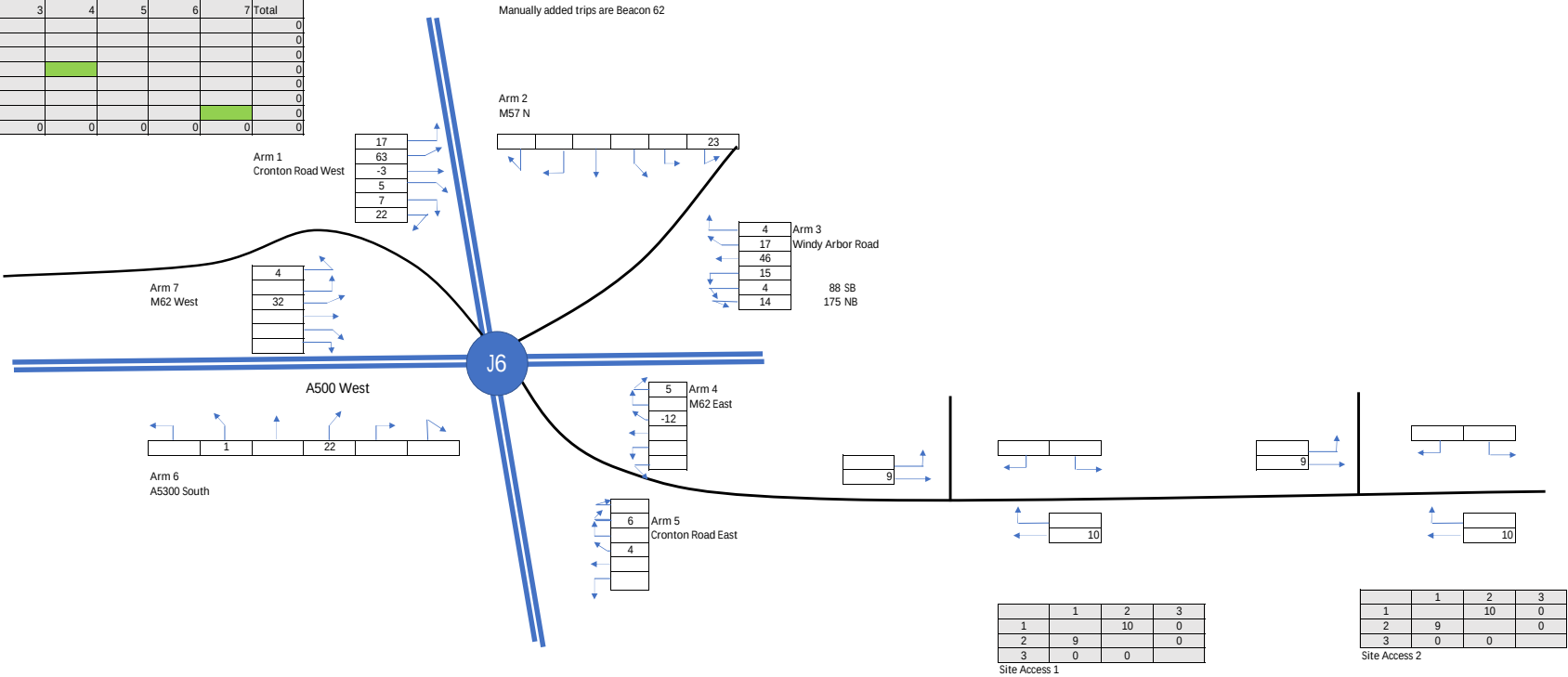
PM Committed Development Halsnead 2024 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

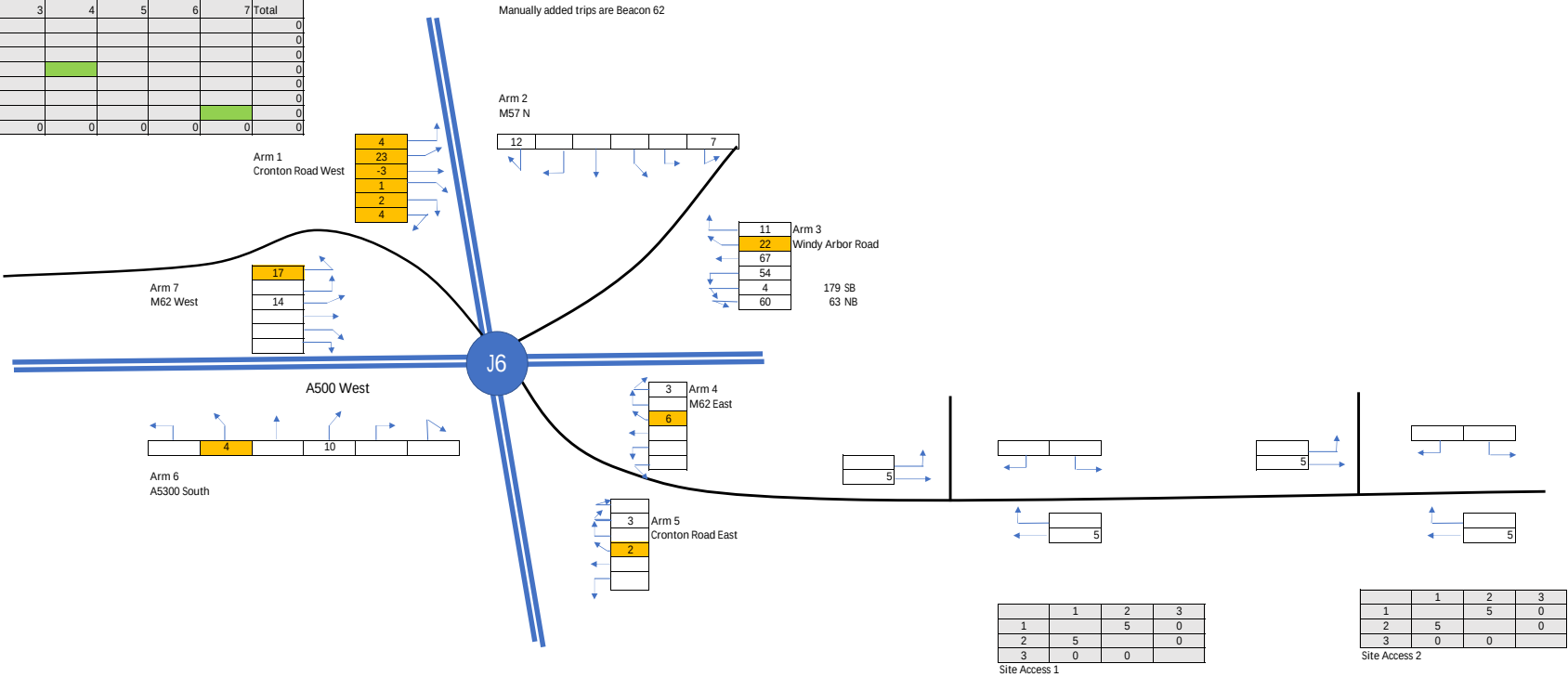


PM Committed Development Halsnead 2024 1800 - 1900

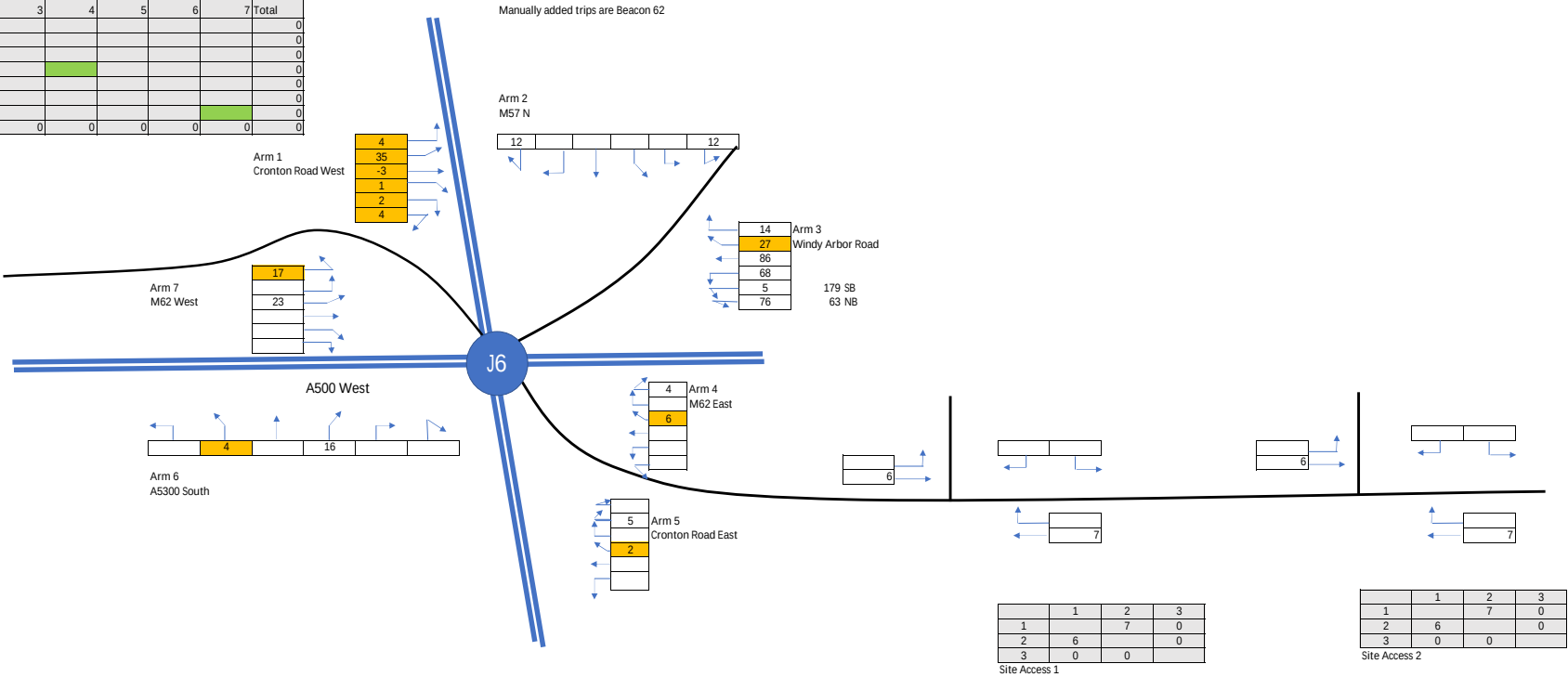
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



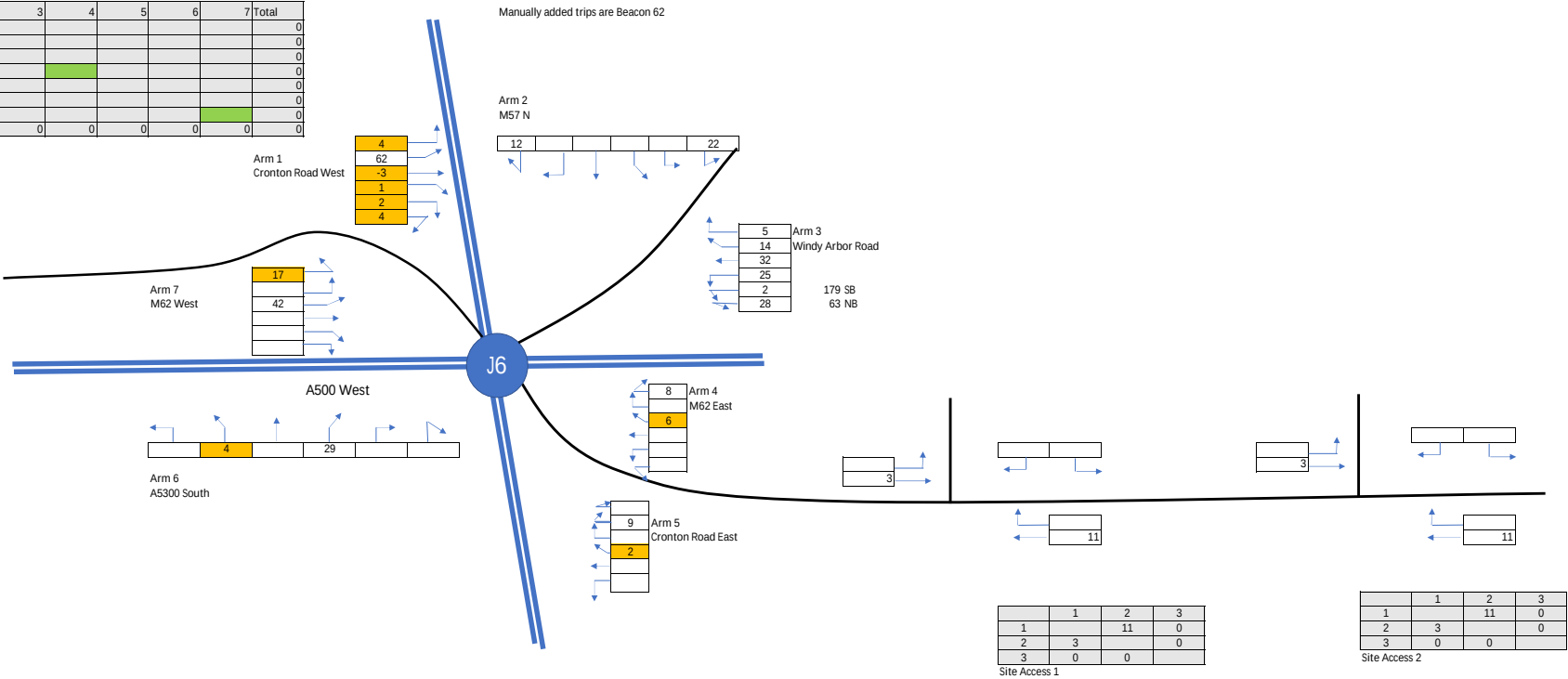
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

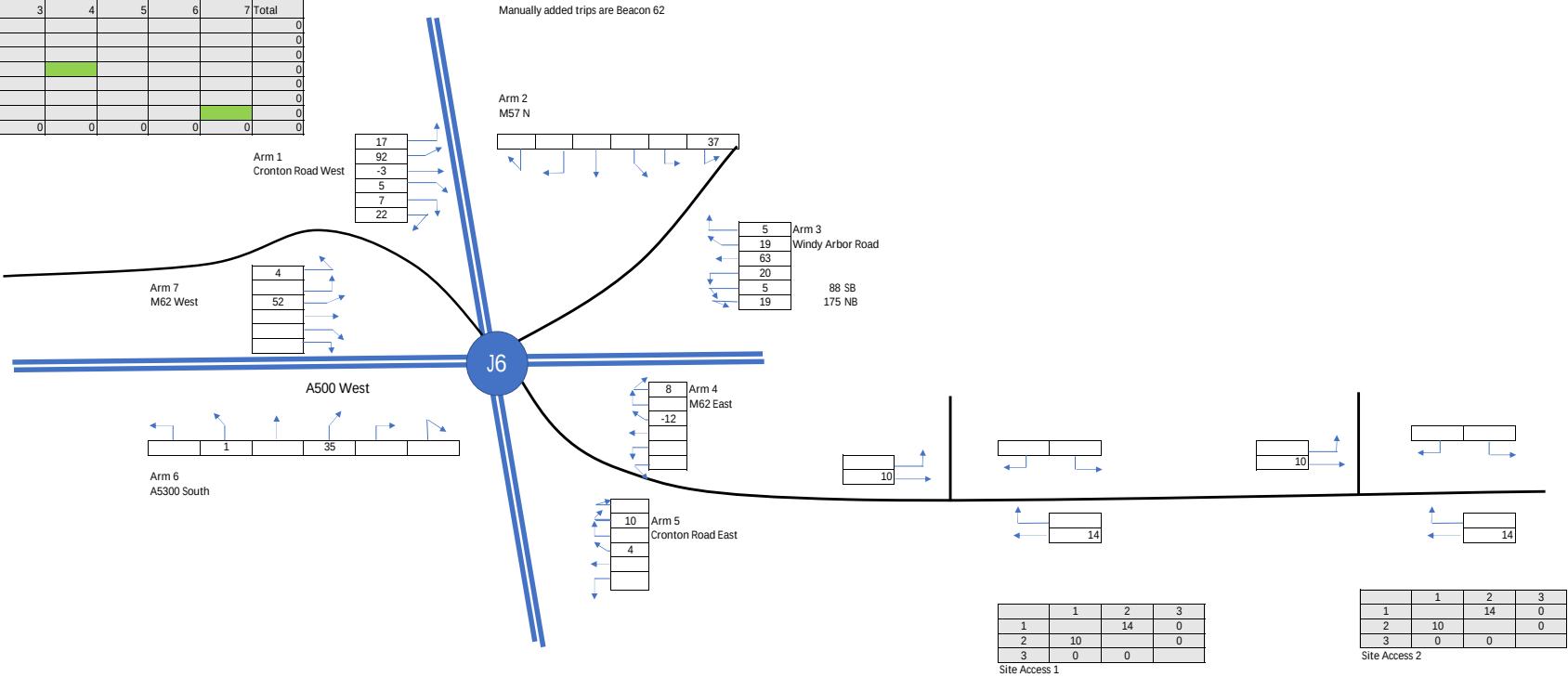


	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



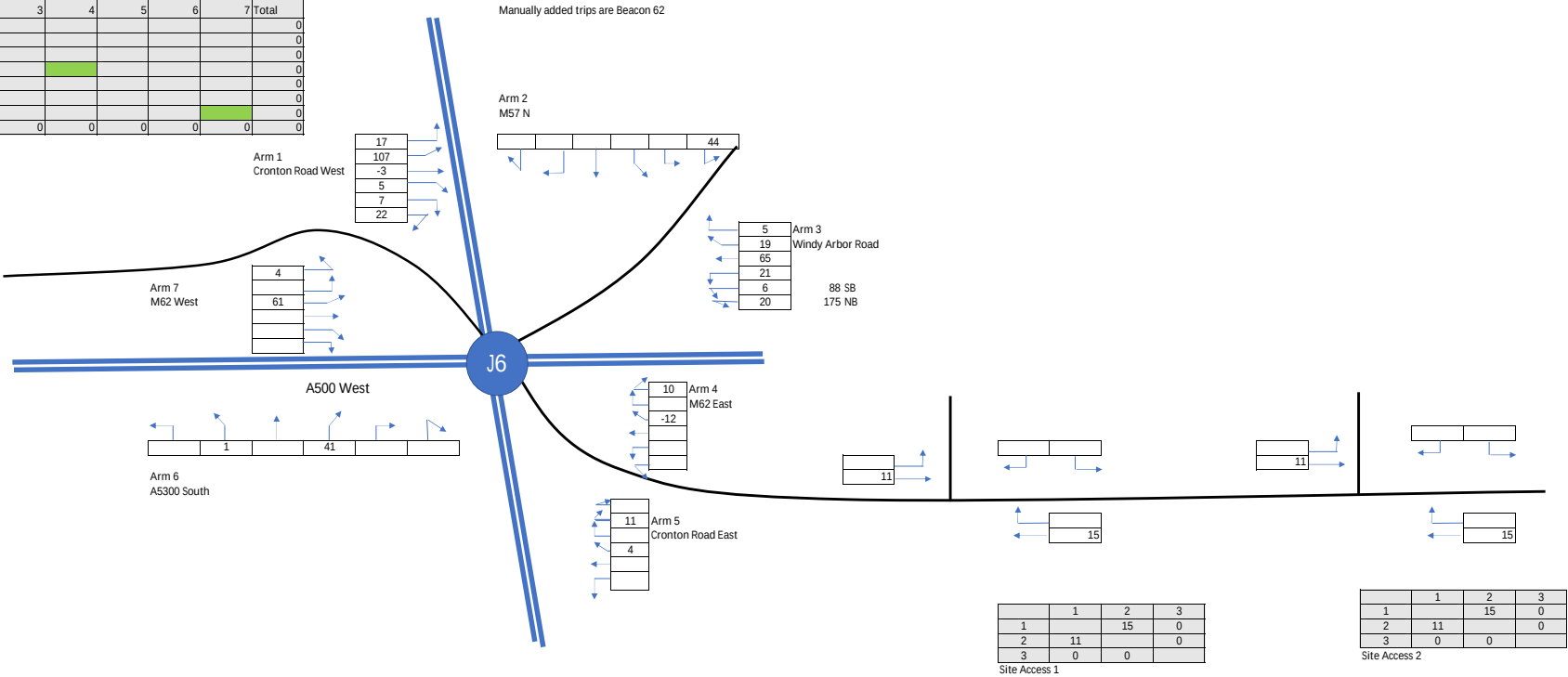
PM Committed Development Halsnead 2032 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



