



Wylfa Newydd Project

6.3.24 ES Volume C - Road traffic-related effects (project-wide) App C2-4 - DCO TA Appendix J - Merge/Diverge Assessment Results

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Application Reference Number: 6.3.24

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Revision 1.0

Regulation Number: 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Purpose

The purpose of this spreadsheet is to undertake merge and diverge capacity analyses on the A55 junctions on Anglesey and the mainland.

CRA-V

Project Title Wylfa Newydd Project		Project Code		Client Horizon Nuclear Power	
Originator	Paolo Medici	Date	31/05/2017	Revision	Rev1
Checker	Owen Witherow	Date	16/06/2017	Status	For information
Reviewer	Stephen Morris	Date	16/06/2017		

Assumptions/ Caveats

1. The merge delay calculations are based on guidance set out in the DMRB Vol 13
2. Traffic flows are sourced from the junction assessment
3. A weighted average has been used to calculate the HGV percentages
4. WBP = Without Bypasses, BP = with bypasses

Queuing Delay Formula for Grade Separated Merges

- 7.11 Research into merge delays showed that the measurement of actual average delays from on-site observations was exceedingly difficult. Day to day variations in delay were apparent under apparently similar flow conditions. Delays varied considerably with time even within a single peak period. The research was unable to differentiate between delays to the main line and merging streams. Consequently COBA includes a relationship which applies delays (over and above speed/flow effects) to all vehicles passing through the merge area. This is a simple straight line function of the form:

$$\text{Delay} = 227 (\text{Capacity Ratio} - 0.75) \text{ seconds per vehicle}$$

where the capacity ratio is defined as the total upstream demand divided by the capacity of the downstream link.

- 8.9 Practical capacity is determined for each lane using the formula:

$$0.9\mu = S \cdot g/c$$

where μ is the theoretical capacity
 S is the saturation flow
 g is the green time
 c is the cycle time

Note: the cycle time and green times are calculated separately for each year and flow group, and cycle time increases up to a limit of 120 seconds as the flow increases.

Capacity of Merges at Grade Separated Junctions

- 8.10 Research has shown that the best estimate of the capacity of dual three lane motorways is:

$$2330/(1 + 0.015P) \text{ vehicles per hour per lane for motorways.}$$

taking a value ten per cent less gives a figure of :

$$2100/(1 + 0.015P) \text{ vehicles per hour per lane for all-purpose dual carriageways.}$$

Where P is the proportion of heavy vehicles expressed as a percentage. These capacities are the defaults held within the program used in the calculation of delays at merges. However, local conditions can affect the capacities and the user has the facility to input local values if reliable data is available.

Capacity of Gates and other Regular Obstructions

- 8.11 COBA makes use of the data relating to the number and average duration of closures to determine a mean 'cycle time' and 'an effective green time per cycle' and then models gates as signals.

- 8.12 Capacity and delay per vehicle are calculated on an arm specific basis. The cycle time is given by:

$$c = 3600/n \text{ seconds}$$

where n is the number of closures per hour in each flow group.

The effective green time per cycle, g, is given by:

$$g = (c - t) \text{ Seconds}$$

where t is the average duration per closure, in seconds.

The proportion of cycle time that is effectively green, λ , is given by:

$$\lambda = g/c$$

2016 Junction 2 - Example

Demand	AM	PM	Wknd	Item Number in Standard Calculation
Upstream Demand	360	494	521	7
Capacity				
DAP	2,100	2,100	2,100	11
HGV%	17%	8%	13%	12
HGV Factor	1.002551	1.001208	1.001929	13
Downstream Capacity per lane	2,095	2,097	2,096	
Downstream Lanes	2	2	2	9
Overall downstream capacity	4,189	4,195	4,192	8 & 10
Demand / Capacity Ratio	0.09	0.12	0.12	1 & 6
Delay Calculation				
Factor	227	227	227	2
Demand / Capacity threshold	0.75	0.75	0.75	3
Delay in seconds	0.00	0.00	0.00	5
Delay in minutes	0.00	0.00	0.00	4

Item number	Description
1	Capacity Ratio = total upstream demand/ capacity of the downstream link
2	Factor
3	Demand/ Capacity Threshold
4	Delay Minutes = Delay in seconds / 60
5	Delay Seconds = 227 (Capacity ratio- 0.75)
6	Capacity Ratio (as above)
7	Upstream Demand= total vehicles on the A55 Westbound/ Eastbound (as applicable)
8	Downstream Capacity= 2100/(1+0.015*HGV%) vehicles per hour per lane for all-purpose dual carriageways
9	Downstream Lanes = number of lanes in each direction on the A55
10	Downstream Capacity (as above)
11	DAP=Design (All Purpose Road)
12	HGV%= Percentage of HGVs of all vehicles on the road
13	HGV Factor = 1+(0.015*HGV%)

Type	
DM	2,330
DAP	2,100

Westbound

	REF		
	AM	PM	Wknd
1 Cap Ratio	0.09	0.12	0.12
2	227	227	227
3	0.75	0.75	0.75
4 Delay minutes	0.00	0.00	0.00
5 Delay seconds	0.00	0.00	0.00
6 Cap Ratio	0.09	0.12	0.12
7 Upstream Demand	360	494	521
8 Downstream Cap	4,189	4,195	4,192
9 Downstream Lanes	2	2	2
10 Downstream Cap	2,095	2,097	2,096
11 DAP	2,100	2,100	2,100
12 HGV%	17%	8%	13%
13	1.002551	1.001208	1.001929

Eastbound

	REF		
	AM	PM	Wknd
1 Cap Ratio	0.11	0.15	0.15
2	227	227	227
3	0.75	0.75	0.75
4 Delay minutes	0.00	0.00	0.00
5 Delay seconds	0.00	0.00	0.00
6 Cap Ratio	0.11	0.15	0.15
7 Upstream Demand	450	647	626
8 Downstream Cap	4,192	4,197	4,190
9 Downstream Lanes	2	2	2
10 Downstream Cap	2,096	2,098	2,095
11 DAP	2,100	2,100	2,100
12 HGV%	12%	5%	15%
13	1.001798087	1.00076	1.00231712

2016 Junction 2

Westbound

1	Downstream Cap	2,095	2,097	2,096	veh/hr/lane
2	DAP	2,100	2,100	2,100	
3	HGV%	17%	8%	13%	
4		1.002551	1.001208	1.001929	

5	Cap Ratio	0.09	0.12	0.12	Total vehicles
6	Upstream Demand	360	494	521	Total
7	Downstream Cap	4,189	4,195	4,192	
8	Downstream Lanes	2	2	2	

		REF		
		AM	PM	Wknd
9	Cap Ratio	0.09	0.12	0.12
		227	227	227
		0.75	0.75	0.75
10	Delay minutes	0.00	0.00	0.00
11	Delay seconds	0.00	0.00	0.00

Eastbound

1	Downstream Cap	2,096	2,098	2,095	veh/hr/lane
2	DAP	2,100	2,100	2,100	
3	HGV%	12%	5%	15%	
4		1.001798	1.00076	1.002317	

5	Cap Ratio	0.11	0.15	0.15	Total vehicles
6	Upstream Demand	450	647	626	Total
7	Downstream Cap	4,192	4,197	4,190	
8	Downstream Lanes	2	2	2	

		REF		
		AM	PM	Wknd
9	Cap Ratio	0.11	0.15	0.15
		227	227	227
		0.75	0.75	0.75
10	Delay seconds	0.00	0.00	0.00
11	Delay minutes	0.00	0.00	0.00

Type	
DM	2,330
DAP	2,100

- 1 DAP=Design (All Purpose Road)
- 2 HGV%= Percentage of HGVs of all vehicles on the road
- 3 $1+(0.015 \times \text{HGV}\%)$
- 4 Downstream Capacity= $2100/(1+0.015 \times \text{HGV}\%)$ vehicles per hour per lane for all-purpose dual carriageways
- 5 Upstream Demand= total vehicles on the A55 Westbound/ Eastbound (as applicable)
- 6 Downstream Capacity (as above)
- 7 Downstream Lanes = number of lanes in each direction on the A55
- 8 Capacity Ratio = total upstream demand/ capacity of the downstream link
- 9 Capacity Ratio (as above)
- 10 Delay Seconds = $227 (\text{Capacity ratio} - 0.75)$
- 11 Delay Minutes = Delay in seconds / 60

2016 Junction 2

AM PEAK

TOTAL REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	0	129	43	70	244
B	A55 WB	111	1	208	266	586
C	A5153 NB	58	89	0	23	169
D	A55 EB	141	231	26	0	399
	Total	311	450	277	360	1,398

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	7	0	4	11
B	A55 WB	3	0	2	21	25
C	A5153 NB	1	1	0	0	2
D	A55 EB	4	17	0	0	21
	Total	8	25	2	25	60

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	1	3
B	A55 WB	3	0	4	25	32
C	A5153 NB	0	4	0	11	15
D	A55 EB	0	23	0	0	23
	Total	3	29	4	36	72

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	9	0	5	14
B	A55 WB	5	0	6	45	57
C	A5153 NB	1	5	0	11	17
D	A55 EB	4	40	0	0	45
	Total	11	54	6	61	132

PM PEAK

TOTAL REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	187	139	164	492
B	A55 WB	184	1	108	292	585
C	A5153 NB	123	163	0	37	324
D	A55 EB	249	296	9	1	556
	Total	559	647	256	494	1,956

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	0	0	0
B	A55 WB	0	0	0	0	0
C	A5153 NB	0	0	0	0	0
D	A55 EB	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	1	3
B	A55 WB	1	1	3	22	27
C	A5153 NB	1	5	0	16	21
D	A55 EB	0	27	0	0	27
	Total	2	33	4	40	79

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	1	3
B	A55 WB	1	1	3	22	27
C	A5153 NB	1	5	0	16	21
D	A55 EB	0	27	0	0	27
	Total	2	33	4	40	79

2016 Junction 2

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	203	175	174	555
B	A55 WB	201	0	112	314	627
C	A5153 NB	146	63	0	33	241
D	A55 EB	291	360	4	0	654
	Total	640	626	291	521	2,078

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	1	4	6
B	A55 WB	3	0	0	36	40
C	A5153 NB	1	0	0	0	2
D	A55 EB	2	47	0	0	50
	Total	7	48	2	39	97

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	0	0	0	25	25
D	A55 EB	4	46	0	0	50
	Total	6	49	57	28	139

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	1	7	11
B	A55 WB	5	0	57	36	98
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	93	0	0	99
	Total	14	97	58	67	236

2016 Junction 3

Southbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.14	0.14	0.15
	277	277	277
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.14	0.14	0.15
Upstream Demand	601	608	624
Downstream Cap	4,192	4,197	4,192
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	12%	6%	13%
	1.001862	1.000827	1.002

veh/hr/lane

Northbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.16	0.11	0.20
	277	277	277
	0.75	0.75	0.75

Cap Ratio	0.16	0.11	0.20
Upstream Demand	667	449	839
Downstream Cap	4,194	4,199	4,192
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,097	2,100	2,096
DAP	2,100	2,100	2,100
HGV%	10%	1%	13%
	1.001542	1.000167	1.002024

veh/hr/lane

2016 Junction 3

AM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	262	71	0	44	377
B	A55 SB	151	0	2	2	527	682
C	A5 Holyhead	34	3	1	0	30	69
D	B&B Access	1	0	0	0	0	1
E	A55 NB	23	402	31	0	0	456
	Total	209	667	105	2	601	1,584

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	6	1	0	1	9
B	A55 SB	8	0	0	0	33	41
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	26	0	0	0	27
	Total	10	33	1	0	34	78

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	0	5
B	A55 SB	0	0	0	0	40	41
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	31	0	0	0	31
	Total	0	36	0	0	40	77

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	12	1	0	1	14
B	A55 SB	9	0	0	0	74	82
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	57	0	0	0	58
	Total	10	69	1	0	75	155

PM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	222	59	0	28	311
B	A55 SB	246	0	4	0	492	742
C	A5 Holyhead	83	4	0	0	60	146
D	B&B Access	1	1	0	0	0	1
E	A55 NB	1	222	59	0	28	311
	Total	331	449	122	0	608	1,511

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	0	0	0	0	0
B	A55 SB	0	0	0	0	0	0
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	0	0	0	0	0
	Total	0	0	0	0	0	0

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	1	3
B	A55 SB	0	0	0	0	32	33
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	3	0	0	1	3
	Total	0	5	0	0	34	39

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	1	3
B	A55 SB	0	0	0	0	32	33
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	3	0	0	1	3
	Total	0	5	0	0	34	39

2016 Junction 3

Weekend Peak

TOTAL

REFERENCE CASE

M-4 Split junction

A	A5 Holyhead	1	238	51	0	19	309
B	A55 SB	173	0	5	0	578	755
C	A5 Holyhead	58	7	0	0	26	91
D	B&B Access	0	0	0	0	0	0
E	A55 NB	25	594	20	0	2	640
	Total	256	839	76	0	624	1,795

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	41	41
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	53	0	0	0	53
	Total	0	56	0	0	41	98

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	42	43
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	56	0	0	0	56
	Total	1	57	0	0	42	100

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	1	0	0	0	83	84
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	109	0	0	0	110
	Total	1	113	0	0	83	198

2016 Junction 4

Westbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.16	0.18	0.18
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.16	0.18	0.18
Upstream Demand	685	748	773
Downstream Cap	4,192	4,197	4,192
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	13%	5%	12%
	1.001934	1.000756	1.001798

veh/hr/lane

Eastbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.18	0.21	0.20
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.18	0.21	0.20
Upstream Demand	742	872	833
Downstream Cap	4,186	4,194	4,182
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,093	2,097	2,091
DAP	2,100	2,100	2,100
HGV%	22%	10%	29%
	1.003318	1.001538	1.00428

veh/hr/lane

2016 Junction 4

AM PEAK

TOTAL REFERENCE CASE

M-5 Split junction		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	2	8	9	25	6	0	50
B	A55 WB	1	2	67	10	599	27	0	706
C	Minfordd Ro	7	46	0	7	31	12	0	104
D	A5 Holyhead	5	33	4	1	2	3	0	49
E	A55 EB	15	593	26	0	1	26	0	661
F	London Road	9	66	25	6	28	0	0	133
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		38	742	130	33	685	75	0	1,703

OGV1

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	3	0	0	4
B	A55 WB	1	0	1	0	38	0	0	41
C	Minfordd Ro	1	1	0	0	0	1	0	3
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	1	37	1	0	0	1	0	39
F	London Road	2	1	1	0	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		4	40	4	0	42	2	0	91

OGV2

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	1	0	0	0	0	0	1
B	A55 WB	0	0	2	0	47	0	0	49
C	Minfordd Ro	0	1	0	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	42	0	0	0	0	0	42
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	44	2	0	47	0	0	92

HGV

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	38	1	0	0	1	0	40
B	A55 WB	2	1	1	0	0	0	0	4
C	Minfordd Ro	0	42	0	0	0	0	0	42
D	A5 Holyhead	4	40	4	0	42	2	0	91
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	44	2	0	47	0	0	92
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		7	164	7	0	88	3	0	269

PM PEAK

TOTAL REFERENCE CASE

M-5 Split junction		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	1	16	13	25	7	0	63
B	A55 WB	3	4	52	13	655	47	0	774
C	Minfordd Ro	14	93	0	14	53	31	0	205
D	A5 Holyhead	10	9	12	0	0	5	0	37
E	A55 EB	28	729	35	0	0	33	0	825
F	London Road	9	34	12	5	14	0	0	75
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		65	872	127	45	748	123	0	1,980

OGV1

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	0	0	0	0
C	Minfordd Ro	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0

OGV2

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	0	0	0	1
B	A55 WB	0	0	0	0	38	0	0	38
C	Minfordd Ro	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	45	0	0	0	0	0	45
F	London Road	0	0	1	0	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	45	2	0	38	0	0	84

HGV

M-5		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	0	0	0	0
C	Minfordd Ro	0	45	0	0	0	0	0	45
D	A5 Holyhead	0	0	1	0	0	0	0	1
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	45	2	0	38	0	0	84
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	89	3	0	38	0	0	130

2016 Junction 4

sat

Weekend Peak

TOTAL

REFERENCE CASE

M-5 Split junction

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	3	6	23	36	7	76
B	A55 WB	6	1	27	8	675	22	740
C	Minffordd Ro	5	24	0	9	34	12	84
D	A5 Holyhead	14	13	7	0	1	5	40
E	A55 EB	30	756	40	0	0	25	853
F	London Road	6	35	9	7	27	0	83
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		61	833	89	48	773	71	1,875

OGV1

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	45	1	46
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	59	0	0	0	0	59
F	London Road	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	59	0	0	46	1	107

OGV2

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	46	0	46
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	60
F	London Road	0	0	0	1	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	60	0	1	47	0	107

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	59	0	0	0	0	59
B	A55 WB	0	0	0	0	0	0	0
C	Minffordd Ro	0	60	0	0	0	0	60
D	A5 Holyhead	0	59	0	1	46	1	108
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	60	0	1	47	0	107
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		1	238	1	1	93	1	334

2016 Junction 5

Westbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.17	0.18	0.18
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.17	0.18	0.18
Upstream Demand	718	766	740
Downstream Cap	4,192	4,197	4,192
Downstream Lanes	2	2	2

Total vehicles

Total

Downstream Cap	2,096	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	13%	5%	13%
	1.001988	1.000813	1.001897

veh/hr/lane

Eastbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.19	0.19	0.20
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.19	0.19	0.20
Upstream Demand	811	786	823
Downstream Cap	4,193	4,196	4,190
Downstream Lanes	2	2	2

Total vehicles

Total

Downstream Cap	2,097	2,098	2,095
DAP	2,100	2,100	2,100
HGV%	11%	6%	16%
	1.001589	1.000863	1.002333

veh/hr/lane

2016 Junction 5

AM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	64	32	90	187
B	A55 N Wales	19	0	34	539	592
C	A4080 NB	27	85	0	89	201
D	A55 N Wales	57	661	47	1	766
	Total	104	811	112	718	1,745

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	1	6
B	A55 N Wales	1	0	4	43	48
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	2	37	1	0	40
	Total	6	41	8	45	99

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	0	0	1
B	A55 N Wales	0	0	2	50	53
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	0	42	0	0	43
	Total	1	45	2	50	99

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	3	3	1	8
B	A55 N Wales	1	0	6	93	100
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	79	1	0	83
	Total	7	86	10	95	198

PM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	25	41	52	119
B	A55 N Wales	46	1	115	639	802
C	A4080 NB	44	77	0	74	196
D	A55 N Wales	83	683	99	0	864
	Total	174	786	255	766	1,981

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	0	0
B	A55 N Wales	0	0	0	0	0
C	A4080 NB	0	0	0	0	0
D	A55 N Wales	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	1	0	1	41	43
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	0	43	0	0	44
	Total	2	45	2	42	91

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	1	0	1	41	43
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	0	43	0	0	44
	Total	2	45	2	42	91

2016 Junction 5

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	30	36	50	116
B	A55 N Wales	30	4	86	620	740
C	A4080 NB	34	87	2	70	192
D	A55 N Wales	44	703	89	0	837
	Total	109	823	212	740	1,884

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	1
B	A55 N Wales	1	0	0	46	46
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	63	0	0	63
	Total	1	64	1	46	112

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	1	0	1
B	A55 N Wales	0	0	0	47	47
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	63	0	0	64
	Total	1	64	1	47	113

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	1	0	0	93	94
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	126	0	0	127
	Total	1	128	2	94	225

2016 Junction 6

Westbound

Type	
DM	2,330
DAP	2,100

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.15	0.19	0.18
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.15	0.19	0.18
Upstream Demand	613	784	743
Downstream Cap	4,184	4,193	4,188
Downstream Lanes	2	2	2

Total vehicles

Total

Downstream Cap	2,092	2,096	2,094
DAP	2,100	2,100	2,100
HGV%	25%	11%	19%
	1.003705	1.001671	1.002807

veh/hr/lane

Eastbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.24	0.24	0.25
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.24	0.24	0.25
Upstream Demand	1,005	1,012	1,047
Downstream Cap	4,186	4,192	4,182
Downstream Lanes	2	2	2

Downstream Cap	2,093	2,096	2,091
DAP	2,100	2,100	2,100
HGV%	23%	12%	29%
	1.00342	1.001874	1.004305

2016 Junction 6

AM PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	248	87	0	117	34	488
B	A55 N Wales	389	0	1	0	438	106	934
C	A5 Holyhead	135	12	1	0	52	45	245
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	249	501	40	0	0	13	803
F	A5 Holyhead	128	244	54	0	6	0	432
	Total	902	1,005	184	0	613	198	2,902

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	8	0	2	1	16
B	A55 N Wales	4	0	0	0	39	8	51
C	A5 Holyhead	7	0	0	0	4	3	15
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	45	2	0	0	0	49
F	A5 Holyhead	3	9	4	0	0	0	15
	Total	15	59	14	0	46	13	146

OGV2

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	11	7	0	1	0	19
B	A55 N Wales	6	0	0	0	50	9	65
C	A5 Holyhead	3	0	0	0	0	1	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	49	0	0	0	0	51
F	A5 Holyhead	1	3	2	0	0	0	6
	Total	10	63	9	0	51	11	144

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	13	0	0	0	54	12	80
B	A55 N Wales	3	0	0	0	0	1	4
C	A5 Holyhead	1	45	2	0	0	0	49
D	Unnamed Rd	4	58	4	0	0	0	66
E	A55 N Wales	15	63	15	0	46	13	152
F	A5 Holyhead	10	63	9	0	51	11	144
	Total	46	229	30	0	151	38	495

PM PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	328	137	0	159	103	728
B	A55 N Wales	283	0	5	0	549	192	1,030
C	A5 Holyhead	129	0	0	0	72	90	291
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	140	569	48	0	1	19	777
F	A5 Holyhead	70	116	49	0	3	0	238
	Total	623	1,012	239	0	784	404	3,063

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total
A	A5114 Unnar	0	0	0	0	0	0
B	A55 N Wales	0	0	0	0	0	0
C	A5 Holyhead	0	0	0	0	0	0
D	Unnamed Rd	0	0	0	0	0	0
E	A55 N Wales	0	0	0	0	0	0
F	A5 Holyhead	0	0	0	0	0	0
	Total	0	0	0	0	0	0

OGV2

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	5	3	0	1	1	9
B	A55 N Wales	11	0	0	0	43	1	55
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	56	0	0	0	0	58
F	A5 Holyhead	0	5	1	0	0	0	6
	Total	16	65	4	0	44	2	132

HGV

M-20 Split Junction

	A	B	C	SUN	E	F	Total	
A	A5114 Unnar	11	0	0	0	43	1	55
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	0	0	0	0	0	0	0
D	Unnamed Rd	1	56	0	0	0	0	58
E	A55 N Wales	0	5	1	0	0	0	6
F	A5 Holyhead	16	65	4	0	44	2	132
	Total	33	126	5	0	87	4	256

2016 Junction 6

WEEKEND PEAK sat

TOTAL

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	235	140	0	124	75	575
B	A55 N Wales	174	0	9	0	567	100	849
C	A5 Holyhead	152	1	0	0	45	70	268
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	111	688	39	0	1	7	846
F	A5 Holyhead	76	123	47	0	6	1	254
	Total	514	1,047	235	0	743	252	2,792

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	44	1	48
C	A5 Holyhead	2	0	0	0	0	1	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	74	1	0	0	0	76
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	6	75	3	0	46	4	135

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	47	2	53
C	A5 Holyhead	2	0	0	0	0	1	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	0	73	0	0	0	0	74
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	8	76	1	0	47	5	136

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	6	0	0	0	47	4	56
B	A55 N Wales	2	0	0	0	0	1	3
C	A5 Holyhead	1	74	1	0	0	0	76
D	Unnamed Ro	1	74	2	0	0	0	78
E	A55 N Wales	8	76	3	0	46	4	138
F	A5 Holyhead	8	76	1	0	47	5	136
	Total	26	301	7	0	139	14	486

2016 Junction 7

Westbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.21	0.22	0.19
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.21	0.22	0.19
Upstream Demand	859	909	793
Downstream Cap	4,192	4,196	4,193
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	13%	6%	11%
	1.001936	1.000878	1.001701

veh/hr/lane

Eastbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.36	0.25	0.24
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.36	0.25	0.24
Upstream Demand	1,121	1,064	995
Downstream Cap	3,112	4,195	4,192
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	1,556	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	2332%	7%	13%
	1.349754	1.001089	1.00195

veh/hr/lane

2016 Junction 7

AM PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	10	9	1	20
B	A55 EB	1	1	175	772	950
C	A5152 SB	3	150	0	86	239
D	A55 WB	3	960	132	0	1,094
	Total	8	1,121	315	859	2,303

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	15	51	67
C	A5152 SB	0	10	0	2	11
D	A55 WB	1	75	2	0	77
	Total	1	86	18	53	158

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	15	57	73
C	A5152 SB	0	10	0	2	11
D	A55 WB	1	80	2	0	83
	Total	1	91	18	58	169

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	30	108	140
C	A5152 SB	0	20	0	3	23
D	A55 WB	1	155	4	0	160
	Total	2	177	36	111	326

PM PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	4	1	5
B	A55 EB	3	0	198	815	1,016
C	A5152 SB	7	145	0	91	242
D	A55 WB	2	919	136	2	1,060
	Total	12	1,064	339	909	2,324

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	0	0	0
C	A5152 SB	0	0	0	0	0
D	A55 WB	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	53	61
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	74	1	0	75
	Total	0	77	9	53	140

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	53	61
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	74	1	0	75
	Total	0	77	9	53	140

2016 Junction 7

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	5	7	16
B	A55 EB	2	2	124	698	827
C	A5152 SB	9	119	0	83	211
D	A55 WB	1	870	105	5	981
	Total	12	995	234	793	2,034

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	44	46
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	63	1	0	64
	Total	0	64	4	44	112

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	45	47
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	64	1	0	65
	Total	0	65	4	45	114

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	89	94
C	A5152 SB	0	2	0	1	4
D	A55 WB	0	127	2	0	129
	Total	0	129	7	90	227

2016 Junction 8

Northbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.25	0.27	0.22
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.25	0.27	0.22
Upstream Demand	1,043	1,137	908
Downstream Cap	4,190	4,196	4,193
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,098	2,097
DAP	2,100	2,100	2,100
HGV%	17%	7%	11%
	1.002485	1.000988	1.001663

veh/hr/lane

Southbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.20	0.24	0.25
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.20	0.24	0.25
Upstream Demand	825	1,012	1,055
Downstream Cap	4,193	4,194	4,190
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,097	2,095
DAP	2,100	2,100	2,100
HGV%	12%	9%	16%
	1.001751	1.001317	1.002459

veh/hr/lane

2016 Junction 8

AM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	343	173	238	754
B	A55 N Wales	270	1	42	720	1,033
C	Lon Pant	166	50	0	82	297
D	A55 N Wales	286	431	117	3	837
	Total	722	825	331	1,043	2,922

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	77	89
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	13	74	8	0	96
	Total	28	78	9	84	199

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	9
B	A55 N Wales	5	0	0	86	92
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	90	0	0	96
	Total	12	96	0	89	198

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	9	20
B	A55 N Wales	16	0	1	163	181
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	20	164	8	0	192
	Total	40	175	9	173	397

PM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	277	144	248	669
B	A55 N Wales	443	1	126	838	1,408
C	Lon Pant	177	86	0	51	315
D	A55 N Wales	189	648	49	0	885
	Total	809	1,012	318	1,137	3,276

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	0	0	0
B	A55 N Wales	0	0	0	0	0
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	9	0	1	11
B	A55 N Wales	4	0	0	74	78
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	79	0	0	79
	Total	4	89	0	75	168

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	9	0	1	11
B	A55 N Wales	4	0	0	74	78
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	79	0	0	79
	Total	4	89	0	75	168

2016 Junction 8

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	212	115	263	590
B	A55 N Wales	532	1	62	615	1,211
C	Lon Pant	132	73	0	25	230
D	A55 N Wales	151	769	28	4	953
	Total	816	1,055	204	908	2,984

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	46	47
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	82	0	0	83
	Total	3	82	1	50	136

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	0	0	1
B	A55 N Wales	0	0	0	51	51
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	90	0	0	90
	Total	0	91	0	51	142

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	1	4	7
B	A55 N Wales	1	0	0	97	98
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	172	0	0	173
	Total	3	173	1	101	278

2016 Junction 8A

Southbound

	REF		
	AM	PM	Wknd
Delay minutes	0.33	0.00	0.00
Delay seconds	19.57	0.00	0.00
Cap Ratio	0.82	0.67	0.68
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.82	0.67	0.68
Upstream Demand	1,721	1,408	1,419
Downstream Cap	2,097	2,098	2,096
Downstream Lanes	1	1	1

Total vehicles

Total

Downstream Cap	2,097	2,098	2,096
DAP	2,100	2,100	2,100
HGV%	11%	6%	13%
	1.001638	1.000946	1.001916

veh/hr/lane

2016 Junction 8A

AM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	158	125	0	283
B	A55 SB	160	0	227	941	1,328
C	Holyhead Ro	344	797	0	0	1,142
D	A55 NB	0	765	0	0	765
	Total	504	1,721	352	941	3,518

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	7	0	5	105	117
C	Holyhead Ro	8	9	0	0	17
D	A55 NB	0	78	0	0	78
	Total	15	92	7	105	218

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	5	0	8	109	123
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	96	0	0	96
	Total	5	96	8	109	219

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	12	0	13	214	240
C	Holyhead Ro	8	9	0	0	17
D	A55 NB	0	175	0	0	175
	Total	20	188	15	214	437

PM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	129	299	0	428
B	A55 SB	141	0	356	1,154	1,650
C	Holyhead Ro	233	267	0	0	501
D	A55 NB	0	1,012	0	0	1,012
	Total	374	1,408	655	1,154	3,591

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	0	0	0	0	0
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	86	86
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	89	0	0	89
	Total	0	89	1	86	177

HGV

M-47

Split junction

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	86	86
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	89	0	0	89
	Total	0	89	1	86	177

2016 Junction 8A

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	119	333	0	452
B	A55 SB	167	8	276	970	1,421
C	Holyhead Ro	241	245	1	0	487
D	A55 NB	0	1,047	0	0	1,047
	Total	408	1,419	611	970	3,407

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	1	0	0	63	64
C	Holyhead Ro	1	7	0	0	8
D	A55 NB	0	82	0	0	82
	Total	3	90	1	63	157

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	1	0	0	63	65
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	91	0	0	91
	Total	1	91	0	63	156

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	3	0	0	126	129
C	Holyhead Ro	1	7	0	0	8
D	A55 NB	0	173	0	0	173
	Total	4	181	1	126	313

2016 Junction 9

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35	
Upstream Demand	1,389	1,468	1,466	1,423	1,512	1,469	Total vehicles
Downstream Cap	4,191	4,194	4,195	4,191	4,193	4,195	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,095	2,097	2,097	2,095	2,097	2,097	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	14%	10%	9%	15%	11%	9%	
	1.002175	1.001547	1.001303	1.00224	1.0016	1.001302	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39	
Upstream Demand	1,317	1,773	1,619	1,321	1,828	1,623	Total vehicles
Downstream Cap	4,191	4,192	4,192	4,191	4,192	4,192	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	15%	12%	14%	15%	12%	13%	
	1.002209	1.001863	1.002027	1.002204	1.001875	1.002024	

2016 Junction 9

M-48

AM PEAK

TOTAL

REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	3	755	408	173	1,339
B	A487 South	546	0	241	586	1,373
C	Business Par	111	46	0	40	197
D	A55 onslip	410	35	283	0	727
	Total	1,070	836	932	800	3,637

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	17	1	0	19
B	A487 South	12	0	1	15	28
C	Business Par	4	1	0	4	9
D	A55 onslip	8	3	1	0	12
	Total	24	21	4	19	68

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	16	0	0	16
B	A487 South	7	0	0	7	13
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
	Total	8	19	0	7	34

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	33	1	0	35
B	A487 South	19	0	1	21	41
C	Business Par	4	1	0	4	9
D	A55 onslip	9	5	1	0	16
	Total	32	40	4	25	102

M-49

AM PEAK

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	25	263	141	429
B	A487 NB	94	0	222	157	473
C	Ffordd Y Parc	485	279	1	310	1,075
D	A55 Unname	220	321	852	0	1,393
	Total	799	625	1,339	608	3,370

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	5	0	11	23
D	A55 Unname	3	1	17	0	21
	Total	9	7	19	19	53

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	8
D	A55 Unname	0	1	13	0	15
	Total	0	3	15	7	24

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	5
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	7	0	17	31
D	A55 Unname	3	3	31	0	36
	Total	9	9	33	25	78

2016 Junction 9

M-48 PM PEAK

TOTAL REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	7	845	95	239	1,186
B	A487 South	493	0	42	441	976
C	Business Par	440	162	0	172	774
D	A55 onslip	293	46	68	0	407
	Total	1,232	1,053	205	852	3,342

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	0	0	0	0
B	A487 South	0	0	0	0	0
C	Business Par	0	0	0	0	0
D	A55 onslip	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	1	3	0	4
B	A487 South	13	0	0	1	15
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
	Total	13	1	3	3	20

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	1	3	0	4
B	A487 South	13	0	0	1	15
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
	Total	13	1	3	3	20

M-49 PM PEAK

TOTAL REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	25	367	144	536
B	A487 NB	189	0	266	248	703
C	Ffordd Y Parc	503	196	1	485	1,185
D	A55 Unname	82	152	578	0	812
	Total	775	373	1,212	877	3,236

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unname	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	15	15
D	A55 Unname	0	0	4	0	4
	Total	0	0	4	15	19

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	15	15
D	A55 Unname	0	0	4	0	4
	Total	0	0	4	15	19

2016 Junction 9

M-48 SAT WEEKEND PEAK

TOTAL REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	20	536	52	116	723
B	A487 South	369	1	27	338	735
C	Business Par	36	34	0	31	101
D	A55 onslip	575	214	20	8	817
	Total	999	785	98	494	2,376

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
	Total	4	1	0	7	12

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	1	4
C	Business Par	0	1	0	0	1
D	A55 onslip	0	1	0	0	1
	Total	0	8	3	1	13

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	7	0	3	10
B	A487 South	3	0	3	6	11
C	Business Par	0	1	0	0	1
D	A55 onslip	1	1	0	0	3
	Total	4	10	3	8	25

M-49 SAT WEEKEND PEAK

TOTAL REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	3	24	265	259	551
B	A487 NB	104	0	111	83	297
C	Ffordd Y Parc	676	91	3	241	1,010
D	A55 Unname	89	70	353	0	512
	Total	871	185	732	583	2,371

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unname	0	3	1	0	4
	Total	3	3	4	1	11

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unname	0	0	4	0	4
	Total	0	0	4	0	4

