

S|C|P

APPENDIX P

Junctions 9									
ARCADY 9 - Roundabout Module									
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Filename: Junction 8.j9

Path: M:\Job Library\2022\220352 - Phoenix Wharf, Port Talbot\Traffic Data\Junction Assessments\June 2023\ARCADY

Report generation date: 29/06/2023 15:58:45

»2022 Surveyed Flows , AM

»2022 Surveyed Flows, PM

»2026 Do Minimum, AM

»2026 Do Minimum, PM

»2026 Do Something, AM

»2026 Do Something, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Surveyed Flows									
Arm 1	D1	0.6	2.02	0.37	A	D2	0.7	2.14	0.41	A
Arm 2		0.0	2.65	0.01	A		0.0	2.78	0.02	A
Arm 3		0.2	2.14	0.19	A		0.4	2.69	0.30	A
Arm 4		0.1	1.57	0.09	A		0.1	1.64	0.08	A
	2026 Do Minimum									
Arm 1	D3	0.7	2.22	0.43	A	D4	0.8	2.25	0.44	A
Arm 2		0.0	2.78	0.03	A		0.1	3.21	0.13	A
Arm 3		0.3	2.23	0.20	A		0.5	2.97	0.33	A
Arm 4		0.1	1.61	0.10	A		0.1	1.69	0.09	A
	2026 Do Something									
Arm 1	D5	0.9	2.41	0.47	A	D6	0.8	2.29	0.45	A
Arm 2		0.0	2.92	0.04	A		0.1	3.24	0.13	A
Arm 3		0.3	2.31	0.23	A		0.6	3.21	0.38	A
Arm 4		0.1	1.63	0.10	A		0.1	1.73	0.09	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A4241 Harbour Way / A48 Margam Road / Access Road
Location	
Site number	
Date	10/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Surveyed Flows	AM	ONE HOUR	07:30	09:00	15
D2	2022 Surveyed Flows	PM	ONE HOUR	16:15	17:45	15
D3	2026 Do Minimum	AM	ONE HOUR	07:30	09:00	15
D4	2026 Do Minimum	PM	ONE HOUR	16:15	17:45	15
D5	2026 Do Something	AM	ONE HOUR	07:30	09:00	15
D6	2026 Do Something	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2022 Surveyed Flows , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	1.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A48 Margam Road (South)	
2	Access Road	
3	A4241 Harbour Way	
4	A48 Margam Road (North) A48 Margam Raod (South)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	7.30	10.50	23.9	23.0	70.0	33.0	
2	3.70	7.10	29.9	37.0	92.0	34.0	
3	7.40	7.90	2.8	44.4	70.0	38.0	
4	7.20	9.90	11.8	76.6	70.0	31.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.690	2879
2	0.483	1892
3	0.605	2337
4	0.677	2741

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2022 Surveyed Flows	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	961	100.000
2		✓	10	100.000
3		✓	348	100.000
4		✓	210	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	21	535	405
	2	5	0	2	3
	3	296	0	1	51
	4	163	0	47	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.37	2.02	0.6	A
2	0.01	2.65	0.0	A
3	0.19	2.14	0.2	A
4	0.09	1.57	0.1	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	723	36	2854	0.253	722	0.3	1.688	A
2	8	742	1534	0.005	8	0.0	2.358	A
3	262	310	2149	0.122	261	0.1	1.907	A
4	158	227	2587	0.061	158	0.1	1.481	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	864	43	2849	0.303	864	0.4	1.812	A
2	9	888	1463	0.006	9	0.0	2.475	A
3	313	371	2112	0.148	313	0.2	2.000	A
4	189	271	2557	0.074	189	0.1	1.519	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1058	53	2843	0.372	1057	0.6	2.017	A
2	11	1087	1367	0.008	11	0.0	2.654	A
3	383	454	2061	0.186	383	0.2	2.144	A
4	231	332	2516	0.092	231	0.1	1.575	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1058	53	2843	0.372	1058	0.6	2.017	A
2	11	1088	1367	0.008	11	0.0	2.655	A
3	383	455	2061	0.186	383	0.2	2.144	A
4	231	333	2515	0.092	231	0.1	1.575	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	864	43	2849	0.303	865	0.4	1.816	A
2	9	889	1463	0.006	9	0.0	2.477	A
3	313	372	2112	0.148	313	0.2	2.001	A
4	189	272	2557	0.074	189	0.1	1.519	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	723	36	2854	0.253	724	0.3	1.689	A
2	8	744	1533	0.005	8	0.0	2.360	A
3	262	311	2148	0.122	262	0.1	1.907	A
4	158	227	2587	0.061	158	0.1	1.481	A

2022 Surveyed Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	2.26	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2022 Surveyed Flows	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1054	100.000
2		✓	18	100.000
3		✓	528	100.000
4		✓	176	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	0	11	431	612
	2	4	0	4	10
	3	462	0	5	61
	4	134	1	41	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1	2	3	4
	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
From	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.41	2.14	0.7	A
2	0.02	2.78	0.0	A
3	0.30	2.69	0.4	A
4	0.08	1.64	0.1	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	35	2855	0.278	792	0.4	1.745	A
2	14	818	1497	0.009	14	0.0	2.426	A
3	398	470	2052	0.194	397	0.2	2.174	A
4	133	354	2501	0.053	132	0.1	1.519	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	948	42	2850	0.332	947	0.5	1.891	A
2	16	979	1419	0.011	16	0.0	2.565	A
3	475	562	1996	0.238	474	0.3	2.365	A
4	158	423	2454	0.064	158	0.1	1.567	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1160	52	2843	0.408	1160	0.7	2.137	A
2	20	1198	1313	0.015	20	0.0	2.782	A
3	581	689	1920	0.303	581	0.4	2.689	A
4	194	518	2390	0.081	194	0.1	1.638	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1160	52	2843	0.408	1160	0.7	2.138	A
2	20	1199	1313	0.015	20	0.0	2.783	A
3	581	689	1919	0.303	581	0.4	2.690	A
4	194	519	2390	0.081	194	0.1	1.638	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	948	42	2850	0.332	948	0.5	1.892	A
2	16	980	1419	0.011	16	0.0	2.568	A
3	475	563	1996	0.238	475	0.3	2.369	A
4	158	424	2454	0.064	158	0.1	1.570	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	794	35	2855	0.278	794	0.4	1.749	A
2	14	820	1496	0.009	14	0.0	2.428	A
3	398	472	2051	0.194	398	0.2	2.179	A
4	133	355	2500	0.053	133	0.1	1.522	A

2026 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	2.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2026 Do Minimum	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1098	100.000
2		✓	42	100.000
3		✓	371	100.000
4		✓	221	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1	2	3	4
From	1	10	111	551	426
	2	17	0	6	19
	3	305	13	1	52
	4	168	5	48	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.43	2.22	0.7	A
2	0.03	2.78	0.0	A
3	0.20	2.23	0.3	A
4	0.10	1.61	0.1	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	50	2844	0.291	825	0.4	1.780	A
2	32	778	1516	0.021	32	0.0	2.424	A
3	279	355	2122	0.132	279	0.2	1.953	A
4	166	260	2565	0.065	166	0.1	1.500	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	987	60	2837	0.348	987	0.5	1.945	A
2	38	931	1442	0.026	38	0.0	2.562	A
3	334	424	2080	0.160	333	0.2	2.061	A
4	199	311	2530	0.079	199	0.1	1.543	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1209	74	2828	0.427	1208	0.7	2.221	A
2	46	1140	1341	0.034	46	0.0	2.778	A
3	408	519	2022	0.202	408	0.3	2.230	A
4	243	381	2483	0.098	243	0.1	1.606	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1209	74	2828	0.427	1209	0.7	2.222	A
2	46	1141	1341	0.034	46	0.0	2.779	A
3	408	520	2022	0.202	408	0.3	2.230	A
4	243	381	2483	0.098	243	0.1	1.606	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	987	60	2837	0.348	988	0.5	1.948	A
2	38	932	1442	0.026	38	0.0	2.565	A
3	334	425	2079	0.160	334	0.2	2.062	A
4	199	311	2530	0.079	199	0.1	1.546	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	50	2844	0.291	827	0.4	1.787	A
2	32	780	1515	0.021	32	0.0	2.426	A
3	279	356	2121	0.132	279	0.2	1.956	A
4	166	261	2564	0.065	166	0.1	1.503	A

2026 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	2.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2026 Do Minimum	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1129	100.000
2		✓	146	100.000
3		✓	547	100.000
4		✓	182	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	13	31	443	642
	2	47	0	20	79
	3	476	3	5	63
	4	138	2	42	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.44	2.25	0.8	A
2	0.13	3.21	0.1	A
3	0.33	2.97	0.5	A
4	0.09	1.69	0.1	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	850	39	2852	0.298	848	0.4	1.794	A
2	110	860	1477	0.074	110	0.1	2.633	A
3	412	587	1981	0.208	411	0.3	2.291	A
4	137	409	2464	0.056	137	0.1	1.546	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1015	47	2847	0.357	1014	0.6	1.964	A
2	131	1029	1395	0.094	131	0.1	2.847	A
3	492	702	1912	0.257	491	0.3	2.534	A
4	164	489	2410	0.068	164	0.1	1.602	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1243	57	2840	0.438	1242	0.8	2.252	A
2	161	1260	1283	0.125	161	0.1	3.205	A
3	602	859	1816	0.332	602	0.5	2.962	A
4	200	598	2335	0.086	200	0.1	1.685	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1243	57	2840	0.438	1243	0.8	2.254	A
2	161	1261	1283	0.125	161	0.1	3.207	A
3	602	860	1816	0.332	602	0.5	2.965	A
4	200	599	2335	0.086	200	0.1	1.685	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1015	47	2847	0.357	1016	0.6	1.966	A
2	131	1030	1394	0.094	131	0.1	2.850	A
3	492	703	1911	0.257	492	0.3	2.538	A
4	164	490	2409	0.068	164	0.1	1.602	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	850	39	2852	0.298	850	0.4	1.798	A
2	110	863	1475	0.075	110	0.1	2.638	A
3	412	588	1980	0.208	412	0.3	2.295	A
4	137	410	2463	0.056	137	0.1	1.549	A

2026 Do Something, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	2.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2026 Do Something	AM	ONE HOUR	07:30	09:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1206	100.000
2		✓	42	100.000
3		✓	423	100.000
4		✓	227	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1	2	3	4
From	1	10	111	659	426
	2	17	0	6	19
	3	341	13	1	68
	4	168	5	54	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.47	2.41	0.9	A
2	0.04	2.92	0.0	A
3	0.23	2.31	0.3	A
4	0.10	1.63	0.1	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	908	55	2841	0.320	906	0.5	1.858	A
2	32	864	1475	0.021	32	0.0	2.494	A
3	318	355	2122	0.150	318	0.2	1.995	A
4	171	287	2546	0.067	171	0.1	1.514	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1084	66	2834	0.383	1084	0.6	2.057	A
2	38	1033	1393	0.027	38	0.0	2.655	A
3	380	424	2080	0.183	380	0.2	2.117	A
4	204	343	2508	0.081	204	0.1	1.561	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1328	80	2824	0.470	1327	0.9	2.404	A
2	46	1265	1281	0.036	46	0.0	2.915	A
3	466	519	2022	0.230	465	0.3	2.312	A
4	250	420	2456	0.102	250	0.1	1.631	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1328	80	2824	0.470	1328	0.9	2.406	A
2	46	1266	1280	0.036	46	0.0	2.916	A
3	466	520	2022	0.230	466	0.3	2.312	A
4	250	421	2456	0.102	250	0.1	1.631	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1084	66	2834	0.383	1085	0.6	2.059	A
2	38	1035	1392	0.027	38	0.0	2.657	A
3	380	425	2079	0.183	381	0.2	2.119	A
4	204	344	2508	0.081	204	0.1	1.564	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	908	55	2841	0.320	909	0.5	1.862	A
2	32	866	1474	0.021	32	0.0	2.498	A
3	318	356	2121	0.150	319	0.2	1.997	A
4	171	288	2546	0.067	171	0.1	1.515	A