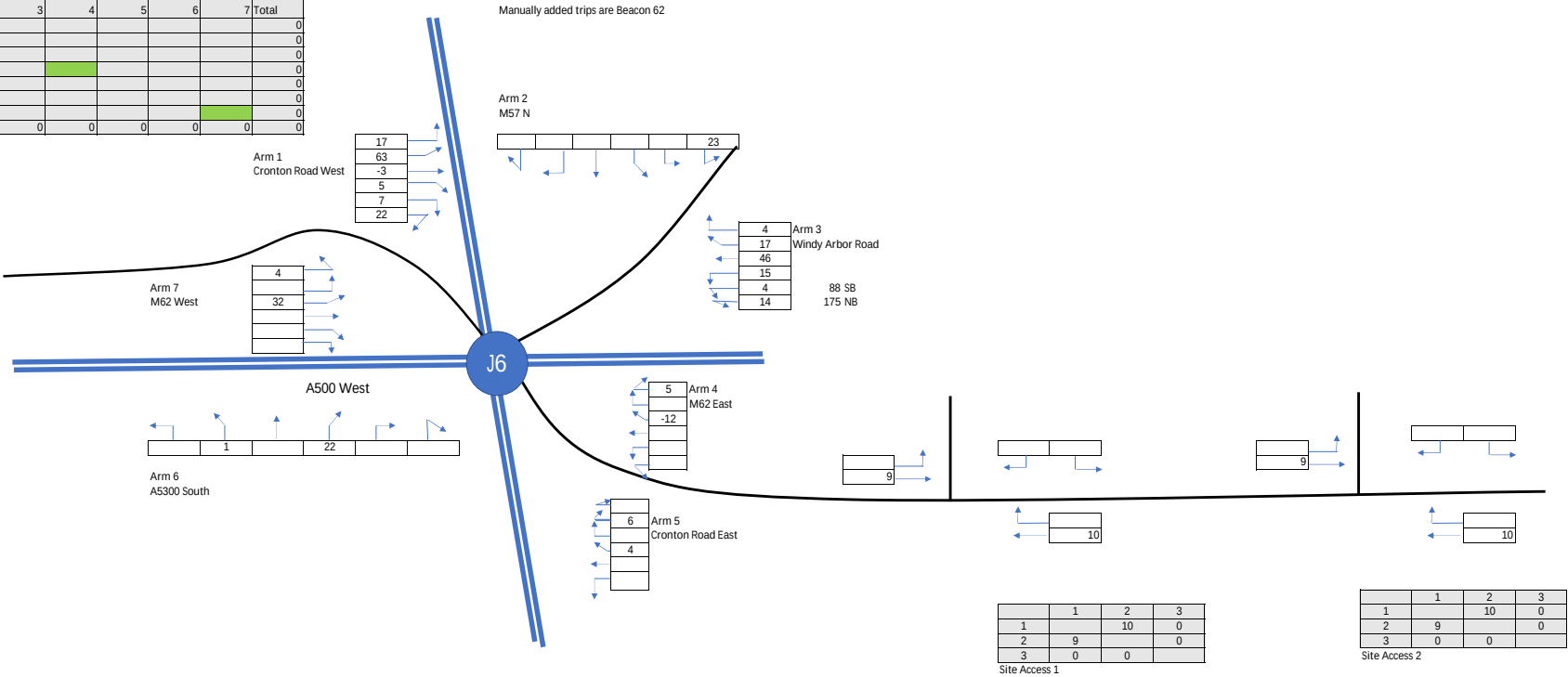
PM Committed Development Halsnead 2032 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



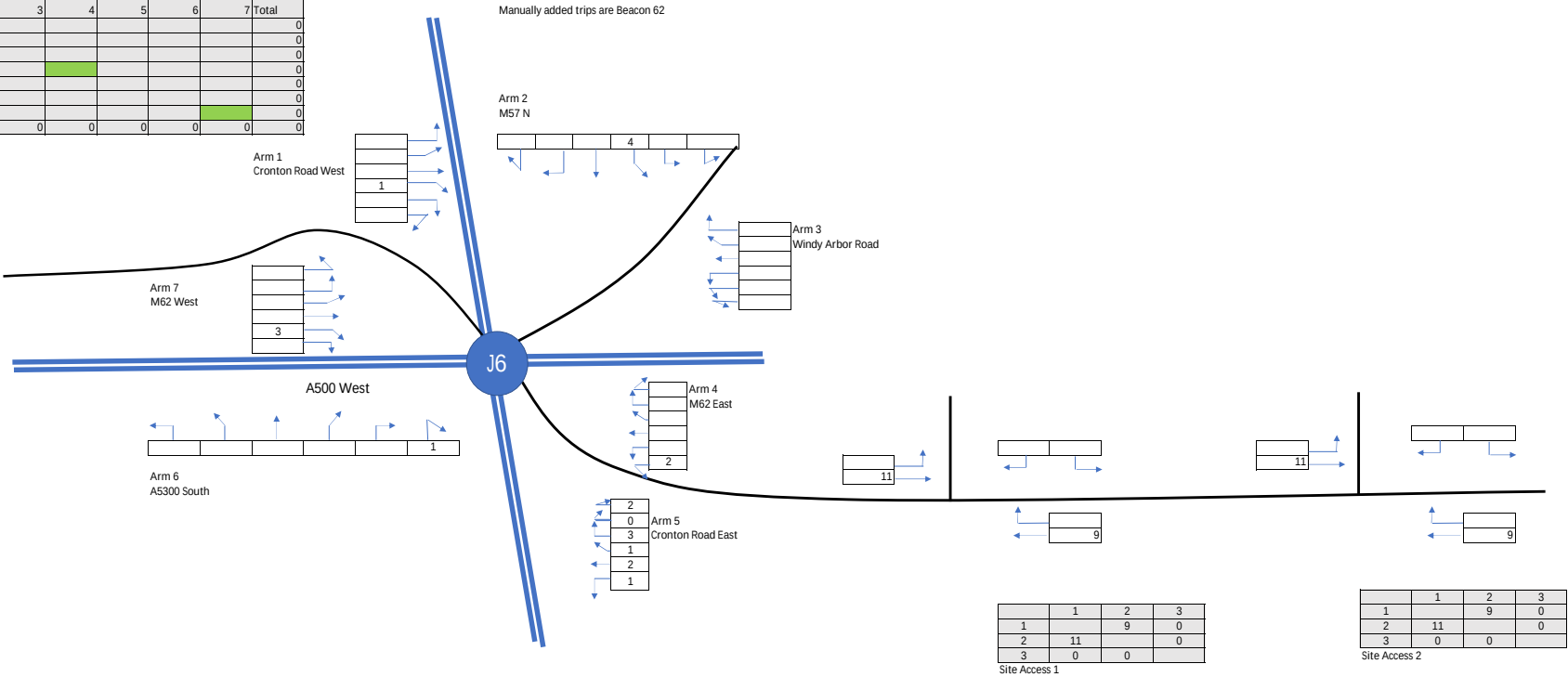
PM Committed Development Halsnead 2024 1800 - 1900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



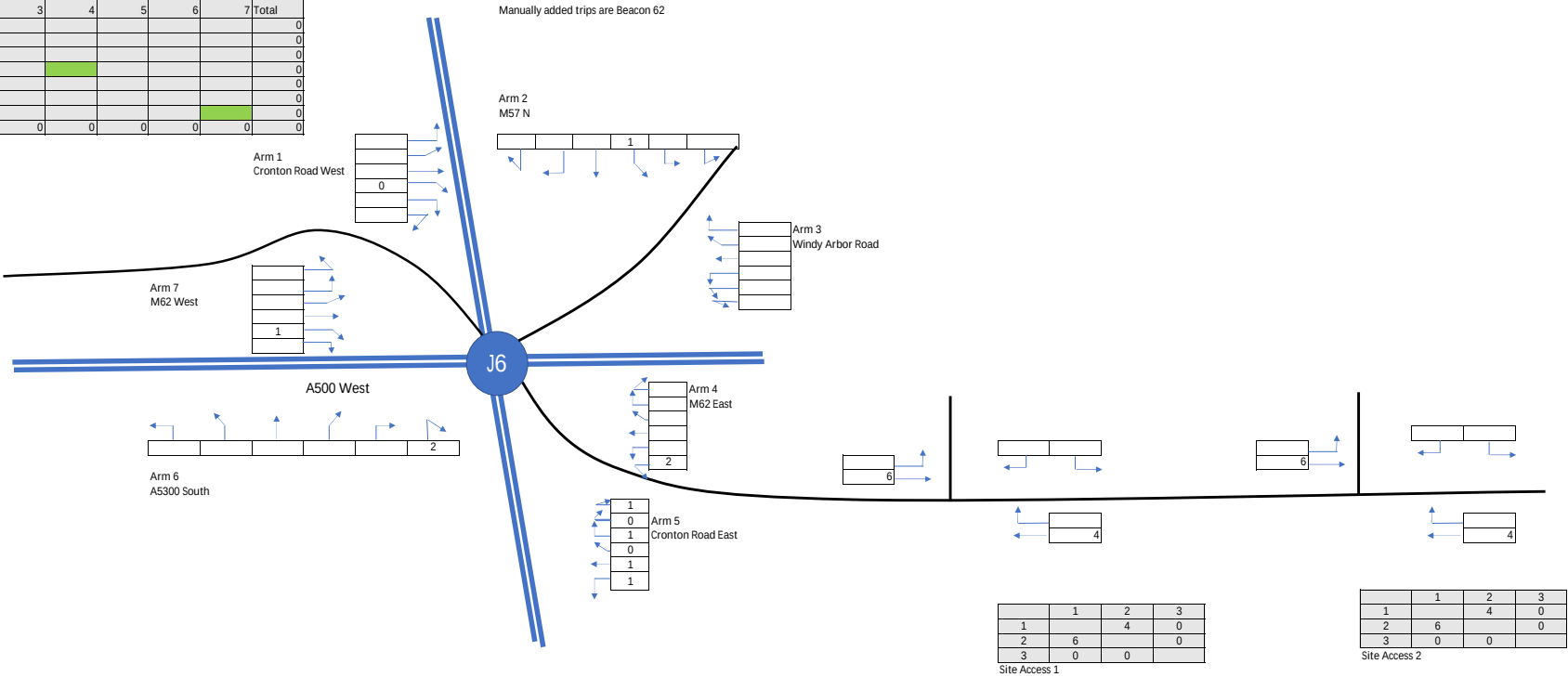
AM Committed Development Symmetry Phase 1 Car 0700 - 0800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



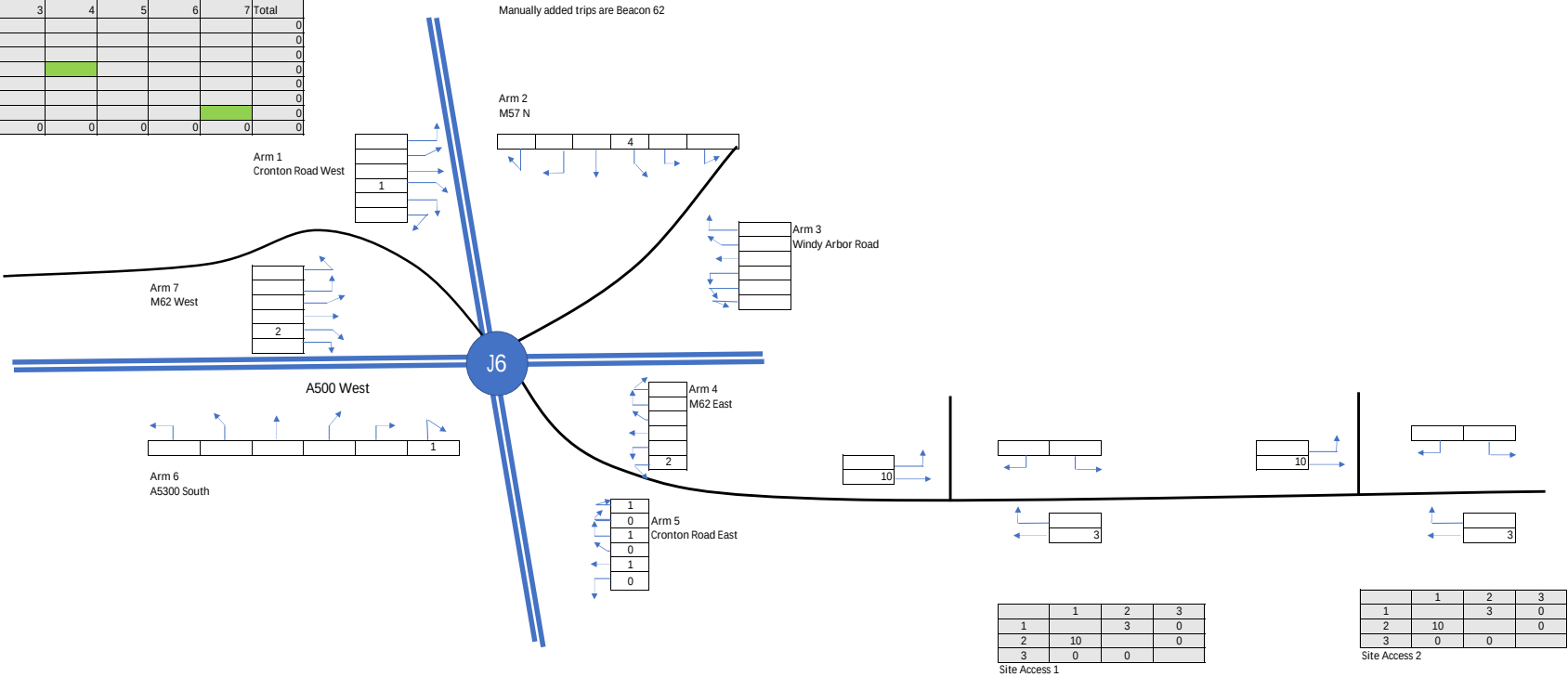
AM Committed Development Symmetry Phase 1 HGV 0700 - 0800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



