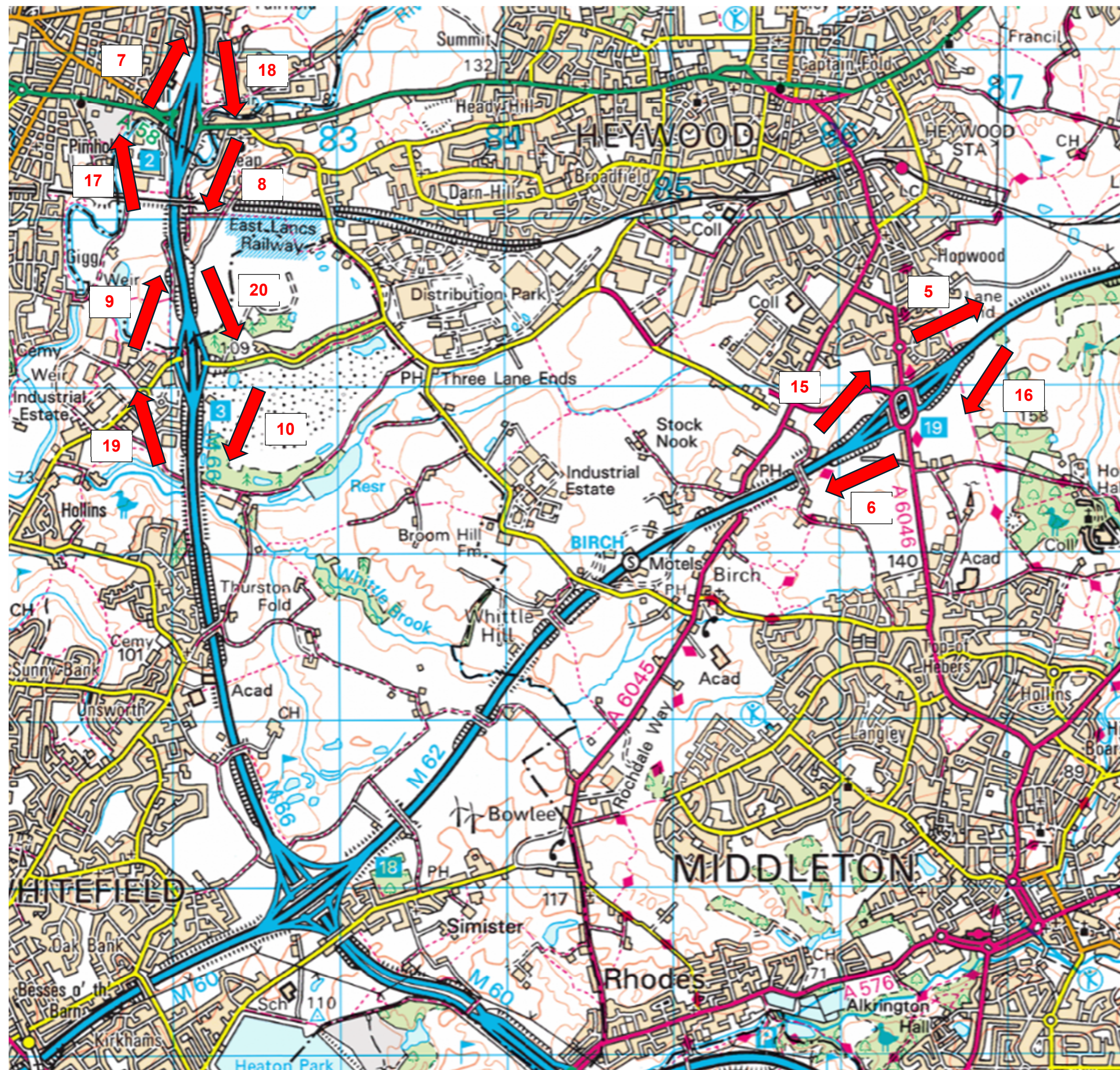




No.	Location	Existing Layout Type	Number of Lanes		
			C	U	D
5	M62 J19 EB Merge	A	1	4	4
6	M62 J19 WB Merge	A	1	4	4
7	M66 J2 NB Merge	A	1	2	2
8	M66 J2 SB Merge	D / E	1	2	3
9	M66 J3 NB Merge	A	1	3	3
10	M66 J3 SB Merge	A	1	3	3
15	M62 J19 EB Diverge	A	1	4	4
16	M62 J19 WB Diverge	A	1	4	4
17	M66 J2 NB Diverge	C	1	3	2
18	M66 J2 SB Diverge	A	1	2	2
19	M66 J3 NB Diverge	A	1	3	3
20	M66 J3 SB Diverge	A	1	3	3

KEY

C = Connector Road

U = Upstream Lanes

D = Downstream Lanes

MERGE / DIVERGE ANALYSIS LOCATIONS

CD122 Geometric design of grade separated junctions

Merge and Diverge Layouts

Model Runs Assessed

Run 10: 2039 Do Minimum - Policy Off

Run 14: 2039 Do Something 3 (JPA1.1+ JPA1.2) - With M62 Access Solution - Policy Off

Run 13: 2039 Do Something 3 (JPA1.1+ JPA1.2) - Without M62 Access Solution - Policy Off

Run 8: 2032 Do Something 3 (JPA1.1 + JPA1.2, partial build out to 2032) - Without M62 Access Solution - Policy Off

Run 21: 2039 Do Something 3 (JPA1.1+ JPA1.2) - Without M62 Access Solution - Policy On

Merge Layouts

Figure 3.14a Layout A option 1 - taper merge

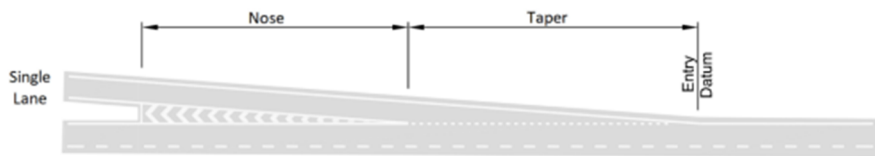


Figure 3.14b Layout A option 2 - 2 lane taper

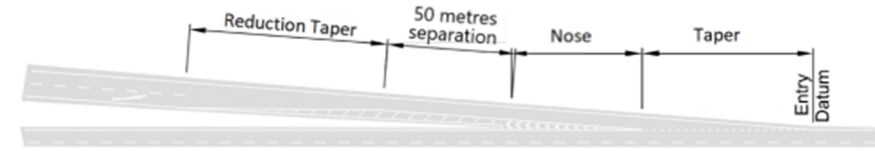


Figure 3.14c Layout B - parallel merge



Figure 3.14d Layout C - ghost island merge

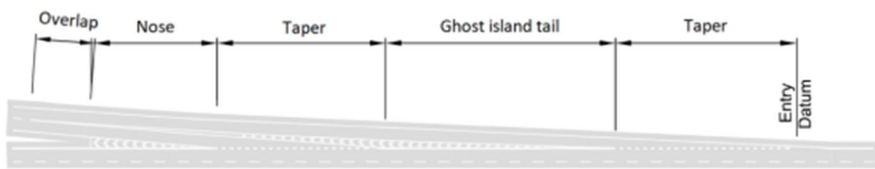


Figure 3.14i Layout G Option 1 - mainline lane gain and double ghost island merge

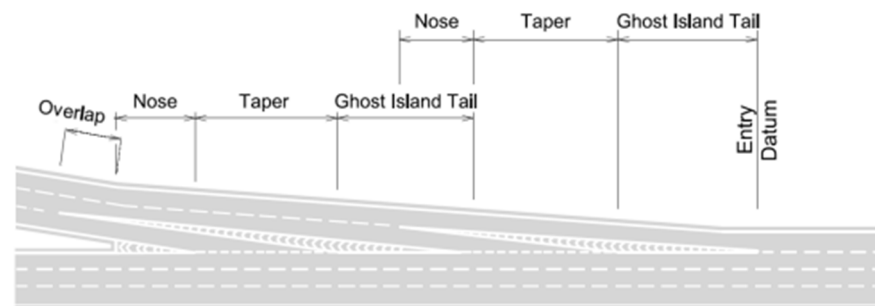


Figure 3.14j Layout G Option 2 - mainline lane gain and single ghost island merge

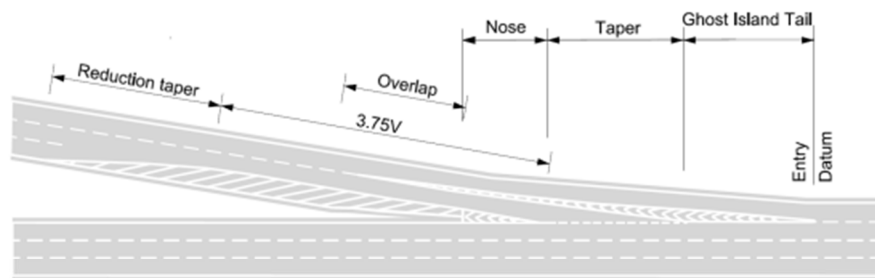


Figure 3.14k Layout H - mainline 2 lane gain and ghost island merge

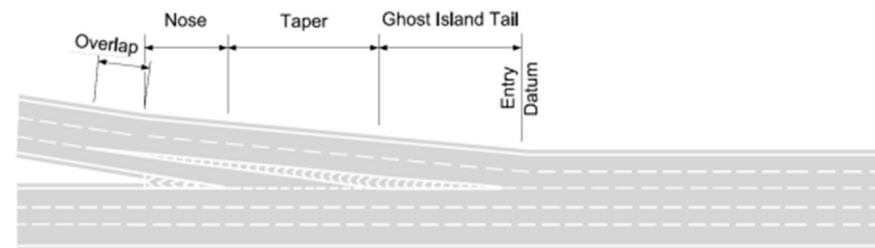


Figure 3.14e Layout D - lane gain

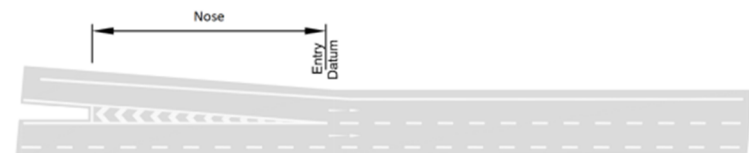


Figure 3.14f Layout E Option 1 - lane gain with ghost island offside merge

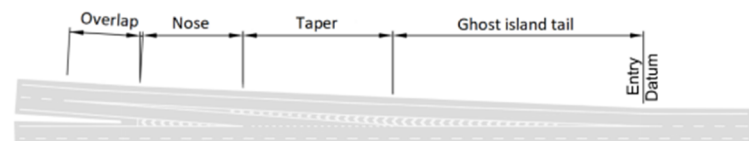
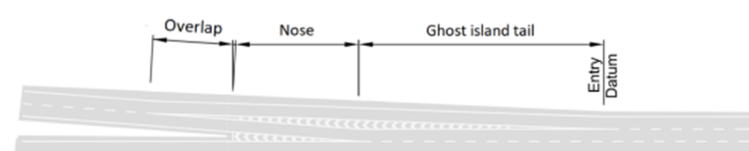