2026 Do Something, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A4241 Harbour Way / A48 Margam Road / Access Road	Standard Roundabout		1, 2, 3, 4	2.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2026 Do Something	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1153	100.000
2		✓	146	100.000
3		✓	632	100.000
4		✓	182	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	1	2	3	4	
From	1	13	31	467	642
	2	47	0	20	79
	3	548	3	5	76
	4	138	2	42	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
	1	2	3	4	
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.45	2.29	0.8	A
2	0.13	3.24	0.1	A
3	0.38	3.21	0.6	A
4	0.09	1.73	0.1	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	868	39	2852	0.304	866	0.4	1.810	A
2	110	878	1468	0.075	110	0.1	2.650	A
3	476	587	1981	0.240	475	0.3	2.387	A
4	137	463	2427	0.056	137	0.1	1.571	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	47	2847	0.364	1036	0.6	1.988	A
2	131	1050	1385	0.095	131	0.1	2.871	A
3	568	702	1912	0.297	568	0.4	2.678	A
4	164	553	2366	0.069	164	0.1	1.633	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1269	57	2840	0.447	1269	0.8	2.290	A
2	161	1286	1271	0.127	161	0.1	3.242	A
3	696	859	1816	0.383	695	0.6	3.209	A
4	200	677	2282	0.088	200	0.1	1.728	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1269	57	2840	0.447	1269	0.8	2.292	A
2	161	1287	1270	0.127	161	0.1	3.243	A
3	696	860	1816	0.383	696	0.6	3.213	A
4	200	678	2281	0.088	200	0.1	1.729	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1037	47	2847	0.364	1037	0.6	1.992	A
2	131	1052	1384	0.095	131	0.1	2.873	A
3	568	703	1911	0.297	569	0.4	2.683	A
4	164	555	2365	0.069	164	0.1	1.637	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	868	39	2852	0.304	869	0.4	1.814	A
2	110	881	1467	0.075	110	0.1	2.655	A
3	476	588	1980	0.240	476	0.3	2.395	A
4	137	464	2426	0.056	137	0.1	1.571	A

S|C|P

APPENDIX Q

Junctions 9									
ARCADY 9 - Roundabout Module									
Version: 9.5.1.7462 © Copyright TRL Limited, 2019									
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk									
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Filename: Junction 9 - M4 Junction 38_Advanced.j9

Path: M:\Job Library\2022\220352 - Phoenix Wharf, Port Talbot\Traffic Data\Junction Assessments\June 2023\ARCADY

Report generation date: 29/06/2023 16:02:49

»2022 Surveyed Flows , AM

»2022 Surveyed Flows , PM

»2026 Do Minimum, AM

»2026 Do Minimum, PM

»2026 Do Something, AM

»2026 Do Something, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2022 Surveyed Flows									
Arm 1	D1	0.3	2.32	0.22	A	D2	0.3	2.52	0.21	A
Arm 2		0.2	1.97	0.19	A		0.4	2.20	0.28	A
Arm 3		0.4	2.74	0.30	A		0.4	2.84	0.28	A
Arm 4		0.0	2.85	0.02	A		0.1	3.14	0.06	A
Arm 5		0.2	1.49	0.18	A		0.3	1.61	0.23	A
	2026 Do Minimum									
Arm 1	D3	0.4	2.51	0.26	A	D4	0.3	2.74	0.24	A
Arm 2		0.3	2.12	0.20	A		0.4	2.38	0.30	A
Arm 3		0.5	3.10	0.35	A		0.4	3.04	0.31	A
Arm 4		0.0	3.13	0.02	A		0.1	3.31	0.06	A
Arm 5		0.2	1.51	0.19	A		0.3	1.67	0.26	A
	2026 Do Something									
Arm 1	D5	0.4	2.61	0.28	A	D6	0.3	2.94	0.25	A
Arm 2		0.3	2.20	0.21	A		0.5	2.51	0.32	A
Arm 3		0.7	3.45	0.41	A		0.5	3.11	0.32	A
Arm 4		0.0	3.38	0.02	A		0.1	3.37	0.06	A
Arm 5		0.3	1.54	0.20	A		0.4	1.73	0.29	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	M4 Junction 38
Location	
Site number	
Date	17/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\craig.thomson
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022 Surveyed Flows	AM	ONE HOUR	07:30	09:00	15	✓
D2	2022 Surveyed Flows	PM	ONE HOUR	16:15	17:45	15	✓
D3	2026 Do Minimum	AM	ONE HOUR	07:30	09:00	15	✓
D4	2026 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D5	2026 Do Something	AM	ONE HOUR	07:30	09:00	15	✓
D6	2026 Do Something	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2022 Surveyed Flows , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	M5 SB Slip	
2	A48	
3	M4 NB Slip	
4	Heolcae'r-Bont	
5	A48 Margam Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	6.13	6.13	0.0	304.0	91.0	20.0	
2	3.91	11.30	21.2	19.9	91.0	38.0	
3	6.10	6.10	0.0	105.0	91.0	20.0	
4	2.85	5.65	16.4	22.2	91.0	24.0	
5	7.22	7.59	2.3	20.1	91.0	33.0	

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.995	2529
2	1.013	2789
3	0.994	2442
4	0.731	2060
5	1.125	2970

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022 Surveyed Flows	AM	ONE HOUR	07:30	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	392	100.000
2		ONE HOUR	✓	384	100.000
3		ONE HOUR	✓	516	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	468	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		1	2	3	4	5
From	1	0	266	2	17	107
	2	0	0	18	3	363
	3	0	18	0	25	473
	4	0	4	6	0	14
	5	0	113	333	22	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.22	2.32	0.3	A	360	540
2	0.19	1.97	0.2	A	352	529
3	0.30	2.74	0.4	A	473	710
4	0.02	2.85	0.0	A	22	33
5	0.18	1.49	0.2	A	429	644

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	295	74	373	2158	0.137	294	0	0.0	0.2	1.931	A
2	289	72	366	2418	0.120	289	301	0.0	0.1	1.690	A
3	388	97	385	2059	0.189	388	270	0.0	0.2	2.152	A
4	18	5	722	1533	0.012	18	50	0.0	0.0	2.376	A
5	352	88	21	2946	0.120	352	719	0.0	0.1	1.387	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	88	446	2086	0.169	352	0	0.2	0.2	2.076	A
2	345	86	438	2345	0.147	345	360	0.1	0.2	1.798	A
3	464	116	460	1984	0.234	464	323	0.2	0.3	2.367	A
4	22	5	863	1429	0.015	22	60	0.0	0.0	2.556	A
5	421	105	25	2941	0.143	421	860	0.1	0.2	1.427	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	432	108	546	1986	0.217	431	0	0.2	0.3	2.315	A
2	423	106	536	2246	0.188	423	441	0.2	0.2	1.974	A
3	568	142	563	1882	0.302	568	395	0.3	0.4	2.740	A
4	26	7	1057	1288	0.021	26	74	0.0	0.0	2.853	A
5	515	129	31	2935	0.176	515	1053	0.2	0.2	1.487	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	432	108	546	1986	0.217	432	0	0.3	0.3	2.315	A
2	423	106	536	2246	0.188	423	442	0.2	0.2	1.974	A
3	568	142	564	1881	0.302	568	395	0.4	0.4	2.740	A
4	26	7	1058	1287	0.021	26	74	0.0	0.0	2.854	A
5	515	129	31	2935	0.176	515	1054	0.2	0.2	1.487	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	88	446	2085	0.169	353	0	0.3	0.2	2.079	A
2	345	86	438	2345	0.147	345	361	0.2	0.2	1.802	A
3	464	116	461	1984	0.234	464	323	0.4	0.3	2.369	A
4	22	5	865	1428	0.015	22	60	0.0	0.0	2.560	A
5	421	105	25	2941	0.143	421	861	0.2	0.2	1.430	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	295	74	374	2158	0.137	295	0	0.2	0.2	1.934	A
2	289	72	367	2417	0.120	289	302	0.2	0.1	1.693	A
3	388	97	386	2058	0.189	389	270	0.3	0.2	2.156	A
4	18	5	724	1531	0.012	18	50	0.0	0.0	2.378	A
5	352	88	21	2946	0.120	352	721	0.2	0.1	1.389	A

2022 Surveyed Flows , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2022 Surveyed Flows	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	341	100.000
2		ONE HOUR	✓	586	100.000
3		ONE HOUR	✓	445	100.000
4		ONE HOUR	✓	63	100.000
5		ONE HOUR	✓	609	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	290	0	9	42
	2	0	0	14	2	570
	3	0	31	0	9	405
	4	0	7	14	0	42
	5	0	218	387	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
	1	2	3	4	5	
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.21	2.52	0.3	A	313	469
2	0.28	2.20	0.4	A	538	807
3	0.28	2.84	0.4	A	408	613
4	0.06	3.14	0.1	A	58	87
5	0.23	1.61	0.3	A	559	838

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	257	64	497	2035	0.126	256	0	0.0	0.1	2.024	A
2	441	110	343	2442	0.181	440	410	0.0	0.2	1.798	A
3	335	84	471	1973	0.170	334	312	0.0	0.2	2.195	A
4	47	12	787	1485	0.032	47	18	0.0	0.0	2.503	A
5	458	115	39	2926	0.157	458	796	0.0	0.2	1.458	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	307	77	594	1938	0.158	306	0	0.1	0.2	2.205	A
2	527	132	410	2374	0.222	527	491	0.2	0.3	1.949	A
3	400	100	563	1882	0.213	400	373	0.2	0.3	2.429	A
4	57	14	942	1372	0.041	57	22	0.0	0.0	2.735	A
5	547	137	47	2917	0.188	547	951	0.2	0.2	1.518	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	375	94	727	1806	0.208	375	0	0.2	0.3	2.516	A
2	645	161	502	2280	0.283	645	601	0.3	0.4	2.201	A
3	490	122	690	1756	0.279	489	457	0.3	0.4	2.843	A
4	69	17	1153	1218	0.057	69	26	0.0	0.1	3.133	A
5	671	168	57	2905	0.231	670	1165	0.2	0.3	1.610	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	375	94	728	1805	0.208	375	0	0.3	0.3	2.517	A
2	645	161	502	2280	0.283	645	601	0.4	0.4	2.201	A
3	490	122	690	1755	0.279	490	457	0.4	0.4	2.844	A
4	69	17	1154	1217	0.057	69	26	0.1	0.1	3.135	A
5	671	168	57	2905	0.231	671	1166	0.3	0.3	1.610	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	307	77	595	1938	0.158	307	0	0.3	0.2	2.209	A
2	527	132	410	2373	0.222	527	491	0.4	0.3	1.951	A
3	400	100	564	1881	0.213	401	373	0.4	0.3	2.432	A
4	57	14	943	1371	0.041	57	22	0.1	0.0	2.738	A
5	547	137	47	2917	0.188	548	953	0.3	0.2	1.521	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	257	64	498	2034	0.126	257	0	0.2	0.1	2.025	A
2	441	110	343	2441	0.181	441	411	0.3	0.2	1.802	A
3	335	84	472	1972	0.170	335	313	0.3	0.2	2.201	A
4	47	12	790	1483	0.032	47	18	0.0	0.0	2.508	A
5	458	115	39	2926	0.157	459	798	0.2	0.2	1.458	A

2026 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.36	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2026 Do Minimum	AM	ONE HOUR	07:30	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	467	100.000
2		ONE HOUR	✓	394	100.000
3		ONE HOUR	✓	578	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	503	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	274	2	18	173
	2	0	0	18	3	373
	3	0	19	0	26	533
	4	0	4	6	0	14
	5	0	116	365	22	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
	1	2	3	4	5	
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.26	2.51	0.4	A	429	643
2	0.20	2.12	0.3	A	362	542
3	0.35	3.10	0.5	A	530	796
4	0.02	3.13	0.0	A	22	33
5	0.19	1.51	0.2	A	462	692