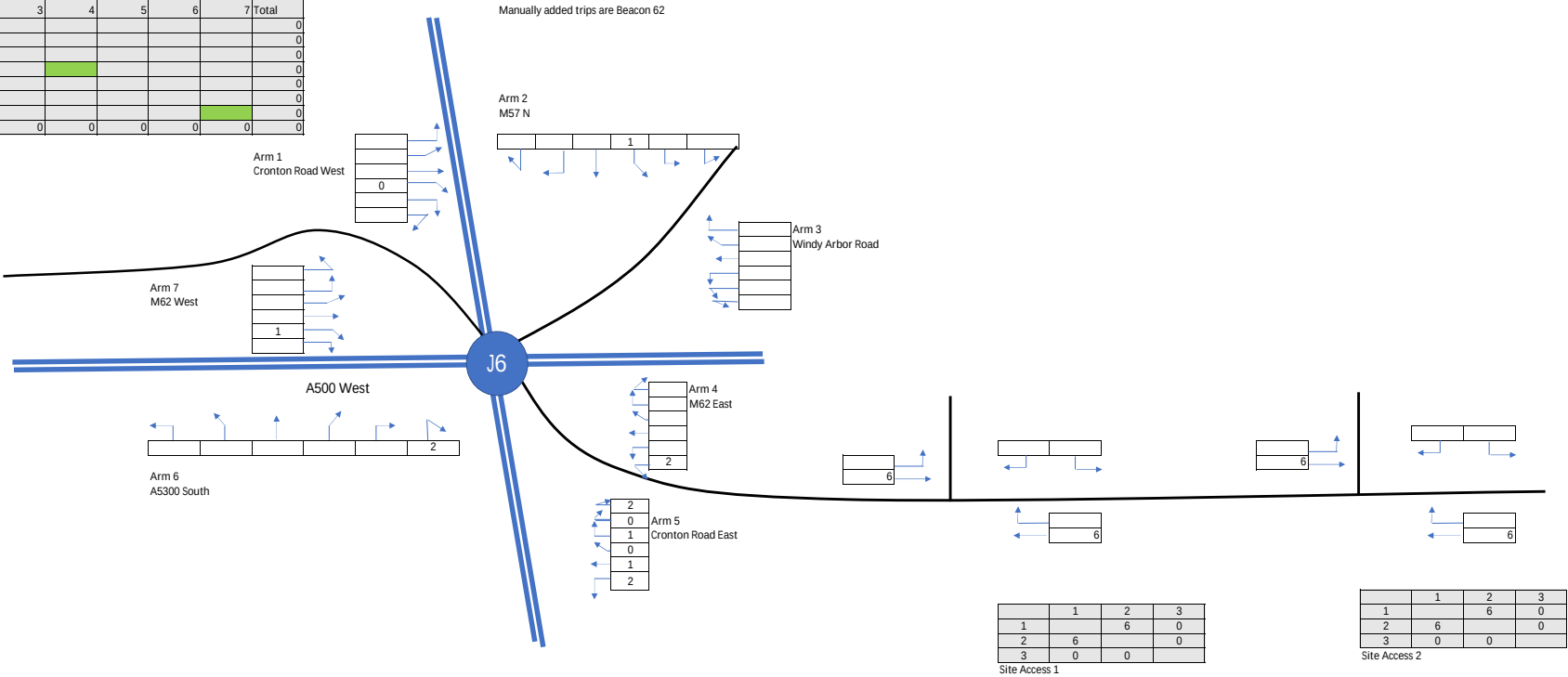
AM Committed Development Symmetry Phase 1 Car 0800 - 0900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



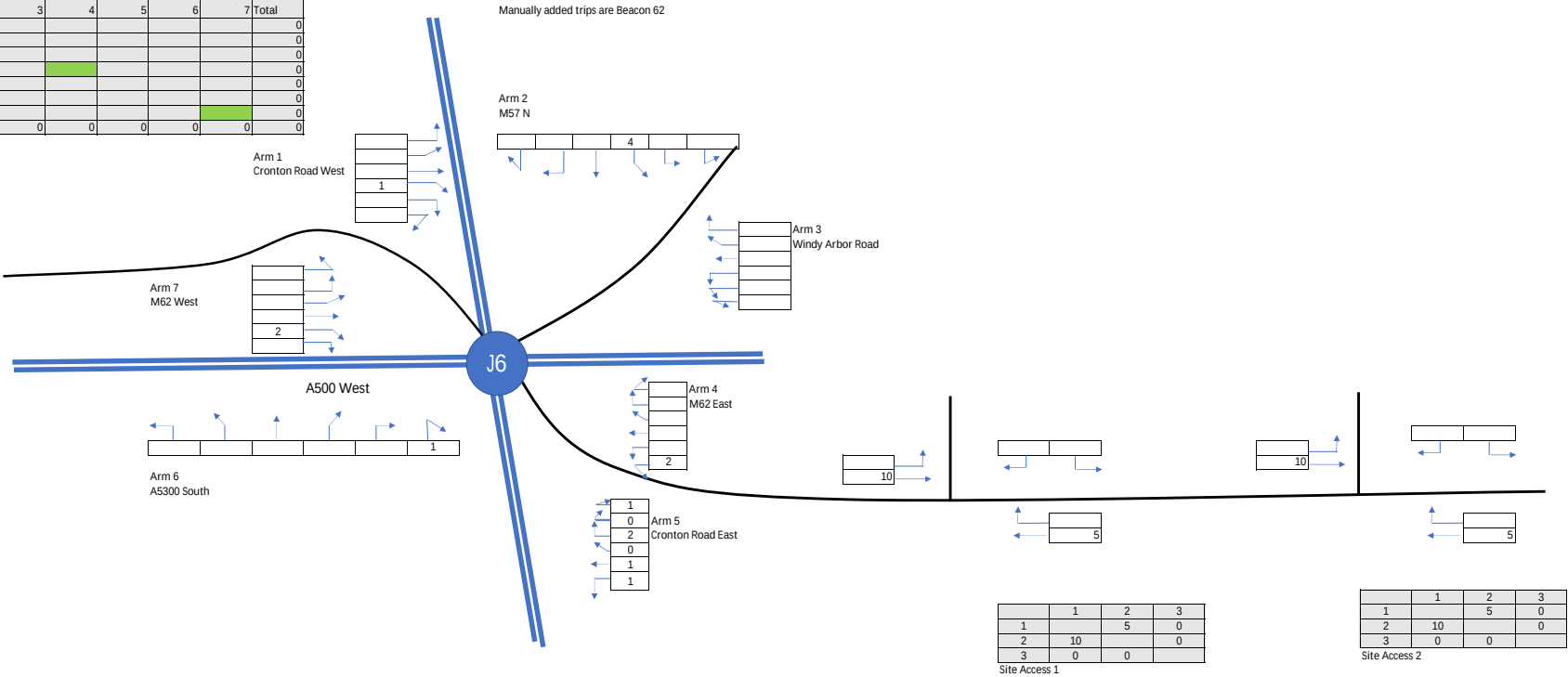
AM Committed Development Symmetry Phase 1 HGV 0800 - 0900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



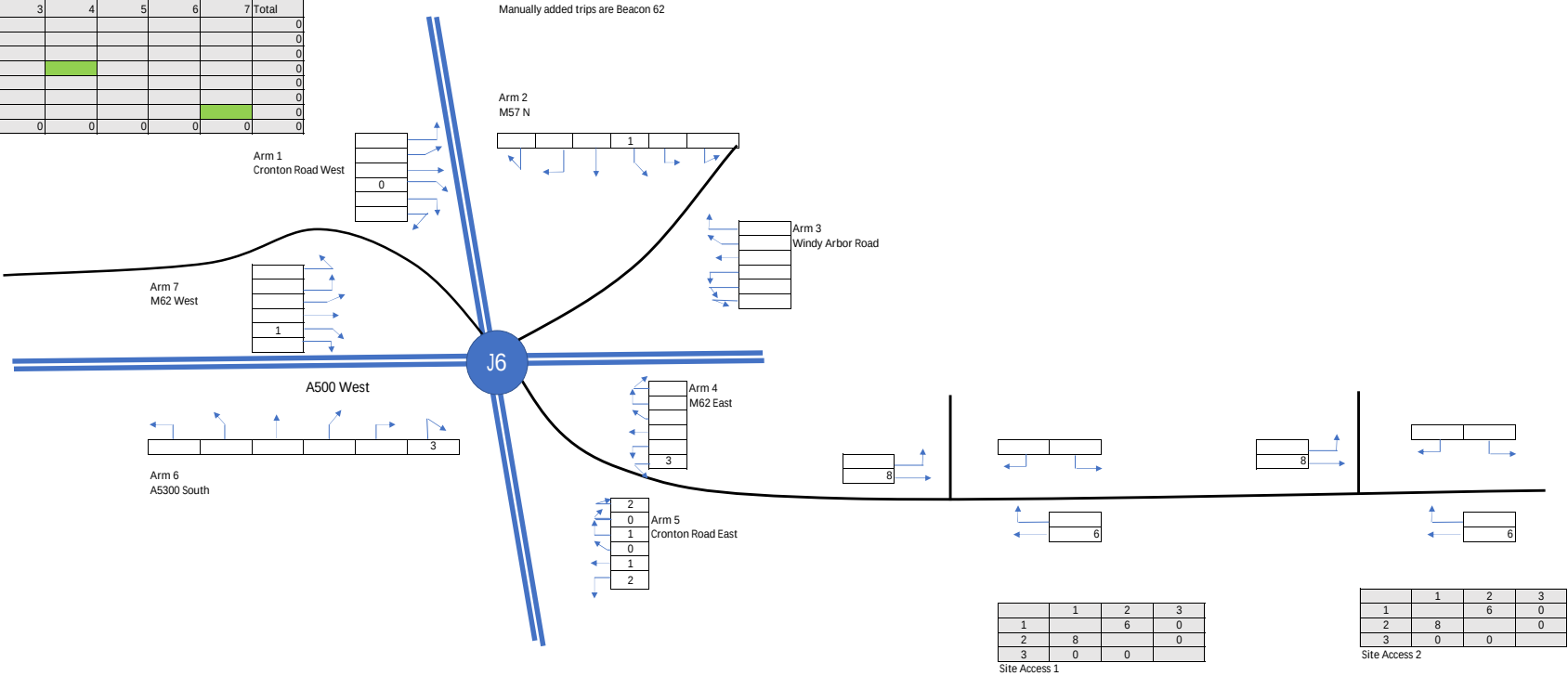
AM Committed Development Symmetry Phase 1 Car 0900 - 1000

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



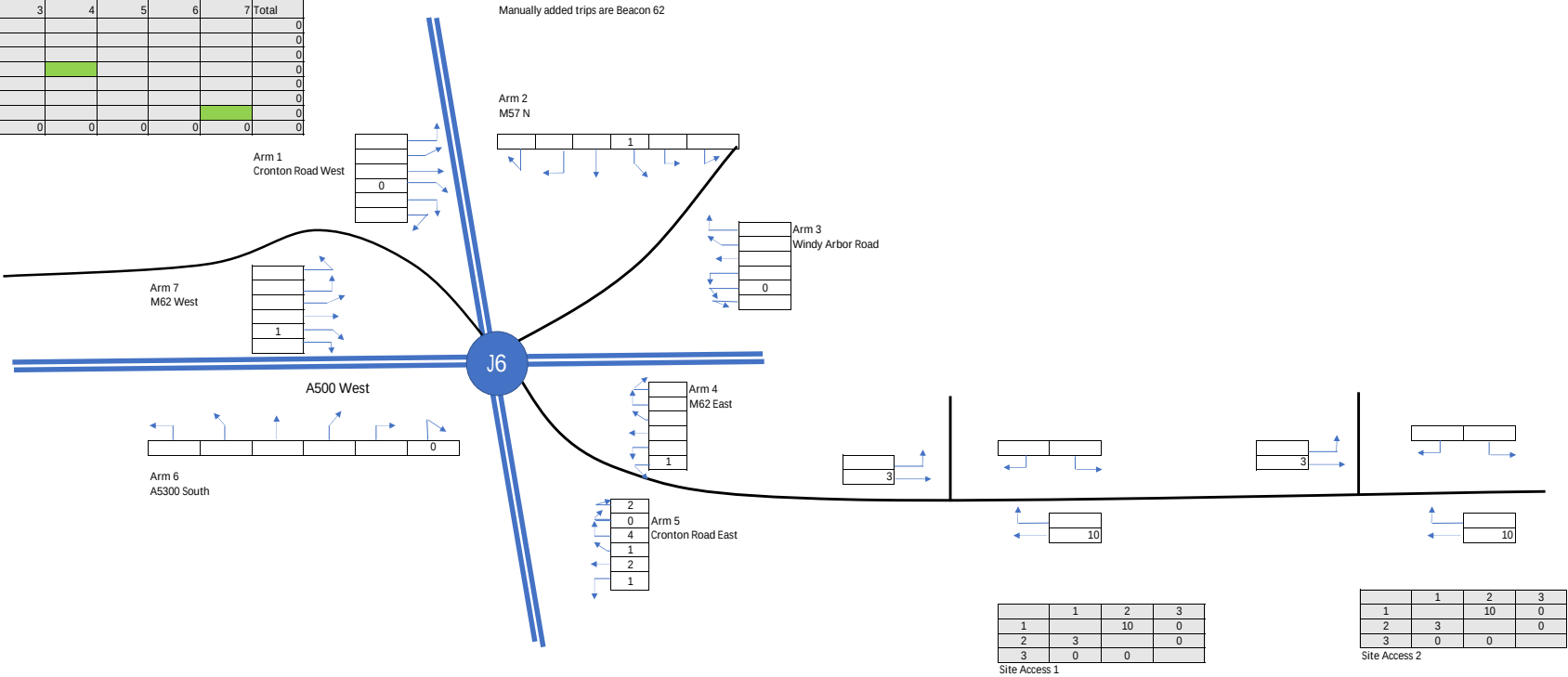
AM Committed Development Symmetry Phase 1 HGV 0900 - 1000

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



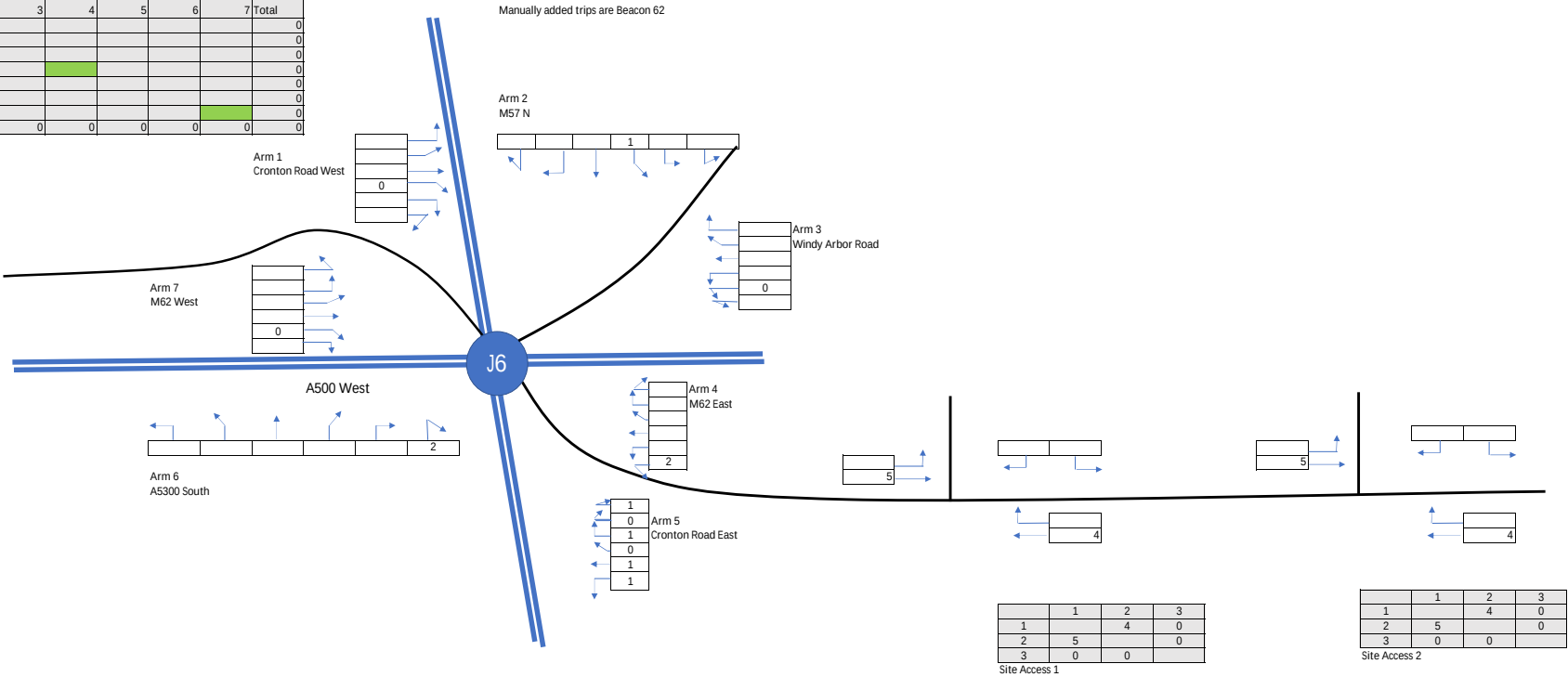
PM Committed Development Symmetry Phase 1 Car 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



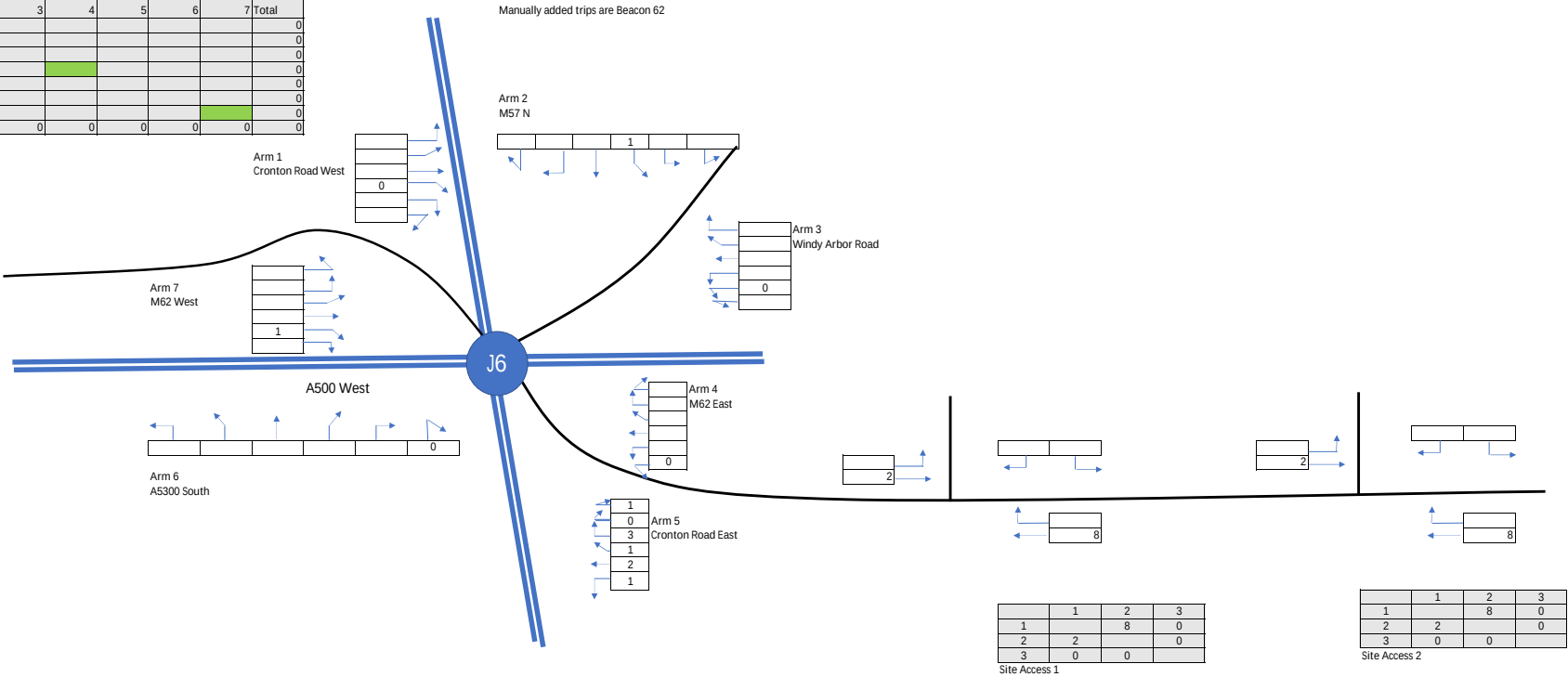
PM Committed Development Symmetry Phase 1 HGV 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