Figure 3.14g Layout E Option 2 - lane gain with ghost island nearside merge



Figure 3.14h Layout F - 2 lane gain with ghost island



Diverge Layouts

Figure 3.30a Layout A option 1 - taper diverge

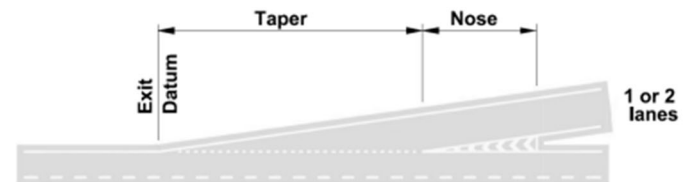


Figure 3.30b Layout A option 2 - Single lane auxiliary diverge



Figure 3.30c Layout B option 1 - ghost island diverge

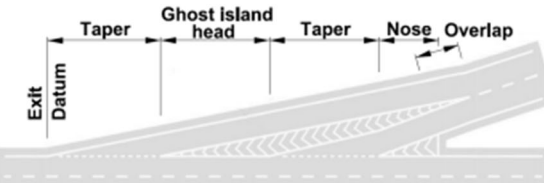


Figure 3.30d Layout B option 2 - Two-lane auxiliary diverge

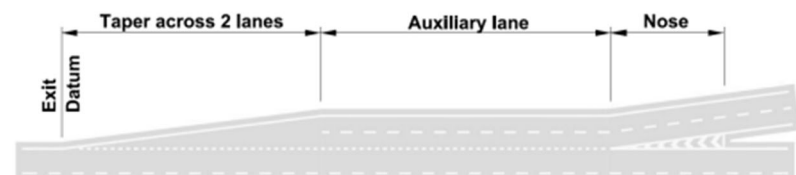


Figure 3.30e Layout C Option 1 - lane drop with 1-lane connector road

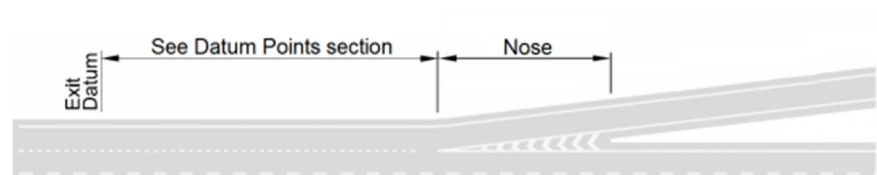


Figure 3.30f Layout C Option 2 - lane drop with 2-lane connector road

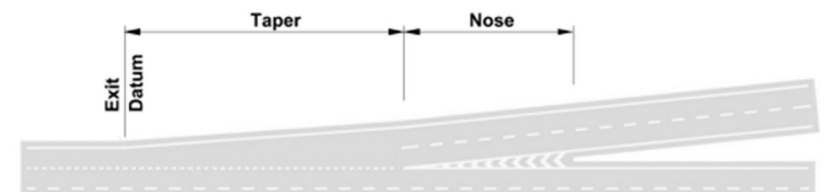


Figure 3.30g Layout D option 1 - ghost island lane drop

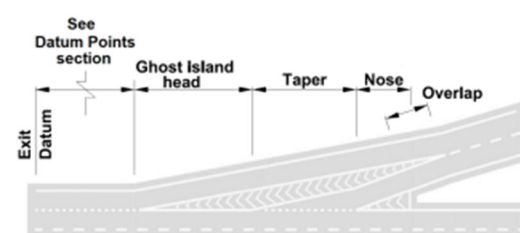


Figure 3.30h Layout D option 2 - auxiliary lane lane drop

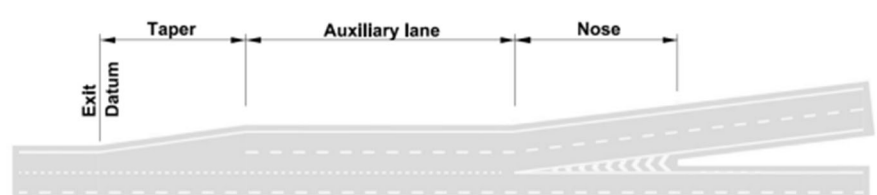


Figure 3.30i Layout E - 2-lane drop

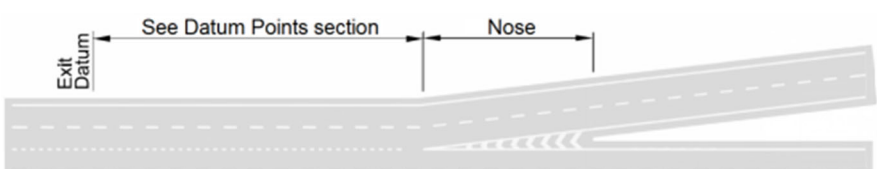
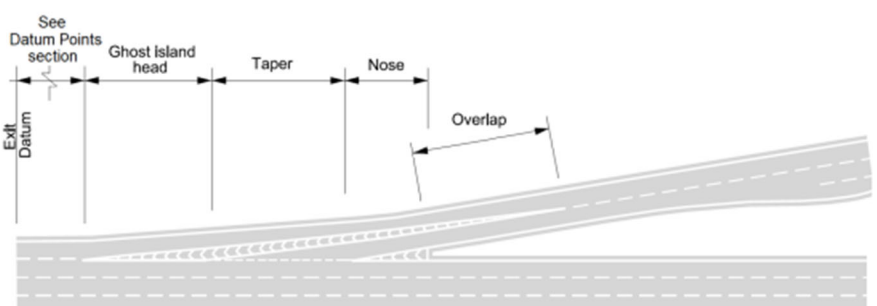
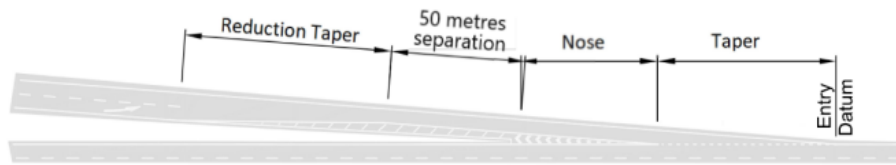


Figure 3.30j Layout F - mainline lane drop and ghost island diverge



Existing Layout CD122 Layout Diagram

Figure 3.14b Layout A option 2 - 2 lane taper

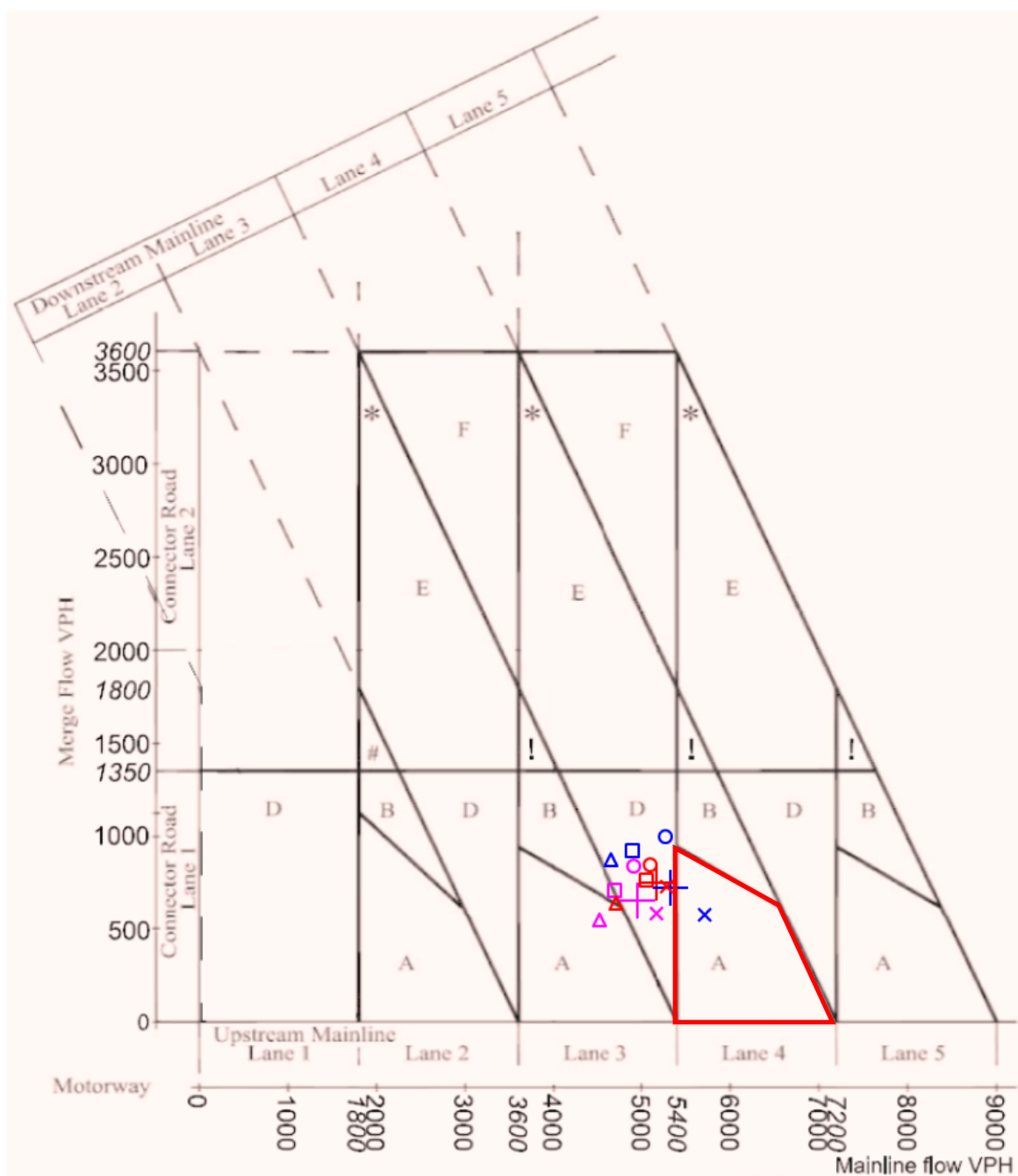


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	5203	739	+
Run 10 Inter Peak	4985	644	+
Run 10 PM Peak	5348	713	+
Run 14 AM Peak	5308	715	x
Run 14 Inter Peak	5201	573	x
Run 14 PM Peak	5746	564	x
Run 13 AM Peak	5125	832	o
Run 13 Inter Peak	4940	826	o
Run 13 PM Peak	5299	988	o
Run 8 AM Peak	5082	748	□
Run 8 Inter Peak	4727	694	□
Run 8 PM Peak	4930	907	□
Run 21 AM Peak	4732	625	△
Run 21 Inter Peak	4550	537	△
Run 21 PM Peak	4679	863	△

Figure 3.12b Motorway merging diagram



KEY

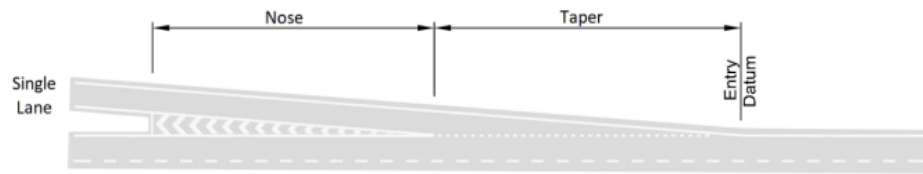
Existing Layout

	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	4	4	
Key	Layout Required					
x	Run 14 AM Peak	D	1	3	4	✓
x	Run 14 Inter Peak	D	1	3	4	✓
x	Run 14 PM Peak	B	1	4	4	✓
o	Run 13 AM Peak	D	1	3	4	✓
o	Run 13 Inter Peak	D	1	3	4	✓
o	Run 13 PM Peak	D	1	3	4	✓
□	Run 8 AM Peak	D	1	3	4	✓
□	Run 8 Inter Peak	D	1	3	4	✓
□	Run 8 PM Peak	D	1	3	4	✓
Δ	Run 21 AM Peak	A	1	3	3	✓
Δ	Run 21 Inter Peak	A	1	3	3	✓
Δ	Run 21 PM Peak	D	1	3	4	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram
Figure 3.14a Layout A option 1 - taper merge