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	88	400	2131	0.165	351	0	0.0	0.2	2.020	A
2	297	74	440	2343	0.127	296	310	0.0	0.1	1.758	A
3	435	109	443	2002	0.217	434	294	0.0	0.3	2.295	A
4	18	5	825	1458	0.012	18	52	0.0	0.0	2.500	A
5	379	95	22	2945	0.129	378	821	0.0	0.1	1.402	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	420	105	478	2054	0.204	420	0	0.2	0.3	2.203	A
2	354	89	527	2255	0.157	354	371	0.1	0.2	1.892	A
3	520	130	529	1916	0.271	519	351	0.3	0.4	2.578	A
4	22	5	986	1339	0.016	22	62	0.0	0.0	2.731	A
5	452	113	26	2940	0.154	452	982	0.1	0.2	1.446	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	514	129	586	1947	0.264	514	0	0.3	0.4	2.512	A
2	434	108	645	2136	0.203	434	454	0.2	0.3	2.115	A
3	636	159	648	1797	0.354	636	430	0.4	0.5	3.097	A
4	26	7	1208	1178	0.022	26	76	0.0	0.0	3.126	A
5	554	138	32	2934	0.189	554	1202	0.2	0.2	1.511	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	514	129	586	1947	0.264	514	0	0.4	0.4	2.512	A
2	434	108	645	2135	0.203	434	455	0.3	0.3	2.115	A
3	636	159	648	1797	0.354	636	430	0.5	0.5	3.101	A
4	26	7	1209	1177	0.022	26	76	0.0	0.0	3.128	A
5	554	138	32	2934	0.189	554	1203	0.2	0.2	1.512	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	420	105	478	2053	0.204	420	0	0.4	0.3	2.206	A
2	354	89	527	2255	0.157	354	372	0.3	0.2	1.896	A
3	520	130	530	1915	0.271	520	352	0.5	0.4	2.582	A
4	22	5	988	1338	0.016	22	62	0.0	0.0	2.735	A
5	452	113	26	2940	0.154	452	984	0.2	0.2	1.446	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	352	88	401	2131	0.165	352	0	0.3	0.2	2.023	A
2	297	74	441	2342	0.127	297	311	0.2	0.1	1.762	A
3	435	109	444	2001	0.218	436	294	0.4	0.3	2.302	A
4	18	5	827	1456	0.012	18	52	0.0	0.0	2.503	A
5	379	95	22	2945	0.129	379	823	0.2	0.1	1.404	A

2026 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2026 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	374	100.000
2		ONE HOUR	✓	603	100.000
3		ONE HOUR	✓	479	100.000
4		ONE HOUR	✓	65	100.000
5		ONE HOUR	✓	681	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	299	0	9	66
	2	0	0	15	2	586
	3	0	31	0	10	438
	4	0	7	15	0	43
	5	0	224	453	4	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
	1	2	3	4	5	
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.24	2.74	0.3	A	343	515
2	0.30	2.38	0.4	A	553	830
3	0.31	3.04	0.4	A	440	659
4	0.06	3.31	0.1	A	60	89
5	0.26	1.67	0.3	A	625	937

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	282	70	552	1980	0.142	281	0	0.0	0.2	2.118	A
2	454	113	411	2372	0.191	453	421	0.0	0.2	1.875	A
3	361	90	501	1944	0.186	360	363	0.0	0.2	2.272	A
4	49	12	842	1445	0.034	49	19	0.0	0.0	2.578	A
5	513	128	40	2925	0.175	512	851	0.0	0.2	1.491	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	336	84	660	1873	0.180	336	0	0.2	0.2	2.342	A
2	542	136	492	2291	0.237	542	504	0.2	0.3	2.058	A
3	431	108	599	1846	0.233	430	434	0.2	0.3	2.543	A
4	58	15	1007	1324	0.044	58	22	0.0	0.0	2.843	A
5	612	153	48	2916	0.210	612	1018	0.2	0.3	1.561	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	412	103	808	1726	0.239	411	0	0.2	0.3	2.739	A
2	664	166	602	2179	0.305	663	617	0.3	0.4	2.375	A
3	527	132	734	1712	0.308	527	532	0.3	0.4	3.035	A
4	72	18	1233	1159	0.062	71	28	0.0	0.1	3.308	A
5	750	187	58	2904	0.258	749	1246	0.3	0.3	1.670	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	412	103	808	1725	0.239	412	0	0.3	0.3	2.740	A
2	664	166	602	2179	0.305	664	618	0.4	0.4	2.376	A
3	527	132	734	1712	0.308	527	532	0.4	0.4	3.039	A
4	72	18	1234	1158	0.062	72	28	0.1	0.1	3.311	A
5	750	187	58	2904	0.258	750	1247	0.3	0.3	1.670	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	336	84	660	1872	0.180	337	0	0.3	0.2	2.345	A
2	542	136	492	2290	0.237	543	505	0.4	0.3	2.060	A
3	431	108	600	1845	0.233	431	434	0.4	0.3	2.546	A
4	58	15	1009	1323	0.044	59	22	0.1	0.0	2.846	A
5	612	153	48	2916	0.210	613	1020	0.3	0.3	1.564	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	282	70	553	1979	0.142	282	0	0.2	0.2	2.120	A
2	454	113	412	2371	0.191	454	423	0.3	0.2	1.877	A
3	361	90	502	1942	0.186	361	364	0.3	0.2	2.276	A
4	49	12	845	1443	0.034	49	19	0.0	0.0	2.583	A
5	513	128	40	2925	0.175	513	854	0.3	0.2	1.494	A

2026 Do Something, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.53	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2026 Do Something	AM	ONE HOUR	07:30	09:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	482	100.000
2		ONE HOUR	✓	402	100.000
3		ONE HOUR	✓	663	100.000
4		ONE HOUR	✓	24	100.000
5		ONE HOUR	✓	539	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
	1	2	3	4	5	
From	1	0	274	2	18	188
	2	0	0	18	3	381
	3	0	19	0	26	618
	4	0	4	6	0	14
	5	0	116	401	22	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
	1	2	3	4	5	
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.28	2.61	0.4	A	442	663
2	0.21	2.20	0.3	A	369	553
3	0.41	3.45	0.7	A	608	913
4	0.02	3.38	0.0	A	22	33
5	0.20	1.54	0.3	A	495	742

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	363	91	427	2104	0.172	362	0	0.0	0.2	2.065	A
2	303	76	479	2304	0.131	302	310	0.0	0.2	1.798	A
3	499	125	460	1985	0.252	498	321	0.0	0.3	2.419	A
4	18	5	906	1398	0.013	18	52	0.0	0.0	2.607	A
5	406	101	22	2945	0.138	405	902	0.0	0.2	1.417	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	108	510	2021	0.214	433	0	0.2	0.3	2.266	A
2	361	90	572	2209	0.164	361	371	0.2	0.2	1.948	A
3	596	149	550	1895	0.315	596	384	0.3	0.5	2.770	A
4	22	5	1083	1269	0.017	22	62	0.0	0.0	2.886	A
5	485	121	26	2940	0.165	484	1079	0.2	0.2	1.465	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	531	133	625	1907	0.278	530	0	0.3	0.4	2.614	A
2	443	111	701	2079	0.213	442	454	0.2	0.3	2.199	A
3	730	182	673	1772	0.412	729	470	0.5	0.7	3.447	A
4	26	7	1326	1091	0.024	26	76	0.0	0.0	3.380	A
5	593	148	32	2934	0.202	593	1321	0.2	0.3	1.537	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	531	133	625	1907	0.278	531	0	0.4	0.4	2.614	A
2	443	111	701	2078	0.213	443	455	0.3	0.3	2.200	A
3	730	182	674	1772	0.412	730	470	0.7	0.7	3.454	A
4	26	7	1328	1090	0.024	26	76	0.0	0.0	3.383	A
5	593	148	32	2934	0.202	593	1322	0.3	0.3	1.537	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	108	511	2021	0.214	434	0	0.4	0.3	2.270	A
2	361	90	573	2208	0.164	362	372	0.3	0.2	1.951	A
3	596	149	551	1894	0.315	597	384	0.7	0.5	2.778	A
4	22	5	1086	1267	0.017	22	62	0.0	0.0	2.892	A
5	485	121	26	2940	0.165	485	1081	0.3	0.2	1.467	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	363	91	428	2104	0.173	363	0	0.3	0.2	2.070	A
2	303	76	480	2303	0.131	303	311	0.2	0.2	1.799	A
3	499	125	461	1983	0.252	500	322	0.5	0.3	2.426	A
4	18	5	909	1396	0.013	18	52	0.0	0.0	2.611	A
5	406	101	22	2945	0.138	406	905	0.2	0.2	1.417	A

2026 Do Something, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	M4 Junction 38	Large Roundabout		1, 2, 3, 4, 5	2.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	554	101.00
2	476	70.00
3	513	136.00
4	1099	0.00
5	41	60.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2026 Do Something	PM	ONE HOUR	16:15	17:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		ONE HOUR	✓	381	100.000
2		ONE HOUR	✓	603	100.000
3		ONE HOUR	✓	496	100.000
4		ONE HOUR	✓	65	100.000
5		ONE HOUR	✓	754	100.000

Origin-Destination Data

Demand (PCU/hr)

		To				
		1	2	3	4	5
From	1	0	299	0	9	73
	2	0	0	15	2	586
	3	0	31	0	10	455
	4	0	7	15	0	43
	5	0	232	518	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.25	2.94	0.3	A	350	524
2	0.32	2.51	0.5	A	553	830
3	0.32	3.11	0.5	A	455	683
4	0.06	3.37	0.1	A	60	89
5	0.29	1.73	0.4	A	692	1038

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	287	72	606	1926	0.149	286	0	0.0	0.2	2.194	A
2	454	113	465	2318	0.196	453	427	0.0	0.2	1.930	A
3	373	93	506	1938	0.193	372	412	0.0	0.2	2.298	A
4	49	12	860	1432	0.034	49	19	0.0	0.0	2.602	A
5	568	142	40	2925	0.194	567	869	0.0	0.2	1.526	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	86	725	1808	0.189	342	0	0.2	0.2	2.456	A
2	542	136	556	2225	0.244	542	511	0.2	0.3	2.138	A
3	446	111	606	1840	0.242	446	492	0.2	0.3	2.582	A
4	58	15	1029	1309	0.045	58	22	0.0	0.0	2.878	A
5	678	169	48	2916	0.232	678	1039	0.2	0.3	1.607	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	419	105	888	1646	0.255	419	0	0.2	0.3	2.934	A
2	664	166	681	2099	0.316	663	626	0.3	0.5	2.506	A
3	546	137	741	1705	0.320	546	603	0.3	0.5	3.104	A
4	72	18	1259	1140	0.063	71	27	0.0	0.1	3.368	A
5	830	208	58	2904	0.286	830	1273	0.3	0.4	1.735	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	419	105	889	1645	0.255	419	0	0.3	0.3	2.935	A
2	664	166	682	2098	0.316	664	626	0.5	0.5	2.509	A
3	546	137	742	1704	0.321	546	603	0.5	0.5	3.108	A
4	72	18	1261	1139	0.063	72	28	0.1	0.1	3.371	A
5	830	208	58	2904	0.286	830	1274	0.4	0.4	1.735	A