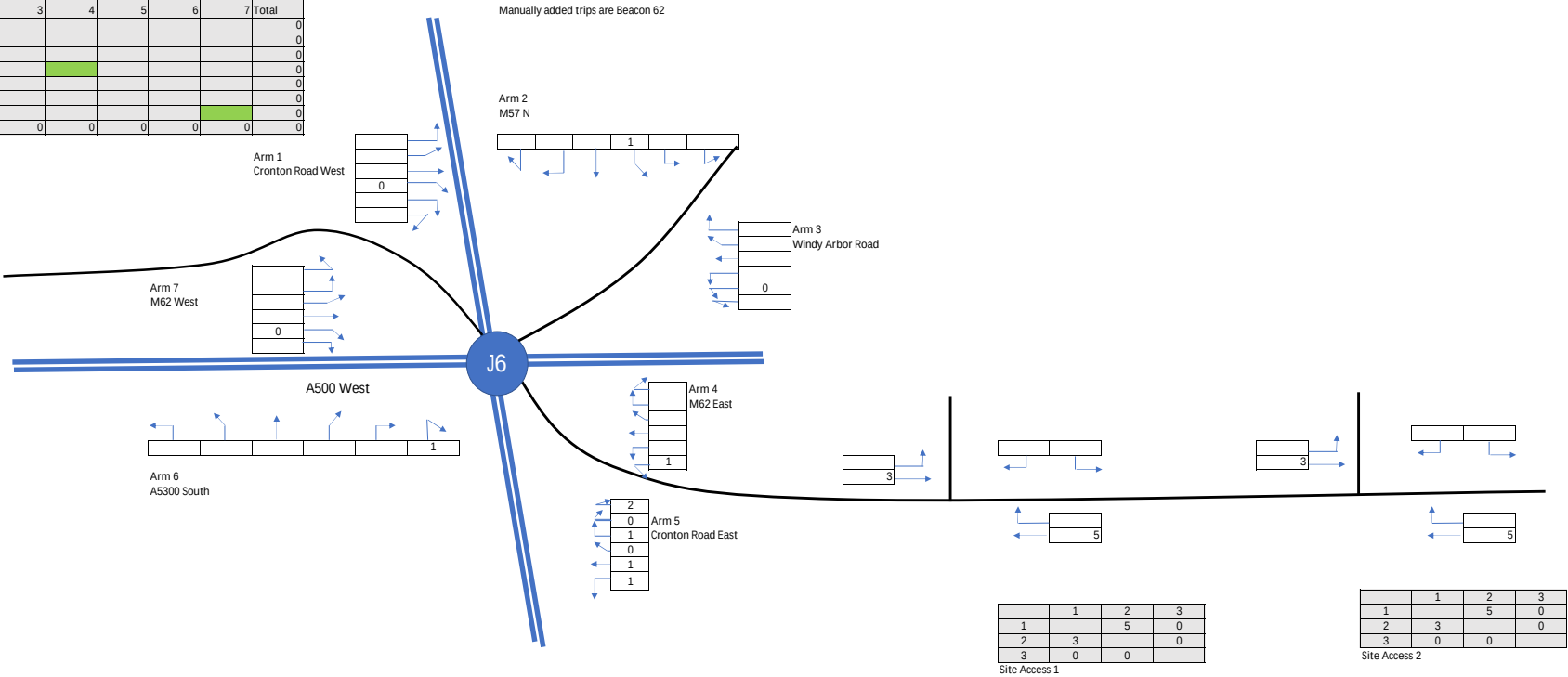
PM Committed Development Symmetry Phase 1 Car 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



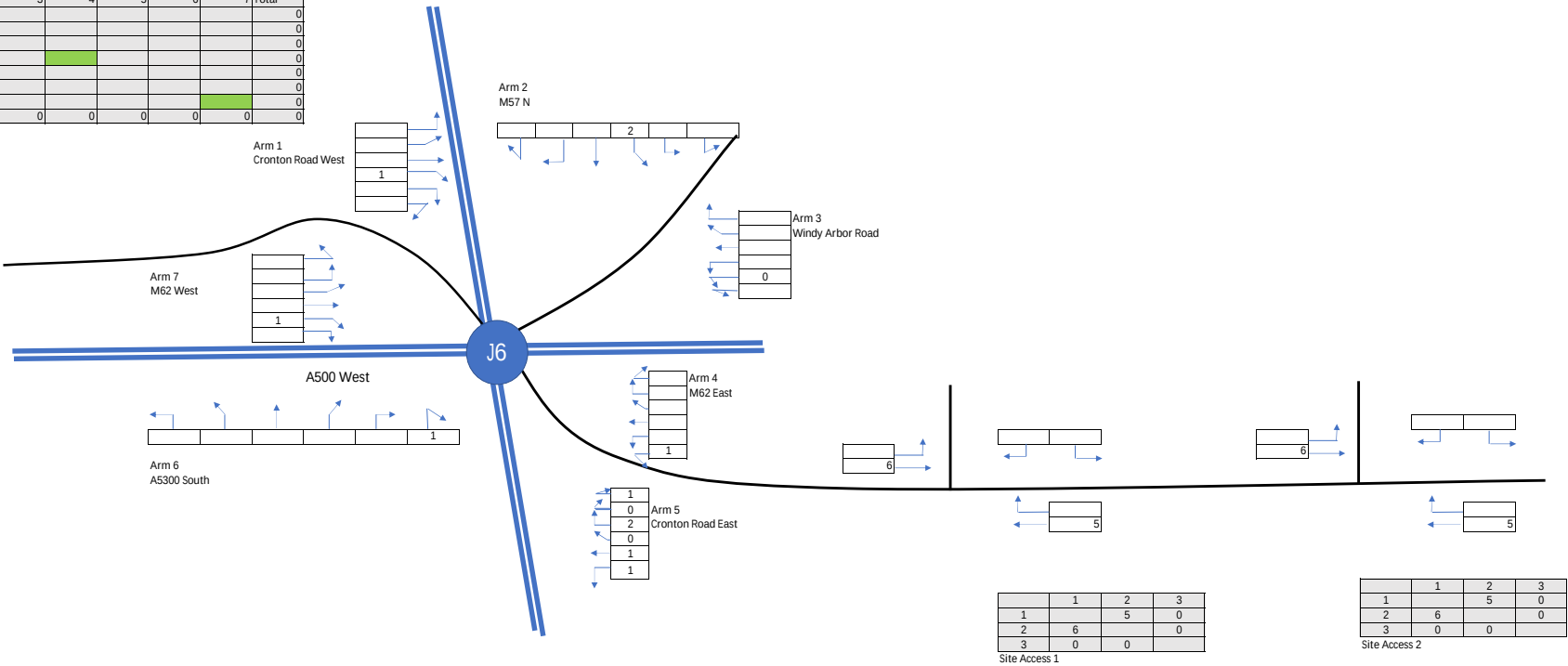
PM Committed Development Symmetry Phase 1 HGV 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

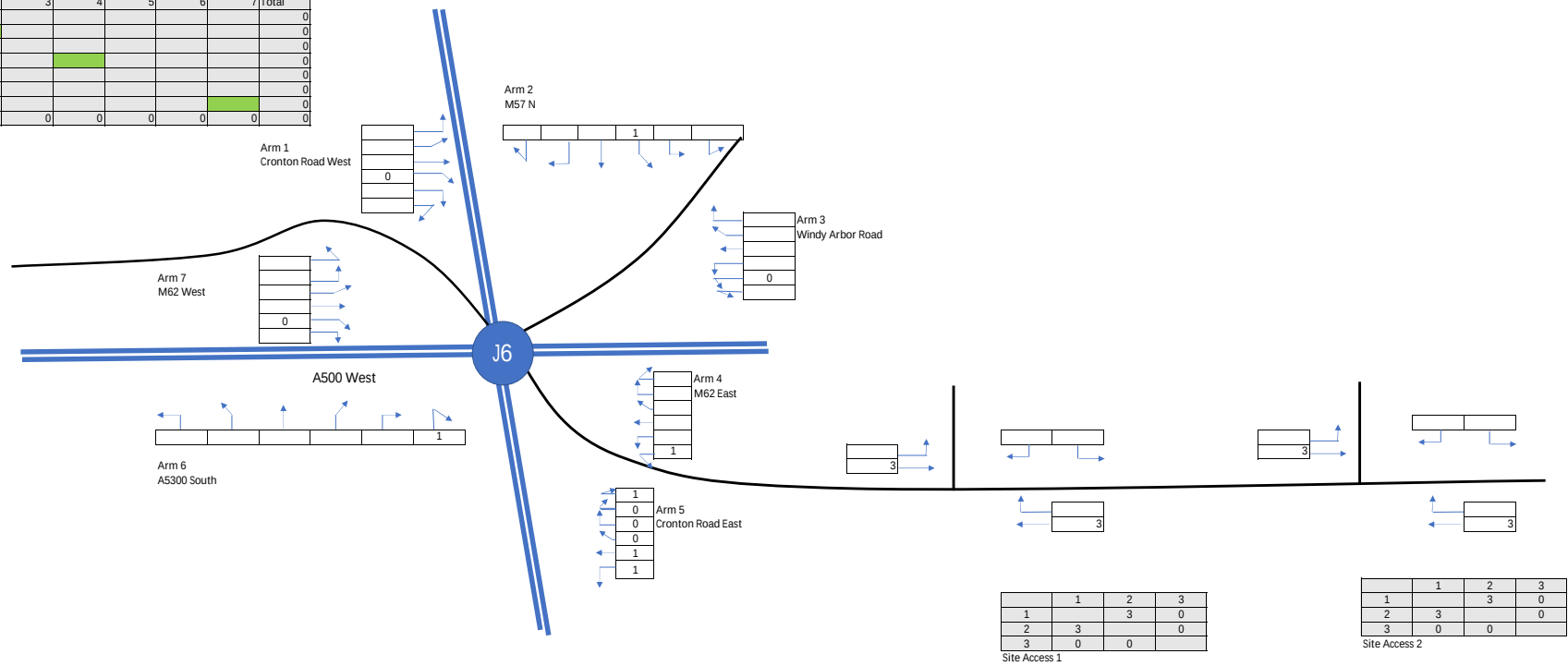


PM Committed Development Symmetry Phase 1 Car 1800 - 1900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

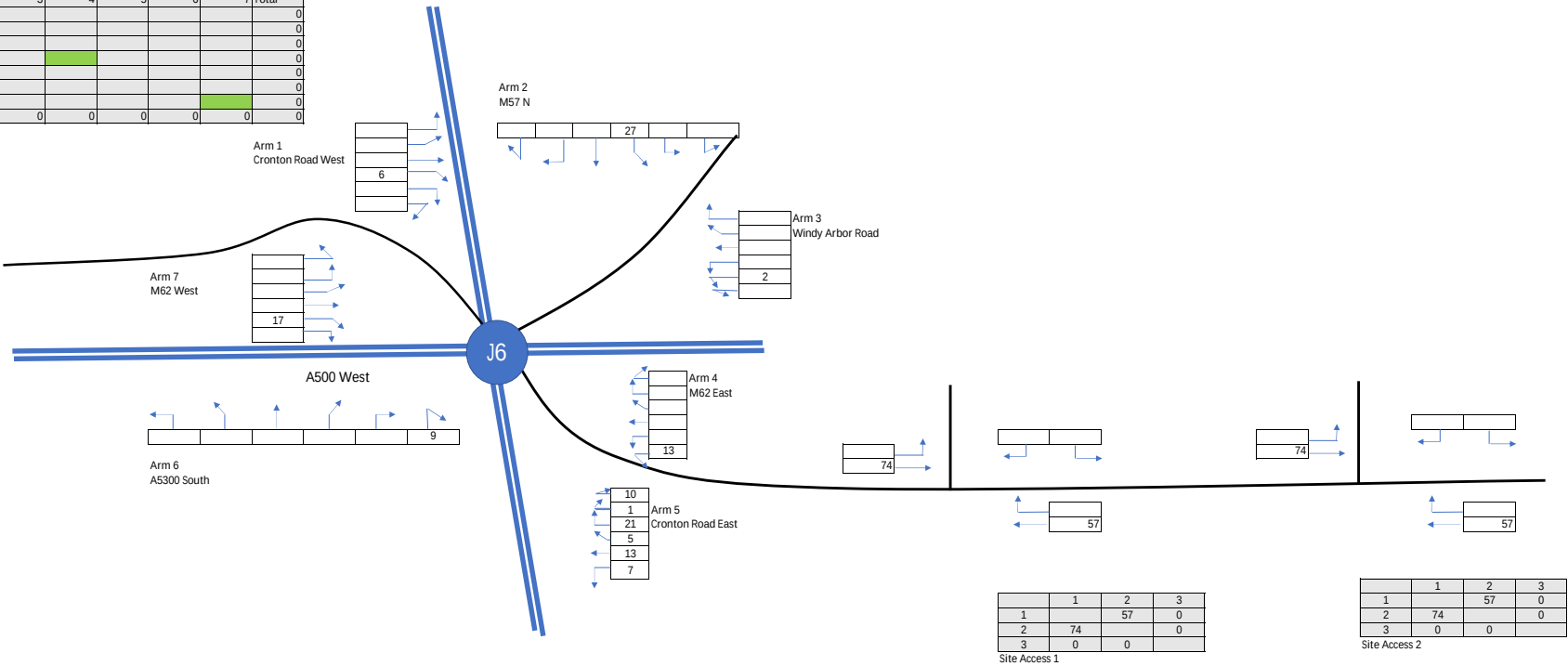


	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



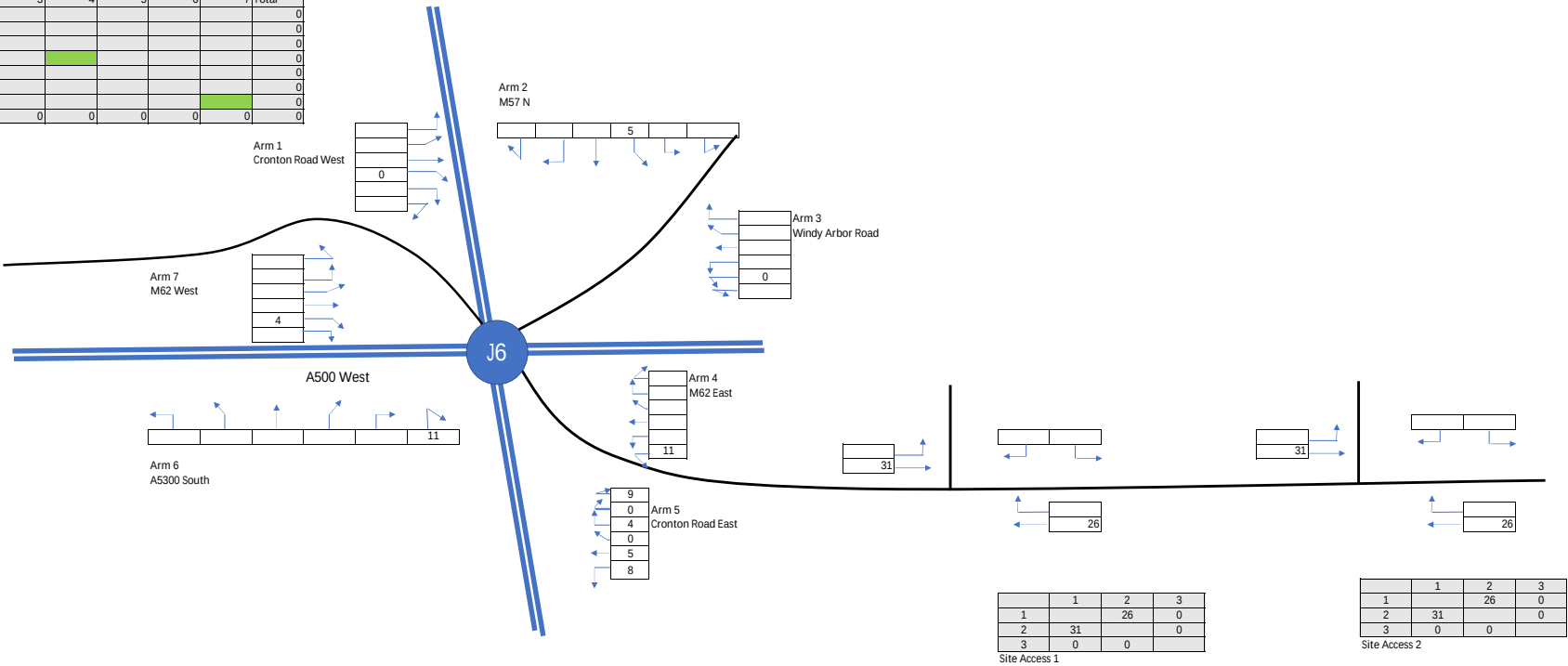
AM Committed Development Symmetry Phase 2 Car 0700 - 0800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