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unname	0	3	6	0	8
	Total	3	3	8	1	15

2016 Junction 10- flows only

Westbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00
	227	227	227
	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.00	0.00	0.00
Upstream Demand			
Downstream Cap	4,200	4,200	4,200
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100
DAP	2,100	2,100	2,100
HGV%			
	1	1	1

veh/hr/lane

Eastbound

	REF		
	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00
	227	227	227
	0.75	0.75	0.75

Cap Ratio	0.00	0.00	0.00
Upstream Demand			
Downstream Cap	4,200	4,200	4,200
Downstream Lanes	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100
DAP	2,100	2,100	2,100
HGV%			
	1	1	1

veh/hr/lane

2016 Junction 10- flows only

M-50 AM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	0	251	274	261	786
B	A55 N Wales	409	0	356	1,048	1,813
C	A4087 NB	643	0	0	4	648
D	A55 N Wales	393	848	0	0	1,241
	Total	1,445	1,099	630	1,313	4,487

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	25	15	47
B	A55 N Wales	8	0	17	78	104
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	9	84	0	0	93
	Total	32	90	43	93	258

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	5	13
B	A55 N Wales	3	0	7	93	103
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	91	0	0	91
	Total	7	95	11	99	211

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	29	20	60
B	A55 N Wales	11	0	24	171	206
C	A4087 NB	19	0	0	0	19
D	A55 N Wales	9	175	0	0	184
	Total	39	186	53	191	469

M-50 PM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	4	400	565	495	1,464
B	A55 N Wales	302	0	349	812	1,463
C	A4087 NB	466	0	0	3	468
D	A55 N Wales	403	1,180	0	0	1,583
	Total	1,175	1,580	914	1,309	4,978

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	0	0	0	0	0
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	0	0	0	0
	Total	0	0	0	0	0

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	72	80
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	101	0	0	104
	Total	4	101	7	73	186

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	72	80
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	101	0	0	104
	Total	4	101	7	73	186

2016 Junction 10- flows only

M-50 sat WEEKEND PEAK

TOTAL

REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	7	383	699	544	1,632
B	A55 N Wales	364	0	809	833	2,006
C	A4087 NB	447	0	1	0	448
D	A55 N Wales	406	1,125	0	0	1,531
	Total	1,225	1,507	1,509	1,377	5,618

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	61	65
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	104	0	0	106
	Total	6	104	4	61	175

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	1	0	0	62	63
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	106	0	0	106
	Total	1	106	0	62	169

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	123	128
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	210	0	0	211
	Total	7	210	4	123	344

2020 WBP Junction 2

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.09	0.13	0.13	0.09	0.13	0.13
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.09	0.13	0.13	0.09	0.13	0.13	Total vehicles
Upstream Demand	380	546	549	381	558	549	
Downstream Cap	4,190	4,193	4,192	4,190	4,193	4,192	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	17%	12%	12%	17%	12%	12%	
	1.002486	1.001784	1.00186	1.002478	1.001745	1.00186	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.11	0.17	0.16	0.11	0.18	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.11	0.17	0.16	0.11	0.18	0.16	Total vehicles
Upstream Demand	473	705	657	473	737	657	
Downstream Cap	4,193	4,194	4,190	4,193	4,194	4,190	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,096	2,097	2,095	2,096	2,097	2,095	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	9%	15%	12%	10%	15%	
	1.001771	1.001348	1.002287	1.001771	1.001457	1.002287	

2020 WBP Junction 2

AM PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	137	47	76	261
B	A55 WB	117	1	210	280	609
C	A5153 NB	63	92	0	23	177
D	A55 EB	154	243	26	0	423
	Total	334	473	283	380	1,471

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	7	0	4	12
B	A55 WB	3	0	2	21	25
C	A5153 NB	1	1	0	0	2
D	A55 EB	4	17	0	0	22
	Total	8	26	2	25	61

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	1	3
B	A55 WB	3	0	4	26	33
C	A5153 NB	0	4	0	11	15
D	A55 EB	0	25	0	0	25
	Total	3	30	4	38	75

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	9	0	5	14
B	A55 WB	5	0	6	47	59
C	A5153 NB	1	5	0	11	17
D	A55 EB	4	42	0	0	46
	Total	11	56	6	63	136

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	137	47	76	261
B	A55 WB	117	1	228	282	628
C	A5153 NB	63	92	0	23	177
D	A55 EB	154	243	26	0	423
	Total	334	473	301	381	1,489

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	7	0	4	12
B	A55 WB	3	0	4	21	28
C	A5153 NB	1	1	0	0	2
D	A55 EB	4	17	0	0	22
	Total	8	26	4	25	64

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	1	3
B	A55 WB	3	0	12	26	41
C	A5153 NB	0	4	0	11	15
D	A55 EB	0	25	0	0	25
	Total	3	30	12	38	83

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	9	0	5	14
B	A55 WB	5	0	17	47	69
C	A5153 NB	1	5	0	11	17
D	A55 EB	4	42	0	0	46
	Total	11	56	17	63	146

2020 WBP Junction 2

PM PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	200	148	180	530
B	A55 WB	195	1	113	328	638
C	A5153 NB	131	167	0	38	335
D	A55 EB	269	336	10	1	616
	Total	597	705	272	546	2,119

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	1	0	1	21	24
C	A5153 NB	0	1	0	0	1
D	A55 EB	2	25	0	0	28
	Total	4	29	2	24	59

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	2	3
B	A55 WB	1	1	3	23	29
C	A5153 NB	1	5	0	16	21
D	A55 EB	0	28	0	0	29
	Total	2	34	4	41	81

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	5	9
B	A55 WB	3	1	5	44	53
C	A5153 NB	1	5	0	16	22
D	A55 EB	3	53	0	0	56
	Total	6	63	6	65	140

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	200	148	180	530
B	A55 WB	195	1	123	340	659
C	A5153 NB	131	187	0	38	355
D	A55 EB	269	349	10	1	629
	Total	597	737	281	558	2,173

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	1	0	3	21	26
C	A5153 NB	0	3	0	0	3
D	A55 EB	2	25	0	0	28
	Total	4	31	4	24	63

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	2	3
B	A55 WB	1	1	10	23	35
C	A5153 NB	1	11	0	16	27
D	A55 EB	0	28	0	0	29
	Total	2	40	10	41	94

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	5	9
B	A55 WB	3	1	13	44	61
C	A5153 NB	1	14	0	16	30
D	A55 EB	3	53	0	0	56
	Total	6	72	14	65	157

2020 WBP Junction 2

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	214	185	186	588
B	A55 WB	212	0	115	330	657
C	A5153 NB	154	66	0	33	254
D	A55 EB	310	377	4	0	691
	Total	679	657	305	549	2,190

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	1	4	6
B	A55 WB	3	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	48	0	0	51
	Total	7	49	2	40	99

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	0	0	0	25	25
D	A55 EB	3	48	0	0	51
	Total	6	51	57	28	141

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	7	12
B	A55 WB	6	0	57	37	99
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	96	0	0	102
	Total	13	100	59	68	240

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	214	185	186	588
B	A55 WB	212	0	115	330	657
C	A5153 NB	154	66	0	33	254
D	A55 EB	310	377	4	0	691
	Total	679	657	305	549	2,190

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	1	4	6
B	A55 WB	3	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	48	0	0	51
	Total	7	49	2	40	99

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	0	0	0	25	25
D	A55 EB	3	48	0	0	51
	Total	6	51	57	28	141

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	7	12
B	A55 WB	6	0	57	37	99
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	96	0	0	102
	Total	13	100	59	68	240

2020 WBP Junction 3

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.15	0.16	0.16	0.15	0.16	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.15	0.16	0.16	0.15	0.16	0.16	Total vehicles
Upstream Demand	624	665	656	642	686	656	
Downstream Cap	4,192	4,194	4,192	4,191	4,194	4,192	
Downstream Lanes	2	2	2	2	2	2	Total

Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	9%	13%	14%	10%	13%	
	1.001858	1.00139	1.001974	1.002043	1.001511	1.001974	

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.09	0.21	0.17	0.24	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.17	0.09	0.21	0.17	0.24	0.22	Total vehicles
Upstream Demand	716	398	897	727	990	902	
Downstream Cap	4,193	4,195	4,192	4,194	4,196	4,192	
Downstream Lanes	2	2	2	2	2	2	Total

Downstream Cap	2,097	2,097	2,096	2,097	2,098	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	10%	8%	13%	10%	6%	13%	
	1.001553	1.001192	1.001962	1.001534	1.000915	1.001955	

2020 WBP Junction 3

AM PEAK

TOTAL REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	290	75	0	44	410
B	A55 SB	164	0	2	2	547	715
C	A5 Holyhead	36	3	1	0	32	73
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	422	33	0	0	479
	Total	225	716	111	2	624	1,677

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	9	0	0	0	34	34
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	27
	Total	11	34	1	0	35	71

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	3	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	32	0	0	0	32
	Total	3	40	0	0	42	82

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	17
B	A55 SB	12	0	0	0	76	76
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	59	0	0	0	59
	Total	14	74	1	0	77	153

TOTAL WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	302	75	0	45	422
B	A55 SB	191	0	2	2	565	760
C	A5 Holyhead	36	3	1	0	32	73
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	422	33	0	0	479
	Total	252	727	111	2	642	1,734

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	10	0	0	0	37	46
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	28
	Total	11	34	1	0	38	85

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	4	0	0	0	50	54
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	32	0	0	0	32
	Total	4	40	0	0	50	94

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	18
B	A55 SB	14	0	0	0	87	100
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	59	0	0	0	60
	Total	16	74	1	0	87	179

2020 WBP Junction 3

PM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	197	63	0	30	289
B	A55 SB	291	0	4	0	543	547
C	A5 Holyhead	90	4	0	0	62	67
D	B&B Access	1	1	0	0	0	1
E	A55 NB	1	197	63	0	30	289
	Total	384	398	131	0	665	1,193

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	11	1	0	0	12
B	A55 SB	7	0	0	0	27	27
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	11	1	0	0	12
	Total	11	22	2	0	27	50

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	1	6
B	A55 SB	3	0	0	0	34	34
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	5	0	0	1	36
	Total	3	10	0	0	35	75

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	16	1	0	1	17
B	A55 SB	10	0	0	0	60	60
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	16	1	0	1	17
	Total	14	32	2	0	62	95

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	376	51	0	55	482
B	A55 SB	338	0	8	1	592	939
C	A5 Holyhead	60	1	0	0	38	99
D	B&B Access	0	0	0	0	1	2
E	A55 NB	78	613	22	0	0	713
	Total	476	990	81	1	686	2,234

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	6	1	0	0	7
B	A55 SB	3	0	0	0	30	33
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	2	20	1	0	0	23
	Total	6	26	2	0	31	64

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	0	7
B	A55 SB	5	0	0	0	38	43
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	4	28	0	0	0	31
	Total	8	34	1	0	38	81

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	12	1	0	0	14
B	A55 SB	7	0	0	0	69	76
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	5	48	1	0	0	55
	Total	14	60	2	0	69	145

2020 WBP Junction 3

sun

Weekend Peak

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	266	54	0	20	340
B	A55 SB	207	0	5	0	607	612
C	A5 Holyhead	61	7	0	0	27	35
D	B&B Access	0	0	0	0	0	0
E	A55 NB	26	623	21	0	2	646
	Total	294	897	80	0	656	1,632

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	54
	Total	0	57	0	0	42	100

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	44	44
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	59	0	0	0	59
	Total	1	60	0	0	44	104

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	86	86
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	113	0	0	0	114
	Total	1	117	0	0	86	204

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	271	54	0	20	345
B	A55 SB	211	0	5	0	607	823
C	A5 Holyhead	61	7	0	0	27	95
D	B&B Access	0	0	0	0	0	0
E	A55 NB	26	623	21	0	2	672
	Total	299	902	80	0	656	1,936

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	54
	Total	0	58	0	0	42	100

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	44	45
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	59	0	0	0	59
	Total	1	60	0	0	44	105

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	86	88
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	113	0	0	0	114
	Total	1	118	0	0	86	206

2020 WBP Junction 4

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.20	0.20	0.18	0.22	0.20
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.17	0.20	0.20	0.18	0.22	0.20
Upstream Demand	717	846	837	762	942	842
Downstream Cap	4,192	4,194	4,193	4,191	4,195	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	13%	9%	11%	14%	9%	11%
	1.001976	1.001377	1.001721	1.002098	1.001292	1.001716

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.19	0.22	0.21	0.19	0.25	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.19	0.22	0.21	0.19	0.25	0.21
Upstream Demand	795	906	890	802	1,048	896
Downstream Cap	4,186	4,187	4,183	4,186	4,191	4,183
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,093	2,094	2,091	2,093	2,096	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	22%	20%	28%	22%	14%	28%
	1.003327	1.002992	1.004149	1.003308	1.002059	1.004133

veh/hr/lane

2020 WBP Junction 4

AM PEAK

TOTAL REFERENCE CASE

M-5 Split junction

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	2	8	10	26	6	53
B	A55 WB	1	2	71	11	627	29	741
C	Minffordd Ro	8	49	0	7	32	13	110
D	A5 Holyhead	6	35	4	2	2	3	52
E	A55 EB	16	636	28	0	1	28	709
F	London Road	10	70	26	6	29	0	141
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		40	795	137	35	717	79	1,804

OGV1

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	4	0	5
B	A55 WB	1	0	1	0	40	0	42
C	Minffordd Ro	1	1	0	0	0	1	3
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	1	39	1	0	0	1	41
F	London Road	2	1	1	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		4	41	4	0	43	3	95

OGV2

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	1	0	0	0	0	1
B	A55 WB	0	0	2	0	51	0	53
C	Minffordd Ro	0	1	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	46	0	0	0	0	46
F	London Road	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	48	2	0	51	0	101

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	40	1	0	0	1	42
B	A55 WB	2	1	1	0	0	0	4
C	Minffordd Ro	0	46	0	0	0	0	46
D	A5 Holyhead	4	41	4	0	43	3	95
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	48	2	0	51	0	101
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		7	176	7	0	94	3	288

AM PEAK

TOTAL WNP SCENARIO

M-5 Split junction

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	2	8	10	26	6	53
B	A55 WB	1	2	71	11	672	29	785
C	Minffordd Ro	8	49	0	7	32	13	110
D	A5 Holyhead	6	35	4	2	2	3	52
E	A55 EB	16	643	28	0	1	28	720
F	London Road	10	70	26	6	29	0	141
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		40	802	137	35	762	79	1,860

OGV1

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	4	0	5
B	A55 WB	1	0	1	0	43	0	45
C	Minffordd Ro	1	1	0	0	0	1	3
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	1	39	1	0	0	1	41
F	London Road	2	1	1	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		4	41	4	0	46	3	98

OGV2

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	1	0	0	0	0	1
B	A55 WB	0	0	2	0	60	0	62
C	Minffordd Ro	0	1	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	47	0	0	0	0	47
F	London Road	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	48	2	0	60	0	110

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	40	1	0	0	1	42
B	A55 WB	2	1	1	0	0	0	4
C	Minffordd Ro	0	47	0	0	0	0	47
D	A5 Holyhead	4	41	4	0	46	3	98
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	48	2	0	60	0	110
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		7	177	7	0	107	3	301

2020 WBP Junction 4

PM PEAK

TOTAL		REFERENCE CASE							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	2	16	16	29	7	0	71
B	A55 WB	5	5	57	13	747	51	0	877
C	Minffordd Ro	15	99	0	15	56	33	0	219
D	A5 Holyhead	11	10	13	0	0	6	0	40
E	A55 EB	29	752	37	0	0	36	0	855
F	London Road	10	37	15	5	15	0	0	83
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		71	906	138	50	846	133	0	2,144

OGV1		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	2	2	0	0	4
B	A55 WB	2	0	1	0	34	1	0	39
C	Minffordd Ro	0	1	0	0	0	1	0	2
D	A5 Holyhead	0	0	0	0	0	0	0	1
E	A55 EB	0	39	1	0	0	1	0	40
F	London Road	1	1	2	0	0	0	0	3
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	42	4	3	36	3	0	90

OGV2		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	0	0	0	1
B	A55 WB	0	0	0	0	42	0	0	42
C	Minffordd Ro	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	49	0	0	0	0	0	49
F	London Road	0	0	1	0	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	49	2	0	42	0	0	93

HGV		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	39	1	0	0	1	0	40
B	A55 WB	1	1	2	0	0	0	0	3
C	Minffordd Ro	0	49	0	0	0	0	0	49
D	A5 Holyhead	3	42	5	3	36	3	0	91
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	49	2	0	42	0	0	93
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	181	9	3	78	4	0	277

PM PEAK

TOTAL		WNP SCENARIO							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	57	15	16	48	12	0	148
B	A55 WB	7	5	58	23	806	62	7	966
C	Minffordd Ro	13	47	0	8	50	23	0	141
D	A5 Holyhead	10	12	7	0	0	2	0	32
E	A55 EB	38	893	36	0	0	39	12	1,017
F	London Road	8	24	16	7	26	0	0	81
G	P&R Bus Exit	0	11	0	0	13	1	0	25
Total		76	1,048	132	53	942	140	19	2,409

OGV1		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	2	0	35	1	1	39
C	Minffordd Ro	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	1	0	0	0	0	0	1
E	A55 EB	1	28	0	0	0	0	0	29
F	London Road	1	1	0	0	0	0	0	1
G	P&R Bus Exit	0	1	0	0	0	0	0	1
Total		3	31	3	0	36	1	1	74

OGV2		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	45	0	4	49
C	Minffordd Ro	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	0	0	0	0	0	0	1
E	A55 EB	0	38	0	0	0	0	0	38
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	4	0	0	0	0	0	4
Total		1	42	0	0	45	0	4	91

HGV		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	28	0	0	0	0	0	29
B	A55 WB	2	1	0	0	0	0	0	2
C	Minffordd Ro	0	39	0	0	0	0	0	39
D	A5 Holyhead	3	31	3	0	36	1	1	74
E	A55 EB	0	4	0	0	0	0	0	4
F	London Road	1	42	0	0	45	0	4	91
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		6	144	3	0	81	1	5	240

2020 WBP Junction 4

SUN

Weekend Peak

TOTAL REFERENCE CASE

M-5 Split junction

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	4	6	24	38	8	80
B	A55 WB	6	1	29	9	734	23	802
C	Minffordd Ro	5	26	0	9	35	13	88
D	A5 Holyhead	15	14	7	0	1	5	42
E	A55 EB	32	810	43	0	0	27	911
F	London Road	6	37	9	7	28	0	87
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		64	890	94	50	837	75	2,011

OGV1

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	46	1	47
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	60	0	0	47	1	109

OGV2

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	48	0	48
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	63	0	0	0	0	63
F	London Road	0	0	0	1	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	63	0	1	49	0	112

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	60	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0
C	Minffordd Ro	0	63	0	0	0	0	63
D	A5 Holyhead	0	60	0	1	47	1	110
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	63	0	1	49	0	112
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		1	246	1	1	96	1	346

SUN

Weekend Peak

TOTAL WNP SCENARIO

M-5 Split junction

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	4	6	24	38	8	80
B	A55 WB	6	1	29	9	739	23	807
C	Minffordd Ro	5	26	0	9	35	13	88
D	A5 Holyhead	15	14	7	0	1	5	42
E	A55 EB	32	815	43	0	0	27	917
F	London Road	6	37	9	7	28	0	87
G	P&R Bus Exit	0	1	0	0	0	0	1
Total		64	896	94	50	842	75	2,021

OGV1

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	46	1	47
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	60	0	0	47	1	110

OGV2

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	1
B	A55 WB	0	0	0	0	48	0	48
C	Minffordd Ro	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0
E	A55 EB	0	63	0	0	0	0	63
F	London Road	0	0	0	1	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		0	63	0	1	49	0	113

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	60	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0
C	Minffordd Ro	0	63	0	0	0	0	63
D	A5 Holyhead	0	60	0	1	47	1	110
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	63	0	1	49	0	113
G	P&R Bus Exit	0	0	0	0	0	0	0
Total		1	247	1	1	96	1	347

2020 WBP Junction 5

Westbound

Cap Ratio	0.18	0.21	0.19	0.19	0.22	0.19
Upstream Demand	753	869	802	798	930	807
Downstream Cap	4,192	4,194	4,192	4,191	4,194	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Type	
DM	2,330
DAP	2,100

Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	14%	10%	12%	14%	10%	12%
	1.002026	1.001477	1.001814	1.00214	1.001474	1.001807

veh/hr/lane

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.18	0.21	0.19	0.19	0.22	0.19
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.21	0.19	0.21	0.21	0.23	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.21	0.19	0.21	0.21	0.23	0.21
Upstream Demand	867	817	880	874	974	885
Downstream Cap	4,193	4,193	4,191	4,193	4,195	4,191
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,097	2,096	2,095	2,097	2,098	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	11%	15%	11%	8%	15%
	1.001592	1.001692	1.002263	1.001584	1.001146	1.002253

veh/hr/lane

2020 WBP Junction 5

AM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	68	34	94	196
B	A55 N Wales	20	0	36	564	620
C	A4080 NB	29	90	0	94	213
D	A55 N Wales	60	709	50	1	820
	Total	110	867	119	753	1,849

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	45	50
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	38	1	0	42
	Total	6	43	8	47	103

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	0	0	2	55	58
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	0	47	0	0	47
	Total	2	49	2	55	108

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	100	107
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	85	1	0	89
	Total	7	92	10	102	211

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	1	68	34	94	196
B	A55 N Wales	20	0	36	609	665
C	A4080 NB	29	90	0	94	213
D	A55 N Wales	60	716	50	1	827
	Total	110	874	119	798	1,901

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	48	53
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	39	1	0	42
	Total	6	43	8	50	106

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	0	0	2	64	67
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	0	47	0	0	48
	Total	2	50	2	64	117

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	112	119
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	86	1	0	90
	Total	7	92	10	114	223

2020 WBP Junction 5

PM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	28	46	58	134
B	A55 N Wales	49	2	124	731	905
C	A4080 NB	47	84	0	79	211
D	A55 N Wales	88	703	106	0	897
	Total	186	817	276	869	2,147

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	3	3	7
B	A55 N Wales	1	0	3	35	38
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	1	38	2	0	42
	Total	3	42	7	40	92

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	1	0	1	45	48
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	0	47	0	0	48
	Total	2	50	2	46	100

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	4	4	10
B	A55 N Wales	2	0	4	80	86
C	A4080 NB	0	4	0	2	6
D	A55 N Wales	2	86	2	0	90
	Total	4	92	9	86	191

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	29	45	68	143
B	A55 N Wales	69	1	124	767	960
C	A4080 NB	47	58	0	95	201
D	A55 N Wales	85	887	111	0	1,083
	Total	202	974	279	930	2,387

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	0	38	38
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	31	0	0	32
	Total	2	32	2	40	75

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	0	0
B	A55 N Wales	1	0	1	52	53
C	A4080 NB	1	0	0	0	1
D	A55 N Wales	0	43	0	0	43
	Total	1	43	1	52	97

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	1	89	92
C	A4080 NB	1	1	0	0	1
D	A55 N Wales	1	73	0	0	74
	Total	3	74	3	91	171

2020 WBP Junction 5

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	31	38	53	123
B	A55 N Wales	32	4	91	675	801
C	A4080 NB	35	92	2	73	202
D	A55 N Wales	47	752	94	0	894
	Total	115	880	224	802	2,021

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	1
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	64	0	0	65
	Total	1	65	1	48	115

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	1	0	1
B	A55 N Wales	0	0	0	49	49
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	67	0	0	67
	Total	1	68	1	49	118

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	96	97
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	131	0	0	132
	Total	1	133	2	97	233

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	31	38	53	123
B	A55 N Wales	32	4	91	680	806
C	A4080 NB	35	92	2	73	202
D	A55 N Wales	47	758	94	0	900
	Total	115	885	224	807	2,031

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	1
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	64	0	0	65
	Total	1	65	1	48	115

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	1	0	1
B	A55 N Wales	0	0	0	50	50
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	67	0	0	67
	Total	1	68	1	50	119

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	97	97
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	131	0	0	132
	Total	1	133	2	97	233

2020 WBP Junction 6

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.15	0.21	0.19	0.16	0.23	0.19
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.15	0.21	0.19	0.16	0.23	0.19
Upstream Demand	643	891	805	688	978	810
Downstream Cap	4,184	4,190	4,189	4,183	4,190	4,189
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,092	2,095	2,094	2,092	2,095	2,094
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	25%	16%	18%	27%	17%	18%
	1.003795	1.002349	1.002698	1.00401	1.002502	1.002689

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.26	0.27	0.26	0.28	0.27
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.26	0.26	0.27	0.26	0.28	0.27
Upstream Demand	1,072	1,099	1,115	1,079	1,176	1,121
Downstream Cap	4,186	4,185	4,182	4,186	4,185	4,183
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,093	2,093	2,091	2,093	2,093	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	23%	23%	28%	23%	24%	28%
	1.003407	1.003495	1.00419	1.003392	1.00357	1.004177

veh/hr/lane

2020 WBP Junction 6

AM PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	263	93	0	117	36	510
B	A55 N Wales	412	0	1	0	464	113	991
C	A5 Holyhead	143	13	1	0	55	48	261
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	263	539	43	0	0	13	858
F	A5 Holyhead	135	258	58	0	7	0	457
Total		954	1,072	196	0	643	211	3,076

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	41	8	53
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	47	2	0	0	0	51
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	61	14	0	48	13	151

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	11	7	0	1	0	20
B	A55 N Wales	6	0	0	0	55	9	70
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	54	0	0	0	0	56
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	69	9	0	56	11	156

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	14	0	0	0	59	13	86
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	1	47	2	0	0	0	51
D	Unnamed Ro	4	63	4	0	0	0	71
E	A55 N Wales	16	65	16	0	48	13	157
F	A5 Holyhead	11	69	9	0	56	11	156
Total		48	244	31	0	163	40	524

AM PEAK

TOTAL WNP SCENARIO

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	263	93	0	117	36	510
B	A55 N Wales	412	0	1	0	509	113	1,035
C	A5 Holyhead	143	13	1	0	55	48	261
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	263	546	43	0	0	13	865
F	A5 Holyhead	135	258	58	0	7	0	457
Total		954	1,079	196	0	688	211	3,128

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	44	8	56
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	47	2	0	0	0	51
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	61	14	0	51	13	154

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	11	7	0	1	0	20
B	A55 N Wales	6	0	0	0	64	9	79
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	54	0	0	0	0	56
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	69	9	0	65	11	165

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	14	0	0	0	68	13	95
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	1	47	2	0	0	0	51
D	Unnamed Ro	4	63	4	0	0	0	71
E	A55 N Wales	16	65	16	0	51	13	160
F	A5 Holyhead	11	69	9	0	65	11	165
Total		48	244	31	0	184	40	546

2020 WBP Junction 6

PM PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	353	151	0	169	112	786
B	A55 N Wales	305	0	5	0	641	210	1,162
C	A5 Holyhead	141	0	0	0	77	98	317
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	127	616	53	0	1	21	819
F	A5 Holyhead	75	129	57	0	3	0	265
	Total	650	1,099	267	0	891	441	3,348

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	7	6	0	1	4	18
B	A55 N Wales	6	0	0	0	40	7	54
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Road	0	0	0	0	0	0	0
E	A55 N Wales	3	50	2	0	0	1	56
F	A5 Holyhead	1	6	5	0	0	0	13
	Total	16	63	14	0	42	15	150

OGV2

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	5	3	0	1	1	9
B	A55 N Wales	11	0	0	0	48	2	60
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	61	0	0	0	0	63
F	A5 Holyhead	0	5	1	0	0	0	6
	Total	17	71	4	0	49	3	143

HGV

M-20 Split Junction

	A	B	C	SUN	E	F	Total	
A	A5114 Unnar	16	0	0	0	49	5	70
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	50	2	0	0	1	56
D	Unnamed Ro	2	68	6	0	0	0	76
E	A55 N Wales	16	68	15	0	42	15	156
F	A5 Holyhead	17	71	4	0	49	3	143
	Total	59	256	27	0	140	23	505

PM PEAK

TOTAL WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	353	151	0	176	112	793
B	A55 N Wales	305	0	5	0	716	210	1,237
C	A5 Holyhead	141	0	0	0	82	98	321
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	131	693	55	0	1	21	901
F	A5 Holyhead	75	129	57	0	3	0	265
	Total	653	1,176	269	0	978	441	3,518

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	7	6	0	1	4	18
B	A55 N Wales	6	0	0	0	43	7	57
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	3	53	2	0	0	1	59
F	A5 Holyhead	1	6	5	0	0	0	13
	Total	16	66	14	0	46	15	156

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	5	3	0	1	1	9
B	A55 N Wales	11	0	0	0	58	2	71
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Road	0	0	0	0	0	0	0
E	A55 N Wales	1	70	0	0	0	0	72
F	A5 Holyhead	0	5	1	0	0	0	6
	Total	17	80	4	0	59	3	162

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	16	0	0	0	59	5	80
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	53	2	0	0	1	59
D	Unnamed Ro	2	77	6	0	0	0	84
E	A55 N Wales	16	71	15	0	46	15	162
F	A5 Holyhead	17	80	4	0	59	3	162
	Total	59	280	27	0	163	23	552

2020 WBP Junction 6

sun

WEEKEND PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	247	147	0	131	79	605
B	A55 N Wales	183	0	9	0	619	106	917
C	A5 Holyhead	161	1	0	0	47	74	283
D	Unnamed Road	0	0	0	0	0	0	0
E	A55 N Wales	117	736	41	0	1	7	903
F	A5 Holyhead	80	130	50	0	7	1	268
	Total	541	1,115	247	0	805	266	2,975

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	45	1	49
C	A5 Holyhead	2	0	0	0	0	1	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	75	1	0	0	0	77
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	77	3	0	47	4	138

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	49	2	55
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	0	77	0	0	0	0	78
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	8	80	1	0	49	5	143

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	6	0	0	0	49	4	59
B	A55 N Wales	2	0	0	0	0	2	3
C	A5 Holyhead	1	75	1	0	0	0	77
D	Unnamed Ro	2	78	2	0	0	0	82
E	A55 N Wales	8	78	3	0	47	4	141
F	A5 Holyhead	8	80	1	0	49	5	143
	Total	27	312	7	0	145	15	505

SUN

WEEKEND PEAK

TOTAL WNP SCENARIO

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	1	247	147	0	131	79	605
B	A55 N Wales	183	0	9	0	624	106	921
C	A5 Holyhead	161	1	0	0	47	74	283
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	117	742	41	0	1	7	908
F	A5 Holyhead	80	130	50	0	7	1	268
	Total	541	1,121	247	0	810	266	2,986

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	45	1	49
C	A5 Holyhead	2	0	0	0	0	1	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	75	1	0	0	0	77
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	77	3	0	47	4	138

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnan	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	49	2	55
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	0	77	0	0	0	0	78
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	8	80	1	0	49	5	143

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total	
A	A5114 Unnan	6	0	0	0		49	4	59
B	A55 N Wales	2	0	0	0	0		2	3
C	A5 Holyhead	1	75	1	0	0	0	0	77
D	Unnamed Ro	2	78	2	0	0	0	0	82
E	A55 N Wales	8	78	3	0	47		4	141
F	A5 Holyhead	8	80	1	0	49		5	143
	Total	27	312	7	0	145		15	506

2020 WBP Junction 7

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.22	0.25	0.20	0.23	0.26	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.22	0.25	0.20	0.23	0.26	0.21
Upstream Demand	908	1,031	856	953	1,106	861
Downstream Cap	4,192	4,193	4,193	4,191	4,193	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,097	2,097	2,096	2,097	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	13%	11%	11%	14%	11%	11%
	1.001948	1.001588	1.001632	1.002047	1.001664	1.001627

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.29	0.28	0.25	0.29	0.30	0.25
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.29	0.28	0.25	0.29	0.30	0.25
Upstream Demand	1,195	1,165	1,062	1,202	1,242	1,068
Downstream Cap	4,190	4,191	4,192	4,190	4,191	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	16%	14%	13%	16%	14%	13%
	1.002347	1.00203	1.001894	1.002337	1.002048	1.001888

veh/hr/lane

2020 WBP Junction 7

AM PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	10	9	1	21
B	A55 EB	1	1	186	817	1,005
C	A5152 SB	3	160	0	91	254
D	A55 WB	3	1,023	139	0	1,166
	Total	8	1,195	335	908	2,446

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	53	70
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	77	2	0	80
	Total	1	89	18	55	163

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	62	79
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	86	2	0	89
	Total	1	98	19	63	181

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	115	148
C	A5152 SB	0	20	0	3	24
D	A55 WB	1	163	5	0	169
	Total	2	187	37	118	344

TOTAL

WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	10	9	1	21
B	A55 EB	1	1	186	861	1,050
C	A5152 SB	3	160	0	91	254
D	A55 WB	3	1,030	139	0	1,173
	Total	8	1,202	335	953	2,497

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	56	73
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	77	2	0	80
	Total	1	89	18	58	166

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	71	88
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	86	2	0	89
	Total	1	98	19	73	191

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	127	161
C	A5152 SB	0	20	0	3	24
D	A55 WB	1	164	5	0	169
	Total	2	187	37	130	357

2020 WBP Junction 7

PM PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	3	0	218	931	1,152
C	A5152 SB	7	156	0	96	260
D	A55 WB	2	1,009	145	2	1,158
	Total	13	1,165	368	1,031	2,576

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	50	59
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	71	1	0	72
	Total	0	74	9	51	135

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	58	67
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	80	1	0	80
	Total	0	83	10	58	151

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	108	126
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	151	1	0	152
	Total	0	158	19	109	286

TOTAL

WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	3	0	218	1,006	1,228
C	A5152 SB	7	156	0	96	260
D	A55 WB	2	1,086	145	2	1,235
	Total	13	1,242	368	1,106	2,728

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	54	63
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	74	1	0	75
	Total	0	77	9	54	141

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	68	77
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	89	1	0	89
	Total	0	92	10	68	170

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	122	140
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	163	1	0	164
	Total	0	170	19	123	311

2020 WBP Junction 7

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	5	8	17
B	A55 EB	3	3	131	757	893
C	A5152 SB	9	126	0	86	221
D	A55 WB	1	930	110	5	1,046
	Total	13	1,062	246	856	2,177

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	45	47
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	64	1	0	66
	Total	0	66	4	45	115

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	67	1	0	69
	Total	0	69	4	48	120

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	92	97
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	132	3	0	134
	Total	0	134	8	93	235

TOTAL

WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	5	8	17
B	A55 EB	3	3	131	762	898
C	A5152 SB	9	126	0	86	221
D	A55 WB	1	936	110	5	1,052
	Total	13	1,068	246	861	2,188

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	45	47
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	64	1	0	66
	Total	0	66	4	46	115