17:15 - 17:30

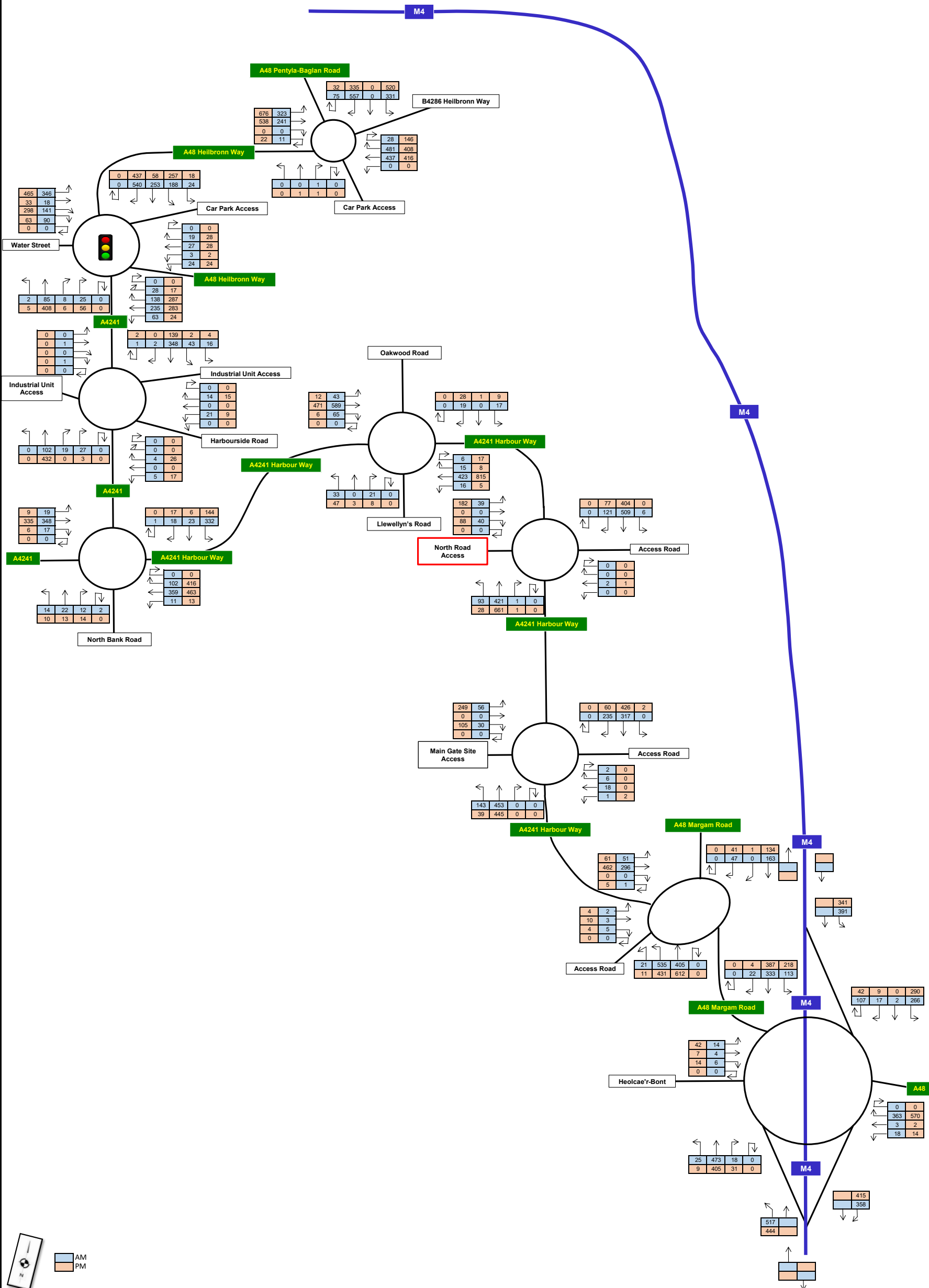
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	86	726	1807	0.190	343	0	0.3	0.2	2.460	A
2	542	136	557	2225	0.244	543	512	0.5	0.3	2.142	A
3	446	111	607	1839	0.243	446	493	0.5	0.3	2.588	A
4	58	15	1031	1307	0.045	59	23	0.1	0.0	2.882	A
5	678	169	48	2916	0.232	678	1041	0.4	0.3	1.610	A

17:30 - 17:45

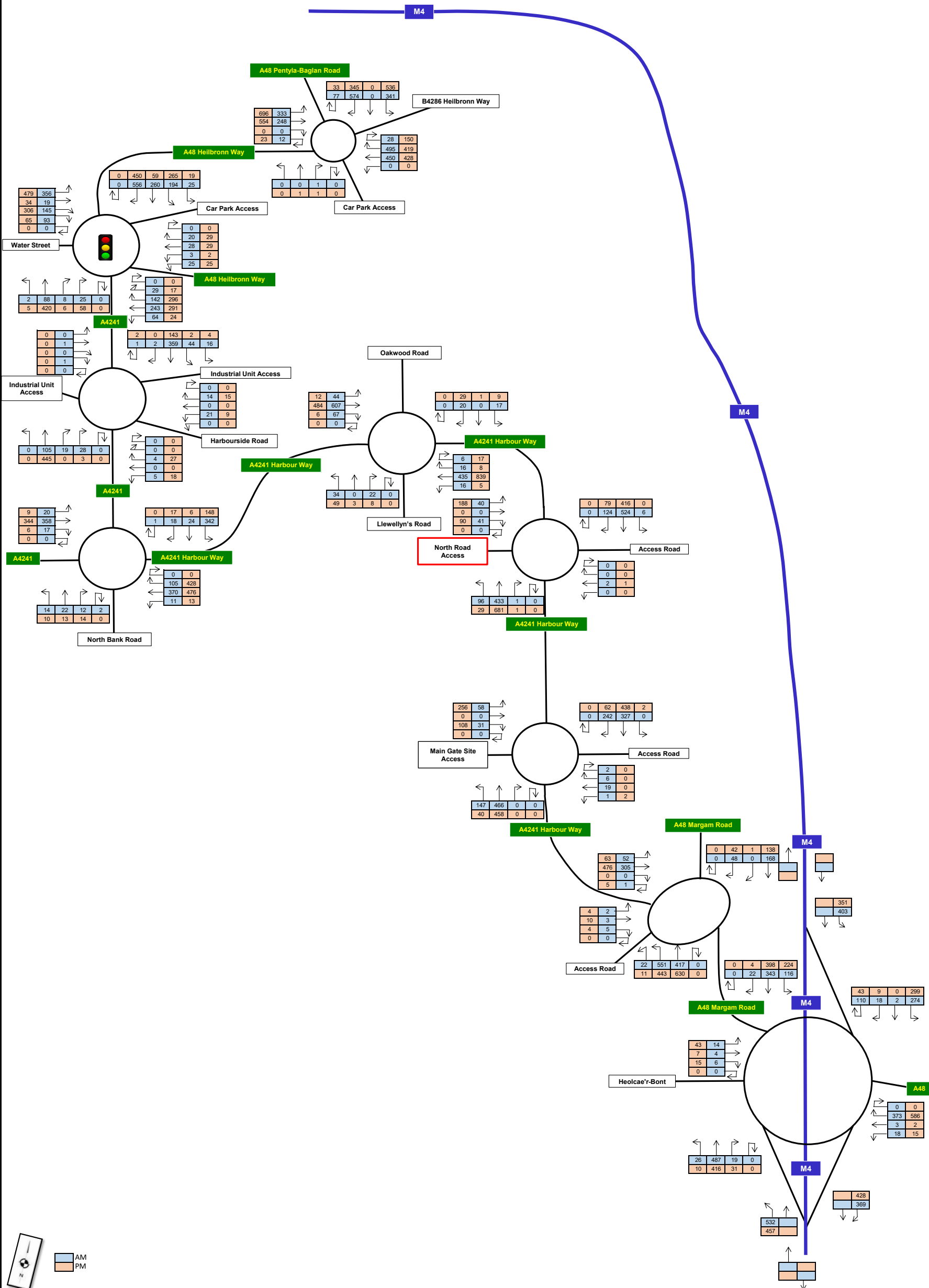
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	287	72	608	1925	0.149	287	0	0.2	0.2	2.200	A
2	454	113	466	2316	0.196	454	429	0.3	0.2	1.933	A
3	373	93	508	1937	0.193	374	413	0.3	0.2	2.303	A
4	49	12	863	1430	0.034	49	19	0.0	0.0	2.606	A
5	568	142	40	2925	0.194	568	872	0.3	0.2	1.529	A

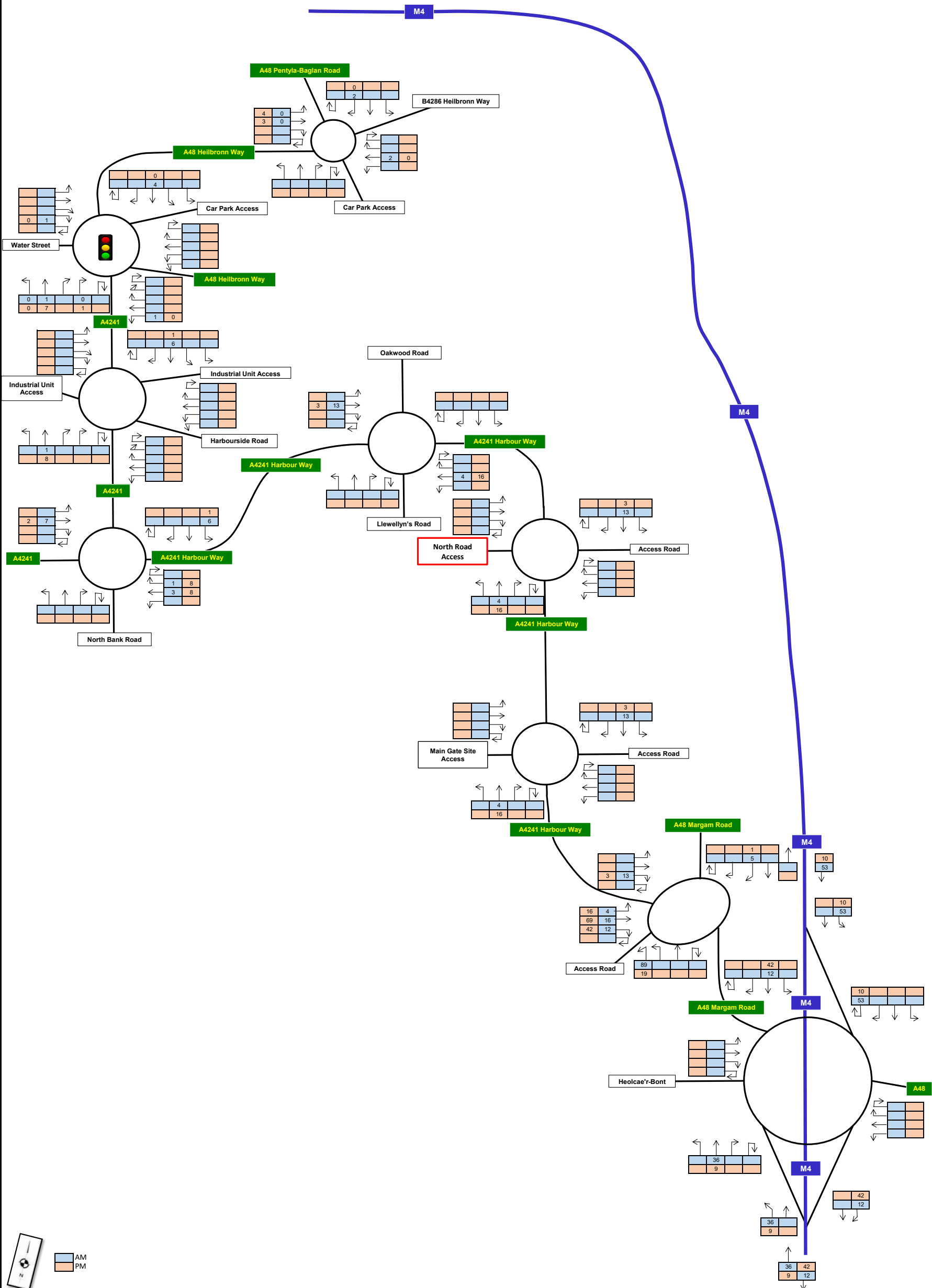
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FIGURES

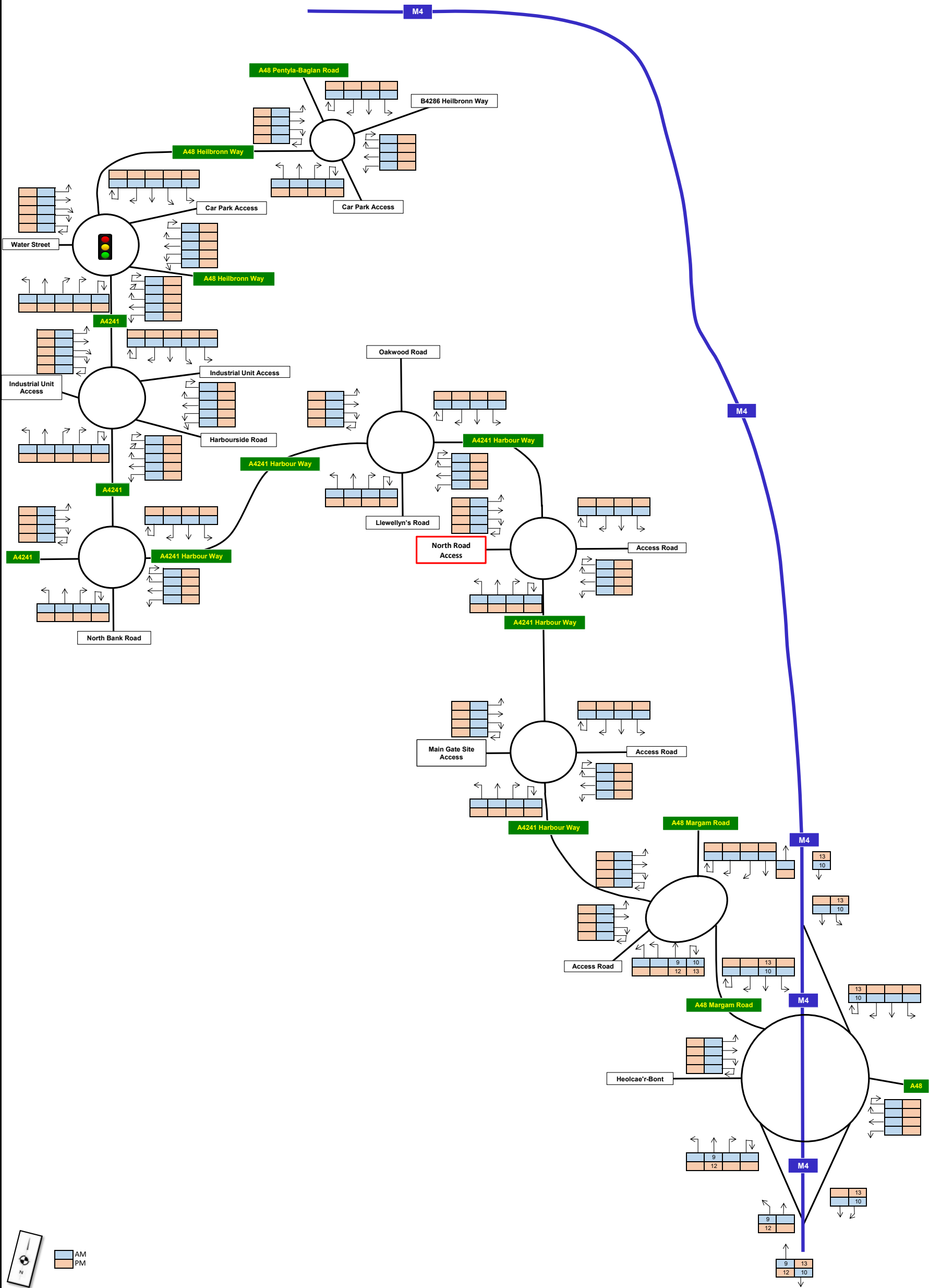


 Transportation Planning : Infrastructure Design	2022 Surveyed Traffic Flows - PCU	30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot	Job Number - SCP/220352
		Traffic Figure 1