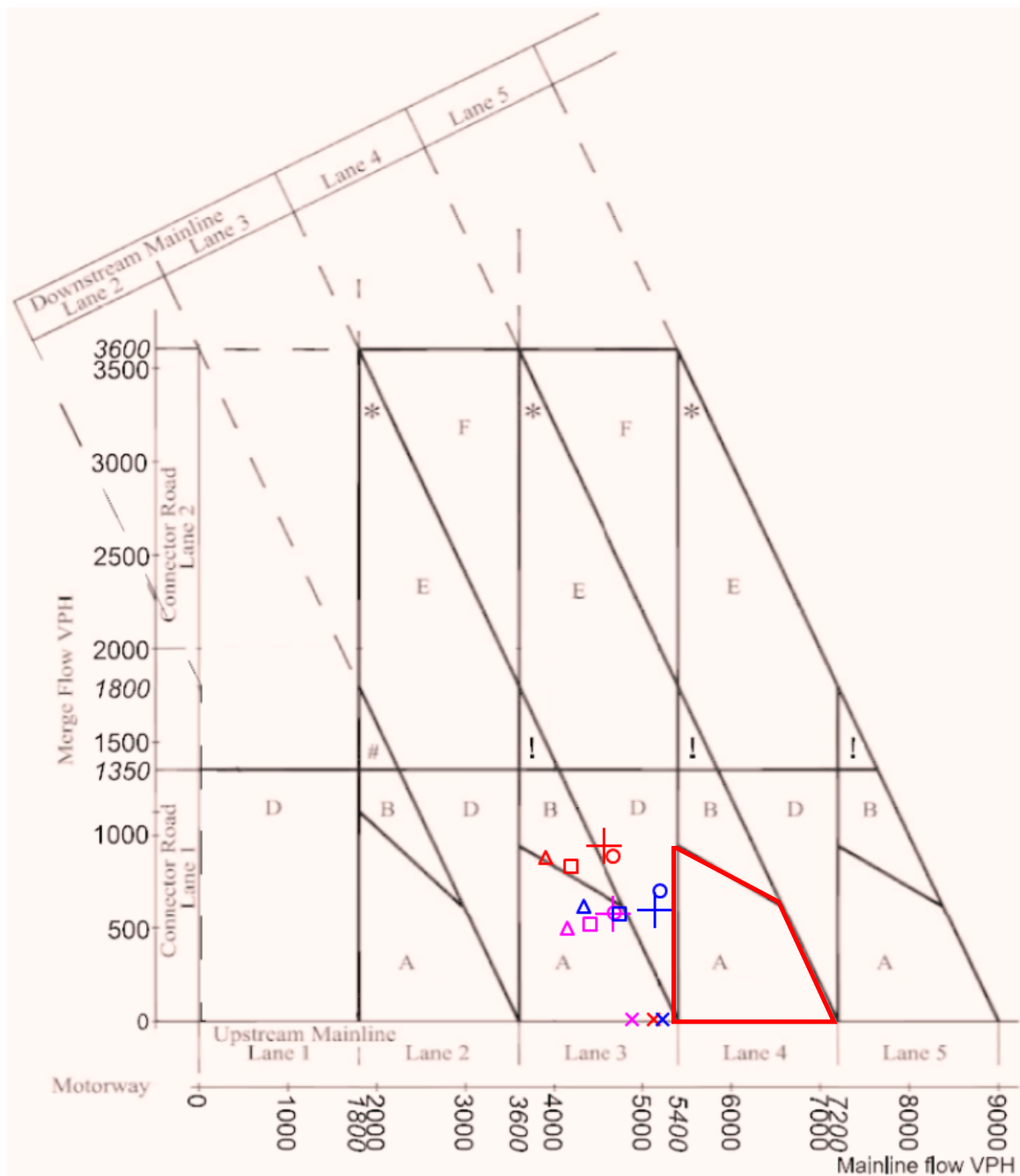
Existing Layout Satellite Image



NGTM Model Fows

Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	4591	927	+
Run 10 Inter Peak	4693	564	+
Run 10 PM Peak	5166	585	+
Run 14 AM Peak	5157	0	x
Run 14 Inter Peak	4905	0	x
Run 14 PM Peak	5260	0	x
Run 13 AM Peak	4693	873	o
Run 13 Inter Peak	4712	573	o
Run 13 PM Peak	5220	687	o
Run 8 AM Peak	4216	819	□
Run 8 Inter Peak	4431	508	□
Run 8 PM Peak	4771	564	□
Run 21 AM Peak	3932	870	△
Run 21 Inter Peak	4183	490	△
Run 21 PM Peak	4363	609	△

Figure 3.12b Motorway merging diagram

**KEY**

Existing Layout

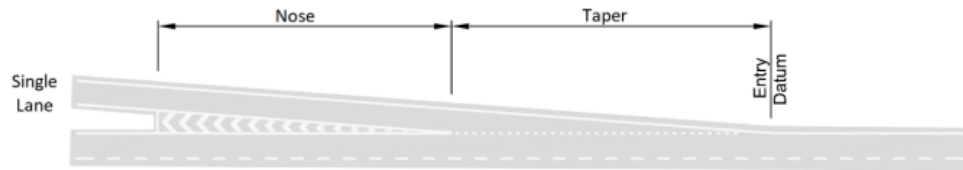
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	4	4	
Key	Layout Required					
x	Run 14 AM Peak	A	1	3	3	✓
x	Run 14 Inter Peak	A	1	3	3	✓
x	Run 14 PM Peak	A	1	3	3	✓
o	Run 13 AM Peak	D	1	3	4	✓
o	Run 13 Inter Peak	A	1	3	3	✓
o	Run 13 PM Peak	D	1	3	4	✓
□	Run 8 AM Peak	B	1	3	3	✓
□	Run 8 Inter Peak	A	1	3	3	✓
□	Run 8 PM Peak	A	1	3	3	✓
△	Run 21 AM Peak	B	1	3	3	✓
△	Run 21 Inter Peak	A	1	3	3	✓
△	Run 21 PM Peak	A	1	3	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.14a Layout A option 1 - taper merge

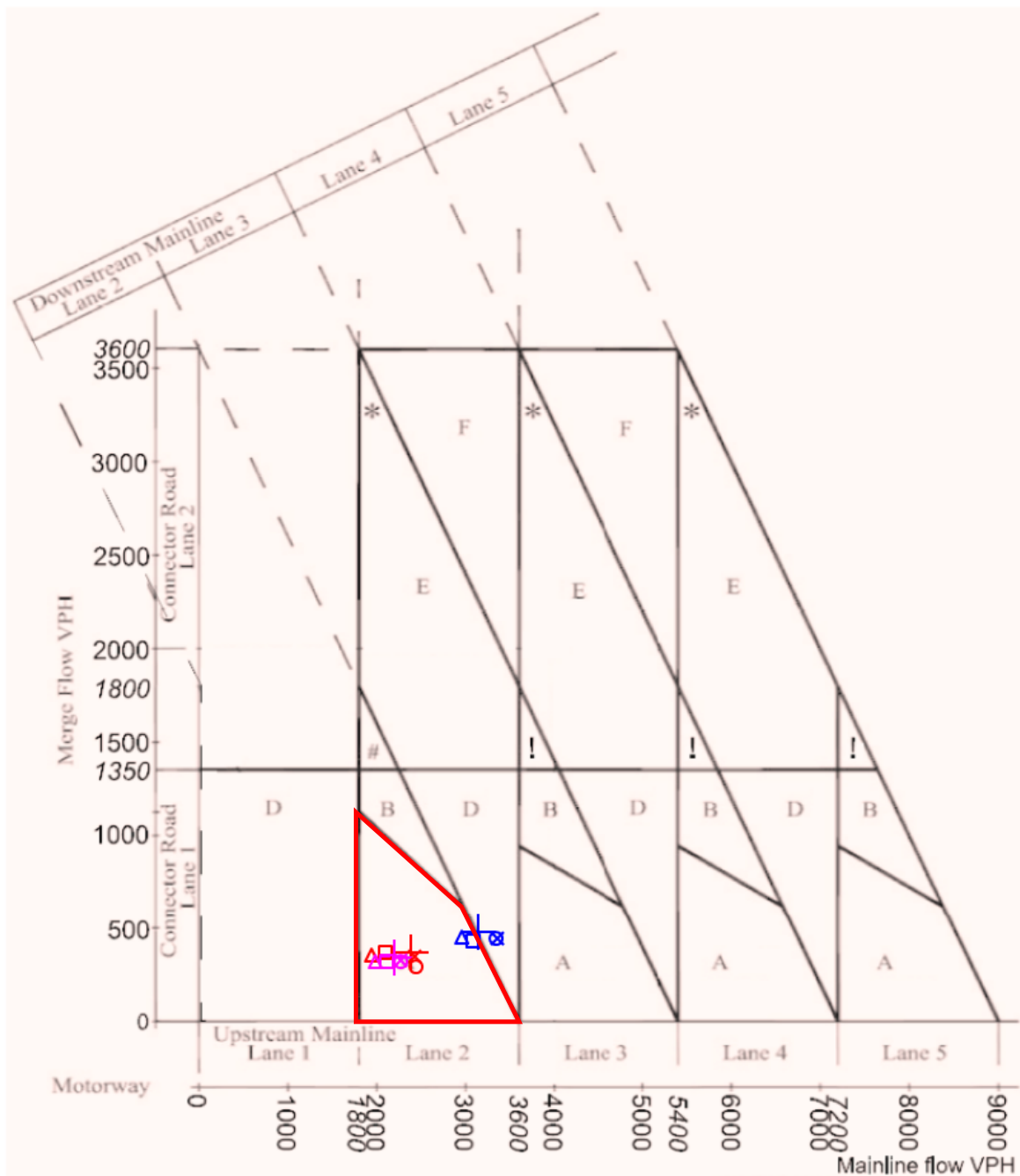


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	2416	359	+
Run 10 Inter Peak	2224	331	+
Run 10 PM Peak	3169	470	+
Run 14 AM Peak	2451	338	x
Run 14 Inter Peak	2300	315	x
Run 14 PM Peak	3394	437	x
Run 13 AM Peak	2467	279	o
Run 13 Inter Peak	2305	310	o
Run 13 PM Peak	3381	437	o
Run 8 AM Peak	2134	357	□
Run 8 Inter Peak	2141	312	□
Run 8 PM Peak	3120	423	□
Run 21 AM Peak	1975	341	△
Run 21 Inter Peak	2009	310	△
Run 21 PM Peak	2987	438	△

Figure 3.12b Motorway merging diagram



KEY

Existing Layout

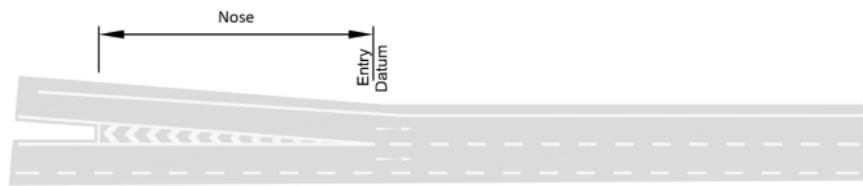
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	2	2	
Key	Layout Required					
✗	Run 14 AM Peak	A	1	2	2	✓
✗	Run 14 Inter Peak	A	1	2	2	✓
✗	Run 14 PM Peak	D	1	2	3	✗
○	Run 13 AM Peak	A	1	2	2	✓
○	Run 13 Inter Peak	A	1	2	2	✓
○	Run 13 PM Peak	D	1	2	3	✗
□	Run 8 AM Peak	A	1	2	2	✓
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	2	2	✓
△	Run 21 AM Peak	A	1	2	2	✓
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	A	1	2	2	✓

KEY

- ✓ Adequate
✗ Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.14e Layout D - lane gain