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	68	1	0	69
	Total	0	69	4	48	121

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	92	97
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	132	3	0	134
	Total	0	134	8	93	235

2020 WBP Junction 8

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.31	0.23	0.27	0.33	0.23
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.26	0.31	0.23	0.27	0.33	0.23
Upstream Demand	1,103	1,293	979	1,148	1,369	984
Downstream Cap	4,190	4,192	4,193	4,189	4,192	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,096	2,097	2,095	2,096	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	17%	12%	11%	17%	12%	11%
	1.002477	1.001789	1.001599	1.002538	1.001839	1.001595

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.21	0.27	0.27	0.21	0.29	0.27
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.21	0.27	0.27	0.21	0.29	0.27
Upstream Demand	881	1,131	1,124	888	1,205	1,130
Downstream Cap	4,193	4,191	4,190	4,187	4,190	4,190
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,095	2,095	2,093	2,095	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	15%	16%	21%	16%	16%
	1.001758	1.002249	1.002394	1.003113	1.002386	1.002386

veh/hr/lane

2020 WBP Junction 8

AM PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	363	182	246	791
B	A55 N Wales	279	2	44	769	1,093
C	Lon Pant	175	53	0	86	314
D	A55 N Wales	302	464	123	3	893
	Total	756	881	350	1,103	3,090

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	80	92
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	77	8	0	99
	Total	29	81	10	86	205

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	93	99
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	96	0	0	103
	Total	13	103	0	96	212

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	172	190
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	173	8	0	202
	Total	41	184	10	182	417

AM PEAK

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	363	182	246	791
B	A55 N Wales	280	2	44	814	1,139
C	Lon Pant	175	53	0	86	314
D	A55 N Wales	302	471	123	3	899
	Total	757	888	350	1,148	3,143

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	83	95
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	77	8	0	99
	Total	29	81	10	89	208

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	102	108
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	96	0	0	104
	Total	13	104	0	105	221

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	185	202
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	173	8	0	202
	Total	41	184	10	194	429

2020 WBP Junction 8

PM PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	295	154	273	722
B	A55 N Wales	476	1	133	966	1,577
C	Lon Pant	190	90	0	54	335
D	A55 N Wales	181	745	40	0	966
	Total	847	1,131	326	1,293	3,599

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	63	71
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	59	0	0	67
	Total	19	74	3	73	169

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	11
B	A55 N Wales	4	0	0	79	84
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	86	0	0	86
	Total	4	95	0	81	181

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	40
B	A55 N Wales	12	0	0	142	154
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	145	0	0	153
	Total	23	170	3	154	350

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	295	154	279	728
B	A55 N Wales	476	1	133	1,032	1,643
C	Lon Pant	190	90	0	57	338
D	A55 N Wales	183	818	41	0	1,042
	Total	850	1,205	327	1,369	3,751

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	66	74
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	62	0	0	70
	Total	19	77	3	77	176

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	11
B	A55 N Wales	4	0	0	90	94
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	95	0	0	95
	Total	4	104	0	91	200

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	40
B	A55 N Wales	12	0	0	155	168
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	157	0	0	165
	Total	23	182	3	168	375

2020 WBP Junction 8

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	223	120	278	621
B	A55 N Wales	560	1	65	670	1,296
C	Lon Pant	138	76	0	27	242
D	A55 N Wales	160	823	30	4	1,017
	Total	858	1,124	214	979	3,175

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	48
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	85
	Total	3	84	1	51	139

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	0	0	1
B	A55 N Wales	0	0	0	53	53
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	94	0	0	94
	Total	0	96	0	53	149

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	1	4	7
B	A55 N Wales	1	0	0	100	102
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	178	0	0	179
	Total	3	179	1	104	288

SUN

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	223	120	278	621
B	A55 N Wales	560	1	65	675	1,301
C	Lon Pant	138	76	0	27	242
D	A55 N Wales	160	829	30	4	1,022
	Total	858	1,130	214	984	3,186

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	48
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	85
	Total	3	84	1	51	139

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	0	0	1
B	A55 N Wales	0	0	0	53	53
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	95	0	0	95
	Total	0	96	0	53	149

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	1	4	7
B	A55 N Wales	1	0	0	100	102
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	178	0	0	180
	Total	3	180	1	105	289

2020 WBP Junction 8A

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.56	0.00	0.00	0.58	0.14	0.00
Delay seconds	33.60	0.00	0.00	34.52	8.54	0.00
Cap Ratio	0.87	0.75	0.72	0.87	0.78	0.72
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.87	0.75	0.72	0.87	0.78	0.72
Upstream Demand	1,827	1,564	1,506	1,834	1,637	1,512
Downstream Cap	2,097	2,096	2,096	2,097	2,096	2,096
Downstream Lanes	1	1	1	1	1	1

Total vehicles

Total

Downstream Cap	2,097	2,096	2,096	2,097	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	12%	12%	11%	12%	12%
	1.001624	1.001745	1.001871	1.00162	1.001776	1.001867

veh/hr/lane

2020 WBP Junction 8A

AM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	167	132	0	298
B	A55 SB	170	0	242	991	1,402
C	Holyhead Ro	363	842	0	0	1,205
D	A55 NB	0	818	0	0	818
	Total	533	1,827	373	991	3,724

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	7	0	5	108	120
C	Holyhead Ro	8	10	0	0	18
D	A55 NB	0	81	0	0	81
	Total	15	94	7	108	224

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	6	0	8	117	131
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	103	0	0	103
	Total	6	103	8	117	234

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	12	0	14	225	251
C	Holyhead Ro	8	10	0	0	18
D	A55 NB	0	184	0	0	184
	Total	21	198	15	225	459

AM PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	167	132	0	298
B	A55 SB	170	0	242	1,037	1,448
C	Holyhead Ro	363	842	0	0	1,205
D	A55 NB	0	825	0	0	825
	Total	533	1,834	373	1,037	3,777

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	7	0	5	111	123
C	Holyhead Ro	8	10	0	0	18
D	A55 NB	0	81	0	0	81
	Total	15	94	7	111	227

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	6	0	8	126	140
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	104	0	0	104
	Total	6	104	8	126	244

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	5
B	A55 SB	12	0	14	237	264
C	Holyhead Ro	8	10	0	0	18
D	A55 NB	0	184	0	0	184
	Total	21	198	15	237	471

2020 WBP Junction 8A

PM PEAK

PM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	140	318	0	458
B	A55 SB	150	0	380	1,316	1,845
C	Holyhead Ro	247	292	0	0	539
D	A55 NB	0	1,131	0	0	1,131
	Total	396	1,564	698	1,316	3,974

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	5	78	85
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	74	0	0	74
	Total	3	86	10	78	177

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	93	93
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	95	0	0	95
	Total	0	95	1	93	190

HGV

M-47

Split junction

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	8
B	A55 SB	1	0	5	171	178
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	170	0	0	170
	Total	3	182	11	171	367

PM PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	140	318	0	458
B	A55 SB	150	0	380	1,382	1,911
C	Holyhead Ro	247	292	0	0	539
D	A55 NB	0	1,205	0	0	1,205
	Total	396	1,637	698	1,382	4,113

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	5	82	88
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	77	0	0	77
	Total	3	89	10	82	183

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	103	103
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	104	0	0	104
	Total	0	104	1	103	209

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	8
B	A55 SB	1	0	5	185	191
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	182	0	0	182
	Total	3	194	11	185	392

2020 WBP Junction 8A

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	125	350	0	475
B	A55 SB	175	9	291	1,043	1,518
C	Holyhead Ro	253	257	1	0	511
D	A55 NB	0	1,115	0	0	1,115
	Total	428	1,506	642	1,043	3,620

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	1	0	0	64	65
C	Holyhead Ro	1	7	0	0	9
D	A55 NB	0	84	0	0	84
	Total	3	92	1	64	160

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	1	0	0	67	68
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	96	0	0	96
	Total	1	96	0	67	164

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	3	0	0	131	134
C	Holyhead Ro	1	7	0	0	9
D	A55 NB	0	179	0	0	179
	Total	4	188	1	131	324

SUN

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	125	350	0	475
B	A55 SB	175	9	291	1,048	1,523
C	Holyhead Ro	253	257	1	0	511
D	A55 NB	0	1,121	0	0	1,121
	Total	428	1,512	642	1,048	3,630

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	1	0	0	64	65
C	Holyhead Ro	1	7	0	0	9
D	A55 NB	0	84	0	0	84
	Total	3	92	1	64	160

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	1	0	0	67	68
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	96	0	0	96
	Total	1	96	0	67	164

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	1	1	0	3
B	A55 SB	3	0	0	131	134
C	Holyhead Ro	1	7	0	0	9
D	A55 NB	0	180	0	0	180
	Total	4	188	1	131	325

2020 WBP Junction 9

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35
Upstream Demand	1,389	1,468	1,466	1,423	1,512	1,469
Downstream Cap	4,191	4,194	4,195	4,191	4,193	4,195
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,097	2,097	2,095	2,097	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	14%	10%	9%	15%	11%	9%
	1.002175	1.001547	1.001303	1.00224	1.0016	1.001302

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39
Upstream Demand	1,317	1,773	1,619	1,321	1,828	1,623
Downstream Cap	4,191	4,192	4,192	4,191	4,192	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	15%	12%	14%	15%	12%	13%
	1.002209	1.001863	1.002027	1.002204	1.001875	1.002024

veh/hr/lane

2020 WBP Junction 9

M-48

AM PEAK

TOTAL

REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	3	802	429	183	1,416
B	A487 South	577	0	254	619	1,451
C	Business Par	117	49	0	43	209
D	A55 onslip	433	37	298	0	768
	Total	1,130	888	981	845	3,844

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
	Total	25	22	4	19	70

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	17	0	0	17
B	A487 South	7	0	0	7	14
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
	Total	8	20	0	7	35

AM PEAK

TOTAL

WNP SCENARIO

M-48

		A	B	C	D	Total
A	A487 North	3	804	429	184	1,419
B	A487 South	577	0	254	631	1,463
C	Business Par	117	49	0	43	209
D	A55 onslip	433	37	298	0	768
	Total	1,130	890	981	858	3,858

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
	Total	25	22	4	19	70

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	17	0	0	17
B	A487 South	7	0	0	8	15
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
	Total	8	20	0	8	36

2020 WBP Junction 9

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	35	1	0	36
B	A487 South	19	0	1	22	43
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
	Total	33	42	4	26	105

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	35	1	0	36
B	A487 South	19	0	1	23	44
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
	Total	33	42	4	27	106

M-49**AM PEAK**

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	27	278	149	453
B	A487 NB	99	0	234	166	499
C	Ffordd Y Parc	512	294	2	329	1,136
D	A55 Unname	232	338	902	0	1,473
	Total	842	659	1,416	643	3,560

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	5	0	11	23
D	A55 Unname	3	1	18	0	22
	Total	10	7	19	19	55

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	8
D	A55 Unname	0	1	14	0	16
	Total	0	3	16	7	25

AM PEAK

TOTAL

WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	27	278	149	454
B	A487 NB	99	0	234	166	499
C	Ffordd Y Parc	512	294	2	329	1,136
D	A55 Unname	232	338	904	0	1,475
	Total	843	659	1,418	643	3,564

OGV1

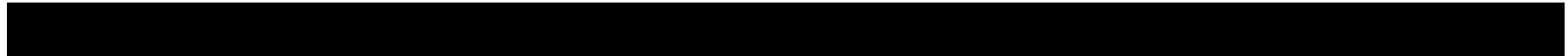
M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	5	0	11	23
D	A55 Unname	3	1	18	0	22
	Total	10	7	19	19	55

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	8
D	A55 Unname	0	1	14	0	16
	Total	0	3	16	7	26



HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	32	0	37
Total		10	10	35	26	80

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	32	0	37
Total		10	10	35	26	80

2020 WBP Junction 9

M-48

PM PEAK

TOTAL

REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	7	904	99	253	1,263
B	A487 South	527	0	43	477	1,048
C	Business Par	463	170	0	180	813
D	A55 onslip	309	50	73	0	432
	Total	1,306	1,124	216	910	3,556

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	12	0	1	14
B	A487 South	5	0	0	7	12
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
	Total	8	14	1	8	31

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	1	3	0	4
B	A487 South	14	0	0	1	16
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
	Total	14	1	3	3	21

PM PEAK

TOTAL

WNP SCENARIO

M-48

		A	B	C	D	Total
A	A487 North	7	943	99	254	1,303
B	A487 South	527	0	43	482	1,052
C	Business Par	463	170	0	180	813
D	A55 onslip	309	50	73	0	432
	Total	1,306	1,163	216	916	3,601

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	13	0	2	15
B	A487 South	5	0	0	8	13
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
	Total	8	14	1	9	33

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	4	3	1	7
B	A487 South	14	0	0	4	18
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
	Total	14	4	3	6	26

2020 WBP Junction 9

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	14	3	1	18
B	A487 South	20	0	0	8	28
C	Business Par	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
	Total	22	15	4	11	53

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	17	3	2	22
B	A487 South	20	0	0	11	31
C	Business Par	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
	Total	22	18	4	15	59

M-49**PM PEAK**

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	27	388	153	568
B	A487 NB	200	0	280	266	746
C	Ffordd Y Parc	531	206	1	518	1,257
D	A55 Unnamed	86	161	621	0	869
	Total	817	394	1,291	938	3,440

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Ffordd Y Parc	1	0	0	7	8
D	A55 Unnamed	0	1	10	0	11
	Total	3	1	14	14	31

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	16	16
D	A55 Unnamed	0	0	4	0	4
	Total	0	0	4	16	20

PM PEAK

TOTAL

WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	27	390	153	569
B	A487 NB	200	0	280	266	746
C	Ffordd Y Parc	531	206	1	518	1,257
D	A55 Unnamed	91	161	659	0	912
	Total	823	394	1,331	938	3,485

OGV1

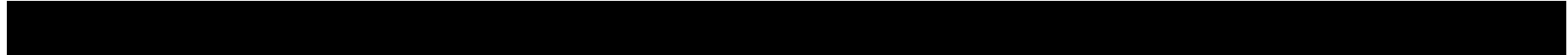
M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Ffordd Y Parc	1	0	0	7	8
D	A55 Unnamed	0	1	10	0	12
	Total	3	1	15	14	32

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	16	16
D	A55 Unnamed	1	0	6	0	7
	Total	1	0	7	16	23



HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Ffordd Y Parc	1	0	0	22	24
D	A55 Unnamed	0	1	14	0	15
Total		3	1	18	29	51

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	5
B	A487 NB	1	0	1	5	8
C	Ffordd Y Parc	1	0	0	22	24
D	A55 Unnamed	1	1	17	0	19
Total		3	1	22	29	55

2020 WBP Junction 9

M-48 SUN WEEKEND PEAK

TOTAL

REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	21	549	54	123	746
B	A487 South	388	1	28	364	781
C	Business Par	38	35	0	32	105
D	A55 onslip	605	226	21	9	861
	Total	1,052	812	102	528	2,494

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
	Total	4	1	0	7	13

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	1	4
C	Business Par	0	1	0	0	1
D	A55 onslip	0	1	0	0	1
	Total	0	9	3	1	13

SUN WEEKEND PEAK

TOTAL

WNP SCENARIO

M-48

		A	B	C	D	Total
A	A487 North	21	550	54	123	748
B	A487 South	388	1	28	366	782
C	Business Par	38	35	0	32	105
D	A55 onslip	605	226	21	9	861
	Total	1,052	813	102	530	2,496

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
	Total	4	1	0	7	13

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	2	4
C	Business Par	0	1	0	0	1
D	A55 onslip	0	1	0	0	1
	Total	0	9	3	2	13

2020 WBP Junction 9

M-48 SUN **WEEKEND PEAK**

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	7	0	3	10
B	A487 South	3	0	3	6	11
C	Business Par	0	1	0	0	1
D	A55 onslip	1	1	0	0	3
	Total	4	10	3	9	26

SUN **WEEKEND PEAK**

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	7	0	3	10
B	A487 South	3	0	3	6	12
C	Business Par	0	1	0	0	1
D	A55 onslip	1	1	0	0	3
	Total	4	10	3	9	26

M-49 SUN WEEKEND PEAK

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	3	25	279	272	579
B	A487 NB	109	0	117	87	313
C	Ffordd Y Parc	712	96	3	253	1,064
D	A55 Unnamed	93	73	357	0	524
	Total	917	194	755	612	2,479

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
	Total	3	3	4	1	11

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	4	0	4
	Total	0	0	4	0	4

SUN WEEKEND PEAK

TOTAL

WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	3	25	279	272	579
B	A487 NB	109	0	117	87	313
C	Ffordd Y Parc	712	96	3	253	1,064
D	A55 Unnamed	93	73	359	0	526
	Total	917	194	757	612	2,481

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
	Total	3	3	4	1	11

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	4	0	4
	Total	0	0	4	0	4



M-49 SUN **WEEKEND PEAK**

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

SUN **WEEKEND PEAK**

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

2020 WBP Junction 10- flows only

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

2020 WBP Junction 10- flows only

M-50 AM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	0	267	289	271	827
B	A55 N Wales	432	0	379	1,113	1,924
C	A4087 NB	680	0	0	4	685
D	A55 N Wales	416	901	0	0	1,317
	Total	1,528	1,168	668	1,389	4,753

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	81	107
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	86	0	0	96
	Total	33	93	44	96	265

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	14
B	A55 N Wales	3	0	7	100	110
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	98	0	0	98
	Total	7	102	11	106	226

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	30	21	62
B	A55 N Wales	11	0	25	181	217
C	A4087 NB	19	0	0	0	19
D	A55 N Wales	10	184	0	0	194
	Total	40	195	55	201	492

M-50 AM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	0	267	289	277	833
B	A55 N Wales	432	0	379	1,141	1,953
C	A4087 NB	680	0	0	4	685
D	A55 N Wales	417	904	0	0	1,321
	Total	1,530	1,171	668	1,423	4,791

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	83	109
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	87	0	0	96
	Total	33	93	44	99	268

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	15
B	A55 N Wales	3	0	7	108	118
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	98	0	0	98
	Total	7	102	11	114	235

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	30	21	62
B	A55 N Wales	11	0	25	191	227
C	A4087 NB	19	0	0	0	19
D	A55 N Wales	10	185	0	0	194
	Total	40	196	55	212	503

2020 WBP Junction 10- flows only

M-50 PM PEAK

TOTAL REFERENCE

M-50		A	B	C	D	Total
A	A4087 SB	4	425	602	522	1,553
B	A55 N Wales	324	0	381	943	1,648
C	A4087 NB	495	0	0	3	497
D	A55 N Wales	427	1,347	0	0	1,773
Total		1,249	1,772	983	1,468	5,471

OGV1

M-50		A	B	C	D	Total
A	A4087 SB	0	3	7	1	11
B	A55 N Wales	4	0	12	71	87
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	12	96	0	0	109
Total		20	99	19	72	211

OGV2

M-50		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	78	86
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	109	0	0	112
Total		4	109	7	79	199

HGV

M-50		A	B	C	D	Total
A	A4087 SB	0	3	7	3	12
B	A55 N Wales	6	0	19	149	173
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	15	205	0	0	220
Total		25	208	26	151	410

M-50 PM PEAK

TOTAL WNP

M-50		A	B	C	D	Total
A	A4087 SB	4	425	602	531	1,562
B	A55 N Wales	324	0	381	978	1,683
C	A4087 NB	495	0	0	3	497
D	A55 N Wales	435	1,392	0	0	1,828
Total		1,258	1,817	983	1,512	5,570

OGV1

M-50		A	B	C	D	Total
A	A4087 SB	0	3	7	2	11
B	A55 N Wales	4	0	12	73	89
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	13	98	0	0	111
Total		21	101	19	74	215

OGV2

M-50		A	B	C	D	Total
A	A4087 SB	0	0	0	3	3
B	A55 N Wales	1	0	7	84	92
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	4	113	0	0	118
Total		6	113	7	87	213

HGV

M-50		A	B	C	D	Total
A	A4087 SB	0	3	7	5	15
B	A55 N Wales	6	0	19	156	181
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	17	211	0	0	228
Total		27	214	26	161	428

2020 WBP Junction 10- flows only

M-50 sun WEEKEND PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	7	403	735	572	1,717
B	A55 N Wales	384	0	851	893	2,128
C	A4087 NB	470	0	1	0	471
D	A55 N Wales	427	1,192	0	0	1,619
	Total	1,289	1,595	1,588	1,466	5,936

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	62	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	107	0	0	108
	Total	6	107	4	62	179

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	1	0	0	65	66
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	111	0	0	111
	Total	1	111	0	65	177

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	127	133
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	217	0	0	219
	Total	7	217	4	127	356

M-50 SUN WEEKEND PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	7	403	735	573	1,718
B	A55 N Wales	384	0	851	896	2,131
C	A4087 NB	470	0	1	0	471
D	A55 N Wales	428	1,195	0	0	1,623
	Total	1,290	1,597	1,588	1,469	5,943

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	62	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	107	0	0	108
	Total	6	107	4	62	179

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	1	0	0	65	66
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	111	0	0	111
	Total	2	111	0	65	177

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	127	133
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	218	0	0	219
	Total	7	218	4	127	356

2020 BP Junction 2

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.09	0.13	0.13	0.09	0.13	0.13
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75
Cap Ratio	0.09	0.13	0.13	0.09	0.13	0.13
Upstream t	380	546	549	381	558	549
Downstream t	4,190	4,193	4,192	4,190	4,193	4,192
Downstream	2	2	2	2	2	2
Downstream	2,095	2,096	2,096	2,095	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	17%	12%	12%	17%	12%	12%
	1.002486	1.001784	1.00186	1.002478	1.001745	1.00186

Type	
DM	2,330
DAP	2,100

Total vehicles
Total

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.11	0.17	0.16	0.11	0.18	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75
Cap Ratio	0.11	0.17	0.16	0.11	0.18	0.16
Upstream t	473	705	657	473	737	657
Downstream t	4,193	4,194	4,190	4,193	4,194	4,190
Downstream	2	2	2	2	2	2
Downstream	2,096	2,097	2,095	2,096	2,097	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	9%	15%	12%	10%	15%
	1.001771	1.001348	1.002287	1.001771	1.001457	1.002287

2020 BP Junction 2

AM PEAK REFERENCE CASE

TOTAL

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	137	47	76	261
B	A55 WB	117	1	210	280	609
C	A5153 NB	63	92	0	23	177
D	A55 EB	154	243	26	0	423
	Total	334	473	283	380	1,471

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	7	0	4	12
B	A55 WB	3	0	2	21	25
C	A5153 NB	1	1	0	0	2
D	A55 EB	4	17	0	0	22
	Total	8	26	2	25	61

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	1	3
B	A55 WB	3	0	4	26	33
C	A5153 NB	0	4	0	11	15
D	A55 EB	0	25	0	0	25
	Total	3	30	4	38	75

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	9	0	5	14
B	A55 WB	5	0	6	47	59
C	A5153 NB	1	5	0	11	17
D	A55 EB	4	42	0	0	46
	Total	11	56	6	63	136

AM PEAK WNP SCENARIO

TOTAL

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	137	47	76	261
B	A55 WB	117	1	228	282	628
C	A5153 NB	63	92	0	23	177
D	A55 EB	154	243	26	0	423
	Total	334	473	301	381	1,489

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	7	0	4	12
B	A55 WB	3	0	4	21	28
C	A5153 NB	1	1	0	0	2
D	A55 EB	4	17	0	0	22
	Total	8	26	4	25	64

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	1	3
B	A55 WB	3	0	12	26	41
C	A5153 NB	0	4	0	11	15
D	A55 EB	0	25	0	0	25
	Total	3	30	12	38	83

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	9	0	5	14
B	A55 WB	5	0	17	47	69
C	A5153 NB	1	5	0	11	17
D	A55 EB	4	42	0	0	46
	Total	11	56	17	63	146

2020 BP Junction 2

PM PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	200	148	180	530
B	A55 WB	195	1	113	328	638
C	A5153 NB	131	167	0	38	335
D	A55 EB	269	336	10	1	616
	Total	597	705	272	546	2,119

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	1	0	1	21	24
C	A5153 NB	0	1	0	0	1
D	A55 EB	2	25	0	0	28
	Total	4	29	2	24	59

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	2	3
B	A55 WB	1	1	3	23	29
C	A5153 NB	1	5	0	16	21
D	A55 EB	0	28	0	0	29
	Total	2	34	4	41	81

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	5	9
B	A55 WB	3	1	5	44	53
C	A5153 NB	1	5	0	16	22
D	A55 EB	3	53	0	0	56
	Total	6	63	6	65	140

PM PEAK

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	200	148	180	530
B	A55 WB	195	1	123	340	659
C	A5153 NB	131	187	0	38	355
D	A55 EB	269	349	10	1	629
	Total	597	737	281	558	2,173

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	1	0	3	21	26
C	A5153 NB	0	3	0	0	3
D	A55 EB	2	25	0	0	28
	Total	4	31	4	24	63

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	2	3
B	A55 WB	1	1	10	23	35
C	A5153 NB	1	11	0	16	27
D	A55 EB	0	28	0	0	29
	Total	2	40	10	41	94

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	5	9
B	A55 WB	3	1	13	44	61
C	A5153 NB	1	14	0	16	30
D	A55 EB	3	53	0	0	56
	Total	6	72	14	65	157

2020 BP Junction 2

WEEKEND PEAK sun

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	214	185	186	588
B	A55 WB	212	0	115	330	657
C	A5153 NB	154	66	0	33	254
D	A55 EB	310	377	4	0	691
	Total	679	657	305	549	2,190

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	1	4	6
B	A55 WB	3	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	48	0	0	51
	Total	7	49	2	40	99

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	0	0	0	25	25
D	A55 EB	3	48	0	0	51
	Total	6	51	57	28	141

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	214	185	186	588
B	A55 WB	212	0	115	330	657
C	A5153 NB	154	66	0	33	254
D	A55 EB	310	377	4	0	691
	Total	679	657	305	549	2,190

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	1	4	6
B	A55 WB	3	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	48	0	0	51
	Total	7	49	2	40	99

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	0	0	0	25	25
D	A55 EB	3	48	0	0	51
	Total	6	51	57	28	141

2020 BP Junction 2

WEEKEND PEAK

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	7	12
B	A55 WB	6	0	57	37	99
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	96	0	0	102
	Total	13	100	59	68	240

WEEKEND PEAK

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	7	12
B	A55 WB	6	0	57	37	99
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	96	0	0	102
	Total	13	100	59	68	240

2020 BP Junction 3

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.15	0.16	0.16	0.15	0.16	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.15	0.16	0.16	0.15	0.16	0.16	
Upstream Demand	624	665	656	642	686	656	Total vehicles
Downstream Cap	4,192	4,194	4,192	4,191	4,194	4,192	Total
Downstream Lanes	2	2	2	2	2	2	
Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	9%	13%	14%	10%	13%	
	1.001858	1.00139	1.001974	1.002043	1.001511	1.001974	

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.09	0.21	0.17	0.24	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.17	0.09	0.21	0.17	0.24	0.22	
Upstream Demand	716	398	897	727	990	902	Total vehicles
Downstream Cap	4,193	4,195	4,192	4,194	4,196	4,192	Total
Downstream Lanes	2	2	2	2	2	2	
Downstream Cap	2,097	2,097	2,096	2,097	2,098	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	10%	8%	13%	10%	6%	13%	
	1.001553	1.001192	1.001962	1.001534	1.000915	1.001955	

2020 BP Junction 3

AM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	290	75	0	44	410
B	A55 SB	164	0	2	2	547	715
C	A5 Holyhead	36	3	1	0	32	73
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	422	33	0	0	479
	Total	225	716	111	2	624	1,677

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	9	0	0	0	34	34
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	27
	Total	11	34	1	0	35	71

AM PEAK

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	302	75	0	45	422
B	A55 SB	191	0	2	2	565	760
C	A5 Holyhead	36	3	1	0	32	73
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	422	33	0	0	479
	Total	252	727	111	2	642	1,734

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	10	0	0	0	37	46
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	28
	Total	11	34	1	0	38	85

2020 BP Junction 3

AM PEAK

AM PEAK

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	3	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	32	0	0	0	32
	Total	3	40	0	0	42	82

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	17
B	A55 SB	12	0	0	0	76	76
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	59	0	0	0	59
	Total	14	74	1	0	77	153

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	4	0	0	0	50	54
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	32	0	0	0	32
	Total	4	40	0	0	50	94

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	18
B	A55 SB	14	0	0	0	87	100
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	59	0	0	0	60
	Total	16	74	1	0	87	179

2020 BP Junction 3

PM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	197	63	0	30	289
B	A55 SB	291	0	4	0	543	547
C	A5 Holyhead	90	4	0	0	62	67
D	B&B Access	1	1	0	0	0	1
E	A55 NB	1	197	63	0	30	289
Total		384	398	131	0	665	1,193

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	11	1	0	0	12
B	A55 SB	7	0	0	0	27	27
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	11	1	0	0	12
Total		11	22	2	0	27	50

PM PEAK

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	376	51	0	55	482
B	A55 SB	338	0	8	1	592	939
C	A5 Holyhead	60	1	0	0	38	99
D	B&B Access	0	0	0	0	1	2
E	A55 NB	78	613	22	0	0	713
Total		476	990	81	1	686	2,234

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	6	1	0	0	7
B	A55 SB	3	0	0	0	30	33
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	2	20	1	0	0	23
Total		6	26	2	0	31	64

2020 BP Junction 3

PM PEAK

PM PEAK

OGV2

REFERENCE CASE

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	1	6
B	A55 SB	3	0	0	0	34	34
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	5	0	0	1	36
	Total	3	10	0	0	35	75

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	16	1	0	1	17
B	A55 SB	10	0	0	0	60	60
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	16	1	0	1	17
	Total	14	32	2	0	62	95

OGV2

WNP SCENARIO

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	0	7
B	A55 SB	5	0	0	0	38	43
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	4	28	0	0	0	31
	Total	8	34	1	0	38	81

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	12	1	0	0	14
B	A55 SB	7	0	0	0	69	76
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	5	48	1	0	0	55
	Total	14	60	2	0	69	145

2020 BP Junction 3

Weekend Peak

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	266	54	0	20	340
B	A55 SB	207	0	5	0	607	612
C	A5 Holyhead	61	7	0	0	27	35
D	B&B Access	0	0	0	0	0	0
E	A55 NB	26	623	21	0	2	646
	Total	294	897	80	0	656	1,632

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	54
	Total	0	57	0	0	42	100

Weekend Peak

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	271	54	0	20	345
B	A55 SB	211	0	5	0	607	823
C	A5 Holyhead	61	7	0	0	27	95
D	B&B Access	0	0	0	0	0	0
E	A55 NB	26	623	21	0	2	672
	Total	299	902	80	0	656	1,936

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	42	42
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	54
	Total	0	58	0	0	42	100

2020 BP Junction 3

Weekend Peak

Weekend Peak

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	44	44
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	59	0	0	0	59
	Total	1	60	0	0	44	104

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	86	86
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	113	0	0	0	114
	Total	1	117	0	0	86	204

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	44	45
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	59	0	0	0	59
	Total	1	60	0	0	44	105

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	86	88
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	113	0	0	0	114
	Total	1	118	0	0	86	206

2020 BP Junction 4

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.20	0.20	0.18	0.22	0.20
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.17	0.20	0.20	0.18	0.22	0.20	
Upstream Demand	717	846	837	762	942	842	Total vehicles
Downstream Cap	4,192	4,194	4,193	4,191	4,195	4,193	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	13%	9%	11%	14%	9%	11%	
	1.001976	1.001377	1.001721	1.002098	1.001292	1.001716	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.19	0.22	0.21	0.19	0.25	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.19	0.22	0.21	0.19	0.25	0.21	
Upstream Demand	795	906	890	802	1,048	896	Total vehicles
Downstream Cap	4,186	4,187	4,183	4,186	4,191	4,183	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,093	2,094	2,091	2,093	2,096	2,091	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	22%	20%	28%	22%	14%	28%	
	1.003327	1.002992	1.004149	1.003308	1.002059	1.004133	

2020 BP Junction 4

AM PEAK

TOTAL

REFERENCE CASE

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	2	8	10	26	6	0	53
B	A55 WB	1	2	71	11	627	29	0	741
C	Minffordd Road	8	49	0	7	32	13	0	110
D	A5 Holyhead	6	35	4	2	2	3	0	52
E	A55 EB	16	636	28	0	1	28	0	709
F	London Road	10	70	26	6	29	0	0	141
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	40	795	137	35	717	79	0	1,804

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	4	0	0	5
B	A55 WB	1	0	1	0	40	0	0	42
C	Minffordd Road	1	1	0	0	0	1	0	3
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	1	39	1	0	0	1	0	41
F	London Road	2	1	1	0	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	4	41	4	0	43	3	0	95

2020 BP Junction 4

AM PEAK

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	1	0	0	0	0	0	1
B	A55 WB	0	0	2	0	51	0	0	53
C	Minffordd Road	0	1	0	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	46	0	0	0	0	0	46
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	48	2	0	51	0	0	101

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	40	1	0	0	1	0	42
B	A55 WB	2	1	1	0	0	0	0	4
C	Minffordd Road	0	46	0	0	0	0	0	46
D	A5 Holyhead	4	41	4	0	43	3	0	95
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	48	2	0	51	0	0	101
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	7	176	7	0	94	3	0	288

2020 BP Junction 4

AM PEAK WNP SCENARIO

TOTAL

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	2	8	10	26	6	0	53
B	A55 WB	1	2	71	11	672	29	0	785
C	Minffordd Road	8	49	0	7	32	13	0	110
D	A5 Holyhead	6	35	4	2	2	3	0	52
E	A55 EB	16	643	28	0	1	28	4	720
F	London Road	10	70	26	6	29	0	0	141
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	40	802	137	35	762	79	4	1,860

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	4	0	0	5
B	A55 WB	1	0	1	0	43	0	0	45
C	Minffordd Road	1	1	0	0	0	1	0	3
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	1	39	1	0	0	1	0	41
F	London Road	2	1	1	0	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	4	41	4	0	46	3	0	98

2020 BP Junction 4

AM PEAK

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	1	0	0	0	0	0	1
B	A55 WB	0	0	2	0	60	0	0	62
C	Minffordd Road	0	1	0	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	47	0	0	0	0	0	47
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	48	2	0	60	0	0	110

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	40	1	0	0	1	0	42
B	A55 WB	2	1	1	0	0	0	0	4
C	Minffordd Road	0	47	0	0	0	0	0	47
D	A5 Holyhead	4	41	4	0	46	3	0	98
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	48	2	0	60	0	0	110
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	7	177	7	0	107	3	0	301