 Transportation Planning : Infrastructure Design	Committed Development Traffic (P2021/1255 - Land off J38 of the M4, Margam) - PCU	30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot	Job Number - SCP/220352
		Traffic Figure 3





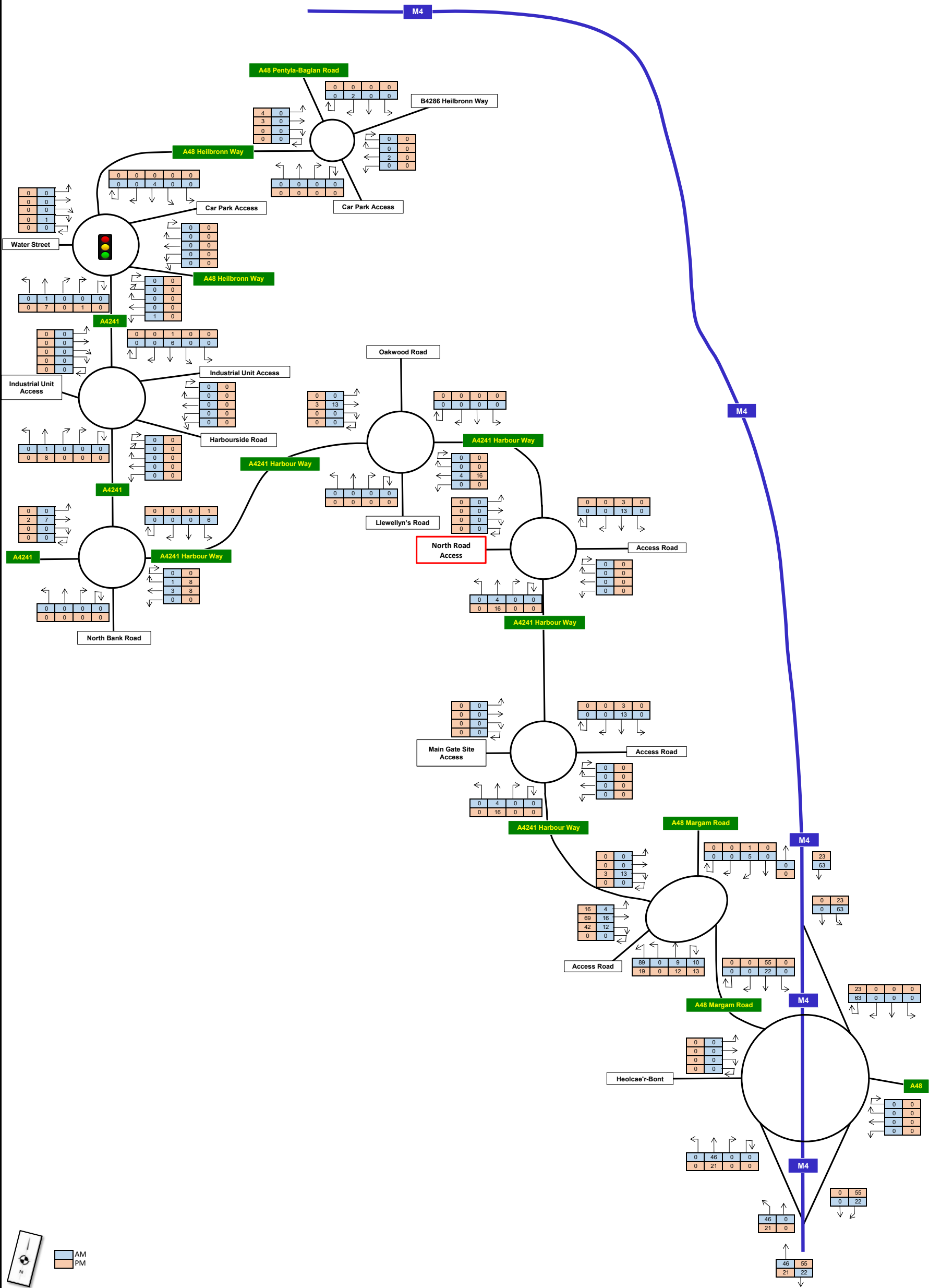
AM

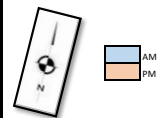
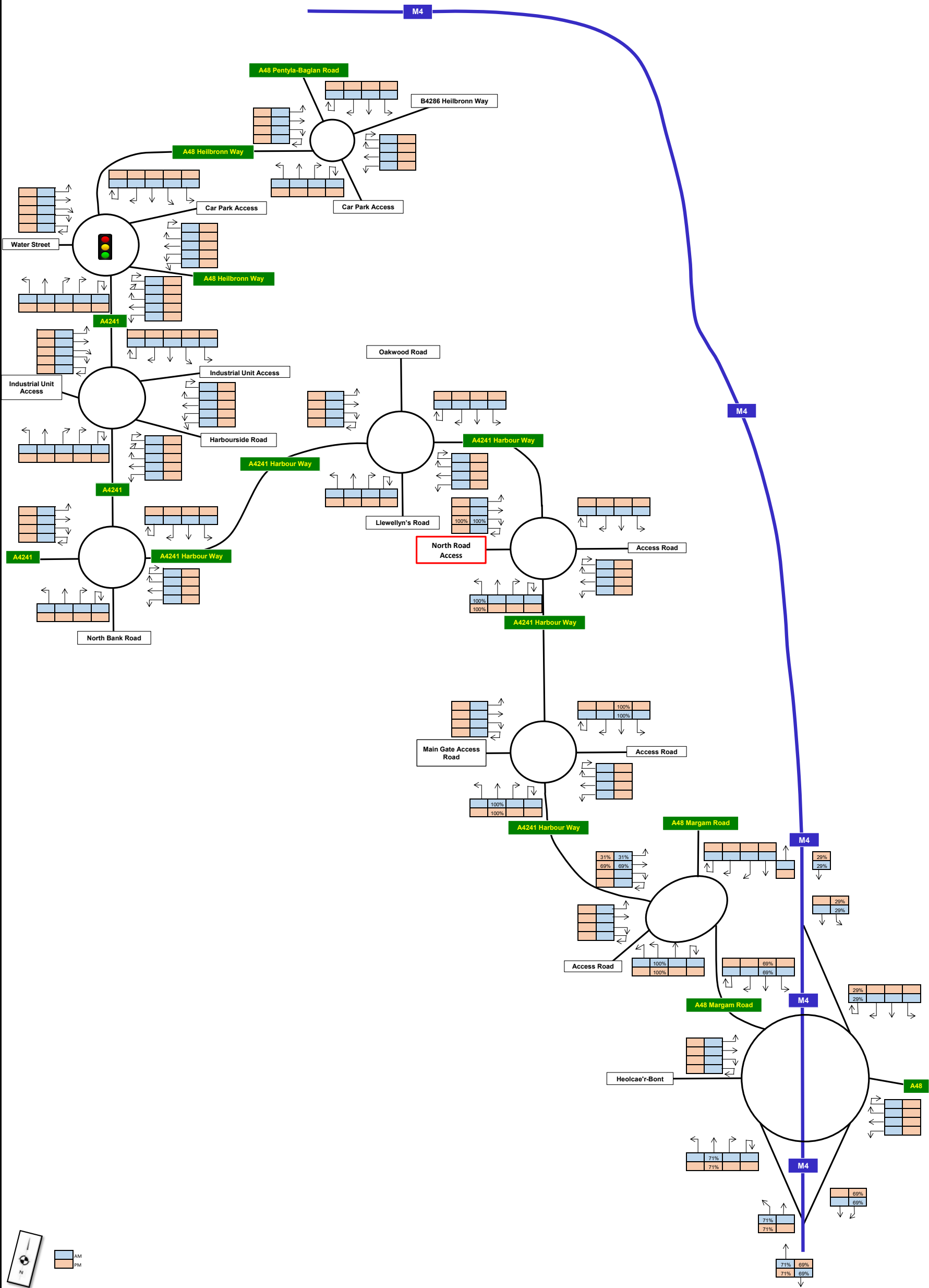
PM

SCP

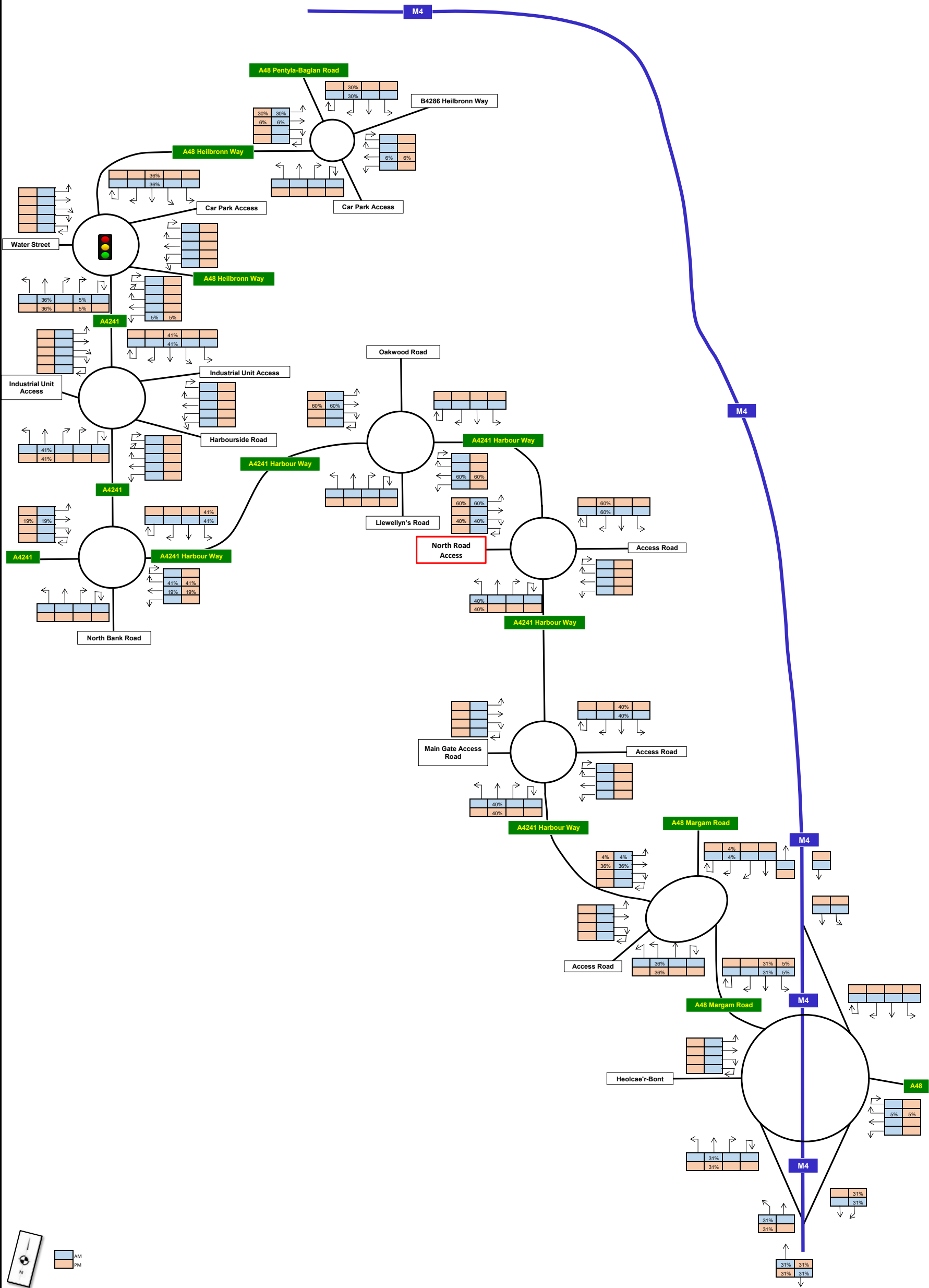
Transportation Planning : Infrastructure Design