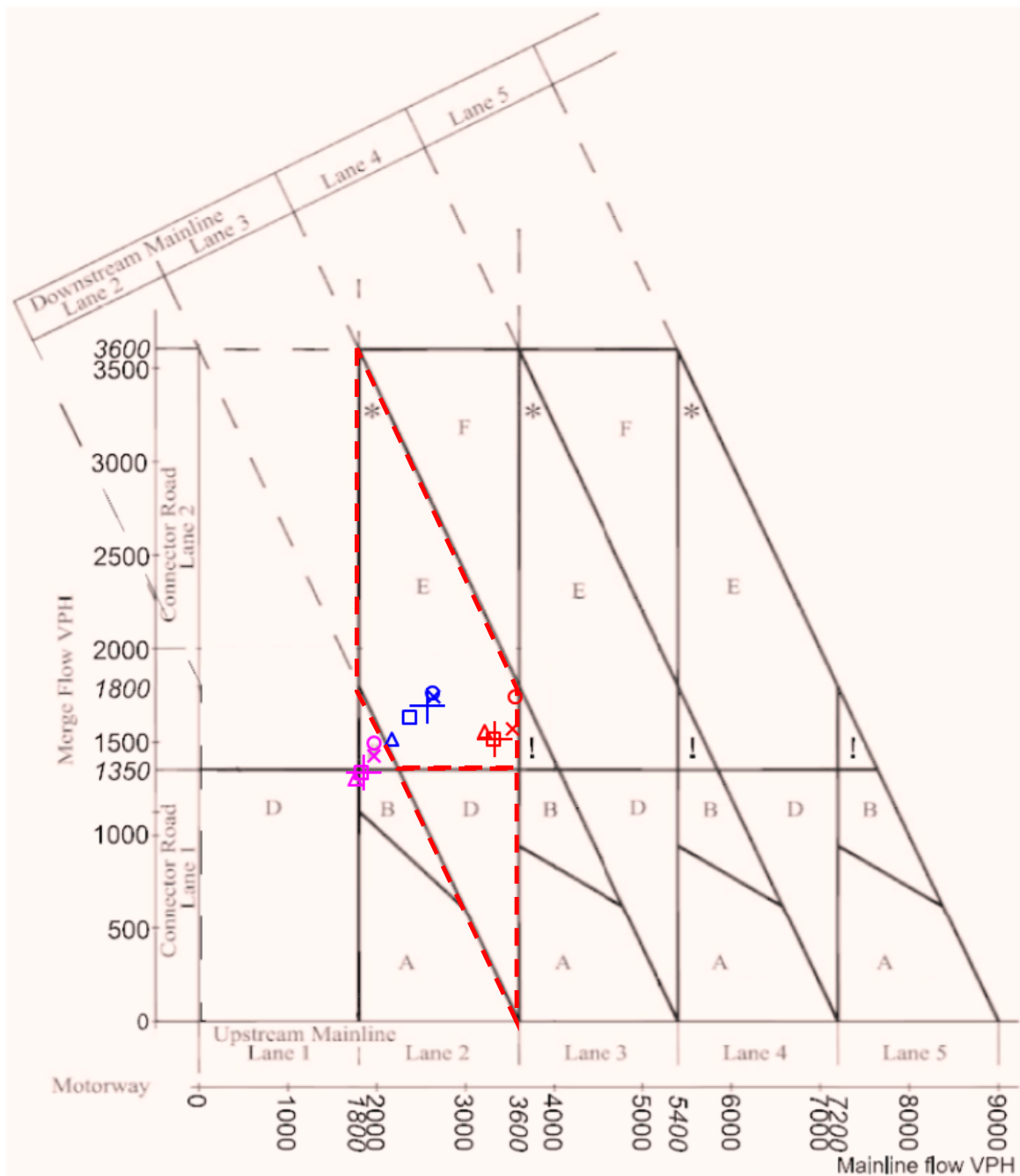


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	3360	1504	+
Run 10 Inter Peak	1891	1326	+
Run 10 PM Peak	2600	1681	+
Run 14 AM Peak	3564	1559	x
Run 14 Inter Peak	1995	1413	x
Run 14 PM Peak	2669	1731	x
Run 13 AM Peak	3586	1733	o
Run 13 Inter Peak	1994	1483	o
Run 13 PM Peak	2652	1750	o
Run 8 AM Peak	3343	1502	□
Run 8 Inter Peak	1849	1321	□
Run 8 PM Peak	2402	1618	□
Run 21 AM Peak	3249	1547	△
Run 21 Inter Peak	1783	1287	△
Run 21 PM Peak	2200	1501	△

Figure 3.12b Motorway merging diagram



KEY

Existing Layout

NOTE - NON-STANDARD LAYOUT 2 LANE CONNECTOR ROAD WITH LANE GAIN BUT NO GHOST ISLAND AT MERGE. CAPACITY LIKELY TO BE NEARER TO 2 LANE CONNECTOR ROAD WITH LAYOUT E. WARRANTS FURTHER DETAILED ASSESSMENT

	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	D/E	1	2	3	
Key	Layout Required					
x	Run 14 AM Peak	E	2	2	3	✓ *
x	Run 14 Inter Peak	E	2	2	2	✓ *
x	Run 14 PM Peak	E	2	2	3	✓ *
o	Run 13 AM Peak	E	2	2	3	✓ *
o	Run 13 Inter Peak	E	2	2	2	✓ *
o	Run 13 PM Peak	E	2	2	3	✓ *
□	Run 8 AM Peak	E	2	2	3	✓ *
□	Run 8 Inter Peak	B	1	2	2	✓
□	Run 8 PM Peak	E	2	2	3	✓ *
Δ	Run 21 AM Peak	E	2	2	3	✓ *
Δ	Run 21 Inter Peak	D	1	1	2	✓
Δ	Run 21 PM Peak	E	2	2	3	✓ *

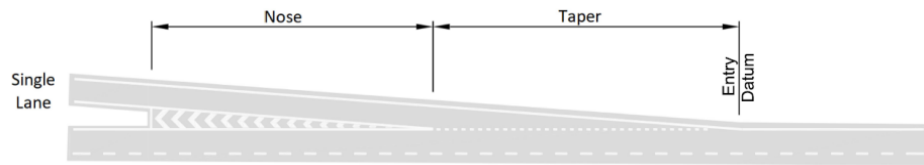
KEY

- ✓ Adequate
 * Requires further investigation

* NOTE - BASED ON JUDGEMENT THAT CAPACITY OF NON-STANDARD LAYOUT IS LIKELY TO BE CLOSER TO 2 LANE APPROACH WITH LAYOUT E

Existing Layout CD122 Layout Diagram

Figure 3.14a Layout A option 1 - taper merge

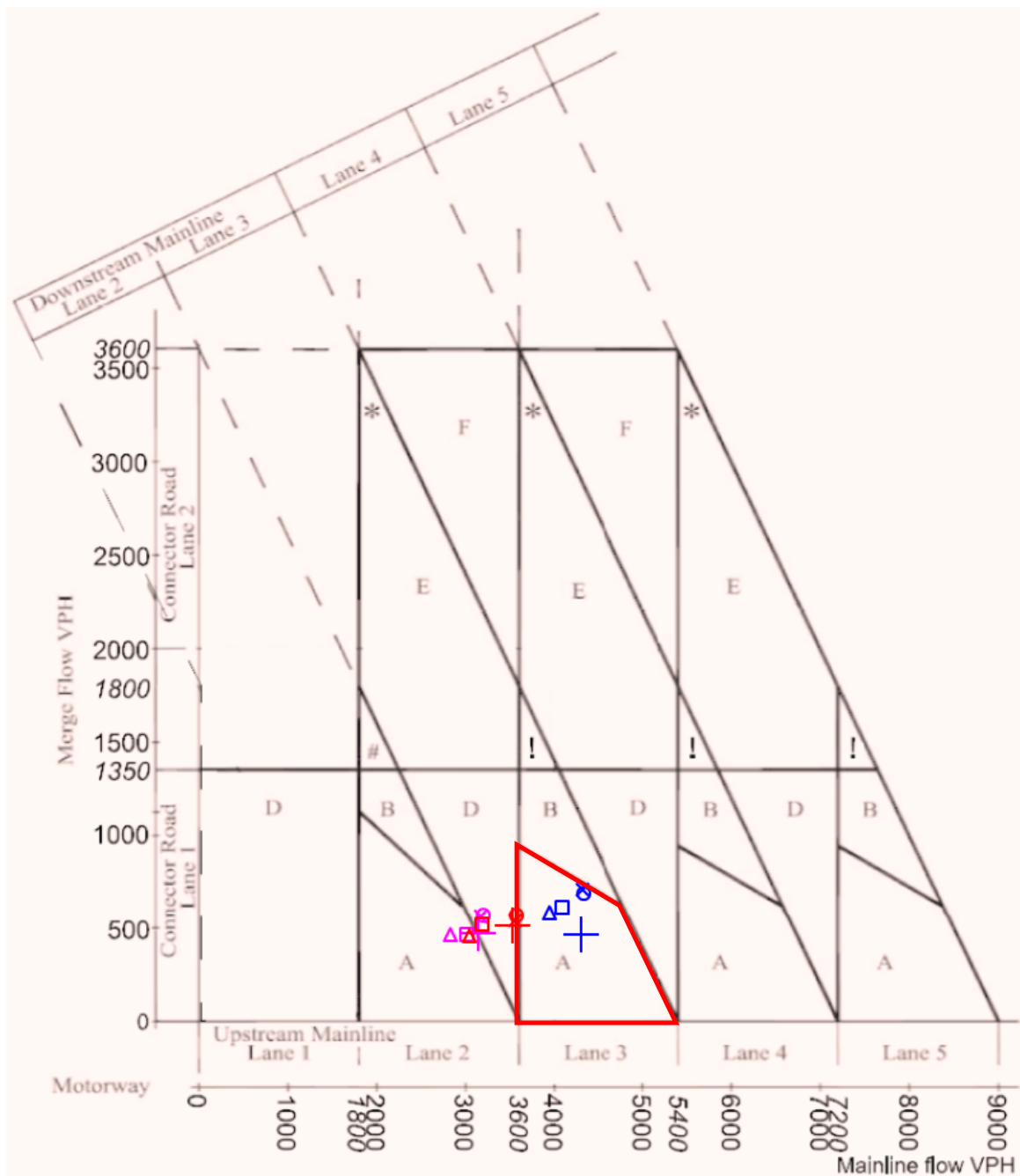


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	3566	501	+
Run 10 Inter Peak	3169	460	+
Run 10 PM Peak	4343	452	+
Run 14 AM Peak	3593	532	x
Run 14 Inter Peak	3202	554	x
Run 14 PM Peak	4357	696	x
Run 13 AM Peak	3603	556	o
Run 13 Inter Peak	3238	557	o
Run 13 PM Peak	4370	676	o
Run 8 AM Peak	3222	511	□
Run 8 Inter Peak	3042	451	□
Run 8 PM Peak	4123	597	□
Run 21 AM Peak	3079	446	Δ
Run 21 Inter Peak	2866	453	Δ
Run 21 PM Peak	3985	572	Δ

Figure 3.12b Motorway merging diagram



KEY

Existing Layout

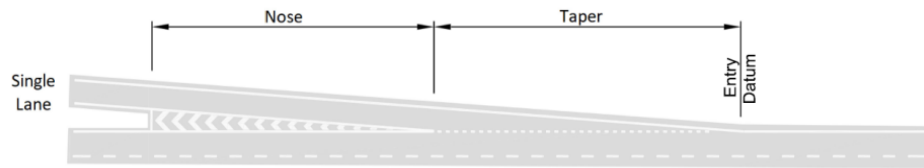
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	3	3	
Key	Layout Required					
x	Run 14 AM Peak	D	1	2	3	✓
x	Run 14 Inter Peak	D	1	2	3	✓
x	Run 14 PM Peak	A	1	3	3	✓
o	Run 13 AM Peak	A	1	3	3	✓
o	Run 13 Inter Peak	D	1	2	3	✓
o	Run 13 PM Peak	A	1	3	3	✓
□	Run 8 AM Peak	D	1	2	3	✓
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	3	3	✓
△	Run 21 AM Peak	A	1	2	2	✓
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	A	1	3	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.14a Layout A option 1 - taper merge