2020 BP Junction 4

PM PEAK

TOTAL

REFERENCE CASE

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	2	16	16	29	7	0	71
B	A55 WB	5	5	57	13	747	51	0	877
C	Minfordd Road	15	99	0	15	56	33	0	219
D	A5 Holyhead	11	10	13	0	0	6	0	40
E	A55 EB	29	752	37	0	0	36	0	855
F	London Road	10	37	15	5	15	0	0	83
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	71	906	138	50	846	133	0	2,144

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	2	2	0	0	4
B	A55 WB	2	0	1	0	34	1	0	39
C	Minfordd Road	0	1	0	0	0	1	0	2
D	A5 Holyhead	0	0	0	0	0	0	0	1
E	A55 EB	0	39	1	0	0	1	0	40
F	London Road	1	1	2	0	0	0	0	3
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	3	42	4	3	36	3	0	90

2020 BP Junction 4

PM PEAK

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	0	0	0	1
B	A55 WB	0	0	0	0	42	0	0	42
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	49	0	0	0	0	0	49
F	London Road	0	0	1	0	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	49	2	0	42	0	0	93

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	39	1	0	0	1	0	40
B	A55 WB	1	1	2	0	0	0	0	3
C	Minffordd Road	0	49	0	0	0	0	0	49
D	A5 Holyhead	3	42	5	3	36	3	0	91
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	49	2	0	42	0	0	93
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	3	181	9	3	78	4	0	277

2020 BP Junction 4

PM PEAK

TOTAL

WNP SCENARIO

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	57	15	16	48	12	0	148
B	A55 WB	7	5	58	23	806	62	7	966
C	Minfordd Road	13	47	0	8	50	23	0	141
D	A5 Holyhead	10	12	7	0	0	2	0	32
E	A55 EB	38	893	36	0	0	39	12	1,017
F	London Road	8	24	16	7	26	0	0	81
G	P&R Bus Exit	0	11	0	0	13	1	0	25
	Total	76	1,048	132	53	942	140	19	2,409

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	2	0	35	1	1	39
C	Minfordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	1	0	0	0	0	0	1
E	A55 EB	1	28	0	0	0	0	0	29
F	London Road	1	1	0	0	0	0	0	1
G	P&R Bus Exit	0	1	0	0	0	0	0	1
	Total	3	31	3	0	36	1	1	74

2020 BP Junction 4

PM PEAK

OGV2 **WNP SCENARIO**

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	45	0	4	49
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	0	0	0	0	0	0	1
E	A55 EB	0	38	0	0	0	0	0	38
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	4	0	0	0	0	0	4
	Total	1	42	0	0	45	0	4	91

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	28	0	0	0	0	0	29
B	A55 WB	2	1	0	0	0	0	0	2
C	Minffordd Road	0	39	0	0	0	0	0	39
D	A5 Holyhead	3	31	3	0	36	1	1	74
E	A55 EB	0	4	0	0	0	0	0	4
F	London Road	1	42	0	0	45	0	4	91
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	6	144	3	0	81	1	5	240

2020 BP Junction 4

sun

Weekend Peak

TOTAL

REFERENCE CASE

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	4	6	24	38	8	0	80
B	A55 WB	6	1	29	9	734	23	0	802
C	Minfordd Road	5	26	0	9	35	13	0	88
D	A5 Holyhead	15	14	7	0	1	5	0	42
E	A55 EB	32	810	43	0	0	27	0	911
F	London Road	6	37	9	7	28	0	0	87
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	64	890	94	50	837	75	0	2,011

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	46	1	0	47
C	Minfordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	60	0	0	47	1	0	109

2020 BP Junction 4

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	48	0	0	48
C	Minfordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	63	0	0	0	0	0	63
F	London Road	0	0	0	1	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	63	0	1	49	0	0	112

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	60	0	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0	0
C	Minfordd Road	0	63	0	0	0	0	0	63
D	A5 Holyhead	0	60	0	1	47	1	0	110
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	63	0	1	49	0	0	112
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	1	246	1	1	96	1	0	346

2020 BP Junction 4

SUN Weekend Peak

TOTAL

WNP SCENARIO

M-5 Split junction

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	4	6	24	38	8	0	80
B	A55 WB	6	1	29	9	739	23	1	807
C	Minffordd Road	5	26	0	9	35	13	0	88
D	A5 Holyhead	15	14	7	0	1	5	0	42
E	A55 EB	32	815	43	0	0	27	0	917
F	London Road	6	37	9	7	28	0	0	87
G	P&R Bus Exit	0	1	0	0	0	0	0	1
	Total	64	896	94	50	842	75	1	2,021

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	46	1	0	47
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	60	0	0	47	1	0	110

2020 BP Junction 4

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	48	0	0	48
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	63	0	0	0	0	0	63
F	London Road	0	0	0	1	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	63	0	1	49	0	0	113

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	60	0	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0	0
C	Minffordd Road	0	63	0	0	0	0	0	63
D	A5 Holyhead	0	60	0	1	47	1	0	110
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	63	0	1	49	0	0	113
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	1	247	1	1	96	1	0	347

2020 BP Junction 5

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.18	0.21	0.19	0.19	0.22	0.19
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.18	0.21	0.19	0.19	0.22	0.19	
Upstream Demand	753	869	802	798	930	806	Total vehicles
Downstream Cap	4,192	4,194	4,192	4,191	4,194	4,192	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,096	2,097	2,096	2,096	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	14%	10%	12%	14%	10%	12%	
	1.002026	1.001477	1.001814	1.00214	1.001474	1.00181	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.21	0.19	0.21	0.21	0.23	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.21	0.19	0.21	0.21	0.23	0.21	
Upstream Demand	867	817	880	874	974	885	Total vehicles
Downstream Cap	4,193	4,193	4,191	4,193	4,195	4,191	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,097	2,096	2,095	2,097	2,098	2,095	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	11%	11%	15%	11%	8%	15%	
	1.001592	1.001692	1.002263	1.001584	1.001146	1.002254	

2020 BP Junction 5

AM PEAK

TOTAL REFERENCE CASE

M-6						
	A	B	C	D	Total	
A	A4080 SB	1	68	34	94	196
B	A55 N Wales	20	0	36	564	620
C	A4080 NB	29	90	0	94	213
D	A55 N Wales	60	709	50	1	820
Total		110	867	119	753	1,849

OGV1

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	45	50
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	38	1	0	42
Total		6	43	8	47	103

OGV2

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	0	0	2	55	58
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	0	47	0	0	47
Total		2	49	2	55	108

HGVs

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	100	107
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	85	1	0	89
Total		7	92	10	102	211

AM PEAK

TOTAL WNP SCENARIO

M-6						
	A	B	C	D	Total	
A	A4080 SB	1	68	34	94	196
B	A55 N Wales	20	0	36	609	665
C	A4080 NB	29	90	0	94	213
D	A55 N Wales	60	716	50	1	827
Total		110	874	119	798	1,901

OGV1

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	48	53
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	39	1	0	42
Total		6	43	8	50	106

OGV2

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	0	0	2	64	67
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	0	47	0	0	48
Total		2	50	2	64	117

HGVs

M-6						
	A	B	C	D	Total	
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	112	119
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	86	1	0	90
Total		7	92	10	114	223

2020 BP Junction 5

PM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	28	46	58	134
B	A55 N Wales	49	2	124	731	905
C	A4080 NB	47	84	0	79	211
D	A55 N Wales	88	703	106	0	897
Total		186	817	276	869	2,147

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	3	3	7
B	A55 N Wales	1	0	3	35	38
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	1	38	2	0	42
Total		3	42	7	40	92

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	1	0	1	45	48
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	0	47	0	0	48
Total		2	50	2	46	100

HGVs

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	4	4	10
B	A55 N Wales	2	0	4	80	86
C	A4080 NB	0	4	0	2	6
D	A55 N Wales	2	86	2	0	90
Total		4	92	9	86	191

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	29	45	68	143
B	A55 N Wales	69	1	124	767	960
C	A4080 NB	47	58	0	95	201
D	A55 N Wales	85	887	111	0	1,083
Total		202	974	279	930	2,387

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	0	38	38
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	31	0	0	32
Total		2	32	2	40	75

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	0	0
B	A55 N Wales	1	0	1	52	53
C	A4080 NB	1	0	0	0	1
D	A55 N Wales	0	43	0	0	43
Total		1	43	1	52	97

HGVs

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	1	89	92
C	A4080 NB	1	1	0	0	1
D	A55 N Wales	1	73	0	0	74
Total		3	74	3	91	171

2020 BP Junction 5

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	31	38	53	123
B	A55 N Wales	32	4	91	675	801
C	A4080 NB	35	92	2	73	202
D	A55 N Wales	47	752	94	0	894
	Total	115	880	224	802	2,021

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	1
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	64	0	0	65
	Total	1	65	1	48	115

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	1	0	1
B	A55 N Wales	0	0	0	49	49
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	67	0	0	67
	Total	1	68	1	49	118

HGVs

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	96	97
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	131	0	0	132
	Total	1	133	2	97	233

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	31	38	53	122
B	A55 N Wales	32	4	91	680	807
C	A4080 NB	35	92	2	73	202
D	A55 N Wales	47	758	94	0	899
	Total	114	885	225	806	2,030

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	1
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	64	0	0	65
	Total	1	65	1	48	115

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	1	0	1
B	A55 N Wales	0	0	0	50	50
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	67	0	0	67
	Total	1	68	1	50	119

HGVs

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	97	97
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	131	0	0	132
	Total	1	133	2	97	233

2020 BP Junction 6

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.15	0.21	0.19	0.16	0.23	0.19
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.15	0.21	0.19	0.16	0.23	0.19	
Upstream Demand	643	891	805	688	978	810	Total vehicles
Downstream Cap	4,184	4,190	4,189	4,183	4,190	4,189	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,092	2,095	2,094	2,092	2,095	2,094	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	25%	16%	18%	27%	17%	18%	
	1.003795	1.002349	1.002698	1.00401	1.002502	1.002689	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.26	0.27	0.26	0.28	0.27
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.26	0.26	0.27	0.26	0.28	0.27	
Upstream Demand	1,072	1,099	1,115	1,079	1,176	1,121	Total vehicles
Downstream Cap	4,186	4,185	4,182	4,186	4,185	4,183	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,093	2,093	2,091	2,093	2,093	2,091	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	23%	23%	28%	23%	24%	28%	
	1.003407	1.003495	1.00419	1.003392	1.00357	1.004177	

2020 BP Junction 6

AM PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	263	93	0	117	36	510
B	A55 N Wales	412	0	1	0	464	113	991
C	A5 Holyhead	143	13	1	0	55	48	261
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	263	539	43	0	0	13	858
F	A5 Holyhead	135	258	58	0	7	0	457
Total		954	1,072	196	0	643	211	3,076

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	41	8	53
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	47	2	0	0	0	51
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	61	14	0	48	13	151

OGV2 REFERENCE CASE

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	11	7	0	1	0	20
B	A55 N Wales	6	0	0	0	55	9	70
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	54	0	0	0	0	56
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	69	9	0	56	11	156

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	14	0	0	0	59	13	86
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	1	47	2	0	0	0	51
D	Unnamed Ro	4	63	4	0	0	0	71
E	A55 N Wales	16	65	16	0	48	13	157
F	A5 Holyhead	11	69	9	0	56	11	156
Total		48	244	31	0	163	40	524

AM PEAK

TOTAL WNP SCENARIO

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	263	93	0	117	36	510
B	A55 N Wales	412	0	1	0	509	113	1,035
C	A5 Holyhead	143	13	1	0	55	48	261
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	263	546	43	0	0	13	865
F	A5 Holyhead	135	258	58	0	7	0	457
Total		954	1,079	196	0	688	211	3,128

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	44	8	56
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	47	2	0	0	0	51
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	61	14	0	51	13	154

OGV2 WNP SCENARIO

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	11	7	0	1	0	20
B	A55 N Wales	6	0	0	0	64	9	79
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	54	0	0	0	0	56
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	69	9	0	65	11	165

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	14	0	0	0	68	13	95
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	1	47	2	0	0	0	51
D	Unnamed Ro	4	63	4	0	0	0	71
E	A55 N Wales	16	65	16	0	51	13	160
F	A5 Holyhead	11	69	9	0	65	11	165
Total		48	244	31	0	184	40	546

2020 BP Junction 6

PM PEAK

TOTAL

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	353	151	0	169	112	786
B	A55 N Wales	305	0	5	0	641	210	1,162
C	A5 Holyhead	141	0	0	0	77	98	317
D	Unnamed Road	0	0	0	0	0	0	0
E	A55 N Wales	127	616	53	0	1	21	819
F	A5 Holyhead	75	129	57	0	3	0	265
	Total	650	1,099	267	0	891	441	3,348

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	7	6	0	1	4	18
B	A55 N Wales	6	0	0	0	40	7	54
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	3	50	2	0	0	1	56
F	A5 Holyhead	1	6	5	0	0	0	13
	Total	16	63	14	0	42	15	150

OGV2

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	5	3	0	1	1	9
B	A55 N Wales	11	0	0	0	48	2	60
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	61	0	0	0	0	63
F	A5 Holyhead	0	5	1	0	0	0	6
	Total	17	71	4	0	49	3	143

HGV

M-20 Split Junction

	A	B	C	SUN	E	F	Total	
A	A5114 Unnan	16	0	0	0	49	5	70
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	50	2	0	0	1	56
D	Unnamed Road	2	68	6	0	0	0	76
E	A55 N Wales	16	68	15	0	42	15	156
F	A5 Holyhead	17	71	4	0	49	3	143
	Total	59	256	27	0	140	23	505

PM PEAK

TOTAL

WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	353	151	0	176	112	793
B	A55 N Wales	305	0	5	0	716	210	1,237
C	A5 Holyhead	141	0	0	0	82	98	321
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	131	693	55	0	1	21	901
F	A5 Holyhead	75	129	57	0	3	0	265
	Total	653	1,176	269	0	978	441	3,518

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	7	6	0	1	4	18
B	A55 N Wales	6	0	0	0	43	7	57
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	3	53	2	0	0	1	59
F	A5 Holyhead	1	6	5	0	0	0	13

OGV2

WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	5	3	0	1	1	9
B	A55 N Wales	11	0	0	0	58	2	71
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	70	0	0	0	0	72
F	A5 Holyhead	0	5	1	0	0	0	6
	Total	17	80	4	0	59	3	162

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	16	0	0	0	59	5	80
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	53	2	0	0	1	59
D	Unnamed Ro	2	77	6	0	0	0	84
E	A55 N Wales	16	71	15	0	46	15	162
F	A5 Holyhead	17	80	4	0	59	3	162
	Total	59	280	27	0	163	23	552

2020 BP Junction 6

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	247	147	0	131	79	605
B	A55 N Wales	183	0	9	0	619	106	917
C	A5 Holyhead	161	1	0	0	47	74	283
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	117	736	41	0	1	7	903
F	A5 Holyhead	80	130	50	0	7	1	268
	Total	541	1,115	247	0	805	266	2,975

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	45	1	49
C	A5 Holyhead	2	0	0	0	0	1	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	75	1	0	0	0	77
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	77	3	0	47	4	138

WEEKEND PEAK

OGV2

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	49	2	55
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	0	77	0	0	0	0	78
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	8	80	1	0	49	5	143

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	6	0	0	0	49	4	59
B	A55 N Wales	2	0	0	0	0	2	3
C	A5 Holyhead	1	75	1	0	0	0	77
D	Unnamed Road	2	78	2	0	0	0	82
E	A55 N Wales	8	78	3	0	47	4	141
F	A5 Holyhead	8	80	1	0	49	5	143
	Total	27	312	7	0	145	15	505

2020 BP Junction 6

TOTAL

WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	1	247	147	0	131	79	605
B	A55 N Wales	183	0	9	0	624	106	921
C	A5 Holyhead	161	1	0	0	47	74	283
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	117	742	41	0	1	7	908
F	A5 Holyhead	80	130	50	0	7	1	268
	Total	541	1,121	247	0	810	266	2,986

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	45	1	49
C	A5 Holyhead	2	0	0	0	0	1	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	75	1	0	0	0	77
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	77	3	0	47	4	138

OGV2

WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	49	2	55
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	0	77	0	0	0	0	78
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	8	80	1	0	49	5	143

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnan	6	0	0	0	49	4	59
B	A55 N Wales	2	0	0	0	0	2	3
C	A5 Holyhead	1	75	1	0	0	0	77
D	Unnamed Ro	2	78	2	0	0	0	82
E	A55 N Wales	8	78	3	0	47	4	141
F	A5 Holyhead	8	80	1	0	49	5	143
	Total	27	312	7	0	145	15	506

2020 BP Junction 7

Westbound

	REF	WNP		
	AM	PM	Wknd	
Delay min	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00
Cap Ratio	0.22	0.25	0.20	0.23
	227	227	227	227
	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.22	0.25	0.20	0.23	0.26	0.21	
Upstream	908	1,031	856	953	1,106	861	Total vehicles
Downstream	4,192	4,193	4,193	4,191	4,193	4,193	Total
Downstream	2	2	2	2	2	2	

Downstream	2,096	2,097	2,097	2,096	2,097	2,097	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	13%	11%	11%	14%	11%	11%	
	1.001948	1.001588	1.001632	1.002047234	1.001664	1.001627	

Eastbound

	REF	WNP		
	AM	PM	Wknd	
Delay min	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00
Cap Ratio	0.29	0.28	0.25	0.29
	227	227	227	227
	0.75	0.75	0.75	0.75

Cap Ratio	0.29	0.28	0.25	0.29	0.30	0.25	
Upstream	1,195	1,165	1,062	1,202	1,242	1,068	Total vehicles
Downstream	4,190	4,191	4,192	4,190	4,191	4,192	Total
Downstream	2	2	2	2	2	2	

Downstream	2,095	2,096	2,096	2,095	2,096	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	16%	14%	13%	16%	14%	13%	
	1.002347	1.00203	1.001894	1.002337065	1.002048	1.001888	

2020 BP Junction 7

AM PEAK

TOTAL REFERENCE CASE

M-69 Split junction

	A	B	C	D	Total	
A	A5152 NB	0	10	9	1	21
B	A55 EB	1	1	186	817	1,005
C	A5152 SB	3	160	0	91	254
D	A55 WB	3	1,023	139	0	1,166
	Total	8	1,195	335	908	2,446

OGV1

M-69

	A	B	C	D	Total	
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	53	70
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	77	2	0	80
	Total	1	89	18	55	163

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	62	79
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	86	2	0	89
	Total	1	98	19	63	181

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	115	148
C	A5152 SB	0	20	0	3	24
D	A55 WB	1	163	5	0	169
	Total	2	187	37	118	344

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	10	9	1	21
B	A55 EB	1	1	186	861	1,050
C	A5152 SB	3	160	0	91	254
D	A55 WB	3	1,030	139	0	1,173
	Total	8	1,202	335	953	2,497

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	56	73
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	77	2	0	80
	Total	1	89	18	58	166

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	71	88
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	86	2	0	89
Total		1	98	19	73	191

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	127	161
C	A5152 SB	0	20	0	3	24
D	A55 WB	1	164	5	0	169
	Total	2	187	37	130	357

2020 BP Junction 7

PM PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	3	0	218	931	1,152
C	A5152 SB	7	156	0	96	260
D	A55 WB	2	1,009	145	2	1,158
Total		13	1,165	368	1,031	2,576

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	50	59
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	71	1	0	72
Total		0	74	9	51	135

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	58	67
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	80	1	0	80
Total		0	83	10	58	151

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	108	126
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	151	1	0	152
Total		0	158	19	109	286

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	3	0	218	1,006	1,228
C	A5152 SB	7	156	0	96	260
D	A55 WB	2	1,086	145	2	1,235
Total		13	1,242	368	1,106	2,728

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	54	63
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	74	1	0	75
Total		0	77	9	54	141

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	68	77
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	89	1	0	89
Total		0	92	10	68	170

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	122	140
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	163	1	0	164
Total		0	170	19	123	311

2020 BP Junction 7

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	5	8	17
B	A55 EB	3	3	131	757	893
C	A5152 SB	9	126	0	86	221
D	A55 WB	1	930	110	5	1,046
	Total	13	1,062	246	856	2,177

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	45	47
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	64	1	0	66
	Total	0	66	4	45	115

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	67	1	0	69
	Total	0	69	4	48	120

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	92	97
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	132	3	0	134
	Total	0	134	8	93	235

TOTAL

WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	5	8	17
B	A55 EB	3	3	131	762	898
C	A5152 SB	9	126	0	86	221
D	A55 WB	1	936	110	5	1,052
	Total	13	1,068	246	861	2,188

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	2	45	47
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	64	1	0	66
	Total	0	66	4	46	115

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	68	1	0	69
	Total	0	69	4	48	121

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	92	97
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	132	3	0	134
	Total	0	134	8	93	235

2020 BP Junction 8

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.31	0.23	0.27	0.33	0.23
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.26	0.31	0.23	0.27	0.33	0.23
Upstream	1,103	1,293	979	1,148	1,369	984
Downstream	4,190	4,192	4,193	4,189	4,192	4,193
Downstream	2	2	2	2	2	2

Downstream	2,095	2,096	2,097	2,095	2,096	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	17%	12%	11%	17%	12%	11%
	1.002477	1.001789	1.001599	1.002538	1.001839	1.001595

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.21	0.27	0.27	0.21	0.29	0.27
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.21	0.27	0.27	0.21	0.29	0.27
Upstream	881	1,131	1,124	888	1,205	1,130
Downstream	4,193	4,191	4,190	4,187	4,190	4,190
Downstream	2	2	2	2	2	2

Downstream	2,096	2,095	2,095	2,093	2,095	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	15%	16%	21%	16%	16%
	1.001758	1.002249	1.002394	1.003113	1.002386	1.002386

2020 BP Junction 8

AM PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	363	182	246	791
B	A55 N Wales	279	2	44	769	1,093
C	Lon Pant	175	53	0	86	314
D	A55 N Wales	302	464	123	3	893
	Total	756	881	350	1,103	3,090

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	80	92
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	77	8	0	99
	Total	29	81	10	86	205

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	93	99
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	96	0	0	103
	Total	13	103	0	96	212

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	172	190
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	173	8	0	202
	Total	41	184	10	182	417

AM PEAK

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	363	182	246	791
B	A55 N Wales	280	2	44	814	1,139
C	Lon Pant	175	53	0	86	314
D	A55 N Wales	302	471	123	3	899
	Total	757	888	350	1,148	3,143

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	83	95
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	77	8	0	99
	Total	29	81	10	89	208

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	102	108
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	96	0	0	104
	Total	13	104	0	105	221

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	185	202
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	173	8	0	202
	Total	41	184	10	194	429

2020 BP Junction 8

PM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	295	154	273	722
B	A55 N Wales	476	1	133	966	1,577
C	Lon Pant	190	90	0	54	335
D	A55 N Wales	181	745	40	0	966
	Total	847	1,131	326	1,293	3,599

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	63	71
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	59	0	0	67
	Total	19	74	3	73	169

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	11
B	A55 N Wales	4	0	0	79	84
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	86	0	0	86
	Total	4	95	0	81	181

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	40
B	A55 N Wales	12	0	0	142	154
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	145	0	0	153
	Total	23	170	3	154	350

TOTAL WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	295	154	279	728
B	A55 N Wales	476	1	133	1,032	1,643
C	Lon Pant	190	90	0	57	338
D	A55 N Wales	183	818	41	0	1,042
	Total	850	1,205	327	1,369	3,751

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	66	74
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	62	0	0	70
	Total	19	77	3	77	176

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	11
B	A55 N Wales	4	0	0	90	94
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	95	0	0	95
	Total	4	104	0	91	200

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	40
B	A55 N Wales	12	0	0	155	168
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	157	0	0	165
	Total	23	182	3	168	375

2020 BP Junction 8

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	223	120	278	621
B	A55 N Wales	560	1	65	670	1,296
C	Lon Pant	138	76	0	27	242
D	A55 N Wales	160	823	30	4	1,017
	Total	858	1,124	214	979	3,175

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	48
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	85
	Total	3	84	1	51	139

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	0	0	1
B	A55 N Wales	0	0	0	53	53
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	94	0	0	94
	Total	0	96	0	53	149

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	1	4	7
B	A55 N Wales	1	0	0	100	102
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	178	0	0	179
	Total	3	179	1	104	288

SUN

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	223	120	278	621
B	A55 N Wales	560	1	65	675	1,301
C	Lon Pant	138	76	0	27	242
D	A55 N Wales	160	829	30	4	1,022
	Total	858	1,130	214	984	3,186

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	48
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	85
	Total	3	84	1	51	139

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	0	0	1
B	A55 N Wales	0	0	0	53	53
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	95	0	0	95
	Total	0	96	0	53	149

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	1	1	4	7
B	A55 N Wales	1	0	0	100	102
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	178	0	0	180
	Total	3	180	1	105	289

2020 BP Junction 8a

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.46	0.00	0.00	0.47	0.12	0.00
Delay sec	27.54	0.00	0.00	28.29	6.99	0.00
Cap Ratio	0.87	0.75	0.72	0.87	0.78	0.72
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.87	0.75	0.72	0.87	0.78	0.72
Upstream	1,827	1,564	1,506	1,834	1,637	1,512
Downstream	2,097	2,096	2,096	2,097	2,096	2,096
Downstream	1	1	1	1	1	1

Total vehicles

Total

Downstream	2,097	2,096	2,096	2,097	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	12%	12%	11%	12%	12%
	1.001624	1.001745	1.001871	1.00162	1.001776	1.001867

veh/hr/lane

2020 BP Junction 8a

AM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Road	0	167	132	0	298
B	A55 SB	170	0	242	991	1,402
C	Holyhead Road	363	842	0	0	1,205
D	A55 NB	0	818	0	0	818
	Total	533	1,827	373	991	3,724

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	5
B	A55 SB	7	0	5	108	120
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	81	0	0	81
	Total	15	94	7	108	224

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	6	0	8	117	131
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	103	0	0	103
	Total	6	103	8	117	234

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	5
B	A55 SB	12	0	14	225	251
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	184	0	0	184
	Total	21	198	15	225	459

AM PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Road	0	167	132	0	298
B	A55 SB	170	0	242	1,037	1,448
C	Holyhead Road	363	842	0	0	1,205
D	A55 NB	0	825	0	0	825
	Total	533	1,834	373	1,037	3,777

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	5
B	A55 SB	7	0	5	111	123
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	81	0	0	81
	Total	15	94	7	111	227

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	6	0	8	126	140
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	104	0	0	104
	Total	6	104	8	126	244

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	5
B	A55 SB	12	0	14	237	264
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	184	0	0	184
	Total	21	198	15	237	471

2020 BP Junction 8a

PM PEAK

TOTAL REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	140	318	0	458
B	A55 SB	150	0	380	1,316	1,845
C	Holyhead Ro	247	292	0	0	539
D	A55 NB	0	1,131	0	0	1,131
Total		396	1,564	698	1,316	3,974

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	5	78	85
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	74	0	0	74
Total		3	86	10	78	177

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	93	93
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	95	0	0	95
Total		0	95	1	93	190

HGV

M-47 Split junction

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	8
B	A55 SB	1	0	5	171	178
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	170	0	0	170
Total		3	182	11	171	367

PM PEAK

TOTAL WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	140	318	0	458
B	A55 SB	150	0	380	1,382	1,911
C	Holyhead Ro	247	292	0	0	539
D	A55 NB	0	1,205	0	0	1,205
Total		396	1,637	698	1,382	4,113

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	5	82	88
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	77	0	0	77
Total		3	89	10	82	183

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	1	0	1
B	A55 SB	0	0	0	103	103
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	104	0	0	104
Total		0	104	1	103	209

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	8
B	A55 SB	1	0	5	185	191
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	182	0	0	182
Total		3	194	11	185	392

2020 BP Junction 8a

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Road	0	125	350	0	475
B	A55 SB	175	9	291	1,043	1,518
C	Holyhead Road	253	257	1	0	511
D	A55 NB	0	1,115	0	0	1,115
	Total	428	1,506	642	1,043	3,620

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	64	65
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	84	0	0	84
	Total	3	92	1	64	160

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	1	0	0	67	68
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	96	0	0	96
	Total	1	96	0	67	164

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	131	134
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	179	0	0	179
	Total	4	188	1	131	324

SUN

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Road	0	125	350	0	475
B	A55 SB	175	9	291	1,048	1,523
C	Holyhead Road	253	257	1	0	511
D	A55 NB	0	1,121	0	0	1,121
	Total	428	1,512	642	1,048	3,630

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	64	65
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	84	0	0	84
	Total	3	92	1	64	160

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	1	0	0	67	68
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	96	0	0	96
	Total	1	96	0	67	164

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	131	134
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	180	0	0	180
	Total	4	188	1	131	325

2020 BP Junction 9

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.33	0.35	0.35	0.34	0.36	0.35	
Upstream l	1,389	1,468	1,466	1,423	1,512	1,469	Total vehicles
Downstrea	4,191	4,194	4,195	4,191	4,193	4,195	Total
Downstrea	2	2	2	2	2	2	
Downstrea	2,095	2,097	2,097	2,095	2,097	2,097	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	14%	10%	9%	15%	11%	9%	
	1.002175	1.001547	1.001303	1.00224	1.0016	1.001302	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.31	0.42	0.39	0.32	0.44	0.39	
Upstream l	1,317	1,773	1,619	1,321	1,828	1,623	Total vehicles
Downstrea	4,191	4,192	4,192	4,191	4,192	4,192	Total
Downstrea	2	2	2	2	2	2	
Downstrea	2,095	2,096	2,096	2,095	2,096	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	15%	12%	14%	15%	12%	13%	
	1.002209	1.001863	1.002027	1.002204	1.001875	1.002024	

2020 BP Junction 9

M-48

AM PEAK

TOTAL

REFERENCE CASE

M-48

		A	B	C	D	Total
A	A487 North	3	802	429	183	1,416
B	A487 South	577	0	254	619	1,451
C	Business Par	117	49	0	43	209
D	A55 onslip	433	37	298	0	768
Total		1,130	888	981	845	3,844

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
Total		25	22	4	19	70

M-48

AM PEAK

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	17	0	0	17
B	A487 South	7	0	0	7	14
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
Total		8	20	0	7	35

M-48

AM PEAK

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	35	1	0	36
B	A487 South	19	0	1	22	43
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
Total		33	42	4	26	105

AM PEAK

TOTAL

WNP SCENARIO

M-48

		A	B	C	D	Total
A	A487 North	3	804	429	184	1,419
B	A487 South	577	0	254	631	1,463
C	Business Par	117	49	0	43	209
D	A55 onslip	433	37	298	0	768
Total		1,130	890	981	858	3,858

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
Total		25	22	4	19	70

AM PEAK

OGV2

M-48

		A	B	C	D	Total
A	A487 North	0	17	0	0	17
B	A487 South	7	0	0	8	15
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
Total		8	20	0	8	36

AM PEAK

HGV

M-48

		A	B	C	D	Total
A	A487 North	0	35	1	0	36
B	A487 South	19	0	1	23	44
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
Total		33	42	4	27	106

2020 BP Junction 9

M-49

AM PEAK

TOTAL REFERENCE CASE

M-49						
	A	B	C	D	Total	
A	A487 SB	0	27	278	149	453
B	A487 NB	99	0	234	166	499
C	Ffordd Y Parc	512	294	2	329	1,136
D	A55 Unnamed	232	338	902	0	1,473
Total		842	659	1,416	643	3,560

OGV1

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	5	0	11	23
D	A55 Unnamed	3	1	18	0	22
Total		10	7	19	19	55

M-49 AM PEAK

OGV2

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	8
D	A55 Unnamed	0	1	14	0	16
Total		0	3	16	7	25

M-49

AM PEAK

HGV

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	32	0	37
Total		10	10	35	26	80

AM PEAK

TOTAL WNP SCENARIO

M-49						
	A	B	C	D	Total	
A	A487 SB	0	27	278	149	454
B	A487 NB	99	0	234	166	499
C	Ffordd Y Parc	512	294	2	329	1,136
D	A55 Unnamed	232	338	904	0	1,475
Total		843	659	1,418	643	3,564

OGV1

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	5	0	11	23
D	A55 Unnamed	3	1	18	0	22
Total		10	7	19	19	55

AM PEAK

OGV2

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	8
D	A55 Unnamed	0	1	14	0	16
Total		0	3	16	7	26

AM PEAK

HGV

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	5	5
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	32	0	37
Total		10	10	35	26	80

2020 BP Junction 9

M-48

PM PEAK

TOTAL

REFERENCE CASE

M-48

	A	B	C	D	Total	
A	A487 North	7	904	99	253	1,263
B	A487 South	527	0	43	477	1,048
C	Business Par	463	170	0	180	813
D	A55 onslip	309	50	73	0	432
	Total	1,306	1,124	216	910	3,556

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	12	0	1	14
B	A487 South	5	0	0	7	12
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
	Total	8	14	1	8	31

OGV2

M-48

	A	B	C	D	Total	
A	A487 North	0	1	3	0	4
B	A487 South	14	0	0	1	16
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
		14	1	3	3	21

HGV

M-48

	A	B	C	D	Total	
A	A487 North	0	14	3	1	18
B	A487 South	20	0	0	8	28
C	Business Par	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
	Total	22	15	4	11	53

PM PEAK

TOTAL

WNP SCENARIO

M-48

		A	B	C	D	Total
A	A487 North	7	943	99	254	1,303
B	A487 South	527	0	43	482	1,052
C	Business Pal	463	170	0	180	813
D	A55 onslip	309	50	73	0	432
	Total	1,306	1,163	216	916	3,601

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	13	0	2	15
B	A487 South	5	0	0	8	13
C	Business Pal	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
	Total	8	14	1	9	33

OGV2

M-48

	A	B	C	D	Total	
A	A487 North	0	4	3	1	7
B	A487 South	14	0	0	4	18
C	Business Pa	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
	Total	14	4	3	6	26

HGV

M-48

	A	B	C	D	Total	
A	A487 North	0	17	3	2	22
B	A487 South	20	0	0	11	31
C	Business Pa	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
	Total	22	18	4	15	59

2020 BP Junction 9

M-49

PM PEAK

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	27	388	153	568
B	A487 NB	200	0	280	266	746
C	Floridd Y Par	531	206	1	518	1,257
D	A55 Unname	86	161	621	0	869
Total		817	394	1,291	938	3,440

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Floridd Y Par	1	0	0	7	8
D	A55 Unname	0	1	10	0	11
Total		3	1	14	14	31

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Floridd Y Par	0	0	0	16	16
D	A55 Unname	0	0	4	0	4
Total		0	0	4	16	20

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Floridd Y Par	1	0	0	22	24
D	A55 Unname	0	1	14	0	15
Total		3	1	18	29	51

PM PEAK

TOTAL

WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	27	390	153	569
B	A487 NB	200	0	280	266	746
C	Floridd Y Par	531	206	1	518	1,257
D	A55 Unname	91	161	659	0	912
Total		823	394	1,331	938	3,485