Committed Development Traffic (A2020/0014 - Tyn-y-caeau, Margam Road) - PCU	30 June 2023	
	Job Number - SCP/220352	
	Traffic Figure 4	
Project Dragon, A4241 Harbour Way, Port Talbot		

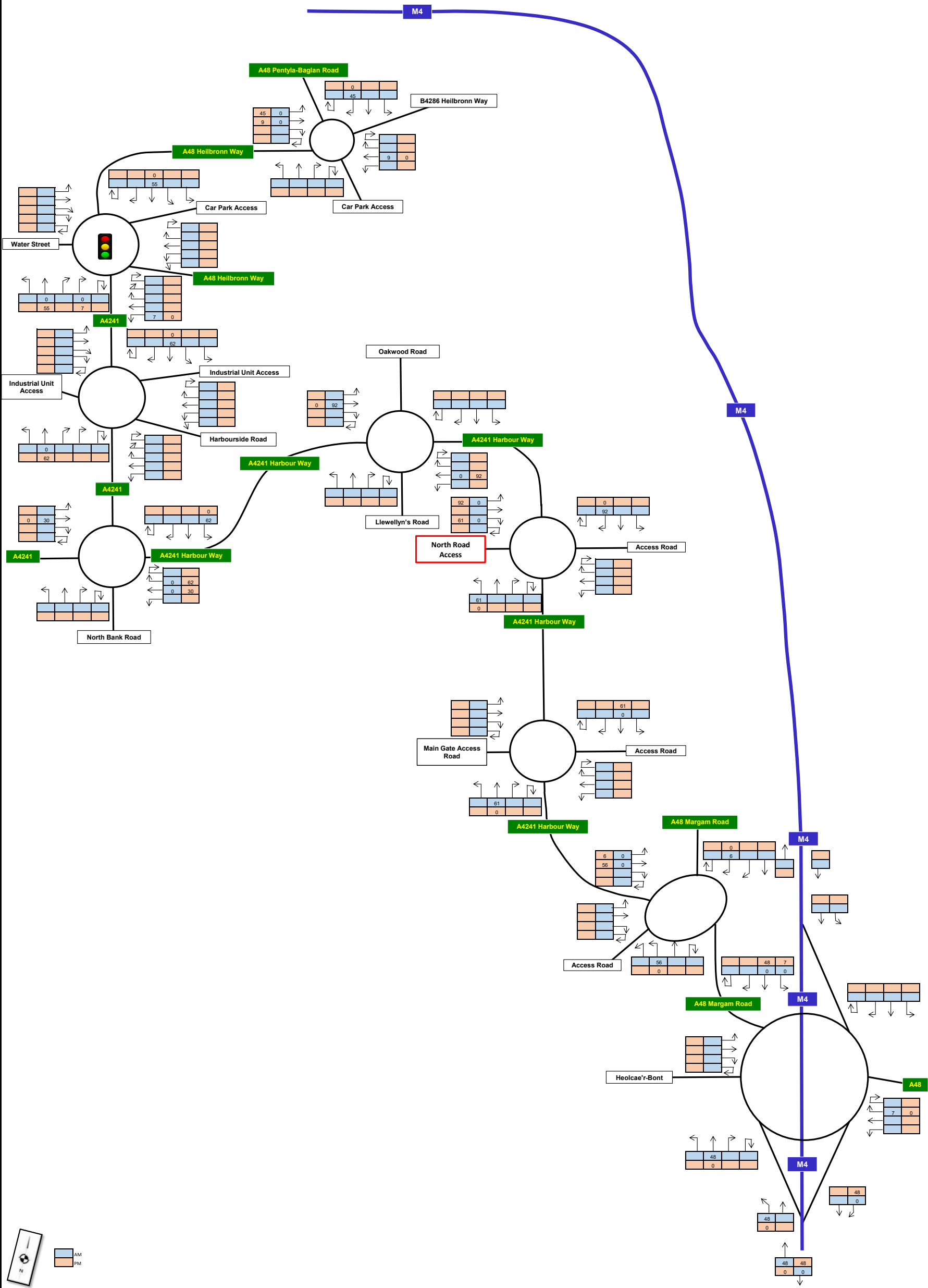


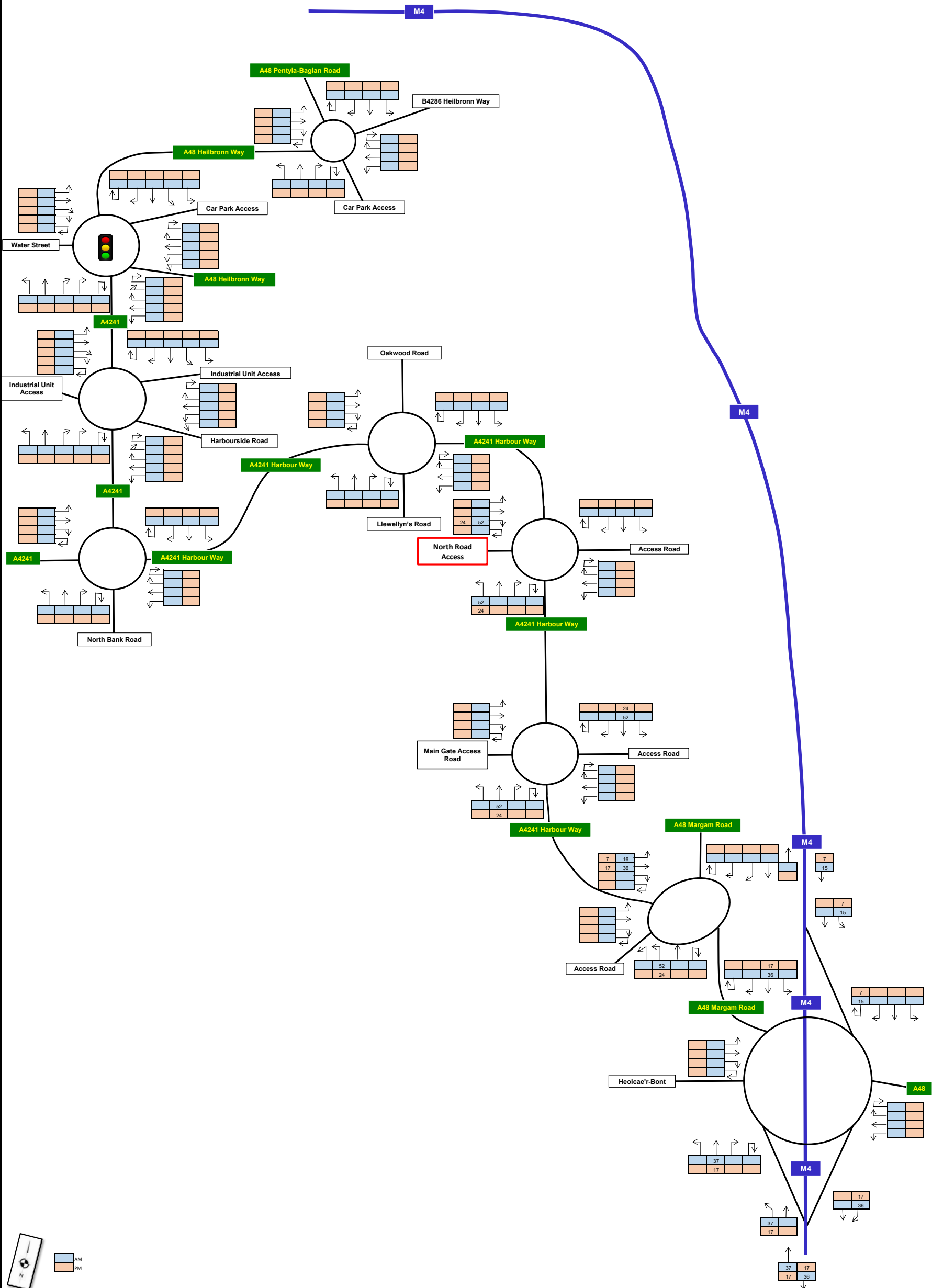


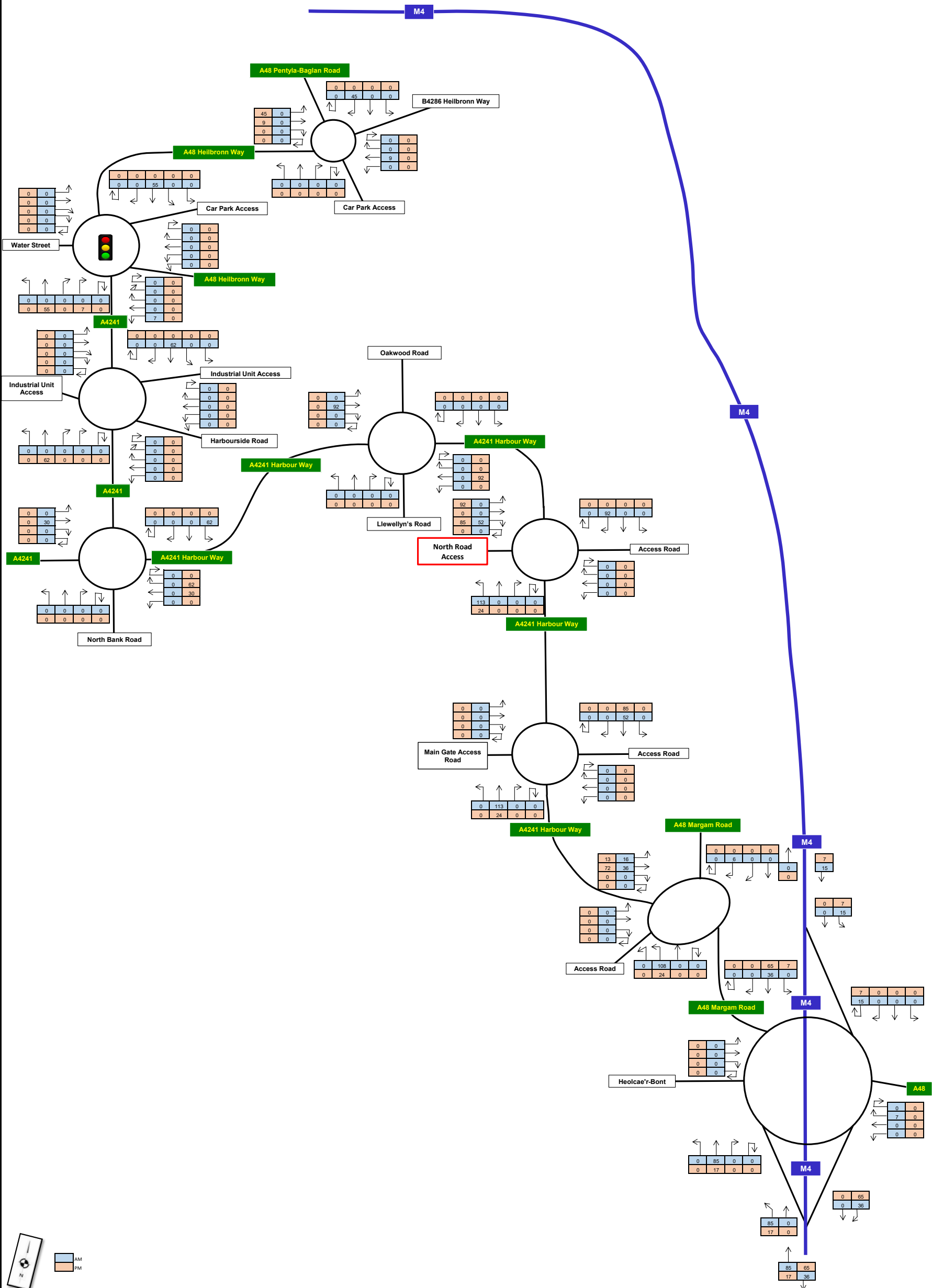
SCP Transportation Planning - Infrastructure Design	HGV Traffic Distribution - Construction Phase	30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot	Job Number - SCP/220352
		Traffic Figure 6