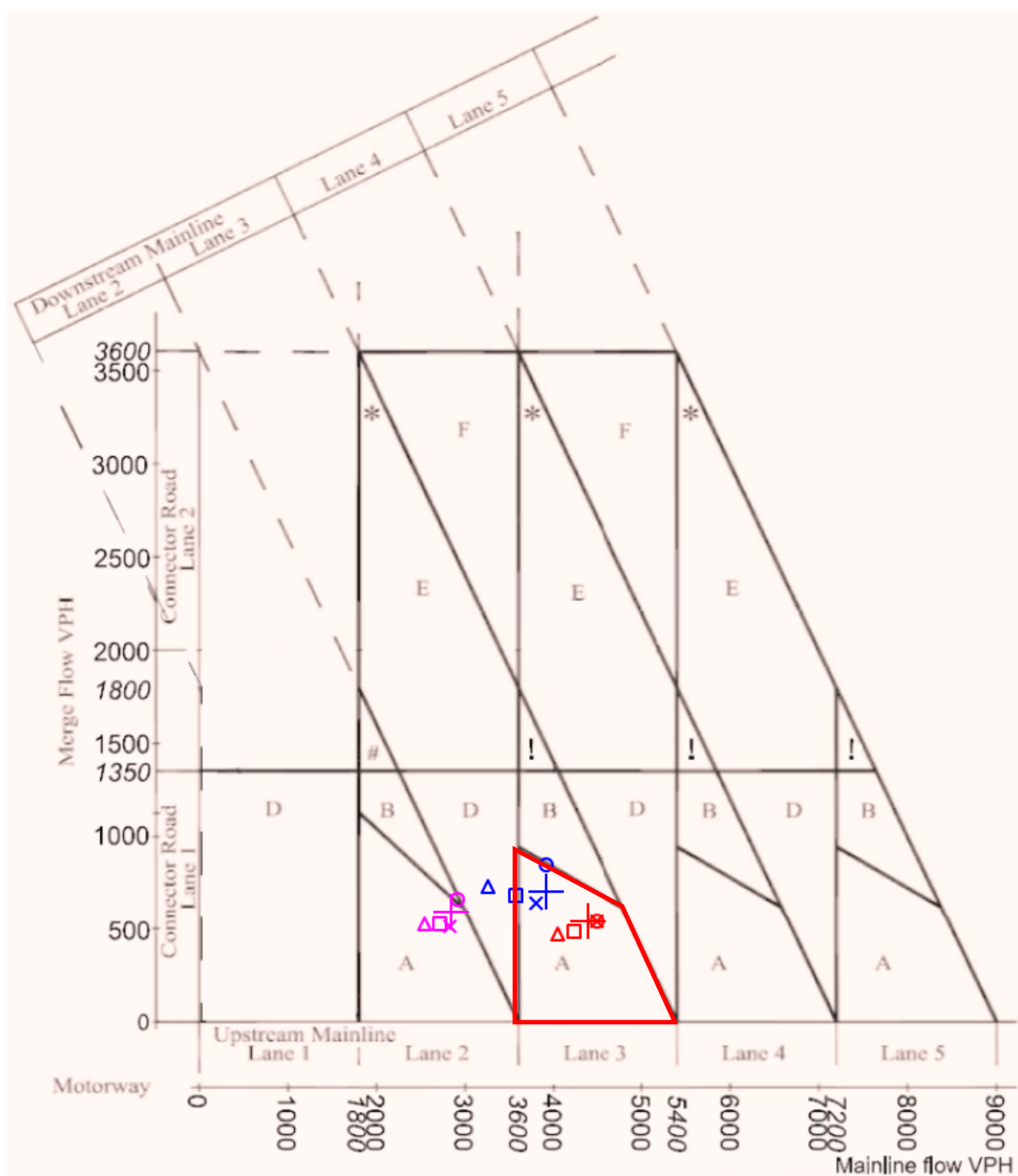


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Merge Flow VPH	Key
Run 10 AM Peak	4425	528	+
Run 10 Inter Peak	2871	578	+
Run 10 PM Peak	3953	692	+
Run 14 AM Peak	4516	530	x
Run 14 Inter Peak	2855	506	x
Run 14 PM Peak	3840	627	x
Run 13 AM Peak	4522	528	o
Run 13 Inter Peak	2951	647	o
Run 13 PM Peak	3952	831	o
Run 8 AM Peak	4266	474	□
Run 8 Inter Peak	2740	516	□
Run 8 PM Peak	3605	665	□
Run 21 AM Peak	4073	462	△
Run 21 Inter Peak	2572	514	△
Run 21 PM Peak	3288	718	△

Figure 3.12b Motorway merging diagram



KEY

Existing Layout

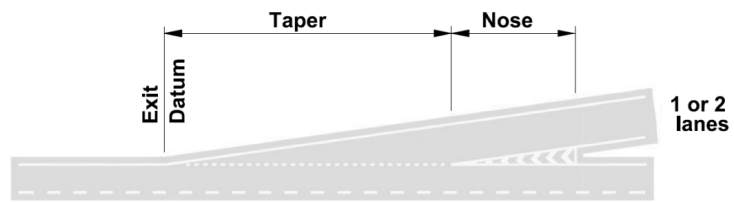
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	3	3	
Key	Layout Required					
x	Run 14 AM Peak	A	1	3	3	✓
x	Run 14 Inter Peak	A	1	2	2	✓
x	Run 14 PM Peak	A	1	3	3	✓
o	Run 13 AM Peak	A	1	3	3	✓
o	Run 13 Inter Peak	B	1	2	2	✓
o	Run 13 PM Peak	A	1	3	3	✓
□	Run 8 AM Peak	A	1	3	3	✓
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	3	3	✓
△	Run 21 AM Peak	A	1	3	3	✓
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	D	1	2	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30a Layout A option 1 - taper diverge

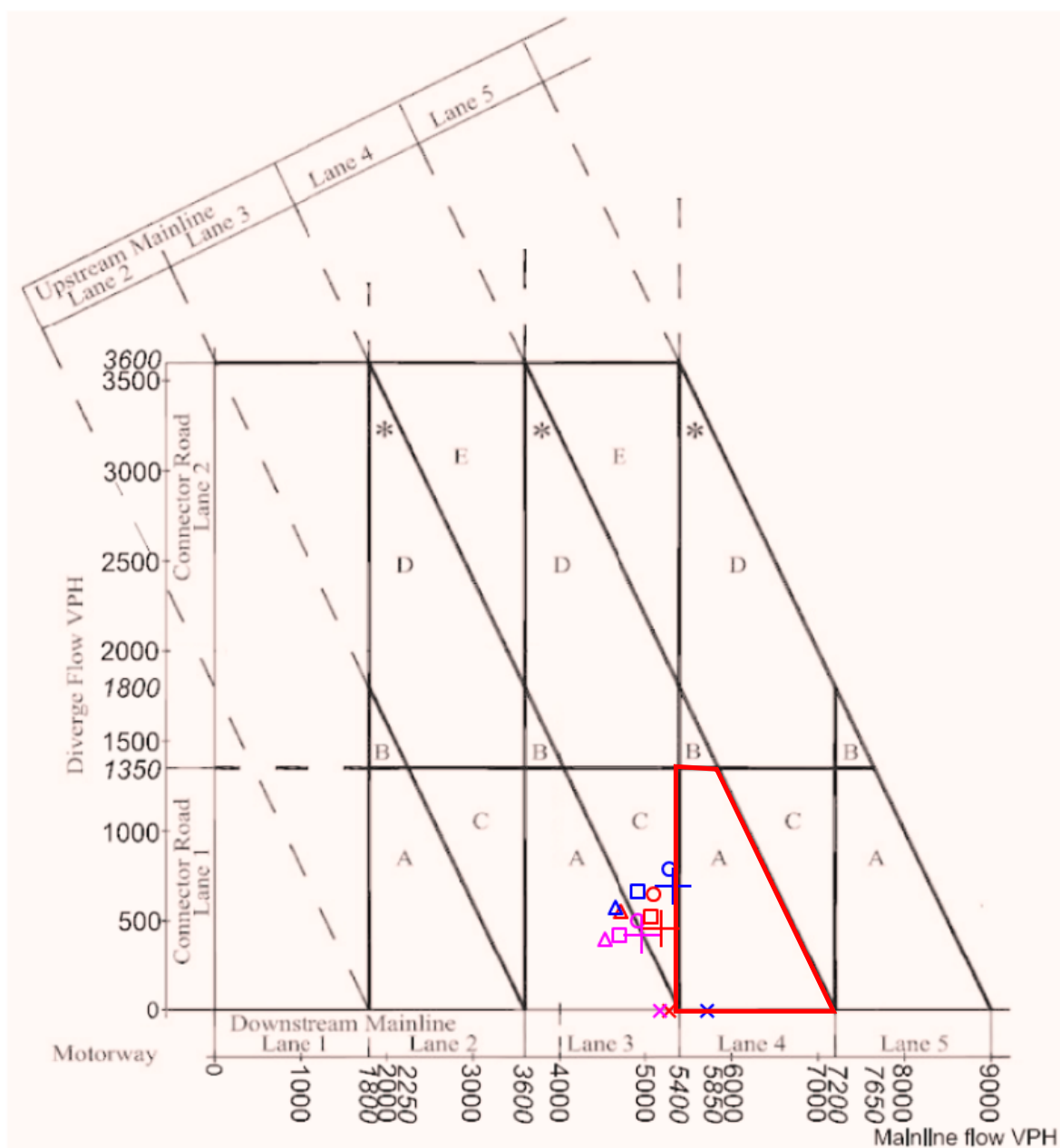


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	5203	458	+
Run 10 Inter Peak	4985	423	+
Run 10 PM Peak	5348	689	+
Run 14 AM Peak	5308	0	x
Run 14 Inter Peak	5201	0	x
Run 14 PM Peak	5746	0	x
Run 13 AM Peak	5125	644	o
Run 13 Inter Peak	4940	499	o
Run 13 PM Peak	5299	784	o
Run 8 AM Peak	5082	522	□
Run 8 Inter Peak	4727	422	□
Run 8 PM Peak	4930	659	□
Run 21 AM Peak	4732	549	△
Run 21 Inter Peak	4550	400	△
Run 21 PM Peak	4679	577	△

Figure 3.26b Motorway diverging diagram



KEY

Existing Layout

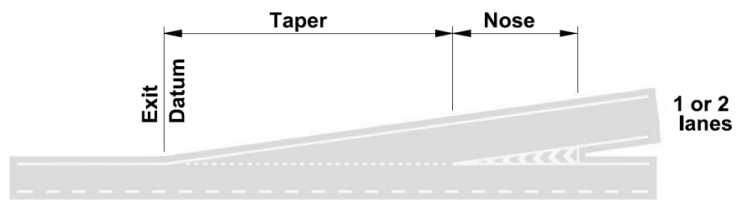
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	4	4	
Key	Layout Required					
x	Run 14 AM Peak	N/A	N/A	N/A	N/A	N/A
x	Run 14 Inter Peak	N/A	N/A	N/A	N/A	N/A
x	Run 14 PM Peak	N/A	N/A	N/A	N/A	N/A
o	Run 13 AM Peak	C	1	4	3	✓
o	Run 13 Inter Peak	C	1	4	3	✓
o	Run 13 PM Peak	C	1	4	3	✓
□	Run 8 AM Peak	C	1	4	3	✓
□	Run 8 Inter Peak	A	1	3	3	✓
□	Run 8 PM Peak	C	1	4	3	✓
△	Run 21 AM Peak	A	1	3	3	✓
△	Run 21 Inter Peak	A	1	3	3	✓
△	Run 21 PM Peak	A	1	3	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30a Layout A option 1 - taper diverge