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	5	8
C	Floridd Y Par	1	0	0	7	8
D	A55 Unname	0	1	10	0	12
Total		3	1	15	14	32

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Floridd Y Par	0	0	0	16	16
D	A55 Unname	1	0	6	0	7
Total		1	0	7	16	23

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	1	5
B	A487 NB	1	0	1	5	8
C	Floridd Y Par	1	0	0	22	24
D	A55 Unname	1	1	17	0	19
Total		3	1	22	29	55

2020 BP Junction 9

M-48 SUN WEEKEND PEAK

TOTAL REFERENCE CASE

M-48		A	B	C	D	Total
A	A487 North	21	549	54	123	746
B	A487 South	388	1	28	364	781
C	Business Par	38	35	0	32	105
D	A55 onslip	605	226	21	9	861
Total		1,052	812	102	528	2,494

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
Total		4	1	0	7	13

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	1	4
C	Business Par	0	1	0	0	1
D	A55 onslip	0	1	0	0	1
Total		0	9	3	1	13

HGV

M-48		A	B	C	D	Total
A	A487 North	0	7	0	3	10
B	A487 South	3	0	3	6	11
C	Business Par	0	1	0	0	1
D	A55 onslip	1	1	0	0	3
Total		4	10	3	9	26

SUN WEEKEND PEAK

TOTAL WNP SCENARIO

M-48		A	B	C	D	Total
A	A487 North	21	550	54	123	748
B	A487 South	388	1	28	366	782
C	Business Par	38	35	0	32	105
D	A55 onslip	605	226	21	9	861
Total		1,052	813	102	530	2,496

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
Total		4	1	0	7	13

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	2	4
C	Business Par	0	1	0	0	1
D	A55 onslip	0	1	0	0	1
Total		0	9	3	2	13

HGV

M-48		A	B	C	D	Total
A	A487 North	0	7	0	3	10
B	A487 South	3	0	3	6	12
C	Business Par	0	1	0	0	1
D	A55 onslip	1	1	0	0	3
Total		4	10	3	9	26

2020 BP Junction 9

M-49 SUN WEEKEND PEAK

TOTAL REFERENCE CASE

M-49						
	A	B	C	D	Total	
A	A487 SB	3	25	279	272	579
B	A487 NB	109	0	117	87	313
C	Ffordd Y Parc	712	96	3	253	1,064
D	A55 Unnamed	93	73	357	0	524
Total		917	194	755	612	2,479

OGV1

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
Total		3	3	4	1	11

OGV2

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	4	0	4
Total		0	0	4	0	4

HGV

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

SUN WEEKEND PEAK

TOTAL WNP SCENARIO

M-49						
	A	B	C	D	Total	
A	A487 SB	3	25	279	272	579
B	A487 NB	109	0	117	87	313
C	Ffordd Y Parc	712	96	3	253	1,064
D	A55 Unnamed	93	73	359	0	526
Total		917	194	757	612	2,481

OGV1

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
Total		3	3	4	1	11

OGV2

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	4	0	4
Total		0	0	4	0	4

HGV

M-49						
	A	B	C	D	Total	
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

2020 BP Junction 10- flows only

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

2020 BP Junction 10- flows only

M-50 AM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	0	267	289	271	827
B	A55 N Wales	432	0	379	1,113	1,924
C	A4087 NB	680	0	0	4	685
D	A55 N Wales	416	901	0	0	1,317
	Total	1,528	1,168	668	1,389	4,753

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	81	107
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	86	0	0	96
	Total	33	93	44	96	266

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	14
B	A55 N Wales	3	0	7	100	110
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	98	0	0	98
	Total	7	102	11	106	226

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	30	21	62
B	A55 N Wales	11	0	25	181	217
C	A4087 NB	19	0	0	0	19
D	A55 N Wales	10	184	0	0	194
	Total	40	195	55	201	492

M-50 AM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	0	267	289	277	833
B	A55 N Wales	432	0	379	1,141	1,953
C	A4087 NB	680	0	0	4	685
D	A55 N Wales	417	904	0	0	1,321
	Total	1,530	1,171	668	1,423	4,791

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	83	109
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	87	0	0	96
	Total	33	93	44	99	268

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	15
B	A55 N Wales	3	0	7	108	118
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	98	0	0	98
	Total	7	102	11	114	235

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	30	21	62
B	A55 N Wales	11	0	25	191	227
C	A4087 NB	19	0	0	0	19
D	A55 N Wales	10	185	0	0	194
	Total	40	196	55	212	503

2020 BP Junction 10- flows only

M-50 PM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	4	425	602	522	1,553
B	A55 N Wales	324	0	381	943	1,648
C	A4087 NB	495	0	0	3	497
D	A55 N Wales	427	1,347	0	0	1,773
	Total	1,249	1,772	983	1,468	5,471

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	1	11
B	A55 N Wales	4	0	12	71	87
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	12	96	0	0	109
	Total	20	99	19	72	211

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	78	86
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	109	0	0	112
	Total	4	109	7	79	199

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	3	12
B	A55 N Wales	6	0	19	149	173
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	15	205	0	0	220

M-50 PM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	4	425	602	531	1,562
B	A55 N Wales	324	0	381	978	1,683
C	A4087 NB	495	0	0	3	497
D	A55 N Wales	435	1,392	0	0	1,828
	Total	1,258	1,817	983	1,512	5,570

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	2	11
B	A55 N Wales	4	0	12	73	89
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	13	98	0	0	111
	Total	21	101	19	74	215

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	3	3
B	A55 N Wales	1	0	7	84	92
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	4	113	0	0	118
	Total	6	113	7	87	213

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	5	15
B	A55 N Wales	6	0	19	156	181
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	17	211	0	0	228

Total	25	208	26	151	410
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Total	27	214	26	161	428
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2020 BP Junction 10- flows only

M-50 sun WEEKEND PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	7	403	735	572	1,717
B	A55 N Wales	384	0	851	893	2,128
C	A4087 NB	470	0	1	0	471
D	A55 N Wales	427	1,192	0	0	1,619
	Total	1,289	1,595	1,588	1,466	5,936

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	62	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	107	0	0	108
	Total	6	107	4	62	179

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	1	0	0	65	66
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	111	0	0	111
	Total	1	111	0	65	177

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	127	133
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	217	0	0	219
	Total	7	217	4	127	356

M-50 SUN WEEKEND PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	7	403	735	573	1,718
B	A55 N Wales	384	0	851	896	2,131
C	A4087 NB	470	0	1	0	471
D	A55 N Wales	428	1,195	0	0	1,623
	Total	1,290	1,597	1,588	1,469	5,943

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	62	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	107	0	0	108
	Total	6	107	4	62	179

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	1	0	0	65	66
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	111	0	0	111
	Total	2	111	0	65	177

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	127	133
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	218	0	0	219
	Total	7	218	4	127	356

2023 Junction 2

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.09	0.13	0.13	0.09	0.15	0.13
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.09	0.13	0.13	0.09	0.15	0.13
Upstream	390	559	562	392	622	562
Downstream	4,190	4,193	4,192	4,190	4,194	4,192
Downstream	2	2	2	2	2	2

Downstream	2,095	2,096	2,096	2,095	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	16%	12%	12%	16%	10%	12%
	1.002473	1.001774	1.00183	1.002459	1.001432	1.00183

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.12	0.17	0.16	0.12	0.17	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.12	0.17	0.16	0.12	0.17	0.16
Upstream	485	720	674	514	728	674
Downstream	4,193	4,194	4,190	4,190	4,196	4,190
Downstream	2	2	2	2	2	2
Downstream	2,096	2,097	2,095	2,095	2,098	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	9%	15%	16%	7%	15%
	1.001767	1.00135	1.002282	1.002454	1.001062	1.002282

Type	
DM	2,330
DAP	2,100

Eastbound

2023 Junction 2

AM PEAK

TOTAL REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	298	77	1	44	419
B	A55 SB	169	0	2	2	558	731
C	A5 Holyhead	37	4	1	0	33	75
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	432	34	0	0	491
	Total	232	734	113	2	635	1,716

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	9	0	0	0	34	34
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	27
	Total	11	35	1	0	35	71

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	3	0	0	0	44	44
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	33	0	0	0	33
	Total	3	41	0	0	44	85

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	18
B	A55 SB	12	0	0	0	78	78
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	60	0	0	0	60
	Total	14	76	1	0	79	156

TOTAL WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	351	77	1	47	475
B	A55 SB	205	0	2	2	587	796
C	A5 Holyhead	37	4	1	0	33	75
D	B&B Access	1	0	0	0	0	1
E	A55 NB	54	432	34	0	0	520
	Total	297	787	113	2	667	1,867

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	14	1	0	1	17
B	A55 SB	9	0	0	0	41	50
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	8	27	0	0	0	35
	Total	18	41	1	0	42	103

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	29	0	0	0	29
B	A55 SB	3	0	0	0	64	67
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	20	33	0	0	0	53
	Total	24	62	0	0	64	150

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	43	1	0	1	45
B	A55 SB	13	0	0	0	105	118
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	28	60	0	0	0	88
	Total	42	103	1	0	106	252

2023 Junction 2

PM PEAK

TOTAL REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	205	152	184	543
B	A55 WB	200	1	115	336	653
C	A5153 NB	134	169	0	38	340
D	A55 EB	275	345	10	1	631
	Total	611	720	277	559	2,167

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	1	21	24
C	A5153 NB	0	1	0	0	1
D	A55 EB	2	25	0	0	28
	Total	4	29	2	24	59

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	1	2	3
B	A55 WB	1	1	4	24	30
C	A5153 NB	1	5	0	16	21
D	A55 EB	1	29	0	0	30
	Total	2	35	4	42	84

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	1	5	9
B	A55 WB	3	1	5	46	54
C	A5153 NB	1	6	0	16	22
D	A55 EB	3	54	0	0	58
	Total	6	65	6	66	143

TOTAL WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	174	163	170	510
B	A55 WB	220	0	142	400	763
C	A5153 NB	114	249	0	52	414
D	A55 EB	236	305	17	1	558
	Total	573	728	321	622	2,245

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	3	4
B	A55 WB	4	0	3	22	29
C	A5153 NB	1	3	0	0	5
D	A55 EB	2	17	0	0	19
	Total	7	21	3	25	57

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	1	2
B	A55 WB	4	0	18	17	40
C	A5153 NB	0	10	0	16	26
D	A55 EB	0	20	0	0	20
	Total	4	30	18	35	87

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	4	6
B	A55 WB	9	0	21	39	69
C	A5153 NB	1	13	0	16	31
D	A55 EB	2	37	0	0	39
	Total	12	52	21	59	144

2023 Junction 2

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	219	190	190	602
B	A55 WB	217	0	117	339	673
C	A5153 NB	158	67	0	34	259
D	A55 EB	317	388	4	0	709
	Total	696	674	311	562	2,243

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	2	4	6
B	A55 WB	4	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	49	0	0	51
	Total	7	50	2	41	100

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	1	0	0	25	25
D	A55 EB	3	50	0	0	53
	Total	6	53	57	28	144

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	2	7	12
B	A55 WB	6	0	57	37	100
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	99	0	0	104
	Total	13	103	59	69	243

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	219	190	190	602
B	A55 WB	217	0	117	339	673
C	A5153 NB	158	67	0	34	259
D	A55 EB	317	388	4	0	709
	Total	696	674	311	562	2,243

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	2	4	6
B	A55 WB	4	0	0	37	41
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	49	0	0	51
	Total	7	50	2	41	100

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	3	6
B	A55 WB	2	0	57	0	59
C	A5153 NB	1	0	0	25	25
D	A55 EB	3	50	0	0	53
	Total	6	53	57	28	144

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	2	7	12
B	A55 WB	6	0	57	37	100
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	99	0	0	104
	Total	13	103	59	69	243

2023 Junction 3

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.15	0.16	0.16	0.16	0.18	0.16
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.15	0.16	0.16	0.16	0.18	0.16
Upstream	635	681	673	667	760	673
Downstream	4,192	4,194	4,192	4,190	4,194	4,192
Downstream	2	2	2	2	2	2

Total vehicles
Total

Downstream	2,096	2,097	2,096	2,095	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	9%	13%	16%	10%	13%
	1.001866	1.00139	1.00197	1.002386	1.001442	1.00197

veh/hr/lane

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.10	0.22	0.19	0.26	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.17	0.10	0.22	0.19	0.26	0.22
Upstream	734	411	920	787	1,079	930
Downstream	4,194	4,195	4,192	4,192	4,197	4,192
Downstream	2	2	2	2	2	2

Total vehicles
Total

Downstream	2,097	2,098	2,096	2,096	2,098	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	10%	8%	13%	13%	5%	13%
	1.001548	1.001168	1.001959	1.001968	1.000816	1.001946

veh/hr/lane

2023 Junction 3

AM PEAK

TOTAL REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	298	77	1	44	419
B	A55 SB	169	0	2	2	558	731
C	A5 Holyhead	37	4	1	0	33	75
D	B&B Access	1	0	0	0	0	1
E	A55 NB	24	432	34	0	0	491
	Total	232	734	113	2	635	1,716

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	9	0	0	0	34	34
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	27	0	0	0	27
	Total	11	35	1	0	35	71

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	3	0	0	0	44	44
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	33	0	0	0	33
	Total	3	41	0	0	44	85

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	18
B	A55 SB	12	0	0	0	78	78
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	60	0	0	0	60
	Total	14	76	1	0	79	156

TOTAL WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	351	77	1	47	475
B	A55 SB	205	0	2	2	587	796
C	A5 Holyhead	37	4	1	0	33	75
D	B&B Access	1	0	0	0	0	1
E	A55 NB	54	432	34	0	0	520
	Total	297	787	113	2	667	1,867

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	14	1	0	1	17
B	A55 SB	9	0	0	0	41	50
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	8	27	0	0	0	35
	Total	18	41	1	0	42	103

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	29	0	0	0	29
B	A55 SB	3	0	0	0	64	67
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	20	33	0	0	0	53
	Total	24	62	0	0	64	150

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	43	1	0	1	45
B	A55 SB	13	0	0	0	105	118
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	28	60	0	0	0	88
	Total	42	103	1	0	106	252

2023 Junction 3

PM PEAK

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	203	65	0	30	298
B	A55 SB	297	0	4	0	557	561
C	A5 Holyhead	92	4	1	0	64	68
D	B&B Access	1	1	0	0	0	1
E	A55 NB	1	203	65	0	30	298
	Total	392	411	134	0	681	1,225

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	11	1	0	0	12
B	A55 SB	7	0	0	0	27	27
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	11	1	0	0	12
	Total	11	22	2	0	27	50

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	1	6
B	A55 SB	3	0	0	0	35	34
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	5	0	0	1	36
	Total	3	10	0	0	36	75

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	16	1	0	1	18
B	A55 SB	10	0	0	0	62	62
C	A5 Holyhead	4	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	16	1	0	1	18
	Total	14	32	2	0	63	97

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	454	52	0	108	614
B	A55 SB	360	0	8	1	612	981
C	A5 Holyhead	61	1	0	0	39	101
D	B&B Access	1	0	0	0	1	2
E	A55 NB	85	624	23	0	0	732
	Total	507	1,079	83	1	760	2,430

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	6	1	0	0	7
B	A55 SB	3	0	0	0	31	34
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	3	20	1	0	0	24
	Total	7	26	2	0	32	66

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	0	8
B	A55 SB	5	0	0	0	41	46
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	8	26	0	0	0	34
	Total	13	33	1	0	41	88

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	13	1	0	0	15
B	A55 SB	7	0	0	0	73	80
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	11	46	1	0	0	58
	Total	20	59	2	0	73	154

2023 Junction 3

sun

Weekend Peak

TOTAL

REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	272	55	0	20	347
B	A55 SB	211	0	5	0	623	628
C	A5 Holyhead	62	8	0	0	28	36
D	B&B Access	0	0	0	0	0	0
E	A55 NB	27	640	22	0	2	663
	Total	301	920	81	0	673	1,674

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	43	43
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	55
	Total	0	58	0	0	43	101

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	46	46
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	62	0	0	0	62
	Total	1	62	0	0	46	108

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	88	88
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	116	0	0	0	117
	Total	1	120	0	0	88	209

TOTAL

WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	282	55	0	20	358
B	A55 SB	220	0	5	0	623	848
C	A5 Holyhead	62	8	0	0	28	98
D	B&B Access	0	0	0	0	0	0
E	A55 NB	27	640	22	0	2	691
	Total	310	930	81	0	673	1,994

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	43	43
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	54	0	0	0	55
	Total	0	58	0	0	43	101

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	46	47
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	62	0	0	0	62
	Total	1	63	0	0	46	110

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	2	0	0	0	88	90
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	116	0	0	0	117
	Total	2	121	0	0	88	211

2023 Junction 4

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.17	0.21	0.20	0.19	0.23	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.17	0.21	0.20	0.19	0.23	0.21
Upstream Demand	733	866	859	798	985	867
Downstream Cap	4,192	4,194	4,193	4,190	4,195	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,096	2,097	2,096	2,095	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	13%	9%	11%	16%	9%	11%
	1.001977	1.001375	1.001719	1.002336	1.001301	1.00171

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.19	0.22	0.22	0.21	0.27	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.19	0.22	0.22	0.21	0.27	0.22
Upstream Demand	815	928	913	862	1,147	924
Downstream Cap	4,186	4,187	4,183	4,183	4,193	4,183
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,093	2,094	2,091	2,091	2,096	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	22%	20%	28%	27%	11%	27%
	1.003318	1.002987	1.004143	1.004095	1.001704	1.004113

veh/hr/lane

2023 Junction 4

AM PEAK

TOTAL REFERENCE CASE

M-5 Split junction

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	2	8	10	27	6	0	54
B A55 WB	1	2	73	11	639	30	0	757
C Minifordd Ro	8	50	1	7	33	13	0	113
D A5 Holyhead	6	36	4	2	2	3	0	54
E A55 EB	17	652	28	0	1	28	0	726
F London Road	10	72	27	6	30	0	0	144
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	41	815	141	36	733	81	0	1,847

OGV1

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	0	1	0	4	0	0	5
B A55 WB	1	0	2	0	40	0	0	43
C Minifordd Ro	1	1	0	0	0	1	0	3
D A5 Holyhead	0	0	0	0	0	0	0	0
E A55 EB	1	39	1	0	0	1	0	41
F London Road	2	1	1	0	0	0	0	4
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	4	42	4	0	44	3	0	96

OGV2

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	1	0	0	0	0	0	1
B A55 WB	0	0	2	0	53	0	0	55
C Minifordd Ro	0	1	0	0	0	0	0	1
D A5 Holyhead	0	0	0	0	0	0	0	0
E A55 EB	0	48	0	0	0	0	0	48
F London Road	0	0	0	0	0	0	0	0
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	0	50	2	0	53	0	0	105

HGV

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	1	40	1	0	0	1	0	42
B A55 WB	2	1	1	0	0	0	0	4
C Minifordd Ro	0	48	0	0	0	0	0	48
D A5 Holyhead	4	42	4	0	44	3	0	96
E A55 EB	0	0	0	0	0	0	0	0
F London Road	0	50	2	0	53	0	0	105
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	7	180	8	0	97	3	0	295

2023 Junction 4

AM PEAK

TOTAL WNP SCENARIO

M-5 Split junction

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	2	8	10	27	6	0	54
B A55 WB	1	2	73	11	705	30	0	822
C Minifordd Ro	8	50	1	7	33	13	0	113
D A5 Holyhead	6	36	4	2	2	3	0	54
E A55 EB	17	699	28	0	1	28	0	780
F London Road	10	72	27	6	30	0	0	144
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	41	862	141	36	798	81	6	1,966

OGV1

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	0	1	0	4	0	0	5
B A55 WB	1	0	2	0	47	0	0	50
C Minifordd Ro	1	1	0	0	0	1	0	3
D A5 Holyhead	0	0	0	0	0	0	0	0
E A55 EB	1	46	1	0	0	1	0	48
F London Road	2	1	1	0	0	0	0	4
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	4	48	4	0	51	3	0	110

OGV2

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	0	1	0	0	0	0	0	1
B A55 WB	0	0	2	0	74	0	0	76
C Minifordd Ro	0	1	0	0	0	0	0	1
D A5 Holyhead	0	0	0	0	0	0	0	0
E A55 EB	0	69	0	0	0	0	0	69
F London Road	0	0	0	0	0	0	0	0
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	0	70	2	0	74	0	0	146

HGV

M-5

	A	B	C	D	E	F	G	Total
A A5 Holyhead	1	47	1	0	0	1	0	49
B A55 WB	2	1	1	0	0	0	0	4
C Minifordd Ro	0	69	0	0	0	0	0	69
D A5 Holyhead	4	48	4	0	51	3	0	110
E A55 EB	0	0	0	0	0	0	0	0
F London Road	0	70	2	0	74	0	0	146
G P&R Bus Exit	0	0	0	0	0	0	0	0
Total	7	235	8	0	124	3	0	377

2023 Junction 4

PM PEAK

TOTAL		REFERENCE CASE							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	2	17	16	29	7	0	72
B	A55 WB	5	5	58	14	765	52	0	899
C	Minifordd Rd	15	102	0	16	57	34	0	224
D	A5 Holyhead	11	10	14	0	0	6	0	42
E	A55 EB	30	770	38	0	0	37	0	875
F	London Road	10	38	15	6	15	1	0	85
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		73	928	142	51	866	136	0	2,196

OGV1									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	2	2	0	0	4
B	A55 WB	2	0	2	0	34	1	0	39
C	Minifordd Rd	0	1	0	0	0	1	0	2
D	A5 Holyhead	0	0	0	0	0	0	0	1
E	A55 EB	0	40	1	0	0	1	0	41
F	London Road	1	1	2	0	0	0	0	3
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	42	4	3	36	3	0	91

OGV2									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	0	0	0	1
B	A55 WB	0	0	0	0	43	0	0	43
C	Minifordd Rd	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	51	0	0	0	0	0	51
F	London Road	0	0	1	0	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	51	2	0	43	0	0	96

HGV									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	40	1	0	0	1	0	41
B	A55 WB	1	1	2	0	0	0	0	3
C	Minifordd Rd	0	51	0	0	0	0	0	51
D	A5 Holyhead	3	42	5	3	36	3	0	92
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	51	2	0	43	0	0	96
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	185	9	3	79	4	0	283

2023 Junction 4

PM PEAK

TOTAL		WNP SCENARIO							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	76	15	16	58	15	0	181
B	A55 WB	7	5	59	23	829	63	0	986
C	Minifordd Rd	13	48	0	8	51	23	0	144
D	A5 Holyhead	11	12	8	0	0	2	0	33
E	A55 EB	39	973	37	0	0	40	18	1,107
F	London Road	8	25	16	7	27	1	0	83
G	P&R Bus Exit	0	8	0	0	20	2	0	30
Total		78	1,147	135	54	985	146	18	2,563

OGV1									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	2
B	A55 WB	0	0	2	0	36	1	0	39
C	Minifordd Rd	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	1	0	0	0	0	0	1
E	A55 EB	1	28	0	0	0	0	0	29
F	London Road	1	1	0	0	0	0	0	2
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	29	3	0	37	1	0	72

OGV2									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	48	0	0	48
C	Minifordd Rd	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	0	0	0	0	0	0	1
E	A55 EB	0	37	0	0	0	0	0	37
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		1	37	0	0	48	0	0	86

HGV									
M-5									
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	28	0	0	0	0	0	29
B	A55 WB	2	1	0	0	0	0	0	2
C	Minifordd Rd	0	37	0	0	0	0	0	37
D	A5 Holyhead	3	29	3	0	37	1	0	72
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	1	37	0	0	48	0	0	86
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		6	130	3	0	85	1	0	225

2023 Junction 4

sun

Weekend Peak

TOTAL REFERENCE CASE

M-5 Split junction

	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	4	6	25	39	8	0	82
B	A55 WB	7	1	29	9	753	24	0	822
C	Minffordd Road	5	26	0	10	36	13	0	90
D	A5 Holyhead	15	14	7	0	1	5	0	43
E	A55 EB	33	831	44	0	1	27	0	935
F	London Road	6	38	9	8	29	0	0	89
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	66	913	96	51	859	77	0	2,062

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	46	1	0	48
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	61	0	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	61	0	0	48	1	0	110

TOTAL REFERENCE CASE

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	50	0	0	50
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	65	0	0	0	0	0	65
F	London Road	0	0	0	1	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	65	0	1	51	0	0	117

HGV

M-5

	A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	61	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0
C	Minffordd Road	0	65	0	0	0	0	65
D	A5 Holyhead	0	61	0	1	48	1	111
E	A55 EB	0	0	0	0	0	0	0
F	London Road	0	65	0	1	51	0	117
G	P&R Bus Exit	0	0	0	0	0	0	0
	Total	1	252	1	1	98	1	355

2023 Junction 4

SUN

Weekend Peak

TOTAL WNP SCENARIO

M-5 Split junction

	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	4	6	25	39	8	0	82
B	A55 WB	7	1	29	9	761	24	1	831
C	Minffordd Rd	5	26	0	10	36	13	0	90
D	A5 Holyhead	15	14	7	0	1	5	0	43
E	A55 EB	33	841	44	0	1	27	0	945
F	London Road	6	38	9	8	29	0	0	89
G	P&R Bus Exit	0	1	0	0	0	0	0	1
	Total	66	924	96	51	867	77	1	2,082

OGV1

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	47	1	0	48
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	61	0	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	61	0	0	48	1	0	111

TOTAL WNP SCENARIO

OGV2

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	1
B	A55 WB	0	0	0	0	50	0	0	50
C	Minffordd Road	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	66	0	0	0	0	0	66
F	London Road	0	0	0	1	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	0	66	0	1	51	0	0	118

HGV

M-5

		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	61	0	0	0	0	0	61
B	A55 WB	0	0	0	0	0	0	0	0
C	Minffordd Road	0	66	0	0	0	0	0	66
D	A5 Holyhead	0	61	0	1	48	1	0	111
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	66	0	1	51	0	0	118
G	P&R Bus Exit	0	0	0	0	0	0	0	0
	Total	1	253	1	1	99	1	0	356

Queuing Delay Formula for Grade Separated Merges

7.11 Research into merge delays showed that the measurement of actual average delays from on-site observations was exceedingly difficult. Day to day variations in delay were apparent under apparently similar flow conditions. Delays varied considerably with time even within a single peak period. The research was unable to differentiate between delays to the main line and merging streams. Consequently COBA includes a relationship which applies delays (over and above speed/flow effects) to all vehicles passing through the merge area. This is a simple straight line function of the form:

$$\text{Delay} = 227 \text{ (Capacity Ratio - 0.75) seconds per vehicle}$$

where the capacity ratio is defined as the total upstream demand divided by the capacity of the downstream link.

2023 Junction 5

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.18	0.21	0.20	0.20	0.01	0.20
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.18	0.21	0.20	0.20	0.01	0.20
Upstream Demand	769	890	823	835	41	832
Downstream Cap	4,192	4,194	4,192	4,190	4,063	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,096	2,097	2,096	2,095	2,032	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	14%	10%	12%	16%	224%	12%
	1.002028	1.001475	1.001812	1.002366	1.033629	1.0018

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.21	0.20	0.22	0.22	0.01	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.21	0.20	0.22	0.22	0.01	0.22
Upstream Demand	890	837	902	937	44	913
Downstream Cap	4,193	4,193	4,191	4,192	4,062	4,191
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,097	2,096	2,095	2,096	2,031	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	11%	15%	13%	226%	15%
	1.001587	1.001689	1.00226	1.001948	1.033904	1.002242

veh/hr/lane

2023 Junction 5

AM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	69	35	96	201
B	A55 N Wales	21	1	37	576	634
C	A4080 NB	30	92	0	96	218
D	A55 N Wales	62	728	51	1	842
Total		113	890	123	769	1,895

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	45	50
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	39	1	0	42
Total		6	43	8	47	104

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	1	0	2	57	60
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	1	48	0	0	49
Total		2	51	2	57	112

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	102	110
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	87	1	0	91
Total		7	94	10	104	216

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	1	69	35	96	201
B	A55 N Wales	21	1	37	641	699
C	A4080 NB	30	92	0	96	218
D	A55 N Wales	62	775	51	1	889
Total		113	937	123	835	2,007

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	52	57
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	46	1	0	49
Total		6	50	8	54	118

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	1	0	2	77	80
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	1	69	0	0	70
Total		2	72	2	77	153

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	4	3	1	8
B	A55 N Wales	2	0	6	130	137
C	A4080 NB	3	3	0	1	6
D	A55 N Wales	3	115	1	0	119
Total		7	122	10	132	271

2023 Junction 5

PM PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	29	47	60	138
B	A55 N Wales	50	2	127	748	927
C	A4080 NB	49	87	0	81	217
D	A55 N Wales	90	720	108	0	919
	Total	190	837	283	890	2,200

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	3	7
B	A55 N Wales	1	0	3	35	38
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	2	39	2	0	42
	Total	3	43	7	40	92

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	2	0	1	47	49
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	1	49	0	0	50
	Total	2	51	2	47	103

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	4	4	10
B	A55 N Wales	2	0	4	82	88
C	A4080 NB	0	4	0	2	6
D	A55 N Wales	2	88	2	0	92
	Total	5	94	9	88	196

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	3	7
B	A55 N Wales	1	0	3	36	39
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	2	40	2	0	44
	Total	3	44	7	41	95

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	3	3	7
B	A55 N Wales	1	0	3	36	39
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	2	40	2	0	44
	Total	3	44	7	41	95

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	2
B	A55 N Wales	2	0	1	51	54
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	1	53	0	0	54
	Total	2	56	2	51	112

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	2	4	4	10
B	A55 N Wales	2	0	4	87	93
C	A4080 NB	0	4	0	2	6
D	A55 N Wales	2	94	2	0	98
	Total	5	100	9	93	207

2023 Junction 5

SUN

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	32	39	55	126
B	A55 N Wales	33	4	93	692	822
C	A4080 NB	36	95	2	75	208
D	A55 N Wales	48	772	96	1	917
	Total	118	902	230	823	2,072

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	2
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	65	0	0	65
	Total	1	66	1	48	116

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	0	1
B	A55 N Wales	0	0	0	51	51
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	69	0	0	70
	Total	1	70	1	51	123

HGVs

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	99	99
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	134	0	0	135
	Total	1	136	2	99	238

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	1	32	39	55	126
B	A55 N Wales	33	4	93	701	831
C	A4080 NB	36	95	2	75	208
D	A55 N Wales	48	782	96	1	927
	Total	118	913	230	832	2,092

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	2
B	A55 N Wales	1	0	0	47	48
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	65	0	0	65
	Total	1	66	1	48	116

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	0	1
B	A55 N Wales	0	0	0	52	52
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	70	0	0	70
	Total	1	71	1	52	124

HGVs

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	99	100
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	134	0	0	135
	Total	1	136	2	100	239

2023 Junction 6

Westbound

Type	
DM	2,330
DAP	2,100

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.16	0.22	0.20	0.17	0.24	0.20
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.16	0.22	0.20	0.17	0.24	0.20
Upstream	658	913	825	723	1,020	834
Downstream	4,184	4,190	4,189	4,181	4,191	4,189
Downstream	2	2	2	2	2	2

Downstream	2,092	2,095	2,094	2,091	2,095	2,094
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	25%	16%	18%	30%	15%	18%
	1.00381	1.002355	1.002708	1.004471	1.002247	1.002693

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.27	0.27	0.27	0.30	0.28
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.26	0.27	0.27	0.27	0.30	0.28
Upstream	1,100	1,126	1,144	1,147	1,271	1,155
Downstream	4,186	4,185	4,183	4,183	4,186	4,183
Downstream	2	2	2	2	2	2

Downstream	2,093	2,093	2,091	2,092	2,093	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	23%	23%	28%	27%	22%	28%
	1.003395	1.003489	1.004183	1.003976	1.003228	1.004158

2023 Junction 6

AM PEAK

TOTAL REFERENCE CASE								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	271	96	0	120	37	525
B	A55 N Wales	423	0	1	0	473	118	1,015
C	A5 Holyhead	148	13	0	0	57	50	269
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	270	552	45	0	0	14	880
F	A5 Holyhead	138	264	60	0	7	0	469
Total		979	1,100	203	0	658	218	3,158

OGV1								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	41	8	53
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	2	47	2	0	0	0	51
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	62	14	0	48	13	153

OGV2								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	12	8	0	1	0	21
B	A55 N Wales	6	0	0	0	56	10	73
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	56	0	0	0	1	57
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	71	9	0	58	12	161

HGV								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	14	0	0	0	61	13	88
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	2	47	2	0	0	0	51
D	Unnamed Rd	4	65	4	0	0	1	73
E	A55 N Wales	16	66	16	0	48	13	159
F	A5 Holyhead	11	71	9	0	58	12	161
Total		49	249	31	0	167	41	537

AM PEAK

TOTAL WNP SCENARIO								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	271	96	0	120	37	525
B	A55 N Wales	423	0	1	0	539	118	1,060
C	A5 Holyhead	148	13	0	0	67	50	269
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	270	599	45	0	0	14	927
F	A5 Holyhead	138	264	60	0	7	0	469
Total		979	1,147	203	0	723	218	3,271

OGV1								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	5	8	0	2	1	17
B	A55 N Wales	4	0	0	0	46	8	60
C	A5 Holyhead	7	0	0	0	5	4	16
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	2	54	2	0	0	0	58
F	A5 Holyhead	3	9	4	0	0	0	15
Total		15	69	14	0	55	13	166

OGV2								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	12	8	0	1	0	21
B	A55 N Wales	6	0	0	0	77	10	93
C	A5 Holyhead	3	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	77	0	0	0	1	78
F	A5 Holyhead	1	4	2	0	0	0	6
Total		11	92	9	0	78	12	203

HGV								
M-20 Split Junction								
	A	B	C	D	E	F	Total	
A	A5114 Unnar	14	0	0	0	82	13	109
B	A55 N Wales	3	0	0	0	0	2	4
C	A5 Holyhead	2	54	2	0	0	0	58
D	Unnamed Rd	4	86	4	0	0	1	94
E	A55 N Wales	16	72	16	0	56	13	172
F	A5 Holyhead	11	92	9	0	78	12	203
Total		49	304	31	0	216	41	640

2023 Junction 6

PM PEAK

TOTAL

REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	363	155	0	172	114	806
B	A55 N Wales	313	0	6	0	657	216	1,191
C	A5 Holyhead	145	0	0	0	79	101	326
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	131	630	55	0	1	22	839
F	A5 Holyhead	77	133	59	0	3	0	273
	Total	667	1,126	275	0	913	453	3,434

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	7	6	0	2	4	19
B	A55 N Wales	6	0	0	0	40	8	54
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	3	50	2	0	0	1	56
F	A5 Holyhead	1	6	5	0	0	0	13
	Total	16	63	14	0	43	15	151