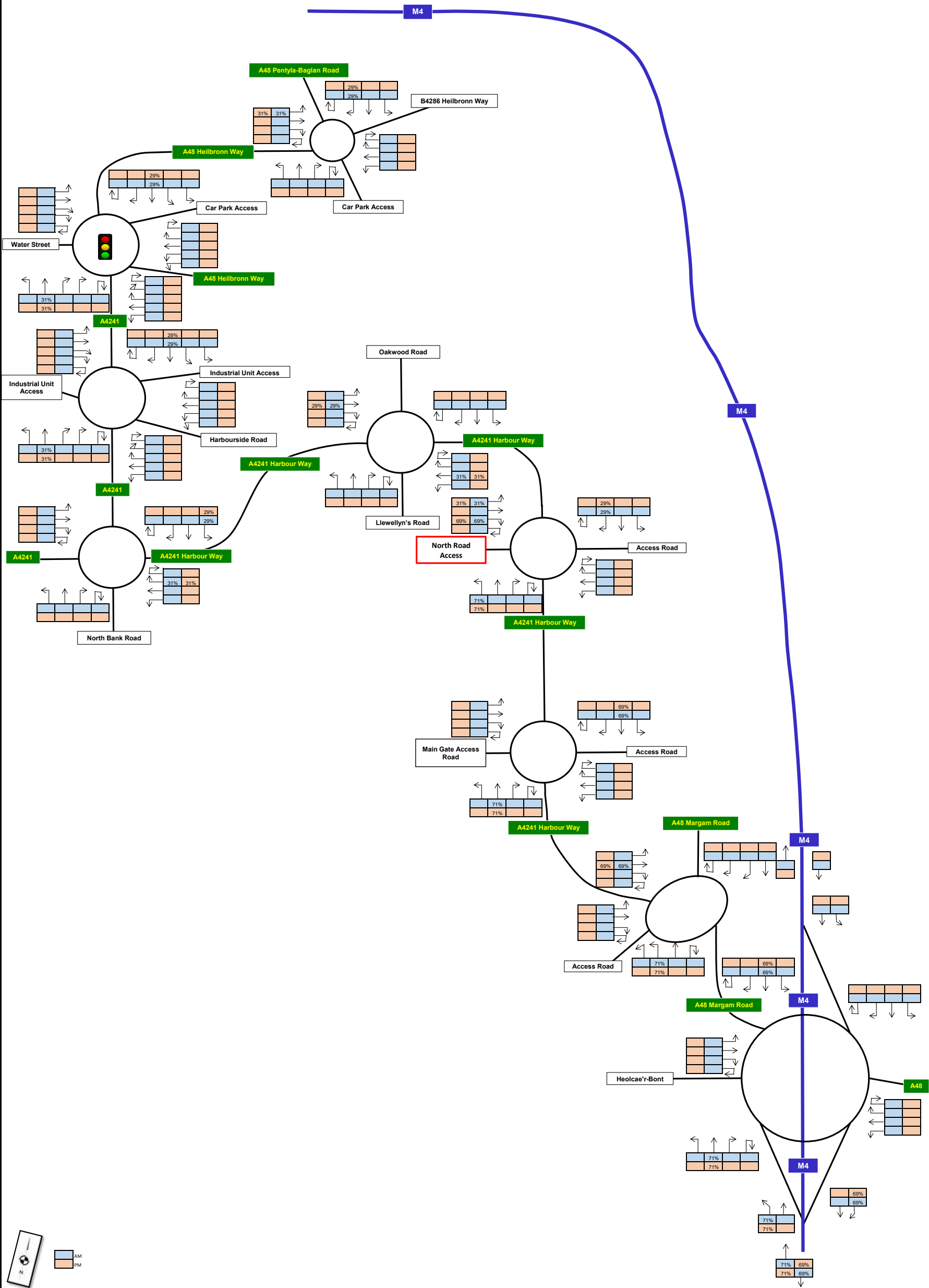


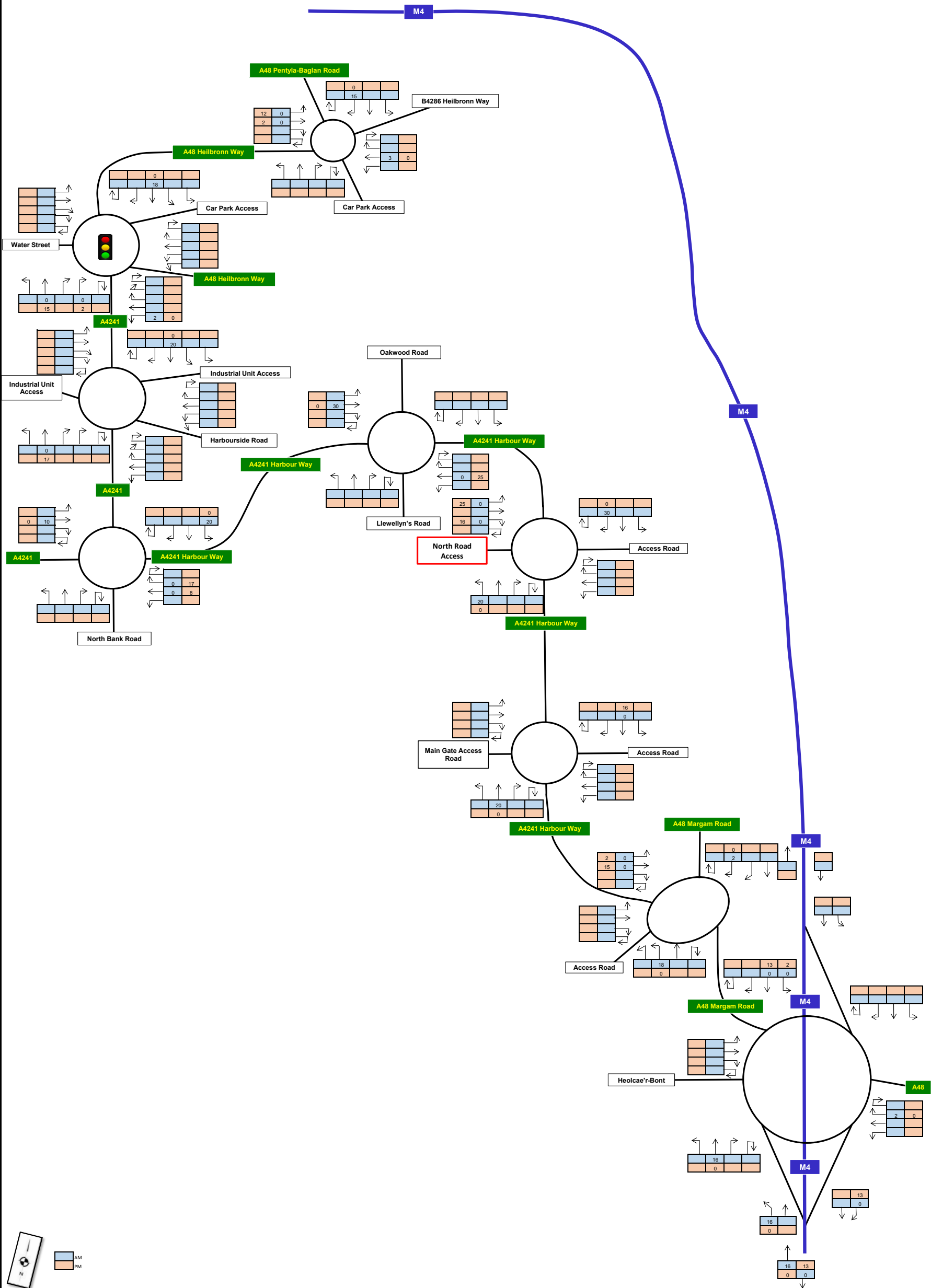
SCP Transportation Planning : Infrastructure Design	LGV and Minibus Traffic Distribution	30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot	Job Number - SCP/220352
		Traffic Figure 7