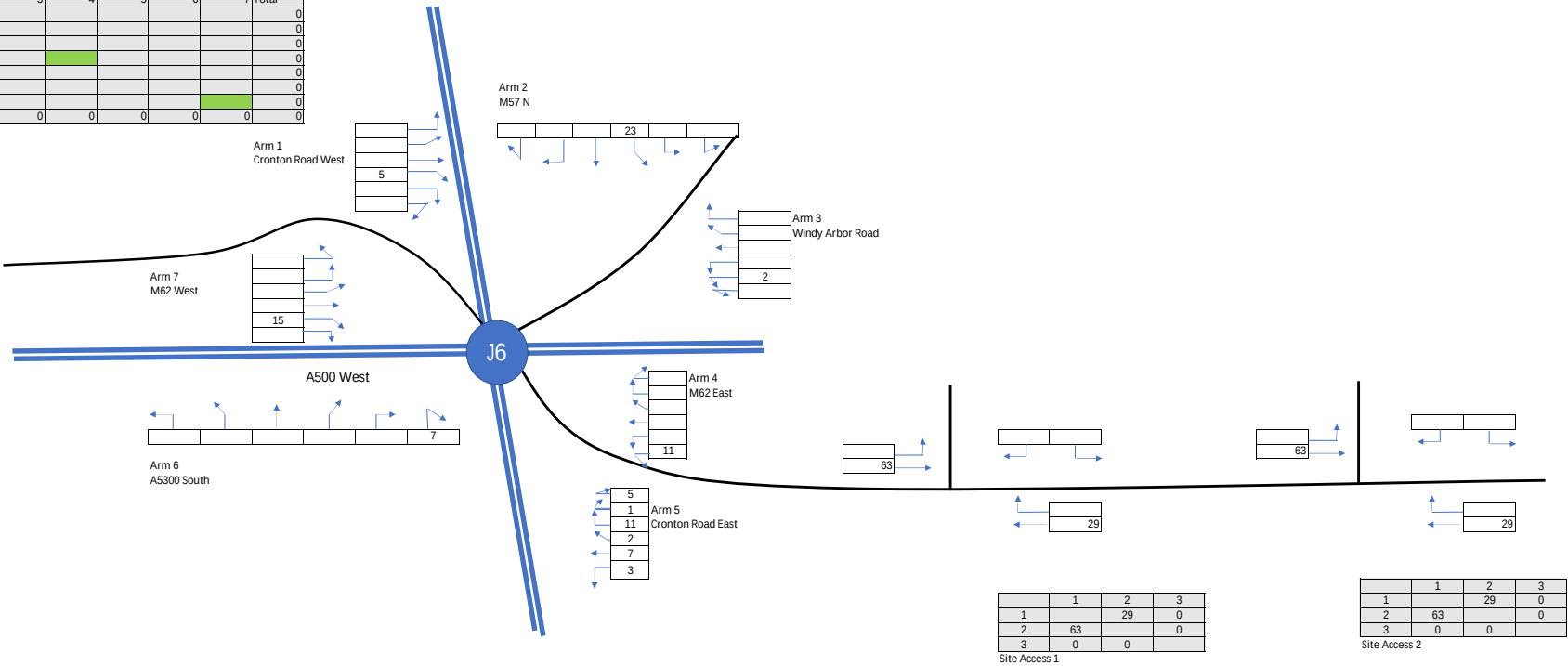
AM Committed Development Symmetry Phase 2 HGV 0700 - 0800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

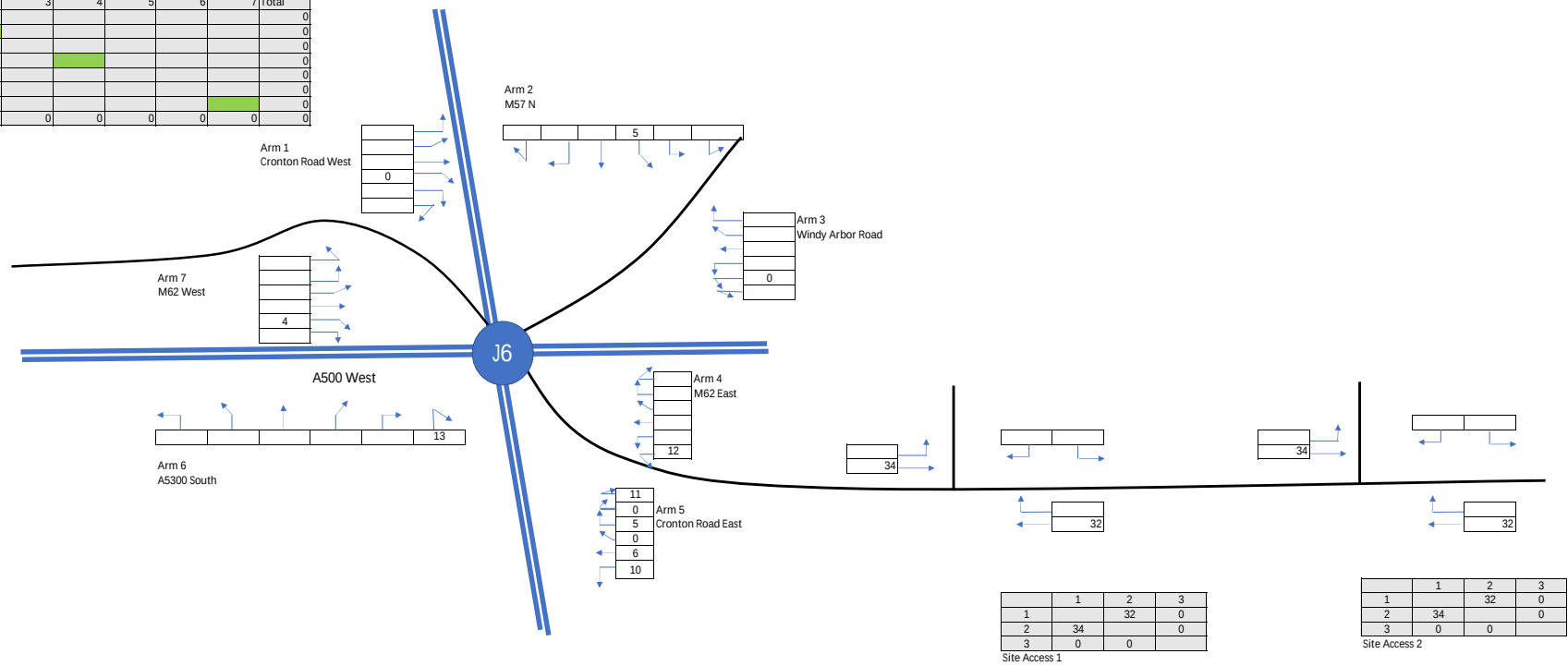


AM Committed Development Symmetry Phase 2 Car 0800 - 0900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

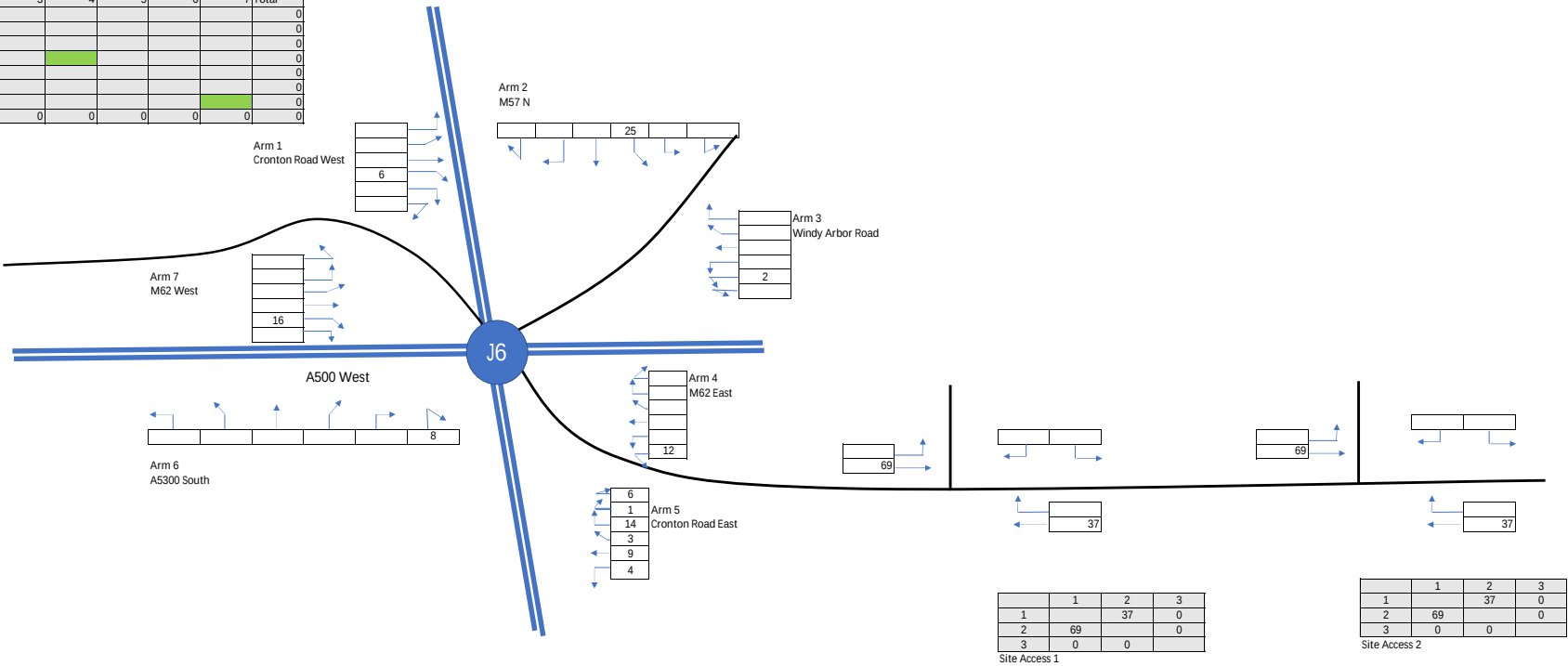


	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



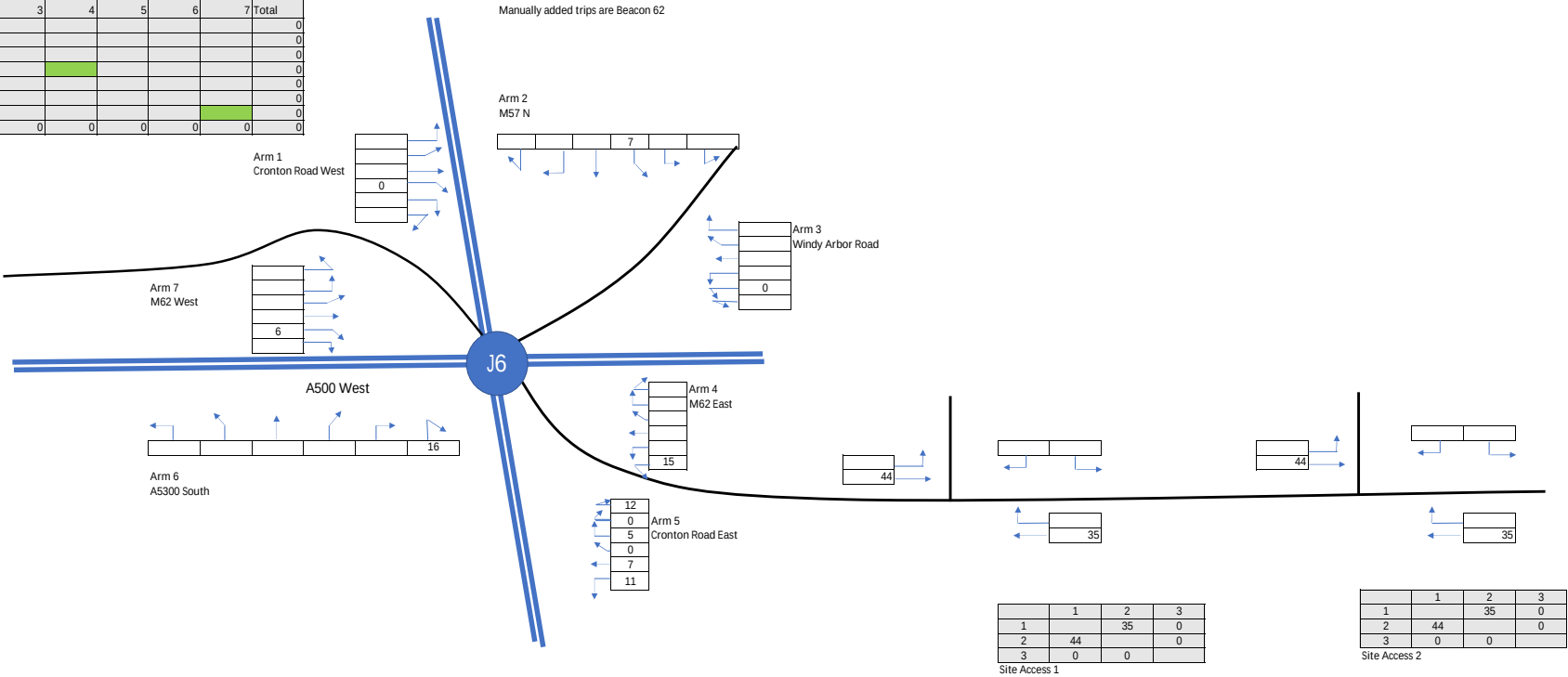
AM Committed Development Symmetry Phase 2 Car 0900 - 1000

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



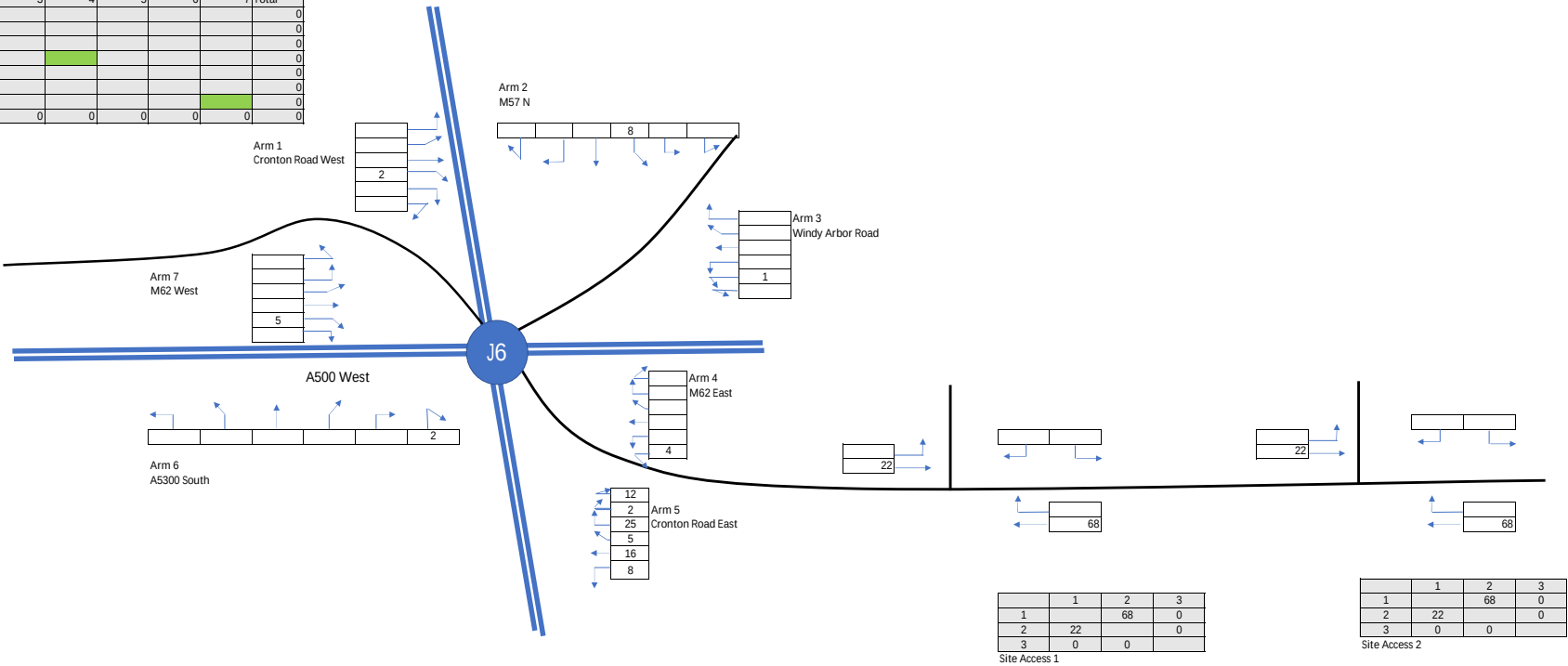
AM Committed Development Symmetry Phase 2 HGVS 0900 - 1000