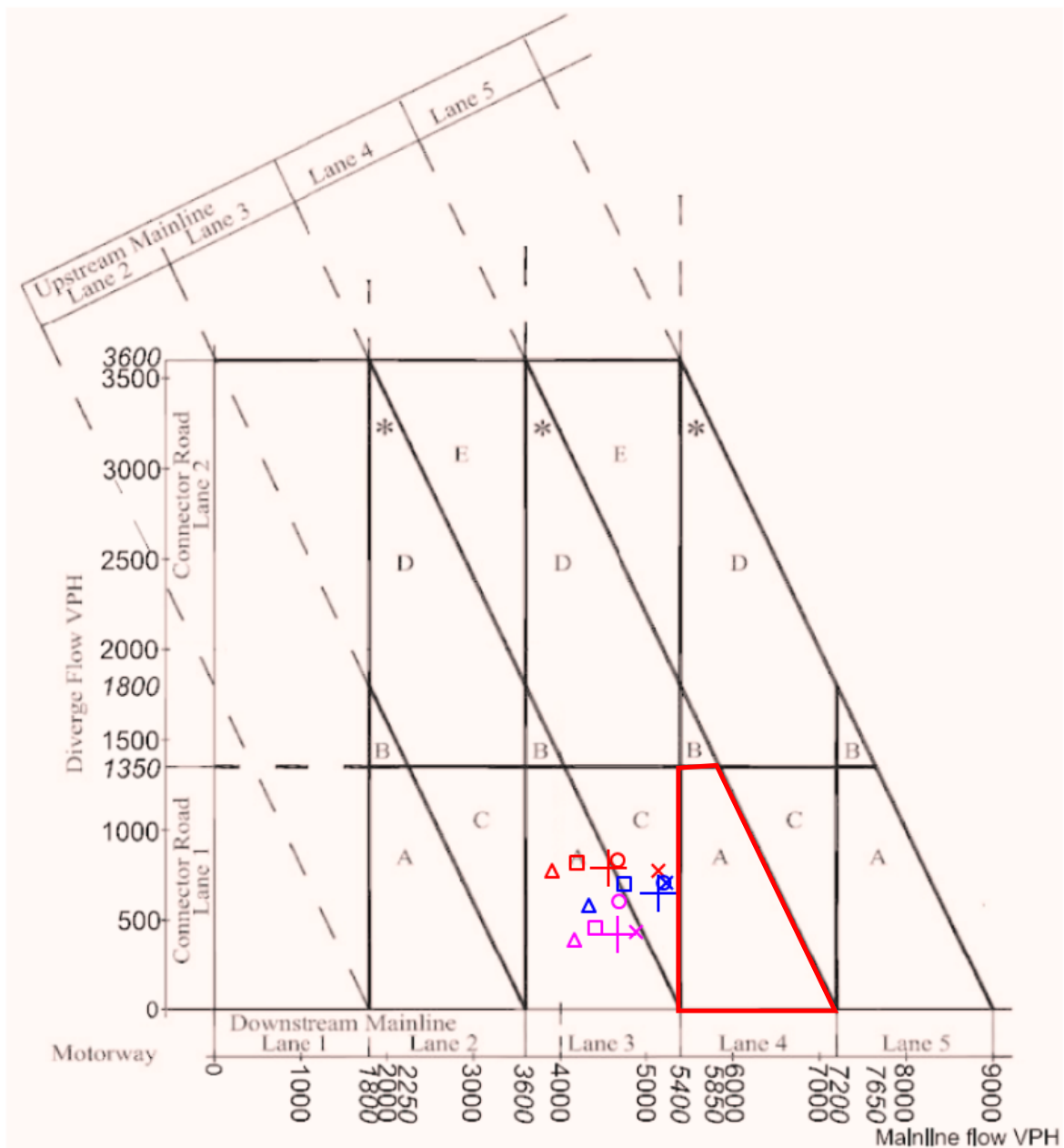
Existing Layout Satellite Image



NGTM Model Fows

Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	4591	785	+
Run 10 Inter Peak	4693	420	+
Run 10 PM Peak	5166	644	+
Run 14 AM Peak	5157	772	x
Run 14 Inter Peak	4905	431	x
Run 14 PM Peak	5260	710	x
Run 13 AM Peak	4693	834	o
Run 13 Inter Peak	4712	603	o
Run 13 PM Peak	5220	709	o
Run 8 AM Peak	4216	819	□
Run 8 Inter Peak	4431	456	□
Run 8 PM Peak	4771	698	□
Run 21 AM Peak	3932	776	Δ
Run 21 Inter Peak	4183	390	Δ
Run 21 PM Peak	4363	578	Δ

Figure 3.26b Motorway diverging diagram

**KEY**

Existing Layout

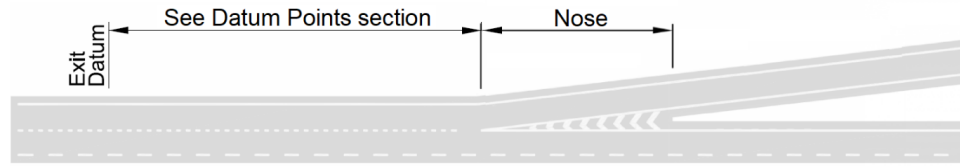
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	4	4	
Key	Layout Required					
x	Run 14 AM Peak	C	1	4	3	✓
x	Run 14 Inter Peak	A	1	3	3	✓
x	Run 14 PM Peak	C	1	4	3	✓
o	Run 13 AM Peak	C	1	4	3	✓
o	Run 13 Inter Peak	A	1	3	3	✓
o	Run 13 PM Peak	C	1	4	3	✓
□	Run 8 AM Peak	A	1	3	3	✓
□	Run 8 Inter Peak	A	1	3	3	✓
□	Run 8 PM Peak	C	1	4	3	✓
△	Run 21 AM Peak	A	1	3	3	✓
△	Run 21 Inter Peak	A	1	3	3	✓
△	Run 21 PM Peak	A	1	3	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30e Layout C Option 1 - lane drop with 1-lane connector road

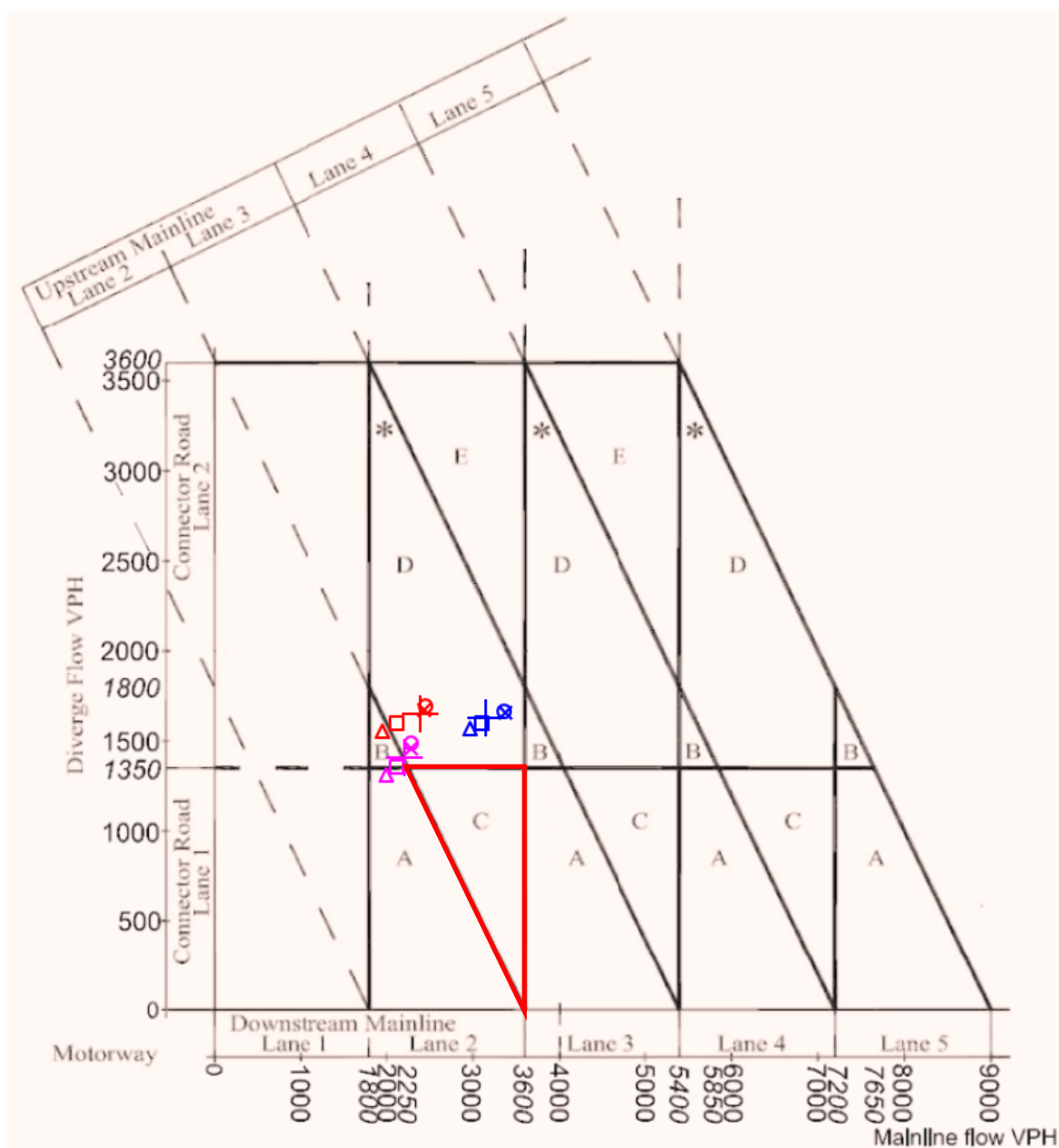


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	2416	1651	+
Run 10 Inter Peak	2224	1404	+
Run 10 PM Peak	3169	1625	+
Run 14 AM Peak	2451	1674	x
Run 14 Inter Peak	2300	1457	x
Run 14 PM Peak	3394	1658	x
Run 13 AM Peak	2467	1692	o
Run 13 Inter Peak	2305	1490	o
Run 13 PM Peak	3381	1664	o
Run 8 AM Peak	2134	1599	□
Run 8 Inter Peak	2141	1352	□
Run 8 PM Peak	3120	1599	□
Run 21 AM Peak	1975	1551	△
Run 21 Inter Peak	2009	1310	△
Run 21 PM Peak	2987	1569	△

Figure 3.26b Motorway diverging diagram



KEY

Existing Layout

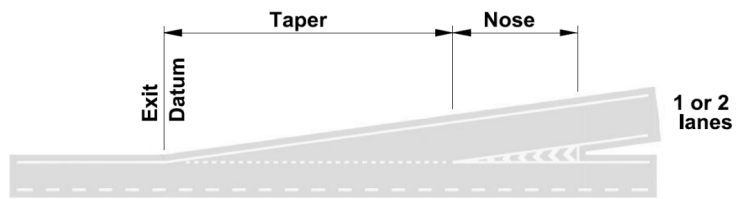
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	C	1	3	2	
Key	Layout Required					
✖	Run 14 AM Peak	D	2	3	2	✖
✖	Run 14 Inter Peak	D	2	3	2	✖
✖	Run 14 PM Peak	D	2	3	2	✖
○	Run 13 AM Peak	D	2	3	2	✖
○	Run 13 Inter Peak	D	2	3	2	✖
○	Run 13 PM Peak	D	2	3	2	✖
□	Run 8 AM Peak	D	2	3	2	✖
□	Run 8 Inter Peak	B	2	2	2	✖
□	Run 8 PM Peak	D	2	3	2	✖
△	Run 21 AM Peak	B	2	2	2	✖
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	D	2	3	2	✖

