

2031 VISSIM MODEL COMPARISONS - Updated Pak n Save proposal (LT Te Rapa Rd, RAB Maui/Eagle Way, Partial Signals Wairere/Karewa)

ATTACHMENT 4

Compiled Mike Meister (movement flows/delays/queues obtained from BBO supplied data)
Date 7-Sep-19

Approach Movement	2031 BASE					2031 Applicant Distribution					2031 BBO Distribution					Comments	
	FLOWS	QUEUES		DELAYS	TOTAL DELAY	FLOWS	QUEUES		DELAYS	TOTAL DELAY	FLOWS	QUEUES		DELAYS	TOTAL DELAY		
		average	maximum				average	maximum				average	maximum				
TE RAPA/BASE/EAGLE WAY																	
Te Rapa (N)	left	81	0.4	25	10	810	86	0.2	21	19	1634	84	0.3	14	21	1764	22% flow increase 24% flow reduction
	through	506	35	116	56	28336	631	46	153	67	42277	616	47	155	71	43736	
	right	134	35	116	63	8442	143	46	153	62	8866	102	47	155	56	5712	
The Base Parade (W)	left	112	0	15	14	1568	92	0	9	11	1012	72	0	11	14	1008	36% flow reduction
	through	395	52	156	46	18170	392	42	154	43	16856	417	43	151	46	19182	
	right	954	58	156	47	44838	1032	51	154	42	43344	973	49	152	37	36001	
Te Rapa (S)	left	507	21	141	25	12675	474	16	125	22	10428	476	18	126	23	10948	20% flow increase
	through	686	36	142	55	37730	795	45	157	55	43725	773	42	111	55	42515	
	right	405	103	209	117	47385	416	106	202	126	52416	382	57	158	84	32088	
Eagle Way (E)	left	433	9	99	17	7361	517	17	98	23	11891	521	18	98	22	11462	20% flow increase 31% flow reduction
	through	181	18	94	59	10679	172	16	55	61	10492	196	21	63	69	13524	
	right	85	18	94	58	4930	53	16	55	57	3021	59	21	63	63	3717	
TOTAL		4479	103	209	117	222,924	4803	106	202	126	245,962	4671	57	158	84	221,657	minimal change overall I/S delay
TE RAPA/WAIRERE																	
Te Rapa (N)	left	651	3	97	9	5859	823	4	119	14	11522	780	16	197	25	19500	20% flow increase 24% flow increase
	through	1061	68	194	63	66843	1095	78	247	65	71175	1084	113	354	73	79132	
	right	242	11	49	51	12342	326	16	55	57	18582	300	15	52	56	16800	
Avalon (W)	left	437	31	93	20	8740	501	34	117	29	14529	487	37	111	19	9253	15% flow increase 66% flow decrease 23% flow deduction
	through	346	31	93	71	24566	340	34	117	85	28900	338	37	111	107	36166	
	right	90	31	93	60	5400	81	34	117	56	4536	99	37	111	52	5148	
Te Rapa (S)	left	193	0.4	33	10	1930	186	0.3	28	9	1674	187	0.3	9	7	1309	15% flow increase 66% flow decrease 23% flow deduction
	through	839	34	175	39	32721	947	34	154	43	40721	964	35	153	36	34704	
	right	274	38	202	68	18632	115	7	76	49	5635	92	6	62	56	5152	
Wairere (E)	left	168	54	154	35	5880	111	53	158	18	1998	130	29	89	20	2600	16% flow reduction
	through	309	54	154	47	14523	315	53	158	30	9450	320	29	89	30	9600	
	right	895	54	154	62	55490	787	53	158	62	48794	753	29	89	37	27861	
TOTAL		5505	68	202	71	252,926	5627	78	247	85	257,516	5534	113	354	107	247,225	minimal change overall I/S delay
EAGLE WAY/KAREWA/MAUI																	
Eagle Way (W)	left	362	3	82	7	2534	423	8	64	11	4653	373	6	57	9	3357	increase in delay + longer queues increase in delay + longer queues reduced delay and max queues reduced delay and max queues
	right	248	2	71	4	992	226	28	44	4	904	177	15	46	4	708	
	U-turn	-	-	-	-	-	58	28	44	4	232	80	15	46	4	320	
Karewa (S)	left	183	2	51	6	1098	126	36	211	33	4158	135	29	143	31	4185	increase in delay + longer queues reduced delay and max queues
	through	215	2	51	6	1290	324	37	211	34	11016	281	29	143	35	9835	
Maui (N)	through	478	13	233	12	5736	485	28	71	7	3395	424	15	70	6	2544	reduced delay and max queues reduced delay and max queues
	right	252	24	267	21	5292	279	28	71	7	1953	299	15	70	6	1794	
	U-turn	-	-	-	-	-	26	28	71	7	182	32	15	70	6	192	
TOTAL		1738	24	267	21	16,942	1947	37	211	34	26,493	1801	29	143	35	22,935	35% to 56% increase in overall I/S delays
WAIRERE/KAREWA																	
Karewa (N)	left	647	4	93	6	3882	685	18	169	11	7535	596	50	235	29	17284	66% to 67% flow reduction now signalised New movement significant increase in overall I/S delays
Wairere (W)	left	297	0	15	1	297	101	0.5	19	1	101	98	1	101	1	98	
	through	892	-	-	-	-	1097	23	153	17	18649	1034	44	175	30	31020	
Wairere (E)	through	1372	-	-	-	-	1213	-	-	-	-	1203	-	-	-	-	
	right	-	-	-	-	-	309	9	73	21	6489	280	9	91	21	5880	
TOTAL		3208	4	93	6	4,179	3405	23	169	21	32,774	3211	50	235	30	54,282	
OVERALL - Note excludes Wairere/Pukete I/S as data incomplete		14,930 vehs/hour Base				15,782 vehs/hour Applicant				15,217 vehs/hour BBO				Overall flow increase within 5.7%			
		Mean Queue 103 vehs				Mean Queue 106 vehs				Mean Queue 113 vehs				Similar mean queue lengths			
		Max Queue 267 vehs				Max Queue 247 vehs				Max Queue 354 vehs				Max queue +33% longer with BBO splits			
		Overall Average I/S Delay (secs/veh) 33.3				Overall Average I/S Delay (secs/veh) 35.7				Overall Average I/S Delay (secs/veh) 35.9				Both within 7.8% of baseline			