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



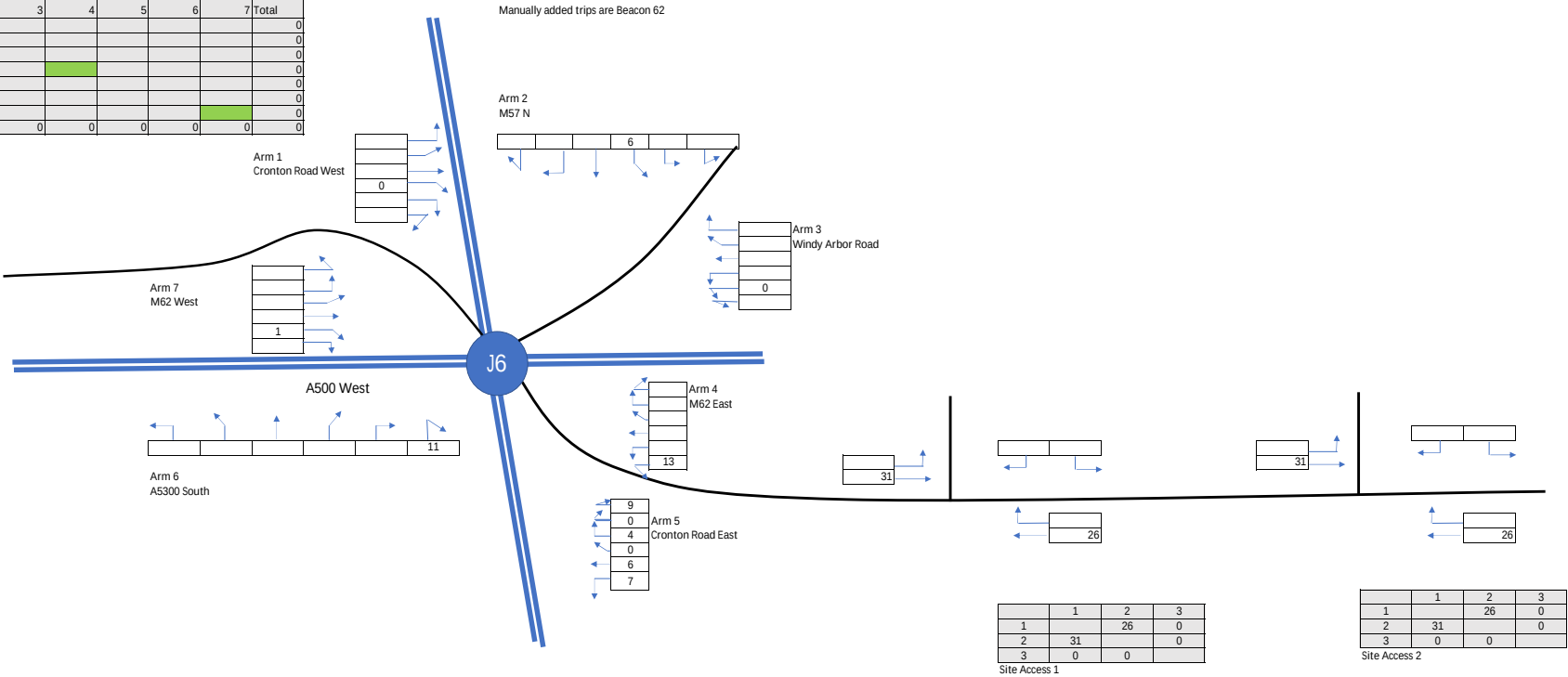
PM Committed Development Symmetry Phase 2 Car 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



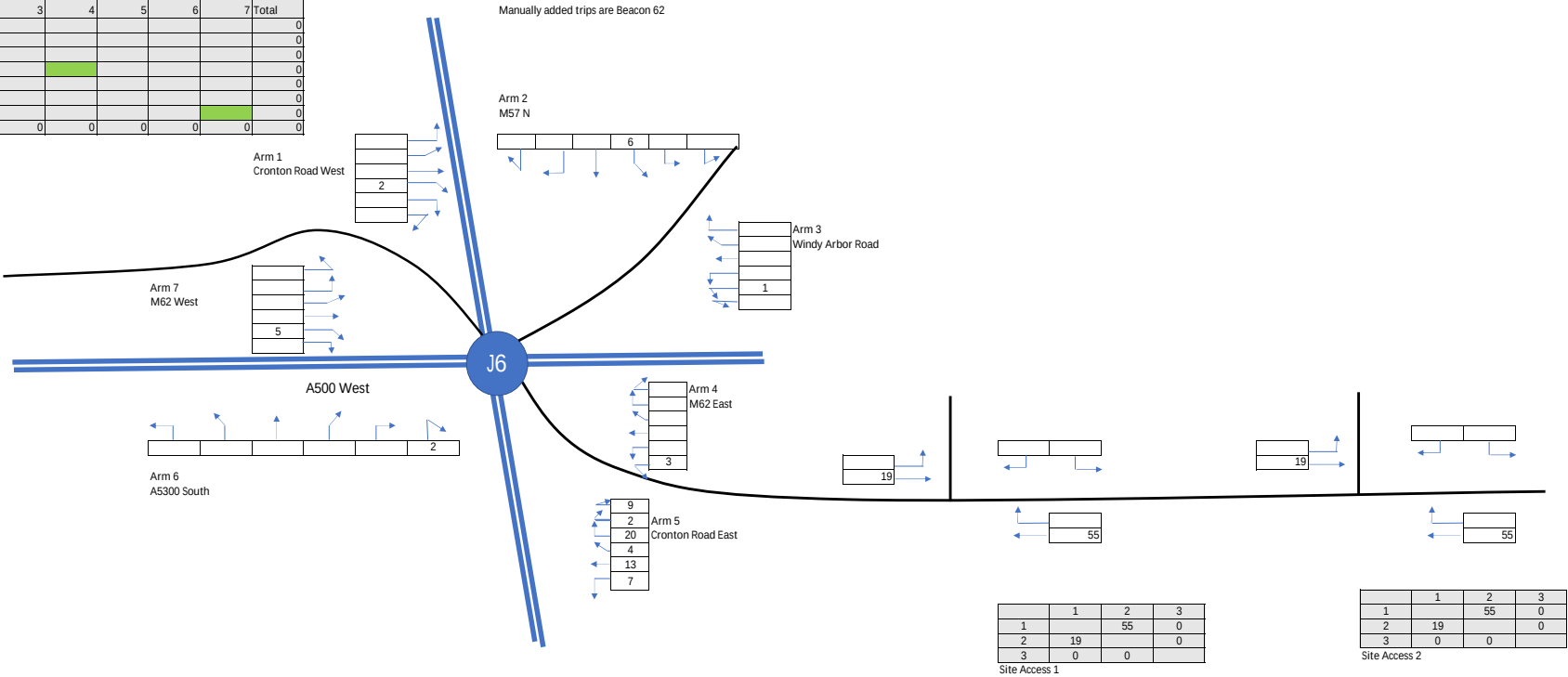
PM Committed Development Symmetry Phase 2 HGVS 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



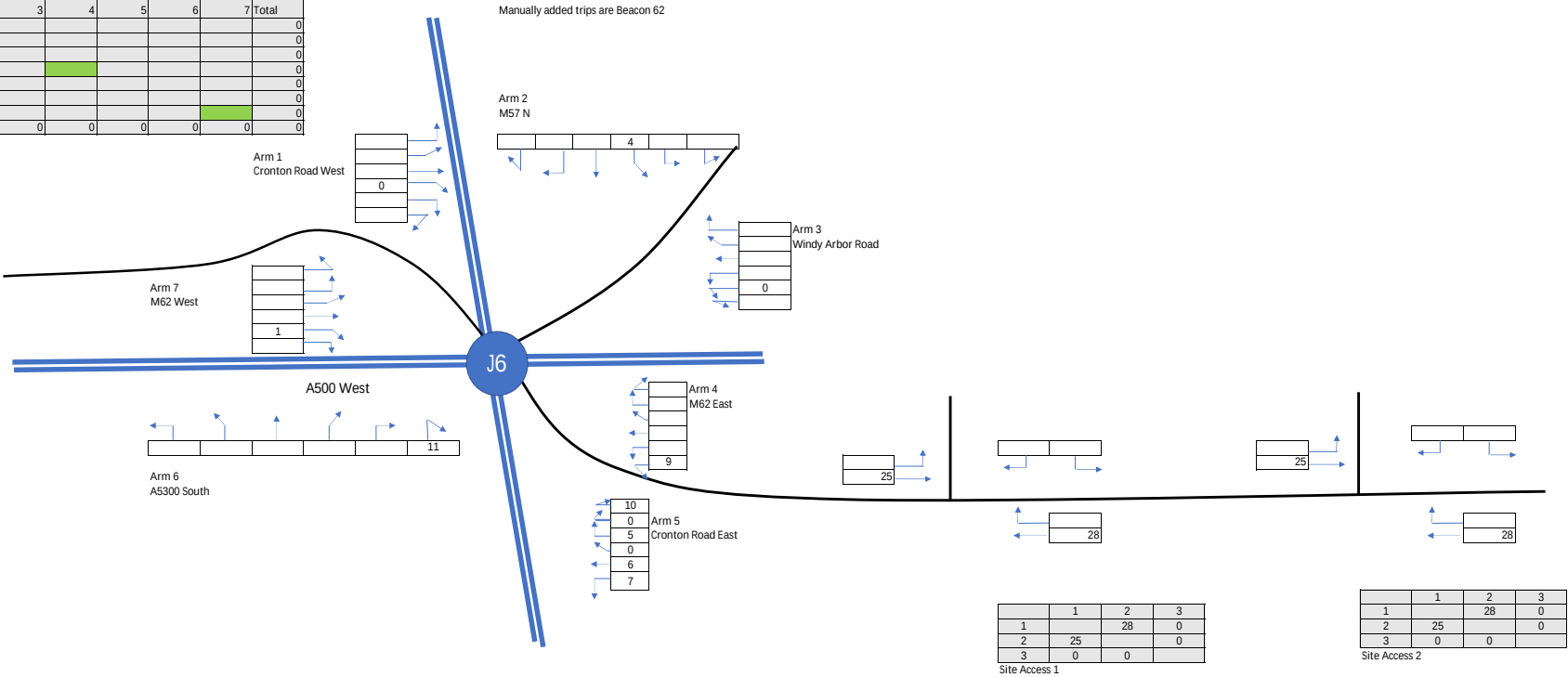
PM Committed Development Symmetry Phase 2 Car 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



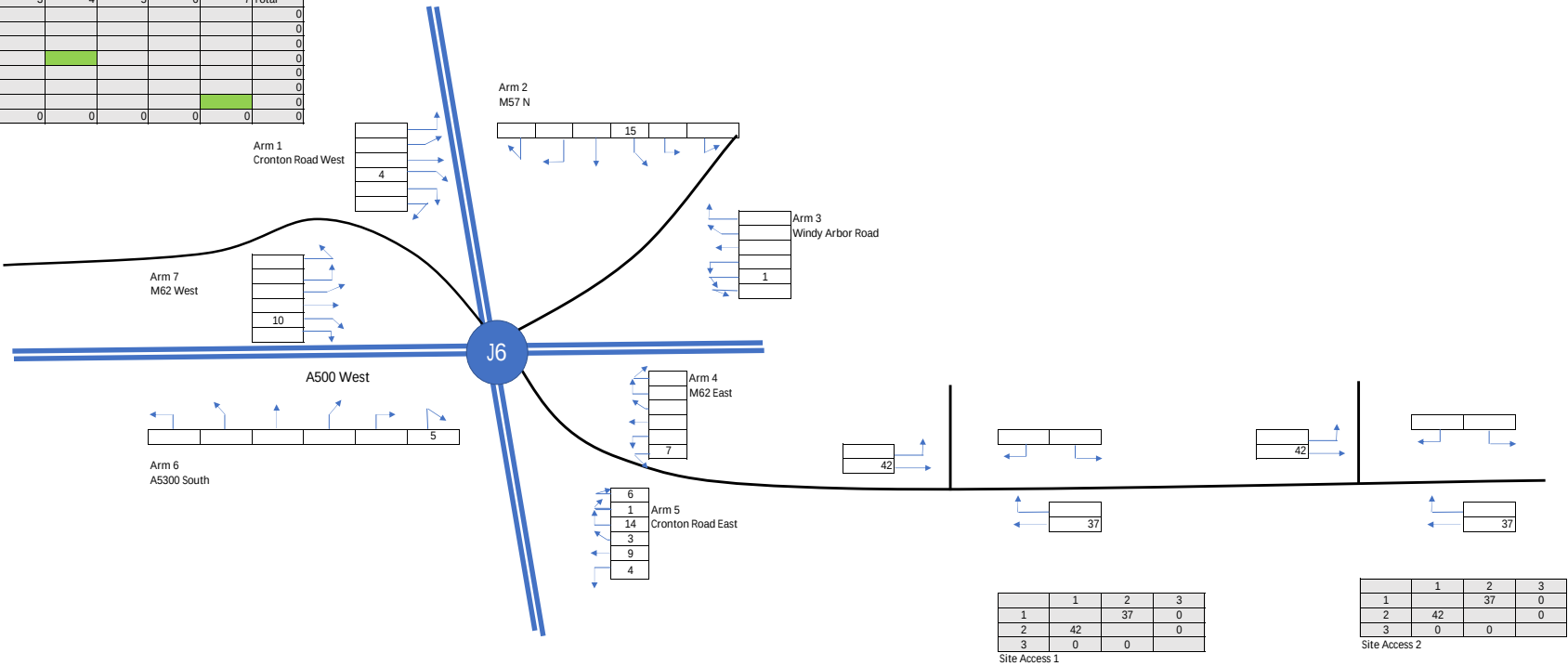
PM Committed Development Symmetry Phase 2 HGVS 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



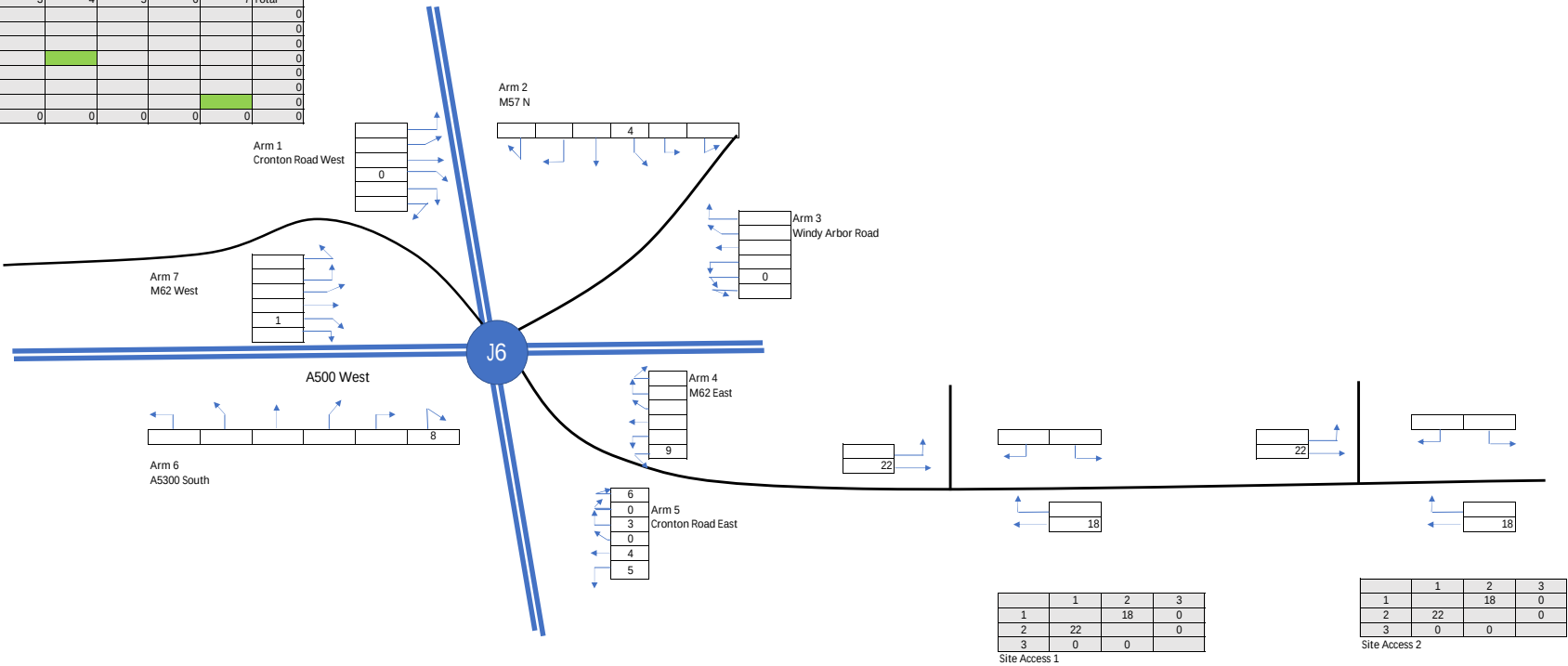
PM Committed Development Symmetry Phase 2 Car 1800 - 1900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



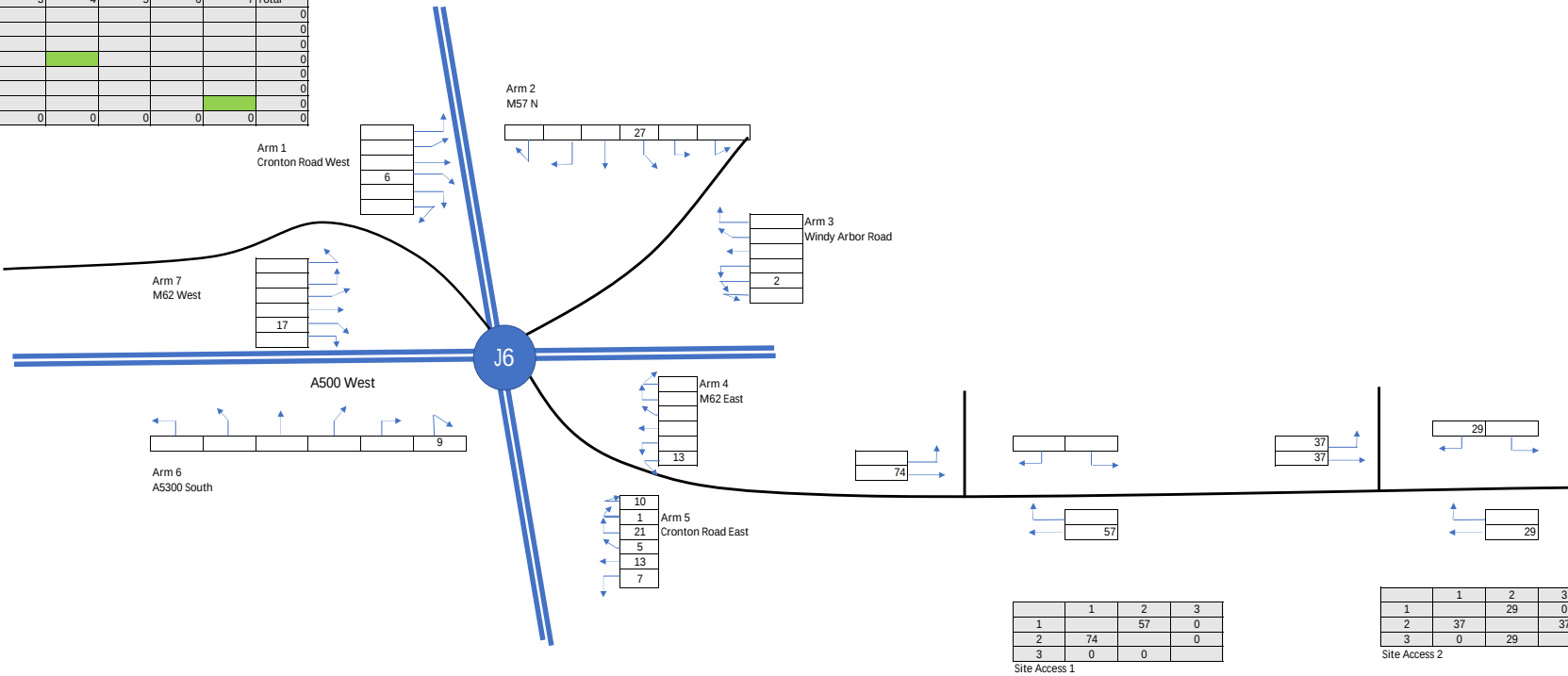
PM Committed Development Symmetry Phase 2 HGV 1800 - 1900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