OGV2

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	3	3	0	1	1	10
B	A55 N Wales	12	0	0	0	49	2	63
C	A5 Holyhead	4	0	0	0	0	0	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	64	1	0	0	0	65
F	A5 Holyhead	1	5	1	0	0	0	6
	Total	18	73	4	0	50	3	148

HGV

M-20 Split Junction

	A	B	C	SUN	E	F	Total	
A	A5114 Unnar	17	0	0	0	50	5	72
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	50	2	0	0	1	56
D	Unnamed Rd	2	70	6	0	0	0	78
E	A55 N Wales	16	68	15	0	43	15	157
F	A5 Holyhead	18	73	4	0	50	3	148
	Total	61	262	27	0	143	23	517

PM PEAK

TOTAL

WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	363	155	0	187	114	820
B	A55 N Wales	313	0	6	0	742	216	1,276
C	A5 Holyhead	145	0	0	0	87	101	334
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	140	775	60	0	1	22	998
F	A5 Holyhead	77	133	59	0	3	0	273
	Total	676	1,271	280	0	1,020	453	3,701

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	7	6	0	2	4	19
B	A55 N Wales	6	0	0	0	42	8	56
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	3	52	2	0	0	1	58
F	A5 Holyhead	1	6	5	0	0	0	13
	Total	16	65	14	0	44	15	154

OGV2

M-20 Split Junction

	A	B	C	D	E	F	Total
A	A5114 Unnar	0	5	3	0	1	10
B	A55 N Wales	12	0	0	0	53	67
C	A5 Holyhead	4	0	0	0	0	4
D	Unnamed Rd	0	0	0	0	0	0
E	A55 N Wales	1	68	1	0	0	70
F	A5 Holyhead	1	5	1	0	0	6
	Total	18	78	4	0	54	157

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	17	0	0	0	54	5	76
B	A55 N Wales	4	0	0	0	0	0	4
C	A5 Holyhead	3	52	2	0	0	1	58
D	Unnamed Rd	2	74	6	0	0	0	82
E	A55 N Wales	16	70	15	0	44	15	160
F	A5 Holyhead	18	78	4	0	54	3	157
	Total	61	274	27	0	153	23	538

2023 Junction 6

sun

WEEKEND PEAK

TOTAL REFERENCE CASE

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	253	150	0	134	81	619
B	A55 N Wales	187	0	9	0	635	109	940
C	A5 Holyhead	165	1	0	0	49	76	291
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	120	756	42	0	1	7	926
F	A5 Holyhead	82	134	51	0	7	1	275
Total		555	1,144	253	0	825	273	3,051

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	46	1	49
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	76	1	0	0	0	78
F	A5 Holyhead	1	1	2	0	0	0	4
Total		7	78	3	0	47	4	139

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	51	2	57
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	80	0	0	0	0	81
F	A5 Holyhead	2	1	0	0	0	0	3
Total		8	83	1	0	51	6	148

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	6	0	0	0	51	4	61
B	A55 N Wales	2	0	0	0	0	2	3
C	A5 Holyhead	1	76	1	0	0	0	78
D	Unnamed Ro	2	81	2	0	0	0	85
E	A55 N Wales	8	79	3	0	47	4	142
F	A5 Holyhead	8	83	1	0	51	6	148
Total		27	319	7	0	149	15	518

SUN

WEEKEND PEAK

TOTAL WNP SCENARIO

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	1	253	150	0	134	81	619
B	A55 N Wales	187	0	9	0	644	109	949
C	A5 Holyhead	165	1	0	0	49	76	291
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	120	767	42	0	1	7	937
F	A5 Holyhead	82	134	51	0	7	1	275
Total		555	1,155	253	0	834	273	3,071

OGV1

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	1	0	0	2	2	4
B	A55 N Wales	2	0	0	0	46	1	49
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	76	1	0	0	0	78
F	A5 Holyhead	1	1	2	0	0	0	4
Total		7	78	3	0	47	4	139

OGV2

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	0	2	1	0	0	2	4
B	A55 N Wales	4	0	0	0	51	2	58
C	A5 Holyhead	2	0	0	0	0	2	3
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	81	0	0	0	0	81
F	A5 Holyhead	2	1	0	0	0	0	3
Total		8	84	1	0	51	6	149

HGV

M-20 Split Junction

		A	B	C	D	E	F	Total
A	A5114 Unnar	6	0	0	0	51	4	61
B	A55 N Wales	2	0	0	0	0	2	3
C	A5 Holyhead	1	76	1	0	0	0	78
D	Unnamed Ro	2	82	2	0	0	0	85
E	A55 N Wales	8	79	3	0	47	4	142
F	A5 Holyhead	8	84	1	0	51	6	149
Total		27	320	7	0	150	15	520

2023 Junction 7

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.22	0.25	0.21	0.24	0.27	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.22	0.25	0.21	0.24	0.27	0.21
Upstream Demand	929	1,056	877	994	1,141	887
Downstream Cap	4,192	4,193	4,193	4,191	4,194	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,096	2,097	2,097	2,095	2,097	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	13%	11%	11%	15%	10%	11%
	1.00195	1.001587	1.001632	1.002239	1.001539	1.001623

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.29	0.28	0.26	0.30	0.32	0.26
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.29	0.28	0.26	0.30	0.32	0.26
Upstream Demand	1,227	1,194	1,091	1,274	1,339	1,101
Downstream Cap	4,190	4,192	4,192	4,189	4,192	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	16%	14%	13%	17%	12%	13%
	1.002339	1.002027	1.00189	1.002577	1.001872	1.001879

veh/hr/lane

2023 Junction 7

AM PEAK

TOTAL

REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	11	9	1	21
B	A55 EB	1	1	193	834	1,030
C	A5152 SB	4	165	0	93	262
D	A55 WB	3	1,050	143	0	1,197
	Total	8	1,227	345	929	2,509

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	53	70
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	78	2	0	81
	Total	1	90	19	55	164

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	17	64	82
C	A5152 SB	0	11	0	2	12
D	A55 WB	1	89	2	0	92
	Total	1	102	20	66	188

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	117	152
C	A5152 SB	0	21	0	3	24
D	A55 WB	1	167	5	0	173
	Total	2	191	38	121	352

TOTAL

WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	11	9	1	21
B	A55 EB	1	1	193	900	1,095
C	A5152 SB	4	165	0	93	262
D	A55 WB	3	1,097	143	0	1,244
	Total	8	1,274	345	994	2,622

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	60	77
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	85	2	0	88
	Total	1	97	19	62	178

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	17	85	102
C	A5152 SB	0	11	0	2	12
D	A55 WB	1	110	2	0	113
	Total	1	122	20	86	230

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	2	1	0	3
B	A55 EB	1	1	32	145	180
C	A5152 SB	0	21	0	3	24
D	A55 WB	1	195	5	0	200
	Total	2	219	38	148	408

2023 Junction 7

PM PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	4	0	224	953	1,181
C	A5152 SB	7	161	0	99	267
D	A55 WB	2	1,033	149	2	1,187
	Total	13	1,194	378	1,056	2,641

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	51	60
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	72	1	0	72
	Total	0	75	10	51	136

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	60	69
C	A5152 SB	0	4	0	1	4
D	A55 WB	0	83	1	0	83
	Total	0	86	10	60	157

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	110	129
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	154	1	0	156
	Total	0	161	20	112	293

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	4	0	224	1,038	1,266
C	A5152 SB	7	161	0	99	267
D	A55 WB	2	1,179	149	2	1,332
	Total	13	1,339	378	1,141	2,871

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	52	61
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	73	1	0	74
	Total	0	76	10	53	139

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	64	73
C	A5152 SB	0	4	0	1	4
D	A55 WB	0	87	1	0	88
	Total	0	91	10	64	165

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	18	116	134
C	A5152 SB	0	7	0	1	8
D	A55 WB	0	160	1	0	161
	Total	0	167	20	117	304

2023 Junction 7

SUN

WEEKEND PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	6	8	17
B	A55 EB	3	3	134	777	916
C	A5152 SB	9	129	0	88	226
D	A55 WB	1	955	112	5	1,073
Total		13	1,091	252	877	2,233

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	45	48
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	65	1	0	66
Total		0	66	4	46	116

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	49	52
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	70	1	0	71
Total		0	71	4	50	125

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	94	99
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	135	3	0	137
Total		0	137	8	95	241

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	6	8	17
B	A55 EB	3	3	134	786	926
C	A5152 SB	9	129	0	88	226
D	A55 WB	1	965	112	5	1,084
Total		13	1,101	252	887	2,253

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	45	48
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	65	1	0	66
Total		0	66	4	46	116

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	49	52
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	70	1	0	72
Total		0	72	4	50	126

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	5	95	100
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	135	3	0	138
Total		0	138	8	96	242

2023 Junction 8

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.27	0.32	0.24	0.29	0.34	0.24
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.27	0.32	0.24	0.29	0.34	0.24
Upstream Demand	1,130	1,325	1,004	1,195	1,410	1,013
Downstream Cap	4,190	4,193	4,193	4,189	4,193	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,095	2,096	2,097	2,094	2,096	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	16%	12%	11%	18%	12%	11%
	1.002474	1.001787	1.001597	1.002686	1.001737	1.001589

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.22	0.28	0.28	0.23	0.31	0.28
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.22	0.28	0.28	0.23	0.31	0.28
Upstream Demand	906	1,158	1,155	953	1,293	1,166
Downstream Cap	4,193	4,191	4,190	4,186	4,190	4,190
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,096	2,095	2,095	2,093	2,095	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	12%	15%	16%	23%	16%	16%
	1.001773	1.002252	1.002388	1.003401	1.002373	1.002373

veh/hr/lane

2023 Junction 8

AM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	373	187	253	813
B	A55 N Wales	288	2	46	786	1,121
C	Lon Pant	179	54	0	88	322
D	A55 N Wales	310	478	126	3	917
Total		777	906	359	1,130	3,172

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	80	93
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	77	8	0	99
Total		29	81	10	87	207

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	96	102
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	100	0	0	107
Total		13	107	0	99	220

HGV REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	177	195
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	177	8	0	207
Total		42	189	10	186	427

AM PEAK

TOTAL WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	373	187	253	813
B	A55 N Wales	288	2	46	851	1,187
C	Lon Pant	179	54	0	88	322
D	A55 N Wales	310	525	126	3	964
Total		777	953	359	1,195	3,285

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	87	99
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	84	8	0	106
Total		29	88	10	94	221

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	7	0	3	10
B	A55 N Wales	6	0	0	117	123
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	7	121	0	0	128
Total		13	128	0	120	261

HGV WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	11	0	10	21
B	A55 N Wales	17	0	1	204	222
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	21	205	8	0	234
Total		42	216	10	214	482

2023 Junction 8

PM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	304	157	280	741
B	A55 N Wales	489	1	136	990	1,616
C	Lon Pant	195	93	0	55	343
D	A55 N Wales	186	760	41	0	987
Total		870	1,158	334	1,325	3,688

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	63	71
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	60	0	0	68
Total		19	75	3	74	171

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	12
B	A55 N Wales	4	0	0	82	87
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	89	0	0	89
Total		4	99	0	84	187

HGV REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	41
B	A55 N Wales	13	0	0	145	158
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	148	0	0	157
Total		24	174	3	158	358

TOTAL WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	304	157	293	754
B	A55 N Wales	489	1	136	1,057	1,683
C	Lon Pant	195	93	0	61	349
D	A55 N Wales	193	895	44	0	1,132
Total		877	1,293	338	1,410	3,918

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	15	3	11	29
B	A55 N Wales	8	0	0	64	73
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	61	0	0	69
Total		19	76	3	75	174

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	10	0	1	12
B	A55 N Wales	4	0	0	86	91
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	93	0	0	93
Total		4	103	0	88	196

HGV WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	25	3	12	41
B	A55 N Wales	13	0	0	151	163
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	8	154	0	0	162
Total		24	180	3	163	369

2023 Junction 8

sun WEEKEND PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	229	123	284	636
B	A55 N Wales	573	2	66	688	1,328
C	Lon Pant	142	78	0	27	247
D	A55 N Wales	164	846	30	5	1,045
Total		878	1,155	219	1,004	3,257

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	49
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	86
Total		3	84	1	52	140

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	0	0	2
B	A55 N Wales	0	0	0	55	55
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	98	0	0	98
Total		0	100	0	55	155

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	1	4	7
B	A55 N Wales	1	0	0	103	104
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	182	0	0	184
Total		3	184	1	107	295

SUN WEEKEND PEAK

TOTAL WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	229	123	284	636
B	A55 N Wales	573	2	66	697	1,337
C	Lon Pant	142	78	0	27	247
D	A55 N Wales	164	857	30	5	1,056
Total		878	1,166	219	1,013	3,276

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	47	49
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	84	0	0	86
Total		3	84	1	52	140

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	0	0	2
B	A55 N Wales	0	0	0	56	56
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	98	0	0	98
Total		0	100	0	56	156

HGV

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	1	4	7
B	A55 N Wales	1	0	0	103	104
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	183	0	0	184
Total		3	184	1	107	296

2023 Junction 8A

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.55	0.05	0.00	0.63	0.30	0.00
Delay sec	32.78	3.25	0.00	37.91	17.85	0.00
Cap Ratio	0.89	0.76	0.74	0.92	0.83	0.74
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.89	0.76	0.74	0.92	0.83	0.74
Upstream	1,875	1,602	1,546	1,922	1,737	1,556
Downstream	2,097	2,096	2,096	2,096	2,097	2,096
Downstream	1	1	1	1	1	1

Total vehicles
Total

Downstream	2,097	2,096	2,096	2,096	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	12%	12%	12%	11%	12%
	1.001619	1.001743	1.001868	1.001794	1.001658	1.00186

veh/hr/lane



2023 Junction 8A

AM PEAK

TOTAL REFERENCE CASE

M-47		A	B	C	D	Total
A	Holyhead Road	0	171	135	0	306
B	A55 SB	175	0	250	1,012	1,438
C	Holyhead Road	372	862	0	0	1,234
D	A55 NB	0	842	0	0	842
Total		547	1,875	385	1,012	3,820

OGV1

M-47		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	6
B	A55 SB	7	0	6	109	121
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	81	0	0	81
Total		15	95	7	109	226

OGV2

M-47		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	6	0	9	121	136
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	107	0	0	107
Total		6	107	9	121	243

HGV

M-47		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	6
B	A55 SB	13	0	14	230	257
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	189	0	0	189
Total		21	202	16	230	469

AM PEAK

TOTAL WNP SCENARIO

M-47		A	B	C	D	Total
A	Holyhead Road	0	171	135	0	306
B	A55 SB	175	0	250	1,077	1,503
C	Holyhead Road	372	862	0	0	1,234
D	A55 NB	0	889	0	0	889
Total		547	1,922	385	1,077	3,932

OGV1

M-47		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	6
B	A55 SB	7	0	6	116	128
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	88	0	0	88
Total		15	102	7	116	240

OGV2

M-47		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	6	0	9	142	157
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	128	0	0	128
Total		6	128	9	142	285

HGV

M-47		A	B	C	D	Total
A	Holyhead Road	0	4	1	0	6
B	A55 SB	13	0	14	258	285
C	Holyhead Road	8	10	0	0	18
D	A55 NB	0	216	0	0	216
Total		21	230	16	258	525

2023 Junction 8A

PM PEAK

PM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	145	325	0	470
B	A55 SB	153	0	388	1,350	1,891
C	Holyhead Rd	252	300	0	0	552
D	A55 NB	0	1,158	0	0	1,158
Total		406	1,602	713	1,350	4,071

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	3	4	0	7
B	A55 SB	1	0	6	79	86
C	Holyhead Rd	1	10	0	0	11
D	A55 NB	0	75	0	0	75
Total		3	87	10	79	178

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	0	1	0	1
B	A55 SB	0	0	0	96	96
C	Holyhead Rd	0	0	0	0	0
D	A55 NB	0	99	0	0	99
Total		0	99	1	96	197

HGV

M-47 Split junction

		A	B	C	D	Total
A	Holyhead Rd	0	3	6	0	8
B	A55 SB	1	0	6	175	182
C	Holyhead Rd	1	10	0	0	11
D	A55 NB	0	174	0	0	174
Total		3	186	11	175	375

PM PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	145	325	0	470
B	A55 SB	153	0	388	1,416	1,958
C	Holyhead Rd	252	300	0	0	552
D	A55 NB	0	1,293	0	0	1,293
Total		406	1,737	713	1,416	4,273

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	3	4	0	7
B	A55 SB	1	0	6	80	87
C	Holyhead Rd	1	10	0	0	11
D	A55 NB	0	76	0	0	76
Total		3	89	10	80	181

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	0	1	0	1
B	A55 SB	0	0	0	100	100
C	Holyhead Rd	0	0	0	0	0
D	A55 NB	0	103	0	0	103
Total		0	103	1	100	205

TOTAL

M-47

		A	B	C	D	Total
A	Holyhead Rd	0	3	6	0	8
B	A55 SB	1	0	6	181	188
C	Holyhead Rd	1	10	0	0	11
D	A55 NB	0	180	0	0	180
Total		3	192	11	181	387

2023 Junction 8A

sun

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Road	0	128	358	0	486
B	A55 SB	179	9	297	1,072	1,557
C	Holyhead Road	258	263	2	0	523
D	A55 NB	0	1,146	0	0	1,146
Total		437	1,546	657	1,072	3,712

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	65	66
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	84	0	0	84
Total		3	93	1	65	162

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	2	0	0	69	71
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	100	0	0	100
Total		2	100	0	69	170

HGV

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	134	137
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	184	0	0	184
Total		4	193	1	134	332

SUN

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Road	0	128	358	0	486
B	A55 SB	179	9	297	1,081	1,566
C	Holyhead Road	258	263	2	0	523
D	A55 NB	0	1,157	0	0	1,157
Total		437	1,556	657	1,081	3,731

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	65	66
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	84	0	0	84
Total		3	93	1	65	162

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	2	0	0	70	71
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	100	0	0	100
Total		2	100	0	70	171

HGV

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	134	137
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	184	0	0	184
Total		4	193	1	134	333

2023 Junction 9

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.34	0.36	0.36	0.35	0.37	0.36
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.34	0.36	0.36	0.35	0.37	0.36
Upstream Demand	1,424	1,505	1,504	1,481	1,549	1,510
Downstream Cap	4,191	4,194	4,195	4,190	4,193	4,195
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,097	2,097	2,095	2,097	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	14%	10%	9%	16%	10%	9%
	1.00217	1.001545	1.001301	1.002366	1.001553	1.001298

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.32	0.43	0.40	0.33	0.46	0.40
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.32	0.43	0.40	0.33	0.46	0.40
Upstream Demand	1,351	1,817	1,661	1,392	1,920	1,669
Downstream Cap	4,191	4,192	4,192	4,190	4,192	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,096	2,096	2,095	2,096	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	15%	12%	13%	16%	12%	13%
	1.002204	1.00186	1.002023	1.002434	1.001805	1.002018

veh/hr/lane

2023 Junction 9

M-48 AM PEAK

TOTAL REFERENCE CASE

M-48						
	A	B	C	D	Total	
A	A487 North	3	824	437	187	1,452
B	A487 South	593	0	261	637	1,490
C	Business Par	120	51	0	45	215
D	A55 onslip	443	38	305	0	786
Total		1,159	913	1,003	869	3,944

OGV1

M-48						
	A	B	C	D	Total	
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
Total		25	22	4	19	70

OGV2

M-48						
	A	B	C	D	Total	
A	A487 North	0	18	0	0	18
B	A487 South	7	0	0	7	15
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
Total		9	21	0	7	37

HGV

M-48						
	A	B	C	D	Total	
A	A487 North	0	35	1	0	37
B	A487 South	20	0	1	22	44
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
Total		34	43	4	27	107

AM PEAK

TOTAL WNP SCENARIO

M-48						
	A	B	C	D	Total	
A	A487 North	3	829	437	189	1,458
B	A487 South	593	0	261	645	1,498
C	Business Par	120	51	0	45	215
D	A55 onslip	443	38	305	0	786
Total		1,159	918	1,003	878	3,958

OGV1

M-48						
	A	B	C	D	Total	
A	A487 North	0	18	1	0	19
B	A487 South	12	0	1	15	29
C	Business Par	4	1	0	4	10
D	A55 onslip	8	3	1	0	12
Total		25	22	4	19	70

OGV2

M-48						
	A	B	C	D	Total	
A	A487 North	0	18	0	0	18
B	A487 South	7	0	0	7	15
C	Business Par	0	0	0	0	0
D	A55 onslip	1	3	0	0	4
Total		9	21	0	7	37

HGV

M-48						
	A	B	C	D	Total	
A	A487 North	0	36	1	0	37
B	A487 South	20	0	1	23	44
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	17
Total		34	43	4	27	107

2023 Junction 9

M-49

AM PEAK

TOTAL

REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	27	285	153	465
B	A487 NB	101	0	240	170	511
C	Ffordd Y Parc	524	301	2	338	1,165
D	A55 Unnamed	237	346	925	0	1,508
Total		863	674	1,452	661	3,649

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	6	0	11	23
D	A55 Unnamed	3	1	18	0	22
Total		10	7	19	19	55

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	9
D	A55 Unnamed	0	1	15	0	16
Total		0	3	16	7	26

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	33	0	38
Total		10	10	35	27	81

AM PEAK

TOTAL

WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	27	286	153	466
B	A487 NB	101	0	240	170	511
C	Ffordd Y Parc	524	301	2	338	1,165
D	A55 Unnamed	239	346	930	0	1,514
Total		864	674	1,457	661	3,657

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	6	0	11	23
D	A55 Unnamed	3	1	18	0	22
Total		10	7	19	19	55

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	1	0	7	9
D	A55 Unnamed	0	1	15	0	16
Total		0	3	16	7	27

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	7	0	18	32
D	A55 Unnamed	3	3	33	0	38
Total		10	10	36	27	82

2023 Junction 9

M-48 PM PEAK

TOTAL REFERENCE CASE

M-48		A	B	C	D	Total
A	A487 North	7	926	101	258	1,293
B	A487 South	542	0	44	490	1,076
C	Business Par	472	174	0	184	830
D	A55 onslip	316	51	75	0	442
Total		1,338	1,151	221	932	3,641

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	12	0	1	14
B	A487 South	6	0	0	7	12
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
Total		8	14	1	8	32

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	1	3	0	4
B	A487 South	15	0	0	1	16
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
Total		15	1	3	3	22

HGV

M-48		A	B	C	D	Total
A	A487 North	0	14	3	1	18
B	A487 South	20	0	0	8	29
C	Business Par	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
Total		23	15	4	11	54

PM PEAK

TOTAL WNP SCENARIO

M-48		A	B	C	D	Total
A	A487 North	7	975	101	259	1,342
B	A487 South	542	0	44	491	1,078
C	Business Par	472	174	0	184	830
D	A55 onslip	316	51	75	0	442
Total		1,338	1,200	221	934	3,692

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	12	0	1	14
B	A487 South	6	0	0	7	12
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
Total		8	14	1	8	32

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	1	3	0	4
B	A487 South	15	0	0	1	16
C	Business Par	0	0	0	1	1
D	A55 onslip	0	0	0	0	0
Total		15	1	3	3	22

HGV

M-48		A	B	C	D	Total
A	A487 North	0	14	3	1	18
B	A487 South	20	0	0	8	29
C	Business Par	1	0	0	1	3
D	A55 onslip	1	1	1	0	4
Total		23	15	4	11	54

2023 Junction 9

M-49 PM PEAK

TOTAL REFERENCE CASE

M-49		A	B	C	D	Total
A	A487 SB	0	27	397	157	581
B	A487 NB	205	0	286	272	762
C	Ffordd Y Parc	543	210	1	532	1,287
D	A55 Unnamed	89	165	636	0	890
Total		836	403	1,321	961	3,521

OGV1

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	8
C	Ffordd Y Parc	1	0	0	7	8
D	A55 Unnamed	0	1	10	0	11
Total		3	1	14	14	32

OGV2

M-49		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	16	16
D	A55 Unnamed	0	0	4	0	4
Total		0	0	4	16	21

HGV

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	8
C	Ffordd Y Parc	1	0	0	23	24
D	A55 Unnamed	0	1	14	0	15
Total		3	1	18	30	52

PM PEAK

TOTAL WNP SCENARIO

M-49		A	B	C	D	Total
A	A487 SB	0	27	398	157	582
B	A487 NB	205	0	286	272	762
C	Ffordd Y Parc	543	210	1	532	1,287
D	A55 Unnamed	97	165	685	0	947
Total		845	403	1,370	961	3,579

OGV1

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	8
C	Ffordd Y Parc	1	0	0	7	8
D	A55 Unnamed	0	1	10	0	11
Total		3	1	14	14	32

OGV2

M-49		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	16	16
D	A55 Unnamed	0	0	4	0	4
Total		0	0	4	16	21

HGV

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	8
C	Ffordd Y Parc	1	0	0	23	24
D	A55 Unnamed	0	1	14	0	15
Total		3	1	18	30	52

2023 Junction 9

M-48 SUN WEEKEND PEAK

TOTAL REFERENCE CASE

M-48						
	A	B	C	D	Total	
A	A487 North	21	563	55	126	765
B	A487 South	397	2	28	373	800
C	Business Par	39	36	0	33	108
D	A55 onslip	620	231	21	9	882
Total		1,077	831	104	542	2,554

OGV1

M-48						
	A	B	C	D	Total	
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
Total		4	1	0	7	13

OGV2

M-48						
	A	B	C	D	Total	
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	2	5
C	Business Par	0	2	0	0	2
D	A55 onslip	0	2	0	0	2
Total		0	9	3	2	14

HGV

M-48						
	A	B	C	D	Total	
A	A487 North	0	8	0	3	10
B	A487 South	3	0	3	6	12
C	Business Par	0	2	0	0	2
D	A55 onslip	1	2	0	0	3
Total		4	11	3	9	27

SUN WEEKEND PEAK

TOTAL WNP SCENARIO

M-48						
	A	B	C	D	Total	
A	A487 North	21	565	55	127	767
B	A487 South	397	2	28	376	802
C	Business Par	39	36	0	33	108
D	A55 onslip	620	231	21	9	882
Total		1,077	833	104	544	2,559

OGV1

M-48						
	A	B	C	D	Total	
A	A487 North	0	1	0	3	4
B	A487 South	3	0	0	4	7
C	Business Par	0	0	0	0	0
D	A55 onslip	1	0	0	0	1
Total		4	1	0	7	13

OGV2

M-48						
	A	B	C	D	Total	
A	A487 North	0	6	0	0	6
B	A487 South	0	0	3	2	5
C	Business Par	0	2	0	0	2
D	A55 onslip	0	2	0	0	2
Total		0	9	3	2	14

HGV

M-48						
	A	B	C	D	Total	
A	A487 North	0	8	0	3	11
B	A487 South	3	0	3	6	12
C	Business Par	0	2	0	0	2
D	A55 onslip	1	2	0	0	3
Total		4	11	3	9	27

2023 Junction 9

M-49 SUN WEEKEND PEAK

TOTAL REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	3	26	285	278	592
B	A487 NB	112	0	120	89	321
C	Ffordd Y Parc	729	98	3	259	1,090
D	A55 Unnamed	95	75	366	0	536
Total		940	199	774	626	2,539

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
Total		3	3	4	1	11

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	5	0	5
Total		0	0	5	0	5

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

SUN WEEKEND PEAK

TOTAL WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	3	26	286	278	593
B	A487 NB	112	0	120	89	321
C	Ffordd Y Parc	729	98	3	259	1,090
D	A55 Unnamed	96	75	369	0	540
Total		940	199	777	626	2,543

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
Total		3	3	4	1	11

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	5	0	5
Total		0	0	5	0	5

HGV

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	6	0	9
Total		3	3	9	1	16

2023 Junction 10- flows only

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

2023 Junction 10- flows only

M-50 AM PEAK

TOTAL REFERENCE

M-50

	A	B	C	D	Total	
A	A4087 SB	0	275	297	280	852
B	A55 N Wales	444	0	391	1,140	1,975
C	A4087 NB	698	0	0	5	703
D	A55 N Wales	427	924	0	0	1,351
	Total	1,569	1,199	689	1,424	4,881

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	81	108
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	87	0	0	97
	Total	33	94	44	97	268

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	15
B	A55 N Wales	3	0	7	104	114
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	102	0	0	102
	Total	7	106	12	109	235

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	11	31	21	63
B	A55 N Wales	11	0	25	185	221
C	A4087 NB	20	0	0	0	20
D	A55 N Wales	10	189	0	0	198
Total		40	200	56	206	502

M-50 AM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	0	275	297	285	858
B	A55 N Wales	444	0	391	1,190	2,026
C	A4087 NB	698	0	0	5	703
D	A55 N Wales	431	961	0	0	1,392
Total		1,573	1,235	689	1,481	4,978

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	26	15	48
B	A55 N Wales	8	0	18	88	114
C	A4087 NB	15	0	0	0	15
D	A55 N Wales	10	94	0	0	104
	Total	33	101	44	103	281

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	4	4	6	15
B	A55 N Wales	3	0	7	124	134
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	0	122	0	0	122
	Total	7	126	12	130	276

HGV

M-50

	A	B	C	D	Total	
A	A4087 SB	0	11	31	21	63
B	A55 N Wales	11	0	25	212	249
C	A4087 NB	20	0	0	0	20
D	A55 N Wales	10	216	0	0	226
Total		40	227	56	234	557

2023 Junction 10- flows only

M-50 PM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	4	436	616	533	1,590
B	A55 N Wales	332	0	391	968	1,691
C	A4087 NB	507	0	0	3	509
D	A55 N Wales	437	1,380	0	0	1,817
Total		1,280	1,816	1,007	1,505	5,607

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	1	11
B	A55 N Wales	4	0	12	71	88
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	12	97	0	0	110
Total		21	100	19	73	213

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	81	90
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	113	0	0	116
Total		4	113	7	82	207

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	3	12
B	A55 N Wales	6	0	20	152	177
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	15	210	0	0	225
Total		25	213	27	155	419

M-50 PM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	4	436	616	545	1,601
B	A55 N Wales	332	0	391	1,000	1,724
C	A4087 NB	507	0	0	3	509
D	A55 N Wales	448	1,472	0	0	1,920
Total		1,291	1,907	1,007	1,549	5,754

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	1	11
B	A55 N Wales	4	0	12	73	89
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	12	99	0	0	111
Total		21	101	19	74	215

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	1	1
B	A55 N Wales	1	0	7	85	94
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	117	0	0	120
Total		4	117	7	86	215

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	3	12
B	A55 N Wales	6	0	20	157	183
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	15	216	0	0	231
Total		25	218	27	160	430

2023 Junction 10- flows only

M-50 sun WEEKEND PEAK

TOTAL REFERENCE

M-50		A	B	C	D	Total
A	A4087 SB	8	412	752	586	1,757
B	A55 N Wales	393	0	871	918	2,183
C	A4087 NB	481	0	2	0	482
D	A55 N Wales	437	1,224	0	0	1,661
Total		1,319	1,636	1,625	1,504	6,084

OGV1

M-50		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	63	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	107	0	0	109
Total		6	107	4	63	180

OGV2

M-50		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	2	0	0	67	69
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	115	0	0	115
Total		2	115	0	67	184

HGV

M-50		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	130	136
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	223	0	0	224
Total		7	223	4	130	365

M-50 SUN WEEKEND PEAK

TOTAL WNP

M-50		A	B	C	D	Total
A	A4087 SB	8	412	752	587	1,759
B	A55 N Wales	393	0	871	923	2,188
C	A4087 NB	481	0	2	0	482
D	A55 N Wales	439	1,230	0	0	1,669
Total		1,321	1,642	1,625	1,510	6,097

OGV1

M-50		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	3	0	1	63	67
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	1	108	0	0	109
Total		6	108	4	63	181

OGV2

M-50		A	B	C	D	Total
A	A4087 SB	0	0	0	0	0
B	A55 N Wales	2	0	0	68	69
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	0	115	0	0	115
Total		2	115	0	68	185

HGV

M-50		A	B	C	D	Total
A	A4087 SB	0	0	3	0	3
B	A55 N Wales	4	0	1	131	136
C	A4087 NB	1	0	0	0	1
D	A55 N Wales	2	223	0	0	224
Total		7	223	4	131	365

2033 Junction 2

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.11	0.17	0.14	0.11	0.17	0.14
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.11	0.17	0.14	0.11	0.17	0.14
Upstream Demand	453	705	604	453	705	604
Downstream Cap	4,190	4,194	4,193	4,190	4,194	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,097	2,096	2,095	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	15%	9%	12%	15%	9%	12%
	1.002286	1.001362	1.001753	1.002286	1.001362	1.001753

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.18	0.40	0.17	0.18	0.40	0.17
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.18	0.40	0.17	0.18	0.40	0.17
Upstream Demand	754	1,663	730	754	1,663	730
Downstream Cap	4,194	4,198	4,190	4,194	4,198	4,190
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,097	2,099	2,095	2,097	2,099	2,095
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	9%	3%	15%	9%	3%	15%
	1.001395	1.000421	1.002296	1.001395	1.000421	1.002296

veh/hr/lane

2033 Junction 2

AM PEAK

TOTAL REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	154	53	84	292
B	A55 WB	130	1	1,327	312	1,771
C	A5153 NB	71	329	0	56	456
D	A55 EB	171	269	186	1	626
Total		372	754	1,566	453	3,145

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	8	0	5	12
B	A55 WB	3	0	2	22	27
C	A5153 NB	1	1	0	0	2
D	A55 EB	5	18	0	0	23
Total		8	27	2	27	64

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	1	3
B	A55 WB	3	0	18	31	52
C	A5153 NB	0	12	0	11	23
D	A55 EB	0	29	0	0	29
Total		3	43	18	42	107

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	10	0	5	15
B	A55 WB	6	0	20	53	78
C	A5153 NB	1	13	0	11	25
D	A55 EB	5	47	0	0	52
Total		12	70	20	69	171

TOTAL WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	1	154	53	84	292
B	A55 WB	130	1	1,327	312	1,771
C	A5153 NB	71	329	0	56	456
D	A55 EB	171	269	186	1	626
Total		372	754	1,566	453	3,145

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	8	0	5	12
B	A55 WB	3	0	2	22	27
C	A5153 NB	1	1	0	0	2
D	A55 EB	5	18	0	0	23
Total		8	27	2	27	64

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	3	0	1	3
B	A55 WB	3	0	18	31	52
C	A5153 NB	0	12	0	11	23
D	A55 EB	0	29	0	0	29
Total		3	43	18	42	107

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	10	0	5	15
B	A55 WB	6	0	20	53	78
C	A5153 NB	1	13	0	11	25
D	A55 EB	5	47	0	0	52
Total		12	70	20	69	171