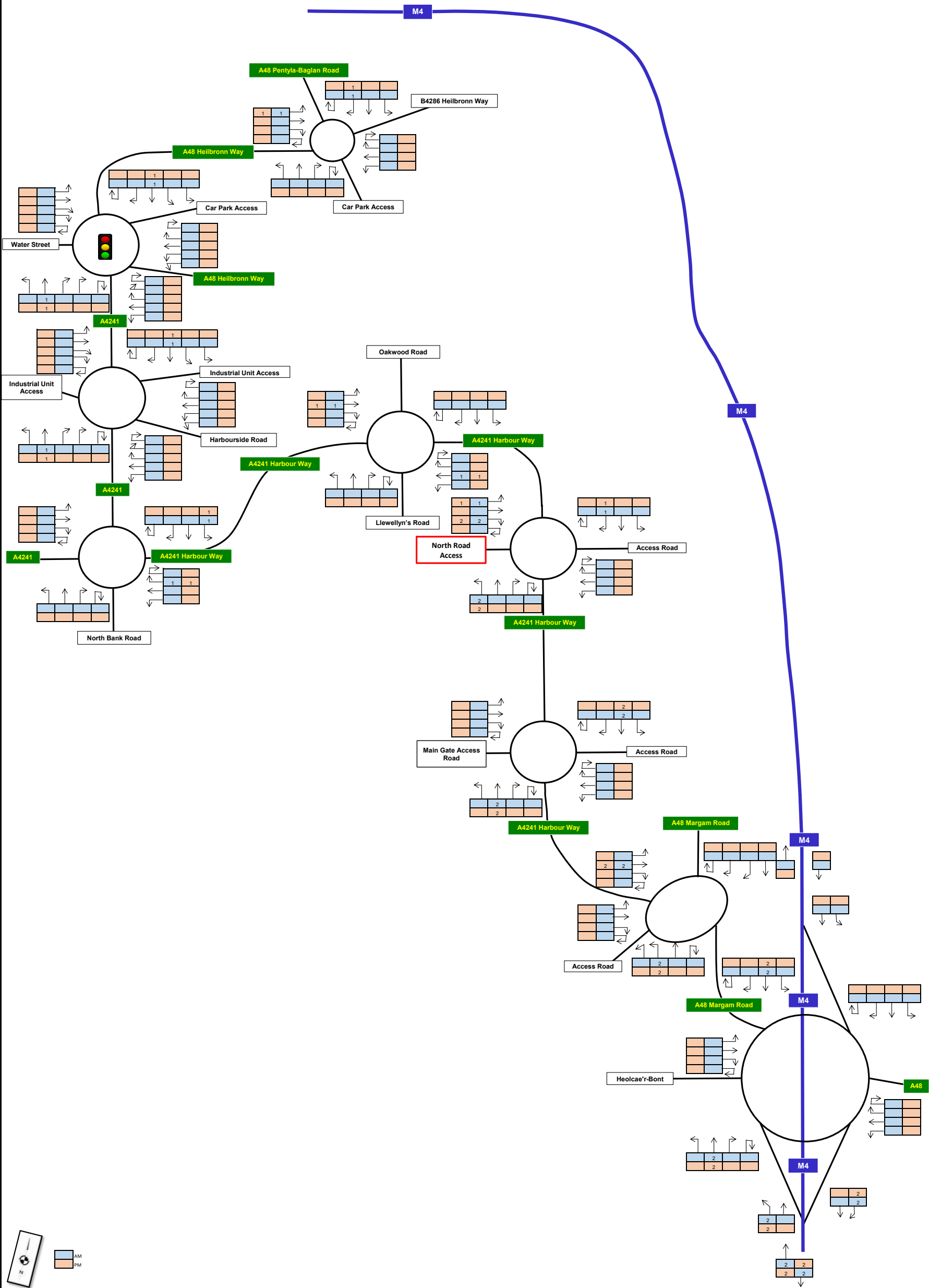












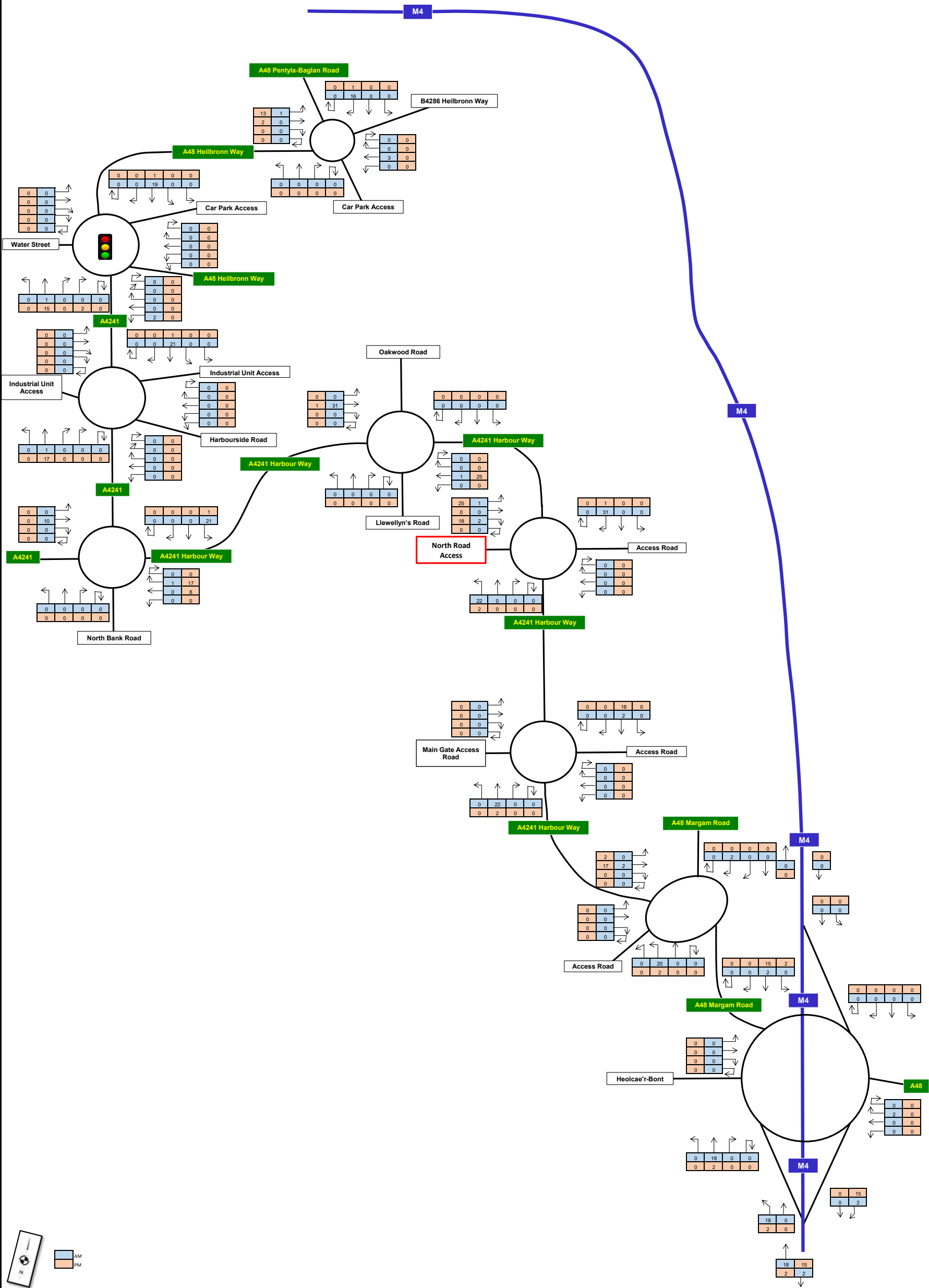
HGV Traffic Generation (PCU) - Operational Phase

Project Dragon, A4241 Harbour Way, Port Talbot

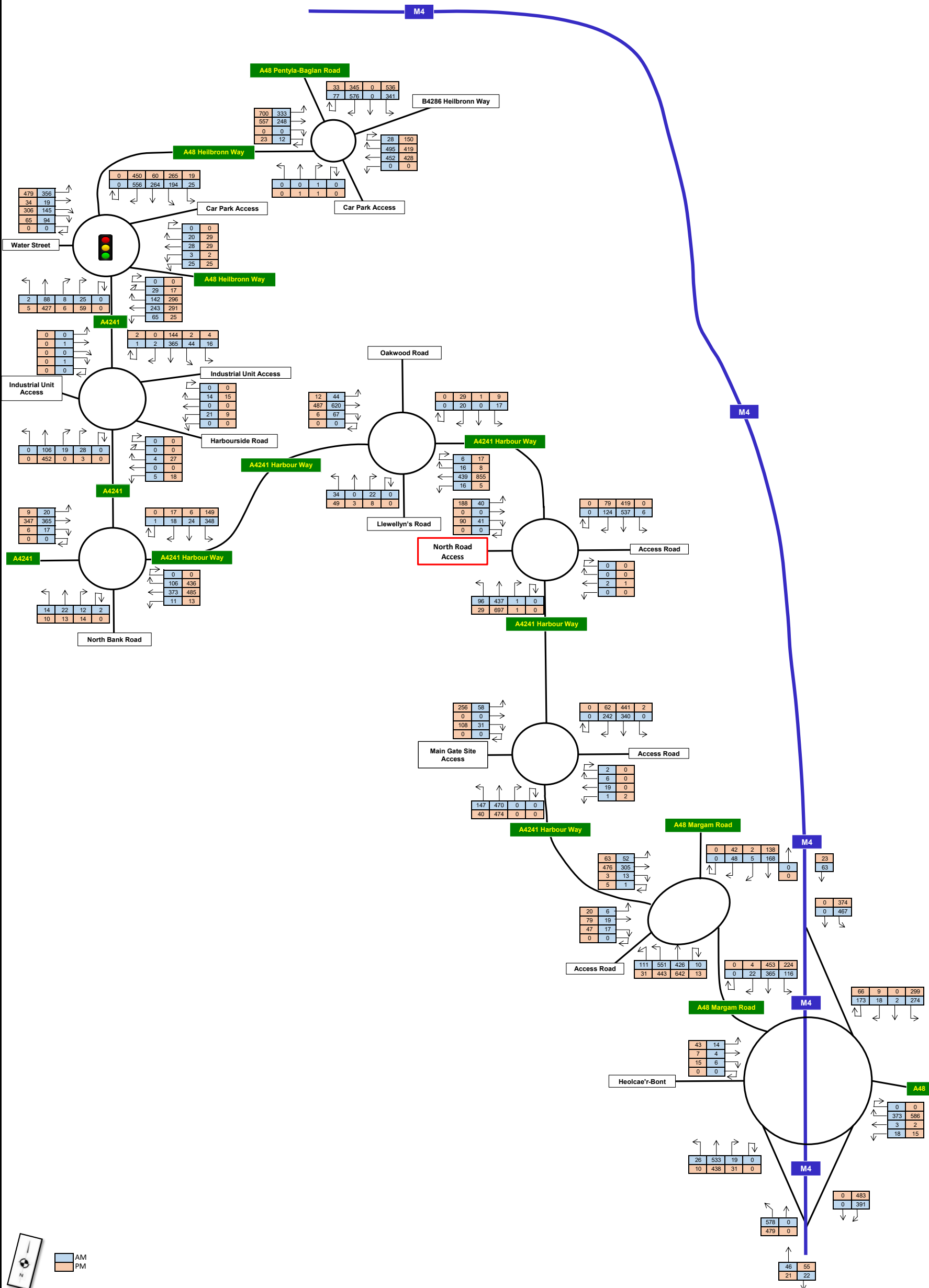
30 June 2023

Job Number - SCP/220352

Traffic Figure 13



 Transportation Planning : Infrastructure Design	Total Traffic Generation (PCU) - Operational Phase	30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot	Job Number - SCP/220352
		Traffic Figure 14



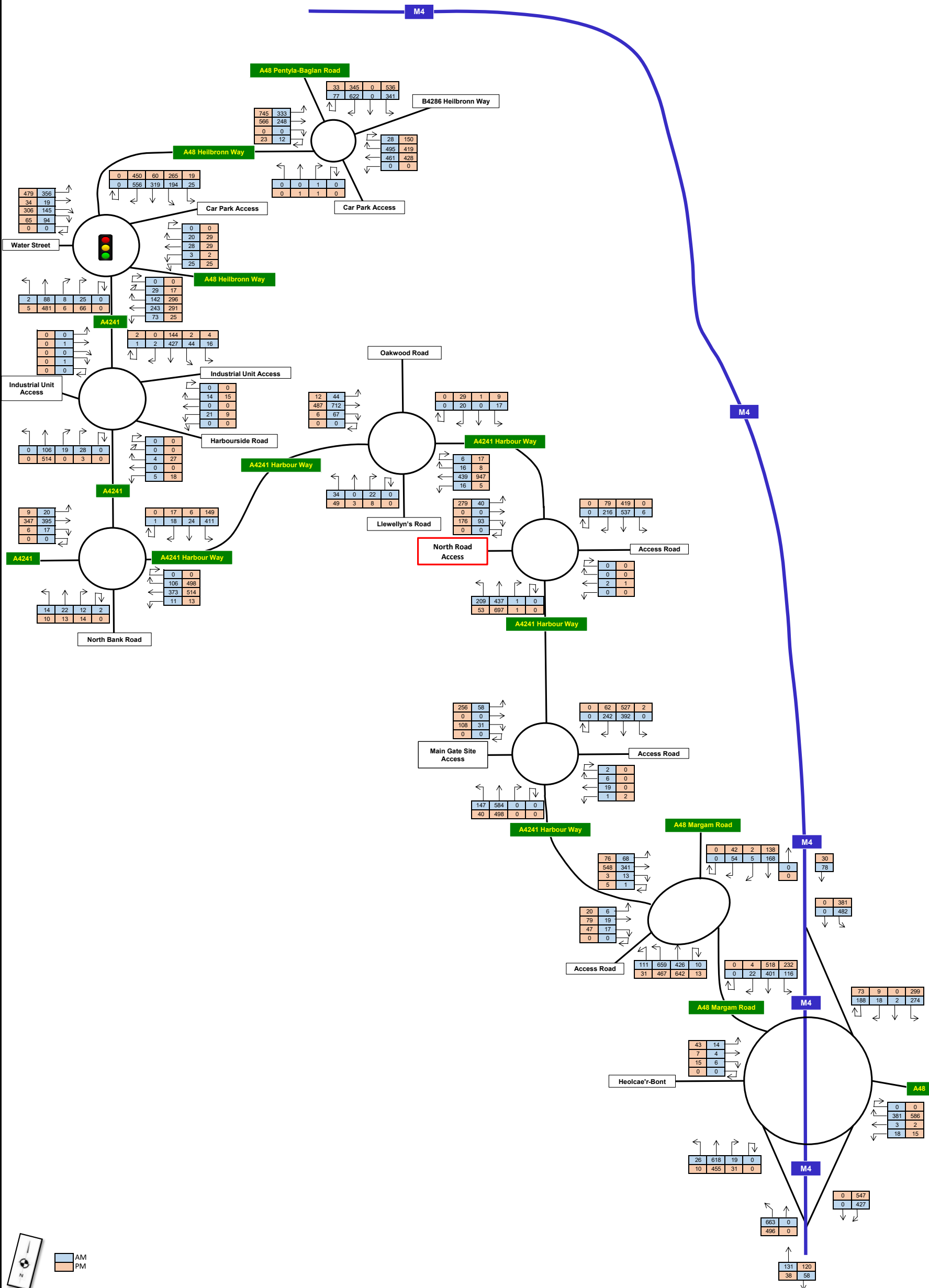
AM

PM

SCP

Transportation Planning : Infrastructure Design

2026 Baseline Traffic Flows - PCU	30 June 2023
	Job Number - SCP/220352
Project Dragon, A4241 Harbour Way, Port Talbot	Traffic Figure 15



 Transportation Planning : Infrastructure Design	2026 Assessment Traffic Flows - PCU		30 June 2023
	Project Dragon, A4241 Harbour Way, Port Talbot		Job Number - SCP/220352
			Traffic Figure 16