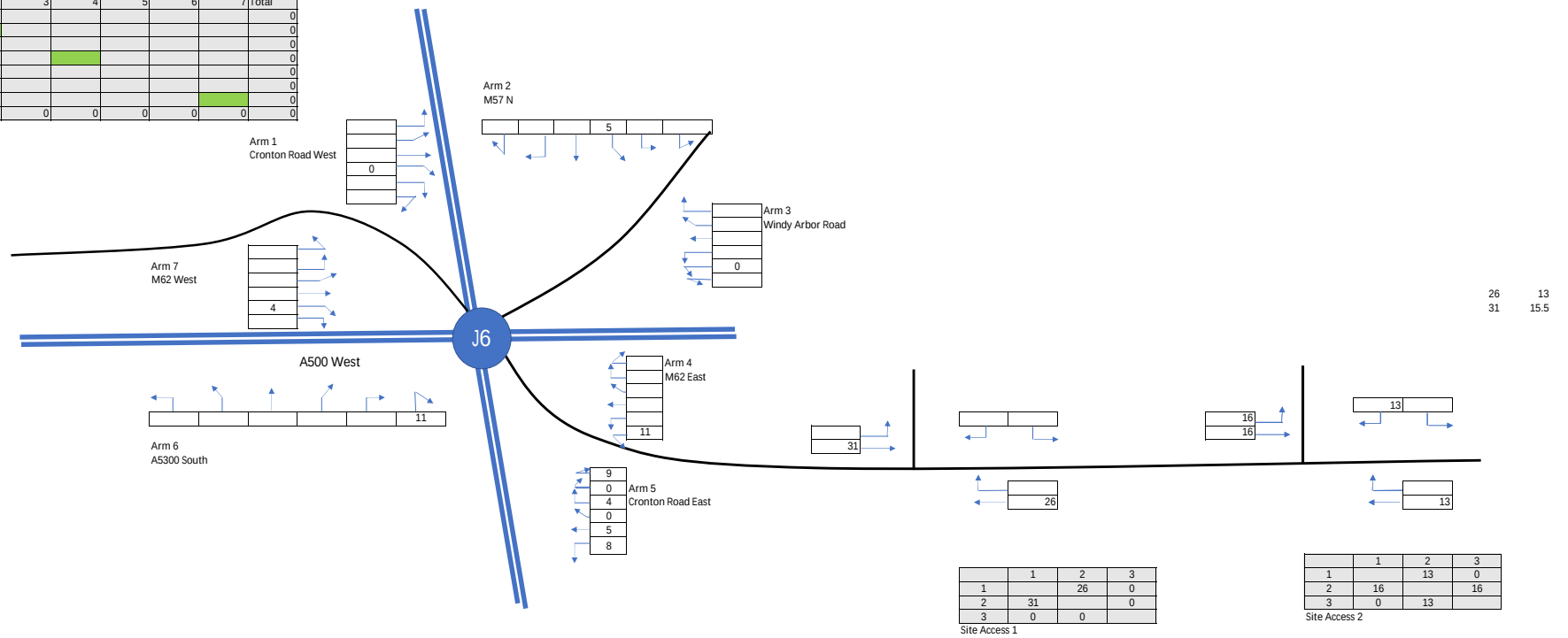


AM Committed Development Symmetry Phase 2 Sensitivity Test Car 0700 - 0800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0

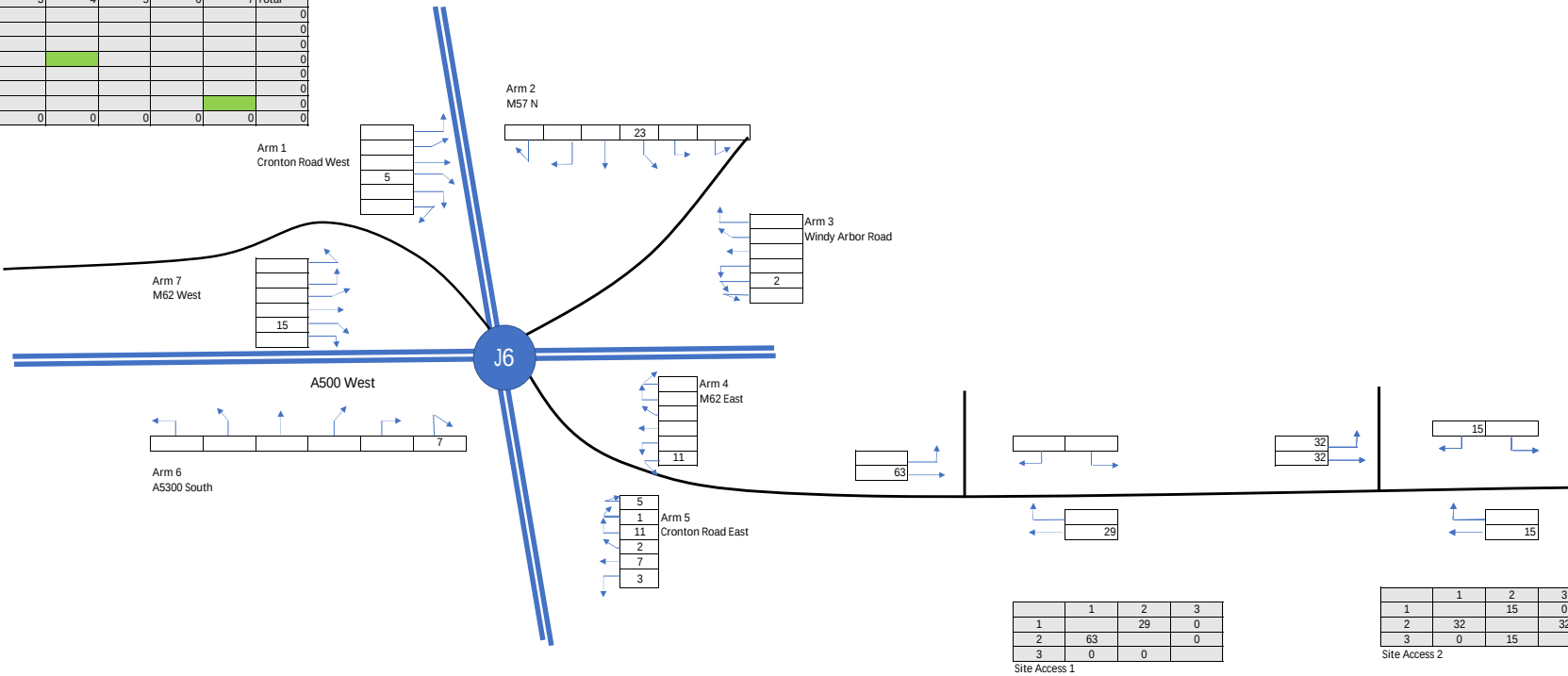


	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



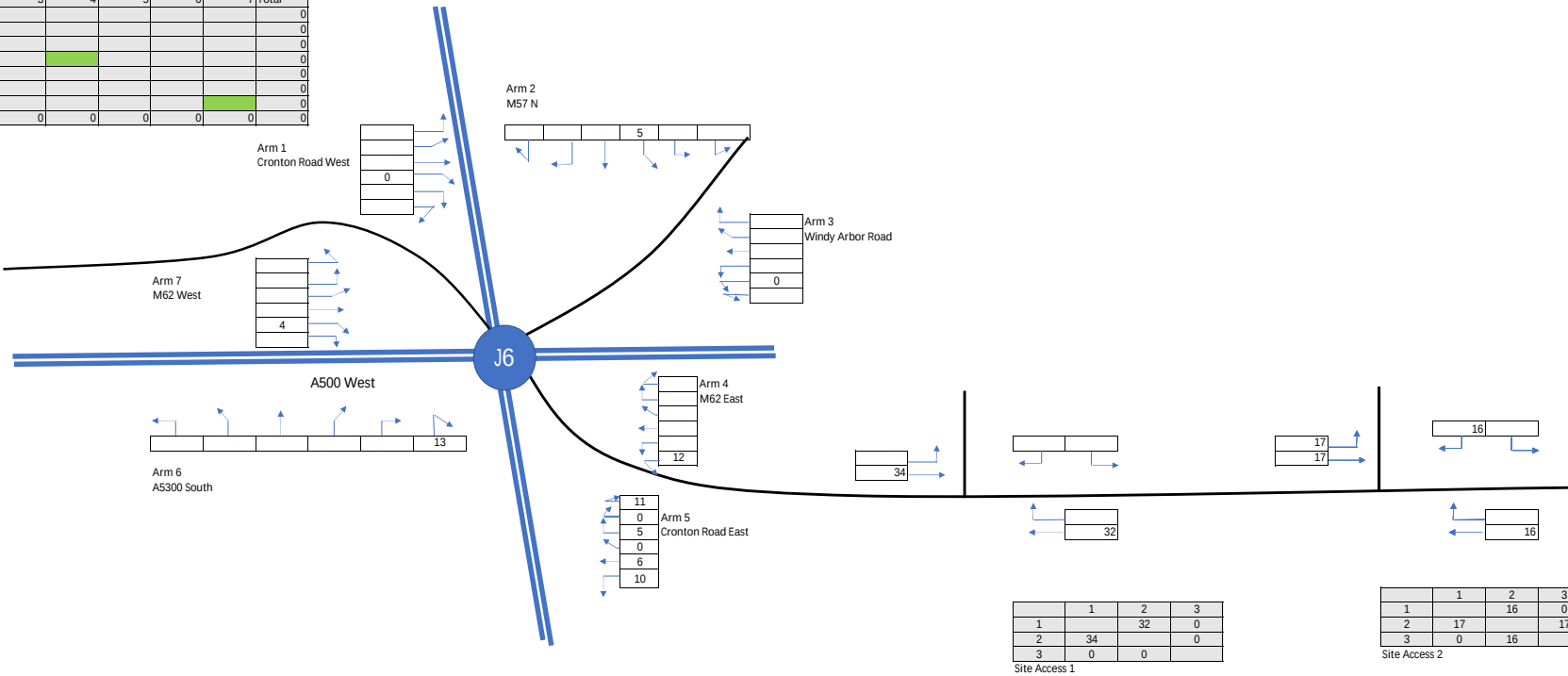
AM Committed Development Symmetry Phase 2 Sensitivity Test Car 0800 - 0900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



AM Committed Development Symmetry Phase 2 Sensitivity Test HGV 0800 - 0900

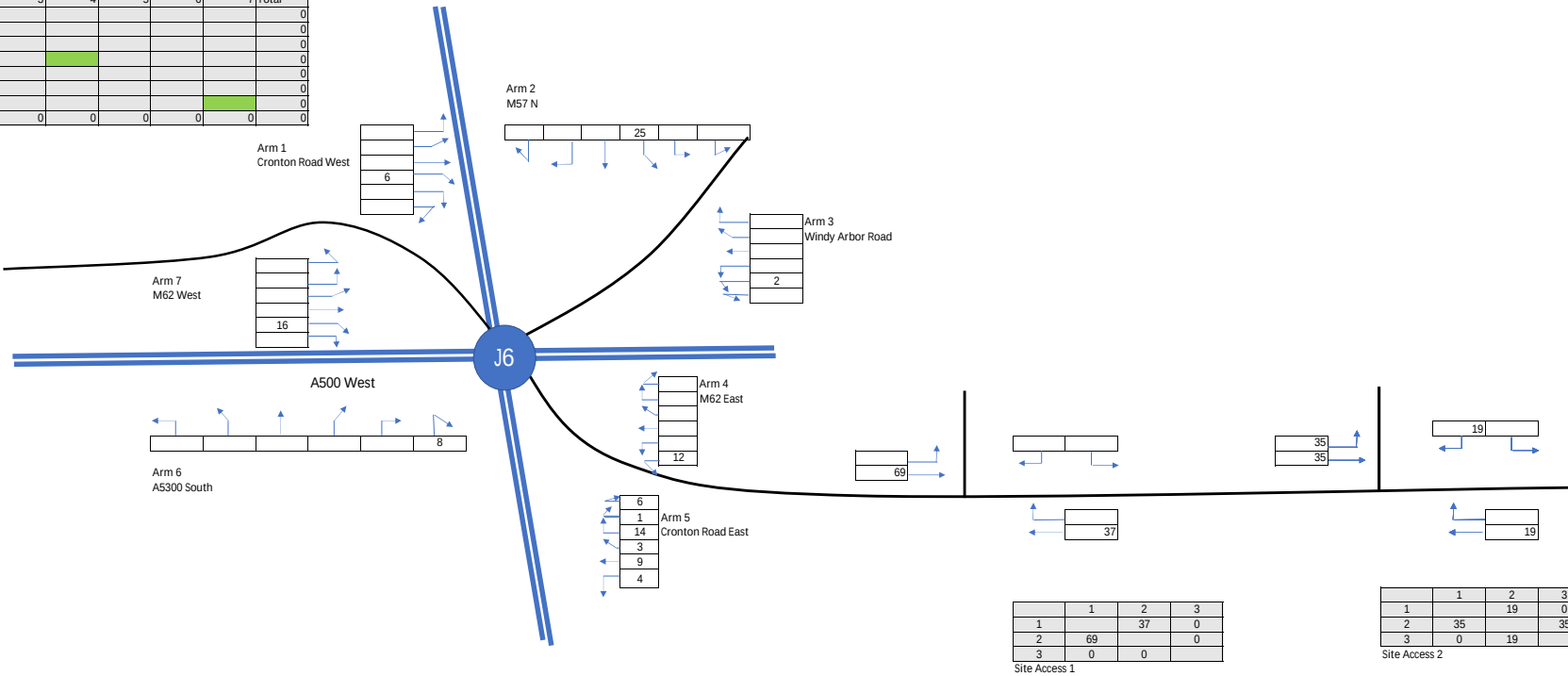
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



32 16
34 17

AM Committed Development Symmetry Phase 2 Sensitivity Test Car 0900 - 1000

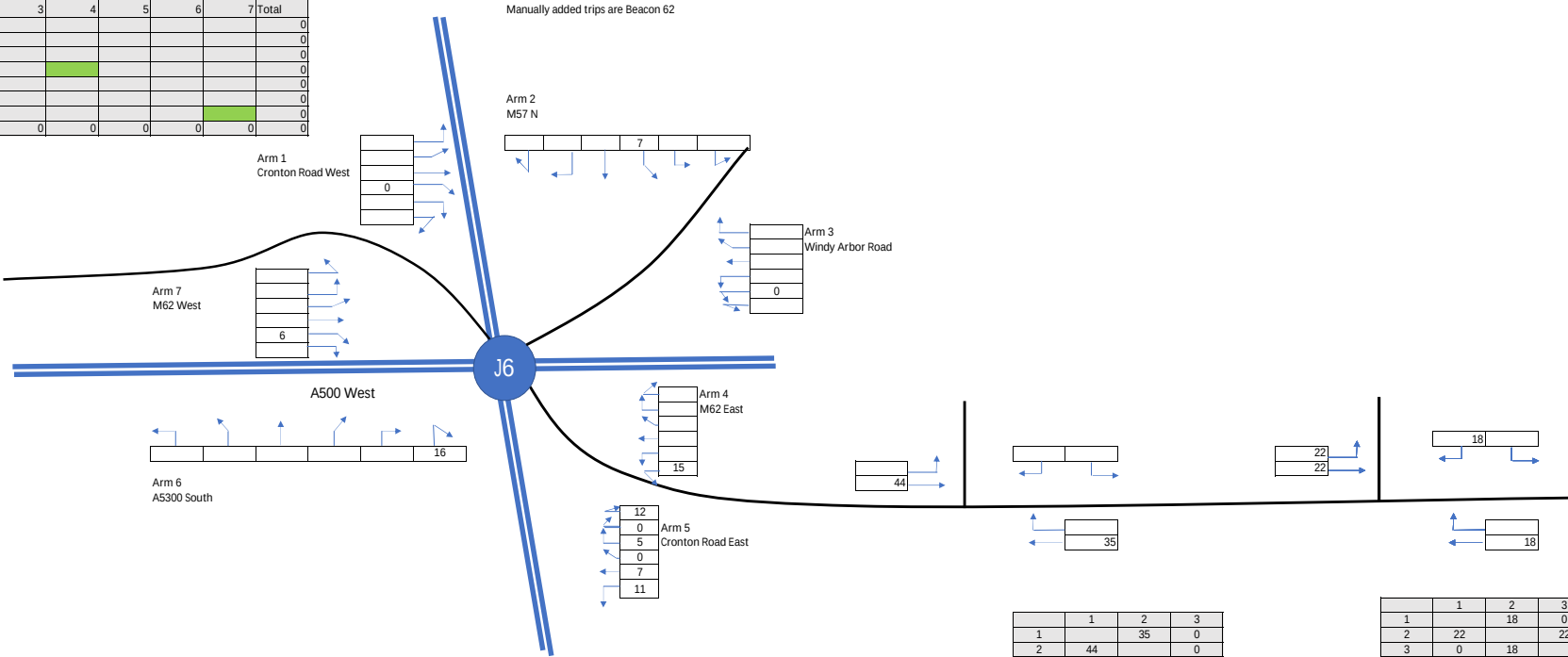
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