2033 Junction 2

PM PEAK

TOTAL REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	188	173	182	545
B	A55 WB	237	0	317	337	890
C	A5153 NB	123	1,158	0	185	1,467
D	A55 EB	251	316	42	1	610
Total		613	1,663	532	705	3,512

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	3	4
B	A55 WB	5	0	1	22	28
C	A5153 NB	1	0	0	0	2
D	A55 EB	2	18	0	0	20
Total		8	19	1	26	54

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	1	2
B	A55 WB	5	0	19	21	45
C	A5153 NB	0	4	0	16	20
D	A55 EB	0	22	0	0	22
Total		5	27	19	38	89

HGVs REFERENCE CASE

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	4	6
B	A55 WB	10	0	19	43	72
C	A5153 NB	1	5	0	16	22
D	A55 EB	2	40	0	0	42
Total		13	47	19	64	143

TOTAL WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	2	188	173	182	545
B	A55 WB	237	0	317	337	890
C	A5153 NB	123	1,158	0	185	1,467
D	A55 EB	251	316	42	1	610
Total		613	1,663	532	705	3,512

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	3	4
B	A55 WB	5	0	1	22	28
C	A5153 NB	1	0	0	0	2
D	A55 EB	2	18	0	0	20
Total		8	19	1	26	54

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	1	0	1	2
B	A55 WB	5	0	19	21	45
C	A5153 NB	0	4	0	16	20
D	A55 EB	0	22	0	0	22
Total		5	27	19	38	89

HGVs WNP SCENARIO

M-1

		A	B	C	D	Total
A	A5153 SB	0	2	0	4	6
B	A55 WB	10	0	19	43	72
C	A5153 NB	1	5	0	16	22
D	A55 EB	2	40	0	0	42
Total		13	47	19	64	143

2033 Junction 2

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	235	203	203	645
B	A55 WB	234	0	121	367	721
C	A5153 NB	169	72	0	34	275
D	A55 EB	340	423	5	0	767
Total		745	730	329	604	2,408

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	2	4	6
B	A55 WB	4	0	0	38	42
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	50	0	0	53
Total		8	51	2	42	103

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	0	4	7
B	A55 WB	3	0	57	0	59
C	A5153 NB	1	0	0	25	25
D	A55 EB	4	57	0	0	61
Total		7	60	57	28	152

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	2	8	13
B	A55 WB	6	0	57	38	102
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	107	0	0	114
Total		15	112	59	71	256

TOTAL

WNP SCENARIO

M-1 Split junction

		A	B	C	D	Total
A	A5153 SB	3	235	203	203	645
B	A55 WB	234	0	121	367	721
C	A5153 NB	169	72	0	34	275
D	A55 EB	340	423	5	0	767
Total		745	730	329	604	2,408

OGV1

M-1

		A	B	C	D	Total
A	A5153 SB	0	0	2	4	6
B	A55 WB	4	0	0	38	42
C	A5153 NB	1	0	0	0	2
D	A55 EB	3	50	0	0	53
Total		8	51	2	42	103

OGV2

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	0	4	7
B	A55 WB	3	0	57	0	59
C	A5153 NB	1	0	0	25	25
D	A55 EB	4	57	0	0	61
Total		7	60	57	28	152

HGVs

M-1

		A	B	C	D	Total
A	A5153 SB	0	4	2	8	13
B	A55 WB	6	0	57	38	102
C	A5153 NB	2	0	0	25	27
D	A55 EB	6	107	0	0	114
Total		15	112	59	71	256

2033 Junction 3

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.42	0.23	0.17	0.42	0.22	0.17
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.42	0.23	0.17	0.42	0.22	0.17
Upstream Demand	1,783	951	729	1,783	931	729
Downstream Cap	4,196	4,195	4,192	4,196	4,195	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,098	2,097	2,096	2,098	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	6%	8%	13%	6%	8%	13%
	1.000835	1.001215	1.001982	1.000835	1.001218	1.001982

veh/hr/lane

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.23	0.13	0.24	0.23	0.40	0.24
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.23	0.13	0.24	0.23	0.40	0.24
Upstream Demand	974	547	994	982	1,683	1,013
Downstream Cap	4,194	4,199	4,192	4,194	4,196	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,097	2,099	2,096	2,097	2,098	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	9%	2%	13%	9%	6%	13%
	1.001338	1.000254	1.001975	1.001356	1.000881	1.001958

veh/hr/lane

2033 Junction 3

AM PEAK

TOTAL REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	317	82	1	265	665
B	A55 SB	182	0	2	2	1,483	1,669
C	A5 Holyhead	41	4	1	0	36	81
D	B&B Access	1	0	0	0	0	1
E	A55 NB	71	653	36	0	0	760
Total		295	974	122	3	1,783	3,176

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	9
B	A55 SB	9	0	0	0	36	36
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	28	0	0	0	28
Total		11	35	1	0	37	73

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	6	0	0	0	6
B	A55 SB	1	0	0	0	63	63
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	45	0	0	0	45
Total		1	52	0	0	63	115

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	13	1	0	1	16
B	A55 SB	9	0	0	0	98	98
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	74	0	0	0	74
Total		11	87	1	0	99	188

TOTAL WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	325	82	1	265	673
B	A55 SB	212	0	2	2	1,483	1,699
C	A5 Holyhead	41	4	1	0	36	81
D	B&B Access	1	0	0	0	0	1
E	A55 NB	71	653	36	0	0	760
Total		325	982	122	3	1,783	3,214

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	7	1	0	1	10
B	A55 SB	9	0	0	0	36	45
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	28	0	0	0	29
Total		11	35	1	0	37	85

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	8	0	0	0	8
B	A55 SB	2	0	0	0	63	65
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	45	0	0	0	45
Total		2	53	0	0	63	118

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	18
B	A55 SB	11	0	0	0	98	109
C	A5 Holyhead	1	0	0	0	0	1
D	B&B Access	0	0	0	0	0	0
E	A55 NB	1	74	0	0	0	75
Total		13	89	1	0	99	203

2033 Junction 3

TOTAL	REFERENCE CASE	PM PEAK
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M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	0	273	55	0	62	391
B	A55 SB	336	0	9	1	784	794
C	A5 Holyhead	66	1	0	0	41	42
D	B&B Access	1	0	0	0	1	1
E	A55 NB	0	273	55	0	62	391
	Total	403	547	119	1	951	1,619

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	1	0	0	5
B	A55 SB	2	0	0	0	30	30
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	4	1	0	0	5
	Total	3	8	1	0	30	40

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	1	0	0	6
B	A55 SB	3	0	0	0	47	34
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	1	1	0	0	36
	Total	3	1	1	0	47	75

HGV

REFERENCE CASE

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	1	0	0	6
B	A55 SB	5	0	0	0	76	76
C	A5 Holyhead	1	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	5	1	0	0	6
	Total	6	9	3	0	77	89

TOTAL	WNP SCENARIO
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M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	485	69	0	122	677
B	A55 SB	321	0	4	0	741	1,067
C	A5 Holyhead	99	4	1	0	67	171
D	B&B Access	1	1	0	0	0	2
E	A55 NB	171	1,193	32	0	0	1,397
	Total	593	1,683	107	0	931	3,313

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	11	1	0	0	12
B	A55 SB	7	0	0	0	28	35
C	A5 Holyhead	4	0	0	0	0	4
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	31	2	0	0	33
	Total	11	42	3	0	28	84

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	1	5
B	A55 SB	2	0	0	0	47	49
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	52	1	0	0	53
	Total	2	57	1	0	48	107

HGV

WNP SCENARIO

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	15	1	0	1	17
B	A55 SB	9	0	0	0	75	84
C	A5 Holyhead	4	0	0	0	0	4
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	83	2	0	0	86
	Total	13	99	3	0	76	191

2033 Junction 3

sat

Weekend Peak

TOTAL REFERENCE CASE

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	290	58	0	22	369
B	A55 SB	225	0	6	0	675	681
C	A5 Holyhead	67	8	0	0	30	38
D	B&B Access	0	0	0	0	0	0
E	A55 NB	29	696	23	0	2	721
	Total	321	994	87	0	729	1,809

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	3	0	0	0	3
B	A55 SB	0	0	0	0	44	44
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	56	0	0	0	57
	Total	0	60	0	0	44	105

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	1	0	0	0	1
B	A55 SB	1	0	0	0	52	52
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	70	0	0	0	70
	Total	1	71	0	0	52	123

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	1	0	0	0	96	96
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	127	0	0	0	127
	Total	1	131	0	0	96	228

TOTAL WNP SCENARIO

M-4 Split junction

		A	B	C	D	E	Total
A	A5 Holyhead	1	309	58	0	22	389
B	A55 SB	227	0	6	0	675	908
C	A5 Holyhead	67	8	0	0	30	105
D	B&B Access	0	0	0	0	0	0
E	A55 NB	29	696	23	0	2	750
	Total	324	1,013	87	0	729	2,153

OGV1

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	4	0	0	0	4
B	A55 SB	0	0	0	0	44	45
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	56	0	0	0	57
	Total	0	60	0	0	44	106

OGV2

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	2	0	0	0	2
B	A55 SB	2	0	0	0	52	54
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	70	0	0	0	70
	Total	2	72	0	0	52	126

HGV

M-4

		A	B	C	D	E	Total
A	A5 Holyhead	0	5	0	0	0	5
B	A55 SB	3	0	0	0	96	99
C	A5 Holyhead	0	0	0	0	0	0
D	B&B Access	0	0	0	0	0	0
E	A55 NB	0	127	0	0	0	127
	Total	3	132	0	0	96	232

2033 Junction 4

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.40	0.27	0.22	0.41	0.26	0.22
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.40	0.27	0.22	0.41	0.26	0.22
Upstream Demand	1,670	1,134	927	1,700	1,076	930
Downstream Cap	4,196	4,195	4,193	4,196	4,195	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,098	2,098	2,096	2,098	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	7%	8%	12%	7%	9%	12%
	1.001032	1.001143	1.001735	1.00103	1.001285	1.001753

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.25	0.40	0.24	0.26	0.42	0.24
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.25	0.40	0.24	0.26	0.42	0.24
Upstream Demand	1,062	1,679	987	1,071	1,745	1,006
Downstream Cap	4,188	4,195	4,183	4,188	4,192	4,183
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,094	2,098	2,091	2,094	2,096	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	19%	8%	28%	20%	12%	28%
	1.0029	1.001142	1.004176	1.002931	1.001813	1.004138

veh/hr/lane

2033 Junction 4

AM PEAK

TOTAL REFERENCE CASE									
M-5 Split junction									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	2	9	11	30	7	0	59
B	A55 WB	1	2	79	12	1,569	33	0	1,697
C	Minffordd Rd	9	55	1	8	36	14	0	122
D	A5 Holyhead	7	40	4	2	2	3	0	59
E	A55 EB	18	886	31	0	1	30	0	965
F	London Road	10	78	28	6	33	0	0	154
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		45	1,062	152	39	1,670	88	0	3,056

OGV1									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	1	0	4	0	0	5
B	A55 WB	1	0	2	0	41	0	0	44
C	Minffordd Rd	1	1	0	0	0	1	0	3
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	1	40	1	0	0	1	0	42
F	London Road	2	1	1	0	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		4	42	4	0	45	3	0	98

OGV2 REFERENCE CASE									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	1	0	0	0	0	0	1
B	A55 WB	0	0	2	0	70	0	0	73
C	Minffordd Rd	0	1	0	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	60	0	0	0	0	0	60
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	62	2	0	70	0	0	134

HGV									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	1	41	1	0	0	1	0	43
B	A55 WB	2	1	1	0	0	0	0	4
C	Minffordd Rd	0	60	0	0	0	0	0	60
D	A5 Holyhead	4	42	4	0	45	3	0	98
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	62	2	0	70	0	0	134
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		7	205	8	0	115	3	0	339

AM PEAK

TOTAL WNP SCENARIO									
M-5 Split junction									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	2	9	11	30	7	0	59
B	A55 WB	1	2	79	12	1,599	33	0	1,727
C	Minffordd Rd	9	55	1	8	36	14	0	122
D	A5 Holyhead	7	40	4	2	2	3	0	59
E	A55 EB	18	894	31	0	1	30	0	973
F	London Road	10	78	28	6	33	0	0	154
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		45	1,071	152	39	1,700	88	0	3,094

OGV1									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	1	0	4	0	0	5
B	A55 WB	1	0	2	0	41	0	0	44
C	Minffordd Rd	1	1	0	0	0	1	0	3
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	1	40	1	0	0	1	0	42
F	London Road	2	1	1	0	0	0	0	4
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		4	43	4	0	45	3	0	99

OGV2 WNP SCENARIO									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	1	0	0	0	0	0	1
B	A55 WB	0	0	2	0	72	0	0	74
C	Minffordd Rd	0	1	0	0	0	0	0	1
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	61	0	0	0	0	0	61
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	63	2	0	72	0	0	137

HGV									
M-5									
	A	B	C	D	E	F	G	Total	
A	A5 Holyhead	1	41	1	0	0	1	0	44
B	A55 WB	2	1	1	0	0	0	0	4
C	Minffordd Rd	0	61	0	0	0	0	0	61
D	A5 Holyhead	4	43	4	0	45	3	0	99
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	63	2	0	72	0	0	137
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		7	209	8	0	117	3	0	344

2033 Junction 4

PM PEAK

TOTAL		REFERENCE CASE							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	4	16	17	37	9	0	85
B	A55 WB	7	5	63	25	1,015	68	0	1,183
C	Minifordd Roe	14	51	0	9	54	25	0	153
D	A5 Holyhead	11	13	8	0	0	2	0	35
E	A55 EB	42	1,578	39	0	0	42	0	1,702
F	London Road	9	27	17	7	28	1	0	90
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		84	1,679	144	58	1,134	148	0	3,247

OGV1		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	1	0	0	2
B	A55 WB	0	0	2	0	34	1	0	36
C	Minifordd Roe	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	1	0	0	0	0	0	1
E	A55 EB	1	26	0	0	0	0	0	28
F	London Road	1	1	0	0	0	0	0	2
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	28	3	0	35	1	0	69

OGV2		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	0	0	0	0	0
B	A55 WB	0	0	0	0	52	0	0	52
C	Minifordd Roe	0	0	0	0	0	0	0	0
D	A5 Holyhead	1	0	0	0	0	0	0	1
E	A55 EB	0	37	0	0	0	0	0	37
F	London Road	0	0	0	0	0	0	0	0
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		1	37	0	0	52	0	0	89

HGV		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	26	0	0	0	0	0	28
B	A55 WB	2	1	0	0	0	0	0	2
C	Minifordd Roe	0	37	0	0	0	0	0	37
D	A5 Holyhead	3	28	3	0	35	1	0	69
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	1	37	0	0	52	0	0	89
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		6	128	3	0	86	1	0	224

PM PEAK

TOTAL		WNP SCENARIO							
M-5		Split junction							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	1	2	18	18	32	8	0	78
B	A55 WB	5	6	63	15	968	55	0	1,111
C	Minifordd Roe	16	109	0	17	60	37	0	240
D	A5 Holyhead	12	12	15	0	0	7	0	45
E	A55 EB	32	1,574	42	0	0	40	0	1,688
F	London Road	11	42	16	6	16	1	0	92
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		78	1,745	153	55	1,076	147	0	3,254

OGV1		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	0	2	2	0	0	4
B	A55 WB	2	0	2	0	35	1	0	40
C	Minifordd Roe	0	1	0	0	0	1	0	2
D	A5 Holyhead	0	0	0	0	0	0	0	1
E	A55 EB	0	41	1	0	0	1	0	42
F	London Road	1	1	2	0	0	0	0	3
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	43	4	3	37	3	0	93

OGV2		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	0	1	0	0	0	0	1
B	A55 WB	0	0	0	0	55	0	0	55
C	Minifordd Roe	0	0	0	0	0	0	0	0
D	A5 Holyhead	0	0	0	0	0	0	0	0
E	A55 EB	0	63	0	0	0	0	0	63
F	London Road	0	0	1	0	0	0	0	1
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		0	63	2	0	55	0	0	120

HGV		M-5							
		A	B	C	D	E	F	G	Total
A	A5 Holyhead	0	41	1	0	0	1	0	42
B	A55 WB	1	1	2	0	0	0	0	3
C	Minifordd Roe	0	63	0	0	0	0	0	63
D	A5 Holyhead	3	43	6	3	37	3	0	95
E	A55 EB	0	0	0	0	0	0	0	0
F	London Road	0	63	2	0	55	0	0	120
G	P&R Bus Exit	0	0	0	0	0	0	0	0
Total		3	211	10	3	92	4	0	323

2033 Junction 4

sat Weekend Peak

TOTAL		REFERENCE CASE								
M-5		Split junction								
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	4	6	27	42	8	0	88	
B	A55 WB	7	1	31	10	813	25	0	887	
C	Minifordd Rd	5	28	0	10	39	14	0	97	
D	A5 Holyhead	16	15	8	0	1	6	0	46	
E	A55 EB	35	898	47	0	1	29	0	1,011	
F	London Road	7	40	10	8	31	0	0	95	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		71	987	103	55	927	82	0	2,224	

OGV1										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	0	0	1	0	0	1	
B	A55 WB	0	0	0	0	48	1	0	49	
C	Minifordd Rd	0	0	0	0	0	0	0	0	
D	A5 Holyhead	0	0	0	0	0	0	0	0	
E	A55 EB	0	63	0	0	0	0	0	64	
F	London Road	0	0	0	0	0	0	0	0	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		0	63	0	0	49	1	0	114	

OGV2										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	0	0	1	0	0	1	
B	A55 WB	0	0	0	0	57	0	0	57	
C	Minifordd Rd	0	0	0	0	0	0	0	0	
D	A5 Holyhead	0	0	0	0	0	0	0	0	
E	A55 EB	0	74	0	0	0	0	0	74	
F	London Road	0	0	0	1	0	0	0	1	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		0	74	0	1	58	0	0	133	

HGV										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	63	0	0	0	0	0	64	
B	A55 WB	0	0	0	0	0	0	0	0	
C	Minifordd Rd	0	74	0	0	0	0	0	74	
D	A5 Holyhead	0	63	0	1	49	1	0	115	
E	A55 EB	0	0	0	0	0	0	0	0	
F	London Road	0	74	0	1	58	0	0	133	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		1	275	1	1	107	1	0	386	

sat Weekend Peak

TOTAL		WNP SCENARIO								
M-5		Split junction								
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	4	6	27	42	8	0	88	
B	A55 WB	7	1	31	10	816	25	0	890	
C	Minifordd Rd	5	28	0	10	39	14	0	97	
D	A5 Holyhead	16	15	8	0	1	6	0	46	
E	A55 EB	35	918	47	0	1	29	0	1,030	
F	London Road	7	40	10	8	31	0	0	95	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		71	1,006	103	55	930	82	0	2,246	

OGV1										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	0	0	1	0	0	1	
B	A55 WB	0	0	0	0	49	1	0	50	
C	Minifordd Rd	0	0	0	0	0	0	0	0	
D	A5 Holyhead	0	0	0	0	0	0	0	0	
E	A55 EB	0	63	0	0	0	0	0	64	
F	London Road	0	0	0	0	0	0	0	0	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		0	63	0	0	50	1	0	115	

OGV2										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	0	0	0	1	0	0	1	
B	A55 WB	0	0	0	0	58	0	0	58	
C	Minifordd Rd	0	0	0	0	0	0	0	0	
D	A5 Holyhead	0	0	0	0	0	0	0	0	
E	A55 EB	0	75	0	0	0	0	0	75	
F	London Road	0	0	0	1	0	0	0	1	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		0	75	0	1	59	0	0	135	

HGV										
M-5										
		A	B	C	D	E	F	G	Total	
A	A5 Holyhead	0	63	0	0	0	0	0	64	
B	A55 WB	0	0	0	0	0	0	0	0	
C	Minifordd Rd	0	75	0	0	0	0	0	75	
D	A5 Holyhead	0	63	0	1	50	1	0	116	
E	A55 EB	0	0	0	0	0	0	0	0	
F	London Road	0	75	0	1	59	0	0	135	
G	P&R Bus Exit	0	0	0	0	0	0	0	0	
Total		1	278	1	1	109	1	0	391	

2033 Junction 5

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.41	0.27	0.21	0.41	0.26	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.41	0.27	0.21	0.41	0.26	0.21	
Upstream Demand	1,709	1,143	888	1,739	1,102	890	Total vehicles
Downstream Cap	4,195	4,195	4,192	4,195	4,194	4,192	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,098	2,097	2,096	2,098	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	7%	8%	12%	7%	9%	12%	
	1.001078	1.001208	1.001829	1.001076	1.001376	1.001847	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.34	0.23	0.26	0.36	0.24
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.26	0.34	0.23	0.26	0.36	0.24	
Upstream Demand	1,098	1,423	975	1,106	1,519	995	Total vehicles
Downstream Cap	4,194	4,197	4,190	4,194	4,196	4,191	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,097	2,099	2,095	2,097	2,098	2,095	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	10%	5%	15%	10%	7%	15%	
	1.001462	1.000703	1.002277	1.001477	1.001061	1.002254	

2033 Junction 5

AM PEAK

TOTAL REFERENCE CASE

M-6		A	B	C	D	Total
A	A4080 SB	1	75	38	304	418
B	A55 N Wales	23	1	40	1,278	1,341
C	A4080 NB	32	100	0	126	257
D	A55 N Wales	108	923	61	1	1,093
Total		164	1,098	138	1,709	3,110

OGV1

M-6		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	46	51
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	39	1	0	43
Total		6	44	8	48	106

OGV2

M-6		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	1	0	3	75	78
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	1	60	0	0	61
Total		2	63	3	75	143

HGVs

M-6		A	B	C	D	Total
A	A4080 SB	0	4	3	1	9
B	A55 N Wales	2	0	7	121	129
C	A4080 NB	3	3	0	1	7
D	A55 N Wales	3	100	1	0	104
Total		8	107	11	123	248

TOTAL WNP SCENARIO

M-6		A	B	C	D	Total
A	A4080 SB	1	75	38	304	418
B	A55 N Wales	23	1	40	1,308	1,371
C	A4080 NB	32	100	0	126	257
D	A55 N Wales	108	931	61	1	1,101
Total		164	1,106	138	1,739	3,148

OGV1

M-6		A	B	C	D	Total
A	A4080 SB	0	2	3	1	7
B	A55 N Wales	1	0	4	47	51
C	A4080 NB	2	2	0	1	5
D	A55 N Wales	3	40	1	0	44
Total		6	44	8	49	107

OGV2

M-6		A	B	C	D	Total
A	A4080 SB	0	2	0	0	2
B	A55 N Wales	1	0	3	76	79
C	A4080 NB	1	1	0	0	2
D	A55 N Wales	1	62	0	0	62
Total		2	65	3	76	145

HGVs

M-6		A	B	C	D	Total
A	A4080 SB	0	4	3	1	9
B	A55 N Wales	2	0	7	123	131
C	A4080 NB	3	3	0	1	7
D	A55 N Wales	3	101	1	0	106
Total		8	109	11	125	252

2033 Junction 5

PM PEAK

TOTAL REFERENCE CASE

M-6		A	B	C	D	Total
A	A4080 SB	1	33	49	107	190
B	A55 N Wales	77	1	137	929	1,143
C	A4080 NB	53	63	0	107	223
D	A55 N Wales	259	1,327	130	0	1,716
Total		389	1,423	316	1,143	3,271

OGV1

M-6		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	0	35	36
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	28	0	0	29
Total		2	29	2	37	69

OGV2

M-6		A	B	C	D	Total
A	A4080 SB	0	0	0	0	0
B	A55 N Wales	1	0	1	55	57
C	A4080 NB	1	0	0	0	1
D	A55 N Wales	0	38	0	0	38
Total		1	38	1	55	95

HGVs

M-6		A	B	C	D	Total
A	A4080 SB	0	0	2	2	4
B	A55 N Wales	1	0	1	90	92
C	A4080 NB	1	1	0	0	1
D	A55 N Wales	1	66	0	0	67
Total		3	67	3	92	165

TOTAL WNP SCENARIO

M-6		A	B	C	D	Total
A	A4080 SB	1	32	52	95	180
B	A55 N Wales	54	2	137	917	1,109
C	A4080 NB	54	94	0	90	238
D	A55 N Wales	206	1,391	136	0	1,734
Total		316	1,519	325	1,102	3,261

OGV1

M-6		A	B	C	D	Total
A	A4080 SB	0	2	3	3	8
B	A55 N Wales	1	0	3	36	39
C	A4080 NB	0	3	0	2	5
D	A55 N Wales	2	40	2	0	44
Total		3	44	7	41	95

OGV2

M-6		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	2	0	1	59	62
C	A4080 NB	0	2	0	0	2
D	A55 N Wales	1	61	0	0	61
Total		2	63	3	60	128

HGVs

M-6		A	B	C	D	Total
A	A4080 SB	0	2	4	4	10
B	A55 N Wales	2	0	4	95	101
C	A4080 NB	0	5	0	2	7
D	A55 N Wales	2	101	2	0	105
Total		5	107	10	101	223

2033 Junction 5

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-6

		A	B	C	D	Total
A	A4080 SB	1	34	42	59	136
B	A55 N Wales	36	4	99	747	886
C	A4080 NB	39	103	2	81	224
D	A55 N Wales	52	834	103	1	990
Total		127	975	246	888	2,236

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	2
B	A55 N Wales	1	0	0	49	50
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	67	0	0	67
Total		1	68	1	50	120

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	0	1
B	A55 N Wales	0	0	0	59	59
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	79	0	0	79
Total		1	80	1	59	140

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	108	108
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	146	0	0	147
Total		1	148	2	108	260

TOTAL

WNP SCENARIO

M-6

		A	B	C	D	Total
A	A4080 SB	1	34	42	59	136
B	A55 N Wales	36	4	99	750	889
C	A4080 NB	39	103	2	81	224
D	A55 N Wales	52	853	103	1	1,009
Total		127	995	246	890	2,258

OGV1

M-6

		A	B	C	D	Total
A	A4080 SB	0	0	0	1	2
B	A55 N Wales	1	0	0	49	50
C	A4080 NB	0	0	0	0	1
D	A55 N Wales	0	67	0	0	68
Total		1	68	1	50	120

OGV2

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	0	1
B	A55 N Wales	0	0	0	60	60
C	A4080 NB	0	1	0	0	1
D	A55 N Wales	1	80	0	0	81
Total		1	81	1	60	142

HGVs

M-6

		A	B	C	D	Total
A	A4080 SB	0	1	1	1	3
B	A55 N Wales	1	0	0	109	110
C	A4080 NB	0	1	0	0	2
D	A55 N Wales	1	147	0	0	148
Total		1	149	2	110	263

2033 Junction 6

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.33	0.28	0.21	0.33	0.26	0.21
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.33	0.28	0.21	0.33	0.26	0.21
Upstream Demand	1,367	1,162	890	1,397	1,093	893
Downstream Cap	4,191	4,191	4,188	4,191	4,190	4,188
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,096	2,094	2,095	2,095	2,094
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	15%	14%	19%	15%	16%	19%
	1.002242	1.002037	1.002775	1.002229	1.002335	1.002809

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.31	0.39	0.30	0.31	0.41	0.30
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.31	0.39	0.30	0.31	0.41	0.30
Upstream Demand	1,298	1,633	1,237	1,306	1,725	1,256
Downstream Cap	4,186	4,193	4,182	4,186	4,189	4,183
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,093	2,097	2,091	2,093	2,095	2,091
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	22%	11%	28%	22%	17%	28%
	1.003235	1.001637	1.004214	1.003258	1.002565	1.004183

veh/hr/lane

2033 Junction 6

AM PEAK

TOTAL		REFERENCE CASE						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	1	294	106	0	242	41	684
B	A55 N Wales	458	0	1	0	1,029	131	1,619
C	A5 Holyhead	160	14	1	0	88	56	320
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	312	704	55	0	0	15	1,086
F	A5 Holyhead	148	285	66	0	8	0	507
Total		1,079	1,298	229	0	1,367	242	4,216

OGV1		REFERENCE CASE						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	0	6	9	0	2	1	17
B	A55 N Wales	4	0	0	0	42	8	54
C	A5 Holyhead	8	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	2	48	2	0	0	0	52
F	A5 Holyhead	3	9	4	0	0	0	16
Total		16	63	15	0	49	13	156

OGV2		REFERENCE CASE						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	0	13	9	0	1	0	23
B	A55 N Wales	7	0	0	0	74	11	93
C	A5 Holyhead	3	0	0	0	0	2	5
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	69	0	0	0	1	71
F	A5 Holyhead	1	4	2	0	0	0	7
Total		12	86	11	0	76	13	199

HGV		REFERENCE CASE						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	16	0	0	0	79	15	109
B	A55 N Wales	3	0	0	0	0	2	5
C	A5 Holyhead	2	48	2	0	0	0	52
D	Unnamed Ro	4	78	4	0	0	1	87
E	A55 N Wales	17	67	17	0	49	13	163
F	A5 Holyhead	12	86	11	0	76	13	199
Total		53	280	34	0	204	44	615

AM PEAK

TOTAL		WNP SCENARIO						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	1	294	106	0	242	41	684
B	A55 N Wales	458	0	1	0	1,029	131	1,649
C	A5 Holyhead	160	14	1	0	88	56	320
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	312	713	55	0	0	15	1,094
F	A5 Holyhead	148	285	66	0	8	0	507
Total		1,079	1,306	229	0	1,397	242	4,254

OGV1		WNP SCENARIO						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	0	6	9	0	2	1	17
B	A55 N Wales	4	0	0	0	43	8	55
C	A5 Holyhead	8	0	0	0	5	4	16
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	2	49	2	0	0	0	53
F	A5 Holyhead	3	9	4	0	0	0	16
Total		16	64	15	0	50	13	157

OGV2		WNP SCENARIO						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	0	13	9	0	1	0	23
B	A55 N Wales	7	0	0	0	76	11	94
C	A5 Holyhead	3	0	0	0	0	2	5
D	Unnamed Ro	0	0	0	0	0	0	0
E	A55 N Wales	1	70	0	0	0	1	72
F	A5 Holyhead	1	4	2	0	0	0	7
Total		12	88	11	0	77	13	201

HGV		WNP SCENARIO						
M-20	Split Junction	A	B	C	D	E	F	Total
A	A5114 Unnar	16	0	0	0	81	15	110
B	A55 N Wales	3	0	0	0	0	2	5
C	A5 Holyhead	2	49	2	0	0	0	53
D	Unnamed Ro	4	79	4	0	0	1	88
E	A55 N Wales	17	68	17	0	50	13	164
F	A5 Holyhead	12	88	11	0	77	13	201
Total		53	284	34	0	208	44	622

2033 Junction 6

PM PEAK

TOTAL		REFERENCE CASE						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	1	364	154	0	268	107	893
B	A55 N Wales	273	0	18	0	799	271	1,361
C	A5 Holyhead	134	1	1	0	88	105	328
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	262	1,108	59	0	0	22	1,452
F	A5 Holyhead	97	160	53	0	6	0	316
Total		767	1,633	284	0	1,162	505	4,350

OGV1		REFERENCE CASE						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	0	4	4	0	1	1	10
B	A55 N Wales	6	0	0	0	39	6	51
C	A5 Holyhead	2	0	0	0	1	3	6
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	32	2	0	0	1	36
F	A5 Holyhead	0	5	3	0	0	0	9
Total		10	41	9	0	41	11	111

OGV2		REFERENCE CASE						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	0	4	2	0	0	0	6
B	A55 N Wales	4	0	0	0	58	2	63
C	A5 Holyhead	3	0	0	0	1	1	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	0	48	0	0	0	0	48
F	A5 Holyhead	1	1	1	0	0	0	2
Total		7	52	3	0	58	2	123

HGV		REFERENCE CASE						
M-20		Split Junction						
		A	B	C	SUN	E	F	Total
A	A5114 Unnar	6	0	0	0	58	5	69
B	A55 N Wales	3	0	0	0	1	1	4
C	A5 Holyhead	1	32	2	0	0	1	36
D	Unnamed Rd	0	53	3	0	0	0	57
E	A55 N Wales	10	42	10	0	41	11	113
F	A5 Holyhead	7	52	3	0	58	2	123
Total		27	178	18	0	158	20	401

PM PEAK

TOTAL		WNP SCENARIO						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	1	393	168	0	201	123	886
B	A55 N Wales	339	0	6	0	797	232	1,374
C	A5 Holyhead	157	0	0	0	90	110	357
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	225	1,187	83	0	1	23	1,519
F	A5 Holyhead	84	145	66	0	3	0	298
Total		805	1,725	322	0	1,093	488	4,433

OGV1		WNP SCENARIO						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	0	7	6	0	2	4	19
B	A55 N Wales	7	0	0	0	41	8	56
C	A5 Holyhead	5	0	0	0	1	3	10
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	3	52	2	0	0	1	58
F	A5 Holyhead	1	7	5	0	0	0	13
Total		16	65	14	0	44	16	156

OGV2		WNP SCENARIO						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	0	6	3	0	1	1	11
B	A55 N Wales	13	0	0	0	62	2	77
C	A5 Holyhead	5	0	0	0	0	0	5
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	77	1	0	0	0	79
F	A5 Holyhead	1	6	1	0	0	0	7
Total		20	89	5	0	63	3	180

HGV		WNP SCENARIO						
M-20		Split Junction						
		A	B	C	D	E	F	Total
A	A5114 Unnar	19	0	0	0	63	5	87
B	A55 N Wales	5	0	0	0	0	0	5
C	A5 Holyhead	3	52	2	0	0	1	58
D	Unnamed Rd	2	84	6	0	0	0	92
E	A55 N Wales	17	71	15	0	44	16	163
F	A5 Holyhead	20	89	5	0	63	3	180
Total		67	295	29	0	170	25	585

2033 Junction 6

WEEKEND PEAK sat

TOTAL REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	271	160	0	143	88	663
B	A55 N Wales	200	0	10	0	685	117	1,013
C	A5 Holyhead	179	1	0	0	53	81	315
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	128	820	45	0	1	8	1,003
F	A5 Holyhead	88	145	55	0	8	1	297
	Total	597	1,237	271	0	890	295	3,289

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	1	0	0	2	2	4
B	A55 N Wales	3	0	0	0	47	1	51
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	79	1	0	0	0	81
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	80	3	0	49	4	144

OGV2 REFERENCE CASE

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	2	1	0	0	2	5
B	A55 N Wales	5	0	0	0	58	3	65
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	91	0	0	0	0	92
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	9	95	1	0	58	6	169

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	7	0	0	0	58	4	69
B	A55 N Wales	2	0	0	0	0	2	4
C	A5 Holyhead	1	79	1	0	0	0	81
D	Unnamed Rd	2	92	2	0	0	0	96
E	A55 N Wales	9	82	3	0	49	4	148
F	A5 Holyhead	9	95	1	0	58	6	169
	Total	30	347	7	0	165	17	566