KEY

- ✓ Adequate
✖ Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30a Layout A option 1 - taper diverge

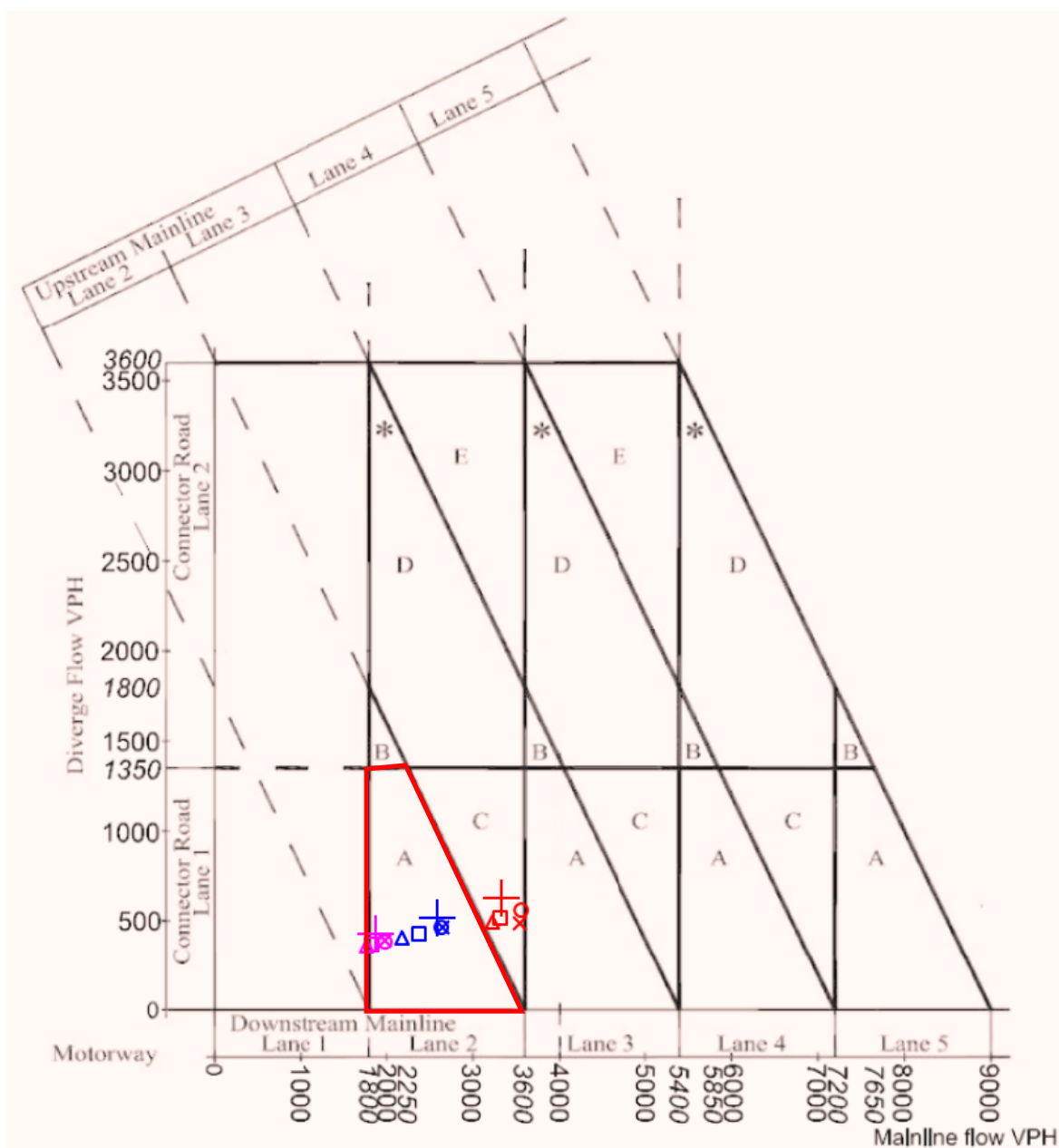


Existing Layout Satellite Image



NGTM Model Fows			
Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	3360	624	+
Run 10 Inter Peak	1891	429	+
Run 10 PM Peak	2600	512	+
Run 14 AM Peak	3564	486	x
Run 14 Inter Peak	1995	388	x
Run 14 PM Peak	2669	465	x
Run 13 AM Peak	3586	556	o
Run 13 Inter Peak	1994	385	o
Run 13 PM Peak	2652	463	o
Run 8 AM Peak	3343	512	□
Run 8 Inter Peak	1849	369	□
Run 8 PM Peak	2402	429	□
Run 21 AM Peak	3249	496	△
Run 21 Inter Peak	1783	357	△
Run 21 PM Peak	2200	406	△

Figure 3.26b Motorway diverging diagram



KEY

Existing Layout

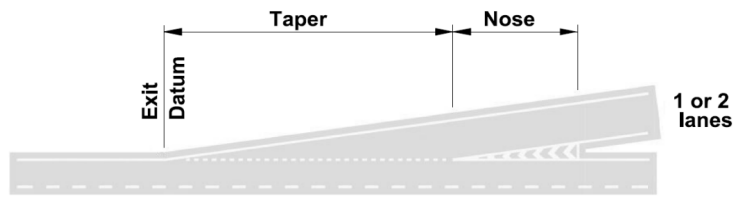
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	2	2	
Key	Layout Required					
✗	Run 14 AM Peak	C	1	3	2	✗
✗	Run 14 Inter Peak	A	1	2	2	✓
✗	Run 14 PM Peak	A	1	2	2	✓
○	Run 13 AM Peak	C	1	3	2	✗
○	Run 13 Inter Peak	A	1	2	2	✓
○	Run 13 PM Peak	A	1	2	2	✓
□	Run 8 AM Peak	C	1	3	2	✗
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	2	2	✓
△	Run 21 AM Peak	C	1	3	2	✗
△	Run 21 Inter Peak	A	1	2	1	✓
△	Run 21 PM Peak	A	1	2	2	✓

KEY

- ✓ Adequate
✗ Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30a Layout A option 1 - taper diverge

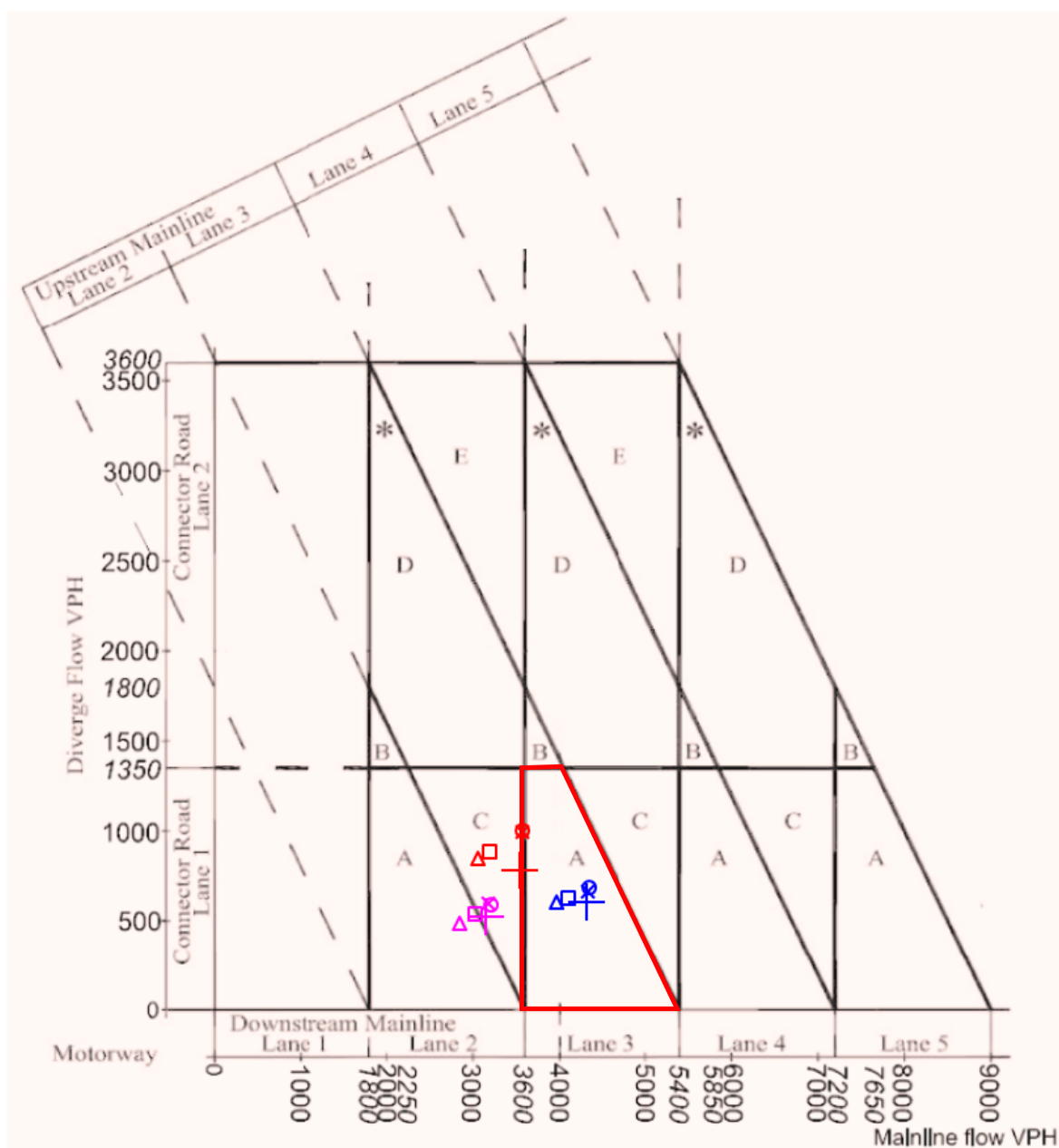


Existing Layout Satellite Image



NGTM Model Flows			
Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	3566	780	+
Run 10 Inter Peak	3169	526	+
Run 10 PM Peak	4343	600	+
Run 14 AM Peak	3593	995	x
Run 14 Inter Peak	3202	596	x
Run 14 PM Peak	4357	664	x
Run 13 AM Peak	3603	1003	o
Run 13 Inter Peak	3238	591	o
Run 13 PM Peak	4370	685	o
Run 8 AM Peak	3222	883	□
Run 8 Inter Peak	3042	537	□
Run 8 PM Peak	4123	628	□
Run 21 AM Peak	3079	849	△
Run 21 Inter Peak	2866	483	△
Run 21 PM Peak	3985	602	△

Figure 3.26b Motorway diverging diagram



KEY

Existing Layout

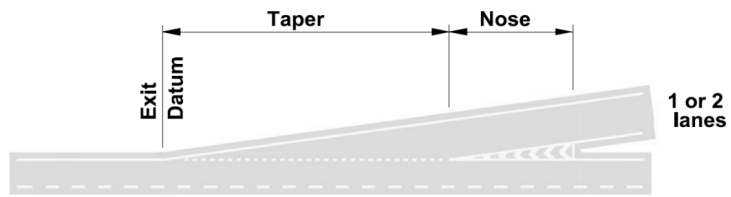
	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	3	3	
Key	Layout Required					
x	Run 14 AM Peak	C	1	3	2	✓
x	Run 14 Inter Peak	C	1	3	2	✓
x	Run 14 PM Peak	A	1	3	3	✓
o	Run 13 AM Peak	A	1	3	3	✓
o	Run 13 Inter Peak	C	1	3	2	✓
o	Run 13 PM Peak	A	1	3	3	✓
□	Run 8 AM Peak	C	1	3	2	✓
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	3	3	✓
△	Run 21 AM Peak	C	1	3	2	✓
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	A	1	3	3	✓