37 18.5
69 34.5

AM Committed Development Symmetry Phase 2 Sensitivity Test HGVS 0900 - 1000

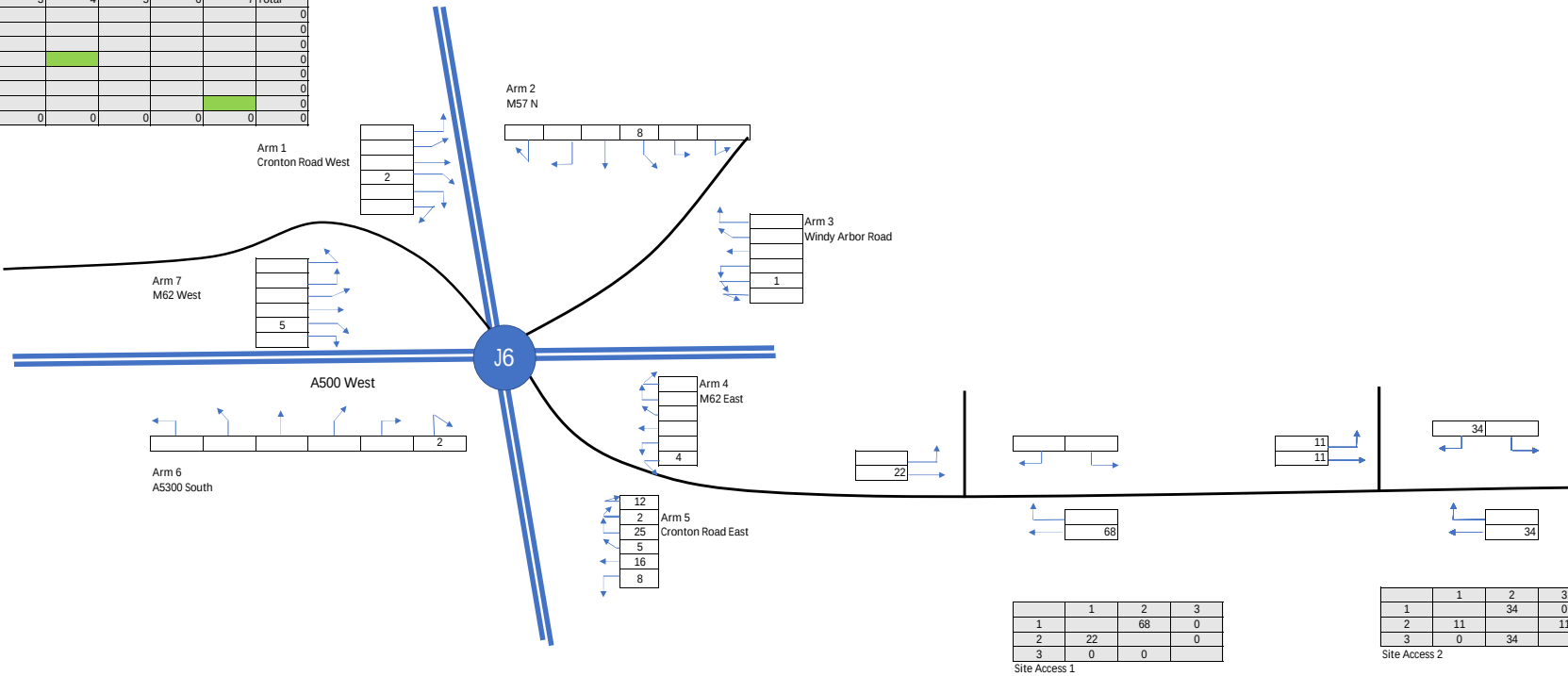
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



35 17.5
44 22

PM Committed Development Symmetry Phase 2 Sensitivity Test Car 1600 - 1700

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



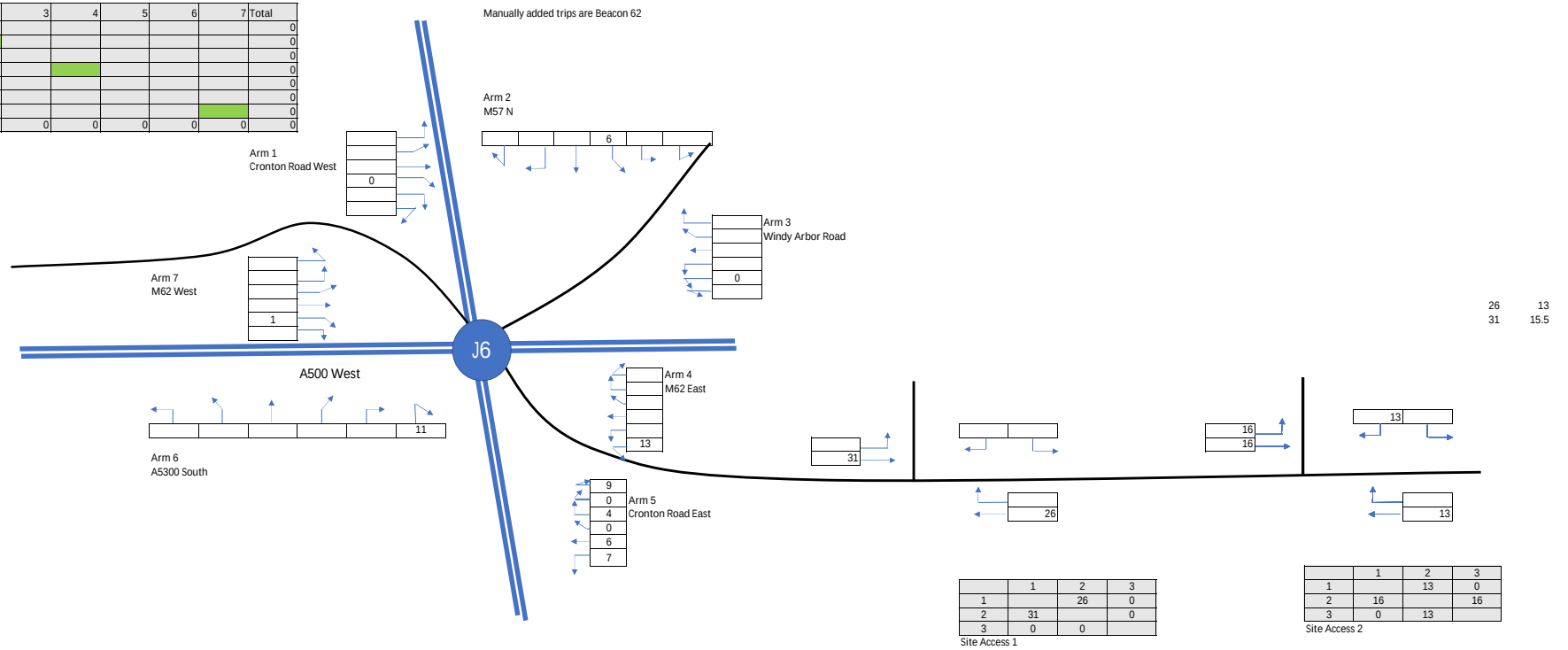
68 34
22 11

	1	2	3
1		68	0
2	22		0
3	0	0	

	1	2	3
1		34	0
2	11		11
3	0	34	

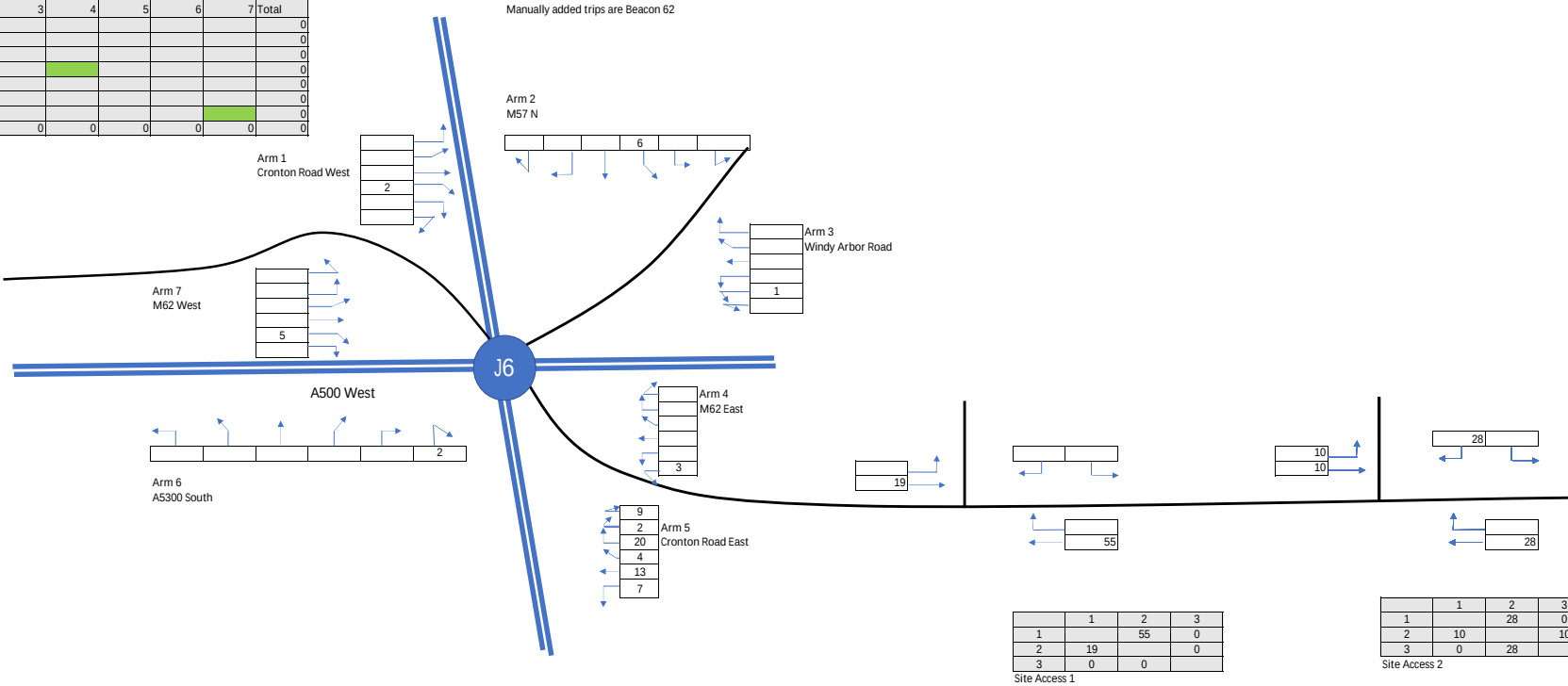
Site Access 2

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



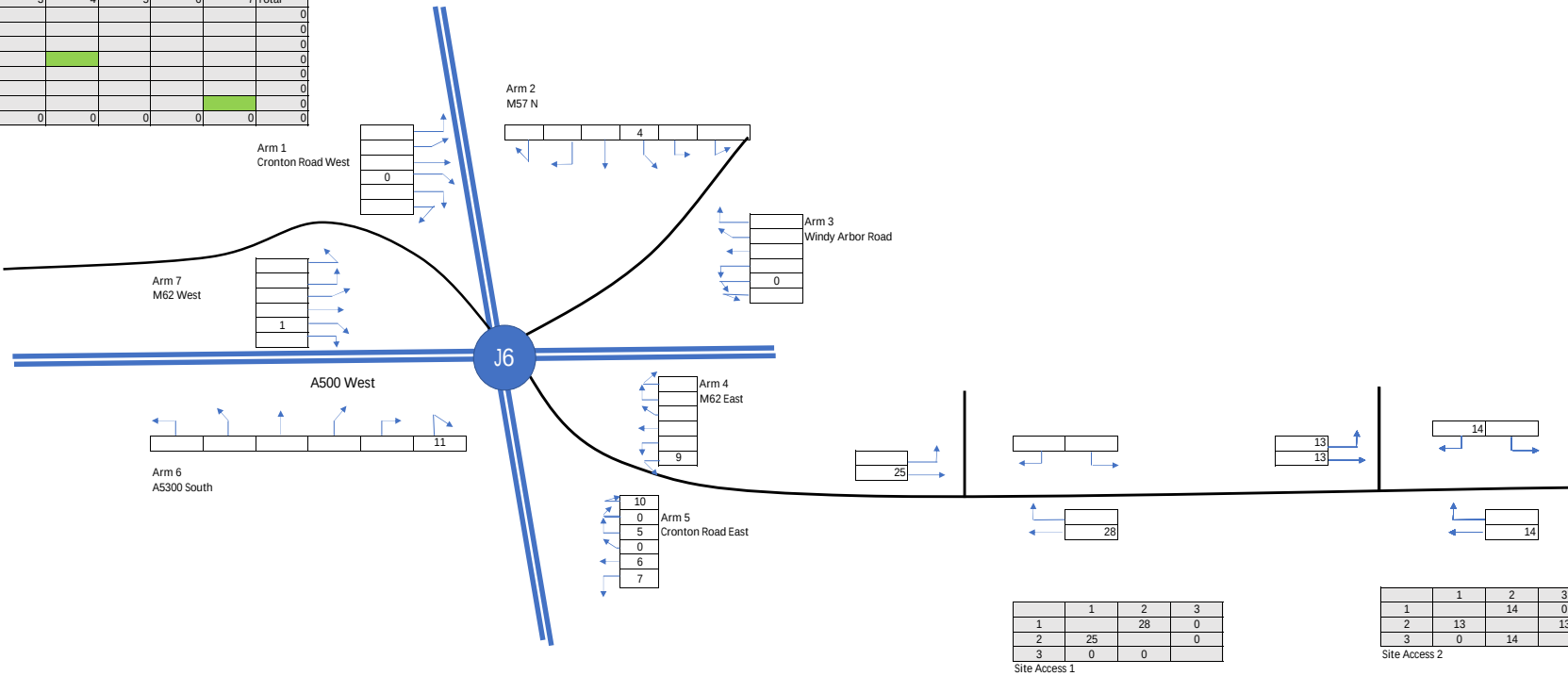
PM Committed Development Symmetry Phase 2 Sensitivity Test Car 1700 - 1800

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



PM Committed Development Symmetry Phase 2 Sensitivity Test HGV 1700 - 1800

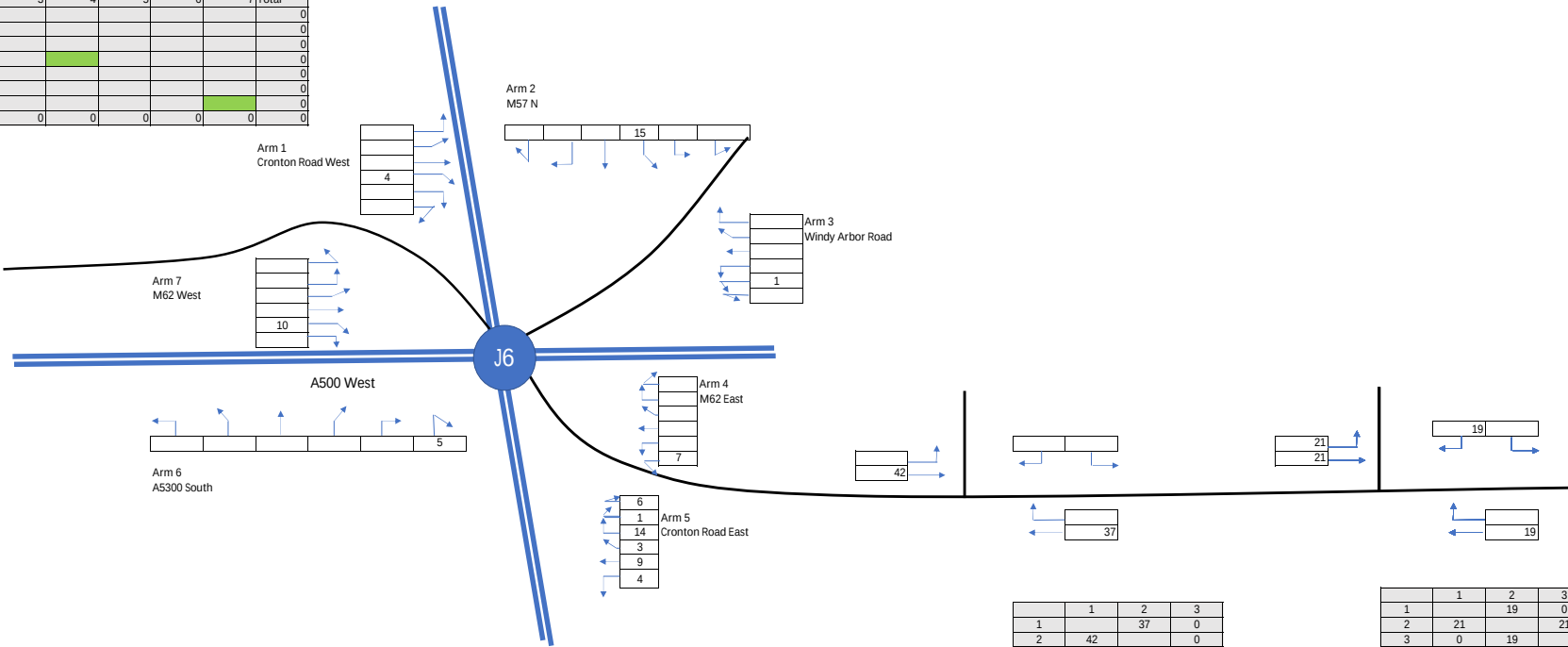
	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



28 14
25 12.5

PM Committed Development Symmetry Phase 2 Sensitivity Car 1800 - 1900

	1	2	3	4	5	6	7	Total
1								0
2								0
3								0
4								0
5								0
6								0
7								0
Total	0	0	0	0	0	0	0	0



37 18.5
42 21

PM Committed Development Symmetry Phase 2 Sensitivity Test HGV 1800 - 1900

[illegible]