WAIRERE/PUKETE - Partial movements																	
Wairere (W)	left	198	1	33	4	792	182	1	41	6	1092	187	1	40	4	748	TPC split +19% flow increase 23% to 31% flow increase
	through	1058	24	115	32	33856	1263	22	110	26	32838	1087	16	99	22	23914	
	right	255	36	122	78	19890	314	59	187	95	29830	334	117	211	153	51102	
Pukete (S)	left	150	0	9	5	750	232	2	47	8	1856	260	0	18	6	1560	55% to 73% flow increase
TOTAL		1661	36	122	78	55,288	1991	59	187	95	65,616	1868	117	211	153	77,324	19% to 40% delay increase
EAGLE WAY/COUNTDOWN ACCESS																	
Eagle Way	Left in	28	2	80	11	308	23	1.1	38	1	23	20	1	36	1	20	TPC split +19% flow increase
	Right in	413	10	92	13	5369	406	14	113	16	6496	421	26	122	24	10104	
Countdown Access	Left out	293	28	69	33	9669	298	34	61	36	10728	282	27	61	36	10152	55% to 73% flow increase
	right out	75	28	69	33	2475	62	34	61	36	2232	61	27	61	36	2196	
TOTAL		809	28	92	33	17,821	789	34	113	36	19,479	784	27	122	36	22,472	19% to 40% delay increase