KEY

- ✓ Adequate
 x Requires further investigation

Existing Layout CD122 Layout Diagram

Figure 3.30a Layout A option 1 - taper diverge

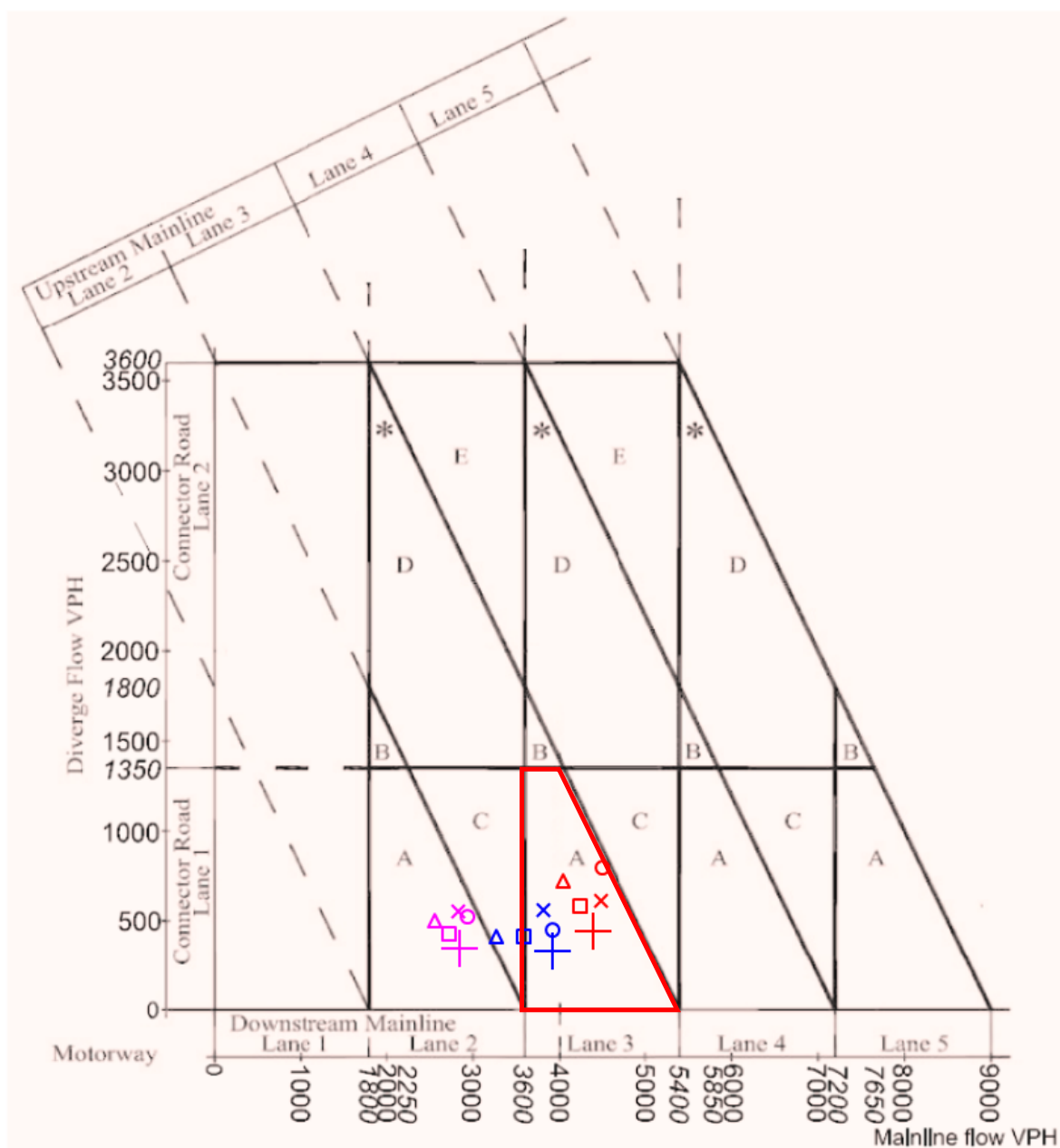


Existing Layout Satellite Image



NGTM Model Flows			
Scenario	Mainline Flow VPH	Diverge Flow VPH	Key
Run 10 AM Peak	4425	440	+
Run 10 Inter Peak	2871	347	+
Run 10 PM Peak	3953	329	+
Run 14 AM Peak	4516	608	x
Run 14 Inter Peak	2855	552	x
Run 14 PM Peak	3840	561	x
Run 13 AM Peak	4522	798	o
Run 13 Inter Peak	2951	526	o
Run 13 PM Peak	3952	451	o
Run 8 AM Peak	4266	580	□
Run 8 Inter Peak	2740	430	□
Run 8 PM Peak	3605	415	□
Run 21 AM Peak	4073	724	△
Run 21 Inter Peak	2572	497	△
Run 21 PM Peak	3288	413	△

Figure 3.26b Motorway diverging diagram



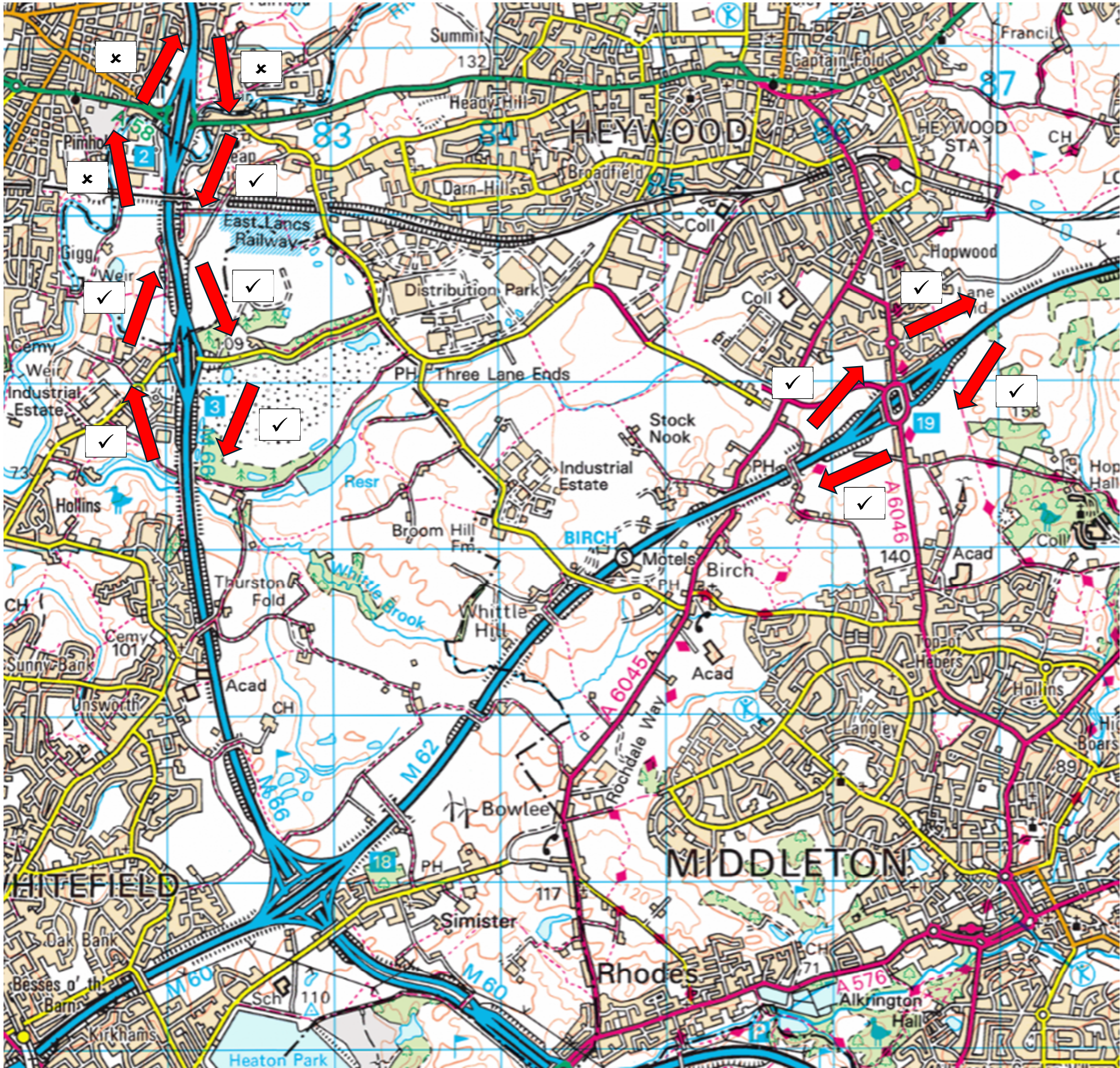
KEY

Existing Layout

	Scenario	Layout Type	Lane Configuration			Is Existing Layout Adequate?
			Connector Road	Upstream Mainline	Downstream Mainline	
	Existing Layout	A	1	3	3	
Key	Layout Required					
x	Run 14 AM Peak	A	1	3	3	✓
x	Run 14 Inter Peak	A	1	2	2	✓
x	Run 14 PM Peak	A	1	3	3	✓
o	Run 13 AM Peak	A	1	3	3	✓
o	Run 13 Inter Peak	A	1	2	2	✓
o	Run 13 PM Peak	A	1	3	3	✓
□	Run 8 AM Peak	A	1	3	3	✓
□	Run 8 Inter Peak	A	1	2	2	✓
□	Run 8 PM Peak	A	1	3	3	✓
△	Run 21 AM Peak	A	1	3	3	✓
△	Run 21 Inter Peak	A	1	2	2	✓
△	Run 21 PM Peak	C	1	3	2	✓

KEY

- ✓ Adequate
 x Requires further investigation



No.	Location	Is Existing Layout Adequate ?
5	M62 J19 EB Merge	✓
6	M62 J19 WB Merge	✓
7	M66 J2 NB Merge	x
8	M66 J2 SB Merge	✓
9	M66 J3 NB Merge	✓
10	M66 J3 SB Merge	✓
15	M62 J19 EB Diverge	✓
16	M62 J19 WB Diverge	✓
17	M66 J2 NB Diverge	x
18	M66 J2 SB Diverge	x
19	M66 J3 NB Diverge	✓
20	M66 J3 SB Diverge	✓

MERGE / DIVERGE
OUTPUTS

Merge Diverge Assessment Outputs

		Run 14: 2039 Do Something 3 (JPA1.1+ JPA1.2) - With M62 Access Solution - Policy Off			Run 13: 2039 Do Something 3 (JPA1.1+ JPA1.2) - Without M62 Access Solution - Policy Off			Run 8: 2032 Do Something 3 (JPA1.1 + JPA1.2, partial build out to 2032) - Without M62 Access Solution - Policy Off			Run 21: 2039 Do Something 3 (JPA1.1+ JPA1.2) - Without M62 Access Solution - Policy On		
Connector Road		AM	Inter Peak	PM	AM	Inter Peak	PM	AM	Inter Peak	PM	AM	Inter Peak	PM
5	M62 J19 EB Merge												
6	M62 J19 WB Merge												
7	M66 J2 NB Merge			x			x						
8	M66 J2 SB Merge												
9	M66 J3 NB Merge												
10	M66 J3 SB Merge												
15	M62 J19 EB Diverge												
16	M62 J19 WB Diverge												
17	M66 J2 NB Diverge	x	x	x	x	x	x	x	x	x	x		x
18	M66 J2 SB Diverge	x			x			x			x		
19	M66 J3 NB Diverge												
20	M66 J3 SB Diverge												

KEY

- = Existing layout provides sufficient capacity for scenario
 x = Volumes suggest a higher level provision than existing