WEEKEND PEAK sat

TOTAL WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	1	271	160	0	143	88	663
B	A55 N Wales	200	0	10	0	688	117	1,016
C	A5 Holyhead	179	1	0	0	53	81	315
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	128	840	45	0	1	8	1,022
F	A5 Holyhead	88	145	55	0	8	1	297
Total		597	1,256	271	0	893	295	3,312

OGV1

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	1	0	0	2	2	4
B	A55 N Wales	3	0	0	0	48	1	52
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	79	1	0	0	0	81
F	A5 Holyhead	1	1	2	0	0	0	4
	Total	7	81	3	0	49	4	145

OGV2 WNP SCENARIO

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	0	2	1	0	0	2	5
B	A55 N Wales	5	0	0	0	59	3	66
C	A5 Holyhead	2	0	0	0	0	2	4
D	Unnamed Rd	0	0	0	0	0	0	0
E	A55 N Wales	1	92	0	0	0	0	93
F	A5 Holyhead	2	1	0	0	0	0	3
	Total	9	96	1	0	59	6	171

HGV

M-20 Split Junction

	A	B	C	D	E	F	Total	
A	A5114 Unnar	7	0	0	0	59	4	70
B	A55 N Wales	2	0	0	0	0	2	4
C	A5 Holyhead	1	79	1	0	0	0	81
D	Unnamed Rd	2	93	2	0	0	0	97
E	A55 N Wales	9	82	3	0	49	4	148
F	A5 Holyhead	9	96	1	0	59	6	171
	Total	30	350	7	0	167	17	572

2033 Junction 7

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.36	0.30	0.23	0.37	0.29	0.23
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.36	0.30	0.23	0.37	0.29	0.23
Upstream Demand	1,519	1,242	945	1,549	1,226	948
Downstream Cap	4,194	4,194	4,193	4,194	4,193	4,193
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,097	2,097	2,097	2,097	2,097	2,097
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	9%	10%	11%	9%	10%	11%
	1.001394	1.001474	1.00165	1.001385	1.001559	1.001668

veh/hr/lane

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.34	0.42	0.28	0.35	0.43	0.29
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.34	0.42	0.28	0.35	0.43	0.29
Upstream Demand	1,440	1,750	1,180	1,448	1,799	1,200
Downstream Cap	4,191	4,196	4,192	4,191	4,194	4,192
Downstream Lanes	2	2	2	2	2	2

Total vehicles
Total

Downstream Cap	2,095	2,098	2,096	2,095	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	15%	6%	13%	15%	10%	13%
	1.002217	1.000932	1.001902	1.002224	1.001505	1.001889

veh/hr/lane

2033 Junction 7

AM PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	12	10	2	23
B	A55 EB	1	1	214	1,417	1,634
C	A5152 SB	4	183	0	100	286
D	A55 WB	4	1,245	155	0	1,403
Total		9	1,440	379	1,519	3,346

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	54	72
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	80	2	0	83
Total		1	92	19	56	169

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	19	83	103
C	A5152 SB	0	12	0	2	14
D	A55 WB	1	107	3	0	110
Total		1	121	22	85	229

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	3	1	0	4
B	A55 EB	1	1	35	137	175
C	A5152 SB	0	23	0	4	26
D	A55 WB	1	187	5	0	193
Total		3	213	41	141	398

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	12	10	2	23
B	A55 EB	1	1	214	1,447	1,664
C	A5152 SB	4	183	0	100	286
D	A55 WB	4	1,253	155	0	1,411
Total		9	1,448	379	1,549	3,384

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	16	55	72
C	A5152 SB	0	10	0	2	12
D	A55 WB	1	80	2	0	83
Total		1	93	19	57	170

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	1	1	0	2
B	A55 EB	1	1	19	84	105
C	A5152 SB	0	12	0	2	14
D	A55 WB	1	108	3	0	111
Total		1	122	22	86	232

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	3	1	0	4
B	A55 EB	1	1	35	139	177
C	A5152 SB	0	23	0	4	26
D	A55 WB	1	188	5	0	195
Total		3	215	41	143	402

2033 Junction 7

PM PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	5	7	1	13
B	A55 EB	7	0	221	1,123	1,350
C	A5152 SB	6	177	0	116	299
D	A55 WB	6	1,568	140	1	1,715
Total		18	1,750	367	1,242	3,377

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	1	0	1
B	A55 EB	1	0	3	50	54
C	A5152 SB	1	2	0	1	4
D	A55 WB	0	45	2	0	47
Total		1	48	6	51	106

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	1	0	1
B	A55 EB	1	0	4	70	74
C	A5152 SB	1	3	0	1	5
D	A55 WB	0	58	2	0	60
Total		1	61	7	71	140

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	1	0	1
B	A55 EB	1	0	8	120	128
C	A5152 SB	1	5	0	3	9
D	A55 WB	0	104	4	0	107
Total		3	109	13	122	246

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	0	5	1	6
B	A55 EB	4	0	243	1,115	1,363
C	A5152 SB	8	174	0	107	289
D	A55 WB	2	1,625	162	2	1,792
Total		14	1,799	411	1,226	3,450

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	9	52	62
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	74	1	0	74
Total		0	77	10	53	140

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	11	74	85
C	A5152 SB	0	4	0	1	5
D	A55 WB	0	99	1	0	100
Total		0	103	11	74	189

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	20	126	146
C	A5152 SB	0	8	0	1	9
D	A55 WB	0	173	1	0	174
Total		0	181	21	127	329

2033 Junction 7

WEEKEND PEAK

TOTAL REFERENCE CASE

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	6	8	19
B	A55 EB	3	3	145	839	989
C	A5152 SB	10	140	0	93	242
D	A55 WB	1	1,034	120	6	1,160
	Total	14	1,180	271	945	2,411

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	67	1	0	68
	Total	0	68	4	48	120

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	56	59
C	A5152 SB	0	2	0	1	2
D	A55 WB	0	80	2	0	81
	Total	0	81	5	56	142

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	6	103	108
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	147	3	0	150
	Total	0	150	8	104	262

WEEKEND PEAK

TOTAL WNP SCENARIO

M-69 Split junction

		A	B	C	D	Total
A	A5152 NB	0	4	6	8	19
B	A55 EB	3	3	145	842	992
C	A5152 SB	10	140	0	93	242
D	A55 WB	1	1,053	120	6	1,180
	Total	14	1,200	271	948	2,433

OGV1

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	47	50
C	A5152 SB	0	1	0	1	2
D	A55 WB	0	68	1	0	69
	Total	0	69	4	48	121

OGV2

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	3	57	60
C	A5152 SB	0	2	0	1	2
D	A55 WB	0	81	2	0	82
	Total	0	82	5	57	144

HGVs

M-69

		A	B	C	D	Total
A	A5152 NB	0	0	0	0	0
B	A55 EB	0	0	6	104	110
C	A5152 SB	0	3	0	1	4
D	A55 WB	0	148	3	0	151
	Total	0	151	8	105	265

2033 Junction 8

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.42	0.36	0.26	0.42	0.36	0.26
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.42	0.36	0.26	0.42	0.36	0.26	
Upstream Demand	1,742	1,510	1,084	1,772	1,518	1,087	Total vehicles
Downstream Cap	4,192	4,193	4,193	4,192	4,193	4,193	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,096	2,096	2,097	2,096	2,096	2,097	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	12%	11%	12%	12%	11%	
	1.001831	1.001747	1.001611	1.001815	1.001756	1.001627	

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.26	0.36	0.30	0.26	0.41	0.30
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.26	0.36	0.30	0.26	0.41	0.30	
Upstream Demand	1,087	1,512	1,256	1,095	1,704	1,275	Total vehicles
Downstream Cap	4,193	4,192	4,190	4,188	4,190	4,190	Total
Downstream Lanes	2	2	2	2	2	2	

Downstream Cap	2,096	2,096	2,095	2,094	2,095	2,095	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	13%	16%	19%	16%	16%	
	1.001754	1.001914	1.002398	1.002912	1.002378	1.002378	

2033 Junction 8

AM PEAK

TOTAL REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	403	200	306	909
B	A55 N Wales	317	2	50	1,320	1,689
C	Lon Pant	192	59	0	113	363
D	A55 N Wales	340	623	139	3	1,104
Total		848	1,087	388	1,742	4,065

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	82	95
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	79	9	0	102
Total		30	84	10	89	213

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	8	0	3	12
B	A55 N Wales	7	0	0	120	127
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	8	119	0	0	127
Total		15	127	0	123	265

HGV REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	13	0	10	23
B	A55 N Wales	18	0	1	202	222
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	23	198	9	0	229
Total		45	211	10	213	478

AM PEAK

TOTAL WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	403	200	306	909
B	A55 N Wales	317	2	50	1,350	1,719
C	Lon Pant	192	59	0	113	363
D	A55 N Wales	340	631	139	3	1,112
Total		848	1,095	388	1,772	4,104

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	4	0	7	11
B	A55 N Wales	11	0	1	83	96
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	14	80	9	0	103
Total		30	84	10	90	214

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	8	0	3	12
B	A55 N Wales	7	0	0	121	128
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	8	120	0	0	128
Total		15	128	0	125	268

HGV WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	13	0	10	23
B	A55 N Wales	18	0	1	204	224
C	Lon Pant	4	0	0	0	4
D	A55 N Wales	23	200	9	0	231
Total		45	213	10	214	482

2033 Junction 8

PM PEAK

TOTAL

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	337	169	307	813
B	A55 N Wales	528	2	146	1,141	1,816
C	Lon Pant	211	99	0	62	373
D	A55 N Wales	225	1,074	60	0	1,359
Total		965	1,512	374	1,510	4,361

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	16	3	11	30
B	A55 N Wales	9	0	0	65	73
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	9	61	0	0	70
Total		20	77	3	76	175

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	12	0	2	13
B	A55 N Wales	5	0	0	98	103
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	104	0	0	104
Total		5	116	0	100	221

HGV

REFERENCE CASE

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	27	3	13	43
B	A55 N Wales	14	0	0	163	176
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	9	166	0	0	174
Total		25	193	3	176	397

PM PEAK

TOTAL

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	337	169	307	813
B	A55 N Wales	528	2	146	1,149	1,824
C	Lon Pant	211	99	0	62	373
D	A55 N Wales	237	1,266	66	0	1,569
Total		976	1,704	380	1,518	4,579

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	16	3	11	30
B	A55 N Wales	9	0	0	65	74
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	9	62	0	0	70
Total		20	77	3	76	176

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	12	0	2	13
B	A55 N Wales	5	0	0	100	105
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	106	0	0	106
Total		5	118	0	101	224

HGV

WNP SCENARIO

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	27	3	13	43
B	A55 N Wales	14	0	0	165	178
C	Lon Pant	3	0	0	0	3
D	A55 N Wales	9	167	0	0	176
Total		25	195	3	178	400

2033 Junction 8

sat **WEEKEND PEAK**

TOTAL **REFERENCE CASE**

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	246	130	304	681
B	A55 N Wales	611	2	70	745	1,428
C	Lon Pant	151	83	0	30	264
D	A55 N Wales	176	925	33	5	1,138
Total		939	1,256	233	1,084	3,511

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	49	50
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	87	0	0	89
Total		3	87	1	53	145

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	0	0	2
B	A55 N Wales	0	0	0	63	63
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	112	0	0	112
Total		0	113	0	63	176

HGV **REFERENCE CASE**

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	1	4	8
B	A55 N Wales	1	0	0	112	113
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	199	0	0	200
Total		3	201	1	116	322

sat **WEEKEND PEAK**

TOTAL **WNP SCENARIO**

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	246	130	304	681
B	A55 N Wales	611	2	70	748	1,431
C	Lon Pant	151	83	0	30	264
D	A55 N Wales	176	945	33	5	1,158
Total		939	1,275	233	1,087	3,534

OGV1

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	0	1	4	6
B	A55 N Wales	1	0	0	49	51
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	88	0	0	89
Total		3	88	1	54	146

OGV2

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	0	0	2
B	A55 N Wales	0	0	0	64	64
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	0	113	0	0	113
Total		0	114	0	64	178

HGV **WNP SCENARIO**

M-46 Split junction

		A	B	C	D	Total
A	A5025 Pentra	0	2	1	4	8
B	A55 N Wales	1	0	0	113	115
C	Lon Pant	0	0	0	0	0
D	A55 N Wales	1	200	0	0	202
Total		3	202	1	118	325

2033 Junction 8a

Southbound

Type	
DM	2,330
DAP	2,100

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	1.00	0.76	0.18	1.01	1.11	0.21
Delay seconds	59.96	45.74	10.71	60.84	66.52	12.85
Cap Ratio	1.01	0.95	0.80	1.02	1.04	0.81
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	1.01	0.95	0.80	1.02	1.04	0.81
Upstream Demand	2,126	1,995	1,671	2,134	2,187	1,691
Downstream Cap	2,097	2,097	2,096	2,097	2,097	2,096
Downstream Lanes	1	1	1	1	1	1

Total vehicles
Total

Downstream Cap	2,097	2,097	2,096	2,097	2,097	2,096
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%	11%	10%	13%	11%	9%	12%
	1.001587	1.001546	1.001882	1.001594	1.001423	1.001873

veh/hr/lane

2033 Junction 8a

AM PEAK

TOTAL REFERENCE CASE

M-47		A	B	C	D	Total
A	Holyhead Ro	0	183	146	0	329
B	A55 SB	192	0	275	1,559	2,027
C	Holyhead Ro	400	925	0	0	1,324
D	A55 NB	0	1,018	0	0	1,018
Total		592	2,126	421	1,559	4,698

OGV1

M-47		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	6
B	A55 SB	7	0	6	112	125
C	Holyhead Ro	9	10	0	0	19
D	A55 NB	0	84	0	0	84
Total		16	98	7	112	233

OGV2

M-47		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	7	0	10	148	165
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	127	0	0	127
Total		7	127	10	148	292

HGV

M-47		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	6
B	A55 SB	14	0	16	260	290
C	Holyhead Ro	9	10	0	0	19
D	A55 NB	0	211	0	0	211
Total		22	225	17	260	525

AM PEAK

TOTAL WNP SCENARIO

M-47		A	B	C	D	Total
A	Holyhead Ro	0	183	146	0	329
B	A55 SB	192	0	275	1,589	2,057
C	Holyhead Ro	400	925	0	0	1,324
D	A55 NB	0	1,027	0	0	1,027
Total		592	2,134	421	1,589	4,736

OGV1

M-47		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	6
B	A55 SB	7	0	6	113	125
C	Holyhead Ro	9	10	0	0	19
D	A55 NB	0	84	0	0	84
Total		16	98	7	113	234

OGV2

M-47		A	B	C	D	Total
A	Holyhead Ro	0	0	0	0	0
B	A55 SB	7	0	10	150	166
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	128	0	0	128
Total		7	128	10	150	295

HGV

M-47		A	B	C	D	Total
A	Holyhead Ro	0	4	1	0	6
B	A55 SB	14	0	16	262	292
C	Holyhead Ro	9	10	0	0	19
D	A55 NB	0	213	0	0	213
Total		22	227	17	262	529

2033 Junction 8a

PM PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	159	346	0	505
B	A55 SB	165	0	416	1,533	2,113
C	Holyhead Ro	270	325	0	0	594
D	A55 NB	0	1,512	0	0	1,512
	Total	434	1,995	762	1,533	4,725

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	6	81	88
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	77	0	0	77
	Total	3	90	10	81	183

PM PEAK

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	2	0	2
B	A55 SB	0	0	0	114	114
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	116	0	0	116
	Total	0	116	2	114	232

HGV

M-47 Split junction

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	9
B	A55 SB	1	0	6	195	202
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	193	0	0	193
	Total	3	206	12	195	415

PM PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	159	346	0	505
B	A55 SB	165	0	416	1,541	2,122
C	Holyhead Ro	270	325	0	0	594
D	A55 NB	0	1,704	0	0	1,704
	Total	434	2,187	762	1,541	4,925

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	4	0	7
B	A55 SB	1	0	6	81	89
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	77	0	0	77
	Total	3	90	10	81	184

PM PEAK

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	0	2	0	2
B	A55 SB	0	0	0	116	116
C	Holyhead Ro	0	0	0	0	0
D	A55 NB	0	118	0	0	118
	Total	0	118	2	116	235

HGV

M-47

		A	B	C	D	Total
A	Holyhead Ro	0	3	6	0	9
B	A55 SB	1	0	6	197	204
C	Holyhead Ro	1	10	0	0	11
D	A55 NB	0	195	0	0	195
	Total	3	208	12	197	419

2033 Junction 8a

sat

WEEKEND PEAK

TOTAL

REFERENCE CASE

M-47

		A	B	C	D	Total
A	Holyhead Road	0	136	382	0	517
B	A55 SB	191	10	318	1,164	1,682
C	Holyhead Road	274	280	2	0	556
D	A55 NB	0	1,246	0	0	1,246
Total		465	1,671	701	1,164	4,001

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	67	68
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	87	0	0	87
Total		3	96	1	67	168

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	2	0	0	79	81
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	113	0	0	113
Total		2	113	0	79	194

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	146	149
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	201	0	0	201
Total		5	210	1	146	362

sat

WEEKEND PEAK

TOTAL

WNP SCENARIO

M-47

		A	B	C	D	Total
A	Holyhead Road	0	136	382	0	517
B	A55 SB	191	10	318	1,167	1,685
C	Holyhead Road	274	280	2	0	556
D	A55 NB	0	1,266	0	0	1,266
Total		465	1,691	701	1,167	4,024

OGV1

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	1	0	0	67	69
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	88	0	0	88
Total		3	97	1	67	168

OGV2

M-47

		A	B	C	D	Total
A	Holyhead Road	0	0	0	0	0
B	A55 SB	2	0	0	80	82
C	Holyhead Road	0	0	0	0	0
D	A55 NB	0	114	0	0	114
Total		2	114	0	80	196

HGV

M-47

		A	B	C	D	Total
A	Holyhead Road	0	1	1	0	3
B	A55 SB	3	0	0	147	150
C	Holyhead Road	1	7	0	0	9
D	A55 NB	0	202	0	0	202
Total		5	211	1	147	364

2033 Junction 9

Westbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.45	0.40	0.39	0.46	0.40	0.39
	277	277	277	277	277	277
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.45	0.40	0.39	0.46	0.40	0.39	
Upstream t	1,897	1,679	1,625	1,919	1,685	1,627	Total vehicles
Downstream	4,192	4,194	4,195	4,192	4,194	4,194	Total
Downstream	2	2	2	2	2	2	
Downstream	2,096	2,097	2,097	2,096	2,097	2,097	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	12%	10%	9%	12%	10%	9%	
	1.001852	1.001542	1.001311	1.001839861	1.001548	1.001318	

Eastbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay min	0.00	0.00	0.00	0.00	0.00	0.00
Delay sec	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.37	0.51	0.43	0.37	0.55	0.43
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.37	0.51	0.43	0.37	0.55	0.43	
Upstream t	1,533	2,157	1,795	1,539	2,302	1,810	Total vehicles
Downstream	4,191	4,193	4,191	4,191	4,193	4,191	Total
Downstream	2	2	2	2	2	2	
Downstream	2,095	2,096	2,096	2,095	2,097	2,096	veh/hr/lane
DAP	2,100	2,100	2,100	2,100	2,100	2,100	
HGV%	14%	11%	14%	14%	11%	14%	
	1.002155	1.001724	1.002039	1.002159561	1.001624	1.00203	

2033 Junction 9

M-48 AM PEAK

TOTAL REFERENCE CASE

M-48

	A	B	C	D	Total	
A	A487 North	3	915	464	211	1,594
B	A487 South	641	0	279	796	1,717
C	Business Par	128	57	0	50	234
D	A55 onslip	475	41	327	0	843
	Total	1,247	1,013	1,069	1,057	4,387

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	19	1	0	20
B	A487 South	13	0	1	16	30
C	Business Par	4	1	0	4	10
D	A55 onslip	9	3	1	0	13
	Total	26	23	4	20	73

OGV2

M-48

	A	B	C	D	Total
A	A487 North	0	20	0	20
B	A487 South	8	0	0	8
C	Business Par	0	0	0	0
D	A55 onslip	2	3	0	5
	Total	10	23	0	42

HGV REFERENCE CASE

M-48

	A	B	C	D	Total	
A	A487 North	0	39	1	0	40
B	A487 South	21	0	1	24	47
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	18
	Total	36	46	4	28	114

AM PEAK

TOTAL WNP SCENARIO

M-48

	A	B	C	D	Total	
A	A487 North	3	917	464	212	1,597
B	A487 South	641	0	279	803	1,723
C	Business Par	128	57	0	50	234
D	A55 onslip	475	41	327	0	843
	Total	1,247	1,015	1,069	1,065	4,397

OGV1

M-48

		A	B	C	D	Total
A	A487 North	0	19	1	0	20
B	A487 South	13	0	1	16	30
C	Business Par	4	1	0	4	10
D	A55 onslip	9	3	1	0	13
	Total	26	23	4	20	73

OGV2

M-48

	A	B	C	D	Total	
A	A487 North	0	20	0	0	20
B	A487 South	8	0	0	9	17
C	Business Par	0	0	0	0	0
D	A55 onslip	2	3	0	0	5
	Total	10	24	0	9	42

HGV WNP SCENARIO

M-48

	A	B	C	D	Total	
A	A487 North	0	39	1	0	41
B	A487 South	21	0	1	24	47
C	Business Par	4	1	0	4	10
D	A55 onslip	10	6	1	0	18
	Total	36	47	4	29	115

2033 Junction 9

M-49

AM PEAK

TOTAL REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	29	317	164	510
B	A487 NB	108	0	257	184	548
C	Ffordd Y Parc	562	322	2	368	1,254
D	A55 Unnamed	256	368	1,017	0	1,641
Total		926	719	1,592	716	3,953

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	6	0	11	24
D	A55 Unnamed	3	1	19	0	23
Total		10	7	20	20	57

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	2	0	8	10
D	A55 Unnamed	0	2	17	0	19
Total		0	3	19	8	30

HGV REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	7	0	20	34
D	A55 Unnamed	3	3	35	0	41
Total		10	10	38	28	87

AM PEAK

TOTAL WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	29	317	164	511
B	A487 NB	108	0	257	184	548
C	Ffordd Y Parc	562	322	2	368	1,254
D	A55 Unnamed	256	368	1,019	0	1,643
Total		926	719	1,595	716	3,957

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	3	4
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	6	0	11	24
D	A55 Unnamed	3	1	19	0	23
Total		10	7	20	20	57

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	2	0	8	10
D	A55 Unnamed	0	2	17	0	19
Total		0	3	19	8	31

HGV WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	0	3	3	6
B	A487 NB	0	0	0	6	6
C	Ffordd Y Parc	7	7	0	20	34
D	A55 Unnamed	3	3	36	0	42
Total		10	10	39	28	88

2033 Junction 9

M-48 PM PEAK

TOTAL REFERENCE CASE

M-48		A	B	C	D	Total
A	A487 North	8	1,085	108	277	1,477
B	A487 South	589	0	47	546	1,182
C	Business Par	501	185	0	196	882
D	A55 onslip	338	55	80	0	474
Total		1,436	1,324	235	1,019	4,014

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	13	0	1	14
B	A487 South	6	0	0	7	13
C	Business Par	1	0	0	0	1
D	A55 onslip	1	1	1	0	4
Total		9	14	1	9	33

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	2	3	0	5
B	A487 South	17	0	0	2	18
C	Business Par	0	0	0	2	2
D	A55 onslip	0	0	0	0	0
Total		17	2	3	3	25

HGV REFERENCE CASE

M-48		A	B	C	D	Total
A	A487 North	0	14	3	1	19
B	A487 South	22	0	0	9	31
C	Business Par	1	0	0	2	3
D	A55 onslip	1	1	1	0	4
Total		25	16	5	12	58

PM PEAK

TOTAL WNP SCENARIO

M-48		A	B	C	D	Total
A	A487 North	9	960	125	371	1,464
B	A487 South	581	0	52	688	1,321
C	Business Par	375	202	0	197	774
D	A55 onslip	310	38	74	0	423
Total		1,276	1,200	250	1,256	3,982

OGV1

M-48		A	B	C	D	Total
A	A487 North	0	24	1	4	30
B	A487 South	11	0	0	14	26
C	Business Par	0	0	0	0	0
D	A55 onslip	7	0	0	0	7
Total		19	24	1	19	63

OGV2

M-48		A	B	C	D	Total
A	A487 North	0	15	0	0	15
B	A487 South	15	0	0	7	22
C	Business Par	2	0	0	0	2
D	A55 onslip	0	0	0	0	0
Total		17	15	0	7	39

HGV WNP SCENARIO

M-48		A	B	C	D	Total
A	A487 North	0	40	1	4	46
B	A487 South	26	0	0	21	48
C	Business Par	2	0	0	0	2
D	A55 onslip	7	0	0	0	7
Total		35	40	1	26	102

2033 Junction 9

M-49 PM PEAK

TOTAL REFERENCE CASE

M-49		A	B	C	D	Total
A	A487 SB	0	29	426	169	624
B	A487 NB	218	0	305	289	812
C	Ffordd Y Parc	582	225	2	574	1,382
D	A55 Unnamed	104	178	776	0	1,057
Total		904	431	1,508	1,033	3,875

OGV1

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	9
C	Ffordd Y Parc	1	0	0	7	9
D	A55 Unnamed	0	1	10	0	11
Total		3	1	14	14	33

OGV2

M-49		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	18	18
D	A55 Unnamed	0	0	5	0	5
Total		0	0	5	18	23

HGV REFERENCE CASE

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	1	4
B	A487 NB	1	0	1	6	9
C	Ffordd Y Parc	1	0	0	25	27
D	A55 Unnamed	0	1	15	0	16
Total		3	1	19	33	56

PM PEAK

TOTAL WNP SCENARIO

M-49		A	B	C	D	Total
A	A487 SB	0	42	340	234	616
B	A487 NB	208	0	434	328	970
C	Ffordd Y Parc	518	215	2	532	1,267
D	A55 Unnamed	115	178	712	2	1,007
Total		841	436	1,487	1,096	3,860

OGV1

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	4	7
B	A487 NB	0	0	3	9	11
C	Ffordd Y Parc	3	6	0	10	19
D	A55 Unnamed	0	1	20	0	22
Total		3	7	26	23	59

OGV2

M-49		A	B	C	D	Total
A	A487 SB	0	0	0	2	2
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	15	15
D	A55 Unnamed	0	0	15	0	15
Total		0	0	15	17	32

HGV WNP SCENARIO

M-49		A	B	C	D	Total
A	A487 SB	0	0	3	6	9
B	A487 NB	0	0	3	9	11
C	Ffordd Y Parc	3	6	0	25	34
D	A55 Unnamed	0	1	35	0	37
Total		3	7	41	39	91

2033 Junction 9

M-48 sat WEEKEND PEAK

TOTAL REFERENCE CASE

M-48

	A	B	C	D	Total
A	A487 North	23	603	57	136
B	A487 South	425	2	30	400
C	Business Par	41	39	0	35
D	A55 onslip	665	247	22	10
Total		1,153	891	110	581

OGV1

M-48

	A	B	C	D	Total
A	A487 North	0	1	0	3
B	A487 South	3	0	0	4
C	Business Par	0	0	0	0
D	A55 onslip	1	0	0	1
Total		4	1	0	7

OGV2

M-48

	A	B	C	D	Total
A	A487 North	0	7	0	0
B	A487 South	0	0	3	2
C	Business Par	0	2	0	0
D	A55 onslip	0	2	0	0
Total		0	10	3	2

HGV REFERENCE CASE

M-48

	A	B	C	D	Total
A	A487 North	0	8	0	3
B	A487 South	3	0	3	6
C	Business Par	0	2	0	0
D	A55 onslip	1	2	0	0
Total		4	12	3	9

M-48 sat WEEKEND PEAK

TOTAL WNP SCENARIO

M-48

	A	B	C	D	Total
A	A487 North	23	607	57	137
B	A487 South	425	2	30	401
C	Business Par	41	39	0	35
D	A55 onslip	665	247	22	10
Total		1,153	895	110	582

OGV1

M-48

	A	B	C	D	Total
A	A487 North	0	2	0	3
B	A487 South	3	0	0	5
C	Business Par	0	0	0	0
D	A55 onslip	1	0	0	1
Total		4	2	0	8

OGV2

M-48

	A	B	C	D	Total
A	A487 North	0	7	0	0
B	A487 South	0	0	3	2
C	Business Par	0	2	0	0
D	A55 onslip	0	2	0	0
Total		0	11	3	2

HGV WNP SCENARIO

M-48

	A	B	C	D	Total
A	A487 North	0	9	0	3
B	A487 South	3	0	3	7
C	Business Par	0	2	0	0
D	A55 onslip	1	2	0	0
Total		4	12	3	10

2033 Junction 9

M-49 sat WEEKEND PEAK

TOTAL REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	3	28	305	295	632
B	A487 NB	120	0	129	96	345
C	Ffordd Y Parc	782	105	3	277	1,167
D	A55 Unnamed	102	80	392	0	574
Total		1,008	213	829	668	2,718

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	1	0	4
Total		3	3	4	1	12

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	5	0	5
Total		0	0	5	0	5

HGV REFERENCE CASE

M-49

		A	B	C	D	Total
A	A487 SB	0	0	1	0	1
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	7	0	10
Total		3	3	10	1	17

sat WEEKEND PEAK

TOTAL WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	3	28	305	295	632
B	A487 NB	120	0	129	96	345
C	Ffordd Y Parc	782	105	3	277	1,167
D	A55 Unnamed	102	80	396	0	578
Total		1,008	213	833	668	2,722

OGV1

M-49

		A	B	C	D	Total
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	2	0	5
Total		3	3	5	1	12

OGV2

M-49

		A	B	C	D	Total
A	A487 SB	0	0	0	0	0
B	A487 NB	0	0	0	0	0
C	Ffordd Y Parc	0	0	0	0	0
D	A55 Unnamed	0	0	5	0	6
Total		0	0	6	0	6

HGV WNP SCENARIO

M-49

		A	B	C	D	Total
A	A487 SB	0	0	2	0	2
B	A487 NB	0	0	1	0	1
C	Ffordd Y Parc	3	0	0	1	4
D	A55 Unnamed	0	3	7	0	10
Total		3	3	10	1	18

2033 Junction 10- flows only

Northbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Type	
DM	2,330
DAP	2,100

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

Southbound

	REF			WNP		
	AM	PM	Wknd	AM	PM	Wknd
Delay minutes	0.00	0.00	0.00	0.00	0.00	0.00
Delay seconds	0.00	0.00	0.00	0.00	0.00	0.00
Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
	227	227	227	227	227	227
	0.75	0.75	0.75	0.75	0.75	0.75

Cap Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Demand						
Downstream Cap	4,200	4,200	4,200	4,200	4,200	4,200
Downstream Lanes	2	2	2	2	2	2

Total vehicles

Total

Downstream Cap	2,100	2,100	2,100	2,100	2,100	2,100
DAP	2,100	2,100	2,100	2,100	2,100	2,100
HGV%						
	1	1	1	1	1	1

veh/hr/lane

2033 Junction 10- flows only

M-50 AM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	0	300	322	336	958
B	A55 N Wales	478	0	430	1,555	2,463
C	A4087 NB	752	0	0	5	757
D	A55 N Wales	468	1,065	0	0	1,533
Total		1,698	1,366	753	1,897	5,712

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	27	16	50
B	A55 N Wales	9	0	19	84	111
C	A4087 NB	16	0	0	0	16
D	A55 N Wales	10	90	0	0	100
Total		34	97	46	99	276

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	5	5	7	17
B	A55 N Wales	3	0	8	128	140
C	A4087 NB	5	0	0	0	5
D	A55 N Wales	0	121	0	0	121
Total		8	126	13	135	282

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	12	32	22	67
B	A55 N Wales	12	0	27	212	251
C	A4087 NB	21	0	0	0	21
D	A55 N Wales	10	210	0	0	220
Total		43	222	59	234	558

M-50 AM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	0	300	322	340	963
B	A55 N Wales	478	0	430	1,573	2,481
C	A4087 NB	752	0	0	5	757
D	A55 N Wales	469	1,069	0	0	1,539
Total		1,699	1,370	753	1,919	5,740

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	7	27	16	50
B	A55 N Wales	9	0	19	84	111
C	A4087 NB	16	0	0	0	16
D	A55 N Wales	10	90	0	0	100
Total		34	97	46	100	276

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	5	5	7	17
B	A55 N Wales	3	0	8	129	141
C	A4087 NB	5	0	0	0	5
D	A55 N Wales	0	121	0	0	122
Total		9	126	13	136	284

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	12	32	23	67
B	A55 N Wales	12	0	27	213	251
C	A4087 NB	21	0	0	0	21
D	A55 N Wales	10	211	0	0	222
Total		43	223	59	235	561

2033 Junction 10- flows only

M-50 PM PEAK

TOTAL REFERENCE

M-50

		A	B	C	D	Total
A	A4087 SB	5	469	661	574	1,708
B	A55 N Wales	359	0	422	1,102	1,883
C	A4087 NB	544	0	0	3	547
D	A55 N Wales	488	1,669	0	0	2,157
Total		1,395	2,138	1,082	1,679	6,294

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	1	11
B	A55 N Wales	4	0	13	73	90
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	13	100	0	0	113
Total		21	103	20	74	219

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	2	2
B	A55 N Wales	2	0	8	96	107
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	3	132	0	0	135
Total		5	132	8	98	243

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	3	13
B	A55 N Wales	6	0	21	170	197
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	16	232	0	0	248
Total		26	235	28	173	462

M-50 PM PEAK

TOTAL WNP

M-50

		A	B	C	D	Total
A	A4087 SB	5	469	661	575	1,709
B	A55 N Wales	359	0	422	1,106	1,887
C	A4087 NB	544	0	0	3	547
D	A55 N Wales	502	1,799	0	0	2,302
Total		1,410	2,268	1,082	1,685	6,445

OGV1

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	2	11
B	A55 N Wales	4	0	13	73	90
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	13	100	0	0	113
Total		21	103	20	75	219

OGV2

M-50

		A	B	C	D	Total
A	A4087 SB	0	0	0	2	2
B	A55 N Wales	2	0	8	97	107
C	A4087 NB	0	0	0	0	0
D	A55 N Wales	4	133	0	0	136
Total		5	133	8	99	245

HGV

M-50

		A	B	C	D	Total
A	A4087 SB	0	3	7	3	13
B	A55 N Wales	6	0	21	170	198
C	A4087 NB	4	0	0	0	4
D	A55 N Wales	17	233	0	0	249
Total		27	236	28